

FLOOD INSURANCE STUDY

VOLUME 2 OF 8



MIDDLESEX COUNTY, MASSACHUSETTS (ALL JURISDICTIONS)



COMMUNITY NAME

ACTON, TOWN OF
ARLINGTON, TOWN OF
ASHBY, TOWN OF
ASHLAND, TOWN OF
AYER, TOWN OF
BEDFORD, TOWN OF
BELMONT, TOWN OF
BILLERICA, TOWN OF
BOXBOROUGH, TOWN OF
BURLINGTON, TOWN OF
CAMBRIDGE, CITY OF
CARLISLE, TOWN OF
CHELMSFORD, TOWN OF
CONCORD, TOWN OF
DRACUT, TOWN OF
DUNSTABLE, TOWN OF
EVERETT, CITY OF
FRAMINGHAM, TOWN OF
GROTON, TOWN OF
HOLLISTON, TOWN OF
HOPKINTON, TOWN OF
HUDSON, TOWN OF
LEXINGTON, TOWN OF
LINCOLN, TOWN OF
LITTLETON, TOWN OF
LOWELL, CITY OF
MALDEN, CITY OF
MARLBOROUGH, CITY OF
MAYNARD, TOWN OF
MEDFORD, CITY OF

COMMUNITY NUMBER

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Middlesex County

COMMUNITY NAME

MELROSE, CITY OF
NATICK, TOWN OF
NEWTON, CITY OF
NORTH READING, TOWN OF
PEPPERELL, TOWN OF
READING, TOWN OF
SHERBORN, TOWN OF
SHIRLEY, TOWN OF
SOMERVILLE, CITY OF
STONEHAM, TOWN OF
STOW, TOWN OF
SUDBURY, TOWN OF
TEWKSBURY, TOWN OF
TOWNSEND, TOWN OF
TYNGSBOROUGH, TOWN OF
WAKEFIELD, TOWN OF
WALTHAM, CITY OF
WATERTOWN, TOWN OF
WAYLAND, TOWN OF
WESTFORD, TOWN OF
WESTON, TOWN OF
WILMINGTON, TOWN OF
WINCHESTER, TOWN OF
WOBURN, CITY OF

COMMUNITY NUMBER

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Map Revised: July 7, 2014



Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
25017CV002B

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

Part or all of this FIS may be revised and republished at any time. In addition, part of this FIS may be revised by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS. It is, therefore, the responsibility of the user to consult with community officials and to check the community repository to obtain the most current FIS components.

Initial Countywide FIS Effective Date: June 4, 2010

Revised Countywide FIS Date: July 7, 2014

TABLE OF CONTENTS – Volume 1- July 7, 2014

	<u>Page</u>
1.0 <u>INTRODUCTION</u>	1
1.1 Purpose of Study	1
1.2 Authority and Acknowledgments	2
1.3 Coordination	12
2.0 <u>AREA STUDIED</u>	14
2.1 Scope of Study	14
2.2 Community Description	22
2.3 Principal Flood Problems	23
2.4 Flood Protection Measures	27
3.0 <u>ENGINEERING METHODS</u>	33
3.1 Hydrologic Analyses	34
3.2 Hydraulic Analyses	93
3.3 Vertical Datum	104
4.0 <u>FLOODPLAIN MANAGEMENT APPLICATIONS</u>	105
4.1 Floodplain Boundaries	105
4.2 Floodways	107
5.0 <u>INSURANCE APPLICATIONS</u>	109
6.0 <u>FLOOD INSURANCE RATE MAP</u>	109
7.0 <u>OTHER STUDIES</u>	116
8.0 <u>LOCATION OF DATA</u>	116
9.0 <u>BIBLIOGRAPHY AND REFERENCES</u>	117

TABLE OF CONTENTS – Volume 1 – continued

<u>FIGURES</u>	<u>Page</u>
Figure 1 – Floodway Schematic	108

<u>TABLES</u>	
Table 1 – Initial and Final CCO Meetings	13-14
Table 2 – Scope of Revision	15
Table 3 – Letters of Map Change	16
Table 4 – Flooding Sources Studied by Detailed Methods	17-18
Table 5 – Areas Studied by Detailed Methods for Concord Watershed Revised Countywide Analyses	19-20
Table 6 – Areas Studied by Redelineation for Concord Watershed Revised Countywide Analyses	21
Table 7 – Areas Studied by Approximate Methods for Concord Watershed Revised Countywide Analyses	21-22
Table 8 – Summary of Discharges	51-84
Table 9 – Summary of Stillwater Elevations	85-86
Table 10 – Manning’s “n” Values	99-103
Table 11 – Community Map History	111-115

TABLE OF CONTENTS – Volume 2 - July 7, 2014

<u>TABLES</u> – continued	
Table 12 – Floodway Data	1-140

TABLE OF CONTENTS – Volume 3 - July 7, 2014

EXHIBITS

Exhibit 1 - Flood Profiles

Aberjona River	Panels 01P – 08P
Aberjona River North Spur	Panels 09P – 10P
Alewife Brook (Little River)	Panels 11P – 13P
Angelica Brook	Panels 14P – 15P
Assabet Branch No. 3	Panels 16P – 17P
Assabet Branch No. 4	Panel 18P
Assabet River	Panels 19P – 38P
Baddacook Brook	Panels 39P – 40P
Baiting Brook	Panels 41P – 43P
Bear Meadow Brook	Panel 44P
Beaver Brook 1	Panels 45P – 49P
Beaver Brook 2	Panels 50P – 54P
Beaver Brook 2 - Split 1	Panel 55P
Beaver Brook 2 - Split 2	Panel 56P
Beaver Brook 2 - Split 3	Panel 57P
Beaver Brook 3	Panels 58P – 61P
Beaver Brook 4	Panels 62P – 71P
Beaver Brook 5	Panels 72P – 73P
Beaver Dam Brook	Panels 74P – 82P
Bennetts Brook	Panels 83P – 87P
Birch Meadow Brook	Panel 88P
Black Brook	Panel 89P
Bogastow Brook - Jar Brook	Panels 90P – 95P
Bogle Brook 1	Panels 96P – 97P
Bogle Brook 2	Panels 98P – 103P
Boons Pond Branch	Panel 104P
Boutwell Brook	Panels 105P – 106P
Bow Brook	Panels 107P – 108P

TABLE OF CONTENTS – Volume 4 - July 7, 2014

EXHIBITS – continued

Exhibit 1 - Flood Profiles – continued

Branch of Assabet River	Panels 109P – 110P
Branch of Elizabeth Brook 1	Panel 111P
Broad Meadow Brook	Panels 112P – 113P
Brook A of Shawsheen River	Panel 114P
Brook from Waushakum Pond	Panels 115P – 116P
Butter Brook	Panels 117P – 119P
Catacoonamug Brook	Panels 120P – 121P
Charles River	Panels 122P – 133P
Cheese Cake Brook	Panel 134P

TABLE OF CONTENTS – Volume 4 – continued

EXHIBITS – continued

Exhibit 1 - Flood Profiles – continued

Cherry Brook	Panels 135P – 137P
Chester Brook	Panels 138P – 141P
Chicken Brook	Panels 142P – 145P
Cochituate Brook	Panel 146P
Cold Brook	Panel 147P
Cold Spring Brook	Panels 148P – 151P
Cole's Brook	Panel 152P
Collins Brook	Panel 153P
Conant Brook	Panels 154P – 157P
Concord River	Panels 158P – 164P
Content Brook - Middlesex Canal	Panels 165P – 167P
Course Brook	Panel 168P
Cow Pond Brook	Panels 169P – 171P
Cranberry Brook	Panels 172P – 173P
Cummings Brook	Panels 174P – 175P
Dakins Brook	Panel 176P
Danforth Brook	Panels 177P – 180P
Darby Brook	Panels 181P – 182P
Davis Brook	Panels 183P – 184P
Dirty Meadow Brook	Panel 185P
Dopping Brook	Panels 186P – 187P
Dudley Brook / Tributary A to Dudley Brook	Panels 188P – 191P
East Outlet	Panels 192P – 193P
Elizabeth Brook 1	Panels 194P – 197P
Elizabeth Brook 2	Panels 198P – 203P
Elm Brook	Panels 204P – 206P
Farley Brook	Panels 207P – 208P
Farley Brook Split 1	Panel 209P
Farrar Pond Brook	Panels 210P – 211P
Fort Meadow Brook	Panels 212P – 217P

TABLE OF CONTENTS – Volume 5 - July 7, 2014

EXHIBITS – continued

Exhibit 1 - Flood Profiles – continued

Fort Pond Brook	Panels 218P – 225P
Fort Pond Brook Branch 1	Panel 226P
Fort Pond Brook Branch 2	Panel 227P
Grassy Pond Brook	Panels 228P – 229P
Graves Pond Brook	Panel 230P

TABLE OF CONTENTS – Volume 5 – continued

EXHIBITS – continued

Exhibit 1 - Flood Profiles – continued

Great Road Tributary	Panel 231P
Greens Brook	Panels 232P – 233P
Guggins Brook	Panels 234P – 236P
Gumpas Pond Brook	Panel 237P
Hales Brook	Panels 238P – 239P
Halls Brook	Panels 240P – 242P
Hayward Brook	Panels 243P – 244P
Heath Brook	Panels 245P – 246P
Heath Hen Meadow Brook	Panels 271P – 248P
Heath Hen Meadow Brook Split	Panel 249P
Hobbs Brook 1	Panels 250P – 251P
Hobbs Brook 2	Panels 252P – 253P
Hog Brook	Panels 254P – 255P
Hop Brook	Panels 256P – 260P
Horn Pond Brook / Fowle Brook	Panels 261P – 263P
Inch Brook	Panel 264P
Ipswich River	Panels 265P – 270P
James Brook	Panels 271P – 278P
Jenny Dugan Brook	Panels 279P – 280P
Jones Brook	Panels 281P – 282P
Kiln Brook	Panels 283P – 284P
King Street Tributary	Panels 285P – 286P
Landham - Allowance Brook	Panels 287P – 291P
Lawrence Brook	Panels 292P – 294P
Little Brook	Panel 295P
Locke Brook	Panels 296P – 297P
Lower Spot Pond Brook	Panel 298P
Lubbers Brook	Panels 299P – 304P
Malden River	Panels 305P – 307P
Maple Meadow Brook	Panels 308P – 310P
Marginal Brook	Panel 311P
Marshall Brook	Panels 312P – 314P
Martins Brook	Panels 315P – 317P

TABLE OF CONTENTS – Volume 6 - July 7, 2014

EXHIBITS – continued

Exhibit 1 - Flood Profiles – continued

Martins Pond Brook	Panels 318P – 319P
Mascuppic Brook	Panels 320P – 321P
Mason Brook	Panels 322P – 325P
Meadow Brook	Panels 326P – 327P

TABLE OF CONTENTS – Volume 6 – continued

EXHIBITS – continued

Exhibit 1 - Flood Profiles – continued

Meadow River Branch	Panels 328P – 329P
Merrimack River	Panels 330P – 332P
Mill Brook 1	Panels 333P – 335P
Mill Brook 2	Panels 336P – 337P
Mill Brook 3	Panels 338P – 341P
Mill Pond Tributary	Panels 342P – 343P
Mill River	Panels 344P – 346P
Mineway Brook	Panels 347P – 352P
Mongo Brook	Panels 353P – 354P
Morse Brook	Panel 355P
Mowry Brook	Panels 356P – 357P
Mud Pond Brook	Panel 358P
Muddy Brook	Panel 359P
Mulpus Brook	Panels 360P – 368P
Munroe Brook	Panels 369P – 371P
Mystic River	Panels 372P – 374P
Nagog Brook	Panels 375P – 377P
Nashoba Brook	Panels 378P – 381P
Nashua River	Panels 382P – 389P
Nissitissit River	Panels 390P – 392P
Nonacoicus Brook 1	Panels 393P – 394P
Nonacoicus Brook 2	Panel 395P
North Lexington Brook	Panels 396P – 398P
Pages Brook	Panels 399P – 401P
Pages Brook Branch	Panel 402P
Pantry Brook	Panels 403P – 405P
Pearl Hill Brook	Panels 406P – 409P
Peppermint Brook	Panel 410P
Pine Brook	Panel 411P
Pole Brook	Panels 412P – 415P
Pratts Brook	Panels 416P
Putnam Brook	Panels 417P
Reedy Meadow Brook	Panels 418P – 420P

TABLE OF CONTENTS – Volume 7 - July 7, 2014

EXHIBITS – continued

Exhibit 1 - Flood Profiles – continued

Reservoir No. 1 - North Branch and Reservoir No. 3	Panels 421P – 422P
Richardson Brook	Panels 423P – 425P
River Meadow Brook	Panels 426P – 430P
Run Brook	Panels 431P – 433P

TABLE OF CONTENTS – Volume 7

EXHIBITS – continued

Exhibit 1 - Flood Profiles – continued

Salmon Brook	Panels 434P – 436P
Sandy Brook	Panels 437P – 438P
Saugus River	Panels 439P – 443P
Saunders Brook	Panel 444P
Sawmill Brook 1	Panels 445P – 446P
Sawmill Brook 2	Panel 447P
Schneider Brook	Panels 448P – 449P
Shakers Glen Brook	Panel 450P
Shawsheen River	Panels 451P – 457P
Skug River	Panels 458P – 459P
Snake Brook	Panels 460P – 461P
South Meadow Brook - Paul Brook	Panels 462P – 463P
Spencer Brook	Panel 464P – 467P
Spring Brook	Panels 468P – 470P
Squannacook River	Panels 471P – 477P
Stony Brook	Panels 478P – 479P
Stony Brook 1	Panels 480P – 494P
Stony Brook 2	Panels 495P – 501P
Strong Water Brook	Panels 502P – 503P
Sudbury River	Panels 504P – 513P
Sutton Brook	Panels 514P – 515P
Sweetwater Brook	Panel 516P
Tadmuck Brook	Panels 517P – 518P
Tadmuck Swamp Brook	Panel 519P

TABLE OF CONTENTS – Volume 8 - July 7, 2014

EXHIBITS – continued

Exhibit 1 - Flood Profiles – continued

Taylor Brook	Panel 520P
Tributary 1 to Cole's Brook	Panel 521P
Tributary 1 to Sudbury River	Panel 522P
Tributary 2 to Assabet River	Panel 523P
Tributary 2 to Tributary 1 to Cole's Brook	Panel 524P
Tributary 3 to Bogle Brook 2	Panel 525P
Tributary 4 to Bogle Brook 2	Panel 526P
Tributary A to Cold Brook	Panels 527P – 529P
Tributary A to Course Brook	Panel 530P
Tributary A to Hop Brook	Panels 531P – 532P
Tributary A to Pantry Brook	Panels 533P – 534P
Tributary A to Squannacook River	Panels 535P – 536P
Tributary B to Hop Brook	Panel 537P

TABLE OF CONTENTS – Volume 8 – continued

EXHIBITS – continued

Exhibit 1 - Flood Profiles – continued

Tributary B to Squannacook River	Panels 538P – 539P
Tributary B to Vine Brook	Panels 540P – 541P
Tributary C to Vine Brook	Panels 542P – 543P
Tributary to Beaver Brook 3	Panel 544P
Tributary to Cold Spring Brook	Panels 545P – 546P
Tributary to Indian Brook	Panel 547P
Tributary to Martins Brook	Panel 548P
Tributary to Mill Brook	Panels 549P – 552P
Tributary to Nonacoicus Brook 1/Long Pond Brook	Panels 553P – 557P
Tributary to Waushakum Pond	Panels 558P – 559P
Trout Brook	Panels 560P – 561P
Trout Brook 1	Panel 562P
Trout Brook 2	Panels 563P – 565P
Trull Brook	Panels 566P – 571P
Trull Brook Tributary	Panels 572P – 573P
Unkety Brook	Panels 574P – 576P
Valley Pond	Panel 577P
Varnum Brook	Panels 578P – 581P
Vine Brook	Panels 582P – 588P
Walker Brook 1	Panels 589P – 591P
Walker Brook 2	Panels 592P – 595P
Walker Brook 3	Panels 596P – 598P
Walkers Brook	Panels 599P – 602P
Wellington Brook	Panel 603P
West Chester Brook	Panels 604P – 606P
Whitehall Brook	Panels 607P – 609P
Willard Brook	Panels 610P – 611P
Winthrop Canal	Panels 612P – 613P
Witch Brook	Panels 614P – 615P

Exhibit 2 - Flood Insurance Rate Map Index Flood Insurance Rate Map

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Aberjona River								
A	30	1,694	73,950	0.0	7.2	7.2	7.6	0.4
B	2,770	329*	10,014	0.3	7.2	7.2	7.6	0.4
C	2,950	533*	6,061	0.5	12.6	12.6	12.7	0.1
D	9,560	537*	537	3.7	13.6	13.6	13.9	0.3
E	10,260	51*	432	4.9	14.2	14.2	14.5	0.3
F	10,340	43*	405	5.0	14.9	14.9	15.2	0.3
G	10,860	120	829	2.4	16.4	16.4	16.8	0.4
H	11,880	214	969	2.0	17.3	17.3	17.8	0.5
I	12,100	112	825	2.4	17.5	17.5	18.4	0.9
J	13,610	88	578	3.4	18.5	18.5	19.0	0.5
K	13,850	79	752	2.6	19.2	19.2	19.7	0.5
L	13,980	103*	990	2.1	19.8	19.8	20.4	0.6
M	14,240	203*	1,537	1.3	19.9	19.9	20.5	0.6
N	14,460	75*	587	3.5	19.9	19.9	20.4	0.5
O	15,540	383*	2,373	0.8	22.5	22.5	23.4	0.9
P	15,620	144*	1,028	2.0	22.5	22.5	23.5	1.0
Q	15,800	621	2,603	0.5	22.7	22.7	23.6	0.9
R	15,900	655	2,642	0.5	22.7	22.7	23.6	0.9
S	17,590	49*	326	4.1	23.5	23.5	23.7	0.2
T	19,460	123*	922	1.1	24.9	24.9	25.6	0.7
U	21,070	284	786	1.8	28.5	28.5	28.5	0.0
V	21,250	458	2,676	0.5	28.6	28.6	29.4	0.8
W	21,270	496	2,887	0.5	28.6	28.6	29.4	0.8
X	22,910	557	2,960	0.7	28.6	28.6	29.4	0.8
Y	23,770	552	1,323	0.9	29.1	29.1	29.4	0.3
Z	25,100	578	1,529	0.8	29.5	29.5	29.7	0.2

¹ Feet above outlet of Lower Mystic Lake

* The measured top width on the FIRM may differ due to the effects of ineffective flow, the exclusion of small pocket areas due to map scale limitations, or is estimated due to HEC-RAS modeling limitations

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

ABERJONA RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Aberjona River (continued)								
AA	27,310	95*	382	2.4	36.4	36.4	37.2	0.8
AB	27,760	37	227	4.0	37.1	37.1	37.8	0.7
AC	30,130	46	209	4.2	39.1	39.1	39.5	0.4
AD	30,360	76*	462	3.0	40.6	40.6	41.2	0.6
AE	31,380	347*	1,606	0.9	43.9	43.9	44.4	0.5
AF	33,290	40*	160	4.7	45.3	45.3	45.5	0.2
AG	37,080	39*	173	3.9	48.3	48.3	48.5	0.2
AH	37,810	577*	1,722	0.4	50.3	50.3	50.5	0.2
AI	38,060	374*	631	2.1	50.6	50.6	50.7	0.1
AJ	38,360	83*	380	1.7	51.3	51.3	51.4	0.1
AK	38,860	49*	276	2.1	52.9	52.9	53.2	0.3
AL	42,150	18	43	3.4	54.8	54.8	54.8	0.0
AM	43,790	20*	80	3.2	58.8	58.8	58.9	0.1
AN	43,990	34*	186	1.4	61.2	61.2	61.2	0.0
AO	44,890	25*	122	1.7	62.8	62.8	62.8	0.0
AP	45,140	43*	196	0.5	64.3	64.3	64.3	0.0
AQ	45,860	41	220	0.6	65.1	65.1	65.1	0.0
AR	46,580	39*	192	0.6	65.2	65.2	65.2	0.0
AS	46,940	20*	74	1.6	65.3	65.3	65.4	0.1
AT	50,340	15	28	3.8	78.8	78.8	78.8	0.0

¹ Feet above outlet of Lower Mystic Lake

* The measured top width on the FIRM may differ due to the effects of ineffective flow, the exclusion of small pocket areas due to map scale limitations, or is estimated due to HEC-RAS modeling limitations

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

ABERJONA RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Aberjona River North Spur								
A	130 ¹	33	148	0.9	64.3	64.3	64.3	0.0
B	2,260 ¹	68*	324	0.6	68.1	68.1	68.1	0.0
C	2,860 ¹	152	203	0.9	68.2	68.2	68.2	0.0
D	4,400 ¹	124*	713	0.5	75.8	75.8	75.8	0.0
E	6,500 ¹	18	15	2.1	78.3	78.3	78.3	0.0
F	7,880 ¹	47*	68	1.1	81.5	81.5	81.5	0.0
G	9,410 ¹	18*	27	0.5	83.0	83.0	83.0	0.0
Alewife Brook (Little River)								
A	100 ²	77*	427	1.1	6.7	3.9 ⁴	4.1	0.2
B	250 ²	101*	399	1.2	6.7	3.9 ⁴	4.1	0.2
C	2,960 ²	74	381	1.2	6.7	4.1 ⁴	4.3	0.2
D	3,970 ²	56*	372	1.5	6.7	4.5 ⁴	4.7	0.2
E	5,220 ²	84*	327	1.2	6.7	4.6 ⁴	4.9	0.3
F	7,330 ²	500*	1,135	0.3	6.8	4.9 ⁴	5.3	0.4
G	7,770 ²	1,556*	2,294	0.2	6.8	5.0 ⁴	5.3	0.3
H	8,010 ²	1,675*	3,477	0.1	6.8	5.0 ⁴	5.4	0.4
I	11,625 ²	70	569	0.8	7.4	6.4 ⁴	7.2	0.8
Angelica Brook								
A	500 ³	16	23	6.9	190.1	190.1	190.1	0.0
B	1,360 ³	8	25	6.4	207.1	207.1	207.9	0.8
C	2,770 ³	100	525	0.3	223.4	223.4	223.4	0.0

¹ Feet above confluence with Aberjona River

³ Feet above confluence with Reservoir No. 3

² Feet above confluence with Mystic River

⁴ Elevation computed without consideration of backwater effects from Mystic River

* The measured top width on the FIRM may differ due to the effects of ineffective flow, the exclusion of small pocket areas due to map scale limitations, or is estimated due to HEC-RAS modeling limitations

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

ABERJONA RIVER NORTH SPUR – ALEWIFE
BROOK (LITTLE RIVER) – ANGELICA BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Assabet Branch No. 3								
A	0	61	285	0.4	198.5	197.2 ²	198.2	1.0
B	26	53	205	0.5	198.5	197.2 ²	198.2	1.0
C	243	53	136	0.7	198.5	197.2 ²	198.2	1.0
D	502	8	26	3.9	198.5	197.2 ²	198.2	1.0
E	1,225	15	44	2.3	200.4	200.4	200.7	0.3
F	1,368	13	21	4.7	200.6	200.6	200.9	0.3
G	1,526	35	80	1.2	201.5	201.5	201.5	0.0
H	2,165	34	80	1.1	201.6	201.6	201.9	0.3
I	2,313	10	19	4.4	201.8	201.8	201.8	0.0
J	2,476	15	40	2.1	202.7	202.7	202.7	0.0
K	2,524	15	41	2.0	202.7	202.7	202.8	0.1
L	2,904	11	15	5.6	203.3	203.3	203.3	0.0
M	3,036	26	44	1.9	203.9	203.9	204.2	0.3
Assabet Branch No. 4								
A	2,376	12	26	4.0	192.3	192.3	193.3	1.0
B	3,796	20	54	1.9	197.1	197.1	197.6	0.5
C	4,108	8	14	7.5	202.7	202.7	203.2	0.5
D	4,224	20	35	2.4	205.8	205.8	206.5	0.7
E	4,345	14	27	3.8	206.6	206.6	207.6	1.0

¹ Feet above confluence with Assabet River

² Elevation computed without consideration of coincident flow with Assabet River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

ASSABET BRANCH NO. 3 – ASSABET BRANCH NO. 4

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Assabet River								
A	102	770	7,236	0.9	120.3	120.3	121.3	1.0
B	5,724	376	3,262	1.6	121.0	121.0	121.9	0.9
C	10,328	367	3,927	1.3	121.9	121.9	122.9	1.0
D	14,714	264	3,029	1.7	123.8	123.8	124.5	0.7
E	16,510	122	1,303	3.1	125.0	125.0	125.7	0.7
F	17,296	88	1,128	3.6	126.2	126.2	126.8	0.6
G	18,091	322	3,884	1.1	126.5	126.5	127.1	0.6
H	23,378	240	2,042	2.0	127.3	127.3	127.9	0.6
I	24,177	151	1,337	3.0	127.9	127.9	128.8	0.9
J	26,031	159	1,744	2.3	129.4	129.4	129.7	0.3
K	30,214	320	1,932	2.1	131.1	131.1	131.5	0.4
L	31,995	162	1,475	2.7	133.3	133.3	133.6	0.3
M	32,999	89	632	6.3	135.2	135.2	135.4	0.2
N	35,035	305	2,925	1.4	143.0	143.0	143.0	0.0
O	37,412	124	857	4.6	143.7	143.7	144.0	0.3
P	39,483	104	753	5.3	147.0	147.0	147.4	0.4
Q	40,509	105	786	5.0	151.5	151.5	151.9	0.4
R	41,398	48	424	9.3	155.3	155.3	155.4	0.1
S	41,802	52	566	7.0	159.6	159.6	159.7	0.1
T	42,065	68	691	5.7	161.4	161.4	161.4	0.0
U	43,612	93	632	6.3	163.1	163.1	163.6	0.5
V	45,644	193	1,355	2.9	172.0	172.0	172.0	0.0
W	46,318	139	1,247	3.2	175.3	175.3	175.3	0.0
X	46,897	543	4,534	0.9	179.4	179.4	179.4	0.0
Y	53,433	215	2,218	1.5	180.2	180.2	180.5	0.3
Z	56,986	328	2,990	1.1	180.4	180.4	180.6	0.2

¹ Feet above confluence with Concord River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY
MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

ASSABET RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Assabet River								
AA	64,088	239	2,480	1.3	181.4	181.4	182.1	0.7
AB	67,647	1,082	6,645	0.5	181.5	181.5	182.3	0.8
AC	73,564	61	532	5.8	182.5	182.5	183.5	1.0
AD	74,014	95	708	4.3	186.6	186.6	186.6	0.0
AE	79,685	390	2,403	1.2	194.9	194.9	195.3	0.4
AF	84,551	290	2,267	1.3	198.5	198.5	199.5	1.0
AG	87,918	239	1,783	1.7	200.0	200.0	200.9	0.9
AH	91,272	207	1,409	2.1	201.5	201.5	202.3	0.8
AI	92,114	96	915	3.2	203.0	203.0	203.9	0.9
AJ	92,715	219	1,570	1.9	203.9	203.9	204.7	0.8
AK	93,292	81	608	4.5	204.4	204.4	205.2	0.8
AL	95,000	579	8,200	0.3	212.4	212.4	212.4	0.0
AM	97,763	324	1,789	1.5	212.6	212.6	212.7	0.1
AN	105,507	593	3,711	0.7	213.4	213.4	213.8	0.4
AO	113,023	233	1,305	1.8	214.2	214.2	214.8	0.6
AP*	117,076	342	1,798	1.3	215.8	215.8	216.7	0.9
AQ	120,493	68	501	1.3	216.2	216.2	217.0	0.8
AR	122,445	119	583	1.0	216.9	216.9	217.7	0.8
AS	123,577	445	3,903	0.2	217.2	217.2	218.0	0.8
AT	124,647	946	15,468	0.2	232.6	232.6	232.7	0.1

¹ Feet above confluence with Concord River

*Cross Section is entirely in Worcester County

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY
MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

ASSABET RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Baddacook Brook								
A	1,010 ¹	130	362	1.6	198.2	198.2	198.2	0.0
B	1,950 ¹	40	80	7.4	207.3	207.3	207.5	0.2
Baiting Brook								
A	1,700 ²	130	850	0.6	165.1	165.1	166.1	1.0
B	2,920 ²	50	107	4.6	172.3	172.3	173.3	1.0
C	3,800 ²	100	615	0.5	178.1	178.1	179.1	1.0
D	5,700 ²	150	953	0.4	182.2	182.2	183.2	1.0
E	6,730 ²	220	1,405	0.3	182.6	182.6	183.6	1.0
F	7,430 ²	490	2,607	0.1	182.7	182.7	183.7	1.0
G	8,575 ²	90	475	0.4	185.9	185.9	186.9	1.0
H	9,710 ²	70	155	1.3	187.2	187.2	188.2	1.0
I	11,125 ²	102	192	0.7	190.1	190.1	191.1	1.0
J	11,900 ²	25	51	3.8	193.0	193.0	194.0	1.0
K	12,400 ²	35	110	1.8	196.4	196.4	197.4	1.0
Bear Meadow Brook								
A	3,390 ³	140	266	1.1	70.3	69.9 ⁴	70.9	1.0
B	4,551 ³	180	399	0.7	70.5	70.5	71.5	1.0
C	7,313 ³	60	117	1.6	73.9	73.9	74.9	1.0

¹ Feet above confluence with Cow Pond Brook

⁴ Elevation computed without consideration of backwater effects from Ipswich River

² Feet above confluence with Sudbury River

³ Feet above confluence with Ipswich River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

BADDACOOK BROOK – BAITING BROOK –
BEAR MEADOW BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Beaver Brook 1								
A-L*								
M	4,504	46	398	3.0	39.7	39.7	39.7	0.0
N	4,636	25	234	5.0	39.7	39.7	39.7	0.0
O	4,774	141	597	2.0	39.7	39.7	40.0	0.3
P	5,523	24	188	6.3	40.3	40.3	40.9	0.6
Q	6,273	77	553	2.1	40.8	40.8	41.8	1.0
R	6,490	80	490	2.4	42.8	42.8	42.8	0.0
S	6,806	79	513	2.3	42.9	42.9	43.1	0.2
T	7,155	200	330	3.6	43.7	43.7	44.0	0.3
U	7,466	80	346	3.4	45.2	45.2	45.7	0.5
V	8,169	50	221	5.3	48.4	48.4	48.7	0.3
W	8,285	50	280	4.2	50.8	50.8	51.1	0.3
X	8,427	60	325	3.6	51.2	51.2	51.2	0.0
Y	8,929	20	153	6.5	51.5	51.5	52.1	0.6
Z	9,198	120	578	1.7	51.8	51.8	52.8	1.0
AA	9,568	318	2,279	0.4	51.9	51.9	52.9	1.0
AB	9,996	217	1,821	0.5	51.9	51.9	52.9	1.0
AC	10,677	134	934	1.1	51.9	51.9	52.9	1.0
AD	12,086	86	385	2.6	52.8	52.8	53.7	0.9
AE	13,259	109	177	5.7	60.7	60.7	61.3	0.6
AF	13,861	51	125	8.0	72.4	72.4	72.8	0.4

¹ Feet above confluence with Charles River

* No data available

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

BEAVER BROOK 1

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Beaver Brook 2								
A	863	58	155	6.6	110.8	110.8	111.2	0.4
B	1,663	81	248	4.2	118.6	118.6	118.8	0.2
C	2,264	26	178	4.6	124.0	124.0	124.1	0.1
D	3,370	174	466	2.2	124.3	124.3	124.6	0.3
E	3,842	11	69	7.7	129.4 ²	125.8	126.2	0.4
F	4,020	54	182	3.6	131.4 ²	130.6	130.9	0.3
G	4,209	25	83	11.2	132.5	132.5	132.6	0.1
H	4,384	64	309	3.7	141.5	141.5	141.5	0.0
I	5,012	68	332	2.7	142.4	142.4	142.5	0.1
J	5,970	100	338	3.7	156.9	156.9	156.9	0.0
K	7,159	60	243	4.9	162.4	162.4	162.8	0.4
L	8,050	55	318	3.0	166.1	166.1	166.9	0.8
M	9,153	95	574	1.8	168.4	168.4	169.4	1.0
N	10,296	170	790	1.5	168.6	168.6	169.6	1.0
O	11,615	115	321	4.0	169.2	169.2	170.2	1.0
P	12,615	70	236	3.2	170.5	170.5	171.5	1.0
Q	13,250	55	253	3.3	173.6	173.6	174.5	0.9
R	14,046	55	332	2.5	175.4	175.4	175.9	0.5
S	14,932	27	135	1.4	179.8	179.8	180.2	0.4
T	15,351	40	339	0.6	186.8	186.8	187.4	0.6

¹Feet above confluence with River Meadow Brook

²Flooding controlled by Beaver Brook 2 Split 2

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

BEAVER BROOK 2

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Beaver Brook 2 (continued)								
U	16,281	75	364	2.4	186.8	186.8	187.5	0.7
V	16,657	105	585	1.7	187.7	187.7	188.6	0.9
W	17,026	53	396	2.0	188.8	188.8	189.7	0.9
X	18,112	90	468	1.7	190.4	190.4	191.3	0.9
Y	19,268	46	128	4.8	193.2	193.2	193.4	0.2
Z	20,291	45	111	5.3	195.3	195.3	195.6	0.3
AA	21,221	100	486	1.8	198.9	198.9	199.1	0.2
AB	22,193	135	573	1.3	199.0	199.0	199.3	0.3
AC	23,455	33	107	4.4	199.1	199.1	199.4	0.3

¹Feet above confluence with River Meadow Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

BEAVER BROOK 2

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Beaver Brook 2 Split 1								
A	118	33	50	3.1	112.7	112.7	112.8	0.1
B	281	33	28	5.3	113.7	113.7	113.7	0.0
C	1,112	33	34	4.4	123.6	123.6	123.6	0.0
Beaver Brook 2 Split 2								
A	91	19	38	8.6	128.6	128.6	128.6	0.0
B	241	34	106	3.0	131.3	131.3	131.7	0.4
Beaver Brook 2 Split 3								
A	257	36	78	6.4	177.0	177.0	177.3	0.3
B	582	36	114	4.3	182.2	182.2	182.4	0.2
C	1,155	70	105	5.3	186.7	186.7	187.1	0.4

¹Feet above confluence with Beaver Brook 2

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

**BEAVER BROOK 2 SPLIT 1 – BEAVER BROOK 2 SPLIT 2 –
BEAVER BROOK 2 SPLIT 2**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Beaver Brook 3								
A	225	116	1,580	2.7	70.6	65.3 ²	66.2	0.9
B	495	320	1,816	2.3	70.6	65.7 ²	66.7	1.0
C	1,505	236	1,583	2.7	70.6	65.9 ²	66.8	0.9
D	3,225	173	2,057	2.0	78.0	78.0	78.5	0.5
E	4,575	142	1,096	3.7	78.8	78.8	79.5	0.7
F	7,967	290	1,761	2.3	90.2	90.2	90.5	0.3
G	9,455	302	1,654	2.4	90.5	90.5	91.1	0.6
H	11,155	510	2,365	1.7	91.8	91.8	92.6	0.8
I	14,465	200	1,481	2.7	93.8	93.8	94.8	1.0
J	16,255	75	815	5.0	108.5	108.5	108.6	0.1
K	19,005	200	1,149	3.3	118.9	118.9	118.9	0.0
L	22,305	275	1,912	2.0	121.9	121.9	122.3	0.4

¹ Feet above confluence with Merrimack River

²Elevation computed without consideration of backwater effects from Merrimack River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

BEAVER BROOK 3

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Beaver Brook 4								
A	650	27	101	8.3	207.4	204.2 ²	204.2	0.0
B	700	27	93	9.1	207.4	204.5 ²	204.7	0.2
C	740	303	1,368	0.6	207.4	206.5 ²	206.5	0.0
D	3,640	243	759	1.1	207.4	206.6 ²	206.6	0.0
E	5,580	30	105	8.1	207.4	206.9 ²	206.9	0.0
F	5,600	30	142	5.9	207.4	207.1 ²	207.7	0.6
G	5,650	96	598	1.4	208.0	208.0	208.4	0.4
H	8,170	350	1,230	0.6	208.2	208.2	208.6	0.4
I	14,219	120	462	1.6	209.0	209.0	209.5	0.5
J	16,521	200	901	0.8	210.6	210.6	211.0	0.4
K	17,815	150	660	1.1	210.7	210.7	211.2	0.5
L	18,686	100	528	1.4	211.0	211.0	211.6	0.6
M	19,679	200	1,090	0.7	211.1	211.1	211.8	0.7
N	21,131	60	363	2.1	211.1	211.1	211.8	0.7
O	22,440	100	445	1.7	211.6	211.6	212.4	0.8
P	23,575	80	509	1.3	214.0	214.0	214.5	0.5
Q	25,239	60	313	2.2	214.2	214.2	215.2	1.0
R	26,981	328	2,273	0.3	216.2	216.2	216.2	0.0
S	29,331	36	80	8.6	217.1	217.1	217.1	0.0
T	29,991	65	327	1.8	223.0	223.0	223.3	0.3
U	30,487	40	385	1.6	225.1	225.1	225.9	0.8
V	33,497	200	1,792	0.3	225.2	225.2	226.0	0.8
W	34,991	80	625	1.0	225.7	225.7	226.4	0.7
X	36,316	60	445	1.4	225.7	225.7	226.5	0.8
Y	37,858	75	564	0.9	226.2	226.2	226.9	0.7
Z	39,125	125	854	0.6	226.2	226.2	227.0	0.8

¹ Feet above confluence with Forge Pond

² Elevation computed without consideration of backwater effects from Forge Pond

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

BEAVER BROOK 4

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Beaver Brook 4 (continued)								
AA	40,503	125	633	0.8	226.3	226.3	227.2	0.9
AB	40,714	41	149	1.7	226.3	226.3	227.3	1.0
AC	40,820	179	727	0.3	226.9	226.9	227.5	0.6
AD	41,453	110	470	0.5	226.9	226.9	227.5	0.6
AE	41,559	60	353	0.7	228.8	228.8	229.4	0.6
AF	41,717	33	249	1.0	228.8	228.8	229.4	0.6
AG	42,668	158	824	0.3	228.8	228.8	229.5	0.7
AH	43,777	121	613	0.4	228.9	228.9	229.5	0.6
AI	44,674	333	1,573	0.1	228.9	228.9	229.5	0.6
AJ	45,519	344	1,488	0.2	228.9	228.9	229.5	0.6
AK	46,406	368	1,635	0.1	228.9	228.9	229.5	0.6
AL	47,568	212	844	0.1	228.9	228.9	229.5	0.6
AM	48,571	202	767	0.2	228.9	228.9	229.5	0.6
AN	49,152	98	722	0.1	228.9	228.9	229.5	0.6
AO	50,102	212	1,031	0.1	228.9	228.9	229.5	0.6
AP	51,000	90	34	3.6	236.2	236.2	236.2	0.0
AQ	51,105	120	174	0.7	244.6	244.6	244.6	0.0
AR	51,739	50	293	0.4	244.7	244.7	244.7	0.0
AS	51,897	211	157	0.8	247.9	247.9	247.9	0.0
AT	52,425	7	23	5.3	248.0	248.0	248.2	0.2
AU	52,584	8	30	4.0	255.2	255.2	255.2	0.0
AV	52,689	8	37	3.2	256.2	256.2	256.2	0.0
AW	52,848	71	305	0.4	256.8	256.8	257.7	0.9
AX	53,587	5	14	7.1	256.9	256.9	257.7	0.8
AY	54,527	34	71	1.4	260.0	260.0	261.0	1.0
AZ	55,319	10	38	2.6	269.5	269.5	270.5	1.0

¹ Feet above confluence with Forge Pond

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

BEAVER BROOK 4

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Beaver Brook 4 (continued)								
BA	55,424 ¹	10	14	6.8	274.1	274.1	274.2	0.1
BB	56,375 ¹	19	41	2.3	284.1	284.1	284.5	0.4
BC	56,480 ¹	153	478	0.2	287.3	287.3	287.3	0.0
BD	57,483 ¹	100	207	0.5	287.5	287.5	287.5	0.0
Beaver Brook 5								
A	21,595 ²	32	150	2.2	194.6	194.6	195.6	1.0
B	22,044 ²	24	79	4.3	195.8	195.8	196.2	0.4
C	22,387 ²	20	68	4.9	199.2	199.2	199.5	0.3
D	22,704 ²	34	166	2.0	200.1	200.1	200.4	0.3
E	22,968 ²	15	71	4.8	200.6	200.6	201.0	0.4
F	23,206 ²	19	90	3.7	202.1	202.1	202.2	0.1
G	24,314 ²	167	545	0.6	202.4	202.4	202.6	0.2
H	24,473 ²	241	433	0.7	202.4	202.4	202.6	0.2

¹ Feet above confluence with Forge Pond

² Feet above confluence with Charles River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

BEAVER BROOK 4 – BEAVER BROOK 5

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Beaver Dam Brook								
A	132	155	761	0.6	137.9	137.9	138.9	1.0
B	232	158	1,243	0.4	138.7	138.7	139.7	1.0
C	576	137	927	0.5	138.7	138.7	139.7	1.0
D	681	131	698	0.6	138.7	138.7	139.7	1.0
E	781	200	1,140	0.4	138.7	138.7	139.7	1.0
F	1,542	35	60	7.5	139.7	139.7	139.7	0.0
G	2,561	30	176	2.6	142.9	142.9	143.4	0.5
H	2,699	30	158	2.9	142.9	142.9	143.9	1.0
I	2,798	30	195	2.3	143.1	143.1	144.0	0.9
J	3,701	27	194	2.3	143.7	143.7	144.6	0.9
K	3,839	27	254	1.8	146.2	146.2	147.1	0.9
L	3,981	37	309	1.5	146.2	146.2	147.1	0.9
M	5,116	80	512	0.9	146.4	146.4	147.3	0.9
N	5,238	25	248	1.8	147.4	147.4	148.4	1.0
O	5,359	72	584	0.8	147.4	147.4	148.4	1.0
P	5,977	30	322	1.4	147.5	147.5	148.5	1.0
Q	6,098	30	310	1.5	148.2	148.2	149.2	1.0
R	6,220	62	424	1.1	148.2	148.2	149.2	1.0
S	6,801	50	356	1.3	148.3	148.3	149.3	1.0
T	7,498	37	297	1.5	148.5	148.5	149.5	1.0
U	7,619	35	259	1.7	148.5	148.5	149.5	1.0
V	7,740	35	248	1.8	148.5	148.5	149.5	1.0
W	7,941	31	250	1.8	148.6	148.6	149.5	0.9
X	8,073	25	238	1.9	149.0	149.0	150.0	1.0
Y	8,321	52	467	1.0	149.0	149.0	150.0	1.0
Z	8,469	44	470	1.0	150.2	150.2	151.2	1.0
AA	8,617	41	362	1.2	150.2	150.2	151.2	1.0
AB	8,939	173	1,044	0.4	150.2	150.2	151.2	1.0

¹ Feet above Fisk Pond

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

BEAVER DAM BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Beaver Dam Brook (continued)								
AC	9,619	120	568	0.7	150.6	150.6	151.2	0.6
AD	11,124	80	320	1.2	150.7	150.7	151.4	0.7
AE	12,019	300	1,697	0.2	151.3	151.3	151.9	0.6
AF	14,319	100	377	1.0	152.8	152.8	153.8	1.0
AG	16,309	200	722	0.5	153.5	153.5	154.0	0.5
AH	17,139	400	1,728	0.2	153.8	153.8	154.2	0.4
AI	18,439	80	314	1.2	153.8	153.8	154.2	0.4
AJ	20,479	280	611	0.6	156.8	156.8	156.8	0.0
AK	20,989	450	1,437	0.3	156.8	156.8	156.9	0.1
AL	22,484	585	1,969	0.2	156.8	156.8	156.9	0.1

¹ Feet above Fisk Pond

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

BEAVER DAM BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Bennetts Brook								
A	1,140 ¹	195	85	3.8	212.2	212.2	212.7	0.5
B	1,880 ¹	200	446	0.7	212.7	212.7	213.3	0.6
C	2,630 ¹	210	489	0.7	212.8	212.8	213.5	0.7
D	3,090 ¹	250	1,138	0.3	218.9	218.9	218.9	0.0
E	3,375 ¹	205	643	0.5	218.9	218.9	218.9	0.0
F	3,810 ¹	175	1,307	0.2	225.7	225.7	225.7	0.0
G	4,300 ¹	70	207	1.6	225.8	225.8	225.8	0.0
H	5,240 ¹	120	597	0.5	243.4	243.4	243.4	0.0
I	5,930 ¹	75	109	3.0	244.2	244.2	244.5	0.3
J	7,520 ¹	40	100	3.2	250.5	250.5	250.8	0.3
K	8,750 ¹	60	127	1.6	254.9	254.9	255.5	0.6
L	10,105 ¹	50	125	1.7	256.1	256.1	256.6	0.5
M	10,540 ¹	157	1,013	0.2	261.8	261.8	261.8	0.0
N	11,235 ¹	166	747	0.3	261.9	261.9	261.9	0.0
O	11,680 ¹	68	165	1.3	261.9	261.9	261.9	0.0
P	12,080 ¹	130	474	0.4	265.5	265.5	265.5	0.0
Birch Meadow Brook								
A	420 ²	100	45	2.2	185.6	185.6	186.6	1.0
B	1,580 ²	90	23	7.6	192.2	192.2	193.2	1.0
C	2,460 ²	60	115	1.6	193.7	193.7	194.7	1.0

¹ Feet above confluence with Spectacle Pond

² Feet above confluence with East Outlet

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

BENNETTS BROOK – BIRCH MEADOW BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Black Brook								
A	330 ¹	104	359	0.7	99.4	96.5 ³	96.6	0.1
B	1,680 ¹	168	627	0.4	99.4	99.0 ³	99.1	0.1
C	2,260 ¹	193	915	0.2	101.6	101.6	101.6	0.0
D	2,900 ¹	136	375	0.7	101.6	101.6	101.6	0.0
E	4,080 ¹	337	2,143	0.1	104.8	104.8	105.6	0.8
F	5,140 ¹	33	142	1.8	104.8	104.8	105.5	0.7
G	5,980 ¹	31	39	6.4	106.5	106.5	106.5	0.0
H	8,470 ¹	60	153	1.6	110.7	110.7	111.3	0.6
Bogastow Brook-Jar Brook								
A	0 ²	149	630	2.4	146.4	146.4	146.5	0.1
B	1,670 ²	159	1,072	1.8	148.3	148.3	149.3	1.0
C	2,076 ²	150	898	2.1	149.0	149.0	149.8	0.8
D	4,478 ²	345	1,491	1.2	150.8	150.8	151.8	1.0
E	6,548 ²	131	730	1.7	152.1	152.1	153.1	1.0
F	6,928 ²	154	761	1.4	152.4	152.4	153.4	1.0
G	9,827 ²	498	3,262	0.3	152.9	152.9	153.9	1.0
H	11,506 ²	201	1,086	0.7	153.4	153.4	154.4	1.0
I	13,909 ²	112	626	1.3	154.9	154.9	155.9	1.0
J	14,146 ²	200	739	1.1	156.7	156.7	157.1	0.4
K	14,980 ²	200	1,088	0.7	156.9	156.9	157.5	0.6
L	16,659 ²	171	953	0.8	157.1	157.1	158.1	1.0
M	19,410 ²	80	196	3.3	166.7	166.7	166.7	0.0

¹ Feet above confluence with Merrimack River

² Feet above county boundary, county boundary is approximately 1,945 feet downstream of Central Street

³ Elevation computed without consideration of backwater effects from Merrimack River

TABLE 12	FEDERAL EMERGENCY MANAGEMENT AGENCY		FLOODWAY DATA	
	MIDDLESEX COUNTY, MA (ALL JURISDICTIONS)			
			BLACK BROOK – BOGASTOW BROOK-JAR BROOK	

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Bogastow Brook-Jar Brook (continued)								
N	19,906	48	137	4.7	172.1	172.1	172.7	0.6
O	22,440	91	*	*	*	*	*	*
P	22,651	35	221	2.7	186.8	186.8	186.8	0.0
Q	23,338	59	436	1.4	186.9	186.9	187.9	1.0
R	23,971	42	269	2.2	187.7	187.7	188.7	1.0
S	24,288	16	117	4.3	188.9	188.9	189.6	0.7
T	25,291	38	193	2.6	190.9	190.9	191.9	1.0
U	26,136	28	169	3.0	192.9	192.9	193.8	0.9
V	26,453	21	141	3.5	193.7	193.7	194.6	0.9
W	26,875	40	215	1.9	197.4	197.4	197.5	0.1
X	27,139	25	199	2.0	197.5	197.5	197.7	0.2
Y	27,350	40	137	2.9	200.2	200.2	200.2	0.0
Z	27,878	95	307	1.3	200.9	200.9	201.9	1.0
AA	28,565	10	55	7.3	206.8	206.8	207.6	0.8
AB	28,723	8	42	6.6	209.4	209.4	209.5	0.1
AC	29,093	15	63	4.4	212.7	212.7	213.7	1.0
AD	29,304	12	92	3.0	218.4	218.4	218.5	0.1
AE	29,515	12	53	5.3	220.3	220.3	220.6	0.3
AF	29,726	12	106	2.7	226.0	226.0	226.0	0.0
AG	29,885	15	122	2.3	226.1	226.1	226.4	0.3
AH	30,096	10	46	4.3	226.3	226.3	226.6	0.3
AI	30,360	10	33	6.1	230.3	230.3	230.5	0.2
AJ	30,518	15	69	2.9	235.0	235.0	235.0	0.0
AK	30,782	9	45	4.5	235.4	235.4	236.1	0.7
AL	30,835	12	50	4.0	238.0	238.0	238.0	0.0

¹ Feet above county boundary, county boundary is approximately 1,945 feet downstream of Central Street

* Encroachment not calculated

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

BOGASTOW BROOK – JAR BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Bogle Brook 1								
A	106 ¹	210	1,896	0.1	132.1	132.1	133.1	1.0
B	544 ¹	160	1,325	0.1	132.1	132.1	133.1	1.0
C	1,484 ¹	170	940	0.1	132.1	132.1	133.1	1.0
D	1,616 ¹	148	468	0.2	132.1	132.1	133.1	1.0
E	1,748 ¹	173	912	0.1	132.1	132.1	133.1	1.0
F	2,767 ¹	64	259	0.4	132.1	132.1	133.1	1.0
G	3,797 ¹	40	134	0.7	132.1	132.1	133.1	1.0
H	4,277 ¹	17	53	1.9	132.2	132.2	133.1	0.9
I	4,420 ¹	17	53	1.9	132.4	132.4	133.4	1.0
Bogle Brook 2								
A	0 ²	23	85	7.4	154.9	154.9	154.9	0.0
B	317 ²	72	216	2.9	156.0	156.0	157.0	1.0
C	634 ²	36	89	7.1	158.3	158.3	158.5	0.2
D	1,214 ²	33	90	7.0	163.9	163.9	164.2	0.3
E	1,373 ²	59	185	3.4	164.7	164.7	165.6	0.9
F	1,478 ²	42	227	2.8	167.6	167.6	168.5	0.9
G	1,690 ²	45	185	3.4	167.8	167.8	168.7	0.9
H	1,901 ²	35	181	3.5	169.2	169.2	169.2	0.0
I	2,112 ²	15	87	7.2	169.3	169.3	169.5	0.2
J	2,587 ²	79	272	2.3	169.8	169.8	170.8	1.0
K	2,904 ²	14	76	8.3	170.4	170.4	171.4	1.0
L	3,010 ²	14	94	6.7	173.7	173.7	173.7	0.0
M	3,221 ²	48	264	2.4	173.7	173.7	174.6	0.9
N	3,326 ²	58	245	2.6	173.9	173.9	174.8	0.9
O	4,224 ²	148	895	0.7	174.0	174.0	175.0	1.0
P	5,438 ²	30	88	6.3	174.4	174.4	174.7	0.3

¹ Feet above limit of detailed study, limit of detailed study is approximately 1,609 feet downstream of Oak Street

² Feet above limit of detailed study, limit of detailed study is approximately 1,430 feet downstream of Sherburn Circle

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

BOGLE BROOK 1 – BOGLE BROOK 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Bogle Brook 2 (continued)								
Q	5,755 ¹	15	66	8.4	177.3	177.3	178.1	0.8
R	6,178 ¹	393	1,870	0.3	178.4	178.4	179.4	1.0
S	7,075 ¹	72	312	1.1	178.7	178.7	179.7	1.0
T	7,603 ¹	391	2,455	0.1	183.3	183.3	184.3	1.0
U	7,709 ¹	209	2,348	0.1	191.8	191.8	192.8	1.0
V	7,973 ¹	25	300	1.2	191.8	191.8	192.8	1.0
W	8,290 ¹	191	1,512	0.2	191.8	191.8	192.8	1.0
X	8,606 ¹	36	278	1.3	191.8	191.8	192.8	1.0
Y	8,765 ¹	24	221	1.6	195.8	195.8	196.8	1.0
Z	9,662 ¹	478	2,267	0.2	196.3	196.3	197.3	1.0
AA	10,243 ¹	54	209	1.3	196.4	196.4	197.4	1.0
AB	10,349 ¹	100	436	0.6	197.6	197.6	198.6	1.0
AC	10,982 ¹	571	2,800	0.1	197.6	197.6	198.6	1.0
AD	11,880 ¹	33	142	1.9	197.9	197.9	198.9	1.0
AE	12,566 ¹	164	411	0.7	198.2	198.2	199.2	1.0
AF	13,042 ¹	30	48	5.6	204.0	204.0	204.2	0.2
Boons Pond Branch								
A	99 ²	30	144	2.4	181.3	176.5 ³	177.5	1.0
B	618 ²	25	86	4.1	181.3	177.7 ³	178.4	0.7

¹ Feet above limit of detailed study, limit of detailed study is approximately 1,430 feet downstream of Sherburn Circle

² Feet above confluence with Assabet River

³ Elevation computed without consideration of backwater effects from Assabet River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

BOGLE BROOK 2 – BOONS POND BRANCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Boutwell Brook								
A	102 ¹	7	43	4.2	188.3	188.3	188.3	0.0
B	150 ¹	80	237	0.8	188.7	188.7	188.7	0.0
C	645 ¹	80	141	1.3	189.8	189.8	190.6	0.8
D	695 ¹	86	222	0.8	189.8	189.8	190.6	0.8
E	1,245 ¹	40	105	1.7	190.8	190.8	191.4	0.6
F	1,514 ¹	26	134	1.3	192.3	192.3	192.3	0.0
G	1,721 ¹	171	266	0.7	193.7	193.7	193.7	0.0
H	1,770 ¹	58	309	0.6	193.7	193.7	193.7	0.0
I	2,165 ¹	80	297	0.6	193.7	193.7	193.7	0.0
J	3,315 ¹	11	35	5.2	198.7	198.7	198.7	0.0
K	3,365 ¹	12	39	4.6	199.2	199.2	199.2	0.0
L	3,825 ¹	10	69	2.6	200.8	200.8	201.2	0.4
M	4,345 ¹	80	360	0.5	202.6	202.6	202.8	0.2
N	4,395 ¹	80	406	0.4	202.6	202.6	202.8	0.2
O	5,938 ¹	80	305	0.6	203.3	203.3	203.5	0.2
P	5,990 ¹	80	650	0.3	203.3	203.3	203.5	0.2
Q	7,017 ¹	37	220	0.8	206.3	206.3	206.6	0.3
R	7,370 ¹	36	134	1.3	206.5	206.5	206.9	0.4
S	7,420 ¹	27	233	0.8	206.5	206.5	206.9	0.4
Bow Brook								
A	430 ²	42	42	4.8	275.5	275.5	276.0	0.5
B	1,700 ²	218	1,000	0.2	290.4	290.4	290.4	0.0

¹ Feet above confluence with Stony Brook 2

² Feet above confluence with Catacoonamug Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

BOUTWELL BROOK – BOW BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Branch of Assabet River								
A	1,589 ¹	65	188	1.8	195.3	195.3	196.1	0.8
B	1,943 ¹	69	216	1.6	197.5	197.5	198.5	1.0
C	2,862 ¹	22	53	2.5	199.0	199.0	200.0	1.0
D	3,105 ¹	76	297	0.4	202.2	202.2	202.2	0.0
E	4,087 ¹	15	20	6.7	203.1	203.1	203.1	0.0
F	5,169 ¹	14	49	2.8	209.3	209.3	210.3	1.0
G	6,325 ¹	43	85	1.3	214.3	214.3	214.3	0.0
H	6,405 ¹	32	56	1.9	214.3	214.3	214.4	0.1
I	7,413 ¹	15	22	4.4	221.5	221.5	222.0	0.5
J	7,608 ¹	45	151	0.6	225.2	225.2	225.2	0.0
K	8,527 ¹	47	112	0.9	225.4	225.4	225.4	0.0
L	9,573 ¹	56	111	0.9	225.6	225.6	225.8	0.2
Branch of Elizabeth Brook 1								
A	401 ²	12	63	2.0	195.0	195.0	196.0	1.0
B	1,062 ²	86	437	0.3	195.1	195.1	196.1	1.0
C	1,183 ²	40	186	0.7	198.8	198.8	199.8	1.0
D	1,299 ²	176	952	0.1	198.9	198.9	199.8	0.9
E	2,017 ²	225	1,809	0.1	198.9	198.9	199.8	0.9
F	2,756 ²	15	49	2.6	198.9	198.9	199.8	0.9
G	2,872 ²	91	180	0.7	202.9	202.9	202.9	0.0
H	2,973 ²	38	195	0.6	202.9	202.9	202.9	0.0

¹ Feet above confluence with Assabet River

² Feet above confluence with Elizabeth Brook 1

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

BRANCH OF ASSABET RIVER –
BRANCH OF ELIZABETH BROOK 1

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Broad Meadow Brook								
A	500 ¹	15	32	3.5	255.1	248.8 ⁴	249.7	0.9
B	980 ¹	15	57	2.0	258.6	258.6	258.6	0.0
C	1,425 ¹	24	32	3.5	259.2	259.2	259.7	0.5
D	2,420 ¹	10	17	6.5	268.4	268.4	269.1	0.7
E	3,812 ¹	15	32	3.5	276.4	276.4	277.0	0.6
F	4,055 ¹	129	368	0.3	279.8	279.8	280.2	0.4
Brook A of Shawsheen River								
A	158 ²	20	53	0.7	75.1	75.1	75.5	0.4
B	739 ²	17	29	2.5	77.7	77.7	78.5	0.8
C	845 ²	10	53	1.4	81.9	81.9	81.9	0.0
D	1,267 ²	35	139	0.5	81.9	81.9	82.1	0.2
Brook From Waushakum Pond								
A	390 ³	9	24	2.1	156.7	153.5 ⁵	153.7	0.2
B	1,140 ³	220	791	0.1	156.7	156.2 ⁵	156.2	0.0

¹ Feet above confluence with Sudbury Reservoir

⁵ Elevation computed without consideration of backwater effects from Beaverdam Brook

² Feet above confluence with Shawsheen River

³ Feet above confluence with Beaverdam Brook

⁴ Elevation computed without consideration of backwater effects from Sudbury Reservoir

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

BROAD MEADOW BROOK – BROOK A OF SHAWSHEEN
RIVER – BROOK FROM WAUSHAKUM POND

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Butter Brook								
A	885	100	197	1.1	173.2	167.1 ²	167.7	0.6
B	995	100	223	0.9	173.2	167.4 ²	168.0	0.6
C	1,434	100	137	1.5	173.2	167.6 ²	168.4	0.8
D	1,566	80	197	1.1	173.2	169.4 ²	169.5	0.1
E	2,770	100	190	1.0	173.2	169.4 ²	170.2	0.8
F	3,605	150	188	1.0	173.2	173.2	171.0	0.5
G	3,745	40	270	0.7	176.1	176.1	176.5	0.4
H	4,210	40	209	0.8	176.1	176.1	176.5	0.4
I	4,345	10	63	2.6	176.2	176.2	176.7	0.5
J	5,190	130	488	0.3	176.2	176.2	176.9	0.7
K	7,980	20	29	6.9	178.3	178.3	178.3	0.0
L	9,500	50	72	2.8	188.8	188.8	189.0	0.2
M	9,552	150	50	4.0	194.3	194.3	195.0	0.7
N	9,792	20	70	2.9	197.0	197.0	197.0	0.0
O	9,842	20	105	1.9	197.1	197.1	197.1	0.0
P	10,563	18	114	1.7	199.8	199.8	200.1	0.3
Q	10,613	20	140	1.4	199.9	199.9	200.2	0.3
R	11,933	20	289	0.6	199.9	199.9	200.3	0.4
S	13,433	20	30	5.4	200.0	200.0	200.3	0.3
T	14,593	4	21	3.3	209.3	209.3	209.3	0.0
U	14,643	20	127	0.5	209.5	209.5	209.5	0.0

¹ Feet above confluence with Nashoba Brook

² Elevation computed without consideration of backwater effects from Nashoba Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

BUTTER BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Catacoonamug Brook								
A	2,140 ¹	275	466	3.0	224.5	224.5	225.0	0.5
B	3,630 ¹	660	5,430	0.3	240.3	240.3	240.3	0.0
C	4,600 ¹	280	1,216	1.2	242.8	242.8	242.8	0.0
D	5,400 ¹	70	231	6.1	244.1	244.1	244.4	0.3
E	6,550 ¹	64	235	6.0	250.9	250.9	251.1	0.2
F	8,280 ¹	160	772	1.8	263.9	263.9	263.9	0.0
Cheese Cake Brook								
A	5,742 ²	30	183	4.4	35.3	35.3	36.3	1.0
B	5,892 ²	30	166	4.8	35.5	35.5	36.5	1.0
C	6,202 ²	30	187	4.3	37.7	37.7	37.7	0.0
D	6,578 ²	30	202	4.0	38.6	38.6	38.6	0.0
E	7,158 ²	30	164	4.9	38.6	38.6	39.0	0.4

¹ Feet above confluence with Nashua River

² Feet above confluence with Charles River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

CATACOOONAMUG BROOK – CHEESE CAKE BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Cherry Brook								
A	106	35	94	7.4	108.8	105.1 ²	106.1	1.0
B	317	27	101	6.9	108.8	106.4 ²	106.9	0.5
C	950	153	582	1.2	108.8	107.6 ²	108.6	1.0
D	1,848	54	136	5.1	111.9	111.9	112.7	0.8
E	2,059	37	211	3.3	117.0	117.0	117.0	0.0
F	2,746	20	72	9.7	127.4	127.4	127.5	0.1
G	3,326	207	1,017	0.7	128.9	128.9	129.9	1.0
H	4,118	34	124	5.6	131.3	131.3	132.0	0.7
I	4,910	56	338	2.1	133.6	133.6	134.5	0.9
J	5,069	20	316	2.2	137.1	137.1	137.1	0.0
K	5,650	17	164	4.3	137.1	137.1	137.5	0.4
L	7,022	75	693	1.0	137.2	137.2	138.2	1.0
M	7,814	190	1,610	0.4	137.2	137.2	138.2	1.0
N	8,712	140	927	0.8	137.3	137.3	138.3	1.0
O	9,715	70	328	2.1	138.0	138.0	138.9	0.9
P	10,930	80	891	0.6	140.9	140.9	140.9	0.0
Q	11,088	80	891	0.6	149.4	149.4	149.4	0.0
R	11,827	80	605	0.9	149.4	149.4	149.5	0.1
S	12,830	86	447	1.2	149.5	149.5	149.8	0.3
T	14,573	78	394	1.4	150.1	150.1	151.1	1.0
U	15,154	35	146	3.8	151.1	151.1	151.9	0.8
V	15,840	219	1,140	0.5	151.8	151.8	152.8	1.0
W	16,157	338	3,391	0.2	157.9	157.9	158.9	1.0
X	16,738	140	1,329	0.4	157.9	157.9	158.9	1.0
Y	17,002	120	1,033	0.5	157.9	157.9	158.9	1.0

¹ Feet above confluence with Stony Brook 1

² Elevation computed without consideration of backwater effects from Stony Brook 1

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

CHERRY BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Chester Brook								
A	1,954	63	113	5.2	39.7	36.6 ²	36.6	0.0
B	3,142	30	155	3.8	39.7	38.8 ²	39.1	0.3
C	3,221	21	139	4.2	39.7	39.7	40.1	0.4
D	3,543	26	176	3.3	40.1	40.1	40.1	0.0
E	3,648	22	152	3.8	40.1	40.1	40.1	0.0
F	3,992	21	106	5.5	40.5	40.5	40.9	0.4
G	4,261	19	100	5.8	41.3	41.3	41.3	0.0
H	4,409	27	280	2.1	44.0	44.0	44.0	0.0
I	4,673	57	495	1.2	44.1	44.1	44.1	0.0
J	5,116	43	391	1.5	44.1	44.1	44.1	0.0
K	5,465	22	136	3.0	44.1	44.1	44.2	0.1
L	5,766	22	49	8.2	45.7	45.7	45.8	0.1
M	5,887	19	73	5.5	49.8	49.8	50.0	0.2
N	6,162	28	98	4.2	50.5	50.5	50.6	0.1
O	6,262	159	97	8.7	60.9	60.9	60.9	0.0
P	6,711	50	95	4.2	69.2	69.2	69.2	0.0
Q-AA*								
AB	11,083	125	111	3.6	138.3	138.3	138.3	0.0
AC	11,679	8	42	4.7	151.1	151.1	151.1	0.0
AD	11,822	16	71	2.8	151.1	151.1	151.7	0.6
AE	11,917	47	72	2.8	151.3	151.3	152.0	0.7
AF	12,075	49	44	4.5	153.7	153.7	153.7	0.0
AG	12,149	59	52	3.9	158.2	158.2	158.2	0.0
AH	13,628	9	62	3.2	190.2	190.2	190.3	0.1
AI	13,971	28	151	1.3	190.3	190.3	190.6	0.3
AJ	14,177	22	80	2.5	190.3	190.3	190.6	0.3
AK	14,351	17	30	6.6	193.8	193.8	193.8	0.0
AL	14,499	21	181	1.1	202.7	202.7	202.7	0.0

¹ Feet above confluence with Beaver Brook 1

² Elevation computed without consideration of backwater effects from Beaver Brook 1

* No data available

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

CHESTER BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Chester Brook (continued)								
AM	14,942 ¹	19	171	1.2	202.8	202.8	202.8	0.0
AN	15,037 ¹	36	257	0.8	202.8	202.8	202.8	0.0
AO	15,228 ¹	14	98	2.0	202.8	202.8	202.8	0.0
AP	15,428 ¹	28	200	1.0	202.8	202.8	202.9	0.1
AQ	15,518 ¹	32	168	1.2	202.8	202.8	202.9	0.1
AR	15,602 ¹	26	121	1.6	202.8	202.8	202.9	0.1
AS	15,745 ¹	12	79	2.5	202.9	202.9	203.0	0.1
AT	15,845 ¹	23	130	1.5	202.9	202.9	203.1	0.2
Chicken Brook								
A	576 ²	26	107	3.8	223.8	223.8	224.8	1.0
B	713 ²	8	59	5.1	226.6	226.6	227.0	0.4
C	1,272 ²	101	87	0.7	227.0	227.0	228.0	1.0
D	1,690 ²	35	180	2.0	227.2	227.2	228.2	1.0
E	1,848 ²	15	116	2.6	229.3	229.3	229.7	0.4
F	2,070 ²	15	97	3.1	229.3	229.3	230.0	0.7
G	2,175 ²	25	189	1.6	230.9	230.9	231.2	0.3
H	2,878 ²	13	83	3.6	230.9	230.9	231.3	0.4
I	3,675 ²	30	188	1.6	232.2	232.2	232.8	0.6
J	4,087 ²	25	203	1.5	232.2	232.2	233.0	0.8
K	4,282 ²	25	191	1.6	232.6	232.6	233.2	0.6
L	5,201 ²	25	192	1.6	232.7	232.7	233.6	0.9
M	5,328 ²	15	91	3.3	234.1	234.1	234.4	0.3
N	5,755 ²	33	123	2.4	234.6	234.6	235.6	1.0
O	5,935 ²	12	91	3.3	238.8	238.8	238.8	0.0

¹ Feet above confluence with Beaver Brook 1

² Feet above county boundary, county boundary is approximately 4,192 feet downstream of Cross Street

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

CHESTER BROOK – CHICKEN BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Chicken Brook (continued)								
P	6,341	12	74	4.0	239.0	239.0	239.8	0.8
Q	6,547	12	120	2.5	244.0	244.0	244.2	0.2
R	7,265	40	208	1.4	244.1	244.1	244.8	0.7
S	7,524	15	85	3.5	244.2	244.2	245.1	0.9
T	7,872	34	114	2.6	245.7	245.7	246.5	0.8
U	9,177	120	344	0.9	248.0	248.0	249.0	1.0
V	9,340	15	77	3.9	249.1	249.1	249.8	0.7
W	9,620	40	147	2.6	249.7	249.7	250.7	1.0
X	11,172	126	505	0.7	250.5	250.5	251.5	1.0
Y	12,551	49	206	1.4	251.2	251.2	252.2	1.0
Z	12,841	24	171	0.8	252.6	252.6	252.8	0.2
AA	13,892	24	74	1.9	253.1	253.1	253.3	0.2
AB	15,000	26	82	1.7	256.7	256.7	257.7	1.0
AC	17,002	35	102	1.4	266.7	266.7	267.6	0.9
AD	18,997	27	59	2.4	278.9	278.9	279.8	0.9

¹ Feet above county boundary, county boundary is approximately 4,192 feet downstream of Cross Street

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

CHICKEN BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Cochituate Brook								
A	1,900	30	218	3.7	125.0	125.7 ²	126.3	0.6
B	3,190	20	116	6.9	125.0	126.2 ²	126.9	0.7
Cold Brook								
A	9,215	58	196	0.4	121.2	119.9 ²	120.9	1.0
B	9,775	28	73	0.9	121.2	120.0 ²	121.0	1.0
C	10,785	33	61	1.3	121.4	121.4	122.2	0.8
D	11,380	23	56	1.4	122.7	122.7	123.6	0.9
E	12,500	45	68	1.2	125.7	125.7	126.6	0.9
F	13,010	12	17	4.8	129.8	129.8	130.6	0.8
Cold Spring Brook								
A	98	37	164	2.2	177.5	173.5 ²	173.9	0.4
B	1,164	127	487	1.2	177.5	173.7 ²	174.2	0.5
C	1,784	39	168	2.2	177.5	174.4 ²	174.8	0.4
D	11,650	30	71	6.0	224.2	224.2	225.0	0.8
E	12,450	35	116	3.7	235.9	235.9	236.6	0.7
F	13,850	260	1,395	0.3	237.8	237.8	238.6	0.8
G	14,860	380	1,722	0.2	237.8	237.8	238.6	0.8
H	15,365	225	1,282	0.3	237.8	237.8	238.6	0.8
I	16,525	40	187	2.3	238.9	238.9	239.6	0.7
J	17,880	215	1,089	0.4	243.0	243.0	243.0	0.0
K	18,835	55	351	1.2	251.8	251.8	251.8	0.0
L	20,115	45	277	1.5	251.8	251.8	251.8	0.0
M	21,040	440	3,801	0.1	260.8	260.8	260.8	0.0
N	21,350	55	152	2.8	261.0	261.0	261.1	0.1

¹ Feet above confluence with Sudbury River

² Elevation computed without consideration of backwater effects from Sudbury River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

COCHITUATE BROOK – COLD BROOK –
COLD SPRING BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Cold Spring Brook (continued)								
O	22,840 ¹	20	60	7.2	268.0	268.0	268.8	0.8
P	23,630 ¹	35	129	3.3	270.4	270.4	271.3	0.9
Q	23,880 ¹	100	539	0.8	271.3	271.3	271.8	0.5
R	24,740 ¹	65	282	1.5	271.4	271.4	271.9	0.5
Cole's Brook								
A	150 ²	10	40	12.3	128.8	128.8	128.8	0.0
B	200 ²	30	210	2.6	132.0	132.0	132.9	0.9
C	1,850 ²	20	60	9.7	137.9	137.9	137.9	0.0
D	1,920 ²	20	130	4.0	141.8	141.8	142.1	0.3
E	1,980 ²	110	490	1.1	142.0	142.0	142.4	0.4
F	2,060 ²	170	1,440	0.4	146.2	146.2	146.8	0.6
G	3,050 ²	110	450	1.2	146.2	146.2	146.8	0.6
H	3,160 ²	190	1,430	0.4	149.8	149.8	150.7	0.9
I	4,910 ²	100	480	0.8	149.8	149.8	150.7	0.9
Collins Brook								
A	1,426 ³	100	258	0.5	80.5	80.5	80.9	0.4
B	2,534 ³	100	128	1.0	80.8	80.8	81.7	0.9
C	2,640 ³	85	477	0.3	85.9	85.9	85.9	0.0
D	4,382 ³	8	12	7.1	86.4	86.4	86.4	0.0

¹ Feet above confluence with Sudbury River

² Feet above confluence with Fort Pond Brook

³ Feet above confluence with Sutton Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

COLD SPRING BROOK – COLE'S BROOK –
COLLINS BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Conant Brook								
A	145 ¹	30	80	7.3	143.8	143.8	144.2	0.4
B	203 ¹	220	1,000	0.6	146.8	146.8	147.3	0.5
C	1,460 ¹	73	293	1.9	160.8	160.8	160.8	0.0
D	3,210 ¹	46	76	7.4	176.9	176.9	176.9	0.0
E	4,680 ¹	10	40	9.6	190.9	190.9	190.9	0.0
F	4,730 ¹	10	30	2.5	192.4	192.4	192.4	0.0
G	4,775 ¹	90	460	0.8	194.9	194.9	194.9	0.0
H	5,775 ¹	90	480	0.8	195.0	195.0	195.1	0.1
I	6,964 ¹	230	1,380	0.3	195.0	195.0	195.3	0.3
Concord River								
A	606 ²	113	811	7.5	65.9	50.7 ³	50.8	0.1
B	1,441 ²	115	917	6.6	65.9	55.2 ³	55.2	0.0
C	2,012 ²	119	785	7.8	65.9	56.8 ³	56.8	0.0
D	2,547 ²	129	808	7.5	65.9	61.9 ³	62.5	0.6
E	3,076 ²	217	1,784	3.4	65.9	65.7 ³	65.8	0.1
F	4,123 ²	114	814	7.5	66.6	66.6	66.7	0.1
G	4,763 ²	142	832	7.5	75.6	75.6	75.6	0.0
H	5,306 ²	183	1,543	4.0	78.0	78.0	78.1	0.1
I	5,929 ²	155	928	6.6	78.5	78.5	78.6	0.1
J	6,277 ²	75	426	13.9	80.3	80.3	80.3	0.0
K	6,927 ²	68	427	14.8	92.4	92.4	92.5	0.1
L	7,522 ²	107	945	6.3	97.6	97.6	97.6	0.0
M	8,187 ²	240	1,502	3.9	101.3	101.3	101.5	0.2
N	8,589 ²	147	1,041	5.8	103.0	103.0	103.1	0.1
O	9,416 ²	232	2,970	2.0	104.0	104.0	104.1	0.1
P	10,958 ²	335	4,378	1.3	104.2	104.2	104.2	0.0

¹ Feet above confluence with Nashoba Brook

² Feet above confluence with Merrimack River

³ Elevation computed without consideration of backwater effects from Merrimack River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

CONANT BROOK – CONCORD RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Concord River (continued)								
Q	11,994	294	3,956	1.5	104.9	104.9	105.0	0.1
R	13,464	352	3,928	1.5	105.2	105.2	105.3	0.1
S	15,836	591	5,577	1.3	105.3	105.3	105.4	0.1
T	17,508	414	3,973	1.8	105.4	105.4	105.5	0.1
U	19,182	314	4,557	1.3	105.5	105.5	105.7	0.2
V	21,794	445	4,099	1.7	105.6	105.6	105.9	0.3
W	24,039	260	2,688	2.3	105.7	105.7	106.2	0.5
X	25,081	110	1,036	5.6	108.1	108.1	108.3	0.2
Y	25,129	184	2,222	2.6	115.9	115.9	116.2	0.3
Z	26,520	376	2,771	2.4	116.0	116.0	116.4	0.4
AA	28,107	191	1,840	3.2	116.9	116.9	117.3	0.4
AB	29,534	233	2,779	2.2	117.5	117.5	117.8	0.3
AC	31,902	322	3,801	1.7	117.8	117.8	118.3	0.5
AD	33,130	194	2,915	2.0	118.2	118.2	118.7	0.5
AE	34,943	374	4,489	1.4	118.3	118.3	118.8	0.5
AF	37,622	396	5,329	1.2	118.4	118.4	118.9	0.5
AG	39,621	238	3,484	1.7	118.5	118.5	119.1	0.6
AH	41,859	268	4,022	1.5	118.7	118.7	119.4	0.7
AI	43,510	213	2,814	2.0	118.9	118.9	119.5	0.6
AJ	46,753	482	5,775	1.2	119.0	119.0	119.7	0.7
AK	49,630	272	4,588	1.3	119.3	119.3	119.9	0.6
AL	51,565	980	11,552	0.7	119.3	119.3	120.0	0.7
AM	52,382	1,047	13,663	0.5	119.3	119.3	120.0	0.7
AN	54,675	797	10,746	0.6	119.3	119.3	120.0	0.7
AO	56,182	790	10,591	0.6	119.4	119.4	120.0	0.6
AP	57,314	1,018	10,947	0.8	119.4	119.4	120.0	0.6
AQ	59,022	855	10,494	0.7	119.4	119.4	120.1	0.7

¹ Feet above confluence with Merrimack River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

CONCORD RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Concord River (continued)								
AR	60,443	320	5,904	1.0	119.4	119.4	120.2	0.8
AS	65,823	1,183	13,093	0.6	119.5	119.5	120.2	0.7
AT	67,500	905	11,719	0.6	119.5	119.5	120.2	0.7
AU	69,822	574	7,008	1.1	119.5	119.5	120.3	0.8
AV	71,553	540	7,668	0.8	119.6	119.6	120.3	0.7
AW	74,744	2,546	25,572	0.3	119.6	119.6	120.3	0.7
AX	77,896	2,004	20,261	0.3	119.6	119.6	120.3	0.7
AY	81,430	347	3,965	1.8	119.6	119.6	120.4	0.8
AZ	82,381	169	2,395	2.5	119.9	119.9	120.7	0.8
BA	83,593	844	7,841	1.3	120.1	120.1	120.9	0.8
BB	85,496	173	2,347	2.6	120.3	120.3	121.2	0.9
AR	60,443	320	5,904	1.0	119.4	119.4	120.2	0.8
AS	65,823	1,183	13,093	0.6	119.5	119.5	120.2	0.7
AT	67,500	905	11,719	0.6	119.5	119.5	120.2	0.7
AU	69,822	574	7,008	1.1	119.5	119.5	120.3	0.8
AV	71,553	540	7,668	0.8	119.6	119.6	120.3	0.7
AW	74,744	2,546	25,572	0.3	119.6	119.6	120.3	0.7
AX	77,896	2,004	20,261	0.3	119.6	119.6	120.3	0.7
AY	81,430	347	3,965	1.8	119.6	119.6	120.4	0.8
AZ	82,381	169	2,395	2.5	119.9	119.9	120.7	0.8
BA	83,593	844	7,841	1.3	120.1	120.1	120.9	0.8
BB	85,496	173	2,347	2.6	120.3	120.3	121.2	0.9

¹ Feet above confluence with Merrimack River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

CONCORD RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Content Brook/Middlesex Canal								
A	3,274	50	445	0.8	91.0	91.0	91.0	0.0
B	5,546	20	128	4.9	91.2	91.2	91.6	0.4
C	5,596	20	114	4.0	91.2	91.2	91.7	0.5
D	7,186	58	171	5.0	96.7	96.7	97.7	1.0
E	7,921	166	1,001	0.5	100.8	100.8	101.3	0.5
F	8,916	65	362	1.3	100.8	100.8	101.3	0.5
G	9,216	20	51	12.8	101.8	101.8	101.8	0.0
H	9,546	225	1,613	0.3	105.5	105.5	105.6	0.1
I	10,517	40	77	5.2	105.5	105.5	105.6	0.1
J	10,957	163	1,285	0.3	106.1	106.1	106.8	0.7
K	11,646	14	70	3.5	106.1	106.1	106.8	0.7
L	11,742	25	70	3.5	106.1	106.1	106.8	0.7
M	12,651	20	81	3.0	107.4	107.4	107.9	0.5
N	14,411	23	94	2.2	108.5	108.5	109.1	0.6
O	15,136	20	100	2.1	108.7	108.7	109.3	0.6
P	15,881	20	99	2.1	108.9	108.9	109.6	0.7

¹ Feet above confluence with Shawsheen River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

CONTENT BROOK / MIDDLESEX CANAL

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Course Brook								
A	0 ¹	50	295	1.8	144.5	144.5	144.5	0.0
B	1,318 ¹	100	686	0.6	144.6	144.6	144.6	0.0
C	2,867 ¹	160	942	0.5	144.6	144.6	144.7	0.1
D	4,026 ¹	125	461	1.4	144.7	144.7	144.7	0.0
E	4,632 ¹	115	606	1.1	146.6	146.6	146.6	0.0
F	5,159 ¹	30	178	2.6	146.6	146.6	146.7	0.1
G	5,597 ¹	70	296	1.3	147.3	147.3	147.5	0.2
H	5,854 ¹	130	425	0.7	147.4	147.4	147.5	0.1
I	6,827 ¹	75	238	1.4	150.3	150.3	150.3	0.0
J	7,971 ¹	123	449	0.8	150.4	150.4	150.4	0.0
K	9,350 ¹	60	173	2.5	150.5	150.5	150.7	0.2
L	10,644 ¹	52	326	1.2	153.5	153.5	154.1	0.6
M	10,807 ¹	52	298	1.0	153.5	153.5	154.1	0.6
Cow Pond Brook								
A	420 ²	30	89	6.4	181.2	181.2	181.2	0.0
B	1,630 ²	100	589	1.0	186.9	186.9	186.9	0.0
C	3,225 ²	50	208	2.8	187.7	187.7	188.2	0.5
D	4,830 ²	150	676	0.8	191.5	191.5	191.7	0.2
E	7,315 ²	65	246	2.3	194.4	194.4	195.2	0.8
F	8,650 ²	495	2,318	0.2	196.4	196.4	196.8	0.4
G	10,785 ²	255	1,147	0.5	196.5	196.5	196.9	0.4
H	12,985 ²	620	12,891	0.0	197.6	197.6	198.1	0.5
I	14,725 ²	145	492	0.2	197.6	197.6	198.1	0.5

¹ Feet above limit of detailed study, limit of detailed study is approximately 38 feet upstream of Pond Street

² Feet above limit of detailed study, limit of detailed study is approximately 4,140 feet downstream of Bridge Street

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

COURSE BROOK – COW POND BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Cummings Brook								
A	460 ¹	25 [*]	58	7.0	46.9	46.9	46.9	0.0
B	2,390 ¹	81 [*]	167	2.4	56.1	56.1	56.5	0.4
C	3,980 ¹	18	26	5.2	67.1	67.1	67.1	0.0
D	4,440 ¹	36	157	0.9	77.8	77.8	77.8	0.0
E	5,110 ¹	14	27	5.4	78.9	78.9	78.9	0.0
F	6,110 ¹	22	32	3.5	87.4	87.4	87.4	0.0
G	6,980 ¹	17	27	3.4	91.6	91.6	91.6	0.0
H	7,350 ¹	24	46	2.0	94.6	94.6	94.6	0.0
I	7,540 ¹	46	64	1.4	96.7	96.7	96.7	0.0
J	7,730 ¹	51	128	0.7	96.8	96.8	96.8	0.0
Danforth Brook								
A	290 ²	36	147	3.1	204.2	203.5 ³	204.1	0.6
B	401 ²	21	98	4.6	204.2	203.8 ³	204.1	0.3
C	512 ²	43	189	2.4	204.2	204.1 ³	204.7	0.6
D	649 ²	19	114	4.0	205.1	205.1	205.5	0.4
E	776 ²	36	152	2.9	205.4	205.4	205.5	0.4
F	808 ²	18	103	4.4	205.4	205.4	205.7	0.3
G	950 ²	15	99	4.5	205.8	205.8	205.9	0.1
H	972 ²	15	101	4.5	205.8	205.8	206.0	0.2
I	1,056 ²	24	53	8.4	216.5	216.5	216.5	0.0
J	1,394 ²	349	5,256	0.1	218.0	218.0	218.0	0.0
K	1,505 ²	332	2,793	0.2	218.0	218.0	218.0	0.0
L	1,621 ²	300	3,723	0.1	218.0	218.0	218.0	0.0
M	2,793 ²	150	1,114	0.4	218.0	218.0	218.0	0.0
N	2,962 ²	150	1,229	0.4	219.4	219.4	219.4	0.0

¹ Feet above confluence with Shakers Glen Brook

³ Elevation computed without consideration of coincident flow with Assabet River

² Feet above confluence with Assabet River

* The measured top width on the FIRM may differ due to the effects of ineffective flow, the exclusion of small pocket areas due to map scale limitations, or is estimated due to HEC-RAS modeling limitations

TABLE 12	FEDERAL EMERGENCY MANAGEMENT AGENCY		FLOODWAY DATA	
	MIDDLESEX COUNTY, MA (ALL JURISDICTIONS)		CUMMINGS BROOK – DANFORTH BROOK	

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Danforth Brook (continued)								
O	3,089 ¹	295	2,276	0.2	219.4	219.4	219.4	0.0
P	4,192 ¹	19	48	9.1	219.4	219.4	219.4	0.0
Q	4,330 ¹	20	99	4.1	221.3	221.3	222.2	0.9
R	4,451 ¹	233	930	0.5	221.9	221.9	222.6	0.7
S	5,254 ¹	26	78	5.6	224.9	224.9	224.9	0.0
T	5,391 ¹	40	195	2.1	226.2	226.2	226.2	0.0
U	5,512 ¹	20	84	4.8	226.2	226.2	226.2	0.0
V	6,410 ¹	93	343	1.2	227.8	227.8	228.2	0.4
W	7,001 ¹	36	64	6.3	233.6	233.6	233.6	0.0
X	7,112 ¹	12	40	10.0	236.0	236.0	236.1	0.1
Y	7,244 ¹	15	45	8.9	240.5	240.5	240.5	0.0
Z	7,434 ¹	20	62	6.5	244.6	244.6	245.3	0.7
AA	7,582 ¹	60	295	1.2	248.5	248.5	248.6	0.1
AB	7,714 ¹	28	131	2.8	248.5	248.5	248.6	0.1
AC	8,485 ¹	12	36	10.0	260.6	260.6	260.6	0.0
Darby Brook								
A	655 ²	30	155	0.6	102.2	101.4 ³	101.5	0.1
B	1,119 ²	10	48	1.9	103.3	102.5 ³	102.6	0.1
C	2,603 ²	15	47	1.9	104.1	104.0 ³	104.1	0.1
D	3,833 ²	5	19	4.8	111.6	111.6	111.6	0.0
E	4,467 ²	20	109	0.8	114.8	114.8	115.4	0.6
F	4,731 ²	20	76	1.2	114.9	114.9	115.5	0.6
G	5,201 ²	20	70	1.3	114.9	114.9	115.7	0.8

¹ Feet above confluence with Assabet River

² Feet above confluence with Marshall Brook

³ Elevation computed without consideration of coincident flooding effects from Marshall Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

DANFORTH BROOK – DARBY BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Davis Brook								
A	422	281	1,498	0.2	121.0	121.0	121.0	0.0
B	623	11	60	3.8	121.0	121.0	121.0	0.0
C	1,146	8	23	9.8	127.6	127.6	127.6	0.0
D	1,246	8	42	5.5	131.7	131.7	131.7	0.0
E	1,341	82	286	0.8	132.0	132.0	132.2	0.2
F	2,445	48	140	1.6	132.5	132.5	133.1	0.6
G	2,545	91	459	0.5	134.8	134.8	135.4	0.6
H	2,645	20	55	4.1	134.8	134.8	135.4	0.6
I	2,925	120	600	0.4	135.0	135.0	135.7	0.7
J	3,025	86	400	0.6	137.1	137.1	137.8	0.7
K	3,120	83	259	0.9	137.1	137.1	137.8	0.7
L	3,965	147	502	0.5	137.3	137.3	138.1	0.8
M	4,066	10	50	4.6	137.3	137.3	138.1	0.8
N	4,203	10	74	3.1	138.1	138.1	139.1	1.0
O	4,324	50	204	1.1	138.4	138.4	139.3	0.9
P	4,483	39	162	1.4	138.4	138.4	139.3	0.9
Q	4,594	79	372	0.6	139.5	139.5	140.4	0.9
R	4,704	15	103	2.2	139.5	139.5	140.4	0.9
S	5,803	243	674	0.3	139.7	139.7	140.6	0.9
T	6,864	184	545	0.4	139.8	139.8	140.7	0.9
U	7,904	143	405	0.6	139.9	139.9	140.9	1.0

¹ Feet above confluence with Charles River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

DAVIS BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Dirty Meadow Brook								
A	79	50	113	3.0	149.0	145.0 ²	145.2	0.2
B	517	128	371	0.9	149.0	145.8 ²	146.8	1.0
C	818	10	72	4.7	149.6	149.6	150.0	0.4
D	1,515	163	655	0.5	149.7	149.7	150.7	1.0
E	2,318	80	217	1.6	151.3	151.3	152.3	1.0
Dopping Brook								
A	333	200	248	1.5	152.9	148.7 ²	148.7	0.0
B	2,133	150	379	0.9	152.9	151.3 ²	152.1	0.8
C	3,633	85	32	1.3	153.4	153.4	154.0	0.6
D	3,796	85	45	2.3	154.2	154.2	154.5	0.3
E	5,005	20	*	*	158.7	*	*	*
F	5,064	30	103	2.3	159.1	159.1	159.1	0.0
G	5,164	23	53	4.5	159.2	159.2	159.3	0.1
H	5,306	60	241	1.0	162.7	162.7	162.7	0.0
I	6,003	60	229	1.0	162.8	162.8	163.2	0.4
J	6,721	60	279	0.9	162.9	162.9	163.7	0.8
K	6,853	60	261	0.9	163.0	163.0	163.8	0.8
L	7,007	60	288	0.8	163.4	163.4	163.9	0.5

¹ Feet above confluence with Bogastow Brook

² Elevation computed without consideration of backwater effects from Bogastow Brook

* No data available

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

DIRTY MEADOW BROOK – DOPPING BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Dudley Brook/Tributary A to Dudley Brook								
A	1,300 ¹	30	79	2.3	138.5	137.8 ³	138.7	0.9
B	1,960 ¹	13	25	7.5	141.8	141.8	142.1	0.3
C	3,220 ¹	265	1,479	0.1	148.2	148.2	148.2	0.0
D	3,910 ¹	165	976	0.2	148.2	148.2	148.2	0.0
E	6,285 ¹	100	320	0.6	152.4	152.4	153.0	0.6
F	7,793 ¹	330	1,204	0.2	154.4	154.4	154.5	0.1
G-L*								
East Outlet								
A	1,720 ²	50	189	1.3	158.0	158.0	159.0	1.0
B	5,340 ²	25	47	2.6	167.6	167.6	168.6	1.0
C	5,900 ²	45	43	2.2	183.5	183.5	184.5	1.0

¹ Feet above confluence with Hop Brook

² Feet above confluence with Sudbury River

³ Elevation computed without consideration of backwater effects from Hop Brook

* No data available

TABLE 12	FEDERAL EMERGENCY MANAGEMENT AGENCY		FLOODWAY DATA	
	MIDDLESEX COUNTY, MA (ALL JURISDICTIONS)			
			DUDLEY BROOK/TRIBUTARY A TO DUDLEY BROOK – EAST OUTLET	

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Elizabeth Brook 1								
A	7,291	172	954	1.1	188.0	188.0	189.0	1.0
B	8,601	41	164	5.9	188.7	188.7	189.1	0.4
C	8,775	41	187	5.1	191.4	191.4	191.4	0.0
D	8,876	67	336	2.9	191.8	191.8	191.8	0.0
E	8,976	237	1,673	0.6	195.8	195.8	195.8	0.0
F	9,076	226	1,706	0.6	195.8	195.8	195.8	0.0
G	10,175	57	187	4.9	195.8	195.8	195.8	0.0
H	10,275	18	109	8.4	196.2	196.2	196.3	0.1
I	10,322	64	273	3.4	197.8	197.8	197.8	0.0
J	10,776	82	389	2.3	198.1	198.1	198.4	0.3
K	12,667	84	432	2.0	199.0	199.0	199.6	0.6
L	12,825	77	368	2.2	200.2	200.2	200.5	0.3
M	13,374	109	701	1.1	200.3	200.3	200.6	0.3
N	13,475	126	870	0.9	206.8	206.8	206.8	0.0
O	13,575	343	1,612	0.5	206.8	206.8	206.8	0.0
P	15,513	107	266	2.6	207.5	207.5	207.5	0.0
Q	15,613	268	1,532	0.4	207.6	207.6	207.6	0.0
R	18,443	33	75	8.6	207.8	207.8	207.8	0.0
S	20,666	59	238	2.5	213.6	213.6	214.6	1.0
T	20,867	35	119	4.9	214.0	214.0	214.8	0.8
U	20,967	17	73	8.0	214.6	214.6	214.9	0.3
V	21,764	44	249	2.3	215.8	215.8	216.4	0.6
W	25,106	73	185	2.6	217.2	217.2	217.8	0.6
X	25,307	47	221	2.2	218.6	218.6	218.6	0.0
Y	27,482	83	200	1.9	219.1	219.1	219.3	0.2
Z	27,683	40	158	2.3	219.5	219.5	219.6	0.1

¹ Feet above confluence with Assabet River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

ELIZABETH BROOK 1

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Elizabeth Brook 2 A-D*								
E	9,265 ¹	49	249	1.8	249.8	249.8	249.8	0.0
F	11,208 ¹	197	470	0.8	250.8	250.8	251.4	0.6
G	13,627 ¹	92	241	1.5	252.6	252.6	253.4	0.8
H	14,301 ¹	129	973	0.4	260.0	260.0	260.2	0.2
I	15,460 ¹	77	487	0.4	265.5	265.5	265.8	0.3
J	16,062 ¹	27	75	2.5	267.9	267.9	267.9	0.0
K	17,194 ¹	213	1,076	0.2	272.3	272.3	272.7	0.4
Elm Brook								
A	370 ²	98	569	0.8	112.2	112.2	112.7	0.5
B	787 ²	19	135	2.6	112.2	112.2	112.8	0.6
C	1,030 ²	23	160	2.2	112.5	112.5	113.2	0.7
D	1,600 ²	80	339	1.3	112.6	112.6	113.4	0.8
E	2,450 ²	42	239	1.5	112.7	112.7	113.6	0.9
F	2,624 ²	42	209	2.0	112.7	112.7	113.6	0.9
G	3,015 ²	26	156	2.3	114.4	114.4	114.6	0.2
H	3,596 ²	42	233	1.5	114.4	114.4	114.8	0.4
I	3,823 ²	16	98	3.6	115.0	115.0	115.2	0.2
J	4,483 ²	38	245	1.5	115.0	115.0	115.7	0.7
K	4,916 ²	20	117	3.0	115.3	115.3	115.9	0.6

¹ Feet above Harvard Road

*Data not Available

² Feet above confluence with Shawsheen River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY
MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

ELIZABETH BROOK 2 - ELM BROOK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
Elm Brook (continued)								
L	6,283 ¹	29	187	1.9	115.4	115.4	116.3	0.9
M	7,725 ¹	40	192	1.9	115.8	115.8	116.7	0.9
N	9,277 ¹	98	419	1.2	116.3	116.3	117.3	1.0
O	10,375 ¹	56	232	2.1	116.7	116.7	117.7	1.0
P	10,618 ¹	138	483	1.2	119.2	119.2	119.2	0.0
Q	11,817 ¹	26	137	4.6	119.6	119.6	119.6	0.0
R	12,873 ¹	26	83	4.3	120.9	120.9	121.3	0.4
S	13,490 ¹	78	214	3.4	122.2	122.2	123.0	0.8

¹Feet above confluence with Shawsheen River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA

(ALL JURISDICTIONS)

FLOODWAY DATA

ELM BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Farrar Pond Brook								
A	200 ¹	20	72	1.2	120.6	121.2 ³	121.2	0.0
B	455 ¹	13	77	1.1	124.2	124.2	124.2	0.0
C	625 ¹	5	19	4.5	124.2	124.2	124.2	0.0
D	880 ¹	7	34	2.5	128.5	128.5	128.7	0.2
E	1,150 ¹	6	32	2.6	128.5	128.5	129.3	0.8
F	1,975 ¹	30	107	0.8	137.3	137.3	137.3	0.0
G	2,300 ¹	20	68	1.2	142.7	142.7	142.7	0.0
H	2,645 ¹	4	10	8.5	163.3	163.3	163.3	0.0
Fort Meadow Brook								
A	2,318 ²	200	370	1.5	181.5	177.7 ⁴	178.7	1.0
B	3,416 ²	270	495	1.0	181.5	179.7 ⁴	180.0	0.3
C	3,548 ²	119	744	0.7	184.5	184.5	184.5	0.0
D	3,670 ²	116	650	0.9	184.5	184.5	184.6	0.1
E	4,076 ²	51	156	2.9	184.6	184.6	184.7	0.1
F	4,219 ²	30	78	5.8	184.9	184.9	185.3	0.4
G	4,340 ²	85	305	1.5	185.9	185.9	186.1	0.2
H	5,539 ²	34	60	7.5	193.1	193.1	193.1	0.0
I	5,660 ²	80	127	3.5	194.5	194.5	194.6	0.1
J	5,771 ²	15	45	9.9	194.9	194.9	195.0	0.1
K	6,912 ²	85	251	1.7	199.0	199.0	200.0	1.0
L	7,133 ²	28	124	3.5	199.3	199.3	200.1	0.8
M	7,413 ²	55	113	3.9	199.8	199.8	200.4	0.6
N	8,453 ²	25	55	7.8	206.4	206.4	206.4	0.0
O	9,652 ²	59	233	1.8	209.7	209.7	210.6	0.9
P	10,222 ²	20	73	5.9	211.0	211.0	211.5	0.5

¹ Feet above confluence with Farrar Pond

² Feet above confluence with Assabet River

³ Elevation computed without consideration of backwater effects from Farrar Pond

⁴ Elevation computed without consideration of backwater effects from Assabet River

TABLE 12	FEDERAL EMERGENCY MANAGEMENT AGENCY		FLOODWAY DATA	
	MIDDLESEX COUNTY, MA (ALL JURISDICTIONS)			
			FARRAR POND BROOK – FORT MEADOW BROOK	

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Fort Meadow Brook (continued)								
Q	10,328 ¹	30	127	3.4	213.7	213.7	213.7	0.0
R	10,444 ¹	40	134	3.2	213.9	213.9	214.0	0.1
S	11,341 ¹	18	47	9.2	225.4	225.4	225.4	0.0
T	12,603 ¹	95	310	1.4	229.2	229.2	230.1	0.9
U	13,343 ¹	45	71	5.8	231.5	231.5	231.5	0.0
V	13,459 ¹	196	863	0.5	233.9	233.9	234.0	0.1
W	13,570 ¹	15	44	9.8	234.4	234.4	234.4	0.0
X	14,113 ¹	15	41	7.0	250.7	250.7	250.9	0.2
Y	14,224 ¹	15	62	4.6	254.0	254.0	254.0	0.0
Z	14,340 ¹	10	31	9.4	255.6	255.6	256.3	0.7
AA	14,557 ¹	13	32	9.0	261.6	261.6	262.1	0.5
AB	14,562 ¹	22	60	4.8	261.8	261.8	262.6	0.8
Fort Pond Brook								
A	235 ²	40	209	4.7	123.8	122.4 ³	123.4	1.0
B	435 ²	26	121	8.1	123.8	122.6 ³	123.4	0.9
C	875 ²	130	600	1.6	124.6	124.6	125.5	0.9
D	2,475 ²	160	810	1.2	125.5	125.5	126.4	0.9
E	4,075 ²	170	940	1.0	126.0	126.0	126.9	0.9
F	6,175 ²	160	950	1.0	126.2	126.2	127.2	1.0
G	7,575 ²	60	330	3.0	126.4	126.4	127.4	1.0
H	7,625 ²	60	380	2.6	127.5	127.5	128.3	0.8
I	9,125 ²	30	150	6.8	129.2	129.2	129.7	0.5
J	10,675 ²	50	360	2.7	131.0	131.0	132.0	1.0
K	12,125 ²	90	470	2.1	131.7	131.7	132.6	0.9
L	13,025 ²	40	210	4.8	132.6	132.6	133.2	0.6

¹ Feet above confluence with Assabet River

² Feet above confluence with Nashoba Brook

³ Elevation computed without consideration of backwater effects from Nashoba Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

FORT MEADOW BROOK – FORT POND BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Fort Pond Brook (continued)								
M	13,150	75	460	2.1	135.7	135.7	136.5	0.8
N	14,250	55	300	3.2	136.1	136.1	136.8	0.7
O	14,320	50	370	2.7	139.7	139.7	140.3	0.6
P	14,870	35	100	9.6	141.3	141.3	141.3	0.0
Q	15,000	120	491	2.0	149.8	149.8	149.8	0.0
R	15,070	90	322	3.0	149.9	149.9	149.9	0.0
S	15,300	20	168	5.7	149.9	149.9	150.9	1.0
T	15,650	50	350	2.8	150.8	150.8	151.4	0.6
U	16,500	30	96	10.0	153.1	153.1	153.1	0.0
V	16,550	30	153	6.3	155.5	155.5	155.9	0.4
W	17,050	40	105	9.2	158.1	158.1	158.1	0.0
X	17,750	60	166	5.8	164.3	164.3	164.3	0.0
Y	18,720	110	770	1.3	175.3	175.3	175.3	0.0
Z	19,320	90	100	9.7	175.5	175.5	175.5	0.0
AA	19,530	50	310	3.1	179.8	179.8	179.8	0.0
AB	19,780	60	320	3.0	180.0	180.0	180.0	0.0
AC	20,890	100	560	1.7	193.8	193.8	193.8	0.0
AD	22,115	20	130	7.6	194.4	194.4	195.0	0.6
AE	22,160	80	370	2.6	197.5	197.5	198.5	1.0
AF	22,575	210	970	1.0	197.7	197.7	198.7	1.0
AG	22,990	170	1,080	0.9	197.8	197.8	198.8	1.0
AH	23,120	280	1,450	0.7	198.1	198.1	199.0	0.9
AI	25,850	620	4,160	0.2	198.3	198.3	199.1	0.8
AJ	28,300	340	2,130	0.3	198.3	198.3	199.1	0.8
AK	28,950	550	2,930	0.2	198.3	198.3	199.2	0.9
AL	30,875	30	270	2.3	198.4	198.4	199.2	0.8
AM	30,970	30	270	2.3	199.9	199.9	200.7	0.8

¹ Feet above confluence with Nashoba Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

FORT POND BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Fort Pond Brook (continued)								
AN	31,674	30	280	2.2	200.1	200.1	200.8	0.7
AO	31,820	40	300	2.1	201.2	201.2	201.7	0.5
AP	32,135	350	670	0.9	201.3	201.3	201.8	0.5
AQ	32,850	510	2,150	0.3	201.4	201.4	201.9	0.5
AR	34,300	760	4,130	0.1	201.4	201.4	201.9	0.5
AS	35,565	380	1,670	0.4	201.4	201.4	201.9	0.5
AT	35,700	220	910	0.7	202.5	202.5	203.0	0.5
AU	37,420	120	500	1.1	202.8	202.8	203.2	0.4
AV	37,575	80	420	1.3	202.8	202.8	203.3	0.5
AW	37,710	160	860	0.7	204.7	204.7	205.5	0.8
AX	40,010	20	110	5.0	205.0	205.0	205.8	0.8
AY	40,110	20	130	4.3	206.1	206.1	206.8	0.7
AZ	40,270	175	1,056	0.7	206.1	206.1	207.1	1.0
BA	40,380	160	515	1.5	206.2	206.2	207.2	1.0
BB	40,855	200	1,134	0.7	206.4	206.4	207.4	1.0
BC	41,585	310	1,751	0.2	206.4	206.4	207.4	1.0
BD	41,695	220	1,152	0.2	206.4	206.4	207.4	1.0
BE	42,025	214	1,021	0.3	206.4	206.4	207.4	1.0
BF	42,165	192	1,614	0.2	206.5	206.5	207.5	1.0
BG	42,675	190	1,593	0.2	206.5	206.5	207.5	1.0
BH	42,985	150	799	0.4	206.5	206.5	207.5	1.0
BI	43,085	150	689	0.4	206.6	206.6	207.6	1.0
BJ	43,825	150	732	0.4	206.6	206.6	207.6	1.0
BK	44,535	150	729	0.4	206.6	206.6	207.6	1.0
BL	44,790	175	887	0.2	207.1	207.1	208.1	1.0
BM	45,540	163	647	0.3	207.1	207.1	208.1	1.0
BN	45,645	141	789	0.2	207.3	207.3	208.3	1.0
BO	46,543	115	610	0.3	207.3	207.3	208.3	1.0

¹ Feet above confluence with Nashoba Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

FORT POND BROOK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Fort Pond Brook Branch 1								
A	5,281 ¹	314	64	0.0	196.4	196.4	197.4	1.0
B	6,177 ¹	387	479	0.0	196.4	196.4	197.4	1.0
C	6,503 ¹	7	14	0.8	196.5	196.5	197.5	1.0
D	6,684 ¹	396	59	0.2	198.5	198.5	199.5	1.0
E	6,932 ¹	667	114	0.1	198.5	198.5	199.5	1.0
F	8,255 ¹	447	585	0.5	198.5	198.5	199.5	1.0
G	8,891 ¹	25	149	1.5	204.4	204.4	204.6	0.2
H	10,286 ¹	140	513	0.5	204.4	204.4	204.7	0.3
I	10,730 ¹	43	113	2.2	204.7	204.7	204.9	0.2
J	11,432 ¹	35	92	2.5	205.1	205.1	206.1	1.0
Fort Pond Brook Branch 2								
A	0 ²	155	462	0.6	207.1	207.1	208.1	1.0
B	1,003 ²	114	446	0.6	207.2	207.2	208.2	1.0
C	1,162 ²	49	301	0.9	209.8	209.8	209.9	0.1
D	1,848 ²	386	1,613	0.2	209.8	209.8	210.0	0.2
E	3,010 ²	9	28	9.0	210.6	210.6	211.2	0.6
F	3,168 ²	74	289	0.7	214.6	214.6	214.6	0.0
G	3,485 ²	356	1,159	0.2	214.6	214.6	214.6	0.0
H	3,643 ²	360	1,553	0.1	215.0	215.0	215.3	0.3
I	4,382 ²	278	1,228	0.1	215.0	215.0	215.3	0.3
Grassy Pond Brook								
A	0 ²	26	50	3.0	202.8	198.7 ³	198.7	0.0
B	1,263 ²	20	47	3.2	202.8	202.1 ³	202.3	0.2
C	1,410 ²	105	387	0.4	204.2	204.2	204.3	0.1
D	1,500 ²	135	506	0.3	204.2	204.2	204.3	0.1
E	1,630 ²	50	262	0.6	204.3	204.3	205.1	0.7
F	2,870 ²	69	243	0.6	204.4	204.4	205.1	0.7

¹Feet above confluence of Pratts Brook with Fort Pond Brook

³Elevation computed without consideration of backwater effects from Fort Pond Brook

²Feet above confluence with Fort Pond Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY
MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

FORT POND BROOK BRANCH 1 – FORT POND BROOK
BRANCH 2 – GRASSY POND BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Grassy Pond Brook (continued)								
G	2,990 ¹	25	122	1.2	205.2	205.2	206.2	1.0
H	4,055 ¹	115	443	0.3	205.3	205.3	206.2	0.9
I	4,840 ¹	35	112	1.1	205.3	205.3	206.2	0.9
J	4,970 ¹	70	342	0.4	207.5	207.5	208.1	0.6
K	5,255 ¹	72	277	0.4	207.5	207.5	208.1	0.6
L	5,600 ¹	50	141	0.9	207.5	207.5	208.1	0.6
M	5,730 ¹	30	102	1.2	210.0	210.0	210.0	0.0
N	6,380 ¹	22	21	5.6	210.4	210.4	210.5	0.1
O	6,880 ¹	14	47	2.1	213.6	213.6	214.6	1.0
P	7,075 ¹	40	195	0.5	216.0	216.0	216.0	0.0
Graves Pond Brook								
A	560 ²	23	67	2.6	338.0	338.0	338.0	0.0
B	1,175 ²	7	19	9.3	347.2	347.2	347.2	0.0
Great Road Tributary								
A	1,146 ³	20	42	2.4	211.2	211.2	211.3	0.1
B	3,057 ³	22	57	0.6	216.1	216.1	216.3	0.2
C	4,081 ³	14	15	1.4	216.1	216.1	216.4	0.3
Greens Brook								
A	230 ⁴	38	95	1.0	231.7	231.7	232.6	0.9
B	1,002 ⁴	28	99	1.0	236.0	236.0	236.8	0.8
C	1,500 ⁴	160	392	0.3	236.2	236.2	237.0	0.8
D	2,575 ⁴	45	110	0.7	238.7	238.7	239.4	0.7
E	3,490 ⁴	33	63	1.3	247.0	247.0	247.8	0.8
F	3,896 ⁴	55	348	0.2	253.7	253.7	254.1	0.4

¹ Feet above confluence with Fort Pond Brook

² Feet above limit of detailed study, limit of detailed study is approximately 490 feet downstream of Emery Road

³ Feet above confluence with Beaver Brook 4

⁴ Feet above confluence with Varnum Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

**GRASSY POND BROOK – GRAVES POND BROOK –
GREAT ROAD TRIBUTARY – GREENS BROOK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Guggins Brook								
A	135	135	455	0.6	206.5	205.6 ²	206.6	1.0
B	240	135	503	0.6	206.6	206.5 ²	206.9	0.4
C	565	80	237	1.2	206.6	206.5 ²	206.9	0.4
D	940	80	241	1.2	206.7	206.6 ²	207.2	0.6
E	1,927	45	137	1.1	206.7	206.7	207.7	1.0
F	2,930	8	17	8.2	207.9	207.9	208.9	1.0
G	3,828	41	74	1.8	213.0	213.0	213.9	0.9
H	3,986	133	379	0.3	216.8	216.8	216.8	0.0
I	5,085	16	29	4.1	216.9	216.9	217.1	0.2
J	6,262	12	25	4.7	223.0	223.0	224.0	1.0
K	6,420	13	20	5.0	224.2	224.2	224.7	0.5
L	6,526	13	42	2.4	226.0	226.0	226.4	0.4
M	7,054	10	22	4.5	227.3	227.3	227.7	0.4
N	7,170	342	577	0.2	229.0	229.0	229.6	0.6
O	7,540	36	54	1.9	229.0	229.0	229.6	0.6
P	7,698	143	385	0.3	232.7	232.7	232.7	0.0
Q	7,857	12	15	6.6	232.7	232.7	233.1	0.4
R	8,068	135	704	0.1	237.2	237.2	237.7	0.5
S	8,184	36	108	0.9	237.2	237.2	237.9	0.7
T	8,290	30	161	0.6	237.3	237.3	237.8	0.5
U	9,240	5	9	7.9	238.0	238.0	238.0	0.0
V	10,460	147	21	3.5	242.6	242.6	242.6	0.0
W	11,579	24	46	1.6	245.9	245.9	246.7	0.8
X	11,674	32	23	3.2	250.1	250.1	250.1	0.0
Y	12,466	6	10	7.4	273.8	273.8	273.9	0.1
Z	13,416	6	11	6.7	302.3	302.3	302.3	0.0
AA	13,628	42	49	1.5	303.9	303.9	304.4	0.5
AB	13,839	270	1,031	0.1	308.8	308.8	308.8	0.0
AC	14,472	44	74	1.0	308.8	308.8	308.8	0.0

¹ Feet above confluence with Inch Brook

² Elevation computed without consideration of coincident peak flooding with Inch Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

GUGGINS BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Hales Brook A-F* G	6,930 ¹	30	170	0.6	105.1	105.1	105.7	0.6
Halls Brook A	10 ²	7**	32	2.6	54.0	51.9 ³	51.9	0.0
B	190 ²	243**	1,825	0.1	54.2	54.2	54.8	0.6
C	2,180 ²	588	1,287	0.5	55.1	55.1	55.4	0.3
D	4,090 ²	21**	55	4.4	55.7	55.7	55.8	0.1
E	4,940 ²	31	90	1.9	60.5	60.4	60.5	0.1
F	5,320 ²	48**	180	1.0	61.6	61.6	61.6	0.0
G	8,590 ²	15	23	5.5	71.2	71.2	71.2	0.0
H	8,890 ²	25**	50	2.6	74.0	74.0	74.1	0.1
I	9,090 ²	24	50	2.2	78.0	78.0	78.0	0.0
J	10,500 ²	20	21	2.5	89.0	89.0	89.0	0.0
K	10,710 ²	18	13	3.9	91.7	91.7	91.7	0.0
L	10,980 ²	42	110	0.5	95.2	95.2	95.2	0.0

¹ Feet above confluence with River Meadow Brook

³ Elevation computed without consideration of backwater effects from Aberjona River

² Feet above confluence with Aberjona River

* No data available

** The measured top width on the FIRM may differ due to the effects of ineffective flow, the exclusion of small pocket areas due to map scale limitations, or is estimated due to HEC-RAS modeling limitations

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

HALES BROOK – HALLS BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Hayward Brook								
A	660 ¹	80	166	1.9	121.1	120.3 ³	121.2	0.9
B	1,250 ¹	17	28	6.3	122.9	122.9	122.9	0.0
C	1,605 ¹	87	469	0.4	129.3	129.3	129.3	0.0
D	2,745 ¹	31	143	1.2	129.3	129.3	129.3	0.0
E	3,135 ¹	10	17	7.5	135.2	135.2	135.2	0.0
F	3,869 ¹	104	255	0.5	145.2	145.2	145.7	0.5
G	4,359 ¹	84	137	1.0	145.5	145.5	145.9	0.4
H	4,999 ¹	242	1,810	0.1	156.1	156.1	156.1	0.0
Heath Brook								
A	4,340 ²	355	2,748	0.1	86.0	86.0	86.8	0.8
B	7,403 ²	16	27	6.2	86.2	86.2	86.8	0.6

¹ Feet above confluence with Pine Brook

² Feet above confluence with Shawsheen River

³ Elevation computed without consideration of backwater effects from Sudbury River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

HAYWARD BROOK – HEATH BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Hobbs Brook 1								
A	317	21	130	4.0	96.7	94.7 ²	94.7	0.0
B	792	23	126	4.2	96.7	95.0 ²	95.2	0.2
C	1,109	33	116	4.5	96.7	95.6 ²	96.4	0.8
D	1,267	15	114	4.6	100.2	100.2	100.2	0.0
E	1,373	60	94	5.6	100.3	100.3	100.3	0.0
F	2,218	37	174	2.9	100.6	100.6	101.2	0.6
G	3,168	15	53	9.4	108.0	108.0	108.2	0.2
H	4,118	34	106	4.7	113.0	113.0	113.4	0.4
I	4,858	31	63	7.9	119.5	119.5	119.5	0.0
J	5,438	14	62	8.1	125.8	125.8	126.1	0.3
K	5,544	235	183	2.9	134.4	134.4	134.4	0.0
L	6,547	30	136	1.4	135.5	135.5	135.5	0.0
M	7,292	20	42	6.2	138.5	138.5	138.5	0.0
N	8,622	15	59	4.4	143.4	143.4	144.4	1.0
O	9,456	15	39	6.7	149.0	149.0	149.2	0.2

¹ Feet above confluence with Stony Brook 1

² Elevation computed without consideration of backwater effects from Stony Brook 1

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

HOBBS BROOK 1

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Hobbs Brook 2								
A	160 ¹	67	410	0.4	172.6	172.6	173.6	1.0
B	760 ¹	79	232	0.7	173.4	173.4	174.4	1.0
C	1,660 ¹	21	25	6.3	176.4	176.4	176.4	0.0
Hog Brook								
A	355 ²	16	43	9.4	212.4	210.1 ⁴	210.1	0.0
B	475 ²	16	58	6.9	212.4	211.6 ⁴	212.2	0.6
C	608 ²	235	998	0.4	214.5	214.5	214.5	0.0
D	1,595 ²	31	54	7.5	220.5	220.5	220.5	0.0
E	2,662 ²	30	53	7.6	234.7	234.7	235.3	0.6
F	3,515 ²	22	48	8.4	238.6	238.6	238.8	0.2
Hop Brook								
A	1,910 ³	30	165	5.6	123.5	123.5	124.5	1.0
B	4,560 ³	163	724	1.3	133.6	133.6	134.3	0.7
C	6,000 ³	165	703	1.3	137.8	137.8	137.8	0.0
D	8,500 ³	125	720	1.3	138.2	138.2	138.4	0.2
E	9,830 ³	90	311	2.4	138.4	138.4	138.7	0.3
F	11,220 ³	226	914	0.8	138.7	138.7	139.1	0.4
G	12,700 ³	155	574	1.3	141.2	141.2	141.2	0.0
H	14,800 ³	325	1,443	0.5	145.7	145.7	146.3	0.6
I	16,155 ³	54	225	3.3	146.0	146.0	146.7	0.7
J	17,170 ³	45	204	3.7	146.5	146.5	147.3	0.8
K	19,050 ³	55	239	2.7	147.9	147.9	148.9	1.0
L	21,270 ³	60	239	2.6	148.8	148.8	149.8	1.0
M	22,520 ³	124	357	1.8	150.3	150.3	151.3	1.0

¹ Feet above limit of detailed study, limit of detailed study is approximately 660 feet downstream of Mill Street

² Feet above confluence with Assabet River

³ Feet above confluence with Landham-Allowance Brook

⁴ Elevation computed without consideration of backwater effects from Assabet River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

HOBBS BROOK 2 – HOG BROOK – HOP BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Hop Brook (continued)								
N	23,000 ¹	320	2,574	0.2	158.1	158.1	158.1	0.0
O	24,560 ¹	200	1,146	0.6	158.1	158.1	158.1	0.0
P	25,820 ¹	188	1,163	0.5	158.2	158.2	158.2	0.0
Q	28,100 ¹	10	72	8.8	158.3	158.3	159.1	0.8
R	29,900 ¹	225	727	0.9	161.0	161.0	161.6	0.6
S	31,150 ¹	120	417	1.5	161.3	161.3	161.9	0.6
T	33,060 ¹	296	741	0.9	162.2	162.2	162.9	0.7
U	33,900 ¹	40	94	3.3	162.7	162.7	163.4	0.7
V	36,600 ¹	970	13,781	0.0	186.5	186.5	186.5	0.0
W	38,700 ¹	180	900	0.3	186.5	186.5	186.5	0.0
X	40,155 ¹	20	65	4.7	191.2	191.2	191.5	0.3
Y	41,330 ¹	15	41	6.3	197.8	197.8	198.7	0.9
Z	42,370 ¹	280	3,767	0.1	211.9	211.9	211.9	0.0
AA	43,905 ¹	100	900	0.3	211.9	211.9	211.9	0.0
AB	44,755 ¹	25	99	3.1	212.2	212.2	212.3	0.1
AC	45,130 ¹	49	242	1.3	224.8	224.8	224.8	0.0
Horn Pond Brook/Fowle Brook								
A	100 ²	74 [*]	531	1.2	22.7	22.6 ³	23.3	0.7
B	440 ²	76 [*]	351	1.8	22.9	22.8 ³	23.5	0.7
C	1,130 ²	361	1,586	0.5	23.6	23.6	23.8	0.2
D	1,560 ²	208	424	1.5	23.7	23.7	23.8	0.1
E	2,850 ²	56	138	4.5	25.0	25.0	25.2	0.2
F	3,590 ²	19	68	9.2	28.6	28.6	28.7	0.1
G	3,880 ²	76	202	3.1	31.6	31.6	31.7	0.1
H	4,700 ²	47	107	5.8	34.6	34.6	34.7	0.1

¹ Feet above confluence with Landham-Allowance Brook

³ Elevation computed without consideration of backwater effects from Aberjona River

² Feet above confluence with Aberjona River

^{*} The measured top width on the FIRM may differ due to the effects of ineffective flow, the exclusion of small pocket areas due to map scale limitations, or is estimated due to HEC-RAS modeling limitations

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

HOP BROOK – HORN POND BROOK/FOWLE BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Horn Pond Brook/Fowle Brook (continued)								
I	6,270 ¹	39	86	7.0	38.1	38.1	38.1	0.0
J	6,390 ¹	30	149	4.0	42.0	42.0	42.1	0.1
K	7,240 ¹	937	21,555	0.0	42.7	42.7	42.8	0.1
L	9,960 ¹	196*	8,563	0.3	42.7	42.7	42.7	0.0
M	11,300 ¹	123*	658	1.5	43.6	43.6	43.6	0.0
N	12,990 ¹	58*	1,970	3.4	46.6	46.6	46.8	0.2
Inch Brook								
A	0 ²	40	71	4.7	206.4	201.5 ³	201.8	0.3
B	50 ²	40	70	4.8	206.4	202.5 ³	202.5	0.0
C	320 ²	40	146	2.3	206.4	203.4 ³	204.3	0.9
D	510 ²	150	393	0.9	206.4	203.5 ³	204.5	1.0
E	615 ²	150	391	0.9	206.4	203.7 ³	204.6	0.9
F	870 ²	37	117	2.9	206.4	204.1 ³	204.7	0.6
G	1,185 ²	39	105	3.2	206.5	204.9 ³	205.4	0.5
H	1,270 ²	40	152	2.2	206.5	205.5 ³	205.9	0.4

¹ Feet above confluence with Aberjona River

³ Elevation computed without consideration of coincident peak flooding with Fort Pond Brook

² Feet above confluence with Fort Pond Brook

* The measured top width on the FIRM may differ due to the effects of ineffective flow, the exclusion of small pocket areas due to map scale limitations, or is estimated due to HEC-RAS modeling limitations

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

HORN POND BROOK / FOWLE BROOK –
INCH BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Ipswich River								
A	0	375/225 ²	1,925	0.5	59.6	59.6	59.6	0.0
B	600	70/35 ²	345	3.0	59.6	59.6	59.6	0.0
C	1,900	60/30 ²	380	2.7	60.2	60.2	60.6	0.4
D	3,945	75/45 ²	510	2.0	60.9	60.9	61.5	0.6
E	4,055	55/30 ²	370	2.8	61.1	61.1	61.6	0.5
F	4,915	80/40 ²	590	1.8	61.4	61.4	62.0	0.6
G	4,975	50/25 ²	410	2.5	61.6	61.6	62.1	0.5
H	6,925	45/25 ²	420	2.5	61.9	61.9	62.8	0.9
I	8,965	100/50 ²	675	2.4	62.2	62.2	62.8	0.6
J	14,065	100	675	1.8	62.6	62.6	63.3	0.7
K	16,670	94	455	2.8	63.0	63.0	63.8	0.8
L	16,770	60	475	2.2	63.1	63.1	63.8	0.7
M	17,490	60	400	2.6	63.4	63.4	63.8	0.4
N	18,250	50	315	3.3	64.0	64.0	64.3	0.3
O	18,360	50	325	3.2	64.7	64.7	64.9	0.2
P	20,880	40	330	3.1	66.7	66.7	66.9	0.2
Q	20,975	65	420	2.5	66.8	66.8	67.0	0.2
R	21,875	265	1,320	1.7	67.0	67.0	67.3	0.3
S	23,475	245	2,150	0.5	67.1	67.1	67.3	0.2
T	23,990	120	700	1.5	67.1	67.1	67.3	0.2
U	24,110	135	844	1.2	67.5	67.5	68.5	1.0
V	24,450	41	247	4.2	67.6	67.6	68.6	1.0
W	26,390	150	1,073	1.0	70.2	70.2	70.9	0.7
X	27,290	200	1,715	0.6	70.3	70.3	71.2	0.9
Y	27,840	200	1,558	0.3	70.3	70.3	71.2	0.9
Z	29,530	200	1,292	0.4	70.3	70.3	71.2	0.9

¹ Feet above county boundary, county boundary is approximately 16,710 feet downstream of Washington Street

² Width/width within county

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

IPSWICH RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Ipswich River (continued)								
AA	30,230	200	1,230	0.4	70.3	70.3	71.2	0.9
AB	31,480	150	630	0.9	70.4	70.4	71.4	1.0
AC	31,600	40	250	2.2	70.8	70.8	71.7	0.9
AD	33,030	85	600	0.9	71.4	71.4	72.2	0.8
AE	35,200	100	500	1.1	72.2	72.2	73.1	0.9
AF	36,500	200	920	0.6	72.3	72.3	73.2	0.9
AG	37,600	100	470	1.1	72.5	72.5	73.4	0.9
AH	38,580	100	480	1.1	72.7	72.7	73.6	0.9
AI	44,700	100	470	1.1	74.4	74.4	75.3	0.9
AJ	44,950	100	385	1.4	74.7	74.7	75.6	0.9
AK	45,425	230	375	1.5	74.9	74.9	75.8	0.9
AL	46,587	400	1,335	0.4	75.3	75.3	76.1	0.8
AM	47,944	250	865	0.6	76.2	76.2	77.1	0.9
AN	48,678	60	235	1.3	77.0	77.0	77.7	0.7
AO	49,132	115	380	0.8	77.1	77.1	77.7	0.6
AP	50,193	165	965	0.3	79.9	79.9	79.9	0.0
AQ	51,466	50	295	1.1	79.9	79.9	79.9	0.0
AR	53,430	540	3,090	0.0	79.9	79.9	80.3	0.4
AS	54,142	410	1,630	0.1	79.9	79.9	80.3	0.4
AT	55,436	250	615	0.4	80.0	80.0	80.4	0.4
AU	56,244	70	230	1.1	84.8	84.8	84.8	0.0
AV	56,682	125	485	0.5	84.8	84.8	84.9	0.1
AW	57,527	20	140	1.9	87.2	87.2	87.2	0.0
AX	58,092	100	320	0.8	88.7	88.7	88.7	0.0
AY	59,459	80	500	0.4	90.9	90.9	90.9	0.0
AZ	60,315	50	245	0.8	92.9	92.9	92.9	0.0
BA	61,212	90	545	0.4	95.4	95.4	95.4	0.0

¹ Feet above county boundary, county boundary is approximately 16,710 feet downstream of Washington Street

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

IPSWICH RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Ipswich River (continued)								
BB	62,057 ¹	175	720	0.3	95.5	95.5	95.5	0.0
BC	62,485 ¹	190	1,090	0.2	95.5	95.5	95.5	0.0
BD	63,034 ¹	225	1,120	0.1	95.5	95.5	95.5	0.0
BE	64,586 ¹	130	410	0.3	95.5	95.5	95.5	0.0
BF	65,542 ¹	10	55	2.6	100.0	100.0	100.4	0.4
BG	66,471 ¹	10	30	4.6	103.8	103.8	104.6	0.8
BH	67,702 ¹	55	145	1.0	106.4	106.4	106.7	0.3
BI	68,668 ¹	25	50	2.7	106.9	106.9	107.7	0.8
BJ	69,951 ¹	55	170	0.8	108.4	108.4	109.4	1.0
James Brook								
A	1,080 ²	75	297	1.1	212.6	206.1 ³	206.1	0.0
B	2,220 ²	115	220	1.5	212.6	207.5 ³	208.2	0.7
C	3,550 ²	32	63	5.3	214.1	214.1	214.9	0.8
D	4,000 ²	35	63	5.3	217.1	217.1	217.9	0.8
E	4,340 ²	17	79	4.3	218.2	218.2	219.1	0.9
F	4,725 ²	10	70	4.8	223.5	223.5	224.0	0.5
G	5,900 ²	15	40	6.0	230.1	230.1	230.6	0.5
H	6,475 ²	97	136	1.8	232.7	232.7	233.3	0.6
I	7,000 ²	20	44	5.5	234.9	234.9	235.6	0.7

¹ Feet above county boundary, county boundary is approximately 16,710 feet downstream of Washington Street

² Feet above confluence with Nashua River

³ Elevation computed without consideration of backwater effects from Nashua River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

IPSWICH RIVER – JAMES BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
James Brook (continued)								
J	7,463 ¹	20	39	6.1	239.2	239.2	239.4	0.2
K	7,950 ¹	12	32	7.6	246.0	246.0	246.2	0.2
L	9,360 ¹	30	49	4.1	264.0	264.0	264.7	0.7
M	9,945 ¹	13	36	5.7	270.2	270.2	270.9	0.7
N	11,615 ¹	22	34	6.0	283.6	283.6	284.1	0.5
O	13,050 ¹	43	151	1.4	292.0	292.0	292.0	0.0
P	13,960 ¹	65	374	0.4	294.9	294.9	295.0	0.1
Q	15,015 ¹	81	268	0.5	295.1	295.1	295.2	0.1
R	16,030 ¹	20	35	4.1	296.9	296.9	297.0	0.1
S	16,740 ¹	125	582	0.2	300.7	300.7	300.7	0.0
T	17,530 ¹	250	967	0.1	300.7	300.7	300.7	0.0
U	19,480 ¹	300	913	0.1	301.5	301.5	301.5	0.0
Jones Brook								
A	975 ²	50	190	2.4	97.0	93.3 ³	94.3	1.0
B	1,800 ²	40	186	2.4	97.0	95.3 ³	95.8	0.5
C	2,500 ²	40	137	3.3	97.5	97.5	98.2	0.7
D	3,250 ²	40	159	2.8	101.1	101.1	101.5	0.4
E	3,760 ²	60	190	2.2	103.9	103.9	104.2	0.3
F	4,340 ²	100	373	1.1	104.2	104.2	104.8	0.6
G	4,680 ²	150	628	0.7	104.3	104.3	104.9	0.6
H	5,520 ²	16	88	3.9	106.8	106.8	106.8	0.0
I	6,150 ²	40	215	1.6	108.0	108.0	108.4	0.4

¹ Feet above confluence with Nashua River

² Feet above confluence with Shawsheen River

³ Elevation computed without consideration of backwater effects from Shawsheen River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

JAMES BROOK – JONES BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Kiln Brook								
A	211 ¹	106	372	1.2	119.9	115.0 ⁴	116.0	1.0
B	1,890 ¹	1,385	3,531	0.1	119.9	115.1 ⁴	116.1	1.0
C	2,809 ¹	338	281	1.6	119.9	115.2 ⁴	116.2	1.0
King Street Tributary								
A	42 ²	15	44	2.4	213.8	208.6 ⁵	209.6	1.0
B	433 ²	15	32	3.3	213.8	210.0 ⁵	210.2	0.2
C	723 ²	20	22	4.7	213.8	212.3 ⁵	212.5	0.2
D	966 ²	40	149	0.7	216.4	216.4	217.3	0.9
E	1,616 ²	40	45	2.3	217.1	217.1	217.6	0.5
Landham-Allowance Brook*								
A	15,780 ³	341	1,153	1.0	121.1	119.7 ⁶	119.7	0.0
B	17,930 ³	130	390	2.9	121.1	121.2 ⁶	122.0	0.8
C	21,610 ³	235	541	0.6	122.1	122.1	122.9	0.8
D	23,990 ³	194	620	0.5	124.6	124.6	124.7	0.1
E	25,690 ³	80	163	2.0	126.8	126.8	127.0	0.2
F	27,360 ³	40	110	2.9	137.3	137.3	137.3	0.0
G	28,240 ³	66	78	4.2	152.0	152.0	152.0	0.0
H	30,140 ³	40	122	1.3	166.3	166.3	166.3	0.0
I	32,410 ³	27	160	2.0	176.9	176.9	177.7	0.8
J	33,910 ³	107	220	1.5	200.1	200.1	200.3	0.2
K	34,780 ³	60	256	1.3	203.3	203.3	203.4	0.1
L	36,270 ³	11	58	5.6	208.4	208.4	208.6	0.2
M	38,170 ³	39	111	2.9	212.8	212.8	213.8	1.0

¹ Feet above confluence with North Lexington Brook

² Feet above confluence with Beaver Brook 4

³ Feet above confluence with Sudbury River

⁴ Elevation computed without consideration of backwater effects from North Lexington Brook

⁵ Elevation computed without consideration of backwater effects from Beaver Brook

⁶ Elevation computed without consideration of backwater effects from Sudbury River

* Flooding source in Town of Wayland is known as Wash Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

KILN BROOK – KING STREET TRIBUTARY
LANDHAM-ALLOWANCE BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Lawrence Brook								
A	30	22	39	5.1	104.5	86.3 ²	86.7	0.4
B	140	30	199	1.0	104.5	91.3 ²	91.3	0.0
C	1,315	23	31	6.6	105.0	105.0	105.0	0.0
D	1,418	22	61	3.3	108.8	108.8	108.8	0.0
E	2,300	30	52	3.8	114.7	114.7	115.1	0.4
F	4,225	25	81	2.5	119.8	119.8	120.7	0.9
G	4,310	18	103	1.9	122.1	122.1	122.8	0.7
H	4,480	80	322	0.6	122.1	122.1	122.9	0.8
I	4,550	81	508	0.4	122.7	122.7	123.1	0.4
J	4,553	80	93	2.1	123.1	123.1	123.3	0.2
K	4,780	263	1,275	0.3	123.5	123.5	124.1	0.6
L	6,355	100	144	0.9	123.5	123.5	124.1	0.6
M	8,005	10	19	7.0	134.5	134.5	134.9	0.4
N	8,075	8	16	8.2	137.8	137.8	138.1	0.3
O	9,790	2	11	12.1	160.3	160.3	160.3	0.0
P	9,840	20	138	1.0	163.4	163.4	163.4	0.0
Q	9,920	49	54	2.5	165.0	165.0	165.0	0.0
R	10,057	240	2,451	0.1	174.9	174.9	175.6	0.7
S	10,080	230	2,323	0.1	174.9	174.9	175.6	0.7

¹ Feet above confluence with Merrimack River

² Elevation computed without consideration of backwater effects from Merrimack River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

LAWRENCE BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Little Brook								
A	10 ¹	14	30	7.0	66.5	66.5	66.6	0.1
B	770 ¹	81	119	1.7	72.3	72.3	72.4	0.1
C	990 ¹	45	45	4.6	72.7	72.7	72.7	0.0
D	2,270 ¹	14	35	5.9	88.7	88.7	88.7	0.0
E	2,460 ¹	17	28	5.1	90.6	90.6	90.7	0.1
F	2,780 ¹	99	92	1.2	93.6	93.6	93.6	0.0
Locke Brook								
A	1,500 ²	20	89	7.1	309.4	309.4	310.2	0.8
B	3,800 ²	55	104	6.1	334.7	334.7	334.9	0.2

¹ Feet above confluence with Cummings Brook

² Feet above confluence with Willard Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

LITTLE BROOK – LOCKE BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Lubbers Brook								
A	401	85	255	1.1	76.2	74.9 ²	75.9	1.0
B	1,352	50	155	1.7	76.2	75.6 ²	76.6	1.0
C	2,640	30	155	1.7	78.9	78.9	79.3	0.4
D	4,298	100	360	0.7	79.0	79.0	80.0	1.0
E	6,072	110	270	1.0	79.6	79.6	80.5	0.9
F	7,920	50	180	1.5	80.5	80.5	81.3	0.8
G	9,240	45	245	1.0	81.5	81.5	82.3	0.8
H	10,074	90	345	0.7	81.7	81.7	82.5	0.8
I	11,289	50	185	1.3	81.8	81.8	82.6	0.8
J	12,382	100	240	1.0	84.6	84.6	85.4	0.8
K	13,696	230	1,010	0.2	84.6	84.6	85.4	0.8
L	15,006	100	460	0.7	85.3	85.3	86.0	0.7
M	16,030	100	420	0.7	85.3	85.3	86.0	0.7
N	17,076	170	400	0.8	85.4	85.4	86.3	0.9
O	18,132	25	80	3.9	86.4	86.4	87.0	0.6
P	18,681	60	215	1.5	88.5	88.5	88.8	0.3
Q	19,742	33	103	2.4	90.9	90.9	91.0	0.1
R	20,608	126	471	0.3	93.9	93.9	93.9	0.0
S	21,289	75	154	0.8	94.0	94.0	94.0	0.0
T	22,414	155	508	0.3	95.0	95.0	95.0	0.0
U	23,016	184	337	0.4	95.0	95.0	95.0	0.0
V	24,367	468	817	0.2	96.2	96.2	96.3	0.1
W	25,170	342	1,032	0.1	98.5	98.5	98.6	0.1
X	25,877	341	924	0.2	98.6	98.6	98.7	0.1
Y	26,210	223	619	0.2	99.0	99.0	99.1	0.1
Z	26,939	169	373	0.4	99.0	99.0	99.1	0.1

¹ Feet above confluence with Ipswich River

² Elevation computed without consideration of backwater effects from Ipswich River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

LUBBERS BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Lubbers Brook (continued)								
AA	27,134	149	322	0.6	99.2	99.2	99.3	0.1
AB	28,380	63	175	1.0	99.7	99.7	99.9	0.2
AC	28,887	10	22	8.3	101.3	101.3	101.4	0.1
AD	29,811	265	993	0.2	102.1	102.1	102.6	0.5
AE	31,131	100	462	0.3	102.4	102.4	103.4	1.0
AF	31,776	80	321	0.4	103.0	103.0	103.5	0.5
AG	33,221	80	178	0.7	103.0	103.0	103.7	0.7
AH	34,306	80	169	0.6	103.3	103.3	104.2	0.9
AI	34,831	80	157	0.6	103.4	103.4	104.3	0.9
Maple Meadow Brook								
A	486	40	105	4.1	79.9	75.9 ²	75.9	0.0
B	1,954	25	110	3.3	79.9	77.0 ²	78.0	1.0
C	3,274	70	280	1.3	79.9	77.8 ²	78.8	1.0
D	4,910	125	450	0.8	79.9	78.2 ²	79.2	1.0
E	5,797	45	275	1.3	81.3	81.3	81.4	0.1
F	6,426	25	165	2.2	81.3	81.3	81.4	0.1
G	7,429	55	515	0.6	82.9	82.9	82.9	0.0
H	8,100	10	90	3.5	83.8	83.8	83.8	0.0
I	10,856	240	1,265	0.0	84.2	84.2	85.0	0.7
J	12,007	260	935	0.1	84.2	84.2	85.0	0.7
K	13,306	60	170	0.3	84.2	84.2	85.0	0.7

¹ Feet above confluence with Ipswich River

² Elevation computed without consideration of backwater effects from Ipswich River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

LUBBERS BROOK – MAPLE MEADOW BROOK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE (FEET)
Marginal Brook								
A	430 ¹	80	347	0.4	104.2	102.8 ²	103.7	0.9
B	990 ¹	22	72	1.9	104.2	103.1 ²	103.7	0.6
C	1,950 ¹	49	76	1.8	104.2	103.8 ²	104.2	0.4
D	3,130 ¹	90	133	0.8	107.0	107.0	107.3	0.3
E	4,150 ¹	10	30	4.6	116.7	116.7	117.4	0.7
F	5,550 ¹	20	179	0.8	126.3	126.3	126.4	0.1
Marshall Brook								
A	296 ³	60	144	2.4	94.9	93.1	93.1	0.0
B	940 ³	35	158	2.2	96.3	96.3	96.5	0.2
C	1,690 ³	15	130	2.7	99.9	99.9	99.9	0.0
D	2,191 ³	40	179	2.0	100.0	100.0	100.5	0.5
E	2,957 ³	60	254	1.4	100.0	100.0	100.9	0.9
F	4,620 ³	10	39	7.4	105.1	105.1	105.3	0.2
G	5,697 ³	15	81	2.5	109.3	109.3	109.6	0.3
H	6,605 ³	20	119	1.7	111.4	111.4	111.4	0.0
I	10,185 ³	75	234	0.9	111.4	111.4	112.2	0.8
J	11,072 ³	10	61	3.4	114.8	114.8	114.8	0.0
K	11,500 ³	50	376	0.6	115.2	115.2	115.7	0.5
L	13,316 ³	60	222	0.9	115.2	115.2	116.1	0.9

¹Feet above confluence with Concord River

³Feet above confluence with Strong Water Brook

²Elevation computed without consideration of backwater effects from Concord River

⁴Elevation computed without consideration of backwater effects from Strong Water River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

MARGINAL BROOK – MARSHALL BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Martins Brook								
A	183	123	898	1.9	70.3	70.3	71.2	0.9
B	319	36	334	3.8	72.7	72.7	73.3	0.6
C	2,273	563	3,264	1.2	73.0	73.0	73.7	0.7
D	2,330	614	4,272	1.0	73.0	73.0	73.8	0.8
E	3,693	343	2,082	1.9	73.1	73.1	73.9	0.8
F	4,953	28	252	5.0	74.2	74.2	75.0	0.8
G	5,130	304	2,340	1.3	76.4	76.4	77.3	0.9
H	6,189	584	4,247	0.9	76.5	76.5	77.3	0.8
I	7,394	162	1,427	1.1	76.5	76.5	77.4	0.9
J	9,183	435	3,051	0.6	76.6	76.6	77.4	0.8
K	11,307	700	3,867	0.3	76.6	76.6	77.5	0.9
L	12,490	180	1,101	1.4	76.6	76.6	77.5	0.9
M	13,815	819	3,220	0.4	76.7	76.7	77.6	0.9
N	14,796	828	3,273	0.3	76.7	76.7	77.6	0.9
O	15,588	512	2,500	0.7	76.7	76.7	77.6	0.9
P	16,855	184	1,350	0.5	76.8	76.8	77.6	0.9
Q	17,436	246	1,547	0.2	78.5	78.5	79.4	0.9
R-Y*								

¹ Feet above confluence with Ipswich River

* No data available

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

MARTINS BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Martins Pond Brook								
A	600 ¹	30	30	4.9	223.6	223.6	224.1	0.5
B	3,225 ¹	100	139	1.1	251.7	251.7	252.2	0.5
C	4,600 ¹	753	690	0.2	254.0	254.0	254.0	0.0
Mascuppic Brook								
A	725 ²	*	19	4.2	123.5	121.3 ⁴	122.1	0.8
B	810 ²	*	83	1.0	123.5	123.3 ⁴	123.5	0.2
C	1,785 ²	*	14	5.8	132.0	132.0	132.0	0.0
D	1,835 ²	*	21	3.9	132.5	132.5	132.6	0.1
E	1,909 ²	*	21	3.8	132.9	132.9	132.9	0.0
F	1,994 ²	*	25	3.1	137.3	137.3	137.3	0.0
G	2,290 ²	*	13	6.1	147.4	147.4	147.4	0.0
H	2,420 ²	*	80	1.0	154.3	154.3	154.3	0.0
I	2,433 ²	*	35	2.3	154.4	154.4	154.4	0.0
Mason Brook								
A	3,900 ³	20	64	10.2	331.0	331.0	331.3	0.3
B	5,400 ³	28	99	6.6	343.8	343.8	344.5	0.7
C	7,600 ³	20	84	7.8	363.8	363.8	364.6	0.8

¹ Feet above confluence with Lost Lake

² Feet above confluence with Lawrence Brook

* Floodway coincident with channel banks

³ Feet above confluence with Walker Brook 2

⁴ Elevation computed without consideration of backwater effects from Lawrence Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

MARTINS POND BROOK – MASCUPPIC BROOK –
MASON BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Meadow Brook								
A	0 ¹	100	418	1.2	94.9	92.1 ³	93.1	1.0
B	412 ¹	50	180	2.8	94.9	93.4 ³	94.2	0.8
C	744 ¹	75	377	1.4	95.0	93.7 ³	94.6	0.9
D	1,220 ¹	40	293	1.7	95.9	95.2 ³	95.7	0.5
E	2,376 ¹	65	275	1.9	96.0	95.3 ³	96.3	1.0
F	2,656 ¹	40	308	1.7	97.7	97.7	98.4	0.7
G	3,432 ¹	75	565	0.9	97.7	97.7	98.5	0.8
H	6,415 ¹	200	1,108	0.3	97.7	97.7	98.7	1.0
I	8,501 ¹	85	193	1.5	98.3	98.3	99.2	0.9
J	9,309 ¹	10	50	5.7	101.0	101.0	101.8	0.8
Meadow River Branch								
A	0 ²	100	170	3.2	169.8	169.8	170.3	0.5
B	180 ²	120	613	0.9	174.2	174.2	174.2	0.0
C	350 ²	120	1,129	0.5	174.5	174.5	174.5	0.0
D	1,350 ²	120	651	0.8	174.5	174.5	174.5	0.0
E	2,345 ²	74	138	3.9	176.9	176.9	176.9	0.0
F	3,630 ²	80	165	3.3	180.3	180.3	180.3	0.0
G	4,355 ²	100	164	3.3	184.1	184.1	184.1	0.0
H	4,980 ²	100	221	2.4	185.0	185.0	185.1	0.1
I	6,695 ²	210	338	1.1	186.4	186.4	187.0	0.6
J	8,185 ²	200	640	0.6	188.1	188.1	188.3	0.2
K	8,695 ²	585	1,605	0.2	188.1	188.1	188.3	0.2

¹ Feet above confluence with Strong Water Brook

² Feet above limit of detailed study, limit of detailed study is approximately 250 feet downstream of Lowell Street

³ Elevation computed without consideration of coincident flooding effects from Strong Water Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

MEADOW BROOK – MEADOW RIVER BRANCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Merrimack River								
A	700	630	17,009	6.5	55.8	55.8	56.3	0.5
B	2,400	626	15,834	7.0	56.4	56.4	56.9	0.5
C	12,080	758	14,707	7.5	56.9	56.9	57.9	1.0
D	14,750	520	12,153	9.1	58.2	58.2	59.0	0.8
E	16,550	553	9,006	12.3	59.1	59.1	59.8	0.7
F	18,500	655	12,468	8.9	62.9	62.9	63.2	0.3
G	18,890	545	11,455	9.7	63.4	63.4	63.7	0.3
H	20,300	434	9,401	11.8	64.5	64.5	64.7	0.2
I	20,600	510	10,046	11.0	65.5	65.5	65.7	0.2
J	21,975	452	12,223	9.1	67.2	67.2	67.4	0.2
K	22,200	462	11,287	9.8	67.3	67.3	67.5	0.2
L	23,500	628	15,139	7.5	68.7	68.7	68.8	0.1
M	25,660	756	16,631	6.7	69.8	69.8	69.9	0.1
N	25,740	756	16,707	6.6	69.9	69.9	70.0	0.1
O	27,050	1,760	46,653	2.4	70.7	70.7	70.8	0.1
P	28,430	712	9,874	11.2	70.8	70.8	70.9	0.1
Q	29,140	370	5,211	21.3	79.4	79.4	79.4	0.0
R	29,220	360	7,656	14.5	84.8	84.8	84.8	0.0
S	30,190	390	6,878	16.1	86.8	86.8	86.8	0.0
T	31,160	315	7,211	15.4	89.6	89.6	89.6	0.0
U	31,240	315	7,926	14.0	91.9	91.9	91.9	0.0
V	33,523	793	11,010	10.1	97.9	97.9	98.8	0.9
W	39,015	1,080	20,128	5.5	100.7	100.7	101.2	0.5
X	43,186	797	16,065	6.9	101.6	101.6	102.0	0.4
Y	48,255	866	18,444	6.0	103.5	103.5	104.1	0.6
Z	56,273	640	16,681	6.1	103.7	103.7	104.6	0.9

¹ Feet above county boundary, county boundary is approximately 21,175 feet downstream of Hunts Falls Bridge

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

MERRIMACK RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Merrimack River (continued)								
AA	59,071 ¹	720	17,145	5.9	104.3	104.3	105.2	0.9
AB	62,873 ¹	340	10,928	9.3	104.8	104.8	105.7	0.9
AC	65,354 ¹	500	14,177	7.2	106.1	106.1	107.0	0.9
AD	67,572 ¹	390	13,596	7.5	106.7	106.7	107.5	0.8
AE	70,212 ¹	570	14,881	6.9	107.3	107.3	108.2	0.9
AF	73,961 ¹	490	15,007	6.8	108.1	108.1	109.0	0.9
Mill Brook 1								
A	1,880 ²	87	418	0.2	121.1	120.9 ³	120.9	0.0
B	4,175 ²	98	482	0.2	125.0	125.0	125.0	0.0
C	7,330 ²	145	349	0.3	127.8	127.8	127.9	0.1

¹ Feet above county boundary, county boundary is approximately 21,175 feet downstream of Hunts Falls Bridge

² Feet above confluence with Pine Brook

³ Elevation computed without consideration of backwater effects from Sudbury River

TABLE 12	FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
	MIDDLESEX COUNTY, MA (ALL JURISDICTIONS)	
		MERRIMACK RIVER – MILL BROOK 1

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Mill Brook 2								
A	1,290 ¹	14	17	6.3	120.2	112.8 ³	112.8	0.0
B	1,496 ¹	100	270	0.4	120.3	118.3 ⁴	118.3	0.0
C	1,786 ¹	140	819	0.1	120.3	118.4 ⁴	118.4	0.0
D	3,006 ¹	25	54	10.5	120.3	119.7 ⁴	119.9	0.2
E	3,500 ¹	30	234	2.4	127.2	127.2	127.7	0.5
F	3,960 ¹	40	283	2.0	127.3	127.3	128.0	0.7
G	4,360 ¹	40	288	2.0	127.3	127.3	128.1	0.8
H	5,500 ¹	120	948	0.6	127.6	127.6	128.5	0.9
I	8,100 ¹	120	1,047	0.2	127.6	127.6	128.6	1.0
J	8,350 ¹	200	1,744	0.1	127.6	127.6	128.6	1.0
K	9,665 ¹	200	1,086	0.2	127.6	127.6	128.6	1.0
L	13,240 ¹	200	921	0.2	127.6	127.6	128.6	1.0
M	14,375 ¹	100	165	0.7	129.1	129.1	129.1	0.0
N	14,740 ¹	400	1,274	0.1	132.4	132.4	132.4	0.0
Mill Brook 3								
A	30 ²	78 [*]	374	1.4	7.2	0.6 ⁵	0.6	0.0
B	890 ²	44 [*]	227	2.1	7.3	6.8 ⁵	6.8	0.0
C	930 ²	48	375	1.3	7.3	6.9 ⁵	7.0	0.1
D	2,000 ²	37 [*]	126	5.3	7.4	6.2 ⁵	6.2	0.0
E	3,090 ²	63 [*]	115	5.5	10.8	10.8	10.9	0.1
F	3,550 ²	39	111	5.0	17.3	17.3	17.6	0.3
G	4,930 ²	23	86	5.8	33.2	33.2	33.4	0.2
H	5,390 ²	29	67	7.4	38.0	38.0	38.0	0.0
I	5,610 ²	113 [*]	197	2.3	42.3	42.3	42.4	0.1
J	6,670 ²	26 [*]	180	2.6	50.6	50.6	50.7	0.1

¹ Feet above confluence with Concord River

² Feet above confluence with Lower Mystic Lake

⁵ Elevation computed without consideration of backwater effects from Lower Mystic Lake

³ Elevation computed without consideration of backwater effects from Concord River

⁴ Elevation computed without consideration of flooding controlled by Sudbury River

* The measured top width on the FIRM may differ due to the effects of ineffective flow, the exclusion of small pocket areas due to map scale limitations, or is estimated due to HEC-RAS modeling limitations

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

MILL BROOK 2 – MILL BROOK 3

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Mill Brook 3 (continued)								
K	6,810	21	84	5.5	54.2	54.2	54.2	0.0
L	7,010	8*	50	9.2	57.2	57.2	57.2	0.0
M	8,640	23*	56	8.9	75.7	75.7	76.0	0.3
N	8,760	15	69	6.6	78.5	78.5	78.5	0.0
O	9,120	17	81	5.6	80.7	80.7	80.8	0.1
P	9,800	16*	73	5.8	88.0	88.0	88.0	0.0
Q	10,220	12	67	6.4	94.1	94.1	94.6	0.6
R	10,250	11	70	6.0	94.3	94.3	94.8	0.6
S	10,540	11	44	9.8	100.9	100.9	100.9	0.0
T	10,700	11	51	8.4	103.9	103.9	103.8	0.0
U	11,280	29	66	5.1	107.1	107.1	106.9	0.1
V	11,600	19	63	5.4	111.8	111.8	111.7	0.0
W	11,750	17*	33	6.5	116.1	116.1	115.9	0.1
X	12,830	19	35	6.0	146.2	146.2	147.2	1.0
Y	13,880	120	420	0.6	154.2	154.2	154.3	0.1
Z	14,130	348*	577	0.4	154.2	154.2	154.3	0.1
AA	14,770	181*	360	0.6	154.2	154.2	154.4	0.2
AB	15,490	36*	128	0.7	154.5	154.5	154.6	0.1
AC	16,970	32*	82	1.0	154.7	154.7	154.7	0.0
AD	18,010	24*	39	2.2	162.8	162.8	162.8	0.0
AE	19,540	50*	716	1.7	164.7	164.7	164.6	0.0

¹ Feet above confluence with Lower Mystic Lake

* The measured top width on the FIRM may differ due to the effects of ineffective flow, the exclusion of small pocket areas due to map scale limitations, or is estimated due to HEC-RAS modeling limitations

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

MILL BROOK 3

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Mill Pond Tributary								
A	929 ¹	449	3,052	0.1	216.2	216.2	216.2	0.0
B	1,943 ¹	195	722	0.1	216.2	216.2	216.2	0.0
C	3,538 ¹	130	240	0.1	217.0	217.0	217.0	0.0
D	5,739 ¹	20	32	1.1	217.6	217.6	218.5	0.9
Mill River								
A	1,100 ²	27	212	1.4	53.9	53.9	54.9	1.0
B	1,422 ²	33	239	1.2	54.3	54.3	55.3	1.0
C	2,477 ²	17	124	2.4	55.1	55.1	56.1	1.0
D	2,842 ²	81	381	0.8	56.2	56.2	57.0	0.8
E	4,847 ²	239	1,221	0.2	56.3	56.3	57.1	0.8
F	6,062 ²	15	90	3.3	56.3	56.3	57.2	0.9
G	6,192 ²	13	96	3.1	57.1	57.1	57.7	0.6
H	6,472 ²	17	119	2.5	57.3	57.3	58.0	0.7
I	6,580 ²	44	229	0.6	57.9	57.9	58.7	0.8
J	8,030 ²	68	423	0.3	58.0	58.0	58.7	0.7
K	8,210 ²	52	175	0.8	58.0	58.0	58.7	0.7
L	8,415 ²	176	1,146	0.1	58.0	58.0	58.7	0.7
M	9,045 ²	126	622	0.2	58.0	58.0	58.8	0.8
N	9,905 ²	14	79	1.8	58.1	58.1	58.8	0.7
O	10,105 ²	6	17	3.9	59.1	59.1	59.6	0.5
P	11,010 ²	31	102	0.6	60.1	60.1	60.9	0.8
Q	11,725 ²	7	15	4.4	64.6	64.6	64.9	0.3

¹ Feet above confluence with Beaver Brook 4

² Feet above confluence with Saugus River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

MILL POND TRIBUTARY – MILL RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Mongo Brook								
A	121 ¹	29	200	0.2	115.7	115.7	116.7	1.0
B	401 ¹	23	157	0.3	115.7	115.7	116.7	1.0
C	628 ¹	10	68	0.7	115.7	115.7	116.7	1.0
D	755 ¹	19	45	0.8	115.8	115.8	116.8	1.0
E	1,468 ¹	15	28	1.3	116.4	116.4	117.0	0.6
F	1,932 ¹	65	92	0.4	116.7	116.7	117.1	0.4
G	2,064 ¹	70	76	0.6	116.8	116.8	117.2	0.4
H	2,276 ¹	15	88	0.5	116.8	116.8	117.3	0.5
I	2,534 ¹	20	100	0.4	116.8	116.8	117.3	0.5
J	2,930 ¹	30	150	0.2	117.6	117.6	118.6	1.0
K	3,115 ¹	15	100	0.4	117.6	117.6	118.6	1.0
L	3,242 ¹	25	113	0.3	117.6	117.6	118.6	1.0
Morse Brook								
A	2,540 ²	100	385	0.2	216.8	211.8 ⁴	212.3	0.5
B	4,975 ²	11	20	4.0	221.8	221.8	222.2	0.4
C	5,255 ²	15	32	2.5	222.4	222.4	223.1	0.7
Mowry Brook								
A	493 ³	33	44	1.9	255.1	246.4 ⁵	247.3	0.9
B	1,123 ³	15	15	5.4	256.5	256.5	256.5	0.0
C	2,008 ³	35	70	1.2	265.9	265.9	266.1	0.2
D	2,750 ³	40	135	0.6	276.6	276.6	276.6	0.0
E	3,490 ³	9	12	6.8	286.9	286.9	286.9	0.0
F	4,055 ³	30	62	1.3	301.8	301.8	302.0	0.2

¹ Feet above confluence with Elm Brook

² Feet above confluence with Nashua River

³ Feet above confluence with Sudbury Reservoir

⁴ Elevation computed without consideration of backwater effects from Nashua River

⁵ Elevation computed without consideration of backwater effects from Sudbury Reservoir

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

MONGO BROOK – MORSE BROOK – MOWRY BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Mud Pond Brook								
A	1,214 ¹	21	20	5.1	89.0	89.0	89.0	0.0
B	1,320 ¹	22	107	0.9	93.0	93.0	93.0	0.0
C	2,006 ¹	10	20	3.8	93.2	93.2	93.5	0.3
D	3,168 ¹	55	81	0.9	97.4	97.4	98.4	1.0
Mulpus Brook								
A	1,525 ²	60	201	9.7	221.8	221.8	222.2	0.4
B	2,665 ²	50	193	10.1	242.5	242.5	242.6	0.1
C	3,390 ²	108	387	5.0	256.9	256.9	257.9	1.0
D	3,860 ²	35	172	11.3	264.0	264.0	264.0	0.0
E	4,400 ²	36	227	8.6	266.6	266.6	267.6	1.0
F	5,000 ²	90	589	3.3	272.6	272.6	272.7	0.1
G	6,090 ²	95	733	2.7	274.8	274.8	275.8	1.0
H	7,940 ²	115	419	4.6	277.3	277.3	277.8	0.5
I	9,005 ²	680	2,954	0.7	277.9	277.9	278.6	0.7
J	10,515 ²	130	642	3.0	278.3	278.3	279.0	0.7
K	11,500 ²	80	736	2.6	284.3	284.3	284.3	0.0
L	12,595 ²	145	1,082	1.8	284.4	284.4	284.5	0.1
M	13,100 ²	125	1,211	1.8	286.5	286.5	286.5	0.0
N	14,100 ²	160	1,609	1.3	286.5	286.5	286.6	0.1
O	19,300 ²	250	650	3.3	288.1	288.1	288.9	0.8

¹ Feet above confluence with Shawsheen River

² Feet above confluence with Nashua River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

MUD POND BROOK – MULPUS BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Munroe Brook								
A	1,595 ¹	40	88	4.9	160.3	160.3	161.3	1.0
B	1,690 ¹	62	339	1.2	163.0	163.0	164.0	1.0
C	1,795 ¹	148	1,304	0.4	163.0	163.0	164.0	1.0
D	1,901 ¹	41	215	2.0	163.0	163.0	164.0	1.0
E	2,587 ¹	79	424	1.0	163.2	163.2	164.2	1.0
F	2,830 ¹	81	479	0.8	164.0	164.0	165.0	1.0
G	3,300 ¹	87	453	0.7	164.0	164.0	165.0	1.0
H	3,501 ¹	19	96	3.1	164.1	164.1	165.1	1.0
I	3,765 ¹	55	210	1.4	164.6	164.6	165.6	1.0
J	4,873 ¹	16	113	2.7	165.6	165.6	166.5	0.9
K	5,137 ¹	30	255	1.2	166.5	166.5	167.0	0.5
L	5,243 ¹	16	69	4.4	166.5	166.5	167.0	0.5
M	5,507 ¹	16	70	3.4	167.9	167.9	168.5	0.6
Mystic River								
A	300 ²	810 [*]	3,445	0.8	4.4	0.5 ³	1.0	0.5
B	510 ²	454	3,583	0.7	4.4	0.5 ³	1.0	0.5
C	2,770 ²	1,076 [*]	5,650	0.4	4.4	0.5 ³	1.0	0.5
D	7,430 ²	231	1,572	1.1	4.4	0.6 ³	1.1	0.5
E	11,440 ²	150	1,368	1.8	4.7	3.2 ³	4.1	0.9
F	13,690 ²	126	1,245	1.9	4.9	3.6 ³	4.4	0.8
G	14,270 ²	115 [*]	1,157	2.1	5.7	4.5 ³	5.3	0.8
H	14,500 ²	155	1,449	1.6	5.8	5.8 ³	5.8	0.0
I	16,010 ²	230	1,704	1.4	6.0	5.9 ³	5.9	0.0
J	18,280 ²	368	1,934	1.2	6.2	5.9 ³	5.9	0.0
K	18,970 ²	147	1,240	1.8	6.3	5.9 ³	6.0	0.1
L	19,590 ²	177	1,445	1.6	6.5	5.9 ³	6.4	0.5
M	22,230 ²	226 [*]	1,934	1.2	6.7	6.2 ³	7.1	0.9
N	24,620 ²	351	2,049	1.1	6.9	6.5 ³	6.9	0.4

¹ Feet above Arlington Reservoir

² Feet above Amelia Earhart Dam

³ Flooding controlled by Boston Harbor

* The measured top width on the FIRM may differ due to the effects of ineffective flow, the exclusion of small pocket areas due to map scale limitations, or is estimated due to HEC-RAS modeling limitations

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

MUNROE BROOK – MYSTIC RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Nagog Brook								
A	890	10	20	7.5	144.9	144.9	145.3	0.4
B	1,040	10	42	3.6	148.2	148.2	148.2	0.0
C	2,750	10	29	2.6	157.2	157.2	157.6	0.4
D	3,890	10	13	5.8	170.2	170.2	170.3	0.1
E	5,800	10	29	2.6	209.8	209.8	210.5	0.7
F	6,675	7	11	1.7	217.1	217.1	217.2	0.1

¹ Feet above confluence with Nashoba Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

NAGOG BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Nashoba Brook								
A	160	80	394	4.1	123.8	117.0 ²	117.7	0.7
B	930	100	339	4.7	123.8	118.3 ²	118.7	0.4
C	6,618	40	215	3.9	123.8	123.3	124.0	0.7
D	7,620	40	170	5.0	124.0	124.0	124.8	0.8
E	8,470	30	170	4.9	126.1	126.1	126.4	0.3
F	8,486	30	180	4.8	126.1	126.1	126.5	0.4
G	9,410	50	290	2.9	127.1	127.1	127.7	0.6
H	9,470	50	290	2.9	127.2	127.2	127.7	0.5
I	9,760	100	600	1.4	127.5	127.5	128.0	0.5
J	9,920	30	160	5.5	127.6	127.6	128.1	0.5
K	9,950	40	230	3.6	127.9	127.9	128.3	0.4
L	10,920	60	260	3.2	129.0	129.0	129.7	0.7
M	14,145	160	660	1.3	137.1	137.1	137.3	0.2
N	15,245	120	420	2.0	137.4	137.4	137.7	0.3
O	15,645	200	620	1.4	137.6	137.6	138.0	0.4
P	15,885	200	1,350	0.6	137.6	137.6	138.1	0.5
Q	16,655	300	2,080	0.4	137.7	137.7	138.1	0.4
R	17,135	180	730	1.2	137.7	137.7	138.2	0.5
S	17,555	320	1,270	0.7	137.8	137.8	138.3	0.5
T	17,965	50	210	4.0	137.8	137.8	138.2	0.4
U	18,445	130	740	1.1	138.1	138.1	138.7	0.6
V	18,610	30	130	6.5	138.2	138.2	138.9	0.7
W	18,765	90	290	2.9	140.6	140.6	140.8	0.2
X	19,915	110	330	2.5	141.9	141.9	142.4	0.5
Y	20,015	110	370	2.2	142.0	142.0	142.7	0.7
Z	21,015	60	310	2.7	142.9	142.9	143.7	0.8

¹ Feet above confluence with Assabet River

² Elevation computed without consideration of backwater effects from Assabet River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

NASHOBA BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Nashoba Brook (continued)								
AA	21,215	30	160	5.3	143.1	143.1	143.9	0.8
AB	21,265	40	230	3.5	143.6	143.6	144.3	0.7
AC	22,800	220	810	1.0	145.0	145.0	145.4	0.4
AD	23,780	80	200	4.1	145.8	145.8	146.0	0.2
AE	23,900	50	290	2.8	146.4	146.4	146.6	0.2
AF	24,430	190	440	1.9	147.1	147.1	147.3	0.2
AG	24,560	190	310	2.6	147.4	147.4	147.6	0.2
AH	24,614	210	1,210	0.7	152.5	152.5	152.7	0.2
AI	25,680	200	870	0.9	152.6	152.6	152.9	0.3
AJ	26,880	100	140	5.7	153.2	153.2	153.3	0.1
AK	28,080	90	340	2.4	157.2	157.2	157.7	0.5
AL	28,130	90	370	2.2	157.4	157.4	158.1	0.7
AM	28,620	20/20 ²	210	3.9	157.9	157.9	158.6	0.7
AN	28,930	310	1,100	0.7	167.2	167.2	167.2	0.0
AO	30,540	40	180	4.6	167.3	167.3	167.3	0.0
AP	30,660	10	90	9.3	168.7	168.7	168.7	0.0
AQ	30,690	40	270	3.0	170.3	170.3	170.4	0.1
AR	32,260	190	1,060	0.8	170.7	170.7	170.8	0.1
AS	32,385	220	1,250	0.6	171.7	171.7	171.8	0.1
AT	32,400	700	3,478	0.2	171.7	171.7	172.7	1.0
AU	33,090	230	1,513	0.6	171.7	171.7	172.7	1.0
AV	33,210	700	2,586	0.3	173.2	173.2	173.9	0.7
AW	34,060	700	3,269	0.2	173.2	173.2	173.9	0.7
AX	35,210	670	2,281	0.3	173.3	173.3	174.0	0.7
AY	35,970	48	91	7.7	174.6	174.6	174.6	0.0
AZ	36,110	20	184	3.8	180.7	180.7	180.7	0.0
BA	36,650	50	497	1.4	180.7	180.7	181.2	0.5
BB	37,200	25	218	3.1	180.7	180.7	181.5	0.8

¹ Feet above confluence with Assabet River

² Split flow area – right width looking downstream/left width looking downstream

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

NASHOBA BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Nashua River								
A	686	369	4,915	3.6	176.1	176.1	177.1	1.0
B	1,214	918	8,299	2.1	176.4	176.4	177.4	1.0
C	2,059	721	5,104	3.5	176.4	176.4	177.4	1.0
D	2,957	323	3,709	4.8	176.7	176.7	177.7	1.0
E	3,802	325	3,672	4.8	177.1	177.1	178.1	1.0
F	3,907	230	3,588	5.0	177.2	177.2	178.2	1.0
G	4,752	210	3,460	5.1	177.4	177.4	178.4	1.0
H	5,755	175	2,790	6.4	177.6	177.6	178.6	1.0
I	6,494	175	2,820	6.3	178.1	178.1	179.0	0.9
J	7,022	125	2,178	8.2	178.1	178.1	179.0	0.9
K	7,550	272	2,984	6.0	178.8	178.8	179.7	0.9
L	9,134	157	2,702	6.6	179.5	179.5	180.4	0.9
M	10,243	308	3,831	4.6	180.3	180.3	181.1	0.8
N	11,510	222	3,246	5.5	180.7	180.7	181.5	0.8
O	12,936	663	4,446	4.0	181.4	181.4	182.2	0.8
P	13,570	618	5,456	3.3	181.6	181.6	182.4	0.8
Q	14,520	1,019	10,614	1.4	182.1	182.1	182.9	0.8
R	15,629	125	1,962	7.5	182.1	182.1	182.9	0.8
S	16,104	219	3,265	4.5	182.5	182.5	183.3	0.8
T	16,368	365	3,529	4.2	182.7	182.7	183.5	0.8
U	16,790	240	3,691	4.0	182.9	182.9	183.8	0.9
V	17,107	167	2,388	6.1	182.9	182.9	183.8	0.9
W	17,899	200	2,676	5.5	183.4	183.4	184.2	0.8
X	18,533	267	4,561	3.2	183.9	183.9	184.7	0.8
Y	19,061	125	1,183	12.4	183.9	183.9	184.7	0.8
Z	19,166	93	900	16.3	183.9	183.9	184.7	0.8

¹ Feet above Massachusetts/New Hampshire State Boundary, State Boundary is approximately 17,625 feet downstream of Groton Street

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

NASHUA RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Nashua River (continued)								
AA	20,117	376	5,040	2.9	202.4	202.4	202.4	0.0
AB	21,384	252	3,053	4.8	202.5	202.5	202.5	0.0
AC	22,070	350	4,071	3.6	202.8	202.8	202.8	0.0
AD	22,862	545	6,560	2.2	203.0	203.0	203.0	0.0
AE	23,126	250	3,537	4.2	203.1	203.1	203.1	0.0
AF	24,130	1,590	14,147	1.0	203.3	203.3	203.3	0.0
AG	25,502	411	4,626	3.2	203.4	203.4	203.4	0.0
AH	25,978	2,224	25,060	0.6	203.5	203.5	203.6	0.1
AI	27,245	2,185	18,231	0.8	203.6	203.6	203.7	0.1
AJ	29,093	803	6,200	2.4	203.6	203.6	203.7	0.1
AK	30,994	1,040	6,248	2.4	203.9	203.9	204.1	0.2
AL	33,581	1,590	6,088	2.4	204.2	204.2	204.4	0.2
AM	37,066	1,140	6,440	2.3	204.8	204.8	205.1	0.3
AN	37,594	775	5,017	2.9	204.9	204.9	205.2	0.3
AO	38,174	980	6,003	2.4	205.1	205.1	205.6	0.5
AP	38,755	1,117	6,430	2.3	205.8	205.8	206.3	0.5
AQ	39,547	595	3,744	3.9	205.8	205.8	206.3	0.5
AR	40,286	580	3,847	3.8	206.1	206.1	206.6	0.5
AS	46,675	890	5,513	2.7	207.9	207.9	208.6	0.7
AT	48,893	1,111	7,964	1.8	208.3	208.3	209.1	0.8
AU	50,635	856	6,040	2.4	208.6	208.6	209.5	0.9
AV	53,645	1,328	10,089	1.4	209.2	209.2	210.1	0.9
AW	55,282	170	2,747	5.2	210.6	210.6	211.6	1.0
AX	56,496	220	3,006	4.8	211.1	211.1	212.0	0.9
AY	57,552	325	3,523	4.1	211.5	211.5	212.5	1.0
AZ	58,872	200	3,289	4.4	211.9	211.9	212.8	0.9

¹ Feet above Massachusetts/New Hampshire State Boundary, State Boundary is approximately 17,625 feet downstream of Groton Street

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

NASHUA RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Nashua River (continued)								
BA	61,770	1,164	9,335	1.5	212.5	212.5	213.4	0.9
BB	62,938	517	4,708	3.1	212.6	212.6	213.5	0.9
BC	63,994	907	4,655	3.1	212.8	212.8	213.6	0.8
BD	66,053	718	4,698	3.1	213.4	213.4	214.2	0.8
BE	66,528	526	4,011	3.1	214.4	214.4	215.1	0.7
BF	67,230	649	6,529	1.9	214.7	214.7	215.4	0.7
BG	69,326	586	5,169	2.4	215.4	215.4	216.2	0.8
BH	71,914	879	7,688	1.6	216.0	216.0	216.8	0.8
BI	73,022	1,433	12,548	1.0	216.2	216.2	217.0	0.8
BJ	74,131	1,014	7,170	1.7	216.2	216.2	217.0	0.8
BK	74,290	843	5,808	2.1	216.3	216.3	217.1	0.8
BL	76,666	1,172*	8,851	1.4	216.9	216.9	217.7	0.8
BM	77,141	820*	6,723	1.8	217.0	217.0	217.8	0.8
BN	78,091	1,554*	12,447	0.9	217.1	217.1	217.9	0.8
BO	79,358	647	4,736	2.4	217.1	217.1	217.9	0.8
BP	79,781	530	5,010	2.3	217.8	217.8	218.7	0.9
BQ	80,784	450	4,106	2.8	218.0	218.0	218.9	0.9
BR	81,576	180	2,384	4.9	218.0	218.0	218.9	0.9
BS	81,998	185	3,326	3.5	221.0	221.0	222.0	1.0
BT	82,156	126	1,369	8.6	221.2	221.2	222.0	0.8
BU	84,110	400	4,195	2.8	222.3	222.3	223.1	0.8
BV	86,117	281	2,804	4.2	222.5	222.5	223.2	0.7
BW	87,648	240	2,790	4.2	222.9	222.9	223.6	0.7
BX	88,070	450	4,139	2.9	223.4	223.4	224.3	0.9
BY	88,704	520	4,018	2.9	223.5	223.5	224.3	0.8

¹ Feet above Massachusetts/New Hampshire State Boundary, State Boundary is approximately 17,625 feet downstream of Groton Street

* Combined Nashua River/Nonacoicus Brook 1 floodway

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

NASHUA RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Nashua River (continued)								
BZ	89,918 ¹	280	2,844	4.1	223.6	223.6	224.4	0.8
CA	91,080 ¹	442	3,708	3.2	223.9	223.9	224.7	0.8
Nissitissit River								
A	3,580 ²	145	922	3.6	182.1	180.7 ³	181.7	1.0
B	4,180 ²	123	814	4.0	182.1	181.6 ³	182.5	0.9
C	4,630 ²	70	494	6.7	182.3	182.3	183.2	0.9
D	4,810 ²	121	980	3.4	183.4	183.4	184.1	0.7
E	5,280 ²	242	1,091	3.0	183.8	183.8	184.4	0.6
F	6,050 ²	81	373	8.8	187.0	187.0	187.1	0.1
G	6,450 ²	90	472	7.0	191.0	191.0	191.0	0.0
H	6,600 ²	123	576	5.7	198.9	198.9	199.2	0.3
I	6,850 ²	240	1,003	3.3	199.6	199.6	200.0	0.4
J	8,100 ²	88	775	4.2	200.7	200.7	201.1	0.4
K	9,600 ²	123	765	4.3	202.3	202.3	202.7	0.4
L	11,070 ²	74	568	5.8	204.5	204.5	204.7	0.2
M	12,700 ²	103	797	4.1	206.7	206.7	207.0	0.3
N	14,270 ²	95	653	5.0	208.7	208.7	209.0	0.3
O	14,520 ²	65	627	5.2	209.2	209.2	209.4	0.2
P	16,650 ²	140	1,330	2.5	210.2	210.2	210.6	0.4

¹ Feet above Massachusetts/New Hampshire State Boundary, State Boundary is approximately 17,625 feet downstream of Groton Street

² Feet above confluence with Nashua River

³ Elevation computed without consideration of backwater effects from Nashua River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

NASHUA RIVER – NISSITISSIT RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Nonacoicus Brook 1								
A	4,165 ¹	190	1,123	2.1	217.1	211.1 ³	211.8	0.7
B	4,990 ¹	290	1,737	1.4	217.1	211.3 ³	212.0	0.7
C	5,500 ¹	575	1,660	1.4	217.1	211.5 ³	212.2	0.7
D	6,130 ¹	491	1,987	1.2	217.1	211.6 ³	212.3	0.7
E	6,900 ¹	315	1,436	1.7	217.1	211.8 ³	212.5	0.7
F	7,285 ¹	40	228	3.2	217.1	214.1 ³	214.1	0.0
G	7,510 ¹	110	768	0.9	217.8	217.8	217.8	0.0
H	8,100 ¹	390	2,389	0.3	220.8	220.8	220.8	0.0
I	8,370 ¹	255	1,543	0.5	220.8	220.8	220.8	0.0
J	8,532 ¹	162	675	1.1	220.9	220.9	220.9	0.0
K	8,890 ¹	185	1,791	0.4	221.0	221.0	221.0	0.0
L	12,066 ¹	990	9,370	0.1	226.9	226.9	226.9	0.0
M	13,125 ¹	450	6,752	0.1	226.9	226.9	226.9	0.0
N	14,250 ¹	320	4,210	0.2	226.9	226.9	226.9	0.0
O	14,600 ¹	100	1,137	0.6	227.0	227.0	227.0	0.0
Nonacoicus Brook 2								
A	360 ²	240	1,187	0.9	227.2	221.2 ⁴	221.4	0.2

¹ Feet above confluence with Nashua River

² Feet above confluence with Nonacoicus Brook 1

³ Elevation computed without consideration of backwater effects from Nashua River

⁴ Elevation computed without consideration of backwater effects from Nonacoicus Brook 2

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

NONACOICUS BROOK 1 – NONACOICUS BROOK 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
North Lexington Brook								
A	422	750	2,035	0.5	116.1	116.1	116.3	0.2
B	1,426	856	3,033	0.4	116.1	116.1	116.4	0.3
C	1,637	1,303	6,715	0.2	116.6	116.6	117.2	0.6
D	2,318	904	2,767	0.4	116.7	116.7	117.2	0.5
E	2,598	499	2,771	0.3	119.9	119.9	119.9	0.0
F	3,073	244	1,216	0.6	119.9	119.9	119.9	0.0
G	3,284	519	3,980	0.2	119.9	119.9	120.1	0.2
H	3,606	494	3,422	0.2	119.9	119.9	120.1	0.2
I	3,807	1,217	9,580	0.1	120.6	120.6	121.4	0.8
J	4,863	1,296	9,498	0.1	120.6	120.6	121.4	0.8
K	6,024	202	605	0.7	120.6	120.6	121.4	0.8

¹ Feet above confluence with Shawsheen River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

NORTH LEXINGTON BROOK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Pages Brook								
A	1,350 ¹	250	1,676	0.2	119.3	118.8 ³	119.4	0.6
B	1,800 ¹	250	1,373	0.3	119.3	119.2 ³	119.5	0.3
C	2,575 ¹	220	896	0.4	119.3	119.2 ³	119.5	0.3
D	3,595 ¹	41	57	6.1	119.3	119.3	119.3	0.0
E	4,790 ¹	50	1,606	0.1	120.6	120.6	121.1	0.5
F	5,675 ¹	383	1,024	0.2	120.6	120.6	121.1	0.5
G	6,815 ¹	35	87	2.3	120.6	120.6	121.0	0.4
H	8,035 ¹	50	512	0.4	121.0	121.0	121.5	0.5
I	9,450 ¹	413	1,265	0.2	124.0	124.0	124.0	0.0
J	10,650 ¹	868	2,740	0.1	124.0	124.0	124.0	0.0
K	12,595 ¹	20	379	0.5	137.6	137.6	137.9	0.3
L	13,255 ¹	20	58	3.4	141.2	141.2	141.3	0.1
Pages Brook Branch								
A	175 ²	146	261	1.5	120.6	118.6 ⁴	118.6	0.0
B	1,375 ²	176	827	0.5	122.9	122.9	122.9	0.0
C	2,220 ²	114	435	0.9	122.9	122.9	122.9	0.0
D	3,220 ²	225	1,847	0.2	136.1	136.1	136.6	0.5
E	3,445 ²	115	701	0.5	136.1	136.1	136.7	0.6
F	3,590 ²	70	555	0.6	136.2	136.2	136.8	0.6
G	4,280 ²	83	297	1.1	139.3	139.3	140.3	1.0
H	4,350 ²	19	47	7.1	140.0	140.0	140.1	0.1
I	4,600 ²	50	252	1.3	147.8	147.8	148.0	0.2
¹ Feet above confluence with Concord River				³ Elevation computed without consideration of backwater effects from Concord River				
² Feet above confluence with Pages Brook				⁴ Elevation computed without consideration of backwater effects from Pages Brook				
TABLE 12	FEDERAL EMERGENCY MANAGEMENT AGENCY				FLOODWAY DATA			
	MIDDLESEX COUNTY, MA (ALL JURISDICTIONS)				PAGES BROOK – PAGES BROOK BRANCH			

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Pantry Brook								
A	7,750 ¹	56	105	2.3	121.2	114.7 ⁴	115.6	0.9
B	9,590 ¹	150	585	0.4	123.5	123.5	123.5	0.0
C	10,640 ¹	150	252	1.0	123.8	123.8	123.8	0.0
D	11,540 ¹	190	232	1.0	124.7	124.7	124.8	0.1
E	12,550 ¹	9	29	8.2	131.1	131.1	132.0	0.9
F-O*								
Pearl Hill Brook								
A	2,990 ²	32	106	5.2	320.8	320.8	321.3	0.5
B	3,550 ²	45	91	6.1	328.4	328.4	328.6	0.2
C	4,640 ²	25	71	7.8	335.1	335.1	335.2	0.1
D	7,300 ²	35	84	6.6	349.5	349.5	350.0	0.5
E	9,145 ²	17	65	8.6	364.1	364.1	364.6	0.5
Peppermint Brook								
A	900 ³	31	60	5.0	70.6	65.7 ⁵	66.1	0.4
B	1,260 ³	78	405	0.7	72.5	72.4	73.4	1.0
C	1,800 ³	70	453	0.7	74.0	73.9	74.7	0.8
D	2,300 ³	63	235	1.3	74.3	74.2	75.2	1.0
E	2,400 ³	117	833	0.4	80.0	80.0	80.7	0.7
F	3,500 ³	40	333	0.9	80.0	80.0	80.7	0.7
G	3,760 ³	11	85	3.4	80.0	80.0	80.7	0.7
H	3,980 ³	69	280	1.0	80.1	80.1	80.8	0.7
I	4,200 ³	20	107	2.7	80.1	80.1	80.8	0.7
J	4,340 ³	33	82	3.0	80.8	80.8	81.3	0.5

¹ Feet above confluence with Sudbury River

² Feet above confluence with Walker Brook 2

³ Feet above confluence with Beaver Brook 3

⁴ Elevation computed without consideration of backwater effects from Sudbury River

⁵ Elevation computed without consideration of backwater effects from Beaver Brook 3

* No data available

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

PANTRY BROOK – PEARL HILL BROOK –
PEPPERMINT BROOK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Pine Brook								
A	920	20	61	6.5	121.1	111.4 ²	112.3	0.9
B	1,930	120	436	0.9	121.1	113.6 ²	114.1	0.5
C	3,790	77	168	1.7	121.1	115.1 ²	116.0	0.9
D	4,380	17	59	5.0	121.1	118.0 ²	118.1	0.1
E	5,270	115	300	1.0	121.1	118.4 ²	118.9	0.5
F	6,660	75	192	1.5	121.1	119.9 ²	120.8	0.9

¹Feet above confluence with Sudbury River

²Elevation computed without consideration of backwater effects from Sudbury River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

PINE BROOK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Pole Brook								
A	375 ¹	210	1,960	0.1	120.6	121.2 ³	122.2	1.0
B	5,380 ¹	20	21	4.3	133.3	133.3	133.5	0.2
C	5,875 ¹	4	8	8.2	147.5	147.5	147.5	0.0
D	6,220 ¹	20	86	0.8	156.8	156.8	156.8	0.0
E	6,595 ¹	20	41	1.6	159.7	159.7	160.0	0.3
F	6,865 ¹	20	37	1.8	160.5	160.5	161.4	0.9
G	7,170 ¹	40	78	0.8	161.1	161.1	162.0	0.9
H	8,690 ¹	20	41	1.6	162.4	162.4	163.2	0.8
Pratts Brook								
A	336 ²	10	33	4.3	141.2	141.2	141.2	0.0
B	693 ²	20	34	5.2	157.8	157.8	158.1	0.3
C	2,112 ²	56	111	1.7	165.4	165.4	166.3	0.9
D	3,030 ²	21	35	4.7	176.7	176.7	177.3	0.6
E	3,572 ²	26	25	6.1	186.0	186.0	186.2	0.2
F	3,787 ²	34	55	0.0	193.1	193.1	194.1	1.0
G	5,056 ²	80	81	0.0	193.1	193.1	194.1	1.0

¹Feet above confluence with Sudbury River

²Feet above confluence with Fort Pond Brook

³Elevation computed without consideration of backwater effects from Sudbury River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

POLE BROOK – PRATTS BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Reedy Meadow Brook								
A	1,130	136	652	0.3	181.8	180.1 ²	180.1	0.0
B	1,330	93	605	0.4	181.8	181.8 ²	182.7	0.9
C	1,840	119	772	0.3	181.8	181.8 ²	182.7	0.9
D	2,440	64	242	0.9	181.8	181.8 ²	182.7	0.9
E	2,730	46	334	0.7	186.5	186.5	187.4	0.9
F	2,963	63	357	0.6	186.7	186.7	187.5	0.8
G	3,140	148	1,176	0.2	187.0	187.0	187.9	0.9
H	3,890	224	1,344	0.2	187.0	187.0	187.9	0.9
I	4,680	194	729	0.3	187.0	187.0	187.9	0.9
J	5,720	35	51	4.3	192.0	192.0	192.1	0.1
K	6,720	52	64	3.4	199.5	199.5	199.9	0.4
L	8,000	10	27	8.1	220.5	220.5	220.8	0.3
M	8,650	49	101	2.2	229.4	229.4	230.2	0.8

¹Feet above confluence with Nashua River

²Elevation computed without consideration of backwater effects from Nashua River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

REEDY MEADOW BROOK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Richardson Brook								
A	160 ¹	150	1,890	0.2	59.3	59.3	60.3	1.0
B	1,150 ¹	36	167	2.3	59.3	59.3	60.3	1.0
C	2,650 ¹	120	236	1.7	84.6	84.6	84.7	0.1
D	4,780 ¹	94	147	1.3	87.6	87.6	87.6	0.0
E	6,210 ¹	65	350	0.5	106.6	106.6	107.4	0.8
F	7,620 ¹	40	131	1.4	106.7	106.7	107.6	0.9
G	8,280 ¹	71	210	0.9	109.9	109.9	110.1	0.2
H	9,240 ¹	30	181	1.1	114.3	114.3	114.3	0.0
I	12,460 ¹	10	117	1.6	167.3	167.3	167.4	0.1
River Meadow Brook								
A	810 ²	35	258	4.4	78.6	76.0 ³	76.1	0.1
B	1,350 ²	40	357	3.2	79.1	79.1	79.2	0.1
C	3,260 ²	98	554	2.0	94.8	94.8	94.8	0.0
D	4,600 ²	55	311	3.7	97.9	97.9	98.0	0.1
E	9,745 ²	65	427	2.7	102.1	102.1	103.1	1.0
F	12,260 ²	62	319	3.1	103.4	103.4	103.6	0.2
G	12,530 ²	64	404	2.5	103.7	103.7	103.9	0.2
H	12,987 ²	88	456	2.3	104.0	104.0	105.0	1.0
I	13,452 ²	73	484	2.1	104.8	104.8	105.6	0.8
J	13,726 ²	75	511	2.0	105.0	105.0	105.7	0.7
K	14,152 ²	77	531	1.9	105.5	105.5	106.1	0.6
L	14,510 ²	74	459	2.2	105.8	105.8	106.4	0.6
M	14,595 ²	75	461	2.2	105.9	105.9	106.5	0.6
N	15,283 ²	93	593	1.7	106.4	106.4	106.9	0.5
O	15,810 ²	75	455	2.3	106.9	106.9	107.3	0.4
P	16,050 ²	63	489	2.1	107.1	107.1	107.5	0.4
¹ Feet above confluence with Merrimack River					³ Elevation computed without consideration of backwater effects from Concord River			
² Feet above confluence with Concord River								
TABLE 12	FEDERAL EMERGENCY MANAGEMENT AGENCY			FLOODWAY DATA				
	MIDDLESEX COUNTY, MA (ALL JURISDICTIONS)							
				RICHARDSON BROOK – RIVER MEADOW BROOK				

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
River Meadow Brook (continued)								
Q	16,450	120	1,046	1.6	107.3	107.3	107.6	0.3
R	19,040	180	1,027	1.5	107.3	107.3	108.0	0.7
S	19,810	180	1,132	1.6	107.4	107.4	108.2	0.8
T	20,250	67	398	2.6	107.5	107.5	108.4	0.9
U	20,400	120	707	2.5	107.8	107.8	108.7	0.9
V	20,795	120	646	2.6	108.0	108.0	109.0	1.0
W	20,900	120	771	1.8	110.5	110.5	110.8	0.3
X	21,460	120	768	2.1	110.5	110.5	111.0	0.5
Y	21,530	120	922	1.5	110.5	110.5	111.1	0.6
Z	21,750	180	1,123	1.6	110.5	110.5	111.2	0.7
AA	23,100	200	1,132	1.7	110.6	110.6	111.4	0.8
AB	23,750	200	1,157	1.2	110.7	110.7	111.5	0.8
AC	24,200	160	943	1.1	110.7	110.7	111.6	0.9
AD	24,330	160	922	1.1	110.8	110.8	111.6	0.8
AE	25,120	210	1,126	1.2	110.8	110.8	111.7	0.9
AF	25,890	217	955	1.2	110.9	110.9	111.9	1.0
AG	26,425	210	938	1.5	111.1	111.1	112.0	0.9
AH	27,500	210	958	1.4	111.3	111.3	112.3	1.0
AI	28,640	68	358	2.9	111.7	111.7	112.6	0.9
AJ	28,715	100	604	1.4	113.0	113.0	113.9	0.9
AK	29,150	140	817	0.8	113.1	113.1	114.0	0.9

¹ Feet above confluence with Concord River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

RIVER MEADOW BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
River Meadow Brook (continued)								
AL	29,280	140	810	0.9	113.2	113.2	114.1	0.9
AM	30,380	190	784	1.6	113.4	113.4	114.3	0.9
AN	30,570	190	813	1.4	113.6	113.6	114.4	0.8
AO	31,430	190	802	1.5	113.9	113.9	114.8	0.9
AP	32,050	140	656	1.6	114.0	114.0	115.0	1.0
AQ	32,130	83	612	1.1	116.1	116.1	116.7	0.6

¹ Feet above confluence with Concord River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

RIVER MEADOW BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Run Brook								
A	1,165 ¹	15	27	3.5	150.5	150.5	150.7	0.2
B	1,700 ¹	16	43	2.2	153.0	153.0	153.8	0.8
C	2,088 ¹	9	14	6.7	156.1	156.1	156.1	0.0
D	2,313 ¹	12	26	3.6	159.4	159.4	159.8	0.4
E	2,848 ¹	22	36	2.2	162.8	162.8	163.0	0.2
F	3,080 ¹	78	473	0.2	167.8	167.8	168.7	0.9
G	3,864 ¹	59	249	0.3	167.8	167.8	168.7	0.9
H	4,280 ¹	10	41	1.9	167.8	167.8	168.7	0.9
I	4,800 ¹	36	88	0.9	168.4	168.4	169.2	0.8
J	5,149 ¹	15	15	5.2	170.5	170.5	170.5	0.0
K	5,295 ¹	11	23	3.4	172.2	172.2	172.2	0.0
L	5,488 ¹	26	26	1.2	173.0	173.0	173.0	0.0
Salmon Brook								
A	158 ²	120	928	1.2	159.3	159.3	160.3	1.0
B	211 ²	195	1,420	0.8	159.7	159.7	160.6	0.9
C	1,056 ²	60	508	2.2	159.8	159.8	160.6	0.8
D	1,848 ²	605	3,378	0.3	159.9	159.9	160.9	1.0
E	2,376 ²	200	1,202	0.9	159.9	159.9	160.9	1.0
F	4,224 ²	85	668	1.7	160.1	160.1	161.1	1.0
G	5,602 ²	320	2,162	0.5	160.3	160.3	161.3	1.0
H	7,603 ²	115	913	1.2	160.4	160.4	161.4	1.0
I	9,768 ²	550	3,664	0.3	160.5	160.5	161.5	1.0
J	10,876 ²	160	1,202	0.9	160.5	160.5	161.5	1.0

¹ Feet above confluence with Hop Brook

² Feet above state boundary, state boundary is approximately 12,400 feet downstream of Main Street

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

RUN BROOK – SALMON BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Salmon Brook (continued)								
K	12,302 ¹	320	1,598	0.7	160.7	160.7	161.7	1.0
L	12,461 ¹	520	3,077	0.4	160.7	160.7	161.7	1.0
M	14,098 ¹	340	2,649	0.4	160.8	160.8	161.8	1.0
N	15,365 ¹	60	526	0.7	160.8	160.8	161.8	1.0
O	15,840 ¹	110	1,009	0.4	160.8	160.8	161.8	1.0
P	16,104 ¹	90	833	0.4	164.5	164.5	165.2	0.7
Q	16,632 ¹	30	382	1.0	164.5	164.5	165.2	0.7
R	18,374 ¹	505	5,134	0.1	164.5	164.5	165.2	0.7
S	20,170 ¹	70	870	0.4	164.5	164.5	165.2	0.7
T	20,698 ¹	130	1,630	0.2	164.5	164.5	165.2	0.7
U	21,331 ¹	50	590	0.6	164.5	164.5	165.2	0.7
V	22,018 ¹	150	1,391	0.3	167.6	167.6	167.6	0.0
W	23,390 ¹	490	4,761	0.1	167.6	167.6	167.6	0.0
Sandy Brook								
A	1,948 ²	100	290	3.1	124.9	123.1 ³	123.8	0.7
B	2,091 ²	200	534	1.7	124.9	124.4 ³	124.9	0.5
C	2,497 ²	100	288	4.0	124.9	124.7 ³	125.2	0.5
D	2,651 ²	300	864	1.0	125.3	125.3	126.0	0.7
E	3,817 ²	100	368	2.4	126.7	126.7	127.4	0.7
F	3,976 ²	100	309	1.8	128.0	128.0	128.4	0.4
G	4,192 ²	100	361	1.5	128.2	128.2	128.6	0.4
H	4,356 ²	100	321	1.7	128.3	128.3	128.8	0.5
I	5,396 ²	40	110	4.9	128.9	128.9	129.3	0.4
J	5,555 ²	100	385	0.9	132.8	132.8	133.4	0.6
K	6,093 ²	100	457	0.8	132.9	132.9	133.6	0.7
L	7,239 ²	10	34	10.6	136.0	136.0	136.1	0.1

¹ Feet above state boundary, state boundary is approximately 12,400 feet downstream of Main Street

² Feet above confluence with Vine Brook

³ Elevation computed without consideration of backwater effects from Vine Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

SALMON BROOK – SANDY BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Saugus River								
A	1,220 ¹	104 ³	468	0.9	54.5	54.5	55.5	1.0
B	1,960 ¹	74 ³	337	1.3	54.9	54.9	55.9	1.0
C	3,180 ¹	85 ³	325	0.7	55.6	55.6	56.6	1.0
D	4,240 ¹	45 ³	181	1.2	56.6	56.6	57.1	0.5
E	5,240 ¹	24 ³	76	2.8	57.6	57.6	58.6	1.0
F	6,090 ¹	52 ³	142	1.5	59.4	59.4	60.1	0.7
G	7,730 ¹	24 ³	69	3.1	62.0	62.0	62.3	0.3
H	7,990 ¹	23 ³	70	3.1	62.7	62.7	63.1	0.4
I	8,355 ¹	18 ³	66	3.2	64.9	64.9	65.7	0.8
J	8,835 ¹	19 ³	57	3.8	66.9	66.9	67.3	0.4
Saunders Brook								
A	1,742 ²	116	448	3.0	75.1	75.1	75.4	0.3
B	3,590 ²	26	23	4.7	76.4	76.4	76.5	0.1
C	4,224 ²	14	48	2.3	96.2	96.2	97.2	1.0

¹ Feet above county boundary, county boundary is approximately 1,020 feet downstream of Water Street

² Feet above confluence with Shawsheen River

³ This width extends beyond county boundary

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

SAUGUS RIVER – SAUNDERS BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Sawmill Brook 1								
A	528 ¹	35	107	6.9	107.7	107.7	107.9	0.2
B	829 ¹	40	104	7.1	113.6	113.6	113.9	0.3
C	1,304 ¹	45	215	3.5	116.5	116.5	117.3	0.8
D	1,827 ¹	20	124	5.9	117.7	117.7	118.4	0.7
E	2,038 ¹	50	532	1.4	125.5	125.5	126.0	0.5
F	2,445 ¹	50	535	1.4	125.5	125.5	126.1	0.6
G	3,015 ¹	50	426	1.7	125.5	125.5	126.2	0.7
H	3,432 ¹	50	396	1.8	125.6	125.6	126.4	0.8
Sawmill Brook 2								
A	1,510 ²	30	104	5.3	119.6	118.2 ⁴	118.7	0.5
B	1,799 ²	50	674	0.8	130.9	130.9	131.4	0.5
Schneider Brook								
A	180 ³	203	510	0.3	44.9	44.1 ⁵	44.2	0.1
B	1,180 ³	25	42	3.3	48.6	48.6	48.6	0.0
C	1,730 ³	27	43	3.1	53.9	53.9	53.9	0.0
D	2,020 ³	25	45	1.7	57.8	57.8	57.9	0.1
E	2,900 ³	11	12	6.2	65.7	65.7	65.7	0.0
F	2,990 ³	5*	10	7.7	68.5	68.5	68.5	0.0
G	3,040 ³	5*	16	4.9	70.7	70.7	70.8	0.1
H	3,640 ³	34	40	1.6	80.1	80.1	80.1	0.0
I	3,990 ³	69*	207	0.3	82.2	82.2	82.2	0.0
J	4,410 ³	33*	88	0.9	82.3	82.3	82.4	0.1

¹ Feet above downstream side of Noah Clapp Dam

² Feet above confluence with Concord River

³ Feet above confluence with Aberjona River

⁴ Elevation computed without consideration of backwater effects from Concord River

⁵ Elevation computed without consideration of backwater effects from Aberjona River

* The measured top width on the FIRM may differ due to the effects of ineffective flow, the exclusion of small pocket areas due to map scale limitations, or is estimated due to HEC-RAS modeling limitations

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

**SAWMILL BROOK 1 – SAWMILL BROOK 2 –
SCHNEIDER BROOK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Shakers Glen Brook								
A	30 ¹	354 [*]	827	0.2	46.7	46.7	46.7	0.0
B	740 ¹	26	84	2.1	46.8	46.8	46.9	0.1
C	1,190 ¹	28	64	2.8	47.7	47.7	47.7	0.0
D	2,800 ¹	21	33	4.7	54.6	54.6	54.6	0.0
E	3,170 ¹	73	356	0.4	62.3	62.3	62.3	0.0
F	3,300 ¹	116	270	0.8	62.7	62.7	62.7	0.0
Shawsheen River								
A	1,056 ²	85 ³	620	3.7	73.3	73.3	73.9	0.6
B	1,373 ²	45 ³	400	5.7	74.2	74.2	74.4	0.2
C	7,392 ²	400	3,283	0.7	75.1	75.1	76.0	0.9
D	10,930 ²	800	4,243	0.5	75.3	75.3	76.3	1.0
E	13,675 ²	675	2,536	0.8	75.4	75.4	76.3	0.9
F	13,781 ²	675	3,186	0.7	76.3	76.3	77.0	0.7
G	14,890 ²	49	243	8.9	76.7	76.7	77.4	0.7
H	14,995 ²	49	449	4.8	81.3	81.3	81.3	0.0
I	17,477 ²	250	1,384	1.3	84.2	84.2	84.8	0.6
J	17,582 ²	100	835	2.2	84.6	84.6	84.9	0.3
K	20,909 ²	257	2,429	0.7	85.1	85.1	85.8	0.7
L	23,390 ²	488	2,987	0.6	85.4	85.4	86.2	0.8
M	25,344 ²	650	5,038	0.3	86.1	86.1	86.8	0.7
N	27,667 ²	425	3,436	0.5	86.2	86.2	87.0	0.8
O	29,568 ²	310	2,376	0.7	86.3	86.3	87.1	0.8
P	30,994 ²	276	1,956	0.8	86.3	86.3	87.2	0.9
Q	32,419 ²	194	1,287	1.3	87.0	87.0	88.0	1.0
R	33,898 ²	295	1,598	1.0	87.5	87.5	88.4	0.9

¹ Feet above confluence with Fowle Brook

³ This width extends beyond county boundary

² Feet above county boundary, county boundary is approximately 1,250 feet downstream of Interstate 93

^{*} The measured top width on the FIRM may differ due to the effects of ineffective flow, the exclusion of small pocket areas due to map scale limitations, or is estimated due to HEC-RAS modeling limitations

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

SHAKERS GLEN BROOK – SHAWSHEEN RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Shawsheen River (continued)								
S	33,950	220	858	2.6	87.5	87.5	88.4	0.9
T	34,765	250	1,835	1.2	88.1	88.1	89.0	0.9
U	35,315	29	277	8.0	88.3	88.3	89.2	0.9
V	35,830	160	1,685	1.3	91.5	91.5	91.8	0.3
W	36,150	48	595	3.7	91.5	91.5	91.9	0.4
X	36,220	39	337	6.5	91.5	91.5	91.9	0.4
Y	36,270	40	233	9.4	91.5	91.5	91.9	0.4
Z	36,630	160	2,346	0.9	96.5	96.5	96.7	0.2
AA	38,380	200	2,764	0.8	96.5	96.5	96.8	0.3
AB	40,830	250	2,981	0.7	96.6	96.6	97.0	0.4
AC	44,690	250	2,946	0.7	96.8	96.8	97.4	0.6
AD	46,440	190	1,878	1.2	96.9	96.9	97.7	0.8
AE	49,290	220	1,930	0.8	97.1	97.1	98.0	0.9
AF	51,290	160	2,346	0.9	97.3	97.3	98.2	0.9
AG	51,410	200	2,764	0.8	97.3	97.3	98.2	0.9
AH	52,210	250	2,981	0.7	98.2	98.2	98.5	0.3
AI	57,150	300	2,491	0.7	98.3	98.3	99.3	1.0
AJ	59,579	300	3,019	0.6	98.4	98.4	99.4	1.0
AK	59,774	500	3,692	0.5	99.1	99.1	99.9	0.9
AL	65,228	90	575	3.1	99.1	99.1	99.9	0.8
AM	65,376	45	435	4.1	99.6	99.6	100.1	0.5
AN	65,535	84	623	2.9	99.9	99.9	100.4	0.5
AO	66,432	150	1,392	1.2	100.0	100.0	100.7	0.7
AP	68,085	190	1,575	1.1	100.0	100.0	100.8	0.8
AQ	70,361	42	200	8.5	105.5	105.5	105.6	0.1
AR	70,598	42	221	7.7	107.1	107.1	107.1	0.0
AS	71,649	80	556	3.1	108.6	108.6	109.1	0.5

¹ Feet above county boundary, county boundary is approximately 1,250 feet downstream of Interstate 93

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

SHAWSHEEN RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Shawsheen River (continued)								
AT	72,430	75	365	4.4	108.6	108.6	109.5	0.9
AU	72,784	85	534	3.0	109.6	109.6	109.8	0.2
AV	74,373	128	743	2.1	110.3	110.3	110.6	0.3
AW	75,229	144	478	2.7	110.6	110.6	111.0	0.4
AX	75,519	70	395	3.2	110.6	110.6	111.0	0.4
AY	75,883	58	371	3.4	112.0	112.0	112.1	0.1
AZ	76,438	75	412	3.1	112.0	112.0	112.1	0.1
BA	77,071	150	729	1.7	112.3	112.3	112.6	0.3
BB	77,251	96	534	2.4	113.0	113.0	113.2	0.2
BC	78,133	165	785	1.6	113.2	113.2	113.6	0.4
BD	79,669	165	970	1.3	113.5	113.5	114.4	0.9
BE	79,902	82	497	2.6	114.4	114.4	115.0	0.6
BF	80,403	75	482	2.6	115.0	115.0	115.6	0.6
BG	80,503	30	245	5.2	115.0	115.0	115.9	0.9
BH	81,137	125	879	1.4	116.0	116.0	116.8	0.8
BI	81,992	150	1,167	0.5	116.1	116.1	117.0	0.9
BJ	82,193	32	241	2.2	116.2	116.2	117.1	0.9
BK	84,221	37	306	1.7	117.2	117.2	118.1	0.9
BL	84,432	50	376	1.4	117.4	117.4	118.2	0.8
BM	85,419	25	236	2.2	117.8	117.8	118.7	0.9

¹ Feet above county boundary, county boundary is approximately 1,250 feet downstream of Interstate 93

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

SHAWSHEEN RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Skug River								
A-B*								
C	1,223 ¹	287 ³	1,885	1.0	80.0	80.0	81.0	1.0
D	3,658 ¹	881	3,847	0.6	80.2	80.2	81.2	1.0
E	5,520 ¹	181	766	2.3	80.6	80.6	81.4	0.8
F	5,726 ¹	193	1,142	1.0	82.2	82.2	82.3	0.1
G	6,701 ¹	161	896	1.3	82.4	82.4	82.6	0.2
H	8,921 ¹	332	1,882	1.4	82.8	82.8	83.2	0.4
I	9,854 ¹	283	1,264	1.6	82.9	82.9	83.3	0.4
Snake Brook								
A	650 ²	24	50	4.2	138.1	133.5 ⁴	133.5	0.0
B	4,250 ²	100	537	0.4	146.9	146.9	146.9	0.0
C	5,837 ²	125	529	0.4	147.0	147.0	147.1	0.1
D	7,272 ²	10	34	6.1	152.5	152.5	153.5	1.0
E	9,578 ²	65	222	0.9	165.6	165.6	165.6	0.0

¹ Feet above confluence with Martins Pond

* No data available

² Feet above Commonwealth Avenue

³ Width extends beyond county boundary

⁴ Elevation computed without consideration of backwater effects from Lake Cochituate

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

SKUG RIVER – SNAKE BROOK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
South Meadow Brook/ Paul Brook								
A	1,922 ¹	50	502	2.5	108.5	108.5	109.4	0.9
B	2,865 ¹	50	535	2.4	111.6	111.6	112.4	0.8
C	4,148 ¹	80	524	2.4	112.0	112.0	112.9	0.9
D	4,691 ¹	40	458	2.8	112.4	112.4	113.4	1.0
E	6,060 ¹	50	389	2.6	113.6	113.6	113.8	0.2
F	6,942 ¹	40	295	2.1	113.9	113.9	114.2	0.3
G	7,892 ¹	60	329	1.9	114.0	114.0	114.7	0.7
H	8,655 ¹	40	235	2.6	114.8	114.8	115.0	0.2
I	9,560 ¹	40	144	4.3	115.8	115.8	115.9	0.1
J	10,310 ¹	40	189	3.3	119.1	119.1	119.1	0.0
Spencer Brook								
A	1,360 ²	22	48	8.5	121.2	116.4 ³	116.4	0.0
B	2,120 ²	30	53	7.7	122.3	122.3	122.3	0.0
C	2,340 ²	25	74	5.5	124.8	124.8	125.2	0.4
D	2,370 ²	51	185	3.5	128.7	128.7	129.4	0.7
E	2,394 ²	240	1,266	0.5	134.2	134.2	134.2	0.0
F	3,745 ²	410	1,335	0.5	134.3	134.3	134.3	0.0
G	4,918 ²	329	759	0.8	134.3	134.3	134.4	0.1

¹Feet above confluence with Charles River

³Elevation computed without consideration of backwater effects from Assabet River

²Feet above confluence with Assabet River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

SOUTH MEADOW BROOK/ PAUL BROOK
SPENCER BROOK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Spencer Brook (continued)								
H	5,301	125	361	1.8	135.4	135.4	135.6	0.2
I	5,930	120	437	1.5	135.6	135.6	135.9	0.3
J	7,230	240	565	1.8	136.1	136.1	136.6	0.5
K	8,103	295	283	3.6	137.5	137.5	137.6	0.1
L	8,894	225	942	0.6	137.8	137.8	137.9	0.1
M	9,264	62	411	1.8	143.2	143.2	143.3	0.1
N	10,271	315	1,455	0.7	143.2	143.2	143.4	0.2
O	10,979	200	935	0.9	143.3	143.3	143.4	0.1
P	12,011	180	679	1.4	143.3	143.3	143.5	0.2
Q	13,969	90	264	2.9	145.0	145.0	145.4	0.4
R	14,672	45	284	1.7	149.1	149.1	149.3	0.2
S	14,940	75	471	1.4	149.3	149.3	149.6	0.3
T	17,588	320	1,431	0.4	149.3	149.3	149.7	0.4
U	20,322	250	985	0.6	149.3	149.3	149.7	0.4
V	21,259	79	138	5.4	149.3	149.3	149.8	0.5
W	21,590	215	1,510	0.3	159.3	159.3	159.3	0.0
X	21,924	110	831	0.6	163.6	163.6	163.7	0.1
Y	23,163	129	613	1.0	163.6	163.6	163.7	0.1
Z	23,956	70	543	1.0	167.2	167.2	167.6	0.4
AA	25,532	178	446	0.8	167.3	167.3	167.7	0.4

¹Feet above confluence with Assabet River

TABLE 12	FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
	MIDDLESEX COUNTY, MA (ALL JURISDICTIONS)	SPENCER BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Spring Brook								
A	612	*	42	3.1	108.7	105.5 ²	105.8	0.3
B	945	*	24	5.4	108.7	108.6 ²	108.9	0.3
C	1,061	*	20	6.5	110.7	110.7	110.7	0.0
D	1,204	*	36	3.6	111.6	111.6	111.7	0.1
E	1,563	*	23	5.6	112.2	112.2	113.1	0.9
F	1,764	*	101	1.9	113.5	113.5	114.0	0.5
G	3,073	*	277	1.1	113.6	113.6	114.3	0.7
H	5,766	65	131	2.3	115.0	115.0	116.0	1.0
I	7,418	31	82	3.0	117.4	117.4	118.3	0.9
J	8,437	18	53	3.1	119.4	119.4	120.3	0.9
K	8,992	15	96	1.4	124.1	124.1	124.1	0.0
L	9,140	8	55	2.4	124.1	124.1	124.1	0.0
M	10,021	4	15	3.9	128.2	128.2	129.1	0.9
N	10,433	8	32	1.9	129.2	129.2	130.2	1.0
O	11,104	8	31	1.9	130.3	130.3	131.1	0.8

¹ Feet above confluence with Shawsheen River

² Elevation computed without consideration of backwater effects from Shawsheen River

* Floodway coincident with channel banks

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

SPRING BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Squannacook River								
A	8,100	840	6,470	1.4	215.3	215.3	215.8	0.5
B	11,760	190	1,381	6.4	223.7	223.7	223.9	0.2
C	15,230	103	1,551	5.7	237.9	237.9	238.3	0.4
D	16,215	95	1,377	6.4	238.3	238.3	238.8	0.5
E	18,860	80	1,188	7.4	240.2	240.2	240.8	0.6
F	19,470	65	876	10.1	240.6	240.6	241.2	0.6
G	24,200	1,134	7,844	1.1	247.8	247.8	247.9	0.1
H	29,295	745	3,551	2.5	248.8	248.8	249.1	0.3
I	32,000	119	1,153	7.7	250.7	250.7	251.0	0.3
J	34,150	115	1,425	6.2	256.9	256.9	257.5	0.6
K	35,370	880	6,711	1.3	258.1	258.1	258.8	0.7
L	39,480	430	2,596	2.8	259.1	259.1	259.8	0.7
M	43,230	420	3,285	2.2	262.4	262.4	263.3	0.9
N	44,100	261	1,232	5.9	263.1	263.1	264.1	1.0
O	46,940	770	7,733	0.9	274.4	274.4	275.2	0.8
P	48,190	1,485	9,060	0.8	274.4	274.4	275.2	0.8
Q	53,685	560	3,229	2.7	276.3	276.3	276.8	0.5
R	55,070	240	1,767	5.0	277.3	277.3	277.8	0.5
S	58,120	395	2,697	3.3	280.8	280.8	281.6	0.8
T	63,240	255	1,984	3.7	291.2	291.2	291.2	0.0
U	67,680	280	2,912	2.5	294.4	294.4	294.6	0.2
V	72,030	700	4,382	1.7	294.7	294.7	295.1	0.4
W	75,030	320	2,784	2.6	298.1	298.1	298.4	0.3
X	76,750	490	4,130	1.8	298.6	298.6	299.0	0.4
Y	79,950	100	847	8.7	299.8	299.8	299.9	0.1
Z	81,460	70	644	10.2	307.7	307.7	307.7	0.0

¹ Feet above confluence with Nashua River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

SQUANNACOOK RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Stony Brook 1								
A	7,128	71	542	3.7	71.9	71.9	71.9	0.0
B	7,286	40	169	11.8	78.6	78.6	78.6	0.0
C	7,709	36	192	10.4	83.9	83.9	83.9	0.0
D	8,712	80	863	2.3	91.3	91.3	91.5	0.2
E	9,610	100	1,085	1.8	91.4	91.4	91.8	0.4
F	10,138	79	653	3.1	91.4	91.4	91.9	0.5
G	10,666	29	322	6.2	91.5	91.5	92.3	0.8
H	10,877	29	267	7.5	92.0	92.0	92.9	0.9
I	11,194	59	678	2.9	93.1	93.1	94.0	0.9
J	11,510	50	600	3.3	96.7	96.7	96.7	0.0
K	11,827	50	575	3.3	96.7	96.7	96.7	0.0
L	12,197	50	476	3.5	96.7	96.7	96.8	0.1
M	12,461	50	550	4.2	96.8	96.8	97.0	0.2
N	12,619	33	339	4.6	96.8	96.8	97.4	0.6
O	12,989	473	3,550	0.4	96.9	96.9	97.9	1.0
P	13,306	380	2,612	0.8	96.9	96.9	97.9	1.0
Q	13,464	89	717	2.2	98.0	98.0	98.3	0.3
R	14,256	130	686	2.3	98.3	98.3	99.1	0.8
S	16,104	465	1,940	0.8	99.5	99.5	100.5	1.0
T	17,213	85	506	3.1	101.2	101.2	102.0	0.8
U	17,424	200	2,024	0.8	108.6	108.6	108.6	0.0
V	17,899	28	235	6.6	108.7	108.7	108.9	0.2
W	18,058	40	272	4.1	108.8	108.8	109.6	0.8
X	18,216	111	445	2.5	108.9	108.9	109.8	0.9
Y	18,427	23	194	5.8	112.8	112.8	112.9	0.1
Z	19,061	202	1,138	1.0	113.0	113.0	114.0	1.0

¹ Feet above confluence with Charles River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

STONY BROOK 1

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Stony Brook 1 (continued)								
AA	19,325 ¹	121	720	1.6	113.0	113.0	114.0	1.0
AB	20,064 ¹	56	204	5.5	117.0	117.0	117.7	0.7
AC	20,803 ¹	68	393	2.9	119.8	119.8	120.8	1.0
AD	21,067 ¹	200	1,440	0.8	123.0	123.0	123.1	0.1
AE	21,648 ¹	218	1,380	0.8	123.1	123.1	123.2	0.1
AF	22,598 ¹	220	868	1.3	123.2	123.2	123.4	0.2
AG	23,179 ¹	58	300	3.8	123.4	123.4	124.1	0.7
AH	23,390 ¹	220	862	1.3	123.5	123.5	124.5	1.0
AI	23,602 ¹	50	331	2.6	127.3	127.3	127.4	0.1
AJ	24,024 ¹	110	340	2.5	128.4	128.4	129.2	0.8
AK	24,499 ¹	90	235	3.6	132.8	132.8	133.6	0.8
AL	24,816 ¹	132	290	2.9	136.5	136.5	136.5	0.0
AM	24,974 ¹	110	982	0.9	146.7	146.7	147.0	0.3
AN	25,238 ¹	20	222	3.8	146.7	146.7	147.1	0.4
AO	805 ²	25	78	2.1	169.6	169.6	170.6	1.0
AP	1,065 ²	20	46	3.6	175.6	175.6	175.6	0.0
AQ	1,970 ²	20	18	5.4	180.3	180.3	180.3	0.0
AR	2,715 ²	39	36	2.7	191.0	191.0	191.0	0.0
AS	3,035 ²	21	45	2.1	201.9	201.9	202.2	0.3
AT	3,665 ²	12	36	2.6	206.5	206.5	206.7	0.2
AU	3,865 ²	18	41	2.3	207.0	207.0	207.2	0.2
AV	4,650 ²	24	37	2.5	212.7	212.7	212.7	0.0
AW	4,815 ²	26	87	1.1	215.8	215.8	215.8	0.0
AX	5,445 ²	14	45	2.1	216.5	216.5	216.5	0.0
AY	5,785 ²	16	30	2.6	217.1	217.1	217.1	0.0
AZ	6,205 ²	23	57	1.4	217.7	217.7	217.7	0.0

¹ Feet above confluence with Charles River

² Feet above limit of detailed study, limit of detailed study is approximately 960 feet downstream of Tower Road

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

STONY BROOK 1

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Stony Brook 1 (continued)								
BA	6,835 ¹	20	48	1.7	218.6	218.6	219.3	0.7
BB	7,695 ¹	10	27	2.9	227.8	227.8	228.8	1.0
BC	7,895 ¹	6	14	5.6	229.4	229.4	230.0	0.6
BD	8,275 ¹	18	15	5.2	235.7	235.7	235.7	0.0
Stony Brook 2								
A-F*								
G	1,779 ²	86	1,060	1.4	103.2	103.2	103.2	0.0
H	2,554 ²	115	1,170	1.9	103.2	103.2	103.3	0.1
I	3,754 ²	260	1,934	1.2	103.4	103.4	103.4	0.0
J	3,784 ²	261	1,552	0.9	103.4	103.4	103.4	0.0
K	4,284 ²	128	735	2.0	103.4	103.4	103.6	0.2
L	5,434 ²	85	216	6.9	103.6	103.6	103.9	0.3
M	6,137 ²	55	524	2.8	104.5	104.5	105.3	0.8
N	6,237 ²	51	520	2.7	104.5	104.5	105.3	0.8
O	6,512 ²	51	467	3.2	104.6	104.6	105.4	0.8
P	6,662 ²	76	632	2.4	104.8	104.8	105.5	0.7
Q	7,112 ²	74	415	4.0	105.1	105.1	105.8	0.7
R	8,562 ²	34	270	5.5	107.8	107.8	108.7	0.9
S	8,662 ²	29	246	6.1	108.0	108.0	109.0	1.0
T	1,372 ³	**	297	4.4	143.2	143.2	143.5	0.3
U	1,423 ³	661	2,405	0.5	143.7	143.7	143.9	0.2
V	2,698 ³	87	284	4.6	143.7	143.7	143.9	0.2
W	2,797 ³	**	206	6.4	145.3	145.3	145.3	0.0
X	2,850 ³	**	150	8.8	153.6	153.6	153.6	0.0
Y	5,147 ³	260	1,362	1.0	155.2	155.2	155.3	0.1
Z	6,827 ³	110	738	1.8	159.5	159.5	160.1	0.6

¹ Feet above limit of detailed study, limit of detailed study is approximately 960 feet downstream of Tower Road

* No data available

² Feet above confluence with Merrimack River

** Floodway coincident with channel banks

³ Feet above limit of detailed study, limit of detailed study is approximately 2,750 feet downstream of Brookside Road

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

STONY BROOK 1 – STONY BROOK 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Stony Brook 2 (continued)								
AA	6,877	160	1,328	1.0	159.6	159.6	160.2	0.6
AB	9,062	130	931	1.3	159.8	159.8	160.4	0.6
AC	12,465	*	139	8.6	164.2	164.2	164.2	0.0
AD	12,510	*	154	7.8	165.4	165.4	165.4	0.0
AE	12,545	100	790	1.5	166.6	166.6	166.6	0.0
AF	14,928	*	198	4.8	167.7	167.7	167.7	0.0
AG	14,978	730	4,730	0.2	168.2	168.2	168.2	0.0
AH	18,202	276	1,675	0.6	168.2	168.2	168.2	0.0
AI	23,552	555	2,616	0.4	168.4	168.4	168.4	0.0
AJ	25,973	*	262	3.6	169.9	169.9	169.9	0.0
AK	26,022	660	3,094	0.3	170.2	170.2	170.2	0.0
AL	26,822	*	84	11.3	185.4	185.4	185.4	0.0
AM	26,870	209	3,678	0.3	188.0	188.0	188.0	0.0
AN	28,059	*	688	1.2	188.0	188.0	189.0	1.0
AO	28,105	*	626	1.3	190.1	190.1	190.4	0.3
AP	28,155	*	1,054	0.8	190.1	190.1	190.4	0.3
AQ	29,920	*	322	2.5	190.1	190.1	190.4	0.3
AR	29,970	396	2,553	0.3	190.2	190.2	190.5	0.3
AS	32,401	*	304	2.3	190.2	190.2	190.7	0.5
AT	32,450	530	2,162	0.3	190.3	190.3	190.8	0.5
AU	33,350	300	1,044	0.7	190.4	190.4	190.9	0.5
AV	34,565	*	80	8.9	190.5	190.5	191.0	0.5
AW	34,661	*	168	4.2	192.3	192.3	192.4	0.1
AX	35,295	*	43	16.6	195.6	195.6	195.6	0.0
AY	35,405	*	260	2.7	202.9	202.9	202.9	0.0
AZ	35,520	*	186	3.8	202.9	202.9	202.9	0.0
BA	35,575	*	107	6.7	206.5	206.5	206.5	0.0
BB	35,660	*	406	1.7	207.4	207.4	207.4	0.0

¹ Feet above limit of detailed study, limit of detailed study is approximately 2,750 feet downstream of Brookside Road

* Floodway coincident with channel banks

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

STONY BROOK 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Strong Water Brook								
A	158	299	1,259	0.5	83.6	83.6	84.2	0.6
B	3,268	40	364	1.6	87.2	87.2	87.2	0.0
C	4,340	20	186	3.2	87.2	87.2	87.8	0.6
D	5,201	45	362	1.6	87.2	87.2	88.2	1.0
E	5,998	160	887	0.7	87.3	87.3	88.3	1.0
F	6,980	40	275	2.2	87.5	87.5	88.5	1.0
G	7,931	30	367	1.6	94.7	94.7	94.7	0.0
H	8,216	40	463	1.3	94.7	94.7	94.7	0.0
I	9,087	30	279	2.1	94.7	94.7	94.9	0.2
J	9,842	30	235	2.5	94.8	94.8	95.2	0.4
K	10,497	35	283	2.1	94.8	94.8	95.6	0.8

¹ Feet above confluence with Shawsheen River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

STRONG WATER BROOK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Sudbury River								
A	1,177	213	2,195	2.3	120.3	117.2 ²	118.0	0.8
B	2,098	446	3,147	2.1	120.3	117.3 ²	118.2	0.9
C	3,051	210	2,275	2.1	120.3	118.0 ²	118.9	0.9
D	4,713	359	2,689	2.3	120.3	118.3 ²	119.1	0.8
E	5,138	175	2,273	2.1	120.3	118.6 ²	119.6	1.0
F	5,676	141	1,813	2.5	120.3	118.9 ²	119.8	0.9
G	5,748	152	1,799	2.4	120.3	119.4 ²	119.8	0.4
H	5,972	269	3,145	1.8	120.3	119.5 ²	119.9	0.4
I	7,809	704	5,846	1.3	120.3	119.6 ²	120.0	0.4
J	9,222	295	3,264	1.7	120.3	120.0 ²	120.4	0.4
K	11,819	818	8,584	0.8	120.3	120.1 ²	120.5	0.4
L	13,703	150	2,065	2.4	120.3	120.2 ²	120.6	0.4
M	16,014	351	4,899	1.0	120.3	120.2 ²	120.7	0.5
N	19,849	845	10,997	0.5	120.3	120.3	120.8	0.5
O	23,096	954	8,688	0.9	120.3	120.3	120.8	0.5
P	25,844	225	3,508	1.3	120.5	120.5	121.1	0.6
Q	27,123	611	6,893	1.0	120.5	120.5	121.2	0.7
R	27,725	462	5,920	1.0	120.6	120.6	121.2	0.6
S	32,062	1,265	12,037	0.7	120.6	120.6	121.2	0.6
T	33,320	569	6,418	1.0	120.6	120.6	121.2	0.6

¹Feet above confluence with Concord River

²Elevation computed without consideration of backwater effects from Concord River

TABLE 12	FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
	MIDDLESEX COUNTY, MA (ALL JURISDICTIONS)	SUDBURY RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Sudbury River (continued)								
U	37,473	1,668	16,710	0.5	120.7	120.7	121.3	0.6
V	39,160	565	6,735	0.9	120.8	120.8	121.4	0.6
W	42,348	1,150	12,427	0.7	120.8	120.8	121.4	0.6
X	49,076	3,170	32,643	0.3	120.8	120.8	121.4	0.6
Y	54,637	1,975	15,659	0.4	120.9	120.9	121.5	0.6
Z	59,342	1,170	12,283	0.6	120.9	120.9	121.5	0.6
AA	60,395	1,043	8,829	0.8	121.0	121.0	121.6	0.6
AB	60,930	1,340	10,779	0.8	121.1	121.1	121.6	0.5
AC	62,853	820	5,551	1.4	121.1	121.1	121.7	0.6
AD	63,535	691	7,271	0.8	121.1	121.1	121.7	0.6
AE	65,738	569	6,358	0.7	121.2	121.2	121.8	0.6
AF	67,733	622	6,403	0.8	121.2	121.2	121.8	0.6
AG	70,385	1,121	10,142	0.4	121.3	121.3	121.8	0.5
AH	75,234	1,219	10,257	0.6	121.3	121.3	121.9	0.6
AI	79,122	773	5,964	1.1	121.5	121.5	122.1	0.6
AJ	80,826	146	1,455	2.3	121.9	121.9	122.4	0.5
AK	81,111	155	1,730	2.1	122.1	122.1	122.7	0.6
AL	81,765	119	1,194	3.1	122.8	122.8	122.8	0.0
AM	83,697	218	1,293	4.1	123.4	123.4	123.5	0.1

¹Feet above confluence with Concord River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

SUDBURY RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Sudbury River (continued)								
AN	85,808	175	1,381	3.3	124.3	124.3	124.5	0.2
AO	86,358	87	912	3.7	124.6	124.6	124.8	0.2
AP	86,462	103	1,035	3.5	124.7	124.7	124.9	0.2
AQ	87,743	62	736	4.1	125.9	125.9	126.1	0.2
AR	89,346	102	823	3.7	126.5	126.5	126.7	0.2
AS	90,345	216	615	4.9	128.0	128.0	128.1	0.1
AT	90,406	320	3,271	0.9	147.4	147.4	147.6	0.2
AU	92,108	332	2,473	1.2	147.4	147.4	147.6	0.2
AV	94,726	261	1,886	1.5	147.6	147.6	147.8	0.2
AW	96,475	180	1,146	2.5	148.3	148.3	148.4	0.1
AX	97,900	108	796	3.7	149.2	149.2	149.4	0.2
AY	98,524	106	800	3.5	149.7	149.7	150.2	0.5
AZ	98,645	863	7,989	0.4	150.1	150.1	150.5	0.4
BA	100,142	162	837	3.7	150.1	150.1	150.5	0.4
BB	102,597	175	1,041	3.7	151.8	151.8	152.0	0.2
BC	104,179	103	758	3.7	152.6	152.6	153.0	0.4
BD	105,810	294	1,827	2.7	153.5	153.5	153.9	0.4
BE	107,640	99	732	4.1	154.0	154.0	154.4	0.4

¹Feet above confluence with Concord River

TABLE 12	FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
	MIDDLESEX COUNTY, MA (ALL JURISDICTIONS)	SUDBURY RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Sudbury River (continued)								
BF	107,804	95	788	3.7	154.7	154.7	155.0	0.3
BG	108,424	74	698	4.0	155.4	155.4	155.7	0.3
BH	110,069	73	734	4.0	156.3	156.3	156.9	0.6
BI	110,932	71	700	4.1	157.1	157.1	157.6	0.5
BJ	112,362	127	1,113	3.6	157.8	157.8	158.4	0.6
BK	112,512	90	950	2.9	158.1	158.1	158.7	0.6
BL	113,785	477	3,403	1.6	158.4	158.4	159.0	0.6
BM	114,761	165	1,442	1.8	158.9	158.9	159.7	0.8
BN	114,939	619	5,702	0.5	164.4	164.4	164.4	0.0
BO	116,838	413	4,057	0.6	164.4	164.4	164.4	0.0
BP	119,330	314	2,419	1.5	164.4	164.4	164.4	0.0
BQ	120,465	1,286	19,713	0.2	174.5	174.5	174.5	0.0
BR	123,296	913	12,364	0.3	174.5	174.5	174.5	0.0
BS	124,308	117	1,974	2.0	174.7	174.7	174.7	0.0
BT	126,822	254	2,835	1.2	174.8	174.8	174.8	0.0
BU	128,754	206	2,073	1.7	174.9	174.9	174.9	0.0
BV	128,912	134	1,248	2.8	175.7	175.7	175.7	0.0
BW	129,833	98	813	4.5	176.6	176.6	176.6	0.0

¹Feet above confluence with Concord River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

SUDBURY RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Sudbury River (continued)								
BX	130,623	116	1,092	3.5	177.2	177.2	177.2	0.0
BY	131,527	124	833	3.9	178.0	178.0	178.2	0.2
BZ	131,607	148	1,019	3.5	179.5	179.5	179.7	0.2
CA	132,056	110	810	4.3	180.6	180.6	181.5	0.9
CB	132,232	74	864	4.3	182.4	182.4	183.0	0.6
CC	132,326	95	962	4.1	182.8	182.8	183.4	0.6
CD	133,984	271	2,670	1.9	183.2	183.2	184.0	0.8
CE	134,733	191	1,545	3.1	184.3	184.3	185.0	0.7
CF	135,999	228	1,040	3.0	188.5	188.5	188.9	0.4
CG	136,040	301	2,354	1.2	192.4	192.4	192.5	0.1
CH	138,080	155	993	3.3	192.6	192.6	192.7	0.1
CI	139,099	123	582	7.3	195.3	195.3	195.5	0.2
CJ	139,392	227	1,058	3.3	196.7	196.7	197.5	0.8
CK	139,852	156	768	5.2	200.5	200.5	201.3	0.8
CL	139,876	175	1,038	3.1	200.9	200.9	201.5	0.6
CM	141,397	200	1,663	2.5	201.5	201.5	202.0	0.5
CN	143,723	168	1,012	4.6	202.6	202.6	203.2	0.6
CO	145,187	71	327	7.5	206.3	206.3	206.3	0.0

¹Feet above confluence with Concord River

TABLE 12	FEDERAL EMERGENCY MANAGEMENT AGENCY MIDDLESEX COUNTY, MA (ALL JURISDICTIONS)	FLOODWAY DATA
		SUDBURY RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Sudbury River (continued)								
CP	146,693	186	1,203	2.7	208.4	208.4	208.8	0.4
CQ	147,488	76	712	3.2	210.1	210.1	210.4	0.3
CR	148,022	165	1,712	1.6	224.2	224.2	224.2	0.0
CS	149,553	110	721	3.9	224.7	224.7	224.7	0.0
CT	151,386	40	326	6.9	229.0	229.0	229.1	0.1
CU	152,854	169	814	4.7	233.6	233.6	234.2	0.6
CV	153,661	239	944	3.4	235.5	235.5	236.0	0.5
CW	154,029	34	282	7.7	244.9	244.9	244.9	0.0
CX	154,060	73	482	4.8	245.5	245.5	245.7	0.2
CY	154,651	331	2,075	1.0	255.6	255.6	255.6	0.0
CZ	155,838	45	254	8.4	255.7	255.7	255.8	0.1
DA	157,700	146	1,028	2.8	259.0	259.0	259.9	0.9
DB	159,340	75	269	12.3	262.3	262.3	262.4	0.1
DC	160,957	301	1,738	2.0	264.7	264.7	265.4	0.7
DD	163,496	119	638	5.2	265.9	265.9	266.6	0.7
DE	164,557	85	383	6.3	276.4	276.4	277.0	0.6
DF	167,246	375	2,301	1.4	277.3	277.3	278.3	1.0

¹Feet above confluence with Concord River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

SUDBURY RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Sutton Brook								
A	845 ¹	85	876	0.3	76.4	76.4	76.7	0.3
B	3,538 ¹	27	45	6.7	77.9	77.9	77.9	0.0
C	3,643 ¹	62	177	1.7	79.8	79.8	79.8	0.0
D	5,702 ¹	66	376	0.6	80.4	80.4	81.1	0.7
E	6,917 ¹	75	250	1.0	81.0	81.0	81.6	0.6
Sweetwater Brook								
A	100 ²	31 [*]	98	3.3	35.7	35.7	35.7	0.0
B	320 ²	53	208	3.0	37.0	37.0	37.0	0.0
C	440 ²	93	365	2.2	38.4	38.4	38.4	0.0
D	530 ²	41	225	2.4	38.5	38.5	38.5	0.0
E	620 ²	21	73	7.5	38.5	38.5	38.5	0.0
F	770 ²	32	108	5.0	39.7	39.7	39.8	0.1
G	1,430 ²	32	251	2.0	46.7	46.7	46.7	0.0
H	2,140 ²	84	312	2.2	47.7	47.7	47.8	0.1
I	2,730 ²	23	93	5.2	49.1	49.1	49.2	0.1
J	2,860 ²	23	115	4.2	50.4	50.4	50.4	0.0
K	3,130 ²	113 [*]	279	1.8	53.4	53.4	53.4	0.0
L	3,370 ²	280	563	0.9	53.6	53.6	53.6	0.0
M	3,940 ²	30	82	5.7	56.8	56.8	56.8	0.0

¹ Feet above confluence with Shawsheen River

² Feet above confluence with Aberjona River

^{*} The measured top width on the FIRM may differ due to the effects of ineffective flow, the exclusion of small pocket areas due to map scale limitations, or is estimated due to HEC-RAS modeling limitations

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

SUTTON BROOK – SWEETWATER BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Tadmuck Brook								
A	525 ¹	30	73	3.4	159.6	155.5 ³	155.7	0.2
B	586 ¹	30	107	2.3	159.6	156.6 ³	156.9	0.3
C	1,786 ¹	17	135	1.8	163.4	163.4	163.9	0.5
D	1,836 ¹	40	261	1.0	163.4	163.4	164.0	0.6
E	2,936 ¹	26	35	7.1	174.5	174.5	174.5	0.0
F	4,236 ¹	40	128	2.0	193.1	193.1	193.8	0.7
G	4,285 ¹	40	167	1.5	193.1	193.1	193.8	0.7
H	5,126 ¹	30	104	1.8	198.7	198.7	198.9	0.2
I	5,176 ¹	30	177	1.1	198.7	198.7	198.9	0.2
J	7,106 ¹	30	92	2.1	198.7	198.7	199.1	0.4
K	7,626 ¹	*	13	8.4	204.2	204.2	204.2	0.0
L	8,146 ¹	*	26	4.2	208.9	208.9	208.9	0.0
M	8,266 ¹	*	19	5.9	212.3	212.3	212.7	0.4
N	8,316 ¹	30	88	1.2	213.6	213.6	213.6	0.0
O	8,676 ¹	*	21	5.3	216.8	216.8	216.8	0.0
P	9,170 ¹	*	29	3.8	218.8	218.8	218.9	0.1
Q	9,226 ¹	30	53	2.1	219.0	219.0	219.1	0.1
R	10,086 ¹	30	140	0.8	227.3	227.3	227.5	0.2
S	10,116 ¹	30	118	0.9	227.3	227.3	227.5	0.2
Tadmuck Swamp Brook								
A	850 ²	150	684	0.3	199.1	199.1	199.1	0.0
B	3,040 ²	14	60	3.8	199.1	199.1	199.2	0.1
C	3,090 ²	100	262	0.9	199.4	199.4	199.5	0.1
D	4,420 ²	78	90	2.0	199.4	199.4	199.5	0.1

¹ Feet above confluence with Stony Brook 2

² Feet above confluence with Beaver Brook 2

³ Elevation computed without consideration of backwater effects from Stony Brook 2

* Floodway coincident with channel banks

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

TADMUCK BROOK – TADMUCK SWAMP BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Taylor Brook								
A	16 ¹	140	188	0.8	179.4	174.6 ⁴	175.2	0.6
B	143 ¹	58	90	1.7	179.4	174.7 ⁴	175.3	0.6
C	259 ¹	62	104	1.5	179.4	175.2 ⁴	175.5	0.3
D	359 ¹	126	170	0.9	179.4	175.5 ⁴	175.6	0.1
E	1,151 ¹	50	145	1.1	179.4	176.0 ⁴	176.1	0.1
Tributary 1 to Cole's Brook								
A	80 ²	260	690	0.2	149.8	145.8 ⁵	146.7	1.0
B	230 ²	30	100	1.0	149.8	145.8 ⁵	146.7	1.0
C	355 ²	30	80	1.1	149.8	145.9 ⁵	146.7	0.9
D	440 ²	50	260	0.4	149.8	148.7 ⁵	149.6	1.0
E	1,905 ²	80	30	2.9	149.8	149.6 ⁵	149.6	0.1
Tributary 1 to Sudbury River								
A	623 ³	15	36	4.0	120.3	118.0 ⁶	118.9	1.0
B	1,253 ³	8	29	5.0	124.1	124.1	124.6	0.5

¹ Feet above confluence with Assabet River

² Feet above confluence with Cole's Brook

³ Feet above confluence with Sudbury River

⁴ Elevation computed without consideration of backwater effects from Assabet River

⁵ Elevation computed without consideration of backwater effects from Cole's Brook

⁶ Elevation computed without consideration of backwater effects from Sudbury River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

**TAYLOR BROOK – TRIBUTARY 1 TO COLE'S BROOK –
TRIBUTARY 1 TO SUDBURY RIVER**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Tributary 2 to Assabet River								
A	770 ¹	77	473	0.2	125.0	122.6 ⁴	123.0	0.4
B	1,270 ¹	30	24	4.2	125.9	125.9	126.2	0.3
C	1,420 ¹	120	1,066	0.1	126.2	126.2	126.7	0.5
D	2,720 ¹	10	31	3.2	128.6	128.6	128.7	0.1
Tributary 2 to Tributary 1 to Cole's Brook								
A	500 ²	90	110	1.8	149.8	147.1 ⁵	147.6	0.5
B	875 ²	20	30	7.7	151.7	151.7	151.7	0.0
C	1,000 ²	40	160	1.2	154.0	154.0	154.6	0.6
D	1,815 ²	10	20	8.7	159.9	159.9	160.1	0.2
E	2,715 ²	20	40	4.9	185.1	185.1	185.2	0.1
Tributary 3 to Bogle Brook 2								
A	53 ³	32	156	1.5	178.7	178.7	178.7	0.0
B	845 ³	22	111	2.2	178.8	178.8	179.0	0.2
C	1,109 ³	23	51	4.7	179.9	179.9	180.4	0.5
D	1,639 ³	25	55	4.4	183.4	183.4	184.2	0.8
E	2,429 ³	67	178	1.3	184.5	184.5	186.1	0.6

¹ Feet above confluence with Assabet River

² Feet above confluence with Tributary 1 to Cole's Brook

³ Feet above confluence with Bogle Brook 2

⁴ Elevation computed without consideration of backwater effects from Assabet River

⁵ Elevation computed without consideration of backwater effects from Cole's Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

TRIBUTARY 2 TO ASSABET RIVER – TRIBUTARY 2 TO TRIBUTARY 1 TO
COLE'S BROOK – TRIBUTARY 3 TO BOGLE BROOK 2

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Tributary 4 to Bogle Brook 2								
A	106 ¹	25	39	4.4	157.9	157.9	157.9	0.0
B	475 ¹	12	23	7.4	161.6	161.6	161.6	0.0
C	634 ¹	10	26	6.5	163.3	163.3	163.8	0.5
D	1,109 ¹	23	46	3.7	168.7	168.7	169.7	1.0
E	1,531 ¹	30	43	4.0	172.3	172.3	172.5	0.2
F	1,901 ¹	28	57	3.0	173.6	173.6	173.7	0.1
G	2,165 ¹	16	32	5.3	174.8	174.8	175.0	0.2
H	2,904 ¹	75	67	2.5	179.6	179.6	179.7	0.1
I	3,590 ¹	35	38	4.5	184.8	184.8	184.8	0.0
Tributary A to Course Brook								
A	434 ²	20	66	3.1	147.3	144.8 ⁴	145.7	0.9
B	1,172 ²	29	88	2.0	147.3	145.8 ⁴	146.5	0.7
C	2,054 ²	21	56	3.3	148.7	148.7	149.4	0.7
Tributary A to Squannacook River								
A	3,690 ³	30	122	1.9	293.5	293.4 ⁵	293.5	0.1
B	4,770 ³	30	107	2.1	293.7	293.7	294.2	0.5
Tributary B to Squannacook River								
A	900 ³	8	9	5.9	295.6	295.6	295.6	0.0
B	1,590 ³	10	17	3.0	301.5	301.5	301.6	0.1
¹ Feet above confluence with Bogle Brook 2					⁴ Elevation computed without consideration of backwater effects from Course Brook			
² Feet above confluence with Course Brook					⁵ Elevation computed without consideration of backwater effects from Squannacook River			
³ Feet above confluence with Squannacook River								
TABLE 12	FEDERAL EMERGENCY MANAGEMENT AGENCY			FLOODWAY DATA				
	MIDDLESEX COUNTY, MA (ALL JURISDICTIONS)			TRIBUTARY 4 TO BOGLE BROOK 2 - TRIBUTARY A TO COURSE BROOK - TRIBUTARY A TO SQUANNACOOK RIVER - TRIBUTARY B TO SQUANNACOOK RIVER				

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Tributary to Cold Spring Brook								
A	1,595 ¹	103	392	0.3	180.5	178.1 ⁴	179.1	1.0
B	1,980 ¹	88	307	0.4	180.5	178.1 ⁴	179.1	1.0
C	2,920 ¹	16	20	6.3	198.7	198.7	198.7	0.0
D	3,500 ¹	16	28	4.5	211.3	211.3	211.7	0.4
E	3,795 ¹	16	19	6.5	224.2	224.2	224.3	0.1
F	4,060 ¹	17	32	3.9	228.7	228.7	229.4	0.7
G	4,770 ¹	22	54	2.3	232.4	232.4	233.2	0.8
Tributary to Indian Brook								
A	1,500 ²	20	61	2.1	301.9	301.6 ⁵	302.0	0.4
B	2,280 ²	8	40	3.2	305.9	305.9	306.5	0.6
Tributary to Martins Brook								
A	1,320 ³	357	1,786	0.1	78.6	73.8 ⁶	74.8	1.0
B	2,387 ³	108	358	0.4	78.6	73.8 ⁶	74.8	1.0
C	3,913 ³	78	306	0.4	80.6	80.6	81.2	0.6
D	4,410 ³	60	278	0.5	80.6	80.6	81.3	0.7

¹ Feet above confluence with Cold Spring Brook

² Feet above confluence with Indian Brook

³ Feet above confluence with Martins Brook

⁴ Elevation computed without consideration of backwater effects from Sudbury River

⁵ Elevation computed without consideration of backwater effects from Indian Brook

⁶ Elevation computed without consideration of backwater effects from Martins Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

TRIBUTARY TO COLD SPRING BROOK – TRIBUTARY TO INDIAN BROOK –
TRIBUTARY TO MARTINS BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Tributary B to Vine Brook								
A	1,288 ¹	200	580	1.3	124.8	122.5 ³	123.2	0.7
B	3,849 ¹	20	58	1.6	140.0	140.0	140.0	0.0
C	4,715 ¹	40	233	0.4	145.6	145.6	145.7	0.1
Tributary C to Vine Brook								
A	935 ¹	100	246	1.5	137.6	134.0 ³	134.8	0.8
B	1,357 ¹	20	55	6.5	139.7	139.7	139.9	0.2
C	1,848 ¹	50	255	1.4	144.6	144.6	144.9	0.3
D	2,503 ¹	50	231	1.6	144.8	144.8	145.5	0.7
E	2,825 ¹	40	94	4.9	147.3	147.3	147.5	0.2
F	3,041 ¹	60	318	1.5	155.3	155.3	155.9	0.6
G	3,775 ¹	60	312	1.5	155.7	155.7	156.4	0.7
H	4,092 ¹	40	169	2.7	155.8	155.8	156.7	0.9
Tributary to Beaver Brook 3								
A	150 ²	80	489	0.4	90.1	90.1	91.1	1.0
B	2,260 ²	40	185	0.9	102.7	102.7	103.5	0.8
C	3,260 ²	20	67	2.6	104.9	104.9	105.3	0.4

¹ Feet above confluence with Vine Brook

² Feet above confluence with Beaver Brook 3

³ Elevation computed without consideration of backwater effects from Vine Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

TRIBUTARY B TO VINE BROOK – TRIBUTARY C TO VINE BROOK –
TRIBUTARY TO BEAVER BROOK 3

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Tributary to Mill Brook								
A	0	139	297	0.4	119.4	119.4	120.4	1.0
B	729	66	156	0.7	120.0	120.0	121.0	1.0
C	1,199	88	207	0.5	120.5	120.5	121.5	1.0
D	1,346	10	38	2.8	121.1	121.1	122.1	1.0
E	1,874	110	298	0.4	121.5	121.5	122.5	1.0
F	2,344	101	188	0.6	121.9	121.9	122.9	1.0
G	2,645	34	108	1.0	122.3	122.3	123.3	1.0
H	3,643	141	333	0.2	122.5	122.5	123.5	1.0
I	4,921	22	38	1.3	125.5	125.5	126.5	1.0
J	5,290	4	11	4.5	132.9	132.9	133.4	0.5
K	5,692	4	10	5.0	148.0	148.0	148.3	0.3
L	5,797	4	13	3.8	151.8	151.8	151.9	0.1
M	5,882	3	8	6.3	152.2	152.2	152.5	0.3
N	6,130	4	29	1.7	156.0	156.0	156.4	0.4
O	6,579	11	61	0.8	156.0	156.0	157.0	1.0
P	6,991	154	444	0.4	156.0	156.0	157.0	1.0

¹ Feet above confluence with Mill Brook

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

TRIBUTARY TO MILL BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Tributary to Nonacoicus Brook 1/Long Pond Brook								
A	220 ¹	150	1,398	0.1	227.1	227.1	228.0	0.9
B	1,230 ¹	160	878	0.2	227.5	227.5	228.1	0.6
C	2,420 ¹	340	1,976	0.1	228.3	228.3	228.9	0.6
D	3,770 ¹	245	1,445	0.1	228.3	228.3	228.9	0.6
E	5,210 ¹	165	805	0.2	228.3	228.3	228.9	0.6
F	7,070 ¹	930	6,459	0.0	228.3	228.3	228.9	0.6
G	8,900 ¹	1,820	16,104	0.0	228.5	228.5	229.1	0.6
H	9,650 ¹	230	1,423	0.0	228.5	228.5	229.1	0.6
I	10,000 ¹	145	716	0.1	228.5	228.5	229.1	0.6
J	10,600 ¹	148	486	0.1	228.5	228.5	229.1	0.6
K	11,250 ¹	600	780	0.1	228.5	228.5	229.1	0.6
Tributary to Waushakum Pond								
A	940 ²	110	311	0.5	159.4	159.4	160.3	0.9
B	2,590 ²	35	85	1.6	163.0	163.0	163.7	0.7

¹ Feet above confluence with Nonacoicus Brook 1

² Feet above limit of detailed study, limit of detailed study is approximately 1,155 feet downstream of Greenwood Street

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

TRIBUTARY TO NONACOICUS BROOK 1/ LONG POND BROOK –
TRIBUTARY TO WAUSHAKUM POND

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Trout Brook 1								
A	2,200 ¹	26	39	4.6	101.9	101.9	102.2	0.3
B	3,140 ¹	32	191	0.9	120.4	120.4	120.7	0.3
C	5,300 ¹	67	72	2.5	128.8	128.8	128.8	0.0
D	5,850 ¹	25	97	1.9	133.0	133.0	133.1	0.1
E	8,930 ¹	20	80	2.2	142.8	142.8	143.1	0.3
Trout Brook 2								
A	1,200 ²	6	8	6.7	239.5	239.5	239.6	0.1
B	3,100 ²	5	10	5.5	268.8	268.8	269.4	0.6
C	3,360 ²	9	6	3.5	270.5	270.5	270.8	0.3
Trull Brook								
A	544 ³	20	84	4.2	56.8	47.9 ⁴	47.9	0.0
B	1,056 ³	20	57	6.2	56.8	49.2 ⁴	49.5	0.3
C	2,138 ³	20	56	6.3	69.4	69.4	69.7	0.3
D	2,640 ³	25	165	2.2	79.2	79.2	79.2	0.0
E	3,437 ³	20	90	4.0	81.1	81.1	81.3	0.2
F	4,071 ³	15	80	3.5	93.8	93.8	93.8	0.0
G	4,541 ³	20	102	2.8	93.9	93.9	94.3	0.4
H	5,834 ³	30	88	3.2	101.1	101.1	101.1	0.0
I	7,075 ³	30	136	2.1	103.8	103.8	104.1	0.3
J	9,462 ³	60	268	1.1	103.8	103.8	104.7	0.9
K	11,088 ³	105	354	0.6	103.9	103.9	104.9	1.0
L	12,038 ³	100	250	0.8	104.1	104.1	105.1	1.0

¹ Feet above confluence with Richardson Brook

² Feet above confluence with Nashua River

³ Feet above confluence with Merrimack River

⁴ Elevation computed without consideration of backwater effects from Merrimack River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

TROUT BROOK 1 – TROUT BROOK 2 – TRULL BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Trull Brook Tributary								
A	1,680 ¹	40	95	1.5	103.9	103.9	104.9	1.0
B	2,380 ¹	30	150	0.9	110.1	110.1	110.9	0.8
C	2,740 ¹	40	157	0.9	110.1	110.1	110.9	0.8
D	3,060 ¹	40	139	1.0	110.1	110.1	111.0	0.9
E	6,320 ¹	80	435	0.2	125.5	125.5	126.4	0.9
F	7,400 ¹	93	524	0.1	125.5	125.5	126.4	0.9
G	7,550 ¹	46	137	0.5	126.7	126.7	127.6	0.9
H	8,470 ¹	140	859	0.1	129.0	129.0	129.0	0.0
Unkety Brook								
A	520 ²	71	131	1.4	214.9	214.9	215.6	0.7
B	3,710 ²	115	367	0.5	221.5	221.5	222.3	0.8
C	5,695 ²	58	79	2.4	223.5	223.5	224.1	0.6
Varnum Brook								
A	472 ³	6	15	9.1	190.4	190.4	190.7	0.3
B	950 ³	9	29	4.7	201.8	201.8	202.7	0.9
C	1,287 ³	17	50	2.7	207.7	207.7	208.4	0.7
D	1,840 ³	30	60	2.2	215.5	215.5	216.5	1.0
E	2,920 ³	20	40	3.2	226.3	226.3	227.1	0.8
F	3,412 ³	5	20	3.1	231.8	231.8	232.3	0.5
G	3,905 ³	19	46	1.3	232.9	232.9	233.7	0.8
H	4,478 ³	49	413	0.1	240.5	240.5	241.2	0.7

¹ Feet above confluence with Trull Brook

² Feet above limit of detailed study, limit of detailed study is approximately 2,735 feet downstream of Radian Road

³ Feet above confluence with Nashua River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

TRULL BROOK TRIBUTARY – UNKETY BROOK – VARNUM BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Vine Brook								
A	1,055	100	409	2.0	99.9	97.8 ²	98.6	0.8
B	1,790	30	110	7.5	99.9	99.3 ²	99.7	0.4
C	2,235	50	267	3.1	101.5	101.5	102.1	0.6
D	2,655	33	140	5.9	101.7	101.7	102.7	1.0
E	2,855	20	81	10.2	106.4	106.4	106.8	0.4
F	3,120	50	620	1.3	121.6	121.6	121.6	0.0
G	3,855	40	340	2.4	121.6	121.6	121.6	0.0
H	4,425	40	321	2.5	122.2	122.2	122.2	0.0
I	5,100	40	294	2.7	122.7	122.7	122.9	0.2
J	5,400	60	444	1.8	122.9	122.9	123.3	0.4
K	6,572	200	1,380	1.1	123.0	123.0	123.9	0.9
L	7,786	100	580	1.4	123.1	123.1	124.0	0.9
M	9,808	100	639	1.3	123.6	123.6	124.6	1.0
N	12,095	500	3,314	0.3	124.8	124.8	125.8	1.0
O	17,491	150	531	1.9	124.8	124.8	125.8	1.0
P	18,578	30	319	3.2	132.4	132.4	133.0	0.6
Q	19,059	22	225	4.5	132.4	132.4	133.1	0.7
R	19,751	30	221	4.5	133.4	133.4	134.1	0.7
S	21,366	30	230	2.2	135.1	135.1	135.7	0.6
T	23,246	30	214	2.3	135.8	135.8	136.3	0.5
U	24,265	90	490	1.0	137.6	137.6	138.2	0.6
V	26,414	200	537	0.9	154.3	154.3	155.2	0.9
W	26,863	40	176	2.8	159.8	159.8	160.3	0.5
X	29,890	128	1,540	0.3	179.4	179.4	180.4	1.0
Y	30,471	186	1,871	0.3	179.4	179.4	180.4	1.0
Z	30,682	193	1,591	0.3	179.4	179.4	180.4	1.0

¹ Feet above confluence with Shawsheen River

² Elevation computed without consideration of backwater effects from Shawsheen River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

VINE BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Vine Brook (continued)								
AA	30,999	114	778	0.6	179.4	179.4	180.4	1.0
AB	31,316	92	754	0.6	181.8	181.8	182.8	1.0
AC	31,897	40	344	1.3	181.9	181.9	182.9	1.0
AD	32,124	62	529	0.8	182.5	182.5	183.5	1.0
AE	33,022	64	506	0.9	182.5	182.5	183.5	1.0
AF	33,233	222	1,252	0.3	182.5	182.5	183.5	1.0
AG	34,711	32	273	1.4	182.6	182.6	183.6	1.0
AH	34,922	44	312	1.2	182.6	182.6	183.6	1.0
AI	35,133	146	679	0.6	182.7	182.7	183.7	1.0
AJ	35,466	30	278	1.4	182.7	182.7	183.7	1.0
AK	35,677	556	1,236	0.3	183.5	183.5	184.5	1.0
AL	36,575	21	162	2.2	183.6	183.6	184.6	1.0
AM	36,628	50	345	1.0	183.7	183.7	184.7	1.0

¹ Feet above confluence with Shawsheen River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

VINE BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Walker Brook 1								
A	2,030 ¹	40	155	0.6	218.0	218.0	218.0	0.0
B	3,670 ¹	10	22	4.5	223.8	223.8	224.2	0.4
C	6,045 ¹	12	28	3.6	239.2	239.2	240.2	1.0
Walker Brook 2								
A	2,050 ²	500	3,484	1.0	309.1	309.1	309.8	0.7
B	4,800 ²	1,150	8,152	0.2	309.2	309.2	309.9	0.7
C	6,400 ²	1,205	7,426	0.2	309.2	309.2	309.9	0.7
D	9,850 ²	20	69	9.2	319.5	319.5	319.8	0.3
E	11,440 ²	40	214	2.9	356.6	356.6	356.6	0.0
F	12,600 ²	15	57	11.1	385.2	385.2	385.6	0.4
G	14,000 ²	50	189	3.3	406.5	406.5	406.9	0.4
H	15,900 ²	45	116	5.4	416.6	416.6	416.7	0.1
Walker Brook 3								
A	600 ³	37	64	3.0	256.7	245.4 ⁴	246.3	0.9
B	1,550 ³	10	27	7.1	259.0	259.0	259.5	0.5
C	2,460 ³	75	434	0.4	284.3	284.3	284.3	0.0
D	3,640 ³	7	31	6.1	299.9	299.9	300.1	0.2
E	3,950 ³	78	225	0.8	307.0	307.0	307.9	0.9
F	4,500 ³	8	21	9.2	314.6	314.6	315.0	0.4

¹ Feet above confluence with Nashua River

² Feet above confluence with Squannacook River

³ Feet above confluence with Sudbury River Reservoir

⁴ Elevation computed without consideration of backwater effects from Sudbury River Reservoir

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

WALKER BROOK 1 – WALKER BROOK 2 – WALKER BROOK 3

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Walkers Brook								
A	660	20	66	4.2	79.7	79.7	80.2	0.5
B	681	10	39	7.2	79.8	79.8	80.2	0.4
C	1,399	16	109	2.6	83.4	83.4	83.5	0.1
D	1,663	14	100	2.8	83.5	83.5	83.7	0.2
E	1,927	14	104	2.7	83.7	83.7	83.9	0.2
F	2,777	12	92	3.0	83.8	83.8	84.4	0.6
G	2,820	34	240	1.0	83.8	83.8	84.6	0.8
H	3,369	36	243	0.8	83.8	83.8	84.6	0.8
I	3,865	39	238	0.8	83.8	83.8	84.6	0.8
J	4,704	38	228	0.9	83.9	83.9	84.6	0.7
K	4,757	28	158	1.1	83.9	83.9	84.6	0.7
L	5,264	28	153	1.2	83.9	83.9	84.7	0.8
M	5,607	28	161	1.1	84.3	84.3	85.1	0.8
N	6,753	10	67	2.7	85.6	85.6	85.7	0.1
O	6,933	12	86	2.1	85.6	85.6	85.8	0.2
P	7,851	10	61	3.0	85.7	85.7	86.3	0.6

¹ Feet above limit of detailed study, limit of detailed study is approximately 565 feet downstream of State Route 129 Eastbound

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

WALKERS BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Wellington Brook								
A	590	31	77	1.9	6.8	5.2 ²	5.4	0.2
B	1,450	27*	64	2.6	6.9	6.5 ²	6.5	0.0
C	3,770	23*	90	1.1	7.7	7.7	7.7	0.0
D	5,730	10*	17	6.3	15.1	15.1	15.1	0.0
E	6,190	32	39	2.6	17.9	17.9	18.0	0.1
F	6,460	16	24	4.1	20.2	20.2	20.3	0.1

¹ Feet above confluence with Alewife Brook (Little River)

² Elevation computed without consideration of backwater effects from Alewife Brook (Little River)

* The measured top width on the FIRM may differ due to the effects of ineffective flow, the exclusion of small pocket areas due to map scale limitations, or is estimated due to HEC-RAS modeling limitations

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

WELLINGTON BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
West Chester Brook								
A	74	34	265	0.8	44.1	44.1	44.1	0.0
B	174	31	184	1.1	44.1	44.1	44.1	0.0
C	269	21	137	1.5	44.1	44.1	44.1	0.0
D*	570	9	49	4.1	46.8	46.8	46.8	0.0
E*	618	6	24	9.9	46.8	46.8	46.8	0.0
F*	866	49	43	6.0	50.2	50.2	50.2	0.0
G*	940	98	69	5.8	52.1	52.1	52.1	0.0
H*	1,035	31	33	6.1	59.8	59.8	59.8	0.0
I*	1,336	35	58	4.0	62.4	62.4	62.4	0.0
J	1,536	40	43	7.1	66.4	66.4	66.4	0.0
K	1,563	7	20	10.0	66.9	66.9	66.9	0.0
L	1,764	35	106	1.9	71.6	71.6	71.6	0.0
M	1,811	20	52	3.8	71.6	71.6	71.6	0.0
N	1,938	22	53	3.8	71.8	71.8	71.8	0.0
O	2,017	20	76	2.6	73.9	73.9	73.9	0.0
P	2,265	39	98	2.0	73.9	73.9	73.9	0.0
Q	2,513	25	70	2.8	74.0	74.0	74.0	0.0
R	2,714	125	101	2.0	75.3	75.3	75.3	0.0
S	2,915	144	146	1.4	75.4	75.4	75.4	0.0
T	3,168	111	132	1.5	75.4	75.4	75.4	0.0
U	3,448	15	54	3.7	75.4	75.4	75.4	0.0
V	3,501	55	201	1.0	76.7	76.7	77.6	0.9
W	3,622	75	261	0.8	76.7	76.7	77.6	0.9
X	3,670	39	192	1.0	76.7	76.7	77.6	0.9
Y	4,044	50	82	2.4	77.0	77.0	77.7	0.7
Z	4,240	26	65	3.1	77.9	77.9	78.1	0.2

¹ Feet above confluence with Chester Brook

* Cross sections D-I are not illustrated on the FIRM

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

WEST CHESTER BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
West Chester Brook (continued)								
AA	4,261 ¹	39	133	1.5	80.8	80.8	81.2	0.4
AB	4,319 ¹	39	408	0.5	80.8	80.8	81.2	0.4
AC	4,625 ¹	26	79	2.5	80.8	80.8	81.2	0.4
AD	4,699 ¹	27	105	1.9	84.1	84.1	84.2	0.1
AE	4,800 ¹	50	185	1.1	87.0	87.0	87.0	0.0
AF	5,011 ¹	20	70	2.8	93.3	93.3	93.5	0.2
AG	5,306 ¹	14	26	7.8	102.9	102.9	102.9	0.0
AH	5,570 ¹	32	34	5.9	114.1	114.1	114.1	0.0
Whitehall Brook								
A	1,950 ²	726	3,691	0.3	280.0	280.0	281.0	1.0
B	2,870 ²	898	6,240	0.2	282.5	282.5	283.5	1.0
C	4,600 ²	415	3,040	0.4	283.1	283.1	284.1	1.0
D	5,750 ²	158	1,069	1.1	283.5	283.5	284.5	1.0
E	8,870 ²	242	1,482	0.8	284.0	284.0	285.0	1.0
F	10,770 ²	37	124	9.8	284.6	284.6	285.0	0.4
G	12,870 ²	110	599	2.0	288.8	288.8	289.7	0.9
H	13,790 ²	112	638	1.9	289.3	289.3	290.1	0.8
I	14,760 ²	140	388	3.1	290.0	290.0	290.7	0.7
J	15,600 ²	185	685	1.8	291.3	291.3	292.2	0.9
K	17,100 ²	104	386	3.1	293.2	293.2	294.2	1.0
Willard Brook								
A	1,700 ³	150	622	4.7	309.2	309.2	309.8	0.6
B	3,700 ³	560	633	4.6	329.5	329.5	329.5	0.0
C	4,900 ³	70	304	9.6	345.9	345.9	346.1	0.2

¹ Feet above confluence with Chester Brook

² Feet above confluence with Sudbury River

³ Feet above confluence with Walker Brook 2

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

WEST CHESTER BROOK – WHITEHALL BROOK – WILLARD BROOK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Winthrop Canal								
A	237	12	67	4.6	180.5	180.5	180.5	0.0
B	755	12	84	3.7	181.1	181.1	181.9	0.8
C	1,034	18	108	2.9	181.4	181.4	182.4	1.0
D	1,187	19	93	3.3	181.5	181.5	182.5	1.0
E	1,298	12	81	3.9	183.4	183.4	183.6	0.2
F	1,457	12	83	3.7	183.5	183.5	184.0	0.5
G	1,599	12	84	3.7	184.1	184.1	184.2	0.1
H	1,779	12	90	3.4	184.2	184.2	184.9	0.7
I	1,927	20	140	2.2	184.3	184.3	185.1	0.8
J	2,006	12	96	3.3	184.3	184.3	185.2	0.9
K	2,212	12	101	2.0	185.3	185.3	185.7	0.4
L	2,391	10	88	2.3	185.4	185.4	186.0	0.6
M	2,666	171	882	0.2	185.8	185.8	186.6	0.8
N	2,903	15	131	1.6	185.8	185.8	186.6	0.8
O	3,167	15	131	1.6	185.8	185.8	186.7	0.9
P	3,299	15	164	1.3	187.1	187.1	188.0	0.9
Q	3,558	18	195	1.1	187.4	187.4	188.3	0.9
R	4,361	18	193	1.1	187.4	187.4	188.3	0.9
S	4,530	328	1,723	0.1	187.4	187.4	188.4	1.0
T	4,730	328	1,724	0.1	187.4	187.4	188.4	1.0

¹ Feet above Linden Pond Dam

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

WINTHROP CANAL

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Witch Brook								
A	4,000	155	617	2.6	259.0	259.0	259.9	0.9
B	5,350	181	769	2.1	263.5	263.5	264.3	0.8
C	6,600	220	1,226	0.2	268.4	268.4	268.5	0.1
D	7,200	90	485	0.6	268.4	268.4	268.5	0.1
E	9,350	34	68	4.1	270.8	270.8	271.4	0.6
F	11,200	21	41	6.9	286.5	286.5	286.9	0.4
G	12,900	21	38	7.3	311.5	311.5	311.9	0.4
H	13,500	20	39	7.2	323.8	323.8	324.5	0.7

¹ Feet above confluence with Squannacook River

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

**MIDDLESEX COUNTY, MA
(ALL JURISDICTIONS)**

FLOODWAY DATA

WITCH BROOK