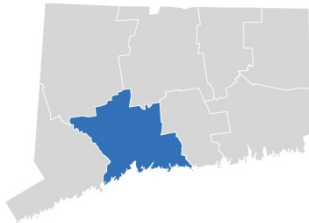


# FLOOD INSURANCE STUDY

## FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 2 OF 10



### NEW HAVEN COUNTY, CONNECTICUT (ALL JURISDICTIONS)

		COMMUNITY NAME	NUMBER
COMMUNITY NAME	NUMBER	TOWN OF PROSPECT	090151
CITY OF ANSONIA	090071	TOWN OF SEYMOUR	090088
TOWN OF BEACON FALLS	090072	TOWN OF SOUTHURY	090089
TOWN OF BETHANY	090144	TOWN OF WALLINGFORD	090090
TOWN OF BRANFORD	090073	CITY OF WATERBURY	090091
TOWN OF CHESHIRE	090074	CITY OF WEST HAVEN	090092
CITY OF DERBY	090075	TOWN OF WOLCOTT	090093
TOWN OF EAST HAVEN	090076	TOWN OF WOODBRIDGE	090153
TOWN OF GUILFORD	090077	BOROUGH OF WOODMONT	090168
TOWN OF HAMDEN	090078		
TOWN OF MADISON	090079		
CITY OF MERIDEN	090081		
TOWN OF MIDDLEBURY	090080		
CITY OF MILFORD	090082		
BOROUGH OF NAUGATUCK	090137		
CITY OF NEW HAVEN	090084		
TOWN OF NORTH BRANFORD	090085		
TOWN OF NORTH HAVEN	090086		
TOWN OF ORANGE	090087		
TOWN OF OXFORD	090150		

**REVISED:**

**MAY 16, 2017**

FLOOD INSURANCE STUDY NUMBER  
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**Published Separately**

Flood Insurance Rate Map (FIRM)

## 5.2 Hydraulic Analyses

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

For streams for which hydraulic analyses were based on cross sections, locations of selected cross sections are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 6.3), selected cross sections are also listed on Table 24, "Floodway Data."

A summary of the methods used in hydraulic analyses performed for this project is provided in **Error! Reference source not found..** Roughness coefficients are provided in **Error! Reference source not found..** Roughness coefficients are values representing the frictional resistance water experiences when passing overland or through a channel. They are used in the calculations to determine water surface elevations. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.



**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Beacon Hill Brook	Confluence with Naugatuck River	Corporate limits with Bethany	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	November, 1977	AE	
Beaver Brook No. 1	Confluence with Naugatuck River	Quillian Reservoir	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1976)	November, 1989	AE	
Beaver Brook No. 2	Naugatuck Avenue	Approximately 150 feet upstream of Plains Road	HEC-1 (USACE, 1970)	HEC-2 Water Surface Profiles Program (USACE, 1981)	September, 1985	AE	Lake storage was considered to have a significant effect on reducing the peak flood discharges on Beaver Brook No. 2.
Beaver Brook No. 3	Confluence with Wintergreen Brook	Crescent Street	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	Step-backwater computer model WSP2 (SCS, 1976)	September, 1977	AE	
Beaver Pond Brook	Confluence with Mad River	Approximately 950 feet upstream of Austin Road	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	November, 1977	AE	
Bladens River (Lower Reach)	Confluence with Naugatuck River	Confluence with Bladens River Tributary	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	July, 1977	AE	

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Bladens River (Upper Reach)	Corporate limits with Seymour	State Route 67	USGS Floodflow Formulas (Weiss, 1975)	Step-backwater computer program, E431 and J635 for areas with critical flow, (Shearman, 1976)	December, 1978	AE	
Bladens River Tributary	Confluence with Bladens River	Approximately 450 feet upstream of Bunting Road	Rational Method	HEC-2 Water Surface Profiles Program (USACE, 1973)	July, 1977	AE	
Branford River	Approximately 900 feet downstream of East Main Street	Confluence with west outflow from Lake Gaillard	USGS Regional Regression Equations (Ahearn, 2004)	HEC-RAS River Analysis System 4.1.0 (USACE, 2010)	July, 2014	AE	
Branford River	Confluence with west outflow from Lake Gaillard	Lake Gaillard	Frequency-discharge relationships using SCS TR20	HEC-2 Water Surface Profiles Program (USACE, 1973)	February, 1977	AE	
Bronson Brook	Confluence with Naugatuck River	Confluence with Bronson Brook Tributary	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	August, 1977	AE	
Bronson Brook Tributary	Confluence with Bronson Brook	Approximately 600 feet upstream of Lasky Road	Rational Method	HEC-2 Water Surface Profiles Program (USACE, 1973)	August, 1977	AE	
Brookdale Stream	Confluence with Eaton Brook	Still Hill Road	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	Step-backwater computer model WSP2 (SCS, 1976)	December, 1978	AE	

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Burr Brook	Confluence with Farm River	State Route 80	Frequency-discharge relationships using SCS TR20	HEC-2 Water Surface Profiles Program (USACE, 1973)	February, 1977	AE	
Camp Laurelwood Brook	Confluence with Hammonasset River	Approximately 500 feet upstream of Summer Hill Road	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	Step-backwater computer model WSP2 (SCS, 1976)	January, 1977	AE	
Club Creek	High Street	Burwell Road	N/A	N/A	May, 2014	AE	
Cold Spring Brook	Confluence with Fulling Mill Brook	Longview Terrace	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	November, 1977	AE	
Cove River	Approximately 2,500 feet downstream of railroad	Corporate limits with Orange	USGS Flood-flow formula for Connecticut (Bigwood-Thomas, 1955)	HEC-2 Water Surface Profiles Program (USACE, 1973)	February, 1976	AE	

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
East River	Bear House Hill Road	Just downstream of Lakeside Drive	Frequency-discharge relationships established from nearby gages (below Little Meadow Brook); upstream of confluence with Little Meadow Brook flows are based on transfer equations using flows reported in Town of Guilford FIS (Nov 1977) using drainage area ratio equation	HEC-2 Water Surface Profiles Program (USACE, 1973, rev 1980)	December, 1982	AE	
Eaton Brook	Confluence with Mill River	Approximately 50 feet upstream of West Wood Road	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	Step-backwater computer model WSP2 (SCS, 1976)	July, 1977	AE	
Eightmile Brook No. 1	Corporate limits with North Haven	State Route 17	Frequency-discharge relationships using SCS TR20	HEC-2 Water Surface Profiles Program (USACE, 1973)	February, 1977	AE	
Eightmile Brook No. 2	Confluence with Housatonic River	Approximately 0.42 mile upstream of Loughlin Road	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	June, 1979	AE	
Farley Creek	Approximately 1,100 feet upstream of Merwin Avenue	Anderson Avenue	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1981)	September, 1985	AE	no profile in FIS report, but reported as studied by detail methods

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Farm Brook	Corporate limits with New Haven	Benham Street	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	Step-backwater computer model WSP2 (SCS, 1976)	July, 1977	AE	
Farm River	Main Street	Hyla Lane	USGS Regional Regression Equations (Ahearn, 2004)	HEC-RAS River Analysis System 4.1.0 (USACE, 2010)	July, 2014	AE	
Five Mile Brook	Confluence with Muddy River	North Hill Road	USGS Floodflow Formulas (Weiss, 1975) compared to estimates derived using a rainfall-runoff technique TR55 (SCS, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1976)	July, 1978	AE	
Fivemile Brook	Confluence with Housatonic River	Approximately 1,600 feet upstream of East Hill Road	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	June, 1979	AE	
Fulling Mill Brook	Confluence with Naugatuck River	Approximately 400 feet upstream of Maple Hill Road	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	November, 1977	AE	
Fulling Mill Brook Tributary	Approximately 240 feet downstream of Salem Road (downstream crossing)	Approximately 50 feet upstream of Salem Road (upstream crossing)	USGS Regional Regression Equations (Weiss, 1983)	HEC-2 Water Surface Profiles Program (USACE, 1991)	December, 1993	AE	

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Grieb Court Brook	Confluence with Muddy Brook	Approximately 150 feet upstream of Grieb Court	N/A	Step-backwater computer model WSP2 (SCS, 1976)	April, 1977	AE	
Gulf Brook	Confluence with Muddy River	Tommy's Path	Frequency-discharge relationships using SCS TR20	HEC-2 Water Surface Profiles Program (USACE, 1973)	February, 1977	AE	
Hammonasset River (Lower Reach)	U.S. Route 1	2.1 miles upstream of Interstate 95	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	HEC-2 Water Surface Profiles Program (USACE, 1988)	January, 1979	AE	
Hammonasset River (Upper Reach)	Chestnut Hill Road	County limits	USGS Regional Regression Equations (Weiss, 1983) and 1% AEP based on 1982 high waters and methods described in "Measurement of Peak Discharge at Dams" (Hulsing, 1967)	HEC-2 Water Surface Profiles Program (USACE, 1988)	June, 1991	AE	
Hancock Brook	Confluence with Naugatuck River	Approximately 4,800 feet upstream of Parker Street	USGS Floodflow Formulas (Weiss, 1975) adjusted for Hancock Brook dam	HEC-2 Water Surface Profiles Program (USACE, 1973)	November, 1977	AE	

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Hanover Street Brook	Confluence with Quinnipiac River	Approximately 1,000 ft upstream of Brownstone Road	USGS Floodflow Formulas (Weiss, 1975)	Step-backwater computer program, E431 and J635 for areas with critical flow, (Shearman, 1976)	August, 1987	AE	
Harbor Brook	Confluence with Quinnipiac River	Confluence of Spoon Shop and Willow Brooks	N/A	N/A	February, 2013	AE	
Hemp Swamp Brook	Confluence with Naugatuck River	Approximately 300 feet upstream of Back Rimmon Road	USGS Floodflow Formulas (Weiss, 1975) and Rational Method for headwaters	HEC-2 Water Surface Profiles Program (USACE, 1973)	August, 1977	AE	
Hop Brook (Lower Reach)	Confluence with Naugatuck River	Approximately 3,000 feet upstream of Porter Avenue	Discharges below Hop Brook Lake from USACE; USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	November, 1977	AE	
Hop Brook (Upper Reach)	Approximately 150 feet downstream of Interstate 84	County limits	LPIII analysis of gaging record (01208400) 1955-75 record	HEC-2 Water Surface Profiles Program (USACE, 1973)	November, 1977	AE	
Hopeville Pond Brook	Confluence with Naugatuck River	Approximately 300 feet upstream of Springlake Road	USGS Floodflow Formulas (Weiss, 1975) and Rational Method	HEC-2 Water Surface Profiles Program (USACE, 1973)	November, 1977	AE	

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Housatonic River (Lower Reach)	Approximately 7,000 feet above Washington Bridge	Corporate limits with Derby	Flows from discharge-frequency relationships developed by the USACE using the Design Memorandum No. 1 (1968) (USACE, 1965) for the Local Protection project in Derby, Connecticut, and modified for upstream reservoirs effects.	Gradually Varied Unsteady Flow Program (USACE, 1976)	April, 1977	AE	
Housatonic River (Lower Reach)	Corporate limits with Orange	State Route 34	LPIII analysis of gaging record (01200500) 67 yr record, with modifying effects of upstream reservoirs	HEC-2 Water Surface Profiles Program (USACE, 1988)	March, 1988	AE	



**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Housatonic River (Middle Reach)	State Route 34	Shepaug Dam	Flows from FIS report for Town of Derby (Sep 1978)	<p>Profiles for the Housatonic River upstream of the Stevenson Dam were based upon the flood flows determined at the Stevenson Gage just downstream of the dam.</p> <p>Resultant pool elevations for the 10-, 2-, 1-, and 0.2-percent annual chance floods were based upon the discharge curves developed for the dam and were illustrated in the federal licensing application for Stevenson Dam submitted by Connecticut Light and Power to the Federal Power Commission in April 1967. These pool elevations established at Stevenson Dam are assumed to be constant for the entire length of the backwater pool extending to the base of the Shepaug Dam</p>	December, 1977	AE	

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Indian River	Woodmont Road	State Route 114	USGS Floodflow Formulas (Weiss, 1975) and adjusted to ungaged locations using drainage area transfer equation SCS National Engineering Handbook (SCS, 1972)	HEC-2 Water Surface Profiles Program (USACE, 1973)	June, 1978	AE	
Iron Stream	State Route 80	Race Hill Road	USGS Regional Regression Equations (Weiss, 1983)	HEC-2 Water Surface Profiles Program (USACE, 1988)	June, 1991	AE	
Jepp Brook	Confluence with Willow Brook	Approximately 100 feet upstream of Still Hill Road	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	Step-backwater computer model WSP2 (SCS, 1976)	July, 1977	AE	
Jones Hill Road Brook	Approximately 150 feet upstream of Ocean Avenue	Approximately 500 feet upstream of Hubbard Avenue	Rational Method	HEC-2 Water Surface Profiles Program (USACE, 1973)	February, 1976	AE	
Judd Brook	Confluence with Tenmile River	County limits	USGS Regional Regression Equations (Weiss, 1983) adjusted for urbanization (Sauer, USGS WSP 2207).	HEC-2 Water Surface Profiles Program (USACE, 1998)	April, 2000	AE	
Karls Brook	Approximately 200 feet above confluence with Indian River	Corporate limits with Orange	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1981)	September, 1985	AE	

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Lindsley Brook	Confluence with Mad River	Lindsley Drive	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1976)	April, 1980	AE	
Little Meadow Brook	Confluence with East River	Killingworth Road	USGS Floodflow Formulas (Weiss, 1975) and drainage area ratio equation for upper reach	HEC-2 Water Surface Profiles Program (USACE, 1973, rev 1980)	December, 1982	AE	
Little River	Corporate limits with Seymour	Approximately 1,625 feet upstream of Christian Street	LP III analysis of gaging record (01208700) 1960-84 record	HEC-2 Water Surface Profiles Program (USACE, 1973)	June, 1979	AE	
Little River	Confluence with Naugatuck River	Corporate limits with Oxford	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	July, 1977	AE	
Long Meadow Pond Brook	Confluence with Naugatuck River	Approximately 400 feet upstream of sixth crossing Rubber Avenue	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	November, 1977	AE	
Long Swamp Brook	Confluence with Hop Brook	Approximately 1,000 feet upstream of Kelly Road	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	November, 1977	AE	
Lyman Hall Brook	Confluence with Wharton Brook	Approximately 50 feet upstream of Harrison Road	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	Step-backwater computer model WSP2 (SCS, 1976)	April, 1977	AE	

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Mad River (Lower Reach)	Confluence with Naugatuck River	Sharon Road	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	November, 1977	AE	
Mad River (Upper Reach)	Corporate limits with Waterbury	Approximately 2,600 feet upstream of Mad River Hill Road	USGS Floodflow Formulas (Weiss, 1975) and later modified for reservoir storage	HEC-2 Water Surface Profiles Program (USACE, 1976)	April, 1980	AE	
Maloney Brook	Confluence with Farm River	Approximately 50 feet upstream of Foxon Hill Road	USGS Regional Regression Equations (Ahearn, 2004) adjusted for urbanization (Sauer, USGS WSP 2207).	HEC-2 Water Surface Profiles Program (USACE, 1998)	October, 2000	AE	
Mansion Road Brook	Confluence with Quinnipiac River	Approximately 1,300 feet upstream of Jones Road	USGS Floodflow Formulas (Weiss, 1975)	Step-backwater computer program, E431 and J635 for areas with critical flow, (Shearman, 1976)	August, 1987	AE	
Meetinghouse Brook	Confluence with Quinnipiac River	Approximately 3,000 feet upstream of U.S. Route 5	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	Step-backwater computer model WSP2 (SCS, 1976)	April, 1977	AE	
Mill River	Lake Whitney Dam	Williamsburg Drive	Weighted flood-frequency estimates of gage data and USGS Regional Regression Equations (Ahearn, 2004)	HEC-RAS River Analysis System 4.1.0 (USACE, 2010)	July, 2014	AE	USGS Gage No. 01199620 was used in the hydrologic analysis.

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Mountain Brook	Juggernaut Road	Approximately 4,600 feet upstream of Juggernaut Road	USGS Regional Regression Equations (Weiss, 1983)	HEC-2 Water Surface Profiles Program (USACE, 1991)	December, 1993	AE	
Muddy River	Universal Drive North	Old Clintonville Road	USGS Floodflow Formulas (Weiss, 1975) compared with flows from FIS report for Town of Wallingford (March 15, 1978)	HEC-2 Water Surface Profiles Program (USACE, 1976)	July, 1978	AE	
Muddy River	Corporate limits with North Branford	Hampton Trail	SCS synthetic rainfall-runoff methods (TR20) with adjustments for storage (NRCS, 1986)	Step-backwater computer model WSP2 (SCS, 1976)	April, 1977	AE	

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Muddy River	Old Clintonville Road	Corporate limits with Wallingford	Effective FIS hydrology	HEC-RAS River Analysis System 4.1.0 (USACE, 2010)	July, 2014	AE	Muddy River peak discharges described in the FIS for New Haven County (issued on 12/17/2010) were applied to the middle reach to maintain flow uniformity between the upper and lower reaches. Peak discharges at the Wallingford/North Branford corporate limits (drainage area 12.4 mi <sup>2</sup> ) transferred to just above the confluence with unnamed tributary (540 feet downstream of Wallingford/North Haven corporate limits (drainage area 12.5 mi <sup>2</sup> ) using Johnstone and Cross (1949).
Muddy River Tributary C	Corporate limits with North Haven	Woodhouse Ave	Frequency-discharge relationships using SCS TR20	HEC-2 Water Surface Profiles Program (USACE, 1973)	February, 1977	AE	
Munger Brook	Confluence with Branford River	Corporate limits with Guilford	Frequency-discharge relationships using SCS TR20	HEC-2 Water Surface Profiles Program (USACE, 1973)	February, 1977	AE	

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Naugatuck River	Confluence with Housatonic River	County limits	LPIII analysis of gaging record (01208500) and modified for USACE flood control	HEC-2 Water Surface Profiles Program (USACE, 1973)	December, 1976	AE	
Neck River	U.S. Route 1	Approximately 1,500 feet upstream of Bradley Corners Road	USGS Regional Regression Equations (Weiss, 1983)	HEC-2 Water Surface Profiles Program (USACE, 1988)	June, 1991	AE	
Oakdale Brook	Confluence with Quinnipiac River	Approximately 160 feet upstream of Montowese Trail Road	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	Step-backwater computer model WSP2 (SCS, 1976)	April, 1977	AE	
Old Tannery Brook	Corporate limits with Waterbury	Approximately 2,700 feet upstream of Sunrise Road	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1976)	April, 1980	AE	
Pine Brook	Confluence with Quinnipiac River	Kings Highway	USGS Floodflow Formulas (Weiss, 1975) compared to estimates derived using a rainfall-runoff technique TR55 (SCS, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1976)	July, 1978	AE	
Pomperaug River	Confluence with Housatonic River	County limits	LPIII analysis of gaging record (01208500) 41 yrs of record	Step-backwater computer program, E431 and J635 for areas with critical flow, (Shearman, 1976)	December, 1977	AE	

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Quinnipiac River	Corporate limits with Wallingford	Corporate limits with Cheshire	LPIII analysis of gaging record (01196500) 40+ yrs record	Step-backwater computer program, E431 and J635 for areas with critical flow, (Shearman, 1976)	January, 1995	AE	only the 1% AEP updated
Quinnipiac River	Corporate limits with Meriden	County limits	LPIII analysis of gaging record (01196500) 55 yrs of record	Step-backwater computer program, E431 and J635 for areas with critical flow, (Shearman, 1976)	August, 1987	AE	
Quinnipiac River	Corporate limits with North Haven	Corporate limits with Meriden	LPIII analysis of gaging record (01196500) 66 yrs of record	HEC-2 Water Surface Profiles Program (USACE, 1973)	June, 1998	AE	
Quinnipiac River	Railroad	Corporate limits with Wallingford	Flows from USACE report on June 1982 flood review; from discharge-frequency curves developed from USGS gaging station (01196500) 52 yrs record	HEC-2 Water Surface Profiles Program (USACE, 1976)	August, 1983	AE	
Race Brook	Confluence with Wepawaug River	Corporate limits with Woodbridge	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	December, 1978	AE	



**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Race Brook	Corporate limits with Orange	State Route 313	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1991)	March, 1993	AE	restudied from about 600 ft upstream of Orange Center Rd to the upstream corporate limits
Riggs Street Brook	Confluence with Little River	Approximately 1.2 miles upstream of Riggs Street	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	June, 1979	AE	
Schildgen Pond Brook	Confluence with Fulling Mill Brook	Approximately 1,200 feet upstream of Cemetery Road	Rational Method	HEC-2 Water Surface Profiles Program (USACE, 1973)	November, 1977	AE	
Shepard Brook	Confluence with Mill River	Approximately 1,000 feet upstream of Sherman Avenue	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	Step-backwater computer model WSP2 (SCS, 1976)	July, 1977	AE	
Silver Brook	Confluence with Indian River	Derby Turnpike	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	June, 1978	AE	
Sodom Brook	Confluence with Harbor Brook	Approximately 3,500 feet upstream of Leonard Street	USGS Regional Regression Equations (Weiss, 1983)	Step-backwater computer program, E431 and J635 for areas with critical flow, (Shearman, 1976)	January, 1995	AE	only the 1% AEP updated

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Spoon Shop Brook	Confluence with Harbor Brook	Fleming Road	USGS Regional Regression Equations (Ahearn, 2004)	HEC-RAS River Analysis System 4.1.0 (USACE, 2010)	July, 2014	AE	
Steele Brook	Confluence with Naugatuck River	County limits	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1973)	November, 1977	AE	
Stubby Brook	Cherry Street	Corporate limits with Orange	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1981)	September, 1985	AE	
Tenmile River	County limits	Approximately 100 feet upstream of State Route 68	USGS Floodflow Formulas (Weiss, 1975)	Step-backwater computer program, E431 and J635 for areas with critical flow, (Shearman, 1976)	August, 1987	AE	
Tuttle Brook	Dodge Avenue	Interstate 95	SCS synthetic rainfall-runoff methods, frequency discharge drainage area curves	Step-backwater computer model WSP2 (SCS, 1976)	September, 1995	AE	incorporation of an older channelization project completed in 1978 for Tuttle Brook
Two Mile Brook	Barthlomew Avenue	Approximately 600 feet upstream of Milan Street	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1976)	November, 1989	AE	

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Watermans Brook	Confluence with Quinnipiac River	Basset Road	USGS Floodflow Formulas (Weiss, 1975) compared to estimates derived using a rainfall-runoff technique TR55 (SCS, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1976)	July, 1978	AE	
Webb Brook	Confluence with Long Meadow Pond Brook	Approximately 50 feet upstream of Gunntown Road	Rational Method	HEC-2 Water Surface Profiles Program (USACE, 1973)	September, 1977	AE	
Wepawaug River	Approximately 4,000 feet upstream of confluence with Race Brook	Corporate limits with Orange	Effective FIS discharges	HEC-RAS River Analysis System 4.1.0 (USACE, 2010)	July, 2014	AE	Wepawaug River peak discharges described in the FIS for New Haven County (issued on 12/17/2010) were applied to the middle reach to maintain flow uniformity between the upper and lower reaches. Peak discharges at drainage area of 6.9 mi <sup>2</sup> (Woodbridge/Orange corporate limits) were adjusted to drainage area 8.5 mi <sup>2</sup> (lower limits of the 2014 study, location describes as “just above confluence with Race Brook”), using Johnstone and Cross (1949).

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Wepawaug River	New Haven Avenue	Approximately 4,000 feet upstream of confluence with Race Brook	USGS Floodflow Formulas (Weiss, 1975) and straight line logarithmic interpolation for some frequencies	HEC-2 Water Surface Profiles Program (USACE, 1973)	March, 1978	AE	
Wepawaug River	Corporate limits with Orange	State Route 114	USGS Floodflow Formulas (Weiss, 1975)	Step-backwater computer program, E431 and J635 for areas with critical flow, (Shearman, 1976)	December, 1978	AE	
West Branch Farm Brook	Confluence with Farm Brook	Benham Street	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	Step-backwater computer model WSP2 (SCS, 1976)	July, 1977	AE	
West River No. 1	U.S. Route 1	Approximately 6,000 feet upstream of Race Hill Road	Frequency-discharge relationships established from nearby gages	HEC-2 Water Surface Profiles Program (USACE, 1973)	May, 1977	AE	
West River No. 2	Corporate limits with Woodbridge	Approximately 625 feet downstream of Lake Dawson Dam	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	HEC-2 Water Surface Profiles Program (USACE, 1984)	July, 1989	AE	
West River No. 2	Chapel Street	Corporate limits with Woodbridge	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	Step-backwater computer model WSP2 (SCS, 1976)	September, 1977	AE	

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Wharton Brook	Confluence with Quinnipiac River	Barnes Road	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	Step-backwater computer model WSP2 (SCS, 1976)	April, 1977	AE	
Whitemare Brook	Confluence with Beaver Brook	Approximately 1,100 feet upstream of Doyle Drive	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 Water Surface Profiles Program (USACE, 1976)	November, 1989	AE	
Willow Brook No. 1	Confluence with Mill River	Corporate limits with Cheshire	Data from USACE Flood Plain Information Report for the Mill River, Town of Hamden, March 1968; Drainage area transfer equation used with an exponent of 0.7 to get flows at ungaged locations. The discharge frequencies were estimated for the Mill River at Whitney Lake Dam by analyzing computed historic peak discharges and assigning frequency plotting positions. Progressing upstream from the dam, flows were reduced by a factor equal to the ratio of respective drainage areas to the 0.7 exponential power.	Step-backwater computer model WSP2 (SCS, 1976)	July, 1977	AE	

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Willow Brook No. 1	Corporate limits with Hamden	Higgins Road	USGS Floodflow Formulas (Weiss, 1975)	Step-backwater computer program, E431 and J635 for areas with critical flow, (Shearman, 1976)	August, 1987	AE	
Willow Brook No. 2	Confluence with Harbor Brook	Approximately 4,000 feet upstream of Cinema Road	USGS Regional Regression Equations (Weiss, 1983)	Step-backwater computer program, E431 and J635 for areas with critical flow, (Shearman, 1976)	January, 1995	AE	
Wintergreen Brook	Confluence with West River	Corporate limits with Hamden	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	Step-backwater computer model WSP2 (SCS, 1976)	September, 1977	AE	
Woodings Pond Brook	Confluence with Quinnipiac River	Approximately 50 feet upstream of Ridgewood Road	Synthetic rainfall-runoff method, TR20 (NRCS, 1986)	Step-backwater computer model WSP2 (SCS, 1976)	April, 1977	AE	
Wooster Brook	Straits Turnpike	Upstream corporate limits with Middlebury	Rational Method	HEC-2 Water Surface Profiles Program (USACE, 1973)	November, 1977	AE	

**Table 14: Roughness Coefficients**

Flooding Source	Channel “n”	Overbank “n”
Bailey Creek	0.025-0.055	0.015-0.160
Beacon Hill Brook	0.025-0.040	0.050-0.100
Beaver Brook No. 1	0.012-0.055	0.012-0.080
Beaver Brook No. 2	0.012-0.040	0.060-0.125
Beaver Brook No. 3	0.035-0.045	0.040-0.095
Beaver Pond Brook	0.025-0.040	0.040-0.100
Bladens River (Lower Reach)	0.040	0.050-0.080
Bladens River (Upper Reach)	0.030-0.037	0.040-0.070
Bladens River Tributary	0.040	0.050-0.080
Branford River	0.030-0.080	0.030-0.120
Bronson Brook	0.025-0.040	0.050-0.100
Bronson Brook Tributary	0.025-0.040	0.050-0.100
Brookdale Stream	0.040-0.050	0.040-0.075
Burr Brook	0.035-0.060	0.035-0.120
Camp Laurelwood Brook	0.025-0.055	0.015-0.160
Club Creek	Unknown	Unknown
Coginchaug River	0.025-0.050	0.025-0.100
Cold Spring Brook	0.030-0.040	0.070-0.100
Cove River	Unknown	Unknown
Crow Hollow Brook	0.020-0.040	0.070
East River	0.020-0.080	0.040-0.120
Eaton Brook	0.035-0.055	0.030-0.080
Eightmile Brook No. 1	0.035-0.060	0.035-0.120
Eightmile Brook No. 2	0.025-0.040	0.040-0.100
Farley Creek	0.020-0.040	0.080-0.150
Farm Brook	0.035-0.045	0.030-0.085
Farm River	0.030-0.055	0.070-0.120
Five Mile Brook	0.030-0.050	0.040-0.150
Fivemile Brook	0.025-0.040	0.040-0.100
Fulling Mill Brook	0.030-0.040	0.070-0.100
Fulling Mill Brook Tributary	0.026-0.065	0.040-0.120
Grieb Court Brook	0.020-0.055	0.030-0.080
Gulf Brook	0.035-0.060	0.035-0.120

**Table 14: Roughness Coefficients**

Flooding Source	Channel “n”	Overbank “n”
Hammonasset River (Lower Reach)	0.025-0.055	0.015-0.160
Hammonasset River (Upper Reach)	0.033-0.035	0.060-0.100
Hancock Brook	0.025-0.040	0.040-0.100
Hanover Street Brook	0.025-0.040	0.045-0.075
Harbor Brook	0.015-0.150	0.020-0.150
Hemp Swamp Brook	0.025-0.040	0.050-0.100
Hop Brook	0.020-0.040	0.040-0.100
Hopeville Pond Brook	0.025-0.040	0.040-0.100
Hopp Brook	0.032-0.045	0.040-0.080
Housatonic River	0.020-0.050	0.040-0.100
Indian River	0.035-0.045	0.040-0.150
Iron Stream	0.033-0.035	0.060-0.100
Jepp Brook	0.025-0.055	0.035-0.080
Jones Hill Road Brook	Unknown	Unknown
Judd Brook	0.040-0.060	0.040-0.100
Karls Brook	0.040-0.080	0.100-0.150
Lindsley Brook	0.012-0.070	0.025-0.075
Little Meadow Brook	0.030	0.060
Little River	0.025-0.040	0.040-0.100
Long Meadow Pond Brook	0.030-0.040	0.070-0.100
Long Swamp River	0.020-0.040	0.040-0.100
Lyman Hall Brook	0.020-0.055	0.030-0.080
Mad River (Lower Reach)	0.025-0.040	0.040-0.100
Mad River (Upper Reach)	0.030-0.040	0.030-0.075
Maloney Brook	0.035-0.055	0.030-0.150
Mansion Road Brook	0.030-0.040	0.045-0.080
Meetinghouse Brook	0.020-0.055	0.030-0.080
Mill River	0.030-0.070	0.070-0.100
Morris Creek	Unknown	Unknown
Mountain Brook	0.040-0.060	0.060-0.120
Muddy River	0.020-0.055	0.030-0.150
Muddy River Tributary C	0.035-0.060	0.035-0.120
Munger Brook	0.035-0.060	0.035-0.120



**Table 14: Roughness Coefficients**

Flooding Source	Channel “n”	Overbank “n”
Naugatuck River	0.025-0.040	0.035-0.100
Neck River	0.033-0.035	0.060-0.100
Okadale Brook	0.020-0.055	0.030-0.080
Old Field Creek	Unknown	Unknown
Old Tannery Brook	0.012-0.035	0.030-0.075
Pine Brook	0.030-0.050	0.040-0.150
Pomperaug River	0.030-0.050	0.040-0.100
Qunnipiac River	0.030-0.050	0.035-0.150
Race Brook	0.025-0.060	0.040-0.200
Riggs Street Brook	0.025-0.040	0.040-0.100
Schildgen Pond Brook	0.030-0.040	0.070-0.100
Shepard Brook	0.035-0.055	0.030-0.080
Silver Brook	0.014-0.050	0.035-0.150
Sodom Brook	0.025-0.035	0.035-0.070
Spoon Shop Brook	0.020-0.065	0.030-0.120
Steel Brook	0.025-0.040	0.040-0.100
Stubby Brook	0.015-0.100	0.050-0.125
Tenmile River	0.040-0.050	0.035-0.120
Tumble Brook	0.012-0.035	0.080-0.100
Tuttle Brook	0.035-0.085	0.035-0.085
Two Mile Brook	0.030-0.045	0.030-0.080
Watermans Brook	0.030-0.050	0.040-0.150
Webb Brook	0.030-0.040	0.070-0.100
Wepawaug River	0.017-0.050	0.015-0.150
West Branch Farm Brook	0.035-0.045	0.045-0.060
West River No. 1	0.030-0.100	0.050-0.120
West River No. 2	0.035-0.045	0.040-0.095
Wharton Brook	0.020-0.055	0.030-0.150
Whitemare Brook	0.012-0.060	0.040-0.100
Willow Brook No. 1	0.025-0.055	0.030-0.080
Willow Brook No. 2	0.020-0.045	0.070
Wintergreen Brook	0.035-0.045	0.040-0.095
Woodings Pond Brook	0.020-0.055	0.030-0.080

**Table 14: Roughness Coefficients**

Flooding Source	Channel “n”	Overbank “n”
Wooster Brook	0.020-0.040	0.040-0.100

### 5.3 Coastal Analyses

For the areas of New Haven County that are impacted by coastal flooding processes, coastal flood hazard analyses were performed to provide estimates of coastal BFEs. Coastal BFEs reflect the increase in water levels during a flood event due to extreme tides and storm surge as well as overland wave effects.

The following subsections provide summaries of how each coastal process was considered for this FIS Report. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation. Table 15 summarizes the methods and/or models used for the coastal analyses. Refer to Section 2.5.1 for descriptions of the terms used in this section.

**Table 15: Summary of Coastal Analyses**

Flooding Source	Study Limits From	Study Limits To	Hazard Evaluated	Model or Method Used	Date Analysis was Completed
Long Island Sound			Extremal Analysis	Peaks over Threshold (POT)	July 2013
Long Island Sound			Stillwater Elevation	Tide Gage Analysis	July 2013
Long Island Sound			Wave Setup	Direct Integration Method	July 2013
Long Island Sound	Unrestricted fetches in New Haven County	Unrestricted fetches in New Haven County	Waves	U.S. Army Corps of Engineers Coastal Engineering Manual Empirical Wave Growth equations	July 2013
Long Island Sound	Restricted fetches in New Haven County	Restricted fetches in New Haven County	Waves	U.S. Army Corps of Engineers Automated Coastal Engineering System	July 2013

Flooding Source	Study Limits From	Study Limits To	Hazard Evaluated	Model or Method Used	Date Analysis was Completed
Long Island Sound			Overland Wave Propagation	WHAFIS	July 2013
Long Island Sound	Vertical coastal protection structures		Wave Runup	U.S. Army Corps of Engineers Shore Protection Manual	July 2013
Long Island Sound	Coastal protection structures sloping from 1:1 to 1:8		Wave Runup	TAW	July 2013
Long Island Sound	Coastal protection structures sloping gentler than 1:8 and natural beaches		Wave Runup	RUNUP 2.0	July 2013
Long Island Sound			Coastal Erosion	Coastal Hazard Analysis and Modeling Program (CHAMP)	July 2013

### 5.3.1 Total Stillwater Elevations

The total stillwater elevations (stillwater including storm surge plus wave setup) for the 1% annual chance flood were determined for areas subject to coastal flooding. The models and methods that were used to determine storm surge and wave setup are listed in Table 15.

### Figure 8: 1% Annual Chance Total Stillwater Elevations for Coastal Areas

[Not Available for this Flood Risk Project]

Tidal gages can be used instead of historic records of storms when the available tidal gage record for the area represents both the astronomical tide component and the storm surge component. Table 16 provides the gage name, managing agency, gage type, gage identifier, start date, end date, and statistical methodology applied to each gage used to determine the stillwater elevations. For areas between gages, peak stillwater elevations for selected recurrence intervals were estimated by linear interpolation between gages. A regionalized statistical approach was applied to the gage data so that return period statistics at gages with shorter periods of record could be identified.

**Table 16: Tide Gage Analysis Specifics**

Gage Name	Managing Agency of Tide Gage Record	Gage Type	Start Date	End Date	Statistical Methodology
New London tide gage station 8461490 (41° 21.6' N, 72° 5.4' W)	NOAA	Tide	1938	2007	L-Moments with a Wakeby Distribution
New Haven tide gage station 8465705 (41° 17' N, 72° 54.5' W)	NOAA	Tide	1999	2007	L-Moments with a Wakeby Distribution
Bridgeport tide gage station 8467150 (41° 10.4' N, 73° 10.9' W)	NOAA	Tide	1964	2007	L-Moments with a Wakeby Distribution
Tweed New Haven Regional Airport WBAN 14758 (41° 15.8' N, 72° 53.2' W)	NOAA (Wind Gage)	ASOS (Wind Gage)	1973	2010	Weibull Distribution

**Wave Setup Analysis**

Wave setup was computed during transect-based analysis through the methods listed in Table 15.

**5.3.2 Waves**

Empirical wind wave growth equations were used to calculate the deepwater bulk wave parameters required for transect-based analysis in unrestricted and fetch-restricted settings. Table 15 provides the wind observation station name, managing agency, gage type, start date, end date, and statistical methodology applied to each gage used to determine the wind speeds for use in wind wave growth.

**5.3.3 Coastal Erosion**

A single storm episode can cause extensive erosion in coastal areas. Storm-induced erosion was evaluated to determine the modification to existing topography that is expected to be associated with flooding events. Erosion was evaluated using the methods listed in Table 15.

**5.3.4 Wave Hazard Analyses**

Overland wave hazards were evaluated to determine the combined effects of ground elevation, vegetation, and physical features on overland wave propagation and wave runoff. These analyses were performed at representative transects along all shorelines for which waves were expected to be present during the floods of the selected recurrence intervals. The results of these analyses were used to determine elevations for the 1% annual chance flood.

Transect locations were chosen with consideration given to the physical land characteristics as well as development type and density so that they would closely represent conditions in their locality. Additional consideration was given to changes in the total stillwater elevation.

Transects were spaced close together in areas of complex topography and dense development or where total stillwater elevations varied. In areas having more uniform characteristics, transects were spaced at larger intervals. Transects shown in Figure 9, “Transect Location Map,” are also depicted on the FIRM. **Error! Reference source not found.** provides the location, stillwater elevations, and starting wave conditions for each transect evaluated for overland wave hazards. In this table, “starting” indicates the parameter value at the beginning of the transect.

#### Wave Height Analysis

Wave height analyses were performed to determine wave heights and corresponding wave crest elevations for the areas inundated by coastal flooding and subject to overland wave propagation hazards. Refer to Figure 6 for a schematic of a coastal transect evaluated for overland wave propagation hazards.

Wave heights and wave crest elevations were modeled using the methods and models listed in Table 15, “Summary of Coastal Analyses”.

#### Wave Runup Analysis

Wave runup analyses were performed to determine the height and extent of runup beyond the limit of stillwater inundation for the 1% annual chance flood. Wave runup elevations were modeled using the methods and models listed in Table 15.

**Table 17: Coastal Transect Parameters**

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H <sub>s</sub> (ft)	Peak Wave Period T <sub>p</sub> (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Long Island Sound	1	12.83	6.11	7.5	*	9	9.6	10.8
Long Island Sound	2	12.84	6.11	7.4	*	8.9	9.5	10.8
Long Island Sound	3	12.97	6.15	7.4	*	8.9	9.5	10.8
Long Island Sound	4	14.45	6.61	7.4	*	8.8	9.4	10.7
Long Island Sound	5	12.85	6.11	7.3	*	8.8	9.4	10.7
Long Island Sound	6	12.26	5.93	7.3	*	8.8	9.4	10.6
Long Island Sound	7	12.08	5.87	7.3	*	8.8	9.3	10.6
Long Island Sound	8	12.05	5.86	7.3	*	8.7	9.3	10.6
Long Island Sound	9	14.45	6.61	7.3	*	8.7	9.3	10.5
Long Island Sound	10	14.45	6.61	7.2	*	8.6	9.2	10.5
Long Island Sound	11	14.12	6.51	7.2	*	8.6	9.2	10.4
Long Island Sound	12	13.76	6.40	7.2	*	8.6	9.2	10.4
Long Island Sound	13	14.45	6.61	7.2	*	8.6	9.1	10.4
Long Island Sound	14	14.45	6.61	7.1	*	8.5	9.1	10.3
Long Island Sound	15	12.29	6.61	7.1	*	8.5	9	10.2
Long Island Sound	16	12.19	6.58	6.9	*	8.3	8.9	10.1
Long Island Sound	17	12.96	6.77	6.9	*	8.3	8.9	10.2
Long Island Sound	18	4.68	3.96	6.9	*	8.3	8.9	10.3

\*Not calculated for this Flood Risk Project

**Table 17: Coastal Transect Parameters**

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H <sub>s</sub> (ft)	Peak Wave Period T <sub>p</sub> (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Long Island Sound	19	6.72	4.69	6.9	*	8.3	8.9	10.4
Long Island Sound	20	8.78	5.65	6.8	*	8.3	8.9	10.5
Long Island Sound	21	13.23	6.84	6.8	*	8.3	8.9	10.6
Long Island Sound	22	9.33	5.81	6.8	*	8.3	8.9	10.6
Long Island Sound	23	8.26	5.39	6.8	*	8.3	8.9	10.6
Long Island Sound	24	5.35	4.21	6.8	*	8.2	8.9	10.7
Long Island Sound	25	11.63	6.44	6.8	*	8.2	8.9	10.7
Long Island Sound	26	12.94	6.14	6.7	*	8.2	8.9	10.8
Long Island Sound	27	13.21	6.23	6.7	*	8.2	8.9	10.9
Long Island Sound	28	13.23	6.23	6.7	*	8.2	8.9	11
Long Island Sound	29	14.16	6.52	6.7	*	8.2	8.9	11.1
Long Island Sound	30	13.48	6.31	6.6	*	8.2	8.9	11.2
Long Island Sound	31	13.14	6.21	6.6	*	8.2	9	11.2
Long Island Sound	32	8.70	5.63	6.6	*	8.2	9	11.3
Long Island Sound	33	13.10	6.81	6.6	*	8.2	9	11.4
Long Island Sound	34	13.51	6.32	6.6	*	8.2	9	11.4
Long Island Sound	35	13.09	6.19	6.6	*	8.2	9	11.4
Long Island Sound	36	13.91	6.45	6.5	*	8.1	9	11.5

\*Not calculated for this Flood Risk Project

**Table 17: Coastal Transect Parameters**

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H <sub>s</sub> (ft)	Peak Wave Period T <sub>p</sub> (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Long Island Sound	37	13.54	6.33	6.5	*	8.1	9	11.7
Long Island Sound	38	10.19	6.05	6.4	*	8.1	9	12
Long Island Sound	39	13.20	6.83	6.4	*	8.1	9	12
Long Island Sound	40	11.87	6.50	6.4	*	8.1	9	12.1
Long Island Sound	41	12.90	6.13	6.4	*	8.1	9	12.1
Long Island Sound	42	12.97	6.15	6.3	*	8.1	9	12.3
Long Island Sound	43	11.50	6.41	6.3	*	8.1	9	12.3
Long Island Sound	44	11.12	6.31	6.3	*	8	9	12.4
Long Island Sound	45	13.18	6.22	6.2	*	8	9	12.5
Long Island Sound	46	12.64	6.05	6.2	*	8	9	12.7
Long Island Sound	47	12.23	5.92	6.2	*	8	9.1	12.7
Long Island Sound	48	12.32	5.95	6.2	*	8	9.1	12.8
Long Island Sound	49	12.76	6.08	6.1	*	8	9.1	12.9
Long Island Sound	50	12.85	6.11	6.1	*	8	9.1	13
Long Island Sound	51	12.90	6.13	6.1	*	8	9.1	13.1
Long Island Sound	52	12.17	5.90	6	*	7.9	9.1	13.3
Long Island Sound	53	13.57	6.34	6	*	7.9	9.1	13.5
Long Island Sound	54	13.48	6.31	5.9	*	7.9	9.1	13.7

\*Not calculated for this Flood Risk Project

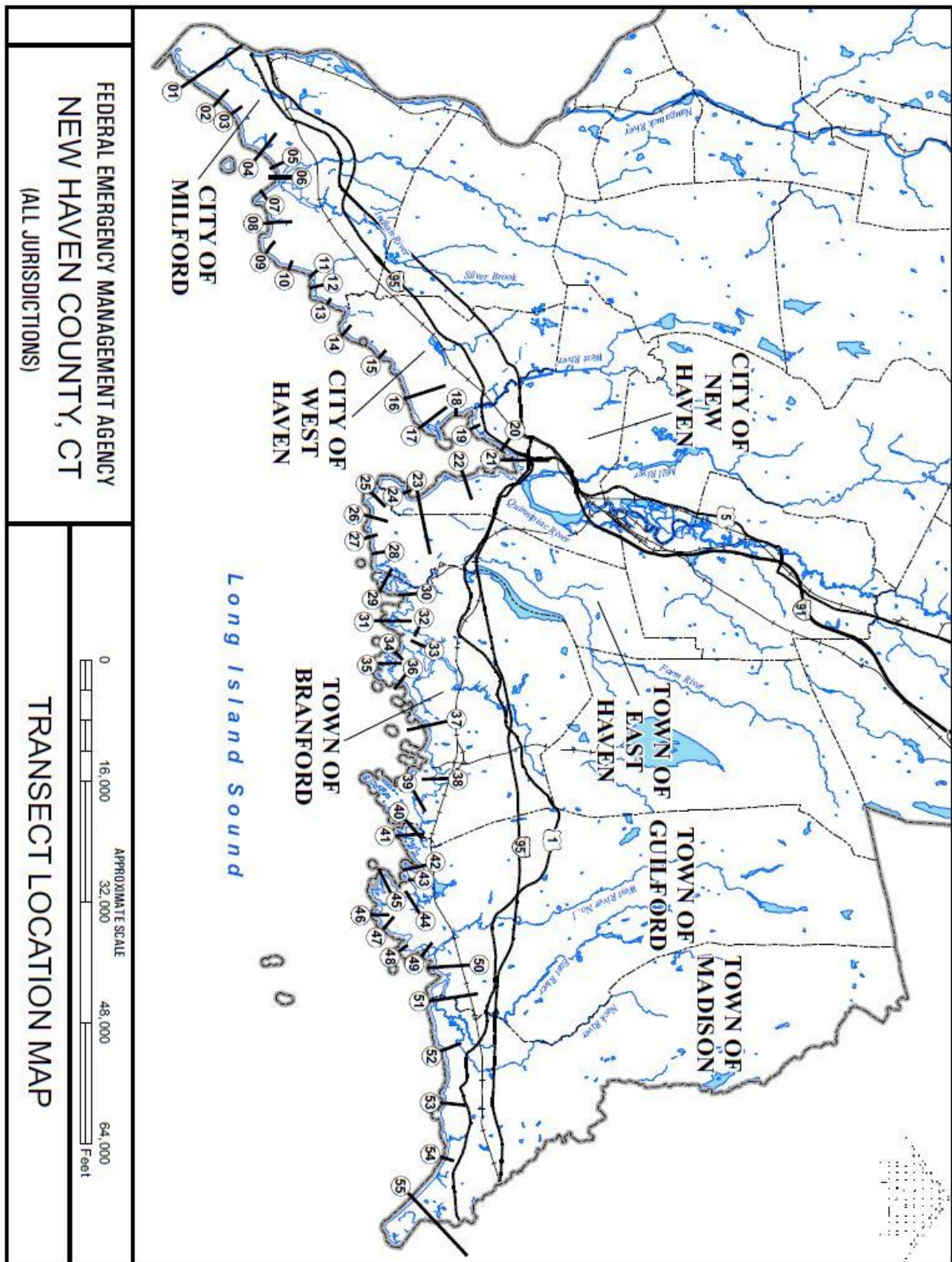


**Table 17: Coastal Transect Parameters**

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H <sub>s</sub> (ft)	Peak Wave Period T <sub>p</sub> (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Long Island Sound	55	12.73	6.08	5.9	*	7.9	9.1	13.8

\*Not calculated for this Flood Risk Project

Figure 9: Transect Location Map



#### **5.4 Alluvial Fan Analyses**

This section is not applicable to this Flood Risk Project.

**Table 18: Summary of Alluvial Fan Analyses**

**[Not Applicable to this Flood Risk Project]**

**Table 19: Results of Alluvial Fan Analyses**

**[Not Applicable to this Flood Risk Project]**

## SECTION 6.0 – MAPPING METHODS

### 6.1 Vertical and Horizontal Control

All FIS Reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum used for newly created or revised FIS Reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD29). With the completion of the North American Vertical Datum of 1988 (NAVD88), many FIS Reports and FIRMs are now prepared using NAVD88 as the referenced vertical datum.

Flood elevations shown in this FIS Report and on the FIRMs are referenced to NAVD88. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between NGVD29 and NAVD88 or other datum conversion, visit the National Geodetic Survey website at [www.ngs.noaa.gov](http://www.ngs.noaa.gov), or contact the National Geodetic Survey at the following address:

NGS Information Services  
NOAA, N/NGS12  
National Geodetic Survey  
SSMC-3, #9202  
1315 East-West Highway  
Silver Spring, Maryland 20910-3282  
(301) 713-3242

Temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the archived project documentation associated with the FIS Report and the FIRMs for this community. Interested individuals may contact FEMA to access these data.

To obtain current elevation, description, and/or location information for benchmarks in the area, please contact information services Branch of the NGS at (301) 713-3242, or visit their website at [www.ngs.noaa.gov](http://www.ngs.noaa.gov).

The datum conversion locations and values that were calculated for New Haven County are provided in Table 20.

**Table 20: Countywide Vertical Datum Conversion**

Quadrangle Name	Quadrangle Corner	Latitude	Longitude	Conversion from NGVD29 to NAVD88 (feet)
All in New Haven County	-	-	-	-1.0
Average Conversion from NGVD29 to NAVD88 = -1.0 feet				

**Table 21: Stream-Based Vertical Datum Conversion**

[Not Applicable to this Flood Risk Project]

## 6.2 Base Map

The FIRMs and FIS Report for this project have been produced in a digital format. The flood hazard information was converted to a Geographic Information System (GIS) format that meets FEMA's FIRM database specifications and geographic information standards. This information is provided in a digital format so that it can be incorporated into a local GIS and be accessed more easily by the community. The FIRM Database includes most of the tabular information contained in the FIS Report in such a way that the data can be associated with pertinent spatial features. For example, the information contained in the Floodway Data table and Flood Profiles can be linked to the cross sections that are shown on the FIRMs. Additional information about the FIRM Database and its contents can be found in FEMA's *FIS Report Technical Reference*.

Base map information shown on the FIRM was derived from the sources described in Table 22.

**Table 22: Base Map Sources**

Data Type	Data Provider	Data Date	Data Scale	Data Description
Digital Orthophoto	USGS	2012	0.30 m GSD	Color orthoimagery
Political boundaries	State DEP, USGS	2005	1:24,000	Municipal and county boundaries
Transportation Features	State DEP, University of Connecticut, US Census	2006	1:100,000	Roads and railroads
Surface Water Features	State DEP, USGS	2005	1:24,000	Streams, rivers, and lakes were derived from NHD data
Benchmarks	NGS	2010	1:24,000	Benchmarks located using NGS data sheets
Coastal Barrier Resources System (CBRS)	U.S. Fish and Wildlife Service	1990	1:24,000	Coastal Barrier Resources System boundaries

## 6.3 Floodplain and Floodway Delineation

The FIRM shows tints, screens, and symbols to indicate floodplains and floodways as well as the locations of selected cross sections used in the hydraulic analyses and floodway computations.

For riverine flooding sources, the mapped floodplain boundaries shown on the FIRM have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using the topographic elevation data described in **Error! Reference source not found.** For each coastal flooding source studied as part of this FIS Report, the mapped floodplain boundaries on the FIRM have been delineated using the flood and wave

elevations determined at each transect; between transects, boundaries were delineated using land use and land cover data, the topographic elevation data described in **Error! Reference source not found.**, and knowledge of coastal flood processes. In ponding areas, flood elevations were determined at each junction of the model; between junctions, boundaries were interpolated using the topographic elevation data described in **Error! Reference source not found.**

In cases where the 1% and 0.2% annual chance floodplain boundaries are close together, only the 1% annual chance floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

The floodway widths presented in this FIS Report and on the FIRM were computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. **Error! Reference source not found.** indicates the flooding sources for which floodways have been determined. The results of the floodway computations for those flooding sources have been tabulated for selected cross sections and are shown in Table 24, "Floodway Data."

**Table 23: Summary of Topographic Elevation Data used in Mapping**

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
City of Ansonia	Beaver Brook No. 1		1:4,800	4	Geo Maps (1978)
City of Ansonia	Naugatuck River		1:4,800	4	Geo Maps (1978)
City of Ansonia	Two Mile Brook		1:4,800	4	Geo Maps (1978)
City of Ansonia	Whitemare Brook		1:4,800	4	Geo Maps (1978)
Town of Beacon Falls	Beacon Hill Brook		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
Town of Beacon Falls	Bronson Brook		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
Town of Beacon Falls	Bronson Brook Tributary		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
Town of Beacon Falls	Hemp Swamp Brook		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
Town of Beacon Falls	Naugatuck River		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)



**Table 23: Summary of Topographic Elevation Data used in Mapping**

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
Town of Bethany	Bladens River (Upper Reach)		1:24,000	10	USGS (1972)
Town of Bethany	Hopp Brook		1:24,000	10	USGS (1972)
Town of Branford	Tidal areas		1_:480	2	Branford (1963)
Town of Cheshire	ALL		1:2,400	2	Cheshire (1975)
Town of Cheshire	Mill River		1:2,400	2	Cheshire (1975)
Town of Cheshire	Quinnipiac River		1:2,400	2	Cheshire (1975)
Town of Cheshire	Tenmile River		1:2,400	2	Cheshire (1975)
City of Derby	Housatonic River (Lower Reach)		1:24,000	10	USGS (1984)
City of Derby	Naugatuck River		1:24,000	10	USGS (1984)
Town of East Haven	Farm River		1:2,400	2	Quinn and Associates, 1973
Town of East Haven	Maloney Brook		1:1,200	5	Quinn and Associates, 1973
Town of East Haven	Morris Creek		1:1,200	2	Quinn and Associates, 1973
Town of East Haven	Tidal areas		1_:480	2	TPA Design Group, 1989
Town of East Haven	Tuttle Brook		1:1,200	2	Quinn and Associates, 1973
Town of Guilford	East River		1:4,800	5	Geod Aerial Mapping (1980)
Town of Guilford	Little Meadow Brook		1:4,800	5	Geod Aerial Mapping (1980)
Town of Guilford	Neck River		1:4,800	5	Geod Aerial Mapping (1980)
Town of Guilford	West River No. 1		1:4,800	5	Geod Aerial Mapping (1980)

**Table 23: Summary of Topographic Elevation Data used in Mapping**

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
Town of Madison	Bailey Creek		1:24,000	10	USGS (1971, 1984)
Town of Madison	Camp Laurelwood Brook		1:24,000	10	USGS (1971, 1984)
Town of Madison	Hammonasset River (Lower Reach)		1:24,000	10	USGS (1971, 1984)
Town of Madison	Hammonasset River (Upper Reach)		1:24,000	10	USGS (1971, 1984)
Town of Madison	Iron Stream		1:2,400	4	Dewberry & Davis (1982)
Town of Madison	Neck River		1:2,400	4	Dewberry & Davis (1982)
City of Meriden	Crow Hollow Brook		1:12,000	2	Meriden (1965)
City of Meriden	Harbor Brook		1:12,000	2	Meriden (1965)
City of Meriden	Quinnipiac River		1:12,000	2	Meriden (1965)
City of Meriden	Sodom Brook		1:12,000	2	Meriden (1965)
City of Meriden	Spoon Shop Brook		1:12,000	2	Meriden (1965)
City of Meriden	Willow Brook No. 2		1:12,000	2	Meriden (1965)
Town of Middlebury	Hop Brook (Upper Reach)		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
Town of Middlebury	Long Swamp Brook		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
Town of Middlebury	Wooster Brook		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
City of Milford	Beaver Brook No. 2		1:24,000	10	USGS (1960, 1971, 1972)
City of Milford	Farley Creek		1:24,000	10	USGS (1960, 1971, 1972)

**Table 23: Summary of Topographic Elevation Data used in Mapping**

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
City of Milford	Housatonic River (Lower Reach)		1:24,000	10	USGS (1960, 1971, 1972)
City of Milford	Indian River		1:24,000	10	USGS (1960, 1971, 1972)
City of Milford	Karls Brook		1"=200'	2	Sewall Co. (1979)
City of Milford	Stubby Brook		1:24,000	10	USGS (1960, 1971, 1972)
City of Milford	Tidal areas		1:2,400	2	Milford (1979)
City of Milford	Tumble Brook		1"=200'	2	Sewall Co. (1979)
City of Milford	Wepawaug River (Lower Reach)		1:24,000	10	USGS (1960, 1971, 1972)
Borough of Naugatuck	ALL		1:24,000	10	USGS (1972)
Borough of Naugatuck	Beacon Hill Brook		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
Borough of Naugatuck	Cold Spring Brook		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
Borough of Naugatuck	Fulling Mill Brook		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
Borough of Naugatuck	Hop Brook (Lower Reach)		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
Borough of Naugatuck	Long Meadow Pond Brook		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
Borough of Naugatuck	Naugatuck River		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
Borough of Naugatuck	Schildgen Pond Brook		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
Borough of Naugatuck	Webb Brook		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
City of New Haven	Beaver Brook No. 2		1:1,200	1	Aeroservice Corp. (1964)
City of New Haven	Lower Portion of Tuttle Brook		1:1,200	1	Aeroservice Corp. (1964)

**Table 23: Summary of Topographic Elevation Data used in Mapping**

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
City of New Haven	Morris Creek		1:1,200	1	Aeroservice Corp. (1964)
City of New Haven	Quinnipiac River		1:1,200	1	Aeroservice Corp. (1964)
City of New Haven	West River No. 2		1:1,200	1	Aeroservice Corp. (1964)
City of New Haven	Wintergreen Brook		1:1,200	1	Aeroservice Corp. (1964)
Town of North Branford	Branford River (Upper Reach)		1:24,000	10	USGS (1954, 1964, 1967, 1968)
Town of North Branford	Burr Brook		1:2,400	5	Geod Aerial Mapping (1976)
Town of North Branford	Eightmile Brook No. 1		1:24,000	10	USGS (1954, 1964, 1967, 1968)
Town of North Branford	Farm River		1:2,400	5	Geod Aerial Mapping (1976)
Town of North Branford	Gulf Brook		1:24,000	10	USGS (1954, 1964, 1967, 1968)
Town of North Branford	Muddy River Tributary C		1:24,000	10	USGS (1954, 1964, 1967, 1968)
Town of North Branford	Munger Creek		1:24,000	10	USGS (1954, 1964, 1967, 1968)
Town of North Branford	Upper Portion of Farm River		1:24,000	10	USGS (1954, 1964, 1967, 1968)
Town of North Haven	Five Mile Brook		1:2,400	5	C.E. Maguire, Inc. (1977)
Town of North Haven	Mill River		1:24,000	10	USGS (1972)
Town of North Haven	Muddy River (Lower Reach)		1:2,400	5	C.E. Maguire, Inc. (1977)
Town of North Haven	Pine Brook		1:2,400	5	C.E. Maguire, Inc. (1977)

**Table 23: Summary of Topographic Elevation Data used in Mapping**

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
Town of North Haven	Quinnipiac River		1:24,000	10	USGS (1972)
Town of North Haven	Watermans Brook		1:2,400	5	C.E. Maguire, Inc. (1977)
Town of North Haven	Wharton Brook		1:24,000	10	USGS (1972)
Town of Orange	Housatonic River (Lower Reach)		1:2,400	5	C.E. Maguire, Inc. (1977)
Town of Orange	Indian River		1:2,400	5	C.E. Maguire, Inc. (1977)
Town of Orange	Race Brook		1:2,400	5	C.E. Maguire, Inc. (1977)
Town of Orange	Silver Brook		1:2,400	5	C.E. Maguire, Inc. (1977)
Town of Orange	Wepawaug River (Lower Reach)		1:2,400	5	C.E. Maguire, Inc. (1977)
Town of Oxford	Eightmile Brook No. 2		1:24,000	10	USGS (1984)
Town of Oxford	Housatonic River (Lower Reach)		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
Town of Oxford	Lake Zoar		1:24,000	10	USGS (1984)
Town of Oxford	Little River		1:24,000	10	USGS (1984)
Town of Oxford	Riggs Street Brook		1:24,000	10	USGS (1984)
Town of Prospect	Fulling Mill Brook Tributary		1:24,000	10	USGS (1993)
Town of Prospect	Mountain Brook		1:24,000	10	USGS (1993)
Town of Prospect	Tenmile River		1:24,000	10	USGS (1972)
Town of Seymour	Bladens River (Lower Reach)		1:24,000	10	USGS (1972, 1973)
Town of Seymour	Bladens River Tributary		1:24,000	10	USGS (1972, 1973)

**Table 23: Summary of Topographic Elevation Data used in Mapping**

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
Town of Seymour	Housatonic River (Lower Reach)		1:24,000	10	USGS (1972, 1973)
Town of Seymour	Little River		1:24,000	10	USGS (1972, 1973)
Town of Seymour	Naugatuck River		1:24,000	10	USGS (1972)
Town of Southbury	Housatonic River (Upper Reach)		1:24,000	10	USGS (1970, 1972)
Town of Southbury	Pomperaug River		1:24,000	10	USGS (1970, 1972)
Town of Wallingford	Grieb Court Brook		1:2,400	2	Wallingford (1965)
Town of Wallingford	Hanover Street Brook		1:1,200	2	Sewall Co. (1965)
Town of Wallingford	Hanover Street Brook		1:2,400	5	Sewall Co. (1965)
Town of Wallingford	Lyman Hall Brook		1:2,400	2	Wallingford (1965)
Town of Wallingford	Mansion Road Brook		1:1,200	2	Sewall Co. (1965)
Town of Wallingford	Mansion Road Brook		1:2,400	5	Sewall Co. (1965)
Town of Wallingford	Meetinghouse Brook		1:2,400	2	Wallingford (1965)
Town of Wallingford	Muddy River (Upper Reach)		1:2,400	2	Wallingford (1965)
Town of Wallingford	Oakdale Brook		1:2,400	2	Wallingford (1965)
Town of Wallingford	Quinnipiac River		1:2,400	2	Wallingford (1965)
Town of Wallingford	Wharton Brook		1:2,400	2	Wallingford (1965)
Town of Wallingford	Woodings Pond Brook		1:2,400	2	Wallingford (1965)
City of Waterbury	Beaver Pond Brook		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)

**Table 23: Summary of Topographic Elevation Data used in Mapping**

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
City of Waterbury	Hancock Brook		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
City of Waterbury	Hopeville Pond Brook		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
City of Waterbury	Mad River (Lower Reach)		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
City of Waterbury	Naugatuck River		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
City of Waterbury	Steel Brook		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
City of Waterbury	Wooster Brook		1:2,400	4	Teledyne Geotronics Mapping, Inc. (1977)
City of West Haven	Club Creek		1:24,000	10	USGS (1951, 1960, 1967, 1971)
City of West Haven	Cove River		1:24,000	10	USGS (1951, 1960, 1967, 1971)
City of West Haven	Jones Hill Road Brook		1:24,000	10	USGS (1951, 1960, 1967, 1971)
City of West Haven	Tidal areas		1:2,400	1	Bowe, Walsh and Assoc., 1977
City of West Haven	West River No. 2		1:24,000	10	USGS (1951, 1960, 1967, 1971)
Town of Wolcott	Lindsley Brook		1:4,800	5	Geo Maps (1978)
Town of Wolcott	Mad River (Upper Reach)		1:4,800	5	Geo Maps (1978)
Town of Wolcott	Old Tannery Brook		1:4,800	5	Geo Maps (1978)
Town of Woodbridge	ALL		1:1,200	—	Woodbridge (1981)
Town of Woodbridge	Bladens River (Upper Reach)		1:24,000	10	USGS (1972)
Town of Woodbridge	Bladens River (Upper Reach)		1:24,000	10	USGS (1972)
Town of Woodbridge	Race Brook		1:24,000	10	USGS (1972)
Town of Woodbridge	Race Brook		1:24,000	10	USGS (1972)

**Table 23: Summary of Topographic Elevation Data used in Mapping**

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
Town of Woodbridge	Wepawaug River (Upper Reach)		1:24,000	10	USGS (1972)
Town of Woodbridge	Wepawaug River (Upper Reach)		1:24,000	10	USGS (1972)
Town of Woodbridge	West River No. 2		1:24,000	10	USGS (1972)
Town of Woodbridge	West River No. 2		1:24,000	10	USGS (1972)
Multiple	Multiple	Lidar, 11.4 cm RMSE, 0.5 m spacing	N/A	N/A	FEMA, 2011

BFEs shown at cross sections on the FIRM represent the 1% annual chance water surface elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report. Rounded whole-foot elevations may be shown on the FIRM in coastal areas, areas of ponding, and other areas with static base flood elevations.



**Table 24: Floodway Data**

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	9,412	21	121	0.5	9.6	9.5 <sup>2</sup>	10.5	1.0
B	10,229	30	160	0.6	10.3	10.3	11.3	1.0
C	10,563	116	485	0.2	11.3	11.3	12.3	1.0
D	11,022	18	79	1.2	11.3	11.3	12.3	1.0

<sup>1</sup>Feet above mouth

<sup>2</sup>Computed without consideration of storm surge effects from Long Island Sound

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: BAILEY CREEK</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	280	36	161	3.9	165.4	163.1 <sup>2</sup>	163.3	0.2
B	470	43	168	11.5	166.1	166.1	166.2	0.1
C	558	96	521	3.7	170.4	170.4	170.4	0.0
D	974	48	184	10.5	170.7	170.7	170.7	0.0
E	1,108	104	264	7.4	174.0	174.0	174.0	0.0
F	1,501	48	214	9.1	177.4	177.4	177.4	0.0
G	1,681	52	338	5.7	182.5	182.5	182.7	0.2
H	2,453	101	232	8.4	186.5	186.5	186.5	0.0
I	3,916	77	224	8.7	206.8	206.8	206.8	0.0
J	5,016	75	212	9.2	224.6	224.6	224.6	0.0
K	6,191	57	244	6.9	236.5	236.5	236.8	0.3
L	7,096	48	161	10.4	250.4	250.4	250.4	0.0
M	7,258	58	286	5.8	254.6	254.6	254.6	0.0
N	7,928	119	265	6.3	258.1	258.1	258.1	0.0
O	8,453	102	208	8.1	268.0	268.0	268.0	0.0
P	8,639	86	248	6.7	271.8	271.8	271.8	0.0
Q	9,639	70	177	9.1	285.0	285.0	285.0	0.0
R	10,696	36	142	11.4	304.0	304.0	304.0	0.0
S	11,580	75	201	8.1	318.4	318.4	318.5	0.1
T	11,765	175	507	3.2	324.7	324.7	324.7	0.0
U	12,275	58	168	9.7	326.4	326.4	326.5	0.1
V	12,901	103	367	4.2	332.2	332.2	332.2	0.0
W	13,556	25	121	12.6	338.2	338.2	338.2	0.0
X	13,996	39	173	8.8	344.5	344.5	345.4	0.9

<sup>1</sup>Feet above mouth

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY		FLOODWAY DATA	
	NEW HAVEN COUNTY, CONNECTICUT (ALL JURISDICTIONS)		FLOODING SOURCE: BEACON HILL BROOK	

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Y	14,186	171	432	3.5	350.6	350.6	350.6	0.0
Z	14,686	40	142	10.7	354.8	354.8	354.8	0.0
AA	15,272	54	200	7.6	362.5	362.5	362.5	0.0
AB	15,492	42	232	5.7	366.3	366.3	366.4	0.1
AC	16,207	35	123	10.8	371.5	371.5	371.5	0.0

<sup>1</sup>Feet above mouth

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>NEW HAVEN COUNTY, CONNECTICUT</b> (ALL JURISDICTIONS)	FLOODWAY DATA
		FLOODING SOURCE: BEACON HILL BROOK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	735	71	554	2.2	27.6	27.6	28.5	0.9
B	1,288	49	238	5.1	28.2	28.2	28.8	0.6
C	2,047	42	170	7.2	30.8	30.8	30.9	0.1
D	2,459	14	56	21.8	32.1	32.1	32.1	0.0
E	3,115	78	499	2.4	54.9	54.9	55.8	0.9
F	3,185	26	218	5.6	54.9	54.9	55.8	0.9
G	3,272	163	701	1.7	65.3	65.3	65.3	0.0
H	3,660	56	160	7.6	68.3	68.3	69.2	0.9
I	4,220	33	183	6.7	82.9	82.9	83.4	0.5
J	4,947	29	109	11.2	98.1	98.1	98.1	0.0
K	5,119	15	103	11.8	105.7	105.7	105.8	0.1
L	5,934	31	175	7.0	117.1	117.1	118.0	0.9
M	6,224	20	97	12.6	122.4	122.4	122.4	0.0
N	6,326	42	135	9.0	125.6	125.6	125.6	0.0

<sup>1</sup>Feet above confluence with Naugatuck River

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: BEAVER BROOK NO. 1</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	78	176	644	1.7	11.4	11.2 <sup>2</sup>	11.2	0.0
B	398	253	1,913	0.6	11.4	11.3 <sup>2</sup>	11.3	0.0
C	1,938	165	1,426	0.7	11.4	11.3 <sup>2</sup>	11.3	0.0
D	2,548	227	1,571	0.7	11.4	11.3 <sup>2</sup>	11.3	0.0
E	2,828	272	1,681	0.6	11.4	11.3 <sup>2</sup>	11.3	0.0
F	3,088	107	479	2.2	11.4	11.3 <sup>2</sup>	11.3	0.0
G	3,608	108	511	2.1	18.4	18.4	18.4	0.0
H	7,575	35	395	2.3	39.0	39.0	39.0	0.0
I	8,035	50	520	1.7	39.1	39.1	39.1	0.0
J	9,677	50	441	2.0	39.2	39.2	39.7	0.5
K	9,765	220	1,132	0.8	39.2	39.2	39.8	0.6
L	9,860	47	336	0.8	39.2	39.2	39.8	0.6
M	10,250	75	782	0.3	41.9	41.9	42.4	0.5
N	10,900	80	649	0.9	42.0	42.0	42.5	0.5
O	12,998	231	460	1.0	74.8	74.8	74.8	0.0
P	14,128	19	31	7.4	79.6	79.6	79.6	0.0

<sup>1</sup>Feet above centerline of Naugatuck Avenue

<sup>2</sup>Computed without consideration of storm effects from Long Island Sound

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: BEAVER BROOK NO. 2</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	2,370	45	82	2.6	18.8	18.8	19.3	0.5
B	2,620	19	124	1.8	22.2	22.2	23.2	1.0
C	3,850	36	117	1.9	23.1	23.1	23.2	0.1

<sup>1</sup>Feet above mouth

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY NEW HAVEN COUNTY, CONNECTICUT (ALL JURISDICTIONS)	FLOODWAY DATA
		FLOODING SOURCE: BEAVER BROOK NO. 3

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	200	22	180	10.9	377.2	376.8 <sup>2</sup>	376.8	0.0
B	400	59	384	5.1	379.1	379.1	379.1	0.0
C	600	52	242	8.1	379.4	379.4	379.5	0.1
D	920	52	292	6.7	382.6	382.6	382.6	0.0
E	1,320	44	153	10.6	385.2	385.2	385.2	0.0
F	2,000	35	141	11.5	399.8	399.8	399.8	0.0
G	2,560	39	147	11.1	413.5	413.5	413.5	0.0
H	2,650	28	191	5.5	419.0	419.0	419.0	0.0
I	2,800	55	290	3.6	419.3	419.3	419.5	0.2
J	3,030	41	170	6.2	419.6	419.6	419.7	0.1
K	3,310	49	202	5.2	423.7	423.7	423.7	0.0
L	3,910	33	104	10.2	427.1	427.1	427.1	0.0
M	4,490	30	113	9.3	435.8	435.8	435.8	0.0
N	4,760	40	128	7.6	446.7	446.7	446.7	0.0
O	5,870	38	170	5.7	453.2	453.2	453.2	0.0
P	6,060	31	173	5.6	454.9	454.9	454.9	0.0
Q	6,660	72	215	4.5	457.0	457.0	457.0	0.0
R	6,820	119	243	4.0	457.7	457.7	457.7	0.0
S	8,360	150	518	1.7	459.4	459.4	459.5	0.1
T	8,610	63	312	2.8	459.5	459.5	459.7	0.2
U	8,760	163	907	0.7	461.4	461.4	461.5	0.1
V	9,330	42	194	3.2	461.4	464.4	164.5	0.1
W	9,500	37	181	3.5	462.9	462.9	463.0	0.1
X	10,290	26	51	8.1	465.8	465.8	465.8	0.0

<sup>1</sup>Feet above confluence with Mad River (Lower Reach)

<sup>2</sup>Computed without consideration of backwater effects from Mad River (Lower Reach)

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: BEAVER POND BROOK</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Y	10,910	23	56	7.3	475.9	475.9	475.9	0.0
Z	11,180	24	85	4.8	485.5	485.5	485.5	0.0
AA	11,510	12	40	10.4	490.9	490.9	490.9	0.0
AB	11,730	157	578	0.7	492.8	492.8	492.8	0.0
AC	12,000	61	104	3.9	492.7	492.7	492.8	0.1

<sup>1</sup>Feet above confluence with Mad River (Lower Reach)

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY NEW HAVEN COUNTY, CONNECTICUT (ALL JURISDICTIONS)	FLOODWAY DATA
		FLOODING SOURCE: BEAVER POND BROOK



LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	150	32	433	5.3	88.9	88.9	89.9	1.0
B	335	64	642	3.6	90.3	90.3	91.3	1.0
C	670	53	332	6.9	96.2	96.2	96.2	0.0
D	999	33	218	10.5	100.9	100.9	101.2	0.3
E	1,125	50	300	7.7	103.5	103.5	103.5	0.0
F	1,420	110	260	8.8	106.6	106.6	106.6	0.0
G	1,575	210	1,495	1.5	126.3	126.3	126.3	0.0
H	2,010	66	287	8.0	126.3	126.3	126.3	0.0
I	2,870	59	214	10.7	137.0	137.0	137.0	0.0
J	4,070	52	192	11.0	157.2	157.2	157.2	0.0
K	4,280	256	1,694	1.3	171.4	171.4	171.4	0.0
L	4,560	51	190	11.1	172.1	172.1	172.1	0.0
M	5,440	59	201	10.5	186.6	186.6	186.6	0.0
N	6,410	63	384	5.5	201.8	201.8	201.8	0.0
O	6,595	45	240	8.8	202.3	202.3	202.4	0.1

<sup>1</sup>Feet above mouth

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: BLADENS RIVER (LOWER REACH)</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	150	111	675	4.4	230.9	230.9	231.9	1.0
B	1,750	85	217	8.8	237.5	237.5	237.5	0.0
C	1,950	95	256	7.4	239.5	239.5	239.6	0.1
D	2,050	101	314	6.0	240.4	240.4	240.4	0.0
E	2,090	296	906	2.1	245.0	245.0	245.0	0.0
F	4,050	133	338	5.6	248.9	248.9	249.6	0.7
G	5,765	39	227	8.4	258.0	258.0	259.0	1.0
H	5,850	39	228	8.3	259.0	259.0	259.4	0.4
I	5,890	367	1,171	1.6	264.9	264.9	264.9	0.0
J	5,980	200	1,480	0.6	265.0	265.0	266.0	1.0
K	6,990	55	128	7.4	266.2	266.2	266.2	0.0
L	7,040	59	184	5.2	267.2	267.2	267.2	0.0
M	7,080	91	346	2.8	272.1	272.1	272.1	0.0
N	7,370	137	1,113	0.9	279.5	279.5	280.5	1.0
O	8,950	12	79	12.0	311.1	311.1	311.4	0.3
P	9,920	28	91	10.4	340.1	340.1	340.4	0.3
Q	9,950	30	116	8.2	340.7	340.7	341.3	0.6
R	10,010	248	274	3.5	347.7	347.7	347.7	0.0
S	12,335	211	250	1.6	350.1	350.1	350.6	0.5
T	12,350	211	249	1.6	350.1	350.1	350.6	0.5
U	12,400	265	870	0.3	350.1	350.1	350.6	0.5

<sup>1</sup>Feet above Limit of Detailed Study, approximately 2,023 feet downstream of Bear Hill Road

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY		FLOODWAY DATA	
	NEW HAVEN COUNTY, CONNECTICUT (ALL JURISDICTIONS)		FLOODING SOURCE: BLADENS RIVER (UPPER REACH)	

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	0	30	159	1.9	202.3	202.3	203.3	1.0
B	2,349	30	144	1.4	259.6	259.6	259.6	0.0

<sup>1</sup>Feet above confluence with Bladens River (Lower Reach)

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY NEW HAVEN COUNTY, CONNECTICUT (ALL JURISDICTIONS)	FLOODWAY DATA
		FLOODING SOURCE: BLADENS RIVER TRIBUTARY

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	870	261	1,883	1.3	*	7.6	8.6	1.0
B	1,761	141	1,086	2.3	*	7.7	8.7	1.0
C	1,960	43	330	7.5	*	7.7	8.6	0.9
D	2,034	59	425	5.8	*	8.5	9.2	0.6
E	2,235	71	511	4.8	9.1	9.1	9.7	0.5
F	2,936	59	494	5.0	9.8	9.8	10.4	0.6
G	3,311	49	442	5.6	11.7	11.7	11.9	0.2
H	3,553	53	337	7.3	11.8	11.8	12.1	0.3
I	3,591	90	644	3.8	12.0	12.0	12.9	0.9
J	3,633	185	1,166	2.1	17.6	17.6	17.7	0.0
K	4,216	121	630	3.9	17.6	17.6	17.6	0.0
L	4,853	296	958	2.6	18.2	18.2	18.2	0.0
M	5,442	237	1,220	2.0	18.4	18.4	18.6	0.1
N	6,010	320	1,554	1.6	18.8	18.8	18.9	0.1
O	6,654	150	926	2.7	19.1	19.1	19.2	0.1
P	7,665	110	667	3.7	19.1	19.1	19.9	0.8
Q	8,601	365	2,425	1.0	19.9	19.9	20.7	0.8
R	9,332	435	2,500	1.0	20.0	20.0	20.9	0.9
S	10,091	360	1,942	1.2	20.1	20.1	21.1	1.0
T	10,238	287	1,968	1.2	21.9	21.9	22.3	0.4
U	11,183	211	1,283	1.8	22.1	22.1	22.6	0.5
V	11,832	49	778	3.0	22.3	22.3	23.0	0.7
W	12,000	89	774	3.0	23.3	23.3	23.6	0.3
X	12,770	174	916	2.5	23.5	23.5	24.5	1.0

<sup>1</sup>Feet above confluence with Pissgah Brook

<sup>2</sup>Computed without consideration of backwater effects from Long Island Sound

\* Controlled by coastal flooding – see Flood Insurance Rate Map for regulatory base flood elevation

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY		FLOODWAY DATA	
	NEW HAVEN COUNTY, CONNECTICUT (ALL JURISDICTIONS)		FLOODING SOURCE: BRANFORD RIVER	

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Y	13,496	163	658	3.5	24.4	24.4	25.4	1.0
Z	14,186	120	675	3.4	26.7	26.7	27.1	0.4
AA	14,696	216	1,153	2.0	27.3	27.3	28.0	0.7
AB	14,793	175	763	3.0	27.4	27.4	28.0	0.6
AC	15,348	123	2,307	2.7	27.5	27.5	28.5	1.0
AD	15,911	280	1,601	1.4	28.3	28.3	29.1	0.8
AE	16,569	176	943	2.5	28.2	28.2	29.2	1.0
AF	17,180	151	678	3.4	29.2	29.2	29.9	0.7
AG	17,824	83	344	5.7	30.3	30.3	31.3	1.0
AH	18,060	106	318	6.2	32.0	32.0	32.4	0.3
AI	18,127	544	1,046	1.9	34.8	34.8	34.8	0.0
AJ	18,508	343	963	2.0	35.0	35.0	35.0	0.0
AK	18,602	280	985	2.0	35.1	35.1	35.1	0.0
AL	19,045	95	541	3.6	35.3	35.3	35.3	0.0
AM	19,172	75	643	3.1	36.5	36.5	37.5	1.0
AN	19,197	77	635	3.1	36.5	36.5	37.5	1.0
AO	19,889	231	731	2.7	37.6	37.6	38.5	0.9
AP	20,478	45	210	9.4	39.8	39.8	39.8	0.0
AQ	21,085	57	225	8.7	47.0	47.0	47.0	0.0
AR	21,626	58	266	7.4	51.6	51.6	51.6	0.0
AS	22,102	58	213	9.2	57.1	57.1	57.1	0.0
AT	22,593	63	266	7.4	64.1	64.1	64.1	0.0
AU	23,296	107	376	5.2	69.4	69.4	69.5	0.1
AV	23,897	55	335	5.9	72.2	72.2	72.6	0.5

<sup>1</sup>Feet above confluence with Pishah Brook

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: BRANFORD RIVER</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AW	24,501	60	561	3.5	73.8	73.8	74.8	1.0
AX	24,683	280	484	4.1	76.5	76.5	76.6	0.2
AY	25,215	351	1,851	1.1	76.8	76.8	77.2	0.4
AZ	25,565	191	444	3.2	77.0	77.0	77.3	0.3
BA	25,667	277	657	2.2	77.2	77.2	77.9	0.7
BB	26,085	317	730	2.0	77.4	77.4	78.2	0.8
BC	26,488	155	514	2.8	77.6	77.6	78.6	1.0
BD	26,516	60	230	6.3	78.3	78.3	78.7	0.4
BE	26,664	166	411	3.5	79.8	79.8	79.8	0.1
BF	26,921	65	218	6.6	80.5	80.5	80.9	0.4
BG	27,085	64	506	2.9	83.8	83.8	84.8	1.0
BH	27,358	76	331	4.4	84.4	84.4	85.1	0.8
BI	27,714	46	182	7.9	85.6	85.6	86.3	0.7
BJ	27,853	70	427	3.4	90.5	90.5	91.0	0.5
BK	28,024	69	448	3.2	90.7	90.7	91.1	0.4
BL	28,206	68	392	3.7	90.9	90.9	91.3	0.4
BM	28,221	68	392	3.7	90.9	90.9	91.3	0.5
BN	28,240	68	361	4.0	90.9	90.9	91.4	0.5
BO	28,284	126	464	3.1	90.9	90.9	91.6	0.7
BP	28,369	142	523	2.7	91.2	91.2	92.2	1.0
BQ	28,643	117	516	2.8	91.5	91.5	92.5	1.0
BR	28,681	116	513	2.8	91.6	91.6	92.5	0.9
BS	28,706	145	410	3.5	93.7	93.7	93.7	0.0
BT	28,776	150	462	3.1	94.1	94.1	94.1	0.0

<sup>1</sup>Feet above confluence with Pishah Brook

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: BRANFORD RIVER</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BU	28,992	132	613	2.3	94.7	94.7	94.7	0.0
BV	29,094	56	317	4.5	96.9	96.9	97.9	1.0
BW	29,624	65	314	4.5	98.3	98.3	99.3	1.0
BX	30,221	63	227	6.3	100.8	100.8	101.6	0.8
BY	30,833	33	70	6.5	116.9	116.9	117.2	0.3
BZ	32,074	20	80	6.0	162.7	162.7	163.2	0.5
CA	33,663	50	95	3.9	186.0	186.0	186.8	0.8

<sup>1</sup>Feet above confluence with Pisgah Brook

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY NEW HAVEN COUNTY, CONNECTICUT (ALL JURISDICTIONS)	FLOODWAY DATA
		FLOODING SOURCE: BRANFORD RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	620	38	181	7.6	133.2	133.2	133.2	0.0
B	1,035	44	136	10.2	137.5	137.5	137.5	0.0
C	1,290	167	831	1.7	155.0	155.0	155.0	0.0
D	1,590	56	256	5.4	155.0	155.0	155.0	0.0
E	1,930	30	121	11.4	166.2	166.2	166.3	0.1
F	2,240	73	287	4.4	178.2	178.2	178.2	0.0
G	2,435	30	113	11.1	181.8	181.8	181.9	0.1
H	3,140	46	209	6.0	188.4	188.4	189.1	0.7
I	3,465	36	119	10.5	194.3	194.3	194.3	0.0
J	3,720	168	580	2.2	203.4	203.4	203.4	0.0
K	4,050	67	147	8.5	203.4	203.4	203.6	0.2
L	4,200	85	218	5.7	209.3	209.3	209.3	0.0

<sup>1</sup>Feet above mouth

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY NEW HAVEN COUNTY, CONNECTICUT (ALL JURISDICTIONS)	FLOODWAY DATA
		FLOODING SOURCE: BRONSON BROOK



LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	400	105	290	1.5	211.6	211.6	212.3	0.7
B	586	80	223	1.9	216.4	216.4	216.4	0.0
C	950	73	76	5.6	217.5	217.5	217.5	0.0
D	1,350	86	111	3.8	222.7	222.7	222.7	0.0
E	2,815	69	82	3.9	234.7	234.7	234.8	0.1
F	3,510	48	98	3.3	239.7	239.7	239.8	0.1
G	3,740	27	72	4.5	243.0	243.0	243.0	0.0
H	4,620	20	31	7.0	268.0	268.0	268.0	0.0
I	4,820	96	185	1.2	277.3	277.3	277.3	0.0
J	5,350	62	44	4.9	285.3	285.3	285.3	0.0

<sup>1</sup>Feet above mouth

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> (ALL JURISDICTIONS)	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: BRONSON BROOK TRIBUTARY</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	950	31	38	9.5	286.4	286.4	286.9	0.5
B	1,110	54	106	3.4	290.3	290.3	291.3	1.0
C	1,500	54	50	7.1	295.0	295.0	296.0	1.0

<sup>1</sup>Feet above confluence with Eaton Brook

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> (ALL JURISDICTIONS)	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: BROOKDALE STREAM</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	0.045	650 <sup>2</sup>	2,080	0.5	45.4	43.7 <sup>3</sup>	44.7	1.0
B	0.259	220	310	3.0	45.4	44.9 <sup>3</sup>	44.9	0.0
C	0.555	84	350	2.4	52.6	52.6	53.2	0.6
D	0.781	60	170	4.8	58.0	58.0	58.7	0.7
E	0.960	64	355	2.3	67.7	67.7	67.7	0.0
F	1.246	59	150	3.0	74.3	74.3	74.5	0.2
G	1.357	40	100	4.5	76.9	76.9	77.9	1.0

<sup>1</sup>Miles above mouth

<sup>2</sup>Includes influence of Farm River

<sup>3</sup>Computed without consideration of backwater effects from Farm River

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: BURR BROOK</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	3,190	44	142	4.0	132.2	132.2	133.2	1.0
B	4,490	22	85	6.3	140.7	140.7	141.2	0.5
C	5,208	32	123	3.8	173.4	173.4	174.4	1.0
D	5,347	92	510	0.8	183.4	183.4	184.4	1.0

<sup>1</sup>Feet above confluence with Hammonasset River (Upper Reach)

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY		FLOODWAY DATA	
	NEW HAVEN COUNTY, CONNECTICUT (ALL JURISDICTIONS)		FLOODING SOURCE: CAMP LAURELWOOD BROOK	

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	3,792	22	97	7.4	11.5	11.5	11.5	0.0
B	5,232	81	153	8.0	37.6	37.6	37.6	0.0
C	5,646	32	80	9.0	54.1	54.1	54.1	0.0
D	6,407	38	84	8.5	84.2	84.2	84.2	0.0
E	7,484	37	92	10.2	120.9	120.9	121.4	0.5
F	8,624	24	79	9.1	128.0	128.0	128.0	0.0

<sup>1</sup>Feet above mouth

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> (ALL JURISDICTIONS)	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: CLUB CREEK</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	72,570	21	125	8.0	198.9	198.9	199.5	0.6

<sup>1</sup>Feet above confluence with Mattabesset River

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> (ALL JURISDICTIONS)	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: COCHINCHAUG RIVER</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	415	42	67	7.2	251.6	251.6	251.6	0.0
B	1,205	28	59	8.2	292.7	292.7	292.7	0.0
C	1,385	27	87	5.5	303.4	303.4	303.4	0.0
D	1,535	65	75	6.4	305.8	305.8	305.8	0.0
E	1,945	32	68	7.2	324.2	324.2	324.2	0.0
F	2,205	27	55	8.2	336.6	336.6	336.9	0.3
G	2,515	23	53	8.6	347.8	347.8	347.8	0.0
H	3,215	31	58	7.8	382.8	382.8	382.8	0.0
I	3,765	22	51	8.8	407.8	407.8	408.4	0.6
J	4,365	33	43	6.6	432.5	432.5	432.5	0.0
K	4,545	55	299	0.9	445.9	445.9	445.9	0.0
L	5,195	16	34	8.3	471.1	471.1	472.0	0.9
M	5,615	19	38	7.5	183.3	183.3	183.8	0.5
N	6,205	12	21	7.4	522.6	522.6	522.7	0.1
O	6,410	15	34	4.5	535.3	535.3	535.3	0.0
P	7,320	21	25	6.2	592.1	592.1	592.1	0.0

<sup>1</sup>Feet above mouth

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: COLD SPRING BROOK</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	7,156	50	131	4.8	27.6	27.6	27.6	0.0
B	8,376	65	135	7.9	31.3	31.3	31.3	0.0
C	9,339	42	191	3.3	38.0	38.0	38.2	0.2
D	10,323	12	54	12.1	46.5	46.5	46.7	0.2
E	11,239	38	432	1.6	58.0	58.0	59.0	1.0
F	13,454	176	490	1.0	67.3	67.3	67.3	0.0
G	15,077	347	221	4.5	70.5	70.5	71.3	0.8
H	16,182	293	471	1.7	81.2	81.2	81.2	0.0
I	16,967	136	739	0.7	83.8	83.8	83.9	0.1
J	19,905	37	49	8.0	120.1	120.1	120.1	0.0
K	22,067	201	37	3.4	132.0	132.0	132.0	0.0
L	24,113	318	25	5.0	137.5	137.5	138.2	0.7

<sup>1</sup>Feet above mouth

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: COVE RIVER</b>



LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	10,070	141	808	2.1	10.6	10.6	11.5	0.9
B	11,250	200	735	2.4	13.1	13.1	14.1	1.0
C	11,960	86	381	4.5	15.3	15.3	16.3	1.0
D	12,350	161	1,071	1.6	17.0	17.0	18.0	1.0
E	13,600	351	1,258	1.4	18.2	18.2	18.9	0.7
F	14,150	380	986	1.8	18.6	18.6	19.6	1.0
G	14,480	307	1,727	1.0	21.6	21.6	22.6	1.0
H	16,230	278	1,262	1.2	21.7	21.7	22.7	1.0
I	16,350	50	222	5.7	21.7	21.7	22.7	1.0
J	16,590	100	385	3.3	22.9	22.9	23.7	0.8
K	16,910	285	1,587	0.8	33.1	33.1	33.1	0.0
L	17,715	465	3,765	0.3	33.2	33.2	33.2	0.0
M	18,415	305	3,027	0.4	34.4	34.4	34.4	0.0
N	19,265	80	438	2.9	34.5	34.5	34.5	0.0
O	19,740	40	154	8.3	39.3	39.3	39.3	0.0
P	19,815	95	210	6.0	45.4	45.4	46.0	0.6
Q	20,585	41	136	9.4	52.2	52.2	52.4	0.2

<sup>1</sup>Feet above Clapboard Hill Road

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY NEW HAVEN COUNTY, CONNECTICUT (ALL JURISDICTIONS)	FLOODWAY DATA
		FLOODING SOURCE: EAST RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	34	177	487	1.1	97.3	97.3	98.3	1.0
B	294	92	307	1.7	99.3	99.3	100.3	1.0
C	1,618	125	300	1.7	102.0	102.0	103.0	1.0
D	1,850	437	4,865	0.2	111.6	111.6	112.6	1.0
E	2,380	59	433	2.5	111.6	111.6	112.6	1.0
F	2,400	134	120	9.0	112.2	112.2	112.7	0.5
G	2,940	280	636	1.7	114.3	114.3	115.3	1.0
H	3,028	40	123	8.7	118.9	118.9	119.9	1.0
I	6,302	64	113	7.4	216.7	216.7	217.7	1.0
J	6,483	60	147	5.6	222.5	222.5	223.0	0.5
K	8,212	94	230	3.3	259.7	259.7	260.7	1.0
L	9,316	31	58	8.5	286.4	286.4	287.4	1.0
M	9,520	85	123	3.9	292.0	292.0	293.0	1.0
N	10,824	34	75	5.7	312.4	312.4	312.9	0.5
O	11,027	31	163	2.3	320.6	320.6	321.1	0.5
P	11,600	51	42	9.0	333.8	333.8	334.3	0.5
Q	11,754	57	251	1.4	341.8	341.8	342.8	1.0

<sup>1</sup>Feet above confluence with Mill River

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: EATON BROOK</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	0.000	100	190	2.6	54.9	54.9	55.9	1.0
B	0.287	100	110	3.8	62.2	62.2	62.2	0.0
C	0.530	40	170	2.1	75.1	75.1	75.2	0.1
D	0.604	30	80	4.5	75.9	75.9	76.7	0.8
E	0.681	31	200	1.8	83.0	83.0	83.5	0.5

<sup>1</sup>Miles above Town of North Branford corporate limits

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> (ALL JURISDICTIONS)	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: EIGHTMILE BROOK NO. 1</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	132	84	572	5.9	54.0	43.0 <sup>2</sup>	43.0	0.0
B	1,270	75	314	10.8	59.3	59.3	60.3	1.0
C	2,140	62	280	12.2	77.3	77.3	77.3	0.0
D	2,265	49	259	13.1	79.9	79.9	79.9	0.0
E	3,240	57	271	12.5	98.9	98.9	98.9	0.0
F	4,585	37	233	14.4	135.7	135.7	136.5	0.8

<sup>1</sup>Feet above confluence with Housatonic River (Lower Reach)

<sup>2</sup>Computed without consideration of backwater effects from Housatonic River (Lower Reach)

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: EIGHTMILE BROOK NO. 2</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	100	83	289	4.3	33.4	33.4	34.4	1.0
B	365	24	140	8.9	35.2	35.2	36.2	1.0
C	750	25	152	8.1	37.8	37.8	38.8	1.0
D	915	36	284	4.4	40.1	40.1	41.1	1.0
E	1,220	52	446	2.8	40.8	40.8	41.8	1.0
F	1,585	18	128	9.7	41.4	41.4	42.4	1.0
G	2,065	30	190	6.5	42.3	42.3	43.3	1.0
H	2,390	36	219	5.7	43.3	43.3	44.3	1.0
I	2,665	16	115	10.8	44.3	44.3	45.3	1.0
J	3,550	102	422	2.9	50.2	50.2	51.2	1.0
K	3,755	42	121	9.5	52.1	52.1	53.1	1.0
L	4,075	51	206	5.3	55.3	55.3	55.8	0.5
M	4,850	118	583	1.8	66.6	66.6	67.6	1.0
N	5,015	65	458	2.2	66.7	66.7	67.7	1.0
O	5,365	34	187	5.3	67.8	67.8	68.3	0.5
P	5,515	56	390	2.4	69.7	69.7	70.7	1.0
Q	5,710	47	375	2.4	71.3	71.3	72.3	1.0
R	6,245	36	281	1.3	71.5	71.5	72.5	1.0
S	6,665	94	577	0.6	71.6	71.6	72.6	1.0
T	7,000	150	709	0.5	71.6	71.6	72.6	1.0
U	8,065	177	690	0.4	71.7	71.7	72.7	1.0
V	8,465	30	162	1.4	71.7	71.7	72.7	1.0
W	8,905	106	198	0.6	71.8	71.8	72.8	1.0
X	9,640	20	59	1.9	72.7	72.7	73.2	0.5

<sup>1</sup>Feet above Limit of Detailed Study, approximately 800 feet downstream of Woodin Street

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: FARM BROOK</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	583	66	589	4.7	8.3	8.3	9.0	0.7
B	764	68	498	5.5	10.0	10.0	10.3	0.3
C	1,456	45	413	6.6	11.1	11.1	11.7	0.6
D	2,258	51	1,324	2.1	12.2	12.2	13.1	0.9
E	2,509	56	819	3.4	13.5	13.5	13.5	0.0
F	2,904	47	448	6.1	13.5	13.5	13.7	0.1
G	3,083	75	570	4.8	14.3	14.3	14.6	0.2
H	3,582	56	513	5.3	15.0	15.0	15.2	0.2
I	3,692	48	964	2.8	16.0	16.0	16.0	0.0
J	3,989	88	1,087	2.5	16.8	16.8	16.8	0.0
K	4,994	76	786	3.5	16.8	16.8	17.0	0.2
L	5,770	86	865	3.2	16.9	16.9	17.4	0.5
M	5,829	89	1,215	2.3	16.9	16.9	17.5	0.6
N	6,591	117	905	3.0	17.0	17.0	17.6	0.6
O	6,643	113	646	4.2	17.0	17.0	17.5	0.5
P	6,673	105	796	3.4	17.0	17.0	17.7	0.7
Q	7,463	385	2,578	1.1	17.1	17.1	18.1	1.0
R	7,574	385	1,634	1.7	18.1	18.1	18.2	0.1
S	7,699	367	1,985	1.4	18.2	18.2	18.4	0.1
T	7,831	191	1,276	2.2	18.3	18.3	18.5	0.2
U	9,273	244	1,305	2.1	19.1	19.1	20.0	1.0
V	9,332	253	1,558	1.8	19.1	19.1	20.1	1.0
W	9,421	275	1,643	1.7	19.3	19.3	20.3	1.0
X	10,950	243	1,188	2.3	20.5	20.5	21.4	0.9

<sup>1</sup>Feet above Town of East Haven / Town of Branford corporate limits

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: FARM RIVER</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Y	11,135	196	1,130	2.4	20.9	20.9	21.7	0.8
Z	12,282	524	2,395	1.1	21.5	21.5	22.5	1.0
AA	13,201	375	2,051	1.3	21.8	21.8	22.8	1.0
AB	14,157	99	544	5.0	22.3	22.3	23.2	0.9
AC	14,378	103	720	3.8	23.6	23.6	24.1	0.5
AD	15,133	89	666	4.1	23.9	23.9	24.8	0.9
AE	15,342	78	707	3.9	24.9	24.9	25.8	0.9
AF	15,920	366	2,467	1.1	25.3	25.3	26.2	0.9
AG	16,402	546	3,097	0.9	25.3	25.3	26.3	1.0
AH	16,941	364	1,893	1.5	25.4	25.4	26.4	1.0
AI	17,457	350	1,603	1.7	25.6	25.6	26.6	1.0
AJ	17,995	136	881	3.1	26.0	26.0	26.8	0.8
AK	18,257	103	789	3.5	26.3	26.3	27.2	0.8
AL	18,876	79	524	4.7	27.0	27.0	27.6	0.6
AM	18,915	81	533	4.6	27.1	27.1	27.7	0.6
AN	18,944	78	495	5.0	27.3	27.3	27.8	0.6
AO	19,063	77	542	4.5	28.0	28.0	28.6	0.7
AP	19,623	444	1,601	1.5	28.8	28.8	29.4	0.6
AQ	21,069	172	671	3.7	30.5	30.5	31.5	1.0
AR	22,019	91	525	4.7	33.8	33.8	34.1	0.3
AS	22,232	75	429	5.7	34.6	34.6	34.9	0.3
AT	23,091	107	742	3.3	36.0	36.0	37.0	1.0
AU	24,058	150	1,006	2.4	37.3	37.3	38.3	1.0
AV	25,123	153	984	2.5	38.2	38.2	39.2	0.9

<sup>1</sup>Feet above Town of East Haven / Town of Branford corporate limits

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: FARM RIVER</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AW	25,357	105	660	3.7	38.8	38.8	39.7	0.9
AX	26,826	757	2,719	0.9	39.9	39.9	40.8	1.0
AY	26,892	803	3,640	0.7	39.9	39.9	40.9	1.0
AZ	27,124	795	2,426	1.0	39.9	39.9	40.9	1.0
BA	27,998	258	710	3.4	40.8	40.8	41.5	0.7
BB	29,562	178	722	3.3	45.2	45.2	45.8	0.6
BC	30,446	236	965	2.2	46.7	46.7	47.5	0.8
BD	30,715	232	1,044	2.1	48.5	48.5	48.8	0.3
BE	31,646	61	347	6.2	49.8	49.8	50.1	0.3
BF	31,739	63	620	3.5	51.5	51.5	51.7	0.2
BG	31,786	149	1,331	1.6	53.8	53.8	53.9	0.2
BH	33,268	59	464	4.7	53.9	53.9	54.1	0.2
BI	34,028	117	523	4.1	54.3	54.3	55.2	0.9
BJ	34,185	67	1,134	1.9	54.9	54.9	55.9	1.0
BK	35,739	56	286	7.6	56.1	56.1	57.0	0.9
BL	36,372	104	481	4.1	58.5	58.5	58.9	0.4
BM	36,555	56	324	6.0	59.7	59.7	60.3	0.6
BN	36,627	66	442	4.4	60.3	60.3	60.7	0.4
BO	36,685	110	1,258	1.6	68.4	68.4	69.0	0.6
BP	37,546	122	1,149	1.7	68.5	68.5	69.1	0.6
BQ	38,711	120	440	4.4	68.7	68.7	69.1	0.4
BR	38,852	134	693	2.8	69.3	69.4	70.4	1.0
BS	39,598	128	728	2.7	71.0	71.0	71.5	0.5
BT	40,904	290	1,120	1.7	72.4	72.4	73.1	0.7

<sup>1</sup>Feet above Town of East Haven / Town of Branford corporate limits

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: FARM RIVER</b>



LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BU	41,500	266	768	2.4	72.9	72.9	73.9	1.0
BV	41,983	140	520	3.5	74.6	74.6	75.5	0.8
BW	42,867	77	327	5.5	77.9	77.9	78.9	1.0
BX	43,616	127	505	3.6	82.4	82.4	83.2	0.8
BY	44,085	137	547	3.3	83.9	83.9	84.9	1.0
BZ	44,151	115	672	2.7	86.6	86.6	86.8	0.2
CA	44,804	66	367	4.9	87.7	87.7	88.1	0.3
CB	45,210	50	291	6.2	89.6	89.6	90.0	0.5
CC	45,292	59	378	4.8	89.9	89.9	90.9	1.0
CD	45,378	67	216	8.4	90.1	90.1	91.0	0.9
CE	46,684	89	480	3.8	96.6	96.6	97.3	0.7
CF	47,388	56	349	5.2	97.6	97.6	98.6	0.9
CG	47,494	46	239	7.6	98.5	98.5	98.8	0.3
CH	47,858	49	269	6.7	100.5	100.5	101.1	0.7
CI	48,856	314	908	1.7	103.0	103.0	104.0	1.0
CJ	49,583	155	371	4.3	104.9	104.9	105.1	0.3
CK	50,930	50	276	5.7	109.6	109.6	110.4	0.8
CL	51,952	87	465	3.4	112.4	112.4	113.2	0.8
CM	52,674	60	286	5.5	114.1	114.1	114.5	0.4
CN	53,745	59	302	5.2	117.1	117.1	117.5	0.4
CO	54,804	55	282	5.6	119.6	119.6	120.3	0.8
CP	55,851	113	354	4.5	123.3	123.3	124.2	0.8
CQ	56,992	138	473	3.3	127.1	127.1	128.1	1.0
CR	57,161	51	265	6.0	129.2	129.2	129.2	0.0

<sup>1</sup>Feet above Town of East Haven / Town of Branford corporate limits

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: FARM RIVER</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
CS	57,713	165	585	2.7	129.6	129.6	130.6	1.0
CT	57,749	177	615	2.6	129.6	129.6	130.6	1.0
CU	57,775	154	508	3.1	129.7	129.7	130.6	0.9
CV	57,847	117	420	3.8	130.0	130.0	130.7	0.7
CW	57,974	268	255	4.9	130.8	130.8	131.1	0.4
CX	58,035	162	379	3.3	131.2	131.2	132.2	1.0
CY	58,846	328	1,070	1.2	132.2	132.2	133.0	0.8
CZ	59,699	462	799	1.6	132.8	132.8	133.8	1.0
DA	60,619	348	576	2.2	136.3	136.3	136.7	0.4
DB	60,673	379	748	1.7	136.8	136.8	137.8	1.0
DC	61,341	55	221	5.7	140.0	140.0	140.5	0.6
DD	62,005	66	271	4.6	144.0	144.0	144.6	0.7
DE	62,149	64	292	4.3	144.8	144.8	145.4	0.6
DF	63,241	55	172	7.3	149.5	149.5	150.5	1.0
DG	63,368	45	230	5.4	153.0	153.0	153.1	0.0
DH	63,904	56	192	6.5	156.2	156.2	156.4	0.3
DI	63,932	51	181	7.6	156.1	156.1	156.5	0.4
DJ	63,985	87	363	3.5	160.4	160.4	160.4	0.0
DK	64,795	76	197	6.4	163.3	163.3	163.3	0.0
DL	64,976	61	297	4.2	166.9	166.9	167.0	0.0
DM	65,325	72	187	6.7	168.2	168.2	168.4	0.2
DN	65,417	64	302	4.1	168.7	168.7	169.3	0.7
DO	65,669	122	439	2.8	171.7	171.7	171.7	0.0
DP	66,425	58	175	7.1	174.0	174.0	174.0	0.0

<sup>1</sup>Feet above Town of East Haven / Town of Branford corporate limits

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: FARM RIVER</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
DQ	67,228	75	319	3.9	178.7	178.7	179.7	1.0
DR	68,262	43	195	6.4	184.1	184.1	184.7	0.6
DS	68,378	55	326	3.8	187.5	187.5	188.2	0.6
DT	69,190	98	489	2.6	188.9	188.9	189.9	1.0
DU	69,845	277	952	0.8	189.4	189.4	190.4	1.0
DV	69,880	262	752	1.0	189.4	189.4	190.4	1.0
DW	69,910	240	831	0.9	189.5	189.5	190.4	0.9
DX	70,102	248	483	1.6	189.7	189.7	190.5	0.8
DY	71,448	33	84	9.1	204.8	204.8	204.8	0.0
DZ	71,519	34	660	1.2	208.9	208.9	208.9	0.0
EA	72,875	40	77	9.9	221.0	221.0	221.1	0.1
EB	72,919	38	137	5.6	223.3	223.3	223.4	0.2
EC	73,056	228	1,306	0.6	231.3	231.3	231.2	0.0
ED	73,646	121	150	5.1	232.3	232.3	232.4	0.1
EE	74,695	37	85	4.8	246.5	246.5	246.7	0.2
EF	75,466	56	59	6.9	256.0	256.0	256.0	0.0
EG	75,544	70	174	2.3	259.7	259.7	259.7	0.0
EH	77,081	28	52	7.8	278.7	278.7	278.7	0.0
EI	78,641	44	118	3.5	289.2	289.2	289.2	0.0
EJ	79,256	34	87	4.7	291.1	291.1	291.1	0.0
EK	79,337	52	256	1.6	293.6	293.6	294.0	0.3
EL	79,956	34	122	3.4	293.7	293.7	294.3	0.7
EM	80,071	50	279	1.5	296.7	296.7	296.9	0.2
EN	80,631	44	69	5.9	296.8	296.8	297.0	0.3

<sup>1</sup>Feet above Town of East Haven / Town of Branford corporate limits

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: FARM RIVER</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
EO	81,207	19	76	5.4	303.0	303.0	303.3	0.3
EP	81,281	49	334	1.2	308.4	308.4	308.4	0.0
EQ	81,910	66	65	6.2	310.6	310.6	310.6	0.0
ER	82,417	19	63	6.4	318.3	318.3	318.3	0.0
ES	82,507	34	240	1.7	323.3	323.3	324.3	1.0
ET	82,921	35	56	7.2	325.4	325.4	325.4	0.0
EU	83,075	40	191	2.1	331.3	331.3	332.3	1.0

<sup>1</sup>Feet above Town of East Haven / Town of Branford corporate limits

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY NEW HAVEN COUNTY, CONNECTICUT (ALL JURISDICTIONS)	FLOODWAY DATA
		FLOODING SOURCE: FARM RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	0.062	50	150	4.4	22.6	20.0 <sup>2</sup>	21.0	1.0
B	0.088	40	140	4.7	22.6	20.9 <sup>2</sup>	21.8	0.9
C	0.219	30	75	8.8	28.6	28.6	28.6	0.0
D	0.281	50	175	3.8	31.6	31.6	31.9	0.3
E	0.447	90	160	3.7	41.6	41.6	41.6	0.0
F	0.684	130	200	3.0	52.7	52.7	52.9	0.2
G	0.729	205	685	0.9	57.9	57.9	57.9	0.0
H	0.809	110	380	1.6	57.9	57.9	57.9	0.0
I	0.825	45	85	7.0	58.7	58.7	58.7	0.0
J	0.897	65	120	5.0	62.7	62.7	62.7	0.0
K	0.933	170	505	1.2	66.6	66.6	66.6	0.0
L	0.962	90	185	2.8	66.7	66.7	66.7	0.0
M	1.182	40	80	6.5	69.4	69.4	69.4	0.0
N	1.209	250	650	0.8	72.1	72.1	72.1	0.0
O	1.372	180	135	3.4	72.5	72.5	72.5	0.0

<sup>1</sup>Miles above confluence with Muddy River

<sup>2</sup>Computed without consideration of backwater effects from Muddy River

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: FIVE MILE BROOK</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	136	75	214	4.3	52.2	40.1 <sup>2</sup>	40.1	0.0
B	590	22	77	10.6	55.5	55.5	55.5	0.0
C	700	23	78	10.5	59.7	59.7	59.7	0.0
D	814	24	101	8.1	65.4	65.4	65.4	0.0
E	1,040	30	85	9.7	72.0	72.0	72.0	0.0
F	1,158	12	63	13.0	77.2	77.2	77.2	0.0
G	1,900	37	85	8.7	113.6	113.6	113.6	0.0
H	2,610	25	75	9.9	164.5	164.5	164.5	0.0

<sup>1</sup>Feet above confluence with Housatonic River (Lower Reach)

<sup>2</sup>Computed without consideration of backwater effects from Housatonic River (Lower Reach)

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: FIVEMILE BROOK</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	500	15	119	16.0	208.8	208.8	208.8	0.0
B	850	31	161	11.8	216.3	216.3	216.6	0.3
C	1,220	97	197	9.1	221.6	221.6	221.6	0.0
D	1,355	85	371	4.8	228.2	228.2	228.2	0.0
E	1,890	36	123	10.0	243.1	243.1	244.1	1.0
F	2,750	32	114	10.8	268.8	268.8	268.8	0.0
G	2,940	28	103	12.0	274.7	274.7	274.7	0.0
H	3,690	34	117	10.5	300.5	300.5	300.5	0.0
I	4,445	41	115	9.5	326.1	326.1	326.1	0.0
J	4,580	45	117	8.6	330.1	330.1	330.1	0.0
K	5,025	45	111	9.1	343.5	343.5	343.5	0.0
L	5,525	66	106	7.3	365.1	365.1	365.1	0.0
M	6,225	20	72	10.8	397.2	397.2	397.2	0.0
N	6,800	25	77	10.1	421.0	421.0	421.0	0.0
O	7,900	54	94	7.5	462.6	462.6	462.6	0.0
P	8,135	77	202	3.5	470.5	470.5	470.6	0.1
Q	8,460	39	83	8.4	474.9	474.9	474.9	0.0

<sup>1</sup>Feet above mouth

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: FULLING MILL BROOK</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,160	38	156	3.0	241.8	241.8	242.8	1.0
B	1,346	31	61	7.8	246.5	246.5	247.5	1.0
C	1,618	17	70	6.6	250.4	250.4	250.9	0.5
D	1,742	33	83	5.6	253.0	253.0	254.0	1.0

<sup>1</sup>Feet above confluence with Muddy River

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> (ALL JURISDICTIONS)	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: GRIEB COURT BROOK</b>



LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	0.169	20	70	6.9	145.9	145.9	146.5	0.6
B	0.368	59	65	7.1	170.2	170.2	170.2	0.0

<sup>1</sup>Miles above mouth

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> (ALL JURISDICTIONS)	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: GULF BROOK</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH <sup>2</sup> (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	69	120	1,390	3.1	9.4	1.7 <sup>3</sup>	1.7	0.0
B	792	135	1,385	3.1	9.4	1.8 <sup>3</sup>	1.8	0.0
C	1,874	110	910	4.7	9.4	2.0 <sup>3</sup>	2.0	0.0
D	3,094	65	605	7.1	9.4	2.4 <sup>3</sup>	2.4	0.0
E	4,794	130	1,090	3.9	9.4	3.7 <sup>3</sup>	3.7	0.0
F	8,068	270	1,715	2.5	9.4	5.1 <sup>3</sup>	5.2	0.1
G	9,129	140	935	4.6	9.4	6.1 <sup>3</sup>	6.1	0.0
H	9,314	85	515	8.4	9.4	6.6 <sup>3</sup>	6.7	0.1
I	9,536	110	805	5.1	9.4	7.8 <sup>3</sup>	7.9	0.1
J	9,868	110	965	4.3	9.4	9.2 <sup>3</sup>	9.3	0.1
K	10,090	100	975	4.2	11.6	11.6 <sup>3</sup>	11.6	0.0
L	11,204	100	920	4.5	12.1	12.1	12.6	0.5
M	12,223	500	3,415	1.2	12.5	12.5	13.5	1.0
N	13,195	500	2,960	1.4	12.7	12.7	13.6	0.9
O	14,779	185	1,595	2.6	13.1	13.1	13.9	0.8
P	16,484	120	1,135	3.6	14.0	14.0	14.8	0.8
Q	17,984	300	2,340	1.8	15.3	15.3	16.3	1.0
R	18,739	650	5,290	0.8	15.6	15.6	16.6	1.0
S	19,452	300	2,690	1.5	15.8	15.8	16.8	1.0

<sup>1</sup>Feet above U.S. Route 1

<sup>2</sup>Extends beyond county boundary

<sup>3</sup>Computed without consideration of storm surge effects from Long Island Sound

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY		FLOODWAY DATA	
	NEW HAVEN COUNTY, CONNECTICUT (ALL JURISDICTIONS)		FLOODING SOURCE: HAMMONASSET RIVER (LOWER REACH)	

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH <sup>2</sup> (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	222	195	818	3.5	51.1	51.1	52.1	1.0
B	1,155	65	439	6.6	55.4	55.4	56.4	1.0
C	2,555	77	438	6.6	64.5	64.5	65.0	0.5
D	4,530	50	286	10.0	104.4	104.4	105.4	1.0
E	5,530	86	360	8.0	116.7	116.7	117.7	1.0
F	8,030	37	245	11.6	160.7	160.7	161.7	1.0
G	12,620	48	318	9.0	212.0	212.0	213.0	1.0
H-AD*	*	*	*	*	*	*	*	*

<sup>1</sup>Feet above Chestnut Hill Road

<sup>2</sup>Extends beyond county boundary

\*Data not available

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: HAMMONASSET RIVER (UPPER REACH)</b>

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	290	55	200	11.0	275.0	275.0	275.0	0.0
B	900	67	317	6.9	280.0	280.0	280.0	0.0
C	1,070	44	275	8.0	281.2	281.2	281.2	0.0
D	2,040	49	458	3.6	283.1	283.1	283.7	0.6
E	2,204	63	550	3.0	283.7	283.7	284.2	0.5
F	2,419	89	803	2.1	284.1	284.1	284.6	0.5
G	2,954	46	347	4.8	284.2	284.2	284.6	0.4
H	3,235	59	478	3.5	284.8	284.8	285.3	0.5
I	3,635	57	459	3.6	285.4	285.4	286.0	0.6
J	3,865	48	363	4.6	286.1	286.1	286.6	0.5
K	4,540	200	820	2.0	288.3	288.3	288.6	0.3
L	5,310	68	180	9.2	291.7	291.7	291.7	0.0
M	5,560	126	382	4.3	294.3	294.3	294.4	0.1
N	5,780	90	249	6.7	297.6	297.6	297.6	0.0
O	7,130	45	153	7.4	308.4	308.4	308.9	0.5
P	7,250	47	134	8.4	311.6	311.6	311.6	0.0
Q	8,150	59	193	5.8	319.4	319.4	319.4	0.0
R	8,450	44	106	8.9	322.5	322.5	322.5	0.0

<sup>1</sup>Feet above confluence with Naugatuck River

TABLE 24	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>NEW HAVEN COUNTY, CONNECTICUT</b> <b>(ALL JURISDICTIONS)</b>	<b>FLOODWAY DATA</b>
		<b>FLOODING SOURCE: HANCOCK BROOK</b>