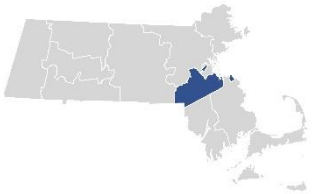
# FLOOD INSURANCE STUDY

## FEDERAL EMERGENCY MANAGEMENT AGENCY

**VOLUME 1 OF 7**



# NORFOLK COUNTY, MASSACHUSETTS

**(ALL JURISDICTIONS)**

| COMMUNITY NAME | NUMBER | COMMUNITY NAME | NUMBER |
|---|---|---|---|
| AVON, TOWN OF | 250231 | MILTON, TOWN OF | 250245 |
| BELLINGHAM, TOWN OF | 250232 | NEEDHAM, TOWN OF | 255215 |
| BRAINTREE, TOWN OF | 250233 | NORFOLK, TOWN OF | 255217 |
| BROOKLINE, TOWN OF | 250234 | NORWOOD, TOWN OF | 250248 |
| CANTON, TOWN OF | 250235 | PLAINVILLE, TOWN OF | 250249 |
| COHASSET, TOWN OF | 250236 | QUINCY, CITY OF | 255219 |
| DEDHAM, TOWN OF | 250237 | RANDOLPH, TOWN OF | 250251 |
| DOVER, TOWN OF | 250238 | SHARON, TOWN OF | 250252 |
| FOXBOROUGH, TOWN OF | 250239 | STOUGHTON, TOWN OF | 250253 |
| FRANKLIN, TOWN OF | 250240 | WALPOLE, TOWN OF | 250254 |
| HOLBROOK, TOWN OF | 255212 | WELLESLEY, TOWN OF | 250255 |
| MEDFIELD, TOWN OF | 250242 | WESTWOOD, TOWN OF | 255225 |
| MEDWAY, TOWN OF | 250243 | WEYMOUTH, TOWN OF | 250257 |
| MILLIS, TOWN OF | 250244 | WRENTHAM, TOWN OF | 250258 |

**REVISED:** REVISED PRELIMINARY 04/07/2023

FLOOD INSURANCE STUDY NUMBER
**25021CV001E**
Version Number 2.6.3.6

FEMA

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**Published Separately**

**FLOOD INSURANCE STUDY REPORT**
**NORFOLK 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 Norfolk 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 |
|---|---|---|---|---|
| Avon, Town of | 250231 | 01090001, 01090004 | 25021C0214F, 25021C0218F, 25021C0219F, 25021C0377E, 25021C0381E, 25021C0382F | |
| Bellingham, Town of | 250232 | 01090001, 01090003 | 25021C0138F, 25021C0139F, 25021C0299F, 25021C0301F, 25021C0302F, 25021C0303F, 25021C0304F, 25021C0311E, 25021C0312F, 25021C0313E, 25021C0314E | |
| Braintree, Town of | 250233 | 01090001 | 25021C0206F, 25021C0207F, 25021C0208F, 25021C0209F, 25021C0217F, 25021C0226G, 25021C0227G, 25021C0228F, 25021C0236F | |
| Brookline, Town of | 250234 | 01090001 | 25021C0032E[1], 25021C0033E[1], 25021C0034F, 25021C0041F, 25021C0042E[1], 25021C0051F, 25021C0053F | |

[1] Panel Not Printed

**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 |
|---|---|---|---|---|
| Canton, Town of | 250235 | 01090001 | 25021C0182F, 25021C0183F, 25021C0184F, 25021C0191F, 25021C0192F, 25021C0193F, 25021C0194F, 25021C0201F, 25021C0203F, 25021C0204F, 25021C0211F, 25021C0212F, 25021C0213F, 25021C0214F | |
| Cohasset, Town of | 250236 | 01090001, 01090002 | 25021C0113F, 25021C0114G, 25021C0118E, 25021C0251G, 25021C0252G, 25021C0254F, 25021C0256F, 25021C0258F | |
| Dedham, Town of | 250237 | 01090001 | 25021C0038F, 25021C0039F, 25021C0043F, 25021C0044F, 25021C0177F, 25021C0181F, 25021C0182F, 25021C0183F, 25021C0184F | |
| Dover, Town of | 250238 | 01090001 | 25021C0016F, 25021C0018F, 25021C0019F, 25021C0038F, 25021C0152F, 25021C0154F, 25021C0156F, 25021C0157F, 25021C0158F, 25021C0159F, 25021C0176F, 25021C0178F | |
| Foxborough, Town of | 250239 | 01090001, 01090004 | 25021C0332F, 25021C0333F, 25021C0334F, 25021C0341E, 25021C0342E, 25021C0343F, 25021C0344F, 25021C0351F, 25021C0353F, 25021C0354E, 25021C0358F, 25021C0361E, 25021C0362E, 25021C0365E[1], 25021C0366E | |
| Franklin, Town of | 250240 | 01090001, 01090003 | 25021C0139F, 25021C0143F, 25021C0144F, 25021C0302F, 25021C0304F, 25021C0306F, 25021C0307F, 25021C0308F, 25021C0309F, 25021C0312F, 25021C0316F, 25021C0317F, 25021C0321F, 25021C0323F, 25021C0336F | |
| Holbrook, Town of | 255212 | 01090001, 01090004 | 25021C0217F, 25021C0218F, 25021C0219F, 25021C0236F, 25021C0238F, 25021C0382F | |

[1] Panel Not Printed

**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 |
|---|---|---|---|---|
| Medfield, Town of | 250242 | 01090001 | 25021C0153F, 25021C0154F, 25021C0158F, 25021C0159F, 25021C0162F, 25021C0164F, 25021C0166F, 25021C0167F, 25021C0168F, 25021C0169F | |
| Medway, Town of | 250243 | 01090001 | 25021C0136F, 25021C0137F, 25021C0138F, 25021C0139F, 25021C0141F, 25021C0142F, 25021C0143F, 25021C0144F | |
| Millis, Town of | 250244 | 01090001 | 25021C0134F, 25021C0142F, 25021C0144F, 25021C0153F, 25021C0154F, 25021C0161F, 25021C0162F, 25021C0163F, 25021C0164F | |
| Milton, Town of | 250245 | 01090001 | 25021C0063F, 25021C0064G, 25021C0068G, 25021C0182F, 25021C0201F, 25021C0202F, 25021C0203F, 25021C0204F, 25021C0206F | |
| Needham, Town of | 255215 | 01090001 | 25021C0016F, 25021C0017F, 25021C0018F, 25021C0019F, 25021C0028F, 25021C0036F, 25021C0037F, 25021C0038F, 25021C0039F | |
| Norfolk, Town of | 255217 | 01090001, 01090004 | 25021C0144F, 25021C0163F, 25021C0164F, 25021C0168F, 25021C0307F, 25021C0321F, 25021C0322F, 25021C0323F, 25021C0324F, 25021C0331F, 25021C0333F, 25021C0334F | |
| Norwood, Town of | 250248 | 01090001 | 25021C0178F, 25021C0179F, 25021C0183F, 25021C0184F, 25021C0186F, 25021C0187F, 25021C0189F, 25021C0191F, 25021C0193F | |
| Plainville, Town of | 250249 | 01090003, 01090004 | 25021C0319E, 25021C0337F, 25021C0338F, 25021C0339F, 25021C0341E, 25021C0343F, 25021C0407E, 25021C0426F, 25021C0427F | |

**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 |
|---|---|---|---|---|
| Quincy, City of | 255219 | 01090001 | 25021C0066F, 25021C0067F, 25021C0068G, 25021C0069G, 25021C0086F, 25021C0088G, 25021C0089F, 25021C0202F, 25021C0204F, 25021C0206F, 25021C0207F, 25021C0208F, 25021C0226G, 25021C0227G | |
| Randolph, Town of | 250251 | 01090001 | 25021C0203F, 25021C0204F, 25021C0208F, 25021C0209F, 25021C0212F, 25021C0216F, 25021C0217F, 25021C0218F, 25021C0219F | |
| Sharon, Town of | 250252 | 01090001, 01090004 | 25021C0187F, 25021C0188F, 25021C0189F, 25021C0191F, 25021C0193F, 25021C0194F, 25021C0351F, 25021C0352F, 25021C0353F, 25021C0354E, 25021C0356F, 25021C0357F, 25021C0358F, 25021C0359F, 25021C0366E | |
| Stoughton, Town of | 250253 | 01090001, 01090004 | 25021C0194F, 25021C0212F, 25021C0213F, 25021C0214F, 25021C0216F, 25021C0218F, 25021C0357F, 25021C0359F, 25021C0376F, 25021C0377E, 25021C0378E, 25021C0379E, 25021C0381E | |
| Walpole, Town of | 250254 | 01090001, 01090004 | 25021C0159F, 25021C0167F, 25021C0168F, 25021C0169F, 25021C0178F, 25021C0186F, 25021C0187F, 25021C0188F, 25021C0189F, 25021C0331F, 25021C0332F, 25021C0333F, 25021C0334F, 25021C0351F | |
| Wellesley, Town of | 250255 | 01090001 | 25021C0004F, 25021C0008F, 25021C0009F, 25021C0012F, 25021C0014F, 25021C0016F, 25021C0017F, 25021C0018F, 25021C0028F, 25021C0036F | |
| Westwood, Town of | 255225 | 01090001 | 25021C0038F, 25021C0039F, 25021C0159F, 25021C0176F, 25021C0177F, 25021C0178F, 25021C0179F, 25021C0181F, 25021C0183F, 25021C0184F, 25021C0186F | |

**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 |
|---|---|---|---|---|
| Weymouth, Town of | 250257 | 01090001, 01090002, 01090004 | 25021C0089F, 25021C0093E, 25021C0226G, 25021C0227G, 25021C0228F, 25021C0229F, 25021C0231F, 25021C0233F, 25021C0236F, 25021C0237F, 25021C0238F, 25021C0239F, 25021C0241F, 25021C0243E[1] | |
| Wrentham, Town of | 250258 | 01090001, 01090003, 01090004 | 25021C0312F, 25021C0314E, 25021C0316F, 25021C0317F, 25021C0318E, 25021C0319E, 25021C0323F, 25021C0324F, 25021C0333F, 25021C0336F, 25021C0337F, 25021C0338F, 25021C0339F, 25021C0341E | |

[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 Norfolk County became effective on July 17, 2012. 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.

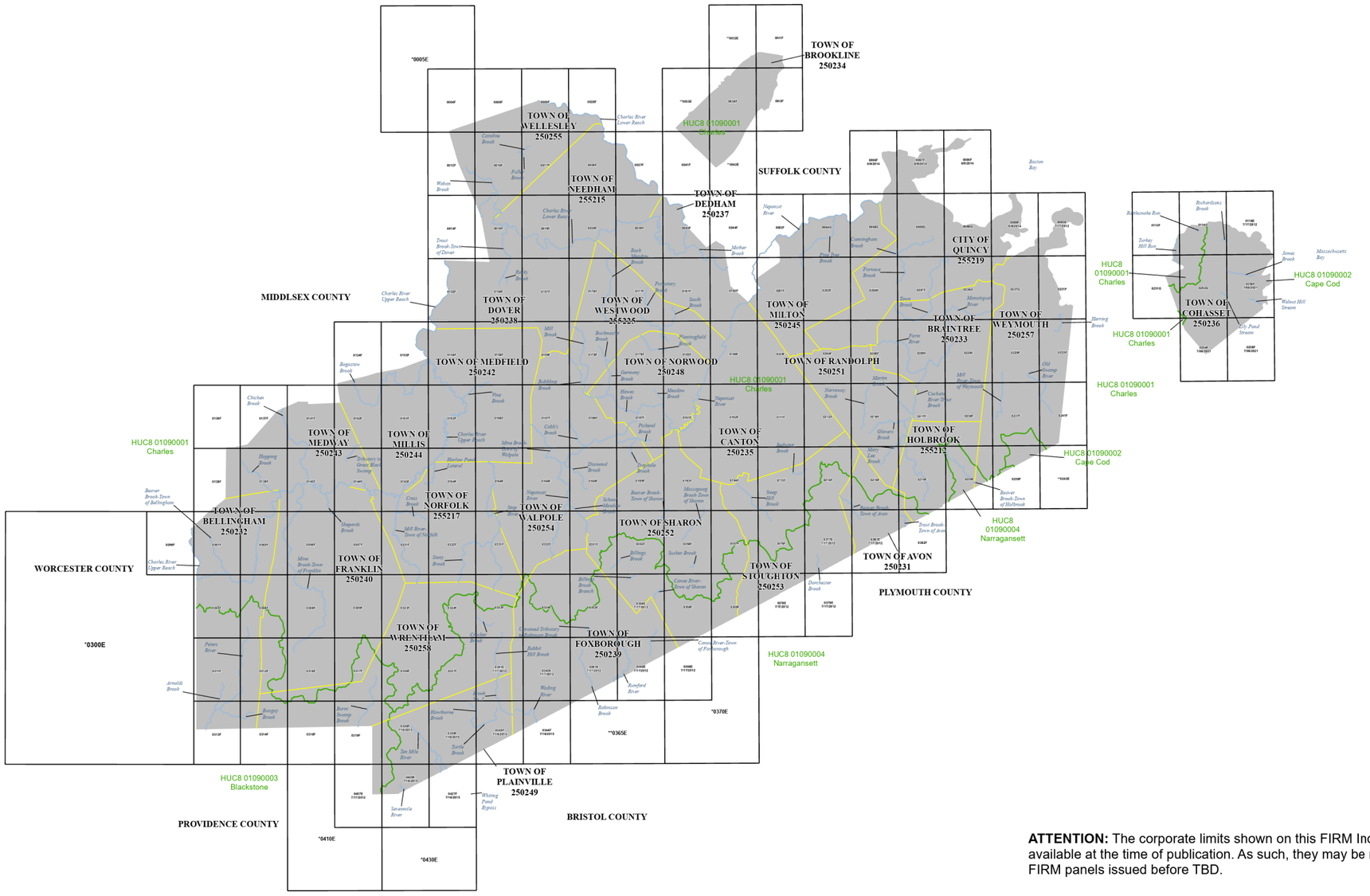
  The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Visit the FEMA Web site at www.fema.gov/national-flood-insurance-program-community-rating-system or contact your appropriate FEMA Regional Office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

N

1 inch = 4 miles 1:261,000

feet 0 5,00010,000 20,000 30,000 40,000

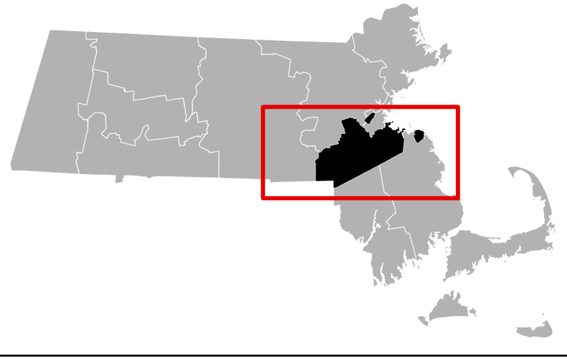
**Map Projection:**
NAD 1983 State Plane, Massachusetts Mainland, FIPS 2001, Feet; Western Hemisphere; Vertical Datum: NAVD 88

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 AREAS

COUNTY LOCATOR



# NATIONAL FLOOD INSURANCE PROGRAM
## FLOOD INSURANCE RATE MAP INDEX

**NORFOLK COUNTY, MASSACHUSETTS** (ALL JURISDICTIONS)
**PANELS PRINTED:**

0004, 0008, 0009, 0012, 0014, 0016, 0017, 0018, 0019, 0028, 0034, 0036, 0037, 0038, 0039, 0041, 0043, 0044, 0051, 0053, 0063, 0064, 0066, 0067, 0068, 0069, 0086, 0088, 0089, 0093, 0113, 0114, 0118, 0134, 0136, 0137, 0138, 0139, 0141, 0142, 0143, 0144, 0152, 0153, 0154, 0156, 0157, 0158, 0159, 0161, 0162, 0163, 0164, 0166, 0167, 0168, 0169, 0176, 0177, 0178, 0179, 0181, 0182, 0183, 0184, 0186, 0187, 0188, 0189, 0191, 0192, 0193, 0194, 0201, 0202, 0203, 0204, 0206, 0207, 0208, 0209, 0211, 0212, 0213, 0214, 0216, 0217, 0218, 0219, 0226, 0227, 0228, 0229, 0231, 0233, 0236, 0237, 0238, 0239, 0241, 0251, 0252, 0254, 0256, 0258, 0299, 0301, 0302, 0303, 0304, 0306, 0307, 0308, 0309, 0311, 0312, 0313, 0314, 0316, 0317, 0318, 0319, 0321, 0322, 0323, 0324, 0331, 0332, 0333, 0334, 0336, 0337, 0338, 0339, 0341, 0342, 0343, 0344, 0351, 0352, 0353, 0354, 0356, 0357, 0358, 0359, 0361, 0362, 0366, 0376, 0377, 0378, 0379, 0381, 0382, 0407, 0426, 0427

FEMA

**REVISED PRELIMINARY 04/05/2023**

MAP INDEX
**25021CIND0E**
MAP REVISED

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 Map Information 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 Map Information 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.

PRELIMINARY FIS REPORT: FEMA maintains information about map features, such as street locations and names, in or near designated flood hazard areas. Requests to revise information in or near designated flood hazard areas may be provided to FEMA during the community review period, at the final Consultation Coordination Officer's meeting, or during the statutory 90-day appeal period. Approved requests for changes will be shown on the final printed FIRM.

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.

Coastal Base Flood Elevations shown on the map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD88). Coastal flood elevations are also provided in the Coastal Transect Parameters table in the FIS Report for this jurisdiction. Elevations shown in the Coastal Transect Parameters table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on the FIRM.

**Figure 2. FIRM Notes to Users**

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.

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 17, 2012 was provided by Massachusetts Geographic Information System (MassGIS). Orthoimagery is from 2005 and is at a scale of 1:5,000. Vector data are undated but were derived from orthoimagery. Panels dated June 9, 2014, use imagery from 2008 provided by the U.S. Geological Survey (USGS) at a resolution of 15 or 30 centimeters, with all vector data unchanged from the previous FIRM. Panels dated July 16, 2015, use imagery from 2013 provided by the USGS at a scale of 1:2,400, with all vector data unchanged from the previous FIRM. Panels dated July 6, 2021, use imagery from 2013 provided by the USGS at a resolution of 0.3 meter and transportation data from 2016 provided by the U.S. Census Bureau with undefined scale, with all other vector data unchanged from the previous FIRM. Panels dated **TBD**, use imagery from 2013 provided by the U.S. Geological Survey at a resolution of 0.3 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.

**Figure 2. FIRM Notes to Users**

## NOTES FOR FIRM INDEX

REVISIONS TO INDEX: As new studies are performed and FIRM panels are updated within Norfolk 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 **TBD**.

## SPECIAL NOTES FOR SPECIFIC FIRM PANELS

This Notes to Users section was created specifically for Norfolk County, Massachusetts**,** effective **TBD**.

LIMIT OF MODERATE WAVE ACTION: Zone AE has been divided by a Limit of Moderate Wave Action (LiMWA). The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave hazards between Zone VE and the LiMWA (or between the shoreline and the LiMWA for areas where Zone VE is not identified) will be similar to, but less severe than, those in Zone VE.

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 Norfolk 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**

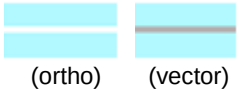
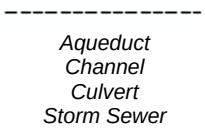
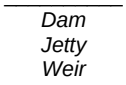
| | |
|---|---|
|  | Regulatory Floodway determined in Zone AE. |
| **OTHER AREAS OF FLOOD HAZARD** | |
|  | Shaded Zone X: Areas of 0.2% annual chance flood hazards and areas of 1% annual chance flood hazards with average depths of less than 1 foot or with drainage areas less than 1 square mile. |
|  | 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 Norfolk 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 Norfolk 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 |
|---|---|---|---|---|---|---|---|---|---|
| Abbott Run (upper) | Wrentham, Town of | County boundary | Point of one square mile of drainage area | 01090003 | 1.1 | | N | A | 12/1/2021 |
| Abbott Run Tributary A | Plainville, Town of | County boundary | Point of one square mile of drainage area | 01090003 | 0.4 | | N | A | 12/1/2021 |
| Arnolds Brook | Bellingham, Town of | Confluence with Peters River | Approximately 480 feet above Lizotte Drive | 01090003 | 1.1 | | Y | AE | 7/1/1980 |
| Beaver Brook (Avon) | Avon, Town of | Brockton Reservoir | Avon corporate limits | 01090004 | 1.3 | | Y | AE | 3/1/1978 |
| Beaver Brook (Bellingham) | Bellingham, Town of | Confluence with Charles River | Beaver Pond | 01090001 | 1.6 | | Y | AE | 7/1/1980 |
| Beaver Brook (Bellingham upper) | Bellingham, Town of | Beaver Pond | County boundary | 01090001 | 1.6 | | N | A | 4/30/2018 |
| Beaver Brook (Bellingham) Tributary A | Bellingham, Town of | Confluence with Beaver Brook (Bellingham) | Point of one square mile of drainage area | 01090001 | 0.3 | | N | A | 4/30/2018 |
| Beaver Brook (Holbrook) | Holbrook, Town of | Holbrook corporate limits | Approximately 1,000 feet above Weymouth Street | 01090004 | 1.8 | | Y | AE | 5/1/1985 |
| Beaver Brook (Sharon lower) | Sharon, Town of | Confluence with Massapoag Brook | Just below Upland Road | 01090001 | 1.9 | | N | A | 4/30/2018 |
| Beaver Brook (Sharon) | Sharon, Town of | Just below Upland Road | Approximately 3,400 feet above Upland Road | 01090001 | 0.7 | | Y | AE | 6/1/1977 |
| Beaver Brook (Sharon upper) | Sharon, Town of | Approximately 3,400 feet above Upland Road | Point of one square mile of drainage area | 01090001 | 0.9 | | N | A | 4/30/2018 |
| Beaver Brook (Sharon) Zone A tributaries | Sharon, Town of | Confluences with Beaver Brook (Sharon) | Points of one square mile of drainage area | 01090001 | 1.2 | | N | A | 4/30/2018 |
| Beaver Meadow Brook | Canton, Town of | Bolivar Pond | Pleasant Street | 01090001 | 0.6 | | Y | AE | 2/1/1986 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Beaver Meadow Brook (upper) | Canton, Town of | Pleasant Street | Just north of Pine Street | 01090001 | 1.8 | | N | A | 4/30/2018 |
| Beaver Meadow Brook Tributary A | Canton, Town of | Confluence with Beaver Meadow Brook | Point of one square mile of drainage area | 01090001 | 0.8 | | N | A | 4/30/2018 |
| Beth Road flooding | Franklin, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Billings Brook | Sharon, Town of | Just below Old Post Road | Approximately 200 feet above Dirt Road | 01090004 | 0.5 | | Y | AE | 6/1/1977 |
| Billings Brook Branch | Sharon, Town of | Dirt Road | Just above Wolomolopoag Street | 01090004 | 0.4 | | Y | AE | 6/1/1977 |
| Blue Hill River | Braintree, Town of; Canton, Town of; Milton, Town of; Quincy, City of; Randolph, Town of | Approximately 1,700 feet above West Street | Approximately 600 feet below Interstate 93 | 01090001 | 4.1 | | N | A | 4/30/2018 |
| Blue Hill River | Canton, Town of | Approximately 600 feet below Interstate 93 | Approximately 500 feet above Interstate 93 | 01090001 | 0.5 | | N | A | 3/31/2018 |
| Blue Hill River Tributary A and Zone A tributaries | Randolph, Town of | Confluence with Blue Hill River | Points of one square mile of drainage area | 01090001 | 1.7 | | N | A | 4/30/2018 |
| Blue Hills Reservoir | Quincy, City of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Bodwell Street ponding | Avon, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Bogastow Brook | Millis, Town of | Confluence with Charles River | County boundary | 01090001 | 6.4 | | Y | AE | 1/1/1983 |
| Bogastow Brook Zone A tributaries | Millis, Town of | Confluences with Bogastow Brook | Points of one square mile of drainage area | 01090001 | 2.6 | | N | A | 4/30/2018 |
| Bogle Brook 2 | Wellesley, Town of | Mouth at Morses Pond | County boundary | 01090001 | 1.3 | | N | A | 4/30/2018 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Bolivar Pond | Canton, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.1 | N | AE | 12/1/1976 |
| Boulder Brook | Wellesley, Town of | Mouth at Morses Pond | Point of one square mile of drainage area | 01090001 | 1.7 | | N | A | 4/30/2018 |
| Boulder Brook Tributary A | Wellesley, Town of | Confluence with Boulder Brook | County boundary | 01090001 | 1.4 | | N | A | 4/30/2018 |
| Bouncing Brook and Zone A tributaries | Braintree, Town of; Quincy, City of | Confluence with Farm River | Points of one square mile of drainage area | 01090001 | 2.3 | | N | A | 4/30/2018 |
| Bound Brook and Zone A tributaries | Cohasset, Town of | County boundary | Points of one square mile of drainage area | 01090002 | 11.3 | | N | A | 5/31/2017 |
| Brook A (Stetson Brook) | Randolph, Town of | Confluence with Glovers Brook | Approximately 285 feet above Allen Street | 01090001 | 0.4 | | Y | AE | 11/1/1985 |
| Brook B | Randolph, Town of | Confluence with Upper Reservoir | Approximately 1,100 feet above Vesey Road | 01090001 | 0.7 | | Y | AE | 11/1/1985 |
| Brook No. 1 | Plainville, Town of | Wrentham/ Plainville corporate limits | Confluence with Rabbit Hill Pond | 01090004 | 1.6 | | Y | AE | 1/1/1979 |
| Bubbling Brook | Norwood, Town of; Walpole, Town of; Westwood, Town of | Willett Pond Dam | Walpole/ Westwood corporate limits | 01090001 | 2.1 | | Y | AE | 1/1/2001 |
| Buckmaster Brook | Westwood, Town of | Confluence with Germany Brook | Approximately 250 feet above Arcadia Road | 01090001 | 0.6 | | N | AE | 11/2/1973 |
| Bungay Brook | Bellingham, Town of | Confluence with Peters River | Approximately 1,310 feet above Wrentham Road | 01090003 | 1.4 | | Y | AE | 7/1/1980 |
| Bungay Brook (upper) | Bellingham, Town of; Wrentham, Town of | Approximately 1,310 feet above Wrentham Road | County boundary | 01090003 | 1.6 | | N | A | 12/1/2021 |
| Bungay Brook Tributary A | Wrentham, Town of | Confluence with Bungay Brook | County boundary | 01090003 | 0.4 | | N | A | 12/1/2021 |
| Burnt Swamp Brook | Wrentham, Town of | County boundary | Approximately 1,700 feet north of West Street | 01090003 | 2.2 | | Y | AE | 2/1/1980 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Callahan Pond | Norfolk, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.03 | N | A | 4/30/2018 |
| Canoe River (Foxborough) | Foxborough, Town of | Beaumont Road | Maple Street | 01090004 | 1.1 | | Y | AE | 3/1/1978 |
| Canoe River (Sharon) | Sharon, Town of | Approximately 10,000 above East Street | Approximately 13,000 feet above East Street | 01090004 | 0.5 | | Y | AE | 6/1/1977 |
| Canton River | Canton, Town of | Confluence with Neponset River | Approximately 110 feet above Washington Street | 01090001 | 2.6 | | Y | AE | 3/31/2018 |
| Caroline Brook | Wellesley, Town of | Confluence with Fuller Brook | Just below Forest Street | 01090001 | 0.5 | | N | AE | 7/11/2008 |
| Caroline Brook (upper) | Wellesley, Town of | Just below Forest Street | Point of one square mile of drainage area | 01090001 | 0.3 | | N | A | 4/30/2018 |
| Centre Street pond | Dover, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Charles River | Wellesley, Town of | County boundary | Newton Lower Falls Dam | 01090001 | 0.7 | | Y | AE | 6/1/2017 |
| Charles River (Lower Reach) | Dedham, Town of; Dover, Town of; Needham, Town of; Wellesley, Town of | Newton Lower Falls Dam | County boundary | 01090001 | 22.2 | | N | AE | 7/1/1980 |
| Charles River (Upper Reach) | Bellingham, Town of; Dover, Town of; Franklin, Town of; Medfield, Town of; Medway, Town of; Millis, Town of; Norfolk, Town of | County boundary | County boundary | 01090001 | 31.2 | | N | AE | 7/1/1980 |
| Charles River Zone A tributaries | Dover, Town of; Medway, Town of; Wellesley, Town of | Confluences with Charles River | Points of one square mile of drainage area | 01090001 | 4.9 | | N | A | 4/30/2018 |
| Chicken Brook | Medway, Town of | Confluence with Charles River | County boundary | 01090001 | 8.8 | | Y | AE | 6/1/2017 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Coastal Tributary E | Braintree, Town of | Bower Road Extension | Point of one square mile of drainage area | 01090001 | 0.9 | | N | A | 4/30/2018 |
| Cobb's Brook | Walpole, Town of | Confluence with Neponset River | Approximately 50 feet above North Street | 01090001 | 1.3 | | Y | AE | 12/1/1975 |
| Cochato River | Braintree, Town of; Holbrook, Town of; Randolph, Town of | Confluence with Monatiquot River | North Shore Road Dam | 01090001 | 6.2 | | Y | AE | 7/1/1998 |
| Coon Hollow Brook | Milton, Town of | Confluence with Blue Hill River | Point of one square mile of drainage area | 01090001 | 0.6 | | N | A | 4/30/2018 |
| Cranberry Brook and Zone A tributaries | Braintree, Town of; Holbrook, Town of | Confluence with Cochato River | Points of one square mile of drainage area | 01090001 | 3.9 | | N | A | 4/30/2018 |
| Cress Brook | Norfolk, Town of | Confluence with Mill River | Lake Street | 01090001 | 1.2 | | Y | AE | 11/1/1982 |
| Cress Brook Pond | Norfolk, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Crocker Brook | Wrentham, Town of | Approximately 1,700 feet above Crocker Pond | Approximately 1,100 feet above East Street | 01090004 | 0.7 | | Y | AE | 2/1/1980 |
| Cunningham Brook | Quincy, City of | Confluence with Furnace Brook | Approximately 400 feet above Robertson Street | 01090001 | | | Y | AE | 7/1/1983 |
| Danielson Pond | Medfield, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Diamond Brook | Walpole, Town of | Confluence with Neponset River | Washington Street | 01090001 | 1.6 | | Y | AE | 5/1/1985 |
| Diamond Brook (upper) | Sharon, Town of; Walpole, Town of | Washington Street | Point of one square mile of drainage area | 01090001 | 0.7 | | N | A | 4/30/2018 |
| Dix Brook and Zone A tributaries | Franklin, Town of | Confluence with Mine Brook | Points of one square mile of drainage area | 01090001 | 4.1 | | N | A | 4/30/2018 |
| Dorchester Brook | Stoughton, Town of | Atkinson Avenue | Stoughton/ Easton corporate limits | 01090004 | 0.7 | | Y | AE | 10/1/1978 |
| Duck Pond | Randolph, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Edwards Road pond | Foxborough, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Ellias Pond | Weymouth, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Farm River | Braintree, Town of | Confluence with Monatiquot River | Approximately 1,700 feet above West Street | 01090001 | 2.9 | | Y | AE | 1/1/1984 |
| Forge Pond | Canton, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.1 | N | AE | 1/1/1973 |
| Franklin Street pond | Wrentham, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Fuller Brook (lower) | Wellesley, Town of | Confluence with Waban Brook | Approximately 200 feet below Wellesley High School fields | 01090001 | 1.8 | | N | A | 4/30/2018 |
| Fuller Brook | Wellesley, Town of | Approximately 200 feet below Wellesley High School fields | Approximately 1,800 feet above Smith Street | 01090001 | | | N | AE | 11/1/1972 |
| Fuller Brook (upper) | Wellesley, Town of | Approximately 1,800 feet above Smith Street | Pine Swamp | 01090001 | 1.8 | | N | A | 4/30/2018 |
| Fuller Brook Zone A tributaries | Needham, Town of; Wellesley, Town of | Confluences with Fuller Brook | Points of one square mile of drainage area | 01090001 | 1.7 | | N | A | 4/30/2018 |
| Furnace Brook | Quincy, City of | Tidal limit | Approximately 850 above Hayden Street | 01090001 | 3.0 | | Y | AE | 10/1/1976 |
| Germany Brook | Norwood, Town of; Westwood, Town of | Confluence with Hawes Brook | Westwood/ Norwood corporate limits | 01090001 | 1.8 | | Y | AE | 7/1/1977 |
| Glovers Brook | Randolph, Town of | Confluence with Cochato River | Approximately 1,000 feet above Warren Street | 01090001 | 1.5 | | Y | AE | 11/1/1985 |
| Granite Plaza rail flooding | Quincy, City of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Hales Pond | Dover, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Harlow Pond Lateral | Norfolk, Town of | Confluence with Charles River | Approximately 2,000 feet above Phillips Pond | 01090001 | 1.1 | | N | AE | 11/1/1982 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Hawes Brook | Norwood, Town of | Confluence with Neponset River | Willet Pond Dam | 01090001 | 1.8 | | Y | AE | 7/1/1977 |
| Hawthorne Brook | Plainville, Town of | Confluence with Turnpike Lake | Cowell Street | 01090004 | 0.7 | | Y | AE | 1/1/1979 |
| Herring Brook | Weymouth, Town of | Confluence with Weymouth Back River | Approximately 300 feet above Iron Hill Street | 01090001 | 1.0 | | Y | AE | 9/1/1987 |
| Herring Brook (upper) | Weymouth, Town of | Approximately 300 feet above Iron Hill Street | Approximately 80 feet below Libbey Industrial Parkway | 01090001 | 1.9 | | N | A | 4/30/2018 |
| Herring Brook Tributary A | Weymouth, Town of | Culvert above intersection of Hawthorne Street and High Street | County boundary | 01090001 | 0.9 | | N | A | 4/30/2018 |
| Hopedale Street ponding | Quincy, City of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Hopping Brook | Bellingham, Town of; Medway, Town of | Confluence with Charles River | Approximately 1,400 feet above Milford Street | 01090001 | 2.3 | | Y | AE | 11/1/1978 |
| Hopping Brook (upper) | Medway, Town of | Approximately 1,400 feet above Milford Street | County boundary | 01090001 | 6.9 | | N | A | 4/30/2018 |
| Hopping Brook Tributary A | Medway, Town of | Confluence with Hopping Brook | Milford Street | 01090001 | 0.9 | | N | A | 4/30/2018 |
| Houghtons Pond | Milton, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.04 | N | A | 4/30/2018 |
| Jackson Pond | Dedham, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| James Brook | Cohasset, Town of | Confluence with Cohasset Cove | Sohier Street | 01090002 | 0.9 | | Y | AE | 8/1/1983 |
| James Brook (upper) | Cohasset, Town of | Sohier Street | Point of one square mile of drainage area | 01090002 | 1.0 | | N | A | 5/31/2017 |
| Kingsbury Pond | Medfield, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Lake Archer and outlet | Wrentham, Town of | Mouth at Lake Pearl | Lake Archer | 01090001 | 0.9 | | N | A | 4/30/2018 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Lake Holbrook | Holbrook, Town of | Holbrook/ Randolph corporate limits | Spring Street | 01090001 | | 0.1 | Y | AE | 5/1/1985 |
| Lake Waban | Wellesley, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.2 | N | AE | 11/1/1977 |
| Liberty Street ponding | Braintree, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Lily Pond Stream | Cohasset, Town of | Confluence with Lily Pond | Approximately 2,798 feet above confluence with Lily Pond | 01090002 | 0.5 | | Y | AE | 8/1/1983 |
| Lowder Brook and Zone A tributaries | Dedham, Town of; Westwood, Town of | Culvert above Gonzalez Field | Points of one square mile of drainage area | 01090001 | 7.1 | | N | A | 4/30/2018 |
| Mann Pond Lateral | Norfolk, Town of | Confluence with Stop River | Boardman Street | 01090001 | 1.2 | | Y | AE | 11/1/1982 |
| Martha Jones pond | Westwood, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Martin Brook | Randolph, Town of | Confluence with Cochato River | Approximately 1,000 feet above Oak Street | 01090001 | 1.4 | | Y | AE | 11/1/1985 |
| Mary Lee Brook | Randolph, Town of | Confluence with Cochato River | South Main Street | 01090001 | 1.6 | | Y | AE | 11/1/1985 |
| Mary Lee Brook (upper) | Avon, Town of; Randolph, Town of | South Main Street | Point of one square mile of drainage area | 01090001 | 1.3 | | N | A | 4/30/2018 |
| Mary Lee Brook Zone A tributaries | Avon, Town of; Randolph, Town of | Confluences with Mary Lee Brook | Points of one square mile of drainage area | 01090001 | 1.2 | | N | A | 4/30/2018 |
| Massachusetts Bay | Braintree, Town of; Cohasset, Town of; Weymouth, Town of | Entire coastline | Entire coastline | N/A | 28.3 | | N | AE/VE | 5/1/2009 |
| Massapoag Brook (Canton) | Canton, Town of | Outlet at Forge Pond | Canton/ Sharon corporate limits | 01090001 | 1.5 | | Y | AE | 2/1/1986 |
| Massapoag Brook (Sharon lower) | Sharon, Town of | Canton/ Sharon corporate limits | Approximately 100 feet below Wooden Foot Bridge | 01090001 | 2.0 | | N | A | 4/30/2018 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Massapoag Brook (Sharon) | Sharon, Town of | Approximately 100 feet below Wooden Foot Bridge | Confluence with Massapoag Lake | 01090001 | 1.6 | | Y | AE | 6/1/1977 |
| Massapoag Lake | Canton, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.6 | N | AE | 2/1/1986 |
| McAuliffe Road ponds | Randolph, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Meadow Brook | Norwood, Town of | Confluence with Neponset River | Pleasant Street | 01090001 | 0.6 | | Y | AE | 7/1/1977 |
| Mill Brook | Westwood, Town of | Mouth at Willett Pond | Dover/ Westwood corporate limits | 01090001 | 2.6 | | Y | AE | 12/1/1999 |
| Mill River (Norfolk) | Norfolk, Town of | Confluence with Charles River | Norfolk/ Wrentham corporate limits | 01090001 | 4.6 | | Y | AE | 11/1/1982 |
| Mill River (Norfolk upper) | Wrentham, Town of | Norfolk/ Wrentham corporate limits | Point of one square mile of drainage area | 01090001 | 4.4 | | N | A | 4/30/2018 |
| Mill River (Norfolk) Zone A tributaries | Franklin, Town of; Norfolk, Town of; Wrentham, Town of | Confluences with Mill River (Norfolk) | Points of one square mile of drainage area | 01090001 | 4.9 | | N | A | 4/30/2018 |
| Mill River (Weymouth lower) | Weymouth, Town of | Confluence with Herring Brook | Approximately 750 above Mill Street | 01090001 | 2.0 | | N | A | 4/30/2018 |
| Mill River (Weymouth) | Weymouth, Town of | Approximately 750 feet above Mill Street | Hollis Street | 01090001 | 2.1 | | Y | AE | 9/1/1987 |
| Mill River (Weymouth upper) | Weymouth, Town of | Hollis Street | Point of one square mile of drainage area | 01090001 | 3.0 | | N | A | 4/30/2018 |
| Mill River (Weymouth) Zone A tributaries | Braintree, Town of; Holbrook, Town of; Weymouth, Town of | Confluences with Mill River (Weymouth) | Points of one square mile of drainage area | 01090001 | 4.2 | | N | A | 4/30/2018 |
| Mill River Tributary A | Weymouth, Town of | Confluence with Mill River | Driveway approximately 550 feet above Main Street | 01090001 | 0.9 | | Y | AE | 9/1/1987 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Mill River Tributary B | Weymouth, Town of | Confluence with Mill River Tributary A | Railroad | 01090001 | 0.1 | | Y | AE | 9/1/1987 |
| Miller Brook | Norfolk, Town of | Confluence with Mill River | Franklin/ Norfolk corporate limits | 01090001 | 0.5 | | Y | AE | 11/1/1982 |
| Miller Brook (upper) | Franklin, Town of | Franklin/ Norfolk corporate limits | Point of one square mile of drainage area | 01090001 | 1.9 | | N | A | 4/30/2018 |
| Mine Brook (Franklin) | Franklin, Town of | Confluence with Charles River | Approximately 200 feet above Washington Street | 01090001 | 9.7 | | Y | AE | 2/1/1980 |
| Mine Brook (Franklin) Zone A tributaries | Bellingham, Town of; Franklin, Town of | Confluences with Mine Brook (Franklin) | Points of one square mile of drainage area | 01090001 | 4.6 | | N | A | 4/30/2018 |
| Mine Brook (Walpole) | Walpole, Town of | Confluence with Neponset River | Medfield/ Walpole corporate limits | 01090001 | 2.4 | | Y | AE | 12/1/1975 |
| Mine Brook (Walpole upper) | Medfield, Town of | Medfield/ Walpole corporate limits | Point of one square mile of drainage area | 01090001 | 4.4 | | N | A | 4/30/2018 |
| Mine Brook (Walpole) Zone A tributaries | Medfield, Town of; Walpole, Town of | Confluences with Mine Brook (Walpole) | Points of one square mile of drainage area | 01090001 | 4.6 | | N | A | 4/30/2018 |
| Miscoe Brook and Zone A tributaries | Franklin, Town of; Wrentham, Town of | Approximately 200 feet above Washington Street | Points of one square mile of drainage area | 01090001 | 4.9 | | N | A | 4/30/2018 |
| Mishkan Tefia swamp | Dedham, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Monatiquot River | Braintree, Town of | Quincy Avenue | Confluence of Farm River and Cochato River | 01090001 | 5.0 | | Y | AE | 1/1/1984 |
| Monatiquot River Zone A tributaries | Braintree, Town of; Weymouth, Town of | Confluences with Monatiquot River | Points of one square mile of drainage area | 01090001 | 2.6 | | N | A | 4/30/2018 |
| Morses Pond | Wellesley, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.2 | N | AE | 11/1/1977 |
| Mother Brook | Dedham, Town of | County boundary | Divergence from Charles River | 01090001 | 2.2 | | N | AE | 6/1/1977 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Muddy River | Brookline, Town of | County boundary | Above Leverett Pond | 01090001 | 1.5 | | N | AE | 5/1/1972 |
| Muddy River (upper) | Brookline, Town of | Above Leverett Pond | Point of one square mile of drainage area | 01090001 | 1.8 | | N | A | 4/30/2018 |
| Myrtle Street Lateral | Norfolk, Town of | Confluence with Charles River | Approximately 3,000 feet above Myrtle Street | 01090001 | 0.7 | | Y | AE | 11/1/1982 |
| Neponset River | Canton, Town of; Dedham, Town of; Milton, Town of; Norwood, Town of; Sharon, Town of; Walpole, Town of; Westwood, Town of | Adams Street | Foxborough/ Walpole corporate limits | 01090001 | 30.0 | | Y | AE | 6/1/2017 |
| Neponset River (upper) | Foxborough, Town of | Walpole/ Foxborough corporate limits | Point of one square mile of drainage area | 01090001 | 3.5 | | N | A | 4/30/2018 |
| Neponset River Zone A tributaries | Foxborough, Town of; Walpole, Town of | Confluences with Neponset River | Points of one square mile of drainage area | 01090001 | 8.6 | | N | A | 4/30/2018 |
| Noanet Brook and Zone A tributaries | Dover, Town of | Confluence with Charles River | Points of one square mile of drainage area | 01090001 | 3.2 | | N | A | 4/30/2018 |
| Norroway Brook (lower) | Braintree, Town of | Confluence with Farm River | Upper Reservoir | 01090001 | 2.0 | | N | A | 4/30/2018 |
| Norroway Brook | Randolph, Town of | Upper Reservoir | Approximately 285 feet above Warren Street | 01090001 | 1.7 | | Y | AE | 7/1/1977 |
| Norroway Brook (upper) | Avon, Town of; Randolph, Town of; Stoughton, Town of | Approximately 285 feet above Warren Street | Point of one square mile of drainage area | 01090001 | 2.2 | | N | A | 4/30/2018 |
| Norroway Brook Zone A tributaries | Randolph, Town of; Stoughton, Town of | Confluences with Norroway Brook | Points of one square mile of drainage area | 01090001 | 2.0 | | N | A | 4/30/2018 |
| North Brook and Zone A tributaries | Dover, Town of; Medfield, Town of | Confluence with Charles River | Points of one square mile of drainage area | 01090001 | 7.7 | | N | A | 4/30/2018 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| North Holbrook swamp | Holbrook, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Old Swamp River | Weymouth, Town of | Approximately 80 feet below Libbey Industrial Parkway | Approximately 2,750 feet above Ralph Talbot Street | 01090001 | 2.3 | | Y | AE | 5/1/1990 |
| Old Swamp River (upper) | Weymouth, Town of | Approximately 2,750 feet above Ralph Talbot Street | County boundary | 01090001 | 1.7 | | N | A | 4/30/2018 |
| Old Swamp River Tributary A | Weymouth, Town of | Confluence with Old Swamp River | Point of one square mile of drainage area | 01090001 | 1.1 | | N | A | 4/30/2018 |
| Pecunit Brook | Canton, Town of | Confluence with Neponset River | Point of one square mile of drainage area | 01090001 | 2.4 | | N | A | 4/30/2018 |
| Pequid Brook (Lower Reach) | Canton, Town of | Confluence with Forge Pond | Reservoir Pond | 01090001 | | | N | AE | 2/1/1986 |
| Pequid Brook (Upper Reach) | Canton, Town of | Confluence with Reservoir Pond | Unnamed bridge | 01090001 | 0.7 | | N | AE | 2/1/1986 |
| Pequid Brook (Upper Reach upper) | Canton, Town of | Unnamed bridge | Point of one square mile of drainage area | 01090001 | 3.2 | | N | A | 4/30/2018 |
| Peters River | Bellingham, Town of | County boundary | Silver Lake | 01090003 | 4.9 | | Y | AE | 7/1/1980 |
| Peters River Tributary A | Bellingham, Town of | Confluence with Peters River | Point of one square mile of drainage area | 01090003 | 1.0 | | N | A | 12/1/2021 |
| Peters River Tributary B | Bellingham, Town of; Franklin, Town of | Confluence with Peters River | Point of one square mile of drainage area | 01090003 | 2.9 | | N | A | 12/1/2021 |
| Peters River Tributary B1 | Bellingham, Town of; Franklin, Town of | Confluence with Peters River Tributary B | Point of one square mile of drainage area | 01090003 | 1.6 | | N | A | 12/1/2021 |
| Peters River Tributary C | Bellingham, Town of | Confluence with Peters River | Point of one square mile of drainage area | 01090003 | 1.4 | | N | A | 12/1/2021 |
| Pickerel Brook | Walpole, Town of | Confluence with Traphole Brook | Approximately 1,800 feet above Wolcott Avenue | 01090001 | 0.7 | | Y | AE | 12/1/1975 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Pine Tree Brook | Milton, Town of | Confluence with Neponset River | Approximately 2,000 feet above Interstate 95 | 01090001 | 2.5 | | N | AE | 10/1/1976 |
| Pine Tree Brook (upper) | Milton, Town of | Approximately 2,000 feet above Interstate 95 | Point of one square mile of drainage area | 01090001 | 2.4 | | N | A | 4/30/2018 |
| Pinewood Pond | Stoughton, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.04 | N | A | 4/30/2018 |
| Plantingfield Brook | Norwood, Town of | Interstate 95 | Norwood/ Westwood corporate limits | 01090001 | 1.2 | | Y | AE | 7/1/1977 |
| Plantingfield Brook (upper) | Westwood, Town of | Norwood/ Westwood corporate limits | Point of one square mile of drainage area | 01090001 | 1.5 | | N | A | 4/30/2018 |
| Pleasantdale Road flooding | Dedham, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Plymouth River | Weymouth, Town of | County boundary | Point of one square mile of drainage area | 01090001 | 1.4 | | N | A | 4/30/2018 |
| Plymouth River Tributary F | Weymouth, Town of | Confluence with Plymouth River | County boundary | 01090001 | 0.8 | | N | A | 4/30/2018 |
| Ponkapoag Brook | Canton, Town of | Confluence with Neponset River | Turnpike Street | 01090001 | 2.4 | | Y | AE | 2/1/1986 |
| Ponkapoag Brook (upper) | Canton, Town of; Randolph, Town of | Turnpike Street | Point of one square mile of drainage area | 01090001 | 2.6 | | N | A | 4/30/2018 |
| Powisett Brook and Zone A tributaries | Dover, Town of; Westwood, Town of | Confluence with Charles River | Points of one square mile of drainage area | 01090001 | 3.6 | | N | A | 4/30/2018 |
| Prison Farm Lateral | Norfolk, Town of | Confluence with Stop River | Spring Street | 01090001 | 1.3 | | Y | AE | 11/1/1982 |
| Purgatory Brook (lower) | Norwood, Town of | Confluence with Plantingfield Brook | Just below U.S. Route 1 | 01090001 | 0.5 | | N | A | 4/30/2018 |
| Purgatory Brook | Norwood, Town of; Westwood, Town of | Just below U.S. Route 1 | Approximate 6,500 feet above Gay Street | 01090001 | 3.1 | | Y | AE | 12/1/1999 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Quick Stream (upper) | Bellingham, Town of | County boundary | Point of one square mile of drainage area | 01090003 | 1.0 | | N | A | 12/1/2021 |
| Quincy Bay | Quincy, City of | Entire coastline | Entire coastline | N/A | 28.1 | | N | AE/VE | 8/1/2012 |
| Rabbit Hill Brook | Wrentham, Town of | Wrentham/ Plainville corporate limits | Crocker Pond | 01090004 | 1.9 | | Y | AE | 2/1/1980 |
| Rainbow Pond | Walpole, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Rattlesnake Run | Cohasset, Town of | Confluence with Straits Pond | Approximately 528 feet above confluence with Straits Pond | 01090001 | 0.1 | | Y | AE | 8/1/1983 |
| Rattlesnake Run (upper) | Cohasset, Town of | Approximately 528 feet above confluence with Straits Pond | Point of one square mile of drainage area | 01090001 | 1.1 | | N | A | 4/30/2018 |
| Redwing Brook | Stoughton, Town of | Just north of Pine Street | Approximately 1,000 feet above Pine Street | 01090001 | 0.8 | | Y | AE | 10/1/1978 |
| Redwing Brook (upper) | Stoughton, Town of | Approximately 1,000 feet above Pine Street | Point of one square mile of drainage area | 01090001 | 1.0 | | N | A | 4/30/2018 |
| Redwing Brook Tributary A | Stoughton, Town of | Confluence with Redwing Brook | Point of one square mile of drainage area | 01090001 | 0.2 | | N | A | 4/30/2018 |
| Reservoir Pond | Canton, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.4 | N | AE | 12/1/1976 |
| Richardsons Brook | Cohasset, Town of | Confluence with Little Harbor | Approximately 1,160 feet above confluence with Little Harbor | 01090002 | 0.2 | | Y | AE | 8/1/1983 |
| Richardsons Brook (upper) | Cohasset, Town of | Approximately 1,160 feet above confluence with Little Harbor | Point of one square mile of drainage area | 01090002 | 0.5 | | N | A | 5/31/2017 |
| Richardsons Pond | Millis, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Robinson Brook | Foxborough, Town of | County boundary | Central Street | 01090004 | 1.7 | | Y | AE | 3/1/1978 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Rock Meadow Brook | Westwood, Town of | Country Club Road | Approximately 1,600 feet above Hartford Street | 01090001 | 2.9 | | N | AE | 11/2/1973 |
| Rocky Brook | Dover, Town of | Confluence with Trout Brook | Just above abandoned railroad | 01090001 | 0.4 | | Y | AE | 6/1/1985 |
| Rosemary Brook | Needham, Town of; Wellesley, Town of | Confluence with Charles River | Point of one square mile of drainage area | 01090001 | 3.7 | | N | A | 4/30/2018 |
| Ruckaduck Lake | Walpole, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Rumford River | Foxborough, Town of | County boundary | Vandys Pond | 01090004 | 2.6 | | Y | AE | 3/1/1978 |
| Sabrina Lake | Needham, Town of; Wellesley, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.03 | N | A | 4/30/2018 |
| Sawmill Brook 3 Tributary B1 | Brookline, Town of | County boundary | Point of one square mile of drainage area | 01090001 | 0.6 | | N | A | 4/30/2018 |
| School Meadow Brook | Sharon, Town of; Walpole, Town of | Confluence with Neponset River | Approximately 350 feet above U.S. Route 1 | 01090001 | 1.5 | | Y | AE | 12/1/1975 |
| School Meadow Brook (upper) | Foxborough, Town of; Sharon, Town of; Walpole, Town of | Approximately 350 feet above U.S. Route 1 | Point of one square mile of drainage area | 01090001 | 1.7 | | N | A | 4/30/2018 |
| School Meadow Brook Zone A tributaries | Foxborough, Town of; Sharon, Town of; Walpole, Town of | Confluences with School Meadow Brook | Points of one square mile of drainage area | 01090001 | 1.4 | | N | A | 4/30/2018 |
| Sevenmile River | Plainville, Town of | County boundary | Headwaters at unnamed pond | 01090004 | 0.3 | | Y | AE | 7/1/2014 |
| Shea Drive swamp | Weymouth, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.02 | N | A | 4/30/2018 |
| Sheldon Street ponding | Quincy, City of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Shepards Brook | Franklin, Town of | Confluence with Charles River | Approximately 1,400 feet south of Partridge Street | 01090001 | 0.9 | | Y | AE | 2/1/1980 |

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| 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 |
|---|---|---|---|---|---|---|---|---|---|
| Shepards Brook (upper) | Franklin, Town of | Approximately 1,400 feet south of Partridge Street | Point of one square mile of drainage area | 01090001 | 2.8 | | N | A | 4/30/2018 |
| Shepards Brook Tributary A | Franklin, Town of | Confluence with Shepards Brook | Point of one square mile of drainage area | 01090001 | 1.0 | | N | A | 4/30/2018 |
| Smelt Brook 2 and Zone A tributaries | Braintree, Town of; Weymouth, Town of | Confluence with Monatiquot River | Points of one square mile of drainage area | 01090001 | 3.6 | | N | A | 4/30/2018 |
| South Brook | Westwood, Town of | Confluence with Purgatory Brook | East Street | 01090001 | 1.2 | | N | AE | 1/1/2001 |
| St. Moritz Pond | Quincy, City of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Stall Brook (lower) | Bellingham, Town of; Medway, Town of | Confluence with Charles River | Alder Street | 01090001 | 3.1 | | N | A | 4/30/2018 |
| Stall Brook | Medway, Town of | Alder Street | County boundary | 01090001 | 0.1 | | N | AE | 7/1/1980 |
| Steep Hill Brook (lower) | Canton, Town of; Stoughton, Town of | Bolivar Pond | Stoughton/ Canton corporate limits | 01090001 | 0.3 | | N | A | 4/30/2018 |
| Steep Hill Brook | Stoughton, Town of | Stoughton/ Canton corporate limits | Just above Brittons Pond | 01090001 | 2.0 | | Y | AE | 10/1/1978 |
| Steep Hill Brook (upper) | Stoughton, Town of | Just above Brittons Pond | Point of one square mile of drainage area | 01090001 | 1.2 | | N | A | 4/30/2018 |
| Steep Hill Brook Tributary A and Zone A tributaries | Stoughton, Town of | Confluence with Steep Hill Brook | Points of one square mile of drainage area | 01090001 | 2.0 | | N | A | 4/30/2018 |
| Steep Hill Brook Tributary B | Canton, Town of | Confluence with Steep Hill Brook | Diversion from Massapoag Brook | 01090001 | 0.6 | | N | A | 3/31/2018 |
| Stevens Terrace pond | Randolph, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Stony Brook | Norfolk, Town of | Confluence with Stop River | Norfolk/ Wrentham corporate limits | 01090001 | 3.0 | | Y | AE | 11/1/1982 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Stony Brook 2 Tributary A | Wrentham, Town of | Confluence with Stony Brook 2 | Point of one square mile of drainage area | 01090001 | 2.2 | | N | A | 4/30/2018 |
| Stop River | Norfolk, Town of; Walpole, Town of | Walpole/ Norfolk corporate limits | Norfolk/ Wrentham corporate limits | 01090001 | 6.5 | | Y | AE | 11/1/1982 |
| Stop River (upper) | Wrentham, Town of | Norfolk/ Wrentham corporate limits | Point of one square mile of drainage area | 01090001 | 1.2 | | N | A | 4/30/2018 |
| Stop River Tributary A | Medfield, Town of | Confluence with Stop River | Point of one square mile of drainage area | 01090001 | 1.6 | | N | A | 4/30/2018 |
| Sucker Brook | Sharon, Town of | Confluence with Massapoag Lake | Approximately 2,100 feet above confluence with Massapoag Lake | 01090001 | 0.4 | | Y | AE | 6/1/1977 |
| Sylvys Brook | Wrentham, Town of | County boundary | Point of one square mile of drainage area | 01090003 | 1.2 | | N | A | 12/1/2021 |
| Sylvys Brook Tributary A | Wrentham, Town of | Confluence with Sylvys Brook | County boundary | 01090003 | 0.5 | | N | A | 12/1/2021 |
| Ten Mile River | Plainville, Town of | County boundary | High Street | 01090004 | 2.4 | | Y | AE | 7/1/2014 |
| Timberline Drive pond | Walpole, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| Town Brook | Braintree, Town of; Quincy, City of | State Route 3A | Chickatawbut Road | 01090001 | 4.6 | | Y | AE | 6/1/2017 |
| Traphole Brook (lower) | Norwood, Town of; Sharon, Town of | Confluence with Neponset River | Summer Street | 01090001 | 1.4 | | N | A | 4/30/2018 |
| Traphole Brook | Norwood, Town of; Walpole, Town of | Summer Street | Approximately 75 feet above U.S. Route 1 | 01090001 | 1.4 | | Y | AE | 7/1/1977 |
| Traphole Brook (upper) | Sharon, Town of; Walpole, Town of | Approximately 75 feet above U.S. Route 1 | Point of one square mile of drainage area | 01090001 | 1.2 | | N | A | 4/30/2018 |
| Traphole Brook Tributary A | Walpole, Town of | Confluence with Traphole Brook | Point of one square mile of drainage area | 01090001 | 0.2 | | N | A | 4/30/2018 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Tributary C2 | Holbrook, Town of | Confluence with Cochato River | Approximately 400 feet above Kleen Way | 01090001 | 0.4 | | N | AE | 7/15/1988 |
| Tributary C2B | Holbrook, Town of | Confluence with Tributary C2 | Approximately 250 feet above Woodlawn Road | 01090001 | 0.5 | | Y | AE | 5/1/1985 |
| Tributary C2B (upper) | Holbrook, Town of | Approximately 250 feet above Woodlawn Road | Point of one square mile of drainage area | 01090001 | 0.3 | | N | A | 4/30/2018 |
| Tributary C2B Tributary A | Holbrook, Town of | Confluence with Tributary C2B | Approximately 500 feet above Kleen Way | 01090001 | 0.3 | | N | AE | 5/1/1985 |
| Tributary C2B Tributary A (upper) | Holbrook, Town of | Approximately 500 feet above Kleen Way | Point of one square mile of drainage area | 01090001 | 0.2 | | N | A | 4/30/2018 |
| Tributary R1 | Holbrook, Town of | Confluence with Trout Brook | State Route 37 | 01090001 | 0.6 | | N | AE | 7/15/1988 |
| Tributary R1 (upper) | Holbrook, Town of | State Route 37 | Point of one square mile of drainage area | 01090001 | 0.8 | | N | A | 4/30/2018 |
| Tributary R2 | Holbrook, Town of | Confluence with Trout Brook | Approximately 520 feet above Reeds Lane | 01090001 | 0.7 | | Y | AE | 5/1/1985 |
| Tributary R2 (upper) | Holbrook, Town of | Approximately 520 feet above Reeds Lane | Point of one square mile of drainage area | 01090001 | 0.6 | | N | A | 4/30/2018 |
| Tributary R3 | Holbrook, Town of | Confluence with Trout Brook | Approximately 100 feet above State Route 37 | 01090001 | 0.5 | | Y | AE | 5/1/1985 |
| Tributary R4 | Holbrook, Town of | Confluence with Trout Brook | Approximately 150 feet above State Route 37 | 01090001 | 0.4 | | Y | AE | 5/1/1985 |
| Tributary R4 (upper) | Holbrook, Town of | Approximately 150 feet above State Route 37 | Point of one square mile of drainage area | 01090001 | 0.1 | | N | A | 4/30/2018 |
| Tributary to Great Black Swamp | Medway, Town of | Great Black Swamp | Approximately 2,000 feet west of Saint Joseph's Cemetery on Oakland Street | 01090001 | 0.8 | | Y | AE | 11/1/1978 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Tributary to Great Black Swamp (upper) | Medway, Town of | Approximately 2,000 feet west of Saint Joseph's Cemetery on Oakland Street | Point of one square mile of drainage area | 01090001 | 1.4 | | N | A | 4/30/2018 |
| Tributary to Great Black Swamp Tributary A1 | Medway, Town of | Confluence with Tributary to Great Black Swamp Tributary A | Point of one square mile of drainage area | 01090001 | 1.8 | | N | A | 4/30/2018 |
| Tributary to Steep Hill Brook | Stoughton, Town of | Confluence with Steep Hill Brook | Town Pond | 01090001 | 0.4 | | Y | AE | 10/1/1978 |
| Tributary to Steep Hill Brook (upper) | Stoughton, Town of | Town Pond | Point of one square mile of drainage area | 01090001 | 2.0 | | N | A | 4/30/2018 |
| Tributary to Steep Hill Brook Tributary A | Stoughton, Town of | Confluence with Tributary to Steep Hill Brook | Point of one square mile of drainage area | 01090001 | 0.7 | | N | A | 4/30/2018 |
| Trout Brook (Avon) | Avon, Town of | County boundary | Ladge Drive | 01090004 | 0.6 | | Y | AE | 3/1/1978 |
| Trout Brook (Dover) | Dover, Town of | Confluence with Charles River | Approximately 1,500 feet above Access Road | 01090001 | 2.6 | | Y | AE | 6/1/1985 |
| Trout Brook (Dover upper) | Dover, Town of | Approximately 1,500 feet above Access Road | Point of one square mile of drainage area | 01090001 | 0.8 | | N | A | 4/30/2018 |
| Trout Brook (Dover) Tributary A | Dover, Town of | Confluence with Trout Brook (Dover) | Point of one square mile of drainage area | 01090001 | 2.5 | | N | A | 4/30/2018 |
| Trout Brook (Holbrook) | Holbrook, Town of | South Shore Road | Spring Street | 01090001 | | | Y | AE | 5/1/1985 |
| Trout Brook (Holbrook upper) | Holbrook, Town of | Spring Street | Point of one square mile of drainage area | 01090001 | 0.4 | | N | A | 4/30/2018 |
| Trout Brook (Milton) | Milton, Town of | Confluence with Pine Tree Brook | Point of one square mile of drainage area | 01090001 | 2.1 | | N | A | 4/30/2018 |
| Trout Pond | Wrentham, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Turkey Hill Run | Cohasset, Town of | County boundary | County boundary | 01090001 | 0.9 | | Y | AE | 8/1/1983 |
| Turkey Hill Run (upper) | Cohasset, Town of | County boundary | Point of one square mile of drainage area | 01090001 | 0.5 | | N | A | 4/30/2018 |
| Turtle Brook | Plainville, Town of | Mirimichi Street Dam | Confluence with Hawthorne Brook | 01090004 | 1.8 | | Y | AE | 1/1/1979 |
| Uncas Brook | Franklin, Town of; Wrentham, Town of | Mouth at Lake Pearl | Point of one square mile of drainage area | 01090001 | 2.2 | | N | A | 4/30/2018 |
| Uncas Pond | Franklin, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.03 | N | A | 4/30/2018 |
| Unnamed Tributary to Mary Lee Brook | Randolph, Town of | Confluence with Mary Lee Brook | Just above Union Street | 01090001 | 0.4 | | Y | AE | 11/1/1985 |
| Unnamed Tributary to Robinson Brook | Foxborough, Town of | Confluence with Robinson Brook | Approximately 1,720 feet above Robinson Brook | 01090004 | | | N | AE | 3/1/1978 |
| Unquity Brook | Milton, Town of | Confluence with Neponset River | Point of one square mile of drainage area | 01090001 | 2.4 | | N | A | 4/30/2018 |
| Vine Brook | Medfield, Town of | Confluence with Charles River | Just above Industrial Drive | 01090001 | 1.2 | | N | AE | 1/1/1978 |
| Vine Brook (upper) | Medfield, Town of | Just above Industrial Drive | Point of one square mile of drainage area | 01090001 | 1.0 | | N | A | 4/30/2018 |
| Waban Brook | Wellesley, Town of | Confluence with Charles River | Morses Pond Dam | 01090001 | 2.0 | | N | AE | 11/1/1977 |
| Wading River | Foxborough, Town of | County boundary | Headwaters at Lake Mirimichi | 01090004 | 1.5 | | Y | AE | 7/1/2014 |
| Walker Pond | Millis, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.02 | N | A | 4/30/2018 |
| Walnut Hill Stream | Cohasset, Town of | Confluence with The Gulf | Manmade pond above Beechwood Street | 01090002 | 0.5 | | Y | AE | 8/1/1983 |
| Walnut Hill Stream (upper) | Cohasset, Town of | Manmade pond above Beechwood Street | Point of one square mile of drainage area | 01090002 | 0.6 | | N | A | 5/31/2017 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Weld Pond | Dedham, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.05 | N | A | 4/30/2018 |
| Wellesley Water Lands | Needham, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.01 | N | A | 4/30/2018 |
| West Mill Brook | Medfield, Town of | Confluence with Charles River | Medfield Junction | 01090001 | | | N | AE | 1/1/1978 |
| Whiting Pond Bypass | Plainville, Town of | County boundary | Divergence from Ten Mile River | 01090004 | 0.7 | | Y | AE | 7/1/2014 |
| Whortleberry Pond | Weymouth, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.02 | N | A | 4/30/2018 |
| Woods Pond | Stoughton, Town of | Entire shoreline | Entire shoreline | 01090001 | | 0.06 | N | A | 4/30/2018 |
| York Brook | Canton, Town of; Stoughton, Town of | Confluence with Upper Pequid Brook | Point of one square mile of drainage area | 01090001 | 4.4 | | N | A | 4/30/2018 |

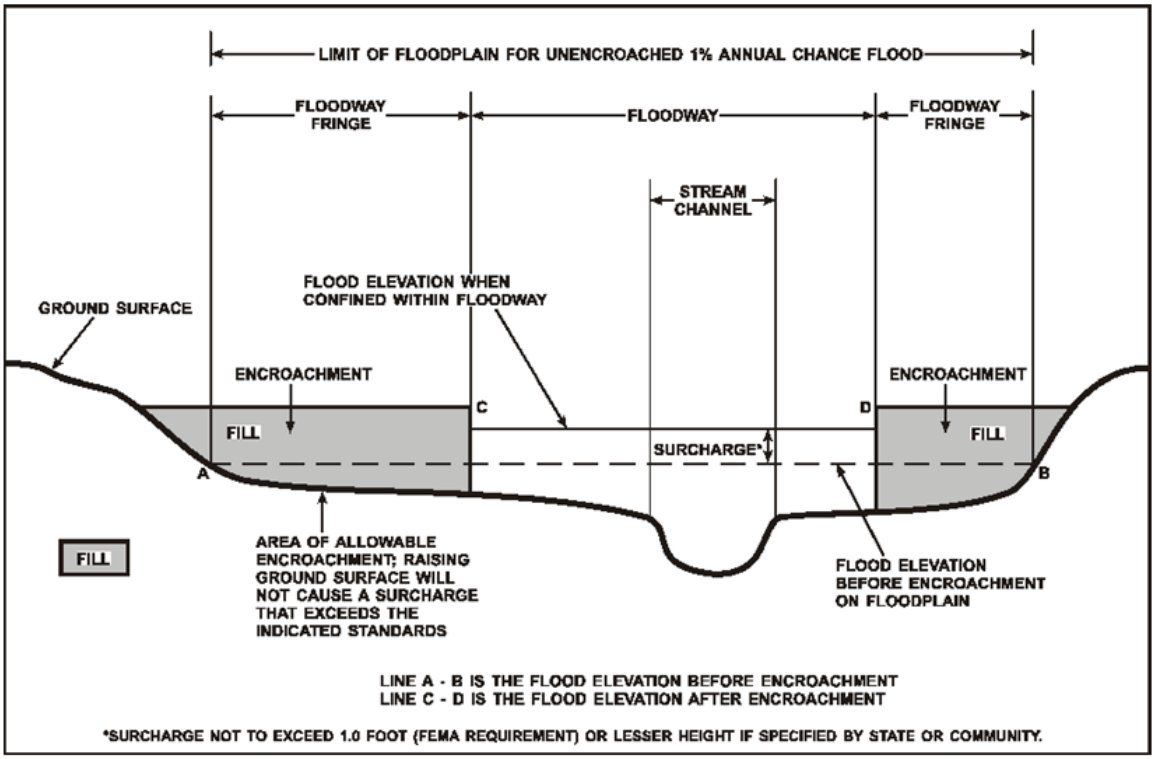
## 2.2 Floodways

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

For most areas along rivers, streams, and small lakes, BFEs and floodplain boundaries are based on the amount of water expected to enter the area during a 1% annual chance flood and the geometry of the floodplain. Floods in these areas are typically caused by storm events. However, for areas on or near ocean coasts, large rivers, or large bodies of water, BFE and floodplain boundaries may need to be based on additional components, including storm surges and waves. Communities on or near ocean coasts face flood hazards caused by offshore seismic events as well as storm events.

Coastal flooding sources that are included in this Flood Risk Project are shown in Table 2.

### 2.5.1 Water Elevations and the Effects of Waves

Specific terminology is used in coastal analyses to indicate which components have been included in evaluating flood hazards.

The stillwater elevation (SWEL or still water level) is the surface of the water resulting from astronomical tides, storm surge, and freshwater inputs, but excluding wave setup contribution or the effects of waves.

- *Astronomical tides* are periodic rises and falls in large bodies of water caused by the rotation of the earth and by the gravitational forces exerted by the earth, moon and sun.
- *Storm surge* is the additional water depth that occurs during large storm events. These events can bring air pressure changes and strong winds that force water up against the shore.
- *Freshwater inputs* include rainfall that falls directly on the body of water, runoff from surfaces and overland flow, and inputs from rivers.

The 1% annual chance stillwater elevation is the stillwater elevation that has been calculated for a storm surge from a 1% annual chance storm. The 1% annual chance storm surge can be determined from analyses of tidal gage records, statistical study of regional historical storms, or other modeling approaches. Stillwater elevations for storms of other frequencies can be developed using similar approaches.

The total stillwater elevation (also referred to as the mean water level) is the stillwater elevation plus wave setup contribution but excluding the effects of waves.

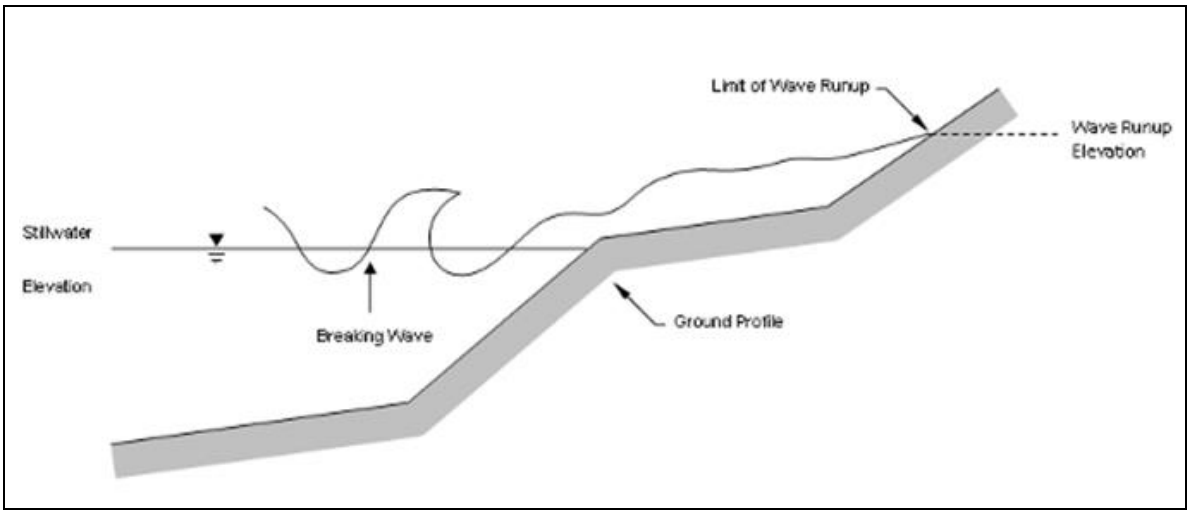
- *Wave setup* is the increase in stillwater elevation at the shoreline caused by the reduction of waves in shallow water. It occurs as breaking wave momentum is transferred to the water column.

Like the stillwater elevation, the total stillwater elevation is based on a storm of a particular frequency, such as the 1% annual chance storm. Wave setup is typically estimated using standard engineering practices or calculated using models, since tidal gages are often sited in areas sheltered from wave action and do not capture this information.

Coastal analyses may examine the effects of overland waves by analyzing storm-induced erosion, overland wave propagation, wave runup, and/or wave overtopping.

- *Storm-induced erosion* is the modification of existing topography by erosion caused by a specific storm event, as opposed to general erosion that occurs at a more constant rate.
- *Overland wave propagation* describes the combined effects of variation in ground elevation, vegetation, and physical features on wave characteristics as waves move onshore.
- *Wave runup* is the uprush of water from wave action on a shore barrier. It is a function of the roughness and geometry of the shoreline at the point where the stillwater elevation intersects the land.
- *Wave overtopping* refers to wave runup that occurs when waves pass over the crest of a barrier.

**Figure 5: Wave Runup Transect Schematic**




### 2.5.2 Floodplain Boundaries and BFEs for Coastal Areas

For coastal communities along the Atlantic and Pacific Oceans, the Gulf of Mexico, the Great Lakes, and the Caribbean Sea, flood hazards must take into account how storm surges, waves, and extreme tides interact with factors such as topography and vegetation. Storm surge and waves must also be considered in assessing flood risk for certain communities on rivers or large inland bodies of water.

Beyond areas that are affected by waves and tides, coastal communities can also have riverine floodplains with designated floodways, as described in previous sections.

#### Floodplain Boundaries

In many coastal areas, storm surge is the principle component of flooding. The extent of the 1% annual chance floodplain in these areas is derived from the total stillwater elevation (stillwater elevation including storm surge plus wave setup) for the 1% annual chance storm. The methods that were used for calculation of total stillwater elevations for coastal areas are described in Section 5.3 of this FIS Report. Location of total stillwater elevations for coastal areas are shown in Figure 8, "1% Annual Chance Total Stillwater Levels for Coastal Areas."

In some areas, the 1% annual chance floodplain is determined based on the limit of wave runup or wave overtopping for the 1% annual chance storm surge. The methods that were used for calculation of wave hazards are described in Section 5.3 of this FIS Report.

Table 25 presents the types of coastal analyses that were used in mapping the 1% annual chance floodplain in coastal areas.

#### Coastal BFEs

Coastal BFEs are calculated as the total stillwater elevation (stillwater elevation including storm surge plus wave setup) for the 1% annual chance storm plus the additional flood hazard from overland wave effects (storm-induced erosion, overland wave propagation, wave runup and wave overtopping).

Where they apply, coastal BFEs are calculated along transects extending from offshore to the limit of coastal flooding onshore. Results of these analyses are accurate until local topography, vegetation, or development type and density within the community undergoes major changes.

Parameters that were included in calculating coastal BFEs for each transect included in this FIS Report are presented in Table 16, "Coastal Transect Parameters." The locations of transects are shown in Figure 9, "Transect Location Map." More detailed information about the methods used in coastal analyses and the results of intermediate steps in the coastal analyses are presented in Section 5.3 of this FIS Report. Additional information on specific mapping methods is provided in Section 6.4 of this FIS Report.

### 2.5.3 Coastal High Hazard Areas

Certain areas along the open coast and other areas may have higher risk of experiencing structural damage caused by wave action and/or high-velocity water during the 1% annual chance flood. These areas will be identified on the FIRM as Coastal High Hazard Areas.

- *Coastal High Hazard Area (CHHA)* is a SFHA extending from offshore to the inland limit of the primary frontal dune (PFD) or any other area subject to damages caused by wave action and/or high-velocity water during the 1% annual chance flood.
- *Primary Frontal Dune (PFD)* is a continuous or nearly continuous mound or ridge of sand with relatively steep slopes immediately landward and adjacent to the beach. The PFD is subject to erosion and overtopping from high tides and waves during major coastal storms.

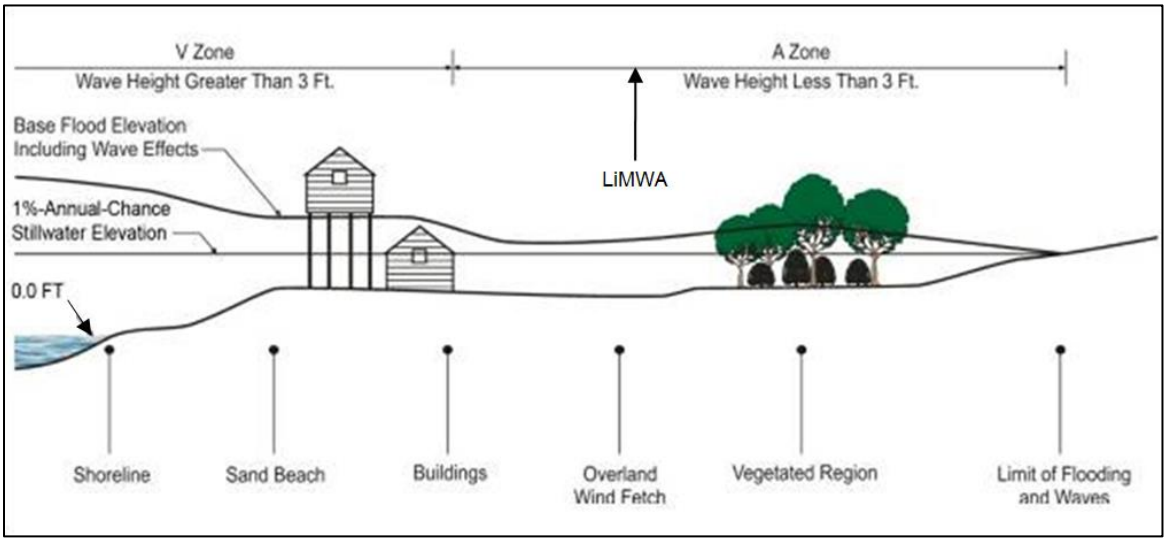
CHHAs are designated as "V" zones (for "velocity wave zones") and are subject to more stringent regulatory requirements and a different flood insurance rate structure. The areas of greatest risk are shown as VE on the FIRM. Zone VE is further subdivided into elevation zones and shown with BFEs on the FIRM.

The landward limit of the PFD occurs at a point where there is a distinct change from a relatively steep slope to a relatively mild slope; this point represents the landward extension of Zone VE. Areas of lower risk in the CHHA are designated with Zone V on the FIRM. More detailed information about the identification and designation of Zone VE is presented in Section 6.4 of this FIS Report.

Areas that are not within the CHHA but are SFHAs may still be impacted by coastal flooding and damaging waves; these areas are shown as "A" zones on the FIRM.

Figure 6, "Coastal Transect Schematic," illustrates the relationship between the base flood elevation, the 1% annual chance stillwater elevation, and the ground profile as well as the location of the Zone VE and Zone AE areas in an area without a PFD subject to overland wave propagation. This figure also illustrates energy dissipation and regeneration of a wave as it moves inland.

**Figure 6: Coastal Transect Schematic**




Methods used in coastal analyses in this Flood Risk Project are presented in Section 5.3 and mapping methods are provided in Section 6.4 of this FIS Report.

Coastal floodplains are shown on the FIRM using the symbology described in Figure 3, "Map Legend for FIRM." In many cases, the BFE on the FIRM is higher than the stillwater elevations shown in Table 16 due to the presence of wave effects. The higher elevation should be used for construction and/or floodplain management purposes.

### 2.5.4 Limit of Moderate Wave Action

Laboratory tests and field investigations have shown that wave heights as little as 1.5 feet can cause damage to and failure of typical Zone AE building construction. Wood-frame, light gage steel, or masonry walls on shallow footings or slabs are subject to damage when exposed to waves less than 3 feet in height. Other flood hazards associated with coastal waves (floating debris, high velocity flow, erosion, and scour) can also damage Zone AE construction.

Therefore, a LiMWA boundary may be shown on the FIRM as an informational layer to assist coastal communities in safe rebuilding practices. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The location of the LiMWA relative to Zone VE and Zone AE is shown in Figure 6.

The effects of wave hazards in Zone AE between Zone VE (or the shoreline where Zone VE is not identified) and the limit of the LiMWA boundary are similar to, but less severe than, those in Zone VE where 3-foot or greater breaking waves are projected to occur during the 1% annual chance flooding event. Communities are therefore encouraged to adopt and enforce more stringent floodplain management requirements than the minimum NFIP requirements in the LiMWA. The NFIP Community Rating System provides credits for these actions.

Where wave runup elevations dominate over wave heights, there is no evidence to date of significant damage to residential structures by runup depths less than 3 feet. Examples of these areas include areas with steeply sloped beaches, bluffs, or flood protection structures that lie parallel to the shore. In these areas, the FIRM shows the LiMWA immediately landward of the

VE/AE boundary. Similarly, in areas where the zone VE designation is based on the presence of a primary frontal dune or wave overtopping, the LiMWA is delineated immediately landward of the Zone VE/AE boundary.

## 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 Norfolk County.

**Table 3: Flood Zone Designations by Community**

| Community | Flood Zone(s) |
|---|---|
| Avon, Town of | A, AE, X |
| Bellingham, Town of | A, AE, X |
| Braintree, Town of | A, AE, VE, X |
| Brookline, Town of | A, AE, X |
| Canton, Town of | A, AE, X |
| Cohasset, Town of | A, AE, AO, VE, X |
| Dedham, Town of | A, AE, X |
| Dover, Town of | A, AE, X |
| Foxborough, Town of | A, AE, X |
| Franklin, Town of | A, AE, X |
| Holbrook, Town of | A, AE, X |
| Medfield, Town of | A, AE, X |
| Medway, Town of | A, AE, X |
| Millis, Town of | A, AE, X |
| Milton, Town of | A, AE, X |
| Needham, Town of | A, AE, AH, X |
| Norfolk, Town of | A, AE, X |
| Norwood, Town of | A, AE, X |

**Table 3: Flood Zone Designations by Community**

| Community | Flood Zone(s) |
|---|---|
| Plainville, Town of | A, AE, X |
| Quincy, City of | A, AE, AO, VE, X |
| Randolph, Town of | A, AE, X |
| Sharon, Town of | A, AE, X |
| Stoughton, Town of | A, AE, X |
| Walpole, Town of | A, AE, X |
| Wellesley, Town of | A, AE, AH, X |
| Westwood, Town of | A, AE, X |
| Weymouth, Town of | A, AE, AO, VE, X |
| Wrentham, Town of | A, AE, 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) |
|---|---|---|---|---|
| Blackstone Watershed | 01090003 | Blackstone River | Inland basins draining to Blackstone River | 474 |
| Cape Cod Watershed | 01090002 | Atlantic Ocean | Coastal land along Cape Cod Bay and Buzzards Bay drained by small coastal rivers and streams between Charles Watershed to the north and Narragansett Watershed to the southwest | 1,204 |
| 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 |

**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) |
|---|---|---|---|---|
| Narragansett Watershed | 01090004 | Narragansett Bay | Coastal basins draining to Narragansett Bay in Rhode Island between Buzzards Bay drainages to the east and Rhode Island coastal drainages to the west, not including basin of Blackstone River | 1,379 |

## 4.2 Principal Flood Problems

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

**Table 5: Principal Flood Problems**

| Flooding Source | Description of Flood Problems |
|---|---|
| Atlantic Ocean - Massachusetts Bay | The coastal communities (Cohasset, Weymouth, Quincy, and Braintree) along in Norfolk County are primarily subject to coastal flooding caused by nor'easters and hurricanes. Nor'easters can occur at any time of the year but are more prevalent in the winter months, whereas hurricanes mostly occur in the late summer and early fall months. This coastal areas tend to be more impacted by nor'easters given that they face primarily to the east, but hurricanes and tropical storms still can affect the coastal low-lying area in these communities. A nor'easter typically travels southwest to northeast along the Atlantic coast, collecting moisture over the ocean and sending it inland via northeast winds. Nor'easters differ from hurricanes in that they cover a larger area, have less intense winds, and move more slowly. Where a hurricane may last for several hours, a nor'easter may last for several days. For this reason, northeasters often last long enough to be accompanied by at least one high tide, which results in the most severe flooding conditions. In addition to flooding, damaging waves may occur from tidal surge in coastal areas. These high levels result from a drop in the barometric pressure and from strong winds that can blow out of the northeast across the considerable fetch of the Atlantic Ocean. The most notable coastal storm to impact the coastal areas of these communities was the February 1978 nor'easter. Significant damage occurred to coastal homes, roads, and marinas. The Blizzard of 1978 is designated as a 1-percent annual chance coastal flood event. Some other notable nor'easters that resulted in damages in these coastal communities are the October 1991 nor'easter (often referred to as the Perfect Storm), January 2018 nor'easter, and March 2018 nor'easter. Hurricane Sandy in October 2012 did also cause some minor coastal flooding and damages. |
| Bolivar Pond | Bolivar Pond Dam has been overtopped in the past. |

## Table 5: Principal Flood Problems

| Flooding Source | Description of Flood Problems |
|---|---|
| Canton River (East Branch Neponset River) | The Canton River has caused flooding issues (some bridges can be overtopped and numerous roads in low-lying areas along the river can be flooded) in the Town of Canton over the years as a result of hurricanes, snow melt combined with spring rains, and summer thunderstorms. The notable flood events along the Neponset River were the August 1955 - two successive hurricanes in a one week span, spring 2010 which involved three large rainfall events over a five week period, March 1968 snow melt and rainfall event, and the June 1998 and October 2005 rainfall events. At the USGS East Branch Neponset River at Canton streamgage (01105500) the August 1955 event was about a 1-percent annual chance flood; the March 1968 event was about a 2-percent annual chance flood; and the spring 2010, October 2005, and June 1998 events were about a 4-percent annual chance flood. |
| Charles River | Charles River has caused flooding issues in Middlesex 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 - two successive hurricanes 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 at 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 were between a 20- and 10-percent annual chance flood. |
| Massapoag Brook | Shepard Pond Dam has been overtopped in the past. |
| Monatiquot River | The Monatiquot River has caused flooding issues in the Town of Braintree over the years as a result of hurricanes, snow melt combined with spring rains, and summer thunderstorms. Significantly flooding issues have occurred due to the August 1955, March 1968, and March 2010 floods events. Some bridges were overtopped and numerous roads in low-lying areas along the river were flooded. |
| Neponset River | The Neponset River has caused flooding issues in the Towns of Foxborough, Walpole, Norwood, Canton, Westwood, Dedham, and Milton over the years as a result of hurricanes, snow melt combined with spring rains, and summer thunderstorms. The notable flood events along the Neponset River were the August 1955 - two successive hurricanes in a one week span, spring 2010 which involved three large rainfall events over a five week period, March 1968 snow melt and rainfall event, and the June 1998 rainfall event. Some bridges were overtopped and numerous roads in low-lying areas along the river were flooded. At the USGS Neponset River at Norwood streamgage (01105000) the August 1955 event was about a 1-percent annual chance flood, and the spring 2010, March 1968, and June 1998 events were about a 2-percent annual chance flood. |

**Table 5: Principal Flood Problems**

| Flooding Source | Description of Flood Problems |
|---|---|
| Town Brook | Town Brook has caused flooding issues in the City of Quincy over the years as a result of hurricanes, snow melt combined with spring rains, and summer thunderstorms. Contruction of a diversion tunnel in the 1980's has significantly reduce flooding issues. But, prior to the diversion tunnel floods in August 1955 and March 1968 are the most notable to affect the Town Brook area. |

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

**Table 6: Historic Flooding Elevations**

| Flooding Source | Location | Historic Peak (Feet NAVD88) | Event Date | Approximate Recurrence Interval (years) | Source of Data |
|---|---|---|---|---|---|
| Atlantic Ocean | Gulliger Creek, culvert at West Squantum St. and Christopher Dr., Quincy | 7.6 | February 1978 | 100 | USGS |
| Atlantic Ocean | Neponset River, upstream of Granite St.bridge, Quincy | 9.5 | February 1978 | 100 | USGS |
| Atlantic Ocean | Neponset River tributary, West Squantum St., Quincy | 9.5 | February 1978 | 100 | USGS |
| Atlantic Ocean | Quincy Bay, East Squantum St., Quincy | 9.6 | February 1978 | 100 | USGS |
| Atlantic Ocean | Quincy Bay, Bellevue Road, Quincy | 12.1 | February 1978 | 100 | USGS |
| Atlantic Ocean | Quincy Bay, Merrymount Section of Adams Shore, Quincy | 8.2 | February 1978 | 100 | USGS |
| Atlantic Ocean | Quincy Bay, Post Island Road, Quincy | 9.5 | February 1978 | 100 | USGS |
| Atlantic Ocean | Quincy Bay, Houghs Neck, Bayswater Road, Quincy | 11.1 | February 1978 | 100 | USGS |
| Atlantic Ocean | Quincy Bay, Babcock St., Quincy | 10.8 | February 1978 | 100 | USGS |

**Table 6: Historic Flooding Elevations**

| Flooding Source | Location | Historic Peak (Feet NAVD88) | Event Date | Approximate Recurrence Interval (years) | Source of Data |
|---|---|---|---|---|---|
| Atlantic Ocean | Town River, downstream Rt. 3A bridge, Quincy | 9.1 | February 1978 | 100 | USGS |
| Atlantic Ocean | Weymouth Fore River, downstream of Shaw St. bridge, Weymouth | 6.2 | February 1978 | 100 | USGS |
| Atlantic Ocean | Weymouth Fore River, Webb Park downstream of Quincy Ave. bridge, Weymouth | 6.8 | February 1978 | 100 | USGS |
| Atlantic Ocean | Weymouth Fore River tributary, downstream of Pearl St. bridge, Weymouth | 6 | February 1978 | 100 | USGS |
| Atlantic Ocean | Hingham Bay, Rose cliff, Caldwell St., Weymouth | 12.5 | February 1978 | 100 | USGS |
| Atlantic Ocean | Little Harbor, Jerusalem Road within Bow St. loop, Cohasset | 10.1 | February 1978 | 100 | USGS |
| Atlantic Ocean | Little Harbor, Cohasset Central Cemetery, Joy Place, Cohasset | 9.7 | February 1978 | 100 | USGS |
| Atlantic Ocean | Little Harbor, Beach St., Cohasset | 9.5 | February 1978 | 100 | USGS |
| Atlantic Ocean | Cohasset Harbor, Cohasset Yacht Club, Atlantic Ave., Cohasset | 10.4 | February 1978 | 100 | USGS |
| Atlantic Ocean | Cohasset Cover, Border St., Cohasset | 10.1 | February 1978 | 100 | USGS |
| Atlantic Ocean | Cohasset Harbor, 92 Border St, Cohasset | 7.3 | October 2012 | | USGS |
| Atlantic Ocean | Weymouth Fore River, Wssagusset Rd., Weymouth | 9.8 | January 2018 | | USGS |

**Table 6: Historic Flooding Elevations**

| Flooding Source | Location | Historic Peak (Feet NAVD88) | Event Date | Approximate Recurrence Interval (years) | Source of Data |
|---|---|---|---|---|---|
| Atlantic Ocean | Weymouth Fore River, Fort Point Rd., Weymouth | 11.9 | January 2018 | | USGS |
| Atlantic Ocean | Kings Cove, Weymouth Fore River, Weymouth | 9.8 | January 2018 | | USGS |
| Atlantic Ocean | Weymouth Fore River Canoe Assess, Weymouth | 9.0 | January 2018 | | USGS |
| Atlantic Ocean | Town River, Rt. 3A, Quincy | 9.0 | January 2018 | | USGS |
| Atlantic Ocean | Quincy Bay, Houghs Neck, Bayswater Rd., Quincy | 7.4 | January 2018 | | USGS |
| Atlantic Ocean | Quincy Bay, Sea St., Quincy | 12.4 | January 2018 | | USGS |
| Atlantic Ocean | Quincy Bay, Terne Rd., Quincy | 9.9 | January 2018 | | USGS |
| Atlantic Ocean | Quincy Bay, Squantum, Seal Rock Ln., Quincy | 10.6 | January 2018 | | USGS |
| Atlantic Ocean | Squantum Marsh, intersection of Victory Rd. and E. Squantum St., Quincy | 9.0 | January 2018 | | USGS |
| Atlantic Ocean | Neponset River tributary, West Squantum St., North Quincy | 9.8 | January 2018 | | USGS |
| Atlantic Ocean | Unquity Brook at intersection of Christopher Dr. and Squantum St., Milton | 9.9 | January 2018 | | USGS |
| Atlantic Ocean | Quincy Houghs Neck Maritime Center, Quincy | 8.0 | January 2018 | | USGS |
| Atlantic Ocean | Shore Ave., Quincy | 9.8 | January 2018 | | USGS |

**Table 6: Historic Flooding Elevations**

| Flooding Source | Location | Historic Peak (Feet NAVD88) | Event Date | Approximate Recurrence Interval (years) | Source of Data |
|---|---|---|---|---|---|
| Atlantic Ocean | Cohasset Harbor, 92 Border St, Cohasset | 9.1 | March 2018 | | USGS |
| Atlantic Ocean | Town River, Rt. 3A, Quincy | 9.6 | March 2018 | | USGS |
| Atlantic Ocean | Quincy Bay, Houghs Neck, Bayswater Rd., Quincy | 10.0 | March 2018 | | USGS |
| Atlantic Ocean | Quincy Bay, Sea St., Quincy | 11.1 | March 2018 | | USGS |
| Atlantic Ocean | Quincy Bay, Terne Rd., Quincy | 8.4 | March 2018 | | USGS |
| Atlantic Ocean | Squantum Marsh, intersection of Victory Rd. and E. Squantum St., Quincy | 9.7 | March 2018 | | USGS |
| Atlantic Ocean | Unquity Brook at intersection of Christopher Dr. and Squantum St., Milton | 8.3 | March 2018 | | USGS |
| Atlantic Ocean | Weymouth Fore River, Fort Point Rd., Weymouth | 13.5 | March 2018 | | USGS |
| Atlantic Ocean | Kings Cove, Weymouth Fore River, Weymouth | 11.8 | March 2018 | | USGS |
| Atlantic Ocean | Weymouth Fore River Canoe Assess, Weymouth | 10.0 | March 2018 | | USGS |
| Atlantic Ocean | Boston Harbor, Bayside Road, Quincy | 9.3 | March 2018 | | USGS |
| Charles River | Pearl St., Bellingham | 187.8 | March 2010 | | USGS |
| Charles River | Populatic Rd. bridge, Medway | 135.5 | March 2010 | | USGS |
| Charles River | Forest Rd., Millis | 120.5 | March 2010 | | USGS |

**Table 6: Historic Flooding Elevations**

| Flooding Source | Location | Historic Peak (Feet NAVD88) | Event Date | Approximate Recurrence Interval (years) | Source of Data |
|---|---|---|---|---|---|
| Charles River | Forest Rd., Millis | 121.3 | March 2010 | | USGS |
| Charles River | Main St., Medfield | 119.3 | March 2010 | | USGS |
| Charles River | West St., Medfield | 119.6 | March 2010 | | USGS |
| Charles River | South Main St., Sherborn | 117.9 | March 2010 | | USGS |
| Charles River | South Main St., Sherborn | 118.8 | March 2010 | | USGS |
| Charles River | Farm Rd., Sherborn | 116.8 | March 2010 | | USGS |
| Charles River | South St., Needham | 103.2 | March 2010 | | USGS |
| Charles River | USGS streamgage 01103500, Mill St., Dover | 95.8 | March 2010 | | USGS |
| Charles River | USGS streamgage 01103500, Mill St., Dover | 97.2 | March 2010 | | USGS |
| Charles River | Chestnut St., Dover | 93.6 | March 2010 | | USGS |
| Charles River | Chestnut St., Dover | 94.8 | March 2010 | | USGS |
| Charles River | Glendale Ave., Needham | 91.2 | March 2010 | | USGS |
| Charles River | Bridge St.bridge, Dedham | 89.3 | March 2010 | | USGS |
| Charles River | Bridge St.bridge, Dedham | 89.3 | March 2010 | | USGS |
| Charles River | Kendrick St., Needham | 87.5 | March 2010 | | USGS |
| Charles River | Kendrick St., Needham | 87.7 | March 2010 | | USGS |
| Charles River | USGS streamgage 01104200, upstream of Rt. 9, Wellesley | 73.0 | March 2010 | | USGS |

**Table 6: Historic Flooding Elevations**

| Flooding Source | Location | Historic Peak (Feet NAVD88) | Event Date | Approximate Recurrence Interval (years) | Source of Data |
|---|---|---|---|---|---|
| Charles River | Washington St., Wellesley | 45.2 | March 2010 | | USGS |
| Charles River | Washington St., Wellesley | 45.0 | March 2010 | | USGS |
| Charles River | Central Avenue in Town of Needham | 88.4 | March 1936 | | USACE 1972 |
| Charles River | Central Avenue in Town of Needham | 88.6 | August 1955 | | USACE 1972 |
| Charles River | Central Avenue in Town of Needham | 87.5 | March 1968 | | USACE 1972 |
| Charles River | Central Avenue in Town of Needham | 87.17 | April 1987 | | |
| Charles River | Central Street in Town of Dover | 105.48 | March 1968 | | USACE 1972 |
| Charles River | Charles River Street in Town of Needham | 106.89 | March 1968 | | USACE 1972 |
| Charles River | Chestnut Street in Town of Needham | 94.0 | March 1936 | | USACE 1972 |
| Charles River | Chestnut Street in Town of Needham | 95.6 | August 1955 | | USACE 1972 |
| Charles River | Chestnut Street in Town of Needham | 95.2 | March 1968 | | USACE 1972 |
| Charles River | Dedham Avenue in Town of Needham | 92.5 | March 1936 | | USACE 1972 |
| Charles River | Dedham Avenue in Town of Needham | 94.2 | August 1955 | | USACE 1972 |
| Charles River | Dedham Avenue in Town of Needham | 93.53 | March 1968 | | USACE 1972 |
| Charles River | Dedham Avenue in Town of Needham | 92.84 | April 1987 | | |
| Charles River | Greendale Avenue in Town of Needham | 91.6 | March 1936 | | USACE 1972 |
| Charles River | Greendale Avenue in Town of Needham | 93.6 | August 1955 | | USACE 1972 |
| Charles River | Greendale Avenue in Town of Needham | 91.5 | March 1968 | | USACE 1972 |
| Charles River | Greendale Avenue in Town of Needham | 91.27 | April 1987 | | |

**Table 6: Historic Flooding Elevations**

| Flooding Source | Location | Historic Peak (Feet NAVD88) | Event Date | Approximate Recurrence Interval (years) | Source of Data |
|---|---|---|---|---|---|
| Charles River | Highland Avenue in Town of Needham | 90.6 | March 1936 | | USACE 1972 |
| Charles River | Highland Avenue in Town of Needham | 92.4 | August 1955 | | USACE 1972 |
| Charles River | Highland Avenue in Town of Needham | 88.2 | March 1968 | | USACE 1972 |
| Charles River | Highland Avenue in Town of Needham | 87.78 | April 1987 | | |
| Charles River | Kendrick Street in Town of Needham | 91.0 | March 1936 | | USACE 1972 |
| Charles River | Kendrick Street in Town of Needham | 92.4 | August 1955 | | USACE 1972 |
| Charles River | Kendrick Street in Town of Needham | 97.61 | March 1968 | | USACE 1972 |
| Charles River | Kendrick Street in Town of Needham | 88.11 | April 1987 | | |
| Charles River | South Street in Town of Needham | 103.45 | March 1968 | | USACE 1972 |
| Charles River | Upstream side of Bridge Street in Town of Dedham | 91.2 | March 1936 | | |
| Charles River | Upstream side of Bridge Street in Town of Dedham | 92.2 | July 1938 | | |
| Charles River | Upstream side of Bridge Street in Town of Dedham | 92.9 | August 1955 | | |
| Charles River | Upstream side of Bridge Street in Town of Dedham | 89.8 | March 1968 | | |
| Charles River | USGS streamgage at Dover | 98.0 | March 1936 | | USACE 1972 |
| Charles River | USGS streamgage at Dover | 98.2 | August 1955 | | USACE 1972 |
| Charles River | USGS streamgage at Dover | 97.7 | March 1968 | | USACE 1972 |
| Charles River | USGS streamgage at Dover | 97.3 | January 1979 | | USACE 1972 |

**Table 6: Historic Flooding Elevations**

| Flooding Source | Location | Historic Peak (Feet NAVD88) | Event Date | Approximate Recurrence Interval (years) | Source of Data |
|---|---|---|---|---|---|
| East Branch Neponset River | Neponset St. and Walpole St., Canton | 55.2 | March 2010 | | USGS |
| Fuller Brook | Brook Street in Town of Needham | 130.8 | February 1970 | | USACE 1972 |
| Fuller Brook | Brook Street in Town of Needham | 130.4 | March 1971 | | USACE 1972 |
| Fuller Brook | Brook Street in Town of Needham | 130.8 | March 1972 | | USACE 1972 |
| Fuller Brook | Pilgrim Road in Town of Needham | 131.8 | February 1970 | | USACE 1972 |
| Fuller Brook | Pilgrim Road in Town of Needham | 131.3 | March 1971 | | USACE 1972 |
| Fuller Brook | Pilgrim Road in Town of Needham | 131.7 | March 1972 | | USACE 1972 |
| Gulliver Creek | Squantum St. and Christopher Dr., Milton | 6.0 | March 2010 | | USGS |
| Mother Brook | Marverick St., Dedham | 81.7 | March 2010 | | USGS |
| Mother Brook | Neponset and Turtle Pond Parkway, Dedham | 45.6 | March 2010 | | USGS |
| Neponset River | Opposite Readville Manor in Town of Dedham | 43.8 | March 1936 | | |
| Neponset River | Opposite Readville Manor in Town of Dedham | 47.0 | August 1955 | | |
| Neponset River | Opposite Readville Manor in Town of Dedham | 42.6 | March 1968 | | |
| Neponset River | Main St. and North St., Walpole | 123.3 | March 2010 | | USGS |
| Neponset River | Plimpton St., Walpole | 118.2 | March 2010 | | USGS |
| Neponset River | Pleasant St. and Riverside Court, Norwood | 52.6 | March 2010 | | USGS |

**Table 6: Historic Flooding Elevations**

| Flooding Source | Location | Historic Peak (Feet NAVD88) | Event Date | Approximate Recurrence Interval (years) | Source of Data |
|---|---|---|---|---|---|
| Neponset River | Dedham St., Canton | 46.8 | March 2010 | | USGS |
| Neponset River | Greenlodge St. and Blue Hill Dr., Canton | 45.8 | March 2010 | | USGS |
| Neponset River | Neponset Valley Parkway and Brush Hill Rd., Milton | 42.4 | March 2010 | | USGS |
| Neponset River | Neponset Valley Parkway and Brush Hill Rd., Milton | 42.4 | March 2010 | | USGS |
| Pine Tree Brook | School St. and Herrick St., Milton | 21.5 | March 2010 | | USGS |
| Pine Tree Brook | Elliot St. and Central Ave., Milton | 18.3 | March 2010 | | USGS |
| Ponkapoag Brook | Green Lodge St. and Elm St., Canton | 48.4 | March 2010 | | USGS |

## 4.3 Non-Levee Flood Protection Measures

Table 7 contains information about non-levee flood protection measures within Norfolk 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 |
|---|---|---|---|---|
| Atlantic Ocean | N/A | Tide gates, seawalls, riprap, and jetties | Towns of Cohasset, Braintree, and Weymouth; and City of Quincy | Dissipates wave energy and provides some flood protection of low areas |
| Bound Brook | Aaron River dam and Lily Pond gate | Some storage of flood waters | Cohasset | Potential reservoir/pond storage, but it depends on their management and current capacity available for storage |
| Canton River | Canton River Local Protection Project | Dams and diversion channel | Canton | Stop logs on Bolivar, Forge, and Reservoir Pond Dams are removed prior to flood events |

**Table 7: Non-Levee Flood Protection Measures**

| Flooding Source | Structure Name | Type of Measure | Location | Description of Measure |
|---|---|---|---|---|
| Charles River | Charles River Natural Valley Storage | Natural storage in low-lying areas adjacent to the Charles River | Towns of Dedham, Dover, Medfield, Medway, Millis, Needham, Norfolk, and Wellesley | USACE bought undeveloped land in the floodplain of the Charles River, so it can act as natural storage during a flood - to slowly release water and slow velocities |
| Charles River | Mother Brook diversion channel | Diversion channel | Dedham and Needham | Flood flows from the Charles River can be diverted though Mother Brook to the Neponset River |
| Diamond and Spring Brooks | N/A | Multi-purpose reservoir | Walpole | Some flood flow reduction |
| Neponset River | Lower Mills Dam | Dam | Dedham and Milton | Gate levels can be lowered during floods to allow more water to pass the dam |
| Neponset River | N/A | Conservation land | Norwood | Conservation land set aside along Neponset River and tributaries to allow some minor storage of flood waters |
| Pine Tree Brook | N/A | Earthen dam | Milton | Helps retard floods on Pine Tree Brook |
| Riverine | N/A | Natural swamps/ wetlands | Most towns and cities in Norfolk County | Natural swamps/wetlands provide some natural storage during flood events - slowly releasing flood waters and slowing velociities |
| Riverine | N/A | Natural lake and pond storage | Most towns and cities in Norfolk County | Natural lakes and ponds provide some natural storage during flood events - slowly releasing flood waters and slowing velociities |
| Three Swamp Brook | N/A | Undeveloped swampy areas | Avon | Flooding can be diverted into undeveloped swamp area along Three Swamp Brook |
| Town Brook | Old Quincy Reservoir and Dam and Town Brook Diversion Tunnel | Reservoir storage and diversion tunnel | Quincy | USACE built flood protection for Town Brook in Quincy by building a diversion tunnel and re-constructing the Old Quincy Reservoir dam for additional storage |

**Table 7: Non-Levee Flood Protection Measures**

| Flooding Source | Structure Name | Type of Measure | Location | Description of Measure |
|---|---|---|---|---|
| Whitman's Pond | Whitman's Pond Diversion Tunnel | Diversion tunnel | Weymouth | Provides flood protection to Whitman's Pond and the pond's outflow to Atlantic Ocean |

## 4.4 Levees

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 Norfolk 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 | Levee Location | Levee Owner | USACE Levee | Levee ID | Covered Under PL84-99 Program? | FIRM Panel(s) |
|---|---|---|---|---|---|---|---|
| Brookline, Town of | Muddy River | Left bank | unknown | unknown | unknown | unknown | 25021C0051F, 25021C0053F |
| Canton, Town of | Canton River | Right bank | Town of Canton | No | 1105000060 | No | 25021C0192F, 25021C0194F |

## 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.

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 |
| Arnolds Brook | At confluence with Peters River | 1.40 | 100 | * | 170 | 210 | 330 |
| Arnolds Brook | At confluence with Brockton Reservoir | 2.20 | 205 | * | 330 | 395 | 660 |
| Arnolds Brook | At Old Pond Street | 2.10 | 202 | * | 326 | 386 | 647 |
| Arnolds Brook | At State Highway 24 exit ramp | 2.00 | 196 | * | 316 | 373 | 624 |
| Arnolds Brook | At New Pond Street | 1.90 | 190 | * | 300 | 340 | 604 |
| Arnolds Brook | At State Highway 24 entrance ramp | 1.60 | 181 | * | 283 | 329 | 578 |
| Arnolds Brook | At Stockwell Drive | 1.10 | 105 | * | 162 | 188 | 299 |
| Arnolds Brook | At Old Railroad Grade near Avon/ Stoughton corporate limits | 0.90 | 92 | * | 140 | 162 | 257 |
| Beaver Brook (Bellingham) | At confluence with Charles River | 2.60 | 70 | * | 130 | 160 | 220 |
| Beaver Brook (Bellingham) | At Taunton Street | 2.10 | 60 | * | 110 | 140 | 190 |
| Beaver Brook (Holbrook) | At Holbrook/Weymouth | 1.80 | 790 | * | * | 1,350 | 1,760 |
| Beaver Brook (Holbrook) | At Plymouth Street | 0.90 | 300 | * | * | 500 | 650 |

*Not calculated for this Flood Risk Project

**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 |
| Beaver Brook (Sharon) | At Upland Road | 1.95 | 104 | * | 156 | 179 | 249 |
| Beaver Meadow Brook | At Bolivar Pond Outlet | 9.70 | 805 | * | 525 | 1,890 | 2,680 |
| Beaver Meadow Brook | At Bolivar Pond | 3.10 | 270 | * | 600 | 750 | 1,070 |
| Billings Brook | Cranberry Bogs (Mile 1.8) | 1.10 | 51 | * | 72 | 80 | 105 |
| Billings Brook Branch | 950 feet from Main Branch (Cross Section A) | 1.40 | 63 | * | 87 | 95 | 122 |
| Bogastow Brook | At confluence with Charles River | 19.20 | 475 | * | 780 | 940 | 1,420 |
| Bogastow Brook | At Bogastow Pond outlet | 17.60 | 505 | * | 835 | 1,010 | 1,530 |
| Bogastow Brook | At Orchard Street (Schoolhouse Hill) | 14.80 | 460 | * | 760 | 925 | 1,400 |
| Bogastow Brook | At Orchard Street (Golf Course) | 13.10 | 450 | * | 750 | 910 | 1,390 |
| Bound Brook | At Turtle Island | 0.49 | 68 | * | 101 | 116 | 160 |
| Brook A | | * | * | * | * | * | * |
| Brook B | | * | * | * | * | * | * |
| Brook No. 1 | At Lake Mirimichi | 12.00 | 400 | * | 670 | 810 | 1,230 |
| Brook No. 1 | At inlet to Lake Mirimichi | 5.83 | 220 | * | 360 | 440 | 670 |
| Brook No. 1 | At Interstate Route 495 | 4.55 | 170 | * | 280 | 340 | 520 |

*Not calculated for this Flood Risk Project

**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 |
| Bubbling Brook | At Brook Street | 3.56 | 167 | * | 268 | 322 | 500 |
| Bubbling Brook | At Pettees Pond Lane | 0.55 | 49 | * | 80 | 98 | 165 |
| Bubbling Brook | At North Street | 0.29 | 32 | * | 53 | 65 | 107 |
| Bungay Brook | At confluence with Peters River | 4.10 | 210 | * | 360 | 440 | 680 |
| Bungay Brook | 4,000 feet above confluence with Peters River | 2.90 | 180 | * | 320 | 390 | 600 |
| Burnt Swamp Brook | At Wrentham/Cumberland, Rhode Island corporate limits | 4.60 | 200 | * | 330 | 410 | 630 |
| Burnt Swamp Brook | At Burnt Swamp Road | 3.50 | 180 | * | 257 | 370 | 567 |
| Burnt Swamp Brook | At West Street | 2.60 | 140 | * | 233 | 290 | 442 |
| Burnt Swamp Brook | At Terminus of Study 1,700 feet above West Street | 1.00 | 120 | * | 200 | 250 | 380 |
| Canoe River (Foxborough) | At Beaumont Pond | 2.50 | 136 | * | 205 | 234 | 363 |
| Canoe River (Foxborough) | At East Street | 2.30 | 133 | * | 200 | 229 | 354 |
| Canoe River (Foxborough) | Approximately 1,900 feet above East Street | 2.10 | 125 | * | 190 | 215 | 336 |
| Canoe River (Foxborough) | At Willow Street | 2.00 | 122 | * | 182 | 208 | 322 |
| Canoe River (Foxborough) | Approximately 1,450 feet above Willow Street | 1.80 | 113 | * | 167 | 191 | 295 |

*Not calculated for this Flood Risk Project

**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 |
| Canoe River (Sharon) | Approximately 900 feet from Sharon/Foxborough corporate limit | 1.48 | 71 | * | 99 | 111 | 146 |
| Canton River | At confluence with Neponset River | 27.2 | 860 | 1,160 | 1,425 | 1,735 | 2,650 |
| Caroline Brook | At Wellesley | 0.26 | * | * | * | 480 | * |
| Charles River (Lower Reach) | At Wellesley | 216.00 | 2,200 | * | 2,900 | 3,500 | 4,500 |
| Charles River (Lower Reach) | At Wellesley/Needham corporate limits (USGS Wellesley gage) | 211.00 | 1,965 | * | 2,660 | 2,990 | 3,825 |
| Charles River (Lower Reach) | At Dedham corporate boundary | 200.00 | 1,534 | * | 2,493 | 3,019 | 4,585 |
| Charles River (Lower Reach) | Mother Brook diversion | 198.20 | 2,301 | * | 3,740 | 4,528 | 6,878 |
| Charles River (Lower Reach) | Below Mother Brook Division Channel | 198.00 | 1,780 | * | 2,480 | 3,200 | 4,270 |
| Charles River (Lower Reach) | Above Mother Brook Division Channel | 198.00 | 2,650 | * | 3,610 | 4,680 | 6,210 |
| Charles River (Lower Reach) | Route 128 | 192.70 | 2,267 | * | 3,685 | 4,461 | 6,776 |
| Charles River (Lower Reach) | At the Charles River Village gage | 184.00 | 2,500 | * | 3,500 | 4,500 | 6,000 |

*Not calculated for this Flood Risk Project

**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 (Lower Reach) | At Medfield | 156.00 | 2,450 | * | 3,430 | 4,410 | 5,925 |
| Charles River (Lower Reach) | At Medfield/ Dover/ Sherborn corporate limits | 145.00 | 2,450 | * | 3,430 | 4,410 | 5,925 |
| Charles River (Upper Reach) | At Myrtle Street | 85.90 | 1,900 | * | 2,500 | 3,500 | 5,100 |
| Charles River (Upper Reach) | At the Medway/ Norfolk/ Franklin town boundary | 66.00 | 1,900 | * | 2,500 | 3,500 | 5,100 |
| Charles River (Upper Reach) | Above Medway Dam | 65.00 | 1,200 | * | 2,300 | 3,100 | 4,700 |
| Charles River (Upper Reach) | Above West Medway Dam | 52.60 | 1,056 | * | 2,024 | 2,728 | 4,136 |
| Charles River (Upper Reach) | At the Medway/Bellingham/ Franklin corporate limits | 36.10 | 990 | * | 1,860 | 2,540 | 3,830 |
| Charles River (Upper Reach) | Above confluence with Hopping Brook | 24.20 | 740 | * | 1,400 | 1,910 | 2,870 |
| Charles River (Upper Reach) | At confluence with Stall Brook | 20.20 | 650 | * | 1,230 | 1,670 | 2,520 |
| Charles River (Upper Reach) | At Interstate 495 | 19.50 | 640 | * | 1,210 | 1,640 | 2,470 |
| Charles River (Upper Reach) | At confluence with Beaver Brook | 13.80 | 460 | * | 860 | 1,180 | 1,800 |
| Charles River (Upper Reach) | At head of Box Pond | 12.90 | 430 | * | 820 | 1,130 | 1,780 |

*Not calculated for this Flood Risk Project

**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 (Upper Reach) | At Billingham/ Milford upstream corporate limits | 11.90 | 430 | * | 800 | 1,130 | 1,670 |
| Chicken Brook | At confluence with Charles River | 7.19 | 362 | 485 | 586 | 693 | 974 |
| Chicken Brook | Above unnamed tributary about 700 feet below Winthrop Street | 5.79 | 302 | 405 | 490 | 580 | 818 |
| Chicken Brook | Above unnamed tributary about 2,400 feet below Lovering Street | 4.50 | 256 | 344 | 417 | 494 | 698 |
| Chicken Brook | Above unnamed tributary about 600 feet below Marian Way | 3.07 | 189 | 254 | 308 | 366 | 519 |
| Cobb's Brook | At confluence with Neponset River | 1.90 | 108 | * | 128 | 163 | 704 |
| Cochato River | At confluence with Monatiquot River | 11.43 | 864 | * | 1,405 | 1,924 | 3,000 |
| Cochato River | Above confluence with Glover's Brook | 6.24 | 642 | * | 990 | 1,375 | 2,748 |
| Cochato River | At Randolph/ Holbrook corporate limits | 4.34 | 376 | * | 629 | 963 | 1,965 |
| Cochato River | At Lake Holbrook | 2.52 | 155 | * | 274 | 488 | 1,088 |
| Cress Brook | At confluence with Mill River | 1.80 | 115 | * | 200 | 245 | 385 |
| Cress Brook | At Lake Street | 0.20 | 25 | * | 45 | 60 | 90 |

*Not calculated for this Flood Risk Project

**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 |
| Crocker Brook | 2,000 feet below East Street | 2.10 | 80 | * | 130 | 150 | 240 |
| Crocker Brook | At Railroad | 1.40 | 60 | * | 100 | 120 | 190 |
| Cunningham Brook | At Wallace Road | 0.75 | 128 | * | 190 | 210 | 260 |
| Diamond Brook | At confluence with Neponset River | 2.10 | 160 | * | 300 | 380 | 500 |
| Diamond Brook | At Diamond Pond Dam | 1.60 | 130 | * | 250 | 330 | 420 |
| Diamond Brook | At Washington Street | 1.10 | 110 | * | 220 | 290 | 360 |
| Dorchester Brook | At Stoughton/ Easton corporate limits | 2.10 | 192 | * | 304 | 357 | 586 |
| Dorchester Brook | At Atkinson Avenue | 1.50 | 154 | * | 233 | 266 | 417 |
| Farm River | ** in Braintree | 12.00 | 570 | * | 1,100 | 1,300 | 2,700 |
| Farm River | ** in Braintree | 10.00 | 500 | * | 920 | 1,200 | 2,400 |
| Fuller Brook | At Wellesley | 2.83 | * | * | * | 820 | * |
| Furnace Brook | At Hancock Street | 3.18 | 630 | * | 880 | 970 | 1,090 |
| Furnace Brook | At Newport Avenue | 3.01 | 570 | * | 830 | 910 | 970 |
| Furnace Brook | At Adams Street | 2.43 | 460 | * | 640 | 710 | 830 |
| Furnace Brook | At Crescent Street | 1.52 | 140 | * | 165 | 173 | 190 |
| Germany Brook | At 100 feet below Nichols Street | 2.40 | 250 | * | 342 | 383 | 497 |

*Not calculated for this Flood Risk Project

**Locations not available in Town of Braintree 1977 FIS (FEMA 1977)

**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 |
| Germany Brook | At 70 feet above Westover Parkway | 1.80 | 200 | * | 269 | 299 | 382 |
| Glovers Brook | | * | * | * | * | * | * |
| Great Pond Tributary | At Holbrook/ Weymouth corporate limits | 0.50 | 140 | * | * | 250 | 325 |
| Harlow Pond Lateral | At confluence with Charles River | 1.40 | 90 | * | 150 | 185 | 285 |
| Harlow Pond Lateral | At 4th Dam on Brook | 0.10 | 22 | * | 26 | 30 | 36 |
| Hawes Brook | At 140 feet above Washington Street | 8.80 | 778 | * | 1,152 | 1,342 | 1,873 |
| Hawes Brook | Hawthorne Brook at inlet to Turnpike Lake | 1.61 | 100 | * | 170 | 210 | 320 |
| Herring Brook | At confluence with Weymouth Back River | 15.10 | 615 | * | 1,006 | 1,203 | 2,032 |
| Herring Brook | At Bituminous Road | 14.70 | 598 | * | 981 | 1,176 | 1,993 |
| Herring Brook | At Railroad | 14.60 | 590 | * | 970 | 1,160 | 1,965 |
| Herring Brook | Approximately 300 feet above Railroad | 14.50 | 583 | * | 956 | 1,145 | 1,934 |
| Herring Brook | At Broad Street | 14.10 | 567 | * | 924 | 1,104 | 1,858 |
| Herring Brook | Weir just below Commercial Street | 14.00 | 566 | * | 922 | 1,099 | 1,846 |
| Herring Brook | At Commercial Street | 14.00 | 565 | * | 920 | 1,096 | 1,835 |

*Not calculated for this Flood Risk Project

**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 |
| Herring Brook | At Pleasant Street | 13.90 | 563 | * | 915 | 1,088 | 1,818 |
| Herring Brook | At Ironhill Street | 13.50 | 539 | * | 875 | 1,044 | 1,751 |
| Herring Brook | Approximately 300 feet above Ironhill Street | 13.40 | 537 | * | 872 | 1,040 | 1,743 |
| Hopping Brook | At confluence with Charles River | 11.40 | 400 | * | 670 | 1,000 | 1,800 |
| Hopping Brook | At south of Main Street | 10.71 | 350 | * | 600 | 900 | 1,400 |
| James Brook | At confluence with Cohasset Cove | 1.31 | 76 | * | 130 | 159 | 249 |
| Lake Waban | At Wellesley | 10.90 | 100 | * | 145 | 170 | 235 |
| Lily Pond Stream | At confluence with Lily Pond | 0.49 | 50 | * | 87 | 107 | 171 |
| Mann Pond Lateral | At confluence with Stop River | 1.40 | 100 | * | * | 330 | 570 |
| Mann Pond Lateral | At Railroad Culvert | 1.10 | 86 | * | * | 137 | 202 |
| Mann Pond Lateral | At Boardman Street | 0.70 | 120 | * | * | 280 | 405 |
| Martin Brook | | * | * | * | * | * | * |
| Mary Lee Brook | At confluence with Cochato River | 1.40 | 160 | * | 205 | 245 | 285 |
| Mary Lee Brook | Just above confluence with Unnamed Tributary to Mary Lee Brook | 1.17 | 140 | * | 180 | 215 | 255 |
| Massapoag Brook (Canton) | Just below Silk Mill Pond Dam | 10.35 | 140 | * | 230 | 270 | 530 |

*Not calculated for this Flood Risk Project

**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 |
| Massapoag Brook (Canton) | At upstream Sharon/ Canton corporate limits | 9.90 | 400 | * | 710 | 880 | 1,250 |
| Massapoag Brook (Sharon) | Just below footbridge | 5.58 | 265 | * | 426 | 505 | 748 |
| Massapoag Brook (Sharon) | At confluence with Devil Brook | 4.73 | 233 | * | 372 | 439 | 646 |
| Massapoag Brook (Sharon) | At confluence with Sub-Branch of Massapoag Brook | 3.94 | 200 | * | 315 | 371 | 541 |
| Massapoag Brook (Sharon) | Massapoag Lake | 3.55 | 195 | * | 312 | 368 | 541 |
| Meadow Brook | At confluence with Neponset River | 1.50 | 183 | * | 249 | 278 | 359 |
| Meadow Brook | Below U.S. Route 1 | 1.20 | 147 | * | 197 | 216 | 274 |
| Mill Brook | At Brook Road | 3.02 | 149 | * | 241 | 289 | 425 |
| Mill Brook | At Winslow Road | 2.03 | 115 | * | 186 | 225 | 350 |
| Mill Brook | At Tamarack Road | 1.82 | 107 | * | 174 | 210 | 332 |
| Mill Brook | At High Street | 1.33 | 87 | * | 142 | 172 | 275 |
| Mill Brook | At Hartford Street | 0.83 | 64 | * | 105 | 127 | 200 |
| Mill River (Norfolk) | At confluence with Charles River | 16.80 | 500 | * | * | 1,153 | 1,707 |
| Mill River (Norfolk) | At Miller Street | 13.40 | 249 | * | * | 580 | 877 |

*Not calculated for this Flood Risk Project

**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 |
| Mill River (Norfolk) | At City Mills Pond Dam (Main Street) | 10.70 | 180 | * | * | 325 | 447 |
| Mill River (Norfolk) | At Railroad Culvert | 10.40 | 290 | * | * | 685 | 1,009 |
| Mill River (Norfolk) | At Bush Pond Dam | 9.40 | 175 | * | * | 264 | 590 |
| Mill River (Norfolk) | Opposite Maple Street | 9.00 | 238 | * | * | 533 | 774 |
| Mill River (Weymouth) | Approximately 1,750 feet below West Street | 5.80 | 239 | * | 365 | 423 | 668 |
| Mill River (Weymouth) | At West Street | 5.70 | 238 | * | 364 | 422 | 666 |
| Mill River (Weymouth) | Approximately 1,150 feet above West Street | 5.60 | 237 | * | 363 | 421 | 664 |
| Mill River (Weymouth) | At Railroad | 4.40 | 190 | * | 300 | 340 | 532 |
| Mill River (Weymouth) | Approximately 400 feet above confluence with Mill River Tributary A | 3.50 | 146 | * | 220 | 252 | 389 |
| Mill River (Weymouth) | Approximately 550 feet below Hollis Street /Randolph Street | 2.80 | 139 | * | 206 | 241 | 369 |
| Mill River (Weymouth) | At Hollis Street / Randolph Street | 2.40 | 136 | * | 203 | 232 | 357 |
| Mill River Tributary A | At Randolph Street | 0.80 | 62 | * | 88 | 98 | 143 |

*Not calculated for this Flood Risk Project

**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 |
| Mill River Tributary A | At Gravel Road | 0.70 | 60 | * | 84 | 92 | 138 |
| Mill River Tributary A | At Pond Street | 0.60 | 53 | * | 61 | 73 | 103 |
| Mill River Tributary A | At Railroad | 0.60 | 51 | * | 58 | 69 | 98 |
| Mill River Tributary A | At Main Street | 0.40 | 31 | * | 42 | 49 | 70 |
| Mill River Tributary A | Approximately 630 feet below State Highway 18 | 0.30 | 22 | * | 33 | 43 | 60 |
| Mill River Tributary B | At Railroad | 0.10 | 10 | * | 16 | 20 | 28 |
| Miller Brook | At confluence with Mill River | 1.70 | 195 | * | * | 450 | 660 |
| Miller Brook | At Main Street | 1.50 | 190 | * | * | 440 | 650 |
| Mine Brook (Franklin) | Above confluence with Charles River | 14.90 | 500 | * | 830 | 1,010 | 1,540 |
| Mine Brook (Franklin) | Above Beech Street | 13.50 | 460 | * | 770 | 940 | 1,430 |
| Mine Brook (Franklin) | Above Interstate 495 | 9.40 | 360 | * | 600 | 730 | 1,110 |
| Mine Brook (Franklin) | Above Beaver Street | 7.70 | 310 | * | 520 | 630 | 960 |

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**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 |
| Mine Brook (Franklin) | Above Spring Pond | 2.60 | 150 | * | 250 | 300 | 460 |
| Mine Brook (Walpole) | At confluence with Neponset River | 7.20 | 175 | * | 325 | 450 | 1,025 |
| Mine Brook (Walpole) | At downstream crossing of Mill Pond Road | 7.10 | 175 | * | 350 | 525 | 1,150 |
| Mine Brook (Walpole) | At Railroad bridge | 6.00 | 175 | * | 350 | 500 | 1,050 |
| Mine Brook (Walpole) | At Walpole/ Medfield corporate limits | 5.00 | 400 | * | 500 | 575 | 950 |
| Monatiquot River | ** in Braintree | 29.70 | 1,020 | * | 1,900 | 2,200 | 4,800 |
| Monatiquot River | ** in Braintree | 27.80 | 990 | * | 1,800 | 2,150 | 4,700 |
| Monatiquot River | ** in Braintree | 25.50 | 930 | * | 1,700 | 2,100 | 4,400 |
| Monatiquot River | **in Braintree | 24.00 | 900 | * | 1,600 | 2,000 | 4,200 |
| Morses Pond | At Wellesley | 8.80 | 125 | * | 175 | 210 | 285 |
| Mother Brook | Diversion Dam from Charles River | 198.20 | 767 | * | 1,247 | 1,509 | 2,293 |
| Myrtle Street Latal | At confluence with Charles River | 0.90 | 60 | * | 100 | 120 | 190 |
| Neponset River | At USGS streamgage 011055566 | 109 | 2,360 | 2,910 | 3,380 | 3,890 | 5,330 |

*Not calculated for this Flood Risk Project

**Locations not available in Town of Braintree 1977 FIS (FEMA 1977)

**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 |
| Neponset River | Above Pine Tree Brook | 101 | 2,220 | 2,740 | 3,190 | 3,670 | 5,030 |
| Neponset River | Above Mother Brook | 94.9 | 1,340 | 1,650 | 1,900 | 2,190 | 2,940 |
| Neponset River | At USGS streamgage 01105554 | 88.3 | 1,270 | 1,560 | 1,800 | 2,070 | 2,780 |
| Neponset River | Above Purgatory Brook | 75.9 | 1,130 | 1,390 | 1,600 | 1,840 | 2,490 |
| Neponset River | Above Canton River | 44.0 | 919 | 1,210 | 1,450 | 1,720 | 2,490 |
| Neponset River | Above Traphole Brook | 37.9 | 818 | 1,080 | 1,290 | 1,530 | 2,220 |
| Neponset River | At USGS streamgage 01105000 | 34.9 | 767 | 1,010 | 1,210 | 1,440 | 2,090 |
| Neponset River | Above Hawes Brook | 25.8 | 606 | 798 | 959 | 1,140 | 1,660 |
| Neponset River | Above Cobbs Pond outflow | 22.3 | 541 | 712 | 857 | 1,020 | 1,490 |
| Neponset River | Above Mine Brook | 11.6 | 417 | 556 | 670 | 790 | 1,100 |
| Neponset River | Above School Meadow Brook | 7.65 | 266 | 355 | 428 | 505 | 705 |
| Neponset River | Above Cedar Swamp outflow | 4.07 | 202 | 272 | 329 | 390 | 550 |
| Norway Brook | | * | * | * | * | * | * |
| Old Swamp River | At Libbey Industrial Parkway | 4.90 | 241 | * | 360 | 422 | 657 |
| Old Swamp River | At State Route 3 northbound lane | 4.70 | 222 | * | 336 | 389 | 608 |
| Old Swamp River | Approximately 800 feet below Pleasant Street | 4.10 | 190 | * | 288 | 334 | 537 |

*Not calculated for this Flood Risk Project

**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 |
| Old Swamp River | At State Route 3 southbound lane | 4.00 | 183 | * | 273 | 313 | 480 |
| Old Swamp River | At Pleasant Street | 4.00 | 182 | * | 272 | 310 | 475 |
| Old Swamp River | Approximately 750 feet above Pleasant Street | 3.90 | 180 | * | 270 | 308 | 472 |
| Old Swamp River | At Elm Street | 3.80 | 179 | * | 267 | 305 | 469 |
| Old Swamp River | Approximately 1,150 feet below Talbot Street | 3.60 | 170 | * | 254 | 300 | 453 |
| Old Swamp River | At Talbot Street | 3.40 | 160 | * | 239 | 289 | 437 |
| Old Swamp River | Approximately 950 feet below Ralph Talbot Street | 3.10 | 147 | * | 220 | 268 | 396 |
| Old Swamp River | At Ralph Talbot Street | 3.00 | 143 | * | 212 | 250 | 375 |
| Old Swamp River | Approximately1,400 feet above Ralph Talbot Street | 2.90 | 140 | * | 206 | 235 | 356 |
| Paintshop Pond | At Wellesley | 8.90 | 125 | * | 175 | 210 | 285 |
| Pequid Brook (Lower Reach) | At Reservoir Pond | 6.23 | 180 | * | 190 | 210 | 300 |
| Pequid Brook (Upper Reach) | At unnamed bridge approximately 1,050 feet above Turnpike Street | 4.02 | 220 | * | 410 | 480 | 720 |
| Peters River | At downstream limits of Providence County, RI/Norfolk County, MA | 12.50 | 750 | * | 1,150 | 1,600 | 2,600 |

*Not calculated for this Flood Risk Project

**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 |
| Peters River | At confluence with Arnolds Brook | 10.50 | 670 | * | 1,020 | 1,420 | 2,310 |
| Peters River | At confluence with Bungay Brook | 6.40 | 470 | * | 720 | 1,010 | 1,640 |
| Peters River | Above Jenks Reservoir | 5.60 | 430 | * | 660 | 910 | 1,480 |
| Peters River | At Pulaski Boulevard | 4.20 | 350 | * | 540 | 750 | 1,220 |
| Peters River | At abandoned railroad | 4.20 | 350 | * | 540 | 750 | 1,220 |
| Peters River | At confluence with tributary above New York/New Haven and Hartford Railroad | 2.80 | 260 | * | 400 | 560 | 910 |
| Pickerel Brook | At confluence with Traphole Brook | * | 80 | * | 330 | 430 | 740 |
| Pickerel Brook | At Walcott Avenue | 0.80 | 86 | * | 386 | 471 | 816 |
| Pine Tree Brook | At confluence with Neponset River | 8.28 | 550 | * | 870 | 1,030 | 1,400 |
| Pine Tree Brook | At School Street | 8.15 | 460 | * | 750 | 900 | 1,300 |
| Pine Tree Brook | At Thatcher Street | 7.33 | 370 | * | 640 | 760 | 1,125 |
| Pine Tree Brook | At Elm Street | 7.15 | 305 | * | 530 | 640 | 950 |
| Pine Tree Brook | At Blue Hill Parkway | 6.98 | 250 | * | 410 | 480 | 690 |
| Plantingfield Brook | At USGS crest-stage gage station at U.S. Route 1 culvert | 1.52 | 190 | * | 258 | 290 | 374 |

*Not calculated for this Flood Risk Project

**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 |
| Plantingfield Brook | Below 1,400-foot culvert, approximately 1,950 feet above U.S. Route 1 | 1.20 | 149 | * | 196 | 219 | 279 |
| Plantingfield Brook | Above 1,400-foot culvert | 1.02 | 130 | * | 171 | 188 | 235 |
| Ponkapoag Brook | At confluence with Neponset River | 3.36 | 165 | * | 265 | 320 | 470 |
| Prison Farm Lateral | At Needham Street | 0.60 | 110 | * | * | 260 | 370 |
| Purgatory Brook | Below U.S. Route 1 | 2.90 | 307 | * | 432 | 487 | 647 |
| Purgatory Brook | Below Everett Street | 2.50 | 265 | * | 366 | 370 | 454 |
| Purgatory Brook | At Everett Street | 4.42 | 192 | * | 308 | 369 | 600 |
| Purgatory Brook | At confluence with South Brook | 4.12 | 184 | * | 295 | 354 | 570 |
| Purgatory Brook | At Washington Street | 1.69 | 102 | * | 166 | 200 | 300 |
| Purgatory Brook | At Gay Street | 1.06 | 75 | * | 123 | 149 | 250 |
| Rabbit Hill Brook | At Wrentham/ Plainville corporate limits | 3.70 | 160 | * | 260 | 310 | 480 |
| Rabbit Hill Brook | At Myrtle Street | 3.00 | 140 | * | 220 | 270 | 410 |
| Rattlesnake Run | At confluence with Straits Pond | 0.54 | 42 | * | 73 | 90 | 141 |
| Redwing Brook | At Stoughton/ Canton corporate limits | 1.70 | 164 | * | 260 | 304 | 502 |

*Not calculated for this Flood Risk Project

**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 |
| Redwing Brook | At York Street and Meadow Brook Lane | 1.40 | 120 | * | 187 | 217 | 351 |
| Redwing Brook | At Pine Street | 1.10 | 89 | * | 136 | 157 | 248 |
| Richardsons Brook | At confluence with Little Harbor | 0.29 | 31 | * | 54 | 66 | 106 |
| Robinson Brook | At Foxborough/ Mansfield corporate limits | 2.40 | 162 | * | 249 | 289 | 456 |
| Robinson Brook | At Commercial Street | 2.30 | 159 | * | 242 | 281 | 440 |
| Robinson Brook | Approximately 60 feet above Foxborough Boulevard | 2.30 | 156 | * | 236 | 272 | 428 |
| Robinson Brook | Approximate 1,000 feet below Interstate 95 | 2.20 | 152 | * | 228 | 265 | 415 |
| Robinson Brook | At Interstate Route 95 | 2.10 | 148 | * | 224 | 259 | 405 |
| Robinson Brook | At Walnut Street | 1.90 | 141 | * | 216 | 248 | 384 |
| Robinson Brook | Approximately 400 feet above Hershey Pond | 1.60 | 127 | * | 197 | 225 | 352 |
| Robinson Brook | At Central Street | 1.40 | 118 | * | 186 | 212 | 339 |
| Robinson Brook | Just below Cocasset Street | 0.80 | * | * | * | 128 | * |
| Robinson Brook | Approximately 1,800 feet above Cocasset Street | 0.33 | * | * | * | 56 | * |
| Rocky Brook | At confluence with Trout Brook | 0.65 | 52 | * | 89 | 109 | 197 |

*Not calculated for this Flood Risk Project

**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 |
| Rumford River | At Foxborough/ Mansfield corporate limits | 3.80 | 234 | * | 375 | 443 | 736 |
| Rumford River | At Spring Street | 3.70 | 229 | * | 367 | 432 | 719 |
| Rumford River | At 1st Private Road | 3.50 | 222 | * | 354 | 417 | 691 |
| Rumford River | At 2nd Private Road | 3.40 | 219 | * | 350 | 409 | 684 |
| Rumford River | Approximately 600 feet above Private Road | 3.40 | 218 | * | 348 | 405 | 680 |
| Rumford River | Approximately 4,400 feet below Cocasset Street | 3.30 | 215 | * | 346 | 400 | 670 |
| Rumford River | Approximately 1,920 feet below Cocasset Street | 3.30 | 214 | * | 344 | 399 | 665 |
| Rumford River | Approximately 1,600 feet below Cocasset Street | 3.30 | 213 | * | 342 | 398 | 660 |
| Rumford River | At Cocasset Street | 3.20 | 210 | * | 337 | 395 | 655 |
| Rumford River | At Sand Street | 3.10 | 208 | * | 331 | 387 | 640 |
| Rumford River | Approximately 500 feet above Sand Street | 2.60 | 206 | * | 326 | 382 | 625 |
| School Meadow Brook | At confluence with Neponset River | 3.10 | 80 | * | 110 | 120 | 380 |
| School Meadow Brook | At Washington Street | 2.90 | 110 | * | 220 | 290 | 580 |
| School Meadow Brook | At U.S. Route 1 | 1.70 | 100 | * | 190 | 230 | 400 |

*Not calculated for this Flood Risk Project

**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 |
| Sevenmile River | At culvert in farm field 1,700 feet south of High Street | 0.41 | 31 | * | 55 | 67 | 97 |
| Shepards Brook | Above confluence with Charles River | 4.40 | 240 | * | 400 | 490 | 760 |
| South Brook | At confluence with Purgatory Brook | 1.15 | 195 | * | 325 | 380 | 530 |
| South Brook | Above confluence with tributary from subarea 2 | 0.87 | 165 | * | 285 | 335 | 480 |
| South Brook | Below Southwest Park | 0.54 | 105 | * | 180 | 210 | 320 |
| South Brook | Below Boston Providence Turnpike | 0.44 | 100 | * | 165 | 195 | 295 |
| Steep Hill Brook | At Stoughton/ Canton corporate limits | 5.30 | 583 | * | 1,004 | 1,225 | 2,193 |
| Steep Hill Brook | At Erin Road | 5.00 | 535 | * | 904 | 1,110 | 1,947 |
| Steep Hill Brook | At Mill Street | 4.30 | 497 | * | 846 | 1,026 | 1,814 |
| Steep Hill Brook | At Pratt Court | 2.40 | 365 | * | 603 | 722 | 1,236 |
| Steep Hill Brook | At Southworth Pond Dam | 2.00 | 328 | * | 536 | 639 | 1,084 |
| Steep Hill Brook | At Sheehan Street | 0.80 | 120 | * | 184 | 220 | 341 |
| Stony Brook | At confluence with Stop River | 3.60 | 210 | * | * | 460 | 590 |
| Stony Brook | At Stony Brook Pond Dam | 3.20 | 190 | * | * | 470 | 660 |
| Stony Brook | At Diamond Street | 2.00 | 170 | * | * | 370 | 540 |
| Stony Brook | At Union Street | 1.10 | 130 | * | * | 280 | 420 |

*Not calculated for this Flood Risk Project

**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 |
| Stony Brook | At Mirror Lake Avenue | 0.40 | 4 | * | * | 8 | 11 |
| Stop River | At Walpole/ Norfolk corporate limits | 12.60 | 360 | * | 7 | 820 | 1,200 |
| Stop River | At Highland Lake Dam | 10.10 | 150 | * | * | 240 | 290 |
| Stop River | At Main Street | 8.50 | 170 | * | 270 | 330 | 470 |
| Stop River | At Winter Street | 7.30 | 160 | * | 250 | 290 | 380 |
| Stop River | At Prison Road | 7.00 | 160 | * | * | 290 | 350 |
| Stop River | Above confluence with Stony Brook | 3.40 | 470 | * | * | 580 | 870 |
| Stop River | At Dedham Street (State Route 1A) | 1.70 | 315 | * | * | 725 | 1,060 |
| Stop River | At Pine Street (State Route 115) | 1.00 | 200 | * | * | 460 | 670 |
| Sucker Brook | At confluence with Massapoag Lake | 1.10 | 63 | * | 92 | 104 | 141 |
| Ten Mile River | At abandoned dirt road at crushed stone operation off Cross Street | 1.43 | 122 | * | 224 | 268 | 394 |
| Ten Mile River | At High Street | 0.59 | 56 | * | 102 | 122 | 177 |
| Town Brook | At mouth | 4.39 | 927 | 1,140 | 1,300 | 1,460 | 2,130 |
| Town Brook | Above confluence with Deep Rock Tunnel diversion | 4.33 | 496 | 600 | 680 | 762 | 1,070 |

*Not calculated for this Flood Risk Project

**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 |
| Town Brook | At USGS streamgage 01105585 | 4.11 | 347 | 417 | 471 | 525 | 742 |
| Town Brook | Below tributary below intersection of Mechanic Street and Revere Road | 3.92 | 278 | 332 | 373 | 415 | 576 |
| Town Brook | Below diversion to Deep Rock Tunnel | 3.65 | 193 | 227 | 254 | 280 | 387 |
| Town Brook | At School Street | 3.56 | 234 | 284 | 321 | 360 | 534 |
| Town Brook | At Water Street | 3.22 | 184 | 222 | 250 | 280 | 408 |
| Town Brook | At Liberty Street | 2.89 | 127 | 151 | 169 | 188 | 271 |
| Town Brook | Above Penn Street parking lot | 2.79 | 89.2 | 106 | 117 | 129 | 183 |
| Town Brook | Below Center Street Junction | 2.57 | 25.6 | 26.6 | 27.0 | 27.5 | 30.2 |
| Town Brook | At split at abandoned railroad crossing | 2.24 | 36.0 | 38.0 | 39.0 | 40.0 | 45.0 |
| Town Brook | At State Route 3 | 2.02 | 185 | 223 | 251 | 280 | 543 |
| Town Brook | At Worthington Circle | 1.72 | 112 | 133 | 148 | 165 | 342 |
| Town Brook | At Acorn Street | 1.47 | 77.7 | 89.9 | 98.9 | 110 | 246 |
| Town Brook | At Walnut Street | 1.37 | 63.8 | 72.6 | 79.1 | 88.5 | 208 |
| Town Brook | At Old Quincy Reservoir outlet | 1.21 | 41.5 | 44.9 | 47.5 | 53.3 | 146.0 |
| Town Brook | At Old Quincy Reservoir inlet | 1.21 | 251 | 310 | 356 | 401 | 682 |
| Town Brook | At Granite Street | 0.69 | 180 | 222 | 253 | 286 | 446 |
| Town Brook | At Chickatawbut Road | 0.16 | 38.1 | 46.9 | 53.5 | 60.3 | 95.8 |

**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 |
| Traphole Brook | At Sumner Street | 3.40 | 400 | * | 1,050 | 1,390 | 2,350 |
| Traphole Brook | At U.S. Route 1 | 2.90 | 381 | * | 1,000 | 1,330 | 2,238 |
| Traphole Brook | At Norwood/ Walpole downstream corporate limits | 2.90 | 486 | * | 1,159 | 1,404 | 2,229 |
| Traphole Brook | At Union Street | 2.10 | 422 | * | 848 | 1,034 | 1,574 |
| Traphole Brook | At Coney Street | 2.10 | 434 | * | 857 | 1,042 | 1,575 |
| Traphole Brook | At U.S. Route 1 | 1.90 | 518 | * | 972 | 1,130 | 1,642 |
| Tributary C2 | At English Road | 0.90 | 200 | * | * | 350 | 500 |
| Tributary C2 | At Kleen Road | 0.30 | 100 | * | * | 360 | 510 |
| Tributary C2B | At Railroad Culvert 32 | 0.50 | 295 | * | * | 605 | 850 |
| Tributary C2B | At Woodlawn Road | 0.30 | 180 | * | * | 360 | 510 |
| Tributary of Great Black Swamp | At upstream Millis/ Medway corporate limits | 1.16 | 130 | * | 200 | 300 | 400 |
| Tributary of Great Black Swamp | Approximately 3,350 feet above State Route 109 | 0.61 | 60 | * | 90 | 110 | 170 |
| Tributary R1 | At confluence with Trout Brook | 0.60 | 200 | * | * | 400 | 550 |
| Tributary R1 | At State Route 37 (South Franklin Street) | 0.40 | 100 | * | * | 250 | 350 |
| Tributary R2 | At confluence with Trout Brook | 0.50 | 150 | * | * | 300 | 400 |
| Tributary R2 | At Dean Street | 0.40 | 100 | * | * | 200 | 300 |

*Not calculated for this Flood Risk Project

**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 |
| Tributary R3 | At confluence with Trout Brook | 0.40 | 100 | * | * | 250 | 300 |
| Tributary R4 | At confluence with Trout Brook | 0.20 | 150 | * | * | 250 | 350 |
| Tributary to Steep Hill Brook | Town Pond Dam at Pratt Court | 1.70 | 149 | * | 235 | 275 | 450 |
| Trout Brook (Avon) | At Avon/ Brockton corporate limits | 1.90 | 283 | * | 462 | 550 | 932 |
| Trout Brook (Avon) | At Connelly Road | 1.40 | 226 | * | 365 | 444 | 740 |
| Trout Brook (Avon) | Approximately 850 feet above Connelly Road | 1.00 | 173 | * | 274 | 321 | 529 |
| Trout Brook (Avon) | At Ladge Drive | 0.90 | 151 | * | 245 | 287 | 464 |
| Trout Brook (Dover) | At confluence with Charles River | 4.29 | 200 | * | 325 | 480 | 800 |
| Trout Brook (Dover) | At Haven Street | 3.50 | 165 | * | 265 | 318 | 570 |
| Trout Brook (Holbrook) | At Spring Road | 0.30 | 300 | * | * | 550 | 750 |
| Trout Brook (Holbrook) | At Braintree/ Holbrook corporate limits | 1.10 | 300 | * | * | 600 | 800 |
| Tumbling Brook Tributary | At Braintree/ Holbrook corporate limits | 1.10 | 300 | * | * | 600 | 800 |
| Turtle Hill Run | At confluence with Straits Pond | 1.40 | 89 | * | 152 | 187 | 292 |

*Not calculated for this Flood Risk Project

**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 |
| Turtle Brook | At Mirimichi Street | 5.29 | 260 | * | 440 | 540 | 830 |
| Turtle Brook | Above confluence with Sawmill Brook | 3.50 | 145 | * | 215 | 285 | 495 |
| Turtle Brook | At Shepard Street | 1.88 | 110 | * | 190 | 235 | 365 |
| Unnamed Tributary to Mary Lee Brook | | * | * | * | * | * | * |
| Unnamed Tributary to Robinson Brook | Just above confluence with Tributary to Robinson Brook | 0.42 | * | * | * | 72 | * |
| Vine Brook | At State Route 109 | 1.11 | 90 | * | 145 | 165 | 225 |
| Vine Brook | At Upham Road | 1.00 | 45 | * | 70 | 80 | 110 |
| Wading River | At Cedar Street | 18.2 | 430 | * | 810 | 1,010 | 1,465 |
| Walnut Hill Stream | At confluence with The Gulf | 0.45 | 44 | * | 76 | 94 | 149 |
| Whiting Pond Bypass | At confluence with Ten Mile River | * | 89 | * | 154 | 182 | 253 |

*Not calculated for this Flood Risk Project

**Figure 7: Frequency Discharge-Drainage Area Curves**

[Not Applicable to this Flood Risk Project]

**Table 10: Summary of Non-Coastal Stillwater Elevations**

| Flooding Source | Location | Elevations (feet NAVD88) | | | | |
|---|---|---|---|---|---|---|
| | | 10% Annual Chance | 4% Annual Chance | 2% Annual Chance | 1% Annual Chance | 0.2% Annual Chance |
| Beaver Pond | Bellingham, Town of | 237.1 | * | 237.4 | 237.6 | 238.9 |
| Bolivar Pond | Canton, Town of | 105.4 | * | 105.9 | 106.1 | 106.5 |
| Buckmaster Pond | Westwood, Town of | 181.2 | * | * | 182.4 | 183.3 |
| Forge Pond | Canton, Town of | 91.2 | * | 93.5 | 94.2 | 94.9 |
| Fuller Brook | Needham, Town of | 132.1 | * | 132.8 | 133.2 | 134.0 |
| Massapoag Lake | Sharon, Town of | 252.8 | * | 254.0 | 254.2 | 254.6 |
| Morses Pond | Wellesley, Town of | 122.9 | * | 123.7 | 124.2 | 125.4 |
| Reservoir Pond | Canton, Town of | 145.4 | * | 146.2 | 147.0 | 148.4 |
| Upper Reservoir | Braintree, Town of; Randolph, Town of | 131.1 | * | 131.8 | 132.1 | 132.4 |

*Not calculated for this Flood Risk Project

**Table 11: Stream Gage Information used to Determine Discharges**

| Flooding Source | Gage Identifier | Agency that Maintains Gage | Site Name | Drainage Area (Square Miles) | Period of Record | |
|---|---|---|---|---|---|---|
| | | | | | From | To |
| Canton River | 01105500 | USGS | East Branch Neponset River at Canton, MA | 27.2 | 1953 | 2016 |
| Neponset River | 01105000 | USGS | Neponset River at Norwood, MA | 34.7 | 1938 | 2015 |
| Neponset River | 01105554 | USGS | Neponset River at Greenlodge Street near Canton, MA | 83.7 | 2005 | 2015 |
| Neponset River | 011055566 | USGS | Neponset River at Milton Village, MA | 101 | 1997 | 2015 |
| Town Brook | 01105585 | USGS | Town Brook at Quincy, MA | 4.11 | 1999 | 2015 |

## 5.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Base flood elevations on the FIRM represent the elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report. Rounded whole-foot elevations may be shown on the FIRM in coastal areas, areas of ponding, and other areas with static base flood elevations. These whole-foot elevations may not exactly reflect the elevations derived from the hydraulic analyses. Flood elevations shown on the FIRM 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. The hydraulic analyses for this FIS were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

For streams for which hydraulic analyses were based on cross sections, locations of selected cross sections are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 6.3), selected cross sections are also listed on Table 23, “Floodway Data.”

A summary of the methods used in hydraulic analyses performed for this project is provided in Table 12. Roughness coefficients are provided in Table 13. Roughness coefficients are values representing the frictional resistance water experiences when passing overland or through a

channel. They are used in the calculations to determine water surface elevations. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.