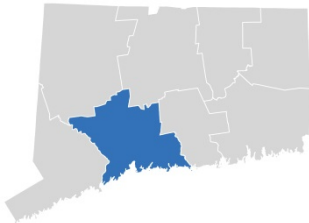


FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 4 OF 10



NEW HAVEN COUNTY, CONNECTICUT (ALL JURISDICTIONS)

COMMUNITY NAME	NUMBER	COMMUNITY NAME	NUMBER
TOWN OF PROSPECT	090151	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
09009CV004D

Version Number 2.3.3.2



FEMA

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LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,870	108	635	4.3	22.5	22.5	23.5	1.0
B	2,180	101	382	7.1	22.7	22.7	23.7	1.0
C	2,344	166	992	2.8	27.2	27.2	28.2	1.0
D	2,787	197	1,246	2.2	27.8	27.8	28.8	1.0
E	3,511	124	1,066	2.6	28.2	28.2	29.2	1.0
F	4,300	172	1,570	1.6	32.2	32.2	33.2	1.0
G	4,796	218	1,692	1.4	33.3	33.3	34.3	1.0
H	4,898	211	1,670	1.5	33.3	33.3	34.3	1.0
I	5,357	205	4,335	0.6	49.8	49.8	50.8	1.0
J	5,650	309	6,394	0.4	49.9	49.9	50.9	1.0
K	6,463	224	3,634	0.7	50.3	50.3	51.3	1.0
L	6,677	86	1,473	1.7	50.7	50.7	51.7	1.0
M	7,035	344	4,768	0.5	51.0	51.0	52.0	1.0
N	7,443	345	3,988	0.6	51.1	51.1	52.1	1.0
O	7,745	81	600	4.1	51.4	51.4	52.4	1.0
P	7,905	68	742	3.3	51.9	51.9	52.9	1.0
Q	8,235	379	3,557	0.7	52.1	52.1	53.1	1.0
R	8,887	61	462	5.3	52.5	52.5	53.5	1.0
S	9,217	36	332	7.3	52.7	52.7	53.7	1.0
T	9,458	57	386	6.3	53.3	53.3	54.3	1.0
U	9,757	27	241	10.1	54.4	54.4	55.4	1.0
V	9,966	51	338	7.2	55.5	55.5	56.5	1.0
W	10,184	54	346	5.3	56.4	56.4	57.4	1.0
X	10,333	39	263	6.9	57.1	57.1	58.1	1.0

¹Feet above confluence with Quinnipiac River

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

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Y	10,552	124	709	2.6	59.7	59.7	60.7	1.0
Z	10,759	162	1,040	1.8	59.7	59.7	60.7	1.0
AA	11,036	156	973	1.9	60.0	60.0	61.0	1.0
AB	11,492	157	733	2.5	60.9	60.9	61.9	1.0
AC	11,709	115	508	3.6	62.3	62.3	63.3	1.0
AD	12,255	121	613	3.0	62.8	62.8	63.8	1.0
AE	12,601	33	164	11.1	64.3	64.3	65.3	1.0
AF	12,796	79	1,075	1.7	74.9	74.9	75.9	1.0
AG	12,976	254	2,286	0.8	75.0	75.0	76.0	1.0
AH	13,502	255	2,531	0.7	75.0	75.0	76.0	1.0
AI	13,672	213	1,630	1.1	75.0	75.0	76.0	1.0
AJ	14,036	200	1,714	1.1	75.1	75.1	76.1	1.0
AK	14,265	169	1,251	1.5	75.1	75.1	76.1	1.0
AL	14,520	99	412	4.4	75.1	75.1	76.1	1.0
AM	14,740	83	544	3.1	76.0	76.0	77.0	1.0
AN	14,999	108	537	3.2	78.3	78.3	79.3	1.0
AO	15,197	73	578	3.0	83.0	83.0	84.0	1.0
AP	15,407	63	557	3.1	83.3	83.3	84.3	1.0
AQ	15,615	91	562	3.0	83.4	83.4	84.4	1.0
AR	15,710	87	568	3.0	84.0	84.0	85.0	1.0
AS	16,155	171	845	2.0	84.2	84.2	85.2	1.0
AT	16,265	121	511	3.3	84.6	84.6	85.6	1.0
AU	16,396	147	570	3.0	85.0	85.0	86.0	1.0
AV	16,885	112	498	3.4	86.8	86.8	87.8	1.0

¹Feet above confluence with Quinnipiac River

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

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AW	17,202	34	142	12.0	87.3	87.3	87.8	0.5
AX	17,449	72	548	3.1	93.5	93.5	94.5	1.0
AY	17,721	205	1,430	1.2	93.8	93.8	94.8	1.0
AZ	18,187	193	877	1.9	94.3	94.3	95.3	1.0
BA	18,458	82	258	6.6	94.8	94.8	95.8	1.0
BB	19,141	42	140	11.6	117.3	117.3	118.3	1.0
BC	20,986	122	468	3.5	122.1	122.1	123.1	1.0
BD	21,507	66	258	6.3	128.0	128.0	129.0	1.0
BE	22,031	71	168	9.7	134.7	134.7	135.7	1.0
BF	22,307	166	1,085	1.5	141.0	141.0	142.0	1.0
BG	23,519	27	139	11.7	154.9	154.9	155.9	1.0
BH	24,081	26	148	11.0	164.6	164.6	165.6	1.0
BI	24,521	35	223	7.3	171.1	171.1	172.1	1.0
BJ	24,865	53	374	4.3	179.2	179.2	180.2	1.0
BK	26,444	49	182	8.9	209.9	209.9	210.4	0.5
BL	27,416	30	102	5.9	218.7	218.7	219.7	1.0
BM	27,748	27	133	2.3	223.5	223.5	224.5	1.0
BN	28,135	19	64	4.9	225.2	225.2	226.2	1.0
BO	28,615	18	64	4.7	229.6	229.6	230.6	1.0
BP	29,435	31	77	3.7	235.4	235.4	236.4	1.0
BQ	29,902	20	37	7.1	243.8	243.8	244.8	1.0
BR	30,100	45	73	3.4	247.2	247.2	248.2	1.0
BS	30,260	28	71	3.6	255.2	255.2	255.7	0.5
BT	32,480	38	37	6.0	300.8	300.8	301.3	0.5

¹Feet above confluence with Quinnipiac River

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

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BU	33,598	23	51	3.6	312.3	312.3	312.8	0.5
BV	35,005	16	24	6.9	319.9	319.9	320.4	0.5

¹Feet above confluence with Quinnipiac River

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

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	490	42	36	5.2	162.6	162.6	162.6	0.0
B	1,428	6	25	7.4	279.1	279.1	279.2	0.1
C	2,073	15	25	7.4	341.5	341.5	341.5	0.0
D	2,240	18	30	6.3	349.8	349.8	349.8	0.0
E	2,767	58	48	3.9	358.3	358.3	358.4	0.1
F	3,154	39	23	8.1	362.8	362.8	363.6	0.8
G	4,042	51	57	3.3	377.8	377.8	378.0	0.2
H	4,344	33	33	5.7	390.7	390.7	390.7	0.0
I	4,552	76	43	4.3	396.8	396.8	396.8	0.0

¹Feet above confluence with Beaver Brook No. 1

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

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,075	370	2,339	1.1	114.2	114.2	115.2	1.0
B	1,315	400	2,191	1.2	114.3	114.3	115.3	1.0
C	1,925	400	2,277	1.1	114.6	114.6	115.5	0.9
D	2,205	80	577	4.4	114.7	114.7	115.6	0.9
E	2,325	144	1,140	2.2	115.7	115.7	116.3	0.6
F	3,025	180	1,281	2.0	116.2	116.2	117.1	0.9
G	3,775	200	918	2.2	116.4	116.4	117.3	0.9
H	4,585	405	1,540	1.3	116.5	116.5	117.4	0.9
I	5,455	230	892	2.2	117.6	117.6	118.6	1.0
J	5,975	140	626	3.2	120.0	120.0	120.8	0.8
K	6,675	180	812	2.5	121.9	121.9	122.7	0.8
L	7,557	180	765	2.6	123.8	123.8	124.7	0.9
M	7,657	180	573	3.5	124.9	124.9	125.9	1.0
N	9,160	431	361	3.0	129.7	129.7	130.3	0.6
O	10,410	368	276	2.7	138.0	138.0	138.6	0.6
P	10,460	287	541	1.8	138.4	138.4	139.0	0.6
Q	13,210	226	1,076	0.6	139.3	139.3	140.1	0.8
R	15,200	182	443	0.6	139.6	139.6	140.4	0.8
S	15,810	37	116	2.5	140.1	140.1	140.6	0.5
T	15,890	58	154	1.9	140.8	140.8	141.6	0.8
U	18,910	68	122	2.4	146.0	146.0	146.1	0.1
V	18,960	49	214	1.9	146.2	146.2	147.0	0.8
W	21,700	101	477	0.8	147.0	147.0	148.0	1.0
X	22,940	39	162	2.5	147.5	147.5	148.4	0.9

¹Feet above confluence with Mill River

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

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Y	23,530	102	495	0.8	147.8	147.8	148.8	1.0
Z	23,560	102	486	0.8	147.8	147.8	148.8	1.0
AA	24,210	67	281	1.4	148.0	148.0	148.9	0.9
AB	24,245	171	841	0.2	149.5	149.5	150.5	1.0
AC	26,350	104	342	0.5	149.5	149.5	150.5	1.0
AD	28,195	15	27	6.8	152.0	152.0	152.2	0.2
AE	28,239	53	236	0.8	155.6	155.6	156.6	1.0
AF	30,875	45	145	1.3	156.3	156.3	157.3	1.0

¹Feet above confluence with Mill River

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

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	900	63	499	5.5	14.5	14.5	15.2	0.7
B	1,502	113	924	2.8	18.4	18.4	19.4	1.0
C	3,650	80	660	3.9	21.7	21.7	22.7	1.0
D	6,275	43	387	6.7	26.2	26.2	27.2	1.0

¹Feet above mouth

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

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	54	128	632	1.2	45.9	45.9	46.9	1.0
B	1,052	41	131	5.7	51.1	51.1	51.6	0.5
C	1,337	80	955	1.4	69.0	69.0	70.0	1.0
D	2,696	44	266	5.1	71.5	71.5	72.5	1.0
E	2,866	232	1,607	0.8	75.5	75.5	76.5	1.0
F	3,274	46	160	8.4	78.0	78.0	79.0	1.0
G	4,181	31	141	9.5	94.0	94.0	94.5	0.5
H	4,383	94	782	1.7	103.1	103.1	104.1	1.0
I	4,870	47	146	10.0	105.7	105.7	106.2	0.5
J	5,286	43	94	8.1	109.4	109.4	110.4	1.0
K	6,848	31	86	6.4	130.6	130.6	131.1	0.5
L	7,053	30	147	3.7	137.1	137.1	138.1	1.0

¹Feet above confluence with Quinnipiac River

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

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	4,700	52	257	2.6	370.8	370.8	371.8	1.0
B	5,380	124	459	1.4	371.4	371.4	372.2	0.8
C	6,100	31	101	6.6	372.0	372.0	372.4	0.4
D	6,325	104	586	1.1	378.8	378.8	378.9	0.1
E	6,950	29	80	8.3	391.1	391.1	391.1	0.0
F	6,961	38	172	3.9	392.5	392.5	392.5	0.0
G	7,450	75	443	1.5	403.2	403.2	403.2	0.0
H	7,615	165	826	0.8	403.3	403.3	403.3	0.0
I	7,705	105	218	2.1	403.3	403.3	403.3	0.0
J	8,195	27	57	8.2	434.7	434.7	434.7	0.0
K	8,820	46	67	6.9	456.8	456.8	456.8	0.0
L	9,166	24	54	8.6	469.0	469.0	469.0	0.0
M	9,325	54	411	1.1	482.8	482.8	482.8	0.0
N	9,730	49	69	6.7	482.9	482.9	482.9	0.0
O	10,055	101	102	4.5	488.9	488.9	489.0	0.1
P	10,400	72	105	4.4	516.9	516.9	516.9	0.0
Q	10,650	88	115	4.0	531.8	531.8	531.8	0.0
R	11,445	79	106	4.4	550.3	550.3	550.3	0.0
S	12,285	33	60	7.7	570.9	570.9	571.2	0.3
T	12,875	168	99	3.8	587.1	587.1	587.1	0.0
U	13,260	481	2,844	0.1	589.6	589.6	589.6	0.0
V	13,700	576	2,923	0.1	589.6	589.6	589.6	0.0
W	14,455	729	3,872	0.1	589.6	589.6	589.6	0.0
X	15,300	392	1,719	0.2	589.6	589.6	589.6	0.0

¹Feet above mouth

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

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Y	15,555	305	1,133	0.3	589.6	589.6	589.6	0.0
Z	15,855	106	113	2.2	589.6	589.6	589.6	0.0
AA	16,300	109	686	0.4	596.6	596.6	596.6	0.0

¹Feet above mouth

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

Table 25: Flood Hazard and Non-Encroachment Data for Selected Streams

[Not Applicable to this Flood Risk Project]

6.4 Coastal Flood Hazard Mapping

Flood insurance zones and BFEs including the wave effects were identified on each transect based on the results from the onshore wave hazard analyses. Between transects, elevations were interpolated using topographic maps, land-use and land-cover data, and knowledge of coastal flood processes to determine the aerial extent of flooding. Sources for topographic data are shown in Table 23.

Zone VE is subdivided into elevation zones and BFEs are provided on the FIRM.

The limit of Zone VE shown on the FIRM is defined as the farthest inland extent of any of these criteria (determined for the 1% annual chance flood condition):

- The *primary frontal dune zone* is defined in 44 CFR Section 59.1 of the NFIP regulations. The primary frontal dune represents a continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes that occur immediately landward and adjacent to the beach. The primary frontal dune zone is subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune zone occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.
- The *wave runup zone* occurs where the (eroded) ground profile is 3.0 feet or more below the 2-percent wave runup elevation.
- The *wave overtopping splash zone* is the area landward of the crest of an overtopped barrier, in cases where the potential 2-percent wave runup exceeds the barrier crest elevation by 3.0 feet or more.
- The *breaking wave height zone* occurs where 3-foot or greater wave heights could occur (this is the area where the wave crest profile is 2.1 feet or more above the total stillwater elevation).
- The *high-velocity flow zone* is landward of the overtopping splash zone (or area on a sloping beach or other shore type), where the product of depth of flow times the flow velocity squared (hv^2) is greater than or equal to $200 \text{ ft}^3/\text{sec}^2$. This zone may only be used on the Pacific Coast.

The SFHA boundary indicates the limit of SFHAs shown on the FIRM as either “V” zones or “A” zones.

Table 26 indicates the coastal analyses used for floodplain mapping and the criteria used to determine the inland limit of the open-coast Zone VE and the SFHA boundary at each transect.

Table 26: Summary of Coastal Transect Mapping Considerations

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD 88)	Zone Designation and BFE (ft NAVD 88)		
1		10.6	VE 13-16 AE 11-13	Overland Wave Propagation	
2		12.5	VE 15-19 AE 12-15	Overtopping	
3		12.3	VE 14-18 AE 12-14	Overtopping	
4		10.8	VE 13-16 AE 11-13	Overland Wave Propagation	
5		11.8	VE 17	Overtopping	
6		10.7	VE 13-16 AE 11-13	Overland Wave Propagation	
7		12.4	VE 19 AE 13	Runup	
8		10.9	VE 13-16 AE 11-13	Overtopping	
9		12.4	VE 20 AE 12	Overtopping	
10		12.2	VE 24 AE 14	Runup	
11		11.1	VE 13-17 AE 11-13	Overland Wave	
12		11.6	VE 14-17 AE 12-14	Overtopping	
13		12.4	VE 14-19 AE 12-14	Overtopping	
14		12.4	VE 17	Runup	
15		10.7	VE 13-16 AE 11-13	Overland Wave Propagation	
16	✓	10.3	VE 12-16 AE 10-12	Primary Frontal Dune	
17		10.3	VE 12-15 AE 10-12	Overland Wave Propagation	

Table 26: Summary of Coastal Transect Mapping Considerations

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD 88)	Zone Designation and BFE (ft NAVD 88)		
18		9.7	VE 12-14 AE 10-12	Overland Wave Propagation	
19		11.3	VE 13-17 AE 11-13	Overtopping	
20		10.9	VE 13-16 AE 11-13	Overtopping	
21		12.5	VE 15-19 AE 13-15	Overtopping	
22		11.4	VE 12-15 AE 10-12	Overtopping	
23		10.5	VE 17 AE 11-13	Overtopping	
24		10.8	VE 13-16 AE 11-13	Overtopping	
25		11.7	VE 14-18 AE 12-14	Overtopping	
26		10.3	VE 12-15 AE 10-12	Overland Wave Propagation	
27		11.4	VE 13-17 AE 12-13	Overtopping	
28		10.6	VE 14-18 AE 12-14	Overland Wave Propagation	
29		10.9	VE 13-16 AE 11-13	Overland Wave Propagation	
30		11.3	VE 13-17 AE 11-13	Overtopping	
31		11.4	VE 14-17 AE 11-14	Overtopping	
32		10.7	VE 21	Overtopping	
33		12.2	VE 1-14 AE 13-14	Overtopping	

Table 26: Summary of Coastal Transect Mapping Considerations

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD 88)	Zone Designation and BFE (ft NAVD 88)		
34		11.3	VE 15-17 AE 11-12	Overland Wave Propagation	
35		11	VE 13-16 AE 11-13	Overland Wave Propagation	
36		11.7	VE 14-18 AE 12-14	Overtopping	
37		11.9	VE 14 AE 12-14	Overtopping	
38		10.3	VE 12-15 AE 10-12	Overland Wave Propagation	
39		11.7	VE 14-18 AE 12-14	Overland Wave	
40		10.5	VE 13-16 AE 10-13	Overland Wave Propagation	
41		11.2	VE 13-17 AE 11-13	Overtopping	
42		10.8	VE 13-16 AE 11-13	Overtopping	
43		11.3	VE 15	Overtopping	
44		10.2	VE 12-15 AE 10-12	Overland Wave Propagation	
45		12.2	VE 17 AE 12-14	Runup	
46		11.1	VE 13-17 AE 11-13	Overland Wave Propagation	
47		11	VE 13-16 AE 11-13	Overland Wave Propagation	
48		11.8	VE 14-18 AE 12-14	Overtopping	

Table 26: Summary of Coastal Transect Mapping Considerations

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD 88)	Zone Designation and BFE (ft NAVD 88)		
49		10.3	VE 12-16 AE 10-12	Overland Wave Propagation	
50		11.6	VE 14-17 AE 12-14	Overtopping	
51		11.2	VE 13-17 AE 11-13	Overland Wave Propagation	
52		11.8	VE 14-18 AE 12-14	Overtopping	
53		12	VE 14-18 AE 12-14	Overtopping	
54		11.7	VE 19	Overtopping	
55		11.1	VE 13-17 AE 12-13	Overland Wave Propagation	

A LiMWA boundary has also been added in coastal areas subject to wave action for use by local communities in safe rebuilding practices. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. To simplify representation, the LiMWA was continued immediately landward of the VE/AE boundary in areas where wave runup elevations dominate. Similarly, in areas where the Zone VE designation is based on the presence of a primary frontal dune or wave overtopping, the LiMWA was delineated immediately landward of the Zone VE/AE boundary.

6.5 FIRM Revisions

This FIS Report and the FIRM are based on the most up-to-date information available to FEMA at the time of its publication; however, flood hazard conditions change over time. Communities or private parties may request flood map revisions at any time. Certain types of requests require submission of supporting data. FEMA may also initiate a revision. Revisions may take several forms, including Letters of Map Amendment (LOMAs), Letters of Map Revision Based on Fill (LOMR-Fs), Letters of Map Revision (LOMRs) (referred to collectively as Letters of Map Change (LOMCs)), Physical Map Revisions (PMRs), and FEMA-contracted restudies. These types of revisions are further described below. Some of these types of revisions do not result in the republishing of the FIS Report. To assure that any user is aware of all revisions, it is advisable to contact the community repository of flood-hazard data (shown in Table 31, “Map Repositories”).

6.5.1 Letters of Map Amendment

A LOMA is an official revision by letter to an effective NFIP map. A LOMA results from an administrative process that involves the review of scientific or technical data submitted by the owner or lessee of property who believes the property has incorrectly been included in a designated SFHA. A LOMA amends the currently effective FEMA map and establishes that a specific property is not located in a SFHA. A LOMA cannot be issued for properties located on the PFD (primary frontal dune).

To obtain an application for a LOMA, visit <http://www.fema.gov> and download the form “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill”. Visit the “Flood Map-Related Fees” section to determine the cost, if any, of applying for a LOMA.

FEMA offers a tutorial on how to apply for a LOMA. The LOMA Tutorial Series can be accessed at http://www.fema.gov/plan/prevent/fhm/ot_lmreq.shtm.

For more information about how to apply for a LOMA, call the FEMA Map Information eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627).

6.5.2 Letters of Map Revision Based on Fill

A LOMR-F is an official revision by letter to an effective NFIP map. A LOMR-F states FEMA’s determination concerning whether a structure or parcel has been elevated on fill above the base flood elevation and is, therefore, excluded from the SFHA.

Information about obtaining an application for a LOMR-F can be obtained in the same manner as that for a LOMA, by visiting <http://www.fema.gov> for the “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill” or by calling the FEMA Map Information eXchange, toll free, at 1-877-FEMA MAP (1-877-336-2627). Fees for applying for a LOMR-F, if any, are listed in the “Flood Map-Related Fees” section.

A tutorial for LOMR-F is available at http://www.fema.gov/plan/prevent/fhm/ot_lmreq.shtm.

6.5.4 Letters of Map Revision

A LOMR is an official revision to the currently effective FEMA map. It is used to change flood zones, floodplain and floodway delineations, flood elevations and planimetric features. All requests for LOMRs should be made to FEMA through the chief executive officer of the community, since it is the community that must adopt any changes and revisions to the map. If the request for a LOMR is not submitted through the chief executive officer of the community, evidence must be submitted that the community has been notified of the request.

To obtain an application for a LOMR, visit <http://www.fema.gov> and download the form “MT-2 Application Forms and Instructions for Conditional Letters of Map Revision and Letters of Map Revision”. Visit the “Flood Map-Related Fees” section to determine the cost of applying for a LOMR. For more information about how to apply for a LOMR, call the FEMA Map Information eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627) to speak to a Map Specialist.

Previously issued mappable LOMCs (including LOMRs) that have been incorporated into the New Haven County FIRM are listed in Table 27. Please note that this table only includes LOMCs

that have been issued on the FIRM panels updated by this map revision. For all other areas within this county, users should be aware that revisions to the FIS Report made by prior LOMRs may not be reflected herein and users will need to continue to use the previously issued LOMRs to obtain the most current data.

Table 27: Incorporated Letters of Map Change

Case Number	Effective Date	Flooding Source	FIRM Panel(s)
12-01-1133P	02/01/2013	Harbor Brook	09009C0162H ¹ , 09009C0164J, 09009C0166H ¹ , 09009C0167J, 09009C0168H ¹

¹ Although a portion of LOMR 12-01-1133P falls within the scope of this map revision, panels 09009C0162H, 09009C0166H, and 09009C0168H were not revised. Therefore, users must continue to refer to the annotated FIRM attachment for this LOMR for FIRM panels 09009C0162H, 09009C0166H, and 09009C0168H.

6.5.3 Physical Map Revisions

PMRs are an official republication of a community’s NFIP map to effect changes to base flood elevations, floodplain boundary delineations, regulatory floodways and planimetric features. These changes typically occur as a result of structural works or improvements, annexations resulting in additional flood hazard areas or correction to base flood elevations or SFHAs.

The community’s chief executive officer must submit scientific and technical data to FEMA to support the request for a PMR. The data will be analyzed and the map will be revised if warranted. The community is provided with copies of the revised information and is afforded a review period. When the base flood elevations are changed, a 90-day appeal period is provided. A 6-month adoption period for formal approval of the revised map(s) is also provided.

For more information about the PMR process, please visit <http://www.fema.gov> and visit the “Flood Map Revision Processes” section.

6.5.4 Contracted Restudies

The NFIP provides for a periodic review and restudy of flood hazards within a given community. FEMA accomplishes this through a national watershed-based mapping needs assessment strategy, known as the Coordinated Needs Management Strategy (CNMS). The CNMS is used by FEMA to assign priorities and allocate funding for new flood hazard analyses used to update the FIS Report and FIRM. The goal of CNMS is to define the validity of the engineering study data within a mapped inventory. The CNMS is used to track the assessment process, document engineering gaps and their resolution, and aid in prioritization for using flood risk as a key factor for areas identified for flood map updates. Visit www.fema.gov to learn more about the CNMS or contact the FEMA Regional Office listed in Section 8 of this FIS Report.

6.5.5 Community Map History

The current FIRM presents flooding information for the entire geographic area of New Haven County. Previously, separate FIRMs, Flood Hazard Boundary Maps (FHBMs) and/or Flood Boundary and Floodway Maps (FBFMs) may have been prepared for the incorporated

communities and the unincorporated areas in the county that had identified SFHAs. Current and historical data relating to the maps prepared for the project area are presented in Table 28, “Community Map History.” A description of each of the column headings and the source of the date is also listed below.

- *Community Name* includes communities falling within the geographic area shown on the FIRM, including those that fall on the boundary line, nonparticipating communities, and communities with maps that have been rescinded. Communities with No Special Flood Hazards are indicated by a footnote. If all maps (FHBM, FBFM, and FIRM) were rescinded for a community, it is not listed in this table unless SFHAs have been identified in this community.
- *Initial Identification Date (First NFIP Map Published)* is the date of the first NFIP map that identified flood hazards in the community. If the FHBM has been converted to a FIRM, the initial FHBM date is shown. If the community has never been mapped, the upcoming effective date or “pending” (for Preliminary FIS Reports) is shown. If the community is listed in Table 28 but not identified on the map, the community is treated as if it were unmapped.
- *Initial FHBM Effective Date* is the effective date of the first Flood Hazard Boundary Map (FHBM). This date may be the same date as the Initial NFIP Map Date.
- *FHBM Revision Date(s)* is the date(s) that the FHBM was revised, if applicable.
- *Initial FIRM Effective Date* is the date of the first effective FIRM for the community. This is the first effective date that is shown on the FIRM panel.
- *FIRM Revision Date(s)* is the date(s) the FIRM was revised, if applicable. This is the revised date that is shown on the FIRM panel, if applicable. As countywide studies are completed or revised, each community listed should have its FIRM dates updated accordingly to reflect the date of the countywide study. Once the FIRMs exist in countywide format, as Physical Map Revisions (PMR) of FIRM panels within the county are completed, the FIRM Revision Dates in the table for each community affected by the PMR are updated with the date of the PMR, even if the PMR did not revise all the panels within that community.

The initial effective date for the New Haven County FIRMs in countywide format was 12/17/2010.

Table 28: Community Map History

Community Name	Initial Identification Date (First NFIP Map Published)	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
City of Ansonia	05/03/1974	05/03/1974	03/11/1977	09/02/1981	05/18/1992 12/17/2010 10/16/2013 05/16/2017
Town of Beacon Falls	05/03/1974	05/03/1974	None	03/01/1979	12/17/2010

Table 28: Community Map History

Community Name	Initial Identification Date (First NFIP Map Published)	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Town of Bethany	07/26/1974	07/26/1974	None	08/23/1977	12/02/1980 12/17/2010
Town of Branford	07/26/1974	07/26/1974	11/26/1976	12/15/1977	04/18/1983 06/16/1992 12/17/2010 07/08/2013 05/16/2017
Town of Cheshire	04/05/1974	04/05/1974	06/21/1977	07/16/1981	11/03/1989 08/02/1995 04/15/2002 12/17/2010 05/16/2017
City of Derby	06/28/1974	06/28/1974	None	09/15/1977	07/16/1991 12/17/2010 10/16/2013 05/16/2017
Town of East Haven	06/28/1974	06/28/1974	08/27/1976	02/01/1978	03/16/1983 01/17/1991 11/19/1997 01/02/2003 12/17/2010 07/08/2013 05/16/2017
Town of Guilford	08/02/1974	08/02/1974	None	05/01/1978	08/19/1986 12/17/2010 07/08/2013 05/16/2017
Town of Hamden	01/04/1974	01/04/1974	05/17/1977	06/15/1979	12/17/2010 07/08/2013 05/16/2017
Town of Madison	05/31/1974	05/31/1974	None	09/15/1978	07/05/1984 11/04/1992 08/02/1995 12/17/2010 07/08/2013
City of Meriden	06/14/1974	06/14/1974	08/16/1977	09/30/1982	11/20/2000 12/17/2010 05/16/2017
Town of Middlebury	09/06/1974	09/06/1974	04/15/1977	10/16/1979	12/17/2010

Table 28: Community Map History

Community Name	Initial Identification Date (First NFIP Map Published)	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
City of Milford	10/18/1974	10/18/1974	08/02/1977	09/29/1978	08/15/1983 10/01/1983 07/02/1987 06/16/1992 11/06/1996 09/07/1999 12/17/2010 07/08/2013 05/16/2017
Borough of Naugatuck	06/28/1974	06/28/1974	02/18/1977	08/15/1979	12/17/2010
City of New Haven	06/07/1974	06/07/1974	09/10/1976	07/16/1980	05/02/1983 06/16/1992 12/17/2010 07/08/2013 05/16/2017
Town of North Branford	06/21/1974	06/21/1974	None	07/03/1978	12/17/2010 07/08/2013 05/16/2017
Town of North Haven	05/24/1974	05/24/1974	None	09/17/1980	05/01/1985 12/17/2010 07/08/2013 05/16/2017
Town of Orange	09/14/1973	09/14/1973	12/10/1976	03/18/1980	08/02/1995 12/17/2010 07/08/2013 05/16/2017
Town of Oxford	06/28/1974	06/28/1974	12/17/1976	12/04/1979	03/18/1991 12/17/2010
Town of Prospect	06/21/1974	06/21/1974	None	02/04/1977	05/16/1995 12/17/2010 05/16/2017
Town of Seymour	07/26/1974 01/07/1977	07/26/1974	None	07/03/1978	04/16/1991 12/17/2010 10/16/2013
Town of Southbury	02/08/1974	02/08/1974	10/17/1975	03/28/1980	12/11/1981 12/17/2010
Town of Wallingford	08/02/1974	08/02/1974	None	09/15/1978	06/04/1990 04/16/1991 09/07/2000 12/17/2010 05/16/2017
City of Waterbury	03/22/1974	03/22/1974	06/07/1977	11/01/1979	12/17/2010

Table 28: Community Map History

Community Name	Initial Identification Date (First NFIP Map Published)	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
City of West Haven	05/31/1974	05/31/1974	None	01/17/1979	04/18/1983 06/16/1992 12/17/2010 07/08/2013
Town of Wolcott	05/03/1974	05/03/1974	11/26/1976	07/05/1982	12/17/2010
Town of Woodbridge	06/28/1974	06/28/1974	11/19/1976	03/16/1981	03/18/1991 12/17/2010 05/16/2017
Borough of Woodmont	10/18/1974	10/18/1974	08/02/1977	09/29/1978	08/15/1983 10/01/1983 07/02/1987 06/16/1992 11/06/1996 09/07/1999 12/17/2010 07/08/2013

SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION

7.1 Contracted Studies

Table 29 provides a summary of the contracted studies, by flooding source, that are included in this FIS Report.

Table 29: Summary of Contracted Studies Included in this FIS Report

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Beacon Hill Brook	Feb, 1979	Harris-Toups Associates	H-3987	September, 1977	Town of Beacon Falls, Borough of Naugatuck
Beaver Brook No. 1	May, 1992	Genovese & Associates	EMW-89-C-2818	November, 1989	City of Ansonia
Beaver Brook No. 2	July, 1987	Flaherty-Giavara Associates	EMW-84-C-1594	September, 1985	City of Milford
Beaver Brook No. 3	January, 1980	Soil Conservation Service	IAA-H-9-76	October, 1977	City of New Haven
Beaver Pond Brook	May, 1979	Harris-Toups Associates	H-3987	November, 1977	City of Waterbury
Bladens River (Lower Reach)	January, 1978	Harris-Toups Associates	H-3987	July, 1977	Town of Seymour
Bladens River (Upper Reach)	September 16, 1980	U.S. Geological Survey	IAA-H-9-77	December, 1978	Town of Bethany, Town of Woodbridge
Bladens River Tributary	January, 1978	Harris-Toups Associates	H-3987	July, 1977	Town of Seymour
Branford River	January, 1978	Anderson-Nichols & Co., Inc.	H-3862	February, 1977	Town of North Branford
Branford River	May 16, 2017	U.S. Geological Survey	HSFE01-12-X-0044	July, 2014	Town of Branford, Town of North Branford
Bronson Brook	September, 1978	Harris-Toups Associates	H-3987	August, 1977	Town of Beacon Falls
Bronson Brook Tributary	September, 1978	Harris-Toups Associates	H-3987	August, 1977	Town of Beacon Falls
Brookdale Stream	December, 1978	Soil Conservation Service	IAA-H-9-76	July, 1977	Town of Hamden

Table 29: Summary of Contracted Studies Included in this FIS Report

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Burr Brook	January, 1978	Anderson-Nichols & Co., Inc.	H-3862	February, 1977	Town of North Branford
Camp Laurelwood Brook	November 4, 1992	Soil Conservation Service	IAA-H-9-76	1977	Town of Madison
Club Creek	N/A	N/A	N/A	May, 2014	City of West Haven
Cold Spring Brook	Feb, 1979	Harris-Toups Associates	H-3987	September, 1977	Borough of Naugatuck
Cove River	July, 1978	USACE, New England Division	IAA-H-19-74	February, 1976	City of West Haven
East River	August, 1986	CE Maguire, Inc.	EMW-C-0278	December, 1982	Town of Guilford
Eaton Brook	December, 1978	Soil Conservation Service	IAA-H-9-76	July, 1977	Town of Hamden
Eightmile Brook No. 1	January, 1978	Anderson-Nichols & Co., Inc.	H-3862	February, 1977	Town of North Branford
Eightmile Brook No. 2	June, 1979	Harris-Toups Associates	H-3987	April, 1978	Town of Oxford
Farley Creek	July, 1987	Flaherty-Giavara Associates	EMW-84-C-1594	September, 1985	City of Milford
Farm Brook	December, 1978	Soil Conservation Service	IAA-H-9-76	July, 1977	Town of Hamden
Farm River	May 16, 2017	U.S. Geological Survey	HSFE01-12-X-0044	July, 2014	Town of East Haven, Town of North Branford
Five Mile Brook	March, 1980	CE Maguire, Inc.	H-4560	July, 1978	Town of North Haven
Fivemile Brook	June, 1979	Harris-Toups Associates	H-3987	April, 1978	Town of Oxford
Fulling Mill Brook	Feb, 1979	Harris-Toups Associates	H-3987	September, 1977	Borough of Naugatuck

Table 29: Summary of Contracted Studies Included in this FIS Report

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Fulling Mill Brook Tributary	May, 1995	Green International Affiliates, Inc.	EMW-93-C-4144	December, 1993	Town of Prospect
Grieb Court Brook	March, 1978	Soil Conservation Service	H-3962	April, 1977	Town of Wallingford
Gulf Brook	January, 1978	Anderson-Nichols & Co., Inc.	H-3862	February, 1977	Town of North Branford
Hammonasset River (Lower Reach)	N/A	CE Maguire, Inc.	N/A	January, 1979	Town of Madison
Hammonasset River (Upper Reach)	November, 1992	U.S. Geological Survey	EMW-89-E-2997	June, 1991	Town of Madison
Hancock Brook	May, 1979	Harris-Toups Associates	H-3987	November, 1977	City of Waterbury
Hanover Street Brook	June, 1990	U.S. Geological Survey	EMW-84-E-1548	August, 1987	Town of Wallingford
Harbor Brook	N/A	N/A	N/A	February, 2013	City of Meriden
Hemp Swamp Brook	September, 1978	Harris-Toups Associates	H-3987	August, 1977	Town of Beacon Falls
Hop Brook (Lower Reach)	February, 1979	Harris-Toups Associates	H-3987	September, 1977	Borough of Naugatuck
Hop Brook (Upper Reach)	April, 1979	Harris-Toups Associates	H-3987	November, 1977	Town of Middlebury
Hopeville Pond Brook	May, 1979	Harris-Toups Associates	H-3987	November, 1977	City of Waterbury
Hopp Brook	June, 1980	U.S. Geological Survey	IAA-H-9-77	December, 1978	Town of Bethany
Housatonic River (Lower Reach)	March, 1991	FGA Services, Inc.	EMW-87-C-2447	March, 1988	City of Derby, Town of Oxford, Town of Seymour

Table 29: Summary of Contracted Studies Included in this FIS Report

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Housatonic River (Lower Reach)	March, 1978	USACE, New England Division	IAA-H-15-72	April, 1977	City of Milford, Town of Orange
Housatonic River (Middle Reach)	September, 1979	U.S. Geological Survey	IAA-H-8-76	December, 1977	Town of Oxford, Town of Southbury
Indian River	September, 1979	CE Maguire, Inc.	H-4560	July, 1978	City of Milford, Town of Orange
Iron Stream	November, 1992	U.S. Geological Survey	EMW-89-E-2997	June, 1991	Town of Madison
Jepp Brook	December, 1978	Soil Conservation Service	IAA-H-9-76	July, 1977	Town of Hamden
Jones Hill Road Brook	July, 1978	USACE, New England Division	IAA-H-19-74	February, 1976	City of West Haven
Judd Brook	April, 2002	Roald Haestad, Inc.	EMB-1999-CO-0564	April, 2000	Town of Cheshire
Karls Brook	July, 1987	Flaherty-Giavara Associates	EMW-84-C-1594	September, 1985	City of Milford
Lindsley Brook	January, 1982	Philip W. Genovese & Associates, Inc.	H-4711	April, 1980	Town of Wolcott
Little Meadow Brook	August, 1986	CE Maguire, Inc.	EMW-C-0278	December, 1982	Town of Guilford
Little River	June, 1979	Harris-Toups Associates	H-3987	April, 1978	Town of Oxford
Little River	January, 1978	Harris-Toups Associates	H-3987	July, 1977	Town of Seymour
Long Meadow Pond Brook	Feb, 1979	Harris-Toups Associates	H-3987	September, 1977	Borough of Naugatuck
Long Swamp Brook	April, 1979	Harris-Toups Associates	H-3987	November, 1977	Town of Middlebury
Lyman Hall Brook	March, 1978	Soil Conservation Service	H-3962	April, 1977	Town of Wallingford

Table 29: Summary of Contracted Studies Included in this FIS Report

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Mad River (Lower Reach)	May, 1979	Harris-Toups Associates	H-3987	November, 1977	City of Waterbury
Mad River (Upper Reach)	January, 1982	Philip W. Genovese & Associates, Inc.	H-4711	April, 1980	Town of Wolcott
Maloney Brook	January, 2003	U.S. Geological Survey	EMW-98-IA-0175	October, 2000	Town of East Haven
Mansion Road Brook	June, 1990	U.S. Geological Survey	EMW-84-E-1548	August, 1987	Town of Wallingford
Meetinghouse Brook	March, 1978	Soil Conservation Service	H-3962	April, 1977	Town of Wallingford
Mill River	May 16, 2017	U.S. Geological Survey	HSFE01-12-X-0044	July, 2014	Town of Cheshire, Town of Hamden
Mountain Brook	May, 1995	Green International Affiliates, Inc.	EMW-93-C-4144	December, 1993	Town of Prospect
Muddy River	March, 1980	CE Maguire, Inc.	H-4560	July, 1978	Town of North Haven
Muddy River	May 16, 2017	U.S. Geological Survey	HSFE01-12-X-0044	July, 2014	Town of North Branford, Town of North Haven
Muddy River	March, 1978	Soil Conservation Service	H-3962	April, 1977	Town of Wallingford
Muddy River Tributary C	January, 1978	Anderson-Nichols & Co., Inc.	H-3862	February, 1977	Town of North Branford
Munger Brook	January, 1978	Anderson-Nichols & Co., Inc.	H-3862	February, 1977	Town of North Branford

Table 29: Summary of Contracted Studies Included in this FIS Report

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Naugatuck River	September, 1978	Harris-Toups Associates	H-3987	August, 1977	many
Neck River	November, 1992	U.S. Geological Survey	EMW-89-E-2997	June, 1991	Town of Madison
Oakdale Brook	March, 1978	Soil Conservation Service	H-3962	April, 1977	Town of Wallingford
Old Tannery Brook	January, 1982	Philip W. Genovese & Associates, Inc.	H-4711	April, 1980	Town of Wolcott
Pine Brook	March, 1980	CE Maguire, Inc.	H-4560	July, 1978	Town of North Haven
Pomperaug River	September, 1979	U.S. Geological Survey	IAA-H-8-76	December, 1977	Town of Southbury
Quinnipiac River	September, 2000	U.S. Geological Survey	N/A	June, 1998	Town of Wallingford
Quinnipiac River	November, 2000	U.S. Geological Survey	EMW-90-E-3266	January, 1995	City of Meriden
Quinnipiac River	Nov, 1989	U.S. Geological Survey	EMW-84-E-1548	August, 1987	Town of Cheshire
Quinnipiac River	May, 1985	Dewberry & Davis, LLC	N/A	August, 1983	Town of North Haven
Race Brook	August, 1995	Roald Haestad, Inc.	EMW-90-C-3126	March, 1993	Town of Orange
Race Brook	September 16, 1980	U.S. Geological Survey	IAA-H-9-77	December, 1978	Town of Woodbridge
Riggs Street Brook	June, 1979	Harris-Toups Associates	H-3987	April, 1978	Town of Oxford
Schildgen Pond Brook	Feb, 1979	Harris-Toups Associates	H-3987	September, 1977	Borough of Naugatuck
Shepard Brook	December, 1978	Soil Conservation Service	IAA-H-9-76	July, 1977	Town of Hamden
Sodom Brook	November, 2000	U.S. Geological Survey	EMW-90-E-3266	January, 1995	City of Meriden

Table 29: Summary of Contracted Studies Included in this FIS Report

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Spoon Shop Brook	May 16, 2017	U.S. Geological Survey	HSFE01-12-X-0044	July, 2014	City of Meriden
Steele Brook	May, 1979	Harris-Toups Associates	H-3987	November, 1977	City of Waterbury
Stubby Brook	July, 1987	Flaherty-Giavara Associates	EMW-84-C-1594	September, 1985	City of Milford
Tenmile River	Nov, 1989	U.S. Geological Survey	EMW-84-E-1548	August, 1987	Town of Cheshire, Town of Prospect
Tuttle Brook	November, 1997	N/A	N/A	September, 1995	Town of East Haven
Two Mile Brook	May, 1992	Genovese & Associates	EMW-89-C-2818	November, 1989	City of Ansonia
Watermans Brook	March, 1980	CE Maguire, Inc.	H-4560	July, 1978	Town of North Haven
Webb Brook	Feb, 1979	Harris-Toups Associates	H-3987	September, 1977	Borough of Naugatuck
Wepawaug River	September 16, 1980	U.S. Geological Survey	IAA-H-9-77	December, 1978	Town of Woodbridge
Wepawaug River	September, 1979	CE Maguire, Inc.	H-4560	July, 1978	City of Milford, Town of Orange
Wepawaug River	May 16, 2017	U.S. Geological Survey	HSFE01-12-X-0044	July, 2014	Town of Orange
West Branch Farm Brook	December, 1978	Soil Conservation Service	IAA-H-9-76	July, 1977	Town of Hamden
West River No. 1	November, 1977	USACE, New England Division	IAA-H-19-74	May, 1977	Town of Guilford
West River No. 2	January, 1980	Soil Conservation Service	IAA-H-9-76	October, 1977	City of New Haven
West River No. 2	March, 1991	USACE, New England Division	EMW-84-E-1506	July, 1989	Town of Woodbridge

Table 29: Summary of Contracted Studies Included in this FIS Report

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Wharton Brook	March, 1978	Soil Conservation Service	H-3962	April, 1977	Town of Wallingford
Whitemare Brook	May, 1992	Genovese & Associates	EMW-89-C-2818	November, 1989	City of Ansonia
Willow Brook No. 1	Nov, 1989	U.S. Geological Survey	EMW-84-E-1548	August, 1987	Town of Cheshire
Willow Brook No. 1	December, 1978	Soil Conservation Service	IAA-H-9-76	July, 1977	Town of Hamden
Willow Brook No. 2	November, 2000	U.S. Geological Survey	EMW-90-E-3266	January, 1995	City of Meriden
Wintergreen Brook	January, 1980	Soil Conservation Service	IAA-H-9-76	October, 1977	City of New Haven
Woodings Pond Brook	March, 1978	Soil Conservation Service	H-3962	April, 1977	Town of Wallingford
Wooster Brook	May, 1979	Harris-Toups Associates	H-3987	November, 1977	Town of Middlebury, City of Waterbury
Long Island Sound	July, 2013	Strategic Alliance for Risk Reduction (STARR)	HSFEHQ-09-D-0370	July, 2013	many

7.2 Community Meetings

The dates of the community meetings held for this Flood Risk Project and any previous Flood Risk Projects are shown in Table 30. These meetings may have previously been referred to by a variety of names (Community Coordination Officer (CCO), Scoping, Discovery, etc.), but all meetings represent opportunities for FEMA, community officials, study contractors, and other invited guests to discuss the planning for and results of the project.

Table 30: Community Meetings

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
City of Ansonia	05/16/2017	03/06/2012	Initial CCO	FEMA, USGS, State NFIP officials, watershed associations, and communities in the Quinnipiac Watershed
		10/15/2014	Intermediate CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
		09/15/2015	Final CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
Town of Beacon Falls	12/17/2010	08/08/2007	Initial CCO	Unknown
		12/03/2008	Final CCO	FEMA, Connecticut Department of Environmental Protection, New Haven County, Dewberry, Roald Haestad Inc., Watershed Concepts, and the communities
Town of Bethany	12/17/2010	08/08/2007	Initial CCO	Unknown
		12/03/2008	Final CCO	FEMA, Connecticut Department of Environmental Protection, New Haven County, Dewberry, Roald Haestad Inc., Watershed Concepts, and the communities
Town of Branford	05/16/2017	03/06/2012	Initial CCO	FEMA, USGS, State NFIP officials, watershed associations, and communities in the Quinnipiac Watershed
		10/15/2014	Intermediate CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
		09/15/2015	Final CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
Town of Cheshire	05/16/2017	03/06/2012	Initial CCO	FEMA, USGS, State NFIP officials, watershed associations, and communities in the Quinnipiac Watershed

Table 30: Community Meetings

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
		10/15/2014	Intermediate CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
		09/15/2015	Final CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
City of Derby	10/16/2013	Unknown	Initial CCO	Unknown
		Unknown	Final CCO	Unknown
Town of East Haven	05/16/2017	03/06/2012	Initial CCO	FEMA, USGS, State NFIP officials, watershed associations, and communities in the Quinnipiac Watershed
		10/15/2014	Intermediate CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
		09/15/2015	Final CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
Town of Guilford	05/16/2017	03/06/2012	Initial CCO	FEMA, USGS, State NFIP officials, watershed associations, and communities in the Quinnipiac Watershed
		10/15/2014	Intermediate CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
		09/15/2015	Final CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
Town of Hamden	05/16/2017	03/06/2012	Initial CCO	FEMA, USGS, State NFIP officials, watershed associations, and communities in the Quinnipiac Watershed
		10/15/2014	Intermediate CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels

Table 30: Community Meetings

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
		09/15/2015	Final CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
Town of Madison	07/08/2013	04/28/2010	Initial CCO	Unknown
		11/29/2011	Final CCO	FEMA, Connecticut Department of Energy and Environmental Protection, New Haven County, STARR, and the communities
City of Meriden	05/16/2017	03/06/2012	Initial CCO	FEMA, USGS, State NFIP officials, watershed associations, and communities in the Quinnipiac Watershed
		10/15/2014	Intermediate CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
		09/15/2015	Final CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
Town of Middlebury	12/17/2010	08/08/2007	Initial CCO	Unknown
		12/03/2008	Final CCO	FEMA, Connecticut Department of Environmental Protection, New Haven County, Dewberry, Roald Haestad Inc., Watershed Concepts, and the communities
City of Milford	05/16/2017	03/06/2012	Initial CCO	FEMA, USGS, State NFIP officials, watershed associations, and communities in the Quinnipiac Watershed
		10/15/2014	Intermediate CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
		09/15/2015	Final CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
Borough of Naugatuck	12/17/2010	08/08/2007	Initial CCO	Unknown

Table 30: Community Meetings

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
		12/03/2008	Final CCO	FEMA, Connecticut Department of Environmental Protection, New Haven County, Dewberry, Roald Haestad Inc., Watershed Concepts, and the communities
City of New Haven	05/16/2017	03/06/2012	Initial CCO	FEMA, USGS, State NFIP officials, watershed associations, and communities in the Quinnipiac Watershed
		10/15/2014	Intermediate CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
		09/15/2015	Final CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
Town of North Branford	05/16/2017	03/06/2012	Initial CCO	FEMA, USGS, State NFIP officials, watershed associations, and communities in the Quinnipiac Watershed
		10/15/2014	Intermediate CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
		09/15/2015	Final CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
Town of North Haven	05/16/2017	03/06/2012	Initial CCO	FEMA, USGS, State NFIP officials, watershed associations, and communities in the Quinnipiac Watershed
		10/15/2014	Intermediate CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
		09/15/2015	Final CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels

Table 30: Community Meetings

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Town of Orange	05/16/2017	03/06/2012	Initial CCO	FEMA, USGS, State NFIP officials, watershed associations, and communities in the Quinnipiac Watershed
		10/15/2014	Intermediate CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
		09/15/2015	Final CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
Town of Oxford	12/17/2010	08/08/2007	Initial CCO	Unknown
		12/03/2008	Final CCO	FEMA, Connecticut Department of Environmental Protection, New Haven County, Dewberry, Roald Haestad Inc., Watershed Concepts, and the communities
Town of Prospect	05/16/2017	03/06/2012	Initial CCO	FEMA, USGS, State NFIP officials, watershed associations, and communities in the Quinnipiac Watershed
		10/15/2014	Intermediate CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
		09/15/2015	Final CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
Town of Seymour	10/16/2013	Unknown	Initial CCO	Unknown
		Unknown	Final CCO	Unknown
Town of Wallingford	05/16/2017	03/06/2012	Initial CCO	FEMA, USGS, State NFIP officials, watershed associations, and communities in the Quinnipiac Watershed
		10/15/2014	Intermediate CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels

Table 30: Community Meetings

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
		09/15/2015	Final CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
City of Waterbury	12/17/2010	08/08/2007	Initial CCO	Unknown
		12/03/2008	Final CCO	FEMA, Connecticut Department of Environmental Protection, New Haven County, Dewberry, Roald Haestad Inc., Watershed Concepts, and the communities
City of West Haven	07/08/2013	04/28/2010	Initial CCO	Unknown
		11/29/2011	Final CCO	FEMA, Connecticut Department of Energy and Environmental Protection, New Haven County, STARR, and the communities
Town of Wolcott	12/17/2010	08/08/2007	Initial CCO	Unknown
		12/03/2008	Final CCO	FEMA, Connecticut Department of Environmental Protection, New Haven County, Dewberry, Roald Haestad Inc., Watershed Concepts, and the communities
Town of Woodbridge	05/16/2017	03/06/2012	Initial CCO	FEMA, USGS, State NFIP officials, watershed associations, and communities in the Quinnipiac Watershed
		10/15/2014	Intermediate CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
		09/15/2015	Final CCO	FEMA, USGS, State NFIP officials, and communities affected by revised panels
Borough of Woodmont	07/08/2013	04/28/2010	Initial CCO	Unknown
		11/29/2011	Final CCO	FEMA, Connecticut Department of Energy and Environmental Protection, New Haven County, STARR, and the communities

SECTION 8.0 – ADDITIONAL INFORMATION

Information concerning the pertinent data used in the preparation of this FIS Report can be obtained by submitting an order with any required payment to the FEMA Engineering Library. For more information on this process, see <http://www.fema.gov>.

The additional data that was used for this project includes the FIS Report and FIRM that were previously prepared for New Haven County (FEMA 2013).

Table 31 is a list of the locations where FIRMs for New Haven County can be viewed. Please note that the maps at these locations are for reference only and are not for distribution. Also, please note that only the maps for the community listed in the table are available at that particular repository. A user may need to visit another repository to view maps from an adjacent community.

Table 31: Map Repositories

Community	Address	City	State	Zip Code
City of Ansonia	City Clerk's Office 253 Main Street	Ansonia	CT	06401
Town of Beacon Falls	Town Hall Ten Maple Avenue	Beacon Falls	CT	06403
Town of Bethany	Town Hall 40 Peck Road	Bethany	CT	06524
Town of Branford	Engineering Department 1019 Main Street	Branford	CT	06405
Town of Cheshire	Town Clerk's Office 84 South Main Street	Cheshire	CT	06410
City of Derby	Building Department One Elizabeth Street	Derby	CT	06418
Town of East Haven	Engineering Department 461 North High Street	East Haven	CT	06512
Town of Guilford	Engineering Department 50 Boston Street	Guilford	CT	06437
Town of Hamden	Planning and Zoning Department 2750 Dixwell Avenue	Hamden	CT	06518
Town of Madison	Town Offices Eight Campus Drive	Madison	CT	06443
City of Meriden	City Clerk's Office 142 East Main Street	Meriden	CT	06450

Table 31: Map Repositories

Community	Address	City	State	Zip Code
Town of Middlebury	Town Hall 1212 Whittemore Road	Middlebury	CT	06762
City of Milford	Parsons Government Center 70 West River Street	Milford	CT	06460
Borough of Naugatuck	Town Hall 229 Church Street	Naugatuck	CT	06770
City of New Haven	Engineering Department 200 Orange Street	New Haven	CT	06510
Town of North Branford	Engineering Department 909 Foxon Road	North Branford	CT	06471
Town of North Haven	Town Clerk's Office 18 Church Street	North Haven	CT	06473
Town of Orange	Public Works Department 617 Orange Center Road	Orange	CT	06477
Town of Oxford	Town Hall 486 Oxford Road	Oxford	CT	06478
Town of Prospect	Land Use Department 36 Center Street	Prospect	CT	06712
Town of Seymour	Town Hall One First Street	Seymour	CT	06483
Town of Southbury	Town Hall 501 Main Street South	Southbury	CT	06488
Town of Wallingford	Planning Department 45 South Main Street	Wallingford	CT	06492
City of Waterbury	City Hall 236 Grand Street	Waterbury	CT	06702
City of West Haven	City Hall 355 Main Street	West Haven	CT	06516
Town of Wolcott	Town Hall Ten Kenea Avenue	Wolcott	CT	06716
Town of Woodbridge	Town Clerk's Office 11 Meetinghouse Lane	Woodbridge	CT	06525
Borough of Woodmont	Borough Hall 31 Clinton Street	Milford	CT	06460

The National Flood Hazard Layer (NFHL) dataset is a compilation of effective FIRM databases and LOMCs. Together they create a GIS data layer for a State or Territory. The NFHL is updated

as studies become effective and extracts are made available to the public monthly. NFHL data can be viewed or ordered from the website shown in Table 32.

Table 32 contains useful contact information regarding the FIS Report, the FIRM, and other relevant flood hazard and GIS data. In addition, information about the state NFIP Coordinator and GIS Coordinator is shown in this table. At the request of FEMA, each Governor has designated an agency of State or territorial government to coordinate that State's or territory's NFIP activities. These agencies often assist communities in developing and adopting necessary floodplain management measures. State GIS Coordinators are knowledgeable about the availability and location of state and local GIS data in their state.

Table 32: Additional Information

FEMA and the NFIP	
FEMA and FEMA Engineering Library website	www.fema.gov
NFIP website	www.fema.gov/national-flood-insurance-program
NFHL Dataset	msc.fema.gov
Other Federal Agencies	
USGS website	www.usgs.gov
Hydraulic Engineering Center website	www.hec.usace.army.mil
State Agencies and Organizations	
State NFIP Coordinator	Diane Ifkovic Department of Energy and Environmental Protection 79 Elm Street Hartford, Connecticut 06106 (860) 424-3537 diane.ifkovic@ct.gov
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SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES

Table 33 includes sources used in the preparation of and cited in this FIS Report as well as additional studies that have been conducted in the study area.

Table 33: Bibliography and References

Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
Aeroservice Corp., 1964	Aeroservice Corp.	<i>Topographic Maps, Scale 1:1,200, Contour Interval 1 Feet: City of New Haven, CT, 1964.</i>	Aeroservice Corporation, Philadelphia, Pennsylvania	New Haven, CT	1964	
Ahearn, 2004	U.S. Geological Survey	<i>Regression Equations for Estimating Flood Flows for the 2-, 10-, 25-, 50-, 100-, and 500-Year Recurrence Intervals in Connecticut: USGS SIR 2004-5160.</i>	E. Ahearn	U.S. Geological Survey, Connecticut	2004	
Bigwood-Thomas, 1955	U.S. Department of the Interior, Geological Survey	<i>Circular No. 365, A Flood-Flow Formula for Connecticut</i>	B.L. Bigwood and M. P. Thomas	Washington, D.C.	1955	
Bowe, Walsh and Assoc., 1977	Bowe, Walsh and Assoc.	<i>Topographic Maps, Scale 1:2,400, Contour Interval 1 and 10 Feet: City of West Haven, CT, 1977.</i>	Bowe, Walsh and Associates	West Haven, Ct	1977	
Branford, 1963	Town of Branford	<i>Topographic Maps, Scale 1:480, Contour Interval 2 Feet: Town of Branford, CT, 1963.</i>		Branford, CT	1963	
C.E. Maguire, Inc., 1977	C.E. Maguire, Inc.	<i>Topographic Maps, Scale 1:2,400, Contour Interval 5 Feet: Town of North Haven, CT, December, 1977.</i>	C.E. Maguire, Inc.	North Haven, CT	December, 1977	

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Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
C.E. Maguire, Inc., 1977	C.E. Maguire, Inc.	<i>Topographic Maps, Scale 1:2,400, Contour Interval 5 Feet: Town of Orange, CT, December, 1977.</i>	C.E. Maguire, Inc.	Orange, CT	December, 1977	
Cheshire, 1975	Town of Cheshire	<i>Topographic Maps, Scale 1:2,400, Contour Interval 2 Feet: Town of Cheshire, CT, March, 1975.</i>		Cheshire, CT	March, 1975	
CT DEP, 2007	Department of Environmental Protection	<i>Natural Hazards Mitigation Plan For 2007-2010</i>	Department of Environmental Protection		1-Dec-07	
Dewberry & Davis, 1982		<i>Topographic Maps, Scale 1:2,400, Contour Interval 4 Feet: Town of Madison, CT, 1982.</i>		Madison, CT	1982	
FEMA, 2011	FEMA	<i>Topographic Lidar: Quinnipiac River Watershed, Connecticut</i>	FEMA	Charleston, SC	April 2013	https://coast.noaa.gov/data/Documents/Metadata/Lidar/harvest/ct2011_fema_quinnipiacriver_m1472_metadata.xml&f=html
Geo Maps, 1978	Geo Maps	<i>Topographic Maps, Scale 1:4,800, Contour Interval 4 Feet: City of Ansonia, CT, April, 1978.</i>	Geo Maps	Ansonia, CT	April, 1978	
Geo Maps, 1978	Geo Maps	<i>Topographic Maps, Scale 1:4,800, Contour Interval 5 Feet: Town of Wolcott, CT, 1978.</i>	Geo Maps	Wolcott, CT	1978	

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Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
Geod Aerial Mapping, 1976	Geod Aerial Mapping	<i>Topographic Maps, Scale 1:2,400, Contour Interval 5 Feet: Town of North Branford, CT, September 1976.</i>	Geod Aerial Mapping	North Branford, CT	September, 1976	
Geod Aerial Mapping, 1980	Geod Aerial Mapping	<i>Topographic Maps, Scale 1:4,800, Contour Interval 5 Feet: Town of Guilford, CT, 1980.</i>	Geod Aerial Mapping	Guilford, CT	1980	
Hamden, 1964	Town of Hamden , New Haven County Soil and Water Conservation District	<i>Work Plan for the Farm Brook Watershed</i>	Town of Hamden and Connecticut and New Haven County Soil and Water Conservation District		1-Feb-64	
Hulsing, 1967	U.S. Department of the Interior, Geological Survey	<i>Techniques of Water Resources Investigation, Book 3, Chapter A5, Measurement of Peak Discharge at Dams by Indirect Methods</i>	U.S. Department of Interior, Geological Survey	Washington, D.C.	1967	
Johnston Assoc., 1983	Natural Resources Center	<i>Realizing the Risk: A History of the June 1982 floods in Connecticut</i>	L.R. Johnston Associates			

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Meriden, 1965	Town of Meriden	<i>Topographic Maps, Scale 1:12,000, Contour Interval 2 Feet: City of Meriden, CT, April, 1965.</i>		Meriden, CT	April, 1965	
Middletown Press, 2010	The Middletown Press	<i>Flood warning issued for Middlesex County</i>	The Middletown Press		14-Dec-10	http://www.middletownpress.com/articles/2010/12/14/news/doc4d081895c9c94214339107.txt
Middletown Press, 2011	The Middletown Press	<i>14 buildings in Middletown deemed unsafe, evacuated (video)</i>	The Middletown Press		4-Feb-11	http://www.middletownpress.com/articles/2011/02/04/news/doc4d4b5283a5d29020146314.txt
Milford, 1979	City of Milford	<i>Topographic Maps, Scale 1:2,400, Contour Interval 2 Feet: City of Milford, CT, 1979.</i>		Milford, CT	1979	
New Haven Water Company, unpublished	New Haven Water Company	<i>Plan Illustrating Lake Gaillard Dam</i>	New Haven Water Company			
NRCS, 1986	U.S. Department of Agriculture, Soil Conservation Service	<i>Technical Release No. 20, Computer Program for Project Formation – Hydrology</i>	U.S. Department of Agriculture, Soil Conservation Service, Engineering Division		1-May-65	

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Quinn and Associates, 1973	Quinn and Associates	<i>Topographic Maps, Scale 1:1,200, Contour Interval 2 Feet: Town of East Haven, CT, 1973.</i>	Quinn and Associates of Horsham, Pennsylvania	East Haven, CT	1973	
Sauer, 1983	U.S. Geological Survey	<i>Flood characteristics of urban watersheds in the United States: U.S. Geological Survey Water-Supply Paper 2207, 63 p.</i>	Sauer, V.B., Thomas, W.O. Jr., Stricker, V.A., and Wilson, K.V., 1983	U.S. Geological Survey, Connecticut	1983	
SCS, 1972	U.S. Department of Agriculture, Soil Conservation Service	<i>National Engineering Handbook, Section 4, Hydrology</i>	U.S. Department of Agriculture, Soil Conservation Service	Washington, D.C.	1-Aug-72	
SCS, 1976	U.S. Department of Agriculture, Soil Conservation Service	<i>Technical Release No. 61, WSP-2 Computer Program</i>	U.S. Department of Agriculture, Soil Conservation Service	Washington, D.C.	1-May-76	
Sewall Co., 1965	Sewall Co.	<i>Topographic Maps, Scale 1:1,200, Contour Interval 2 Feet: Town of Wallingford, CT, March, 1965.</i>	Sewall Co.	Wallingford, CT	March, 1965	
Sewall Co., 1965	Sewall Co.	<i>Topographic Maps, Scale 1:2,400, Contour Interval 5 Feet: Town of Wallingford, CT, March, 1965.</i>	Sewall Co.	Wallingford, CT	March, 1965	

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Sewall Co., 1979	Sewall Co.	<i>Topographic Maps, Scale 1:200, Contour Interval 2 Feet: City of Milford, CT, March, 1979.</i>	Sewall Co.	Milford, CT	1979	
Shearman, 1976	U.S. Department of the Interior, Geological Survey	<i>E431, superseded by J635, Computer Applications for Step Backwater and Floodway Analyses, USGS Open-File Report 76-499</i>	James O. Shearman	Washington, D.C.		
Teledyne Geotronics Mapping, Inc., 1977	Teledyne Geotronics Mapping, Inc.	<i>Topographic Maps, Scale 1:2,400, Contour Interval 4 Feet: Borough of Naugatuck, CT, March 1977.</i>	Teledyne Geotronics Mapping, Inc.	Naugatuck, CT	March, 1977	
Teledyne Geotronics Mapping, Inc., 1977	Teledyne Geotronics Mapping, Inc.	<i>Topographic Maps, Scale 1:2,400, Contour Interval 4 Feet: City of Waterbury, CT, March, 1977.</i>	Teledyne Geotronics Mapping, Inc.	Waterbury, CT	March, 1977	
Teledyne Geotronics Mapping, Inc., 1977	Teledyne Geotronics Mapping, Inc.	<i>Topographic Maps, Scale 1:2,400, Contour Interval 4 Feet: Town of Beacon Falls, CT, March, 1977.</i>	Teledyne Geotronics Mapping, Inc.	Beacon Falls, CT	March, 1977	
Teledyne Geotronics Mapping, Inc., 1977	Teledyne Geotronics Mapping, Inc.	<i>Topographic Maps, Scale 1:2,400, Contour Interval 4 Feet: Town of Middlebury, CT, 1977.</i>	Teledyne Geotronics Mapping, Inc.	Middlebury, CT	1977	

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TPA Design Group, 1989	TPA Design Group	<i>Topographic Maps, Scale 1:480, Contour Interval 2 Feet: Town of East Haven, CT, 1989.</i>	TPA Design Group	East Haven, CT	1989	
USACE, 1958	Dewey and Kropper, Engineers	<i>Report of Flood Control Improvements, Ansonia, Connecticut for the Connecticut Water Resources Commission</i>	Dewey and Kropper	Hartford, Connecticut	1-Aug-58	
USACE, 1965	U.S. Department of the Army, Corps of Engineers, New England District	<i>Ansonia- Derby Local Protection: Design Memorandum No. 1</i>	U.S. Department of the Army, Corps of Engineers, New England District	Waltham, Connecticut	1-Apr-65	
USACE, 1966	U.S. Department of the Army, Corps of Engineers, New England District	<i>Ansonia- Derby Local Protection: Design Memorandum No. 7</i>	U.S. Department of the Army, Corps of Engineers, New England District	Waltham, Massachusetts	1-Apr-66	

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USACE, 1968b	U.S. Department of the Army, Corps of Engineers, New England District	<i>Plans for the Construction Of Local Protection Project, Ansonia-Derby, Waltham, Connecticut</i>	U.S. Department of the Army, Corps of Engineers, New England District		1-Jul-68	
USACE, 1969	U.S. Department of the Army, Corps of Engineers, New England District	<i>Hydraulic Model Investigation, Ansonia-Derby Local Protection Project, Naugatuck and Housatonic Rivers</i>	U.S. Department of the Army, Corps of Engineers, New England District, Waterwave Experiment Station	Vicksburg, Mississippi	1-Apr-69	
USACE, 1970	U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center	<i>HEC-1 Flood Hydrograph Package</i>	U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center	Davis, California	Oct-70	

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USACE, 1973	U.S. Department of the Army, Corps of Engineers, New England District	<i>Flood Plain Information, Naugatuck River: Towns of Ansonia, Seymour, Beacon Falls, Naugatuck, Waterbury, Watertown, and Thomaston, prepared for the Central Naugatuck Valley Regional Planning Agency</i>	U.S. Department of the Army, Corps of Engineers, New England District		1-Jun-73	
USACE, 1973a	U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center	<i>HEC-2 Water Surface Profiles, Generalized Computer Program</i>	U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center	Davis, California	Oct-73	
USACE, 1976	U.S. Department of the Army, Corps of Engineers, New England District	<i>Ansonia - Derby Local Protection: Design Memorandum No. 9</i>	U.S. Department of the Army, Corps of Engineers, New England District	Waltham, Connecticut	1-May-76	

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USACE, 1976b	U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center	<i>HEC-2 Water Surface Profiles, Generalized Computer Program</i>	U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center	Davis, California	Nov-76	
USACE, 1981	U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center	<i>HEC-2 Water Surface Profiles, Generalized Computer Program</i>	U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center	Davis, California	Jan-81	

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USACE, 1982	U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center	<i>HEC-2 Water Surface Profiles, Generalized Computer Program</i>	U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center	Davis, California	1982	
USACE, 1984	U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center	<i>HEC-2 Water Surface Profiles, Generalized Computer Program</i>	U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center	Davis, California	1-Apr-84	
USACE, 1988	U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center	<i>HEC-2 Water Surface Profiles, Generalized Computer Program</i>	U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center	Davis, California	1988	

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USACE, 1994	U.S. Department of the Army, Corps of Engineers	<i>Flood Warning Assessment for the Farm River East Haven & North Branford, CT</i>	U.S. Department of the Army, Corps of Engineers		November, 1994	
USACE, 2010	U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center	<i>HEC-RAS River Analysis System 4.1.0</i>	U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center	Davis, California	2010	

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USGS, Topographic Maps	U.S. Department of the Interior, Geological Survey	<p><i>7.5-Minute Series Topographic Maps, Scale 1:24,000, Contour Interval 10 and/or 20 Feet: Ansonia, Connecticut 1951, 1964, Photorevised 1972 and 1984; Branford, Connecticut, 1967, Photorevised 1971 and 1972; Bristol, Connecticut, 1968 and 1972; Clinton, Connecticut, 1984; Durham, Connecticut, 1964, Photorevised 1972 and 1984; Guilford, Connecticut, 1968, Photorevised 1972 and 1984; Haddam, Connecticut, 1971; Long Hill, Connecticut, 1964, Photorevised 1973 and 1984; Meriden, Connecticut, 1972, Photorevised 1984; Middletown, Connecticut, 1972; Milford, Connecticut 1960, Photorevised 1971; Mt. Carmel, Connecticut, 1954, Photorevised 1967, 1972 and 1993; Naugatuck, Connecticut, 1964, Photorevised 1972 and 1993; New Haven, Connecticut, 1954, Photorevised 1967 and 1972; Newtown, Connecticut 1972; Roxbury, Connecticut, 1970; Southbury, Connecticut,</i></p>	U.S. Department of the Interior, Geological Survey			

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Weiss, 1975	U.S. Geological Survey	<i>Flood flow formulas for urbanized and nonurbanized areas of Connecticut: Watershed and Management Symposium, Logan, Utah, Irrigation and Drainage Division, American Society of Civil Engineers, p. 658-675.</i>	L.A. Weiss	U.S. Geological Survey, Connecticut	1975	
Weiss, 1983	State of Connecticut, Department of Environmental Protection.	<i>Connecticut Water Resources Bulletin No. 36, Evaluation and Design of a Stream Flow - Data Network for Connecticut</i>	L.A. Weiss	U.S. Geological Survey, Connecticut	1983	
Woodbridge, 1981	Town of Woodbridge	<i>Topographic Map, Town of Woodbridge, Connecticut, Southeastern Section, Amity Road to Litchfield Turnpike Areas, Scale 1"=100', Contour Intervals 1 and 2 Feet, prepared from aerial photographs flown on April 8, 1981</i>	unknown	Woodbridge, CT	April, 1981	