FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 2 OF 5

MARTIN COUNTY, FLORIDA

AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
JUPITER ISLAND, TOWN OF	120162
MARTIN COUNTY, UNINCORPORATED AREAS	120161
OCEAN BREEZE, TOWN OF	120163
SEWALL'S POINT, TOWN OF	120164
STUART, CITY OF	120165

FEMA

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Flood Insurance Rate Map (FIRM)

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.

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 visit the NGS website at www.ngs.noaa.gov.

A countywide conversion factor of -1.4 feet was calculated for the previous Martin County FIS (FEMA 2015).

Table 19: Countywide Vertical Datum Conversion

[Not Applicable to this Flood Risk Project]

Table 20: 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 *Guidelines and Standards for Flood Risk Analysis and Mapping*, www.fema.gov/guidelines-and-standards-flood-risk-analysis-and-mapping.

Base map information shown on the FIRM was derived from the sources described in Table 21.

Table 21: Base Map Sources

Data Type	Data Provider	Data Date	Data Scale	Data Description
Digital Orthophoto	U.S. Department of Agriculture	2016	1 meter	Martin County orthoimagery
Digital Orthophoto	Florida Department of Transportation	2016	0.5 foot	Martin County orthoimagery
Digital Orthophoto	Florida Department of Transportation	2016	0.5 foot	St. Lucie County orthoimagery
Digital Orthophoto	Florida Department of Transportation	2015	0.5 foot	Palm Beach County orthoimagery
Political boundaries	Martin County Information Technology Services Department	2012	N/A	Municipal and county boundaries
Surface Water Features	Martin County Information Technology Services Department	2003	1:2,400	Base map surface water features
Surface Water Features	U.S. Geological Survey	2006	1:3,000	National Hydrography Dataset
Transportation Features	Martin County Information Technology Services Department	2015	N/A	Roads
Transportation Features	Florida Department of Transportation	2014	1:24,000	Railroads within the State of Florida

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 Table 22. 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 Table 22, 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 Table 22.

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. Table 2 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 23, “Floodway Data.”

Certain flooding sources may have been studied that do not have published BFEs on the FIRMs, or for which there is a need to report the 1% annual chance flood elevations at selected cross sections because a published Flood Profile does not exist in this FIS Report. These streams may have also been studied using methods to determine non-encroachment zones rather than floodways. For these flooding sources, the 1% annual chance floodplain boundaries 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 Table 22. All topographic data used for modeling or mapping has been converted as necessary to NAVD88. The 1% annual chance elevations for selected cross sections along these flooding sources, along with their non-encroachment widths, if calculated, are shown in Table 24, “Flood Hazard and Non-Encroachment Data for Selected Streams.”

Table 22: Summary of Topographic Elevation Data used in Mapping

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Vertical Accuracy	Horizontal Accuracy	Citation
Jupiter Island, Town of; Martin County, Unincorporated Areas; Ocean Breeze, Town of; Sewall’s Point, Town of; Stuart, City of	Atlantic Ocean and riverine flooding sources	Light Detection and Ranging data (LiDAR)	4.28 cm RMSEz	N/A	3001 Inc. 2007

Table 22: Summary of Topographic Elevation Data used in Mapping, continued

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Vertical Accuracy	Horizontal Accuracy	Citation
Martin County, Unincorporated Areas	Riverine flooding sources prior to the 2002 effective	Topographic Maps	N/A	N/A	USGS various

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 23: Floodway Data

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	824	180	638	1.1	*	2.2	3.1	0.9
B	2,243	70	163	1.7	6.9[2]	6.6	7.2	0.6
C	3,386	89	303	1.8	7.0[2]	6.7	7.3	0.6
D	4,952	50	172	3.1	9.6	9.6	9.7	0.1
E	5,845	53	153	3.4	10.8	10.8	10.9	0.1
F	6,369	57	287	1.8	13.4	13.4	13.5	0.1
G	7,700	54	430	1.2	15.6	15.6	16.3	0.7
H	9,371	60	431	1.2	16.2	16.2	17.1	0.9

[1]Feet above confluence with South Fork St. Lucie River
[2]Combined coastal and riverine effects from South Fork St. Lucie River and Coral Gardens Canal
*Controlled by coastal flooding – see Flood Insurance Rate Map for regulatory base flood elevation

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FLORIDA

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FLOODWAY DATA

FLOODING SOURCE: CORAL GARDENS CANAL

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	155	245	170	5.2	*	0.3	0.3	0.0
B	490	42	329	2.7	*	5.5	5.5	0.0
C	510	201	995	0.9	*	5.6	5.6	0.0
D	2,075	86	223	4.0	6.1[2]	5.6	5.6	0.0
E	2,709	155	400	2.2	6.4[2]	6.1	6.1	0.0
F	2,783	26	183	4.9	7.1[2]	6.6	6.6	0.0
G	4,061	200	476	1.9	7.5[2]	7.3	7.5	0.2
H	5,278	51	181	4.4	8.3[2]	8.2	8.2	0.0
I	5,326	52	317	2.5	10.8	10.8	10.8	0.0
J	5,405	34	147	5.5	10.8	10.8	10.8	0.0
K	6,288	80	483	1.7	11.4	11.4	11.4	0.0
L	7,171	108	315	2.5	11.4	11.4	11.5	0.1
M	8,131	29	265	3.0	12.3	12.3	12.4	0.1
N	9,571	199	1,190	0.7	12.6	12.6	12.7	0.1
O	11,211	25	249	3.1	13.3	13.3	13.4	0.1

[1]Feet above confluence with Manatee Creek
[2]Combined coastal and riverine effects from Manatee Creek and East Fork Creek
*Controlled by coastal flooding – see Flood Insurance Rate Map for regulatory base flood elevation

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FLORIDA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: EAST FORK CREEK

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	915	1,733/ 1,450[2]	12,273	0.4	*	0.1[4]	0.1	0.0
B	22,850	150	2,185	1.7	*	2.4[4]	2.6	0.2
C	25,650	178	2,320	2.5	*	2.9[4]	3.2	0.3
D	28,650	290	2,323	3.8	5.3[3]	4.1[4]	4.8	0.7
E	30,250	405	3,203	3.0	5.5[3]	4.9	5.7	0.8
F	32,250	246	2,192	3.9	6.0[3]	5.7	6.6	0.9
G	34,250	289	2,630	3.3	6.6[3]	6.5	7.5	1.0

[1]Feet above county boundary
[2]Width/width within county boundary
[3]Combined coastal and riverine effects from St. Lucie River and Loxahatchee River
[4]Elevation computed without consideration of backwater effects from Atlantic Ocean
*Controlled by coastal flooding – see Flood Insurance Rate Map for regulatory base flood elevation

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FLORIDA

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FLOODWAY DATA

FLOODING SOURCE: LOXAHATCHEE RIVER

FLOODING SOURCE			FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
NODES[1]	LINKS	DISTANCE[2]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
010		2,824	73			5.4[3]	1.9	1.9	0.0
020		2,904	39			5.4[3]	2.2	2.2	0.0
	C-030			508	5.6				
030		3,774	46			5.4[3]	4.2	4.7	0.5
030A		3,873	45			5.5[3]	4.5	4.9	0.4
	C-030B			511	3.7				
030B		3,933	48			5.8[3]	5.2	6.2	1.0
	C-040			553	2.9				
040		4,048	315			7.3[3]	7.2	7.5	0.3
055		4,223	252			7.8[3]	7.7	8.0	0.3
	C-060			481	2.6				
060		4,745	83			7.9	7.9	8.1	0.2
	C-060A			432	2.9				
060A		5,044	89			8.1	8.1	8.3	0.2
080		7,824	87			10.2	10.2	10.2	0.0
	C-090B			335	1.5				
090B		8,174	39			10.2	10.2	10.3	0.0
	C-090C			339	2.1				
090C		8,701	39			10.4	10.4	10.4	0.0
120		9,460	73			11.4	11.4	11.6	0.2
	C-130			280	2.2				

[1]Only relevant nodes shown in FWDT. Additional nodes are shown on flood profile.
[2]Distance above confluence with Manatee Pocket
[3]Combined coastal and riverine effects from Manatee Pocket and Manatee Creek

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FLORIDA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: MANATEE CREEK

LOCATION			FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
NODES[1]	LINKS	DISTANCE[2]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
130		9,558	34			11.5	11.5	11.7	0.2
	C-130A			236	1.6				
130A		9,781	55			11.6	11.6	11.7	0.1
	C-150			244	1.7				
150		10,245	39			11.7	11.7	11.8	0.1
	C-150A			210	2.2				
150A		11,246	15			12.0	12.0	12.1	0.1

[1]Only relevant nodes shown in FWDT. Additional nodes are shown on flood profile.
[2]Distance above confluence with Manatee Pocket

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FLORIDA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: MANATEE CREEK

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	206	87	323	2.7	*	1.5[3]	1.6	0.1
B	1,230	46	215	4.0	*	2.3[3]	2.8	0.5
C	3,119	260	699	1.1	*	4.6[3]	5.3	0.7
D	3,866	123	584	1.3	6.1[2]	5.8[3]	6.2	0.4
E	6,092	45	265	1.8	7.1	7.1[3]	7.6	0.5
F	8,895	35	181	3.4	9.2	9.2[3]	9.7	0.5
G	10,480	55	292	1.9	10.9	10.9[3]	11.4	0.5
H	12,825	68	465	1.0	13.0	13.0[3]	13.3	0.3
I	13,345	61	334	1.0	13.4	13.4[3]	13.8	0.4
J	13,934	50	385	0.6	15.2	15.2[3]	16.0	0.8
K	15,253	114	732	0.3	15.3	15.3[3]	16.1	0.8
L	18,426	46	174	1.1	16.0	16.0[3]	16.6	0.6
M	19,410	55	127	0.9	16.4	16.4[3]	16.9	0.5
N	20,456	24	76	1.4	17.2	17.2[3]	17.5	0.3
O	21,543	91	105	0.3	17.6	17.6[3]	17.7	0.1
P	22,587	72	100	0.3	17.7	17.7[3]	17.8	0.1

[1]Feet above confluence with St. Lucie Canal Okeechobee Waterway
[2]Combined coastal and riverine effects from Atlantic Ocean and Roebuck Creek
[3]Elevation computed without consideration of backwater effects from St. Lucie Canal Okeechobee Waterway
*Controlled by coastal flooding – see Flood Insurance Rate Map for regulatory base flood elevation

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FLORIDA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: ROEBUCK CREEK

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	15,016	116	1,739	1.9	5.8[2]	4.5[3]	5.4	0.9
B	17,453	135	2,212	1.5	5.8[2]	4.7[3]	5.6	0.9
C	18,901	109	1,493	2.2	5.9[2]	4.8[3]	5.7	0.9
D	20,225	109	1,510	2.2	6.0[2]	5.0[3]	5.9	0.9
E	23,029	86	1,471	2.3	6.1[2]	5.3[3]	6.3	1.0
F	25,723	745	2,945	1.0	6.2[2]	5.5[3]	6.5	1.0
G	28,542	77	980	3.1	6.5[2]	6.0	7.0	1.0
H	30,713	152	1,490	2.0	6.9[2]	6.5	7.5	1.0
I	33,869	380	2,131	1.4	7.4[2]	7.2	8.2	1.0
J	37,326	491	3,054	0.8	8.2[2]	8.1	9.1	1.0
K	39,818	402	2,914	0.8	8.5	8.5	9.5	1.0
L	41,641	817	4,461	0.2	8.5	8.5	9.5	1.0
M	43,465	237	1,726	0.4	8.6	8.6	9.6	1.0

[1]Feet above confluence with St. Lucie Canal Okeechobee Waterway
[2]Combined coastal and riverine flood effects from Atlantic Ocean and South Fork St. Lucie River
[3]Elevation computed without consideration of backwater effects from St. Lucie Canal Okeechobee Waterway

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FLORIDA

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FLOODWAY DATA

FLOODING SOURCE: SOUTH FORK ST. LUCIE RIVER

Table 24: 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 22.

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 ft^3/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 25 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 25: 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 NAVD88)	Zone Designation and BFE (ft NAVD88)		
1	✓	VE 9 AO 3	AE 5 – 6	Runup	SWEL
2	✓	VE 10	AE 4 - 6	PFD	PFD
3	✓	VE 14	AE 4 - 6	PFD	PFD
4	✓	VE 10	AE 4 - 6	PFD	PFD
5	✓	VE 10	AE 4 - 6	PFD	PFD
6	✓	VE 10	AE 4 - 6	PFD	PFD
7	✓	VE 10	AE 4 - 6	PFD	PFD
8	✓	VE 9	AE 4 - 6	PFD	PFD
9	✓	VE 9	AE 4 - 5	PFD	PFD
10	✓	VE 9	AE 4 - 6	PFD	PFD
11	✓	VE 9	AE 4 - 6	PFD	PFD
12	✓	VE 9	AE 4 - 6	PFD	PFD
13	✓	VE 9	AE 4 - 6	PFD	PFD
14	✓	VE 8	AE 4 - 5	PFD	PFD
15	✓	VE 8	AE 4 - 5	PFD	PFD
16	✓	VE 8	AE 5	PFD	PFD
17	✓	VE 8	AE 5	PFD	PFD
18	✓	VE 8	AE 5	PFD	PFD
19	✓	VE 8	AE 4 - 6	PFD	PFD
20	✓	VE 8	AE 6	PFD	PFD
21	✓	VE 8	AE 4 - 6	Runup	Runup
22	✓	VE 8	AE 4 - 6	PFD	PFD
23	✓	VE 8	AE 4 - 6	PFD	PFD
24	✓	VE 8	AE 4 - 6	PFD	PFD
25	✓	VE 8	AE 4 - 6	PFD	PFD
26	✓	VE 8	AE 4 - 6	PFD	PFD
27	✓	VE 8	AE 6	PFD	PFD

Table 25: Summary of Coastal Transect Mapping Considerations, continued

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
28	✓	VE 7	AE 4 - 5	PFD	PFD
29	✓	VE 8	AE 5	PFD	PFD
30	✓	VE 8	AE 5	PFD	PFD
31	✓	VE 8	AE 4 - 5	PFD	PFD
32	✓	VE 8	AE 4 – 5	PFD	PFD
33	✓	VE 8	AE 4 – 5	PFD	PFD
34	✓	VE 8	AE 4 – 5	PFD	PFD
35	✓	VE 8	AE 4 – 5	PFD	PFD
36	✓	VE 8	AE 4 – 5	PFD	PFD
37	✓	VE 8	AE 4 – 5	PFD	PFD
38	✓	VE 8	AE 4 – 5	PFD	PFD
39	✓	VE 8	AE 4 – 5	PFD	PFD
40	✓	VE 8	AE 4 – 5	PFD	PFD
41	✓	VE 8	AE 4	PFD	PFD
42	✓	VE 8	AE 4	PFD	PFD
43	✓	VE 7	AE 4	PFD	PFD
44	✓	VE 7	AE 4	PFD	PFD
45	✓	VE 7	AE 4	PFD	PFD
46	✓	VE 7	AE 4	PFD	PFD
47	✓	VE 7	AE 4	PFD	PFD
48	✓	VE 7 AO 1	AE 4	PFD	SWEL
49	✓	VE 8	AE 4	PFD	PFD
50	✓	VE 8	AE 4 – 5	PFD	PFD
51	✓	VE 8 AO 1	AE 4 – 5	PFD	SWEL
52	✓	VE 8 AO 1	AE 4 – 5	Runup	SWEL
53	✓	VE 9 AO 2	AE 4 – 5	PFD	SWEL

Table 25: Summary of Coastal Transect Mapping Considerations, continued

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
54	✓	VE 9 AO 2	AE 4 – 5	PFD	SWEL
55	✓	VE 8	AE 4 – 5	PFD	PFD
56	✓	VE 8	AE 4 – 6	PFD	PFD
57	✓	VE 8	AE 4 – 6	PFD	PFD
58	✓	VE 10 AO 1	AE 4 – 6	PFD	SWEL
59	✓	VE 10 AO 2	AE 4 – 6	PFD	SWEL
60	✓	VE 10 AO 3	AE 4 – 6	Runup	SWEL
61	✓	VE 10 AO 2	AE 4 – 6	PFD	SWEL
62	✓	VE 8 AO 1	AE 4 – 6	PFD	SWEL
63	✓	VE 7	VE 8 AE 5 – 6	PFD	PFD
64	✓	VE 7	VE 8 AE 5 – 7	PFD	PFD
65	✓	VE 7	VE 8 AE 5 – 7	PFD	PFD
66	✓	VE 7	VE 8 AE 5 – 7	PFD	PFD
67	✓	VE 7 AE 5	VE 8 AE 5 – 7	PFD	SWEL
68	✓	VE 8	VE 7 – 8 AE 5 – 7	PFD	PFD
69	✓	VE 8	VE 7 – 8 AE 5 – 6	PFD	PFD
70	✓	VE 8	VE 7 – 8 AE 5 – 6	Runup	Runup
71	✓	VE 8	VE 7 – 8 AE 5 – 6	PFD	PFD

Table 25: Summary of Coastal Transect Mapping Considerations, continued

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
72	✓	VE 8	VE 7 – 8 AE 5 – 6	PFD	PFD
73	✓	VE 9	VE 7 AE 5 – 6	Runup	SWEL
74	✓	VE 10	VE 7 AE 5 – 6	Runup	SWEL
75	✓	VE 10 AO 3	VE 7 AE 5 – 6	Runup	SWEL
76	✓	VE 9	VE 7 – 8 AE 5 – 6	PFD	SWEL
77	✓	VE 13 AO 2	VE 7 AE 5 – 6	PFD	SWEL
78	✓	VE 10 AO 2	AE 5 – 6	PFD	SWEL
79	✓	VE 11 AO 2	VE 7 AE 5 – 6	PFD	SWEL
80	✓	VE 10	VE 7 – 8 AE 4 – 6	Runup	SWEL
81	✓	VE 10 AO 3	VE 7 AE 4 – 6	Runup	SWEL
82	✓	VE 10 AE 10 AO 2	VE 7 AE 4 – 6	PFD	SWEL
83	✓	VE 10 AO 2	VE 7 – 8 AE 4 – 6	PFD	SWEL
84	✓	VE 10 AO 2	VE 7 – 8 AE 4 – 7	PFD	SWEL
85	✓	VE 10 AO 2	VE 7 – 8 AE 4 – 7	PFD	SWEL
86	✓	VE 9	VE 7 – 8 AE 4 – 7	PFD	PFD
87	✓	VE 9 AO 2	VE 7 – 9 AE 4 – 7	PFD	SWEL

Table 25: Summary of Coastal Transect Mapping Considerations, continued

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
88	✓	VE 9 AO 2	VE 7 – 9 AE 4 – 7	PFD	SWEL
89	✓	VE 9 AO 2	VE 7 – 8 AE 4 – 5	PFD	SWEL
90	✓	VE 9 AO 2	VE 7 – 9 AE 4 – 7	PFD	SWEL
91	✓	VE 9	VE 7 – 8 AE 4 – 6	PFD	SWEL
92	✓	VE 9	VE 7 – 8 AE 4 – 7	PFD	SWEL
93	✓	VE 10 AO 2	VE 7 – 8 AE 4 – 7	PFD	SWEL
94	✓	VE 10 AE 10 AO 2	VE 7 – 8 AE 4 – 7	Runup	SWEL
95	✓	VE 10 AO 2	VE 7 – 8 AE 4 – 7	PFD	SWEL
96	✓	VE 10 AO 2	VE 7 – 8 AE 5 – 7	Runup	SWEL
97	✓	VE 10 AE 10 AO 2	VE 7 – 8 AE 5 – 6	Runup	SWEL
98		N/A	AE 4 - 6	N/A	SWEL
99		N/A	AE 4 - 6	N/A	SWEL
100		N/A	AE 4 - 6	N/A	SWEL
101		N/A	AE 4 - 6	N/A	SWEL
102		N/A	AE 4 – 6	N/A	SWEL
103		N/A	AE 4 – 5	N/A	N/A
104		N/A	AE 5 – 7	N/A	SWEL
105		N/A	AE 5 – 7	N/A	SWEL
106		N/A	AE 5 – 7	N/A	SWEL

Table 25: Summary of Coastal Transect Mapping Considerations, continued

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
107		N/A	VE 7 AE 5	Wave Height	SWEL
108		N/A	VE 7 AE 5 – 7	Wave Height	SWEL
109		N/A	VE 10 AE 9	Wave Height	SWEL
110		N/A	VE 7	Wave Height	SWEL
111		N/A	VE 7	Wave Height	SWEL
112		N/A	AE 6	N/A	SWEL
113		N/A	VE 7 AE 5 – 6	Wave Height	SWEL
114		N/A	VE 7 AE 5 – 6	Wave Height	SWEL
115		N/A	VE 7 AE 5 – 6	Wave Height	SWEL
116		N/A	AE 5 – 6	N/A	SWEL
117		N/A	AE 5 – 6	N/A	SWEL
118		N/A	VE 7 AE 4 – 5	Wave Height	SWEL
119		N/A	VE 7 AE 6	Wave Height	SWEL
120		N/A	AE 5 – 6	N/A	SWEL
121		N/A	VE 7 AE 5 – 6	Wave Height	SWEL

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.

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 30, "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 www.fema.gov/floodplain-management/letter-map-amendment-loma 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 www.fema.gov/online-tutorials.

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 www.fema.gov/floodplain-management/letter-map-amendment-loma 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 www.fema.gov/online-tutorials.

6.5.3 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 www.fema.gov/national-flood-insurance-program-flood-hazard-mapping/mt-2-application-forms-and-instructions 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 Martin County FIRM are listed in Table 26.

Table 26: Incorporated Letters of Map Change

[Not Applicable to this Flood Risk Project]

6.5.4 Physical Map Revisions

A Physical Map Revisions (PMR) is 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 www.fema.gov and visit the "Flood Map Revision Processes" section.

6.5.5 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.

6.5.6 Community Map History

The current FIRM presents flooding information for the entire geographic area of Martin 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 27, "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 27 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 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.

- *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 PMRs 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 Martin County FIRMs in countywide format was 10/04/2002.

Table 27: Community Map History

Community Name	Initial Identification Date	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Jupiter Island, Town of	05/24/1974	05/24/1974	N/A	02/02/1977	02/19/2020 03/16/2015 10/04/2002 09/20/1996 06/16/1992 01/05/1984 10/01/1983
Martin County, Unincorporated Areas	07/29/1977	07/29/1977	N/A	06/15/1981	02/19/2020 03/16/2015 10/04/2002 06/30/1999 09/29/1996 06/16/1992 01/05/1984
Ocean Breeze, Town of	08/02/1974	08/02/1974	04/02/1976	06/15/1981	02/19/2020 03/16/2015 10/04/2002 12/15/1983
Sewall's Point, Town of	03/15/1974	03/15/1974	11/28/1975	08/15/1978	02/19/2020 03/16/2015 10/04/2002 10/16/1996 06/16/1992 04/03/1984
Stuart, City of	05/24/1974	05/24/1974	02/13/1976 12/10/1976	08/15/1978	02/19/2020 03/16/2015 10/04/2002 06/22/1998

SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION

7.1 Contracted Studies

Table 28 provides a summary of the contracted studies, by flooding source, that are included in this FIS Report.

Table 28: Summary of Contracted Studies Included in this FIS Report

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Atlantic Ocean	02/19/2020	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Jupiter Island, Town of; Martin County, Unincorporated Areas

Table 28: Summary of Contracted Studies Included in this FIS Report, continued

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Bessey Creek	02/19/2020	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Martin County, Unincorporated Areas
Bessey Creek	10/04/2002	Taylor Engineering, Inc.	EMA-96-C0-0022	August 1997	Martin County, Unincorporated Areas
Bessey Creek Zone AE Tributaries	10/04/2002	Taylor Engineering, Inc.	EMA-96-C0-0022	August 1997	Martin County, Unincorporated Areas
Connector Channel	10/04/2002	Taylor Engineering, Inc.	EMA-96-C0-0022	August 1997	Martin County, Unincorporated Areas
Corral Gardens Canal	02/19/2020	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Martin County, Unincorporated Areas; Stuart, City of
Corral Gardens Canal	03/16/2015	Watershed IV Alliance	EMA-2002-CO-001A, Task Order 023	October 2012	Martin County, Unincorporated Areas
Danforth Creek	02/19/2020	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Martin County, Unincorporated Areas
Danforth Creek	03/16/2015	Watershed IV Alliance	EMA-2002-CO-001A, Task Order 023	October 2012	Martin County, Unincorporated Areas
Danforth Creek Zone AE Tributaries	10/04/2002	Taylor Engineering, Inc.	EMA-96-C0-0022	August 1997	Martin County, Unincorporated Areas
East Fork Creek	02/19/2020	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Martin County, Unincorporated Areas
East Fork Creek	03/16/2015	Watershed IV Alliance	EMA-2002-CO-001A, Task Order 023	October 2012	Martin County, Unincorporated Areas
Fern Creek	02/19/2020	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Martin County, Unincorporated Areas

Table 28: Summary of Contracted Studies Included in this FIS Report, continued

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Fern Creek	03/16/2015	Watershed IV Alliance	EMA-2002-CO-001A, Task Order 023	October 2012	Martin County, Unincorporated Areas
Indian River	02/19/2020	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Martin County, Unincorporated Areas; Sewall's Point, Town of
Lake Okeechobee	10/04/2002	Taylor Engineering, Inc.	EMA-96-C0-0022	August 1997	Martin County, Unincorporated Areas
Loxahatchee River	02/19/2019	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Martin County, Unincorporated Areas
Manatee Creek	02/19/2020	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Martin County, Unincorporated Areas
Manatee Creek	03/16/2015	Watershed IV Alliance	EMA-2002-CO-001A, Task Order 023	October 2012	Martin County, Unincorporated Areas
Manatee Pocket	02/19/2020	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Martin County, Unincorporated Areas
North Fork Loxahatchee River	02/19/2020	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Martin County, Unincorporated Areas
North Fork Loxahatchee River	10/04/2002	Taylor Engineering, Inc.	EMA-96-C0-0022	August 1997	Martin County, Unincorporated Areas
North Fork St. Lucie River	02/19/2020	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Martin County, Unincorporated Areas; Stuart, City of
Old Fern Creek	02/19/2020	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Martin County, Unincorporated Areas
Old Fern Creek	03/16/2015	Watershed IV Alliance	EMA-2002-CO-001A, Task Order 023	October 2012	Martin County, Unincorporated Areas
Roebuck Creek	02/19/2020	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Martin County, Unincorporated Areas

Table 28: Summary of Contracted Studies Included in this FIS Report, continued

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Roebuck Creek	03/16/2015	Watershed IV Alliance	EMA-2002-CO-001A, Task Order 023	October 2012	Martin County, Unincorporated Areas
Rowland Canal	03/16/2015	Watershed IV Alliance	EMA-2002-CO-001A, Task Order 023	October 2012	Martin County, Unincorporated Areas
South Fork St. Lucie River	02/19/2020	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Martin County, Unincorporated Areas
South Fork St. Lucie River	10/04/2002	Taylor Engineering, Inc.	EMA-96-C0-0022	August 1997	Martin County, Unincorporated Areas
St. Lucie River	02/19/2020	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Martin County, Unincorporated Areas; Stuart, City of
Unnamed Tributary 1 to Roebuck Creek	03/16/2015	Watershed IV Alliance	EMA-2002-CO-001A, Task Order 023	October 2012	Martin County, Unincorporated Areas
Warner Creek	02/19/2020	BakerAECOM	HSFEHQ-09-D-0368	November 2016	Martin County, Unincorporated Areas
Warner Creek	03/16/2015	Watershed IV Alliance	EMA-2002-CO-001A, Task Order 023	October 2012	Martin County, Unincorporated Areas

7.2 Community Meetings

The dates of the community meetings held for this Flood Risk Project and previous Flood Risk Projects are shown in Table 29. 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 29: Community Meetings

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Jupiter Island, Town of	02/19/2020	05/16/2012	Discovery	FEMA Region IV, the Town of Jupiter Island, and BakerAECOM
		06/17/2013	Technical Update	FEMA Region IV, the Town of Jupiter Island, and BakerAECOM
		11/19/2014	Storm Surge Analysis	FEMA Region IV, the Town of Jupiter Island, and BakerAECOM
		03/29/2017	Flood Risk Review	FEMA Region IV, the Town of Jupiter Island, and BakerAECOM
		03/22/2018	CCO Meeting	FEMA Region IV, the Town of Jupiter Island, Florida Division of Emergency Management, Water Management District, and BakerAECOM
Martin County Unincorporated Areas	02/19/2020	05/16/2012	Discovery	FEMA Region IV, representatives of Martin County, and BakerAECOM
		06/17/2013	Technical Update	FEMA Region IV, representatives of Martin County, and BakerAECOM
		11/19/2014	Storm Surge Analysis	FEMA Region IV, representatives of Martin County, and BakerAECOM
		03/29/2017	Flood Risk Review	FEMA Region IV, representatives of Martin County, and BakerAECOM
		03/22/2018	CCO Meeting	FEMA Region IV, representatives of Martin County, Florida Division of Emergency Management, Water Management District, and BakerAECOM
Ocean Breeze, Town of	02/19/2020	05/16/2012	Discovery	FEMA Region IV, the Town of Ocean Breeze, and BakerAECOM
		06/17/2013	Technical Update	FEMA Region IV, the Town of Ocean Breeze, and BakerAECOM
		11/19/2014	Storm Surge Analysis	FEMA Region IV, the Town of Ocean Breeze, and BakerAECOM
		03/29/2017	Flood Risk Review	FEMA Region IV, the Town of Ocean Breeze, and BakerAECOM
		03/22/2018	CCO Meeting	FEMA Region IV, the Town of Ocean Breeze, Florida Division of Emergency Management, Water Management District, and BakerAECOM

Table 29: Community Meetings, continued

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Sewall's Point, Town of	02/19/2020	05/16/2012	Discovery	FEMA Region IV, the Town of Sewall's Point, and BakerAECOM
		06/17/2013	Technical Update	FEMA Region IV, the Town of Sewall's Point, and BakerAECOM
		11/19/2014	Storm Surge Analysis	FEMA Region IV, the Town of Sewall's Point, and BakerAECOM
		03/29/2017	Flood Risk Review	FEMA Region IV, the Town of Sewall's Point, and BakerAECOM
		03/22/2018	CCO Meeting	FEMA Region IV, the Town of Sewall's Point, Florida Division of Emergency Management, Water Management District, and BakerAECOM
Stuart, City of	02/19/2020	05/16/2012	Discovery	FEMA Region IV, the City of Stewart, and BakerAECOM
		06/17/2013	Technical Update	FEMA Region IV, the City of Stewart, and BakerAECOM
		11/19/2014	Storm Surge Analysis	FEMA Region IV, the City of Stewart, and BakerAECOM
		03/29/2017	Flood Risk Review	FEMA Region IV, the City of Stewart, and BakerAECOM
		03/22/2018	CCO Meeting	FEMA Region IV, the City of Stewart, Florida Division of Emergency Management, Water Management District, and BakerAECOM

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 www.fema.gov.

The additional data that was used for this project includes the FIS Report and FIRM that were previously prepared for Martin County (FEMA 2015).

Table 30 is a list of the locations where FIRMs for Martin 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 30: Map Repositories

Community	Address	City	State	Zip Code
Jupiter Island, Town of	Jupiter Island Town Hall 2 Bridge Road	Hobe Sound	FL	33455
Martin County, Unincorporated Areas	Martin County Administrative Center 2401 Southeast Monterey Road	Stuart	FL	34996
Ocean Breeze, Town of	Ocean Breeze Town Hall 1508 Northeast Jensen Beach Boulevard	Jensen Beach	FL	34957
Sewall's Point, Town of	Town Hall 1 South Sewall's Point Road	Sewall's Point	FL	34996
Stuart, City of	Development Department 121 Southwest Flagler Avenue	Stuart	FL	34994

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 31.

Table 31 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 31: Additional Information

FEMA and the NFIP	
FEMA and FEMA Engineering Library website	www.fema.gov/national-flood-insurance-program-flood-hazard-mapping/engineering-library
NFIP website	www.fema.gov/national-flood-insurance-program
NFHL Dataset	msc.fema.gov
FEMA Region IV	FEMA-R4 (Hollins Building) 3003 Chamblee-Tucker Road Atlanta, GA 30341 (770) 220-3174
Other Federal Agencies	
USGS website	www.usgs.gov
Hydraulic Engineering Center website	www.hec.usace.army.mil
State Agencies and Organizations	
State NFIP Coordinator	Steve Martin, CFM, State NIP and Floodplain Manager Florida Division of Emergency Management 2555 Shumard Oak Boulevard Tallahassee, Florida 32399-2100 (850) 922-5269 steve.martins@em.myflorida.com
State GIS Coordinator	Richard Butgereit GIS Administrator Florida Division of Emergency Management 2555 Shumard Oak Boulevard Tallahassee, Florida 32399-2100 Phone: (850) 413-9907 richard.butgereit@dca.state.fl.us

SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES

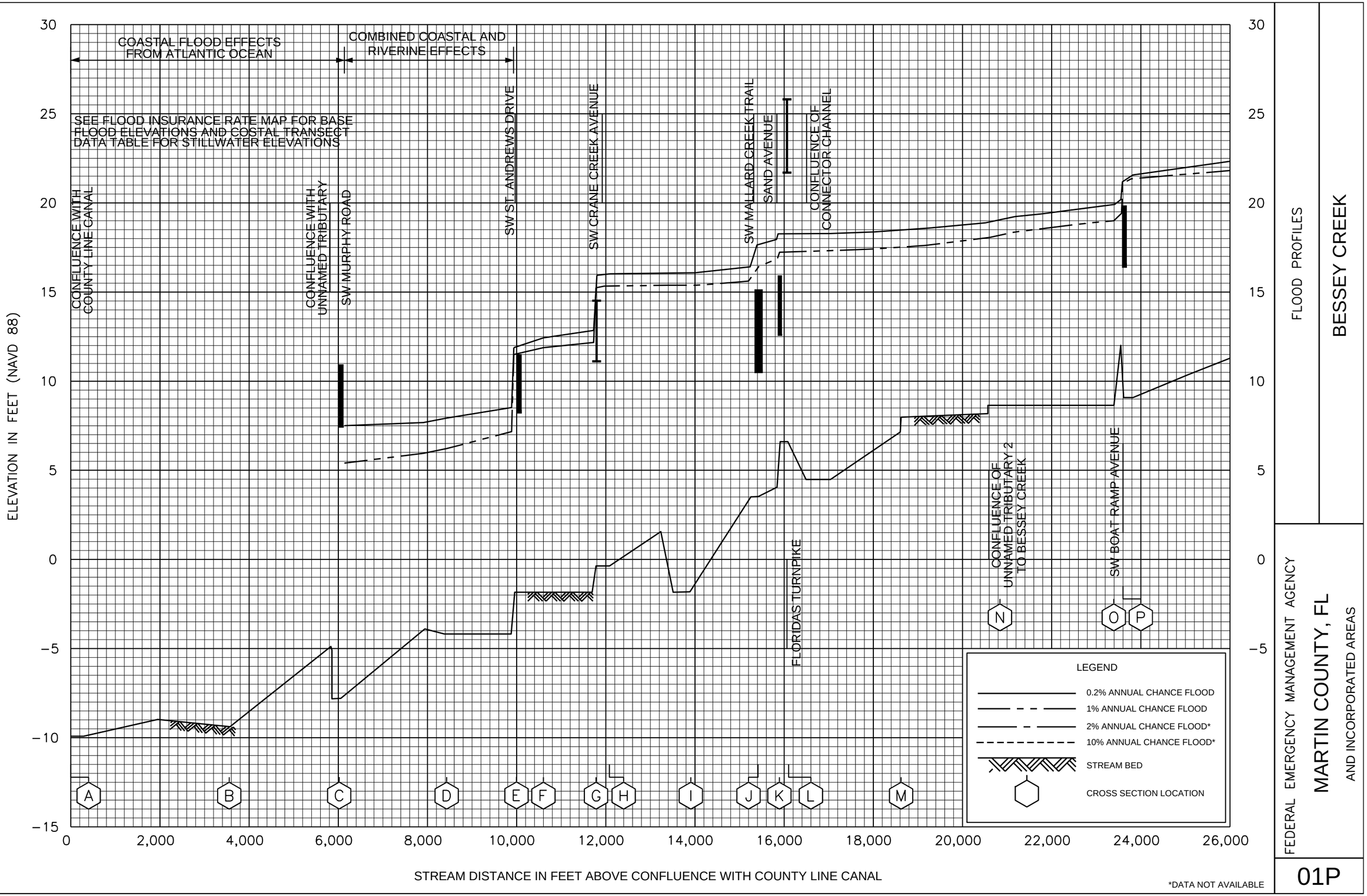
Table 32 includes sources used in the preparation of and cited in this FIS Report as well as additional studies that have been conducted in the study area.

Table 32: 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
FEMA 2002	Federal Emergency Management Agency	*Flood Insurance Study, Martin County, Florida, and Unincorporated Areas*		Washington, D.C.	October 4, 2002	FEMA Flood Map Service Center msc.fema.gov
FEMA 2012	Federal Emergency Management Agency	*Flood Hazard Mapping for Herbert Hoover Dike and Lake Okeechobee Pilot Study Draft Report*	Taylor Engineering Inc., AECOM Inc., Members of Watershed IV Alliance		September 2012	
FEMA 2015	Federal Emergency Management Agency	*Flood Insurance Study, Martin County, Florida, and Unincorporated Areas*		Washington, D.C.	March 2015	FEMA Flood Map Service Center msc.fema.gov
Resio 2007		*White Paper on Estimating Hurricane Inundation Probabilities (with contributions from S.J. Boc, L. Borgman, V. Cardone, A. Cox, W.R. Dally, R.G. Dean, D. Divoky, E. Hirsh, J.L. Irish, D. Levinson, A. Niedoroda, M.D. Powell, J.J. Ratcliff, C. Stutts, J. Suhada, G.R. Toro, and P.J. Vickery), Appendix 8-2 (R2007) of USACE (2007), Interagency Performance Evaluation Taskforce (IPET) Final Report.*	Resio, D.T.		2007	

Table 32: Bibliography and References, continued

Citation in this FIS	Publisher/ Issuer	*Publication Title,* "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
Toro 2010		*"Efficient Joint Probability Methods for Hurricane Surge Frequency Analysis," Ocean Engineering, Vol. 37, pp. 125-134*	G. Toro, D.T. Resio, D. Divoky, A. W. Niedoroda, C.W. Reed		2010	
USGS various	U.S. Department of the Interior, Geological Survey	*7.5-Minute Series Topographic Maps, Scale 1:24,000, Contour Interval 5 Feet; Okeechobee 4 NW, 1953, photorevised 1970; Okeechobee 4 NE, 1953, photorevised 1970; Indiantown NW, Florida, 1953, photorevised 1970; Palm City, Florida, 1948, photorevised 1970; St. Lucie Inlet, Florida, 1948, photorevised 1970; Okeechobee SE, Florida, 1971; Okeechobee 4 SW, Florida, 1953, photorevised 1970; Okeechobee 4 SE, Florida, 1953, photorevised 1970; Indiantown, Florida 1953, photorevised 1970; Indiantown SE, Florida, 1953, photorevised 1970; Gomez, Florida, 1948, photorevised 1967; Hobe Sound, Florida, 1948, photorevised 1967; Port Mayaca, Florida, 1971; West Palm Beach 2 NW, Florida, 1970; West Palm Beach 2 NE, Florida 1970; Rood, Florida, 1948, photorevised 1973; Jupiter, Florida, 1948, photorevised 1967*			Various	



FLOOD PROFILES

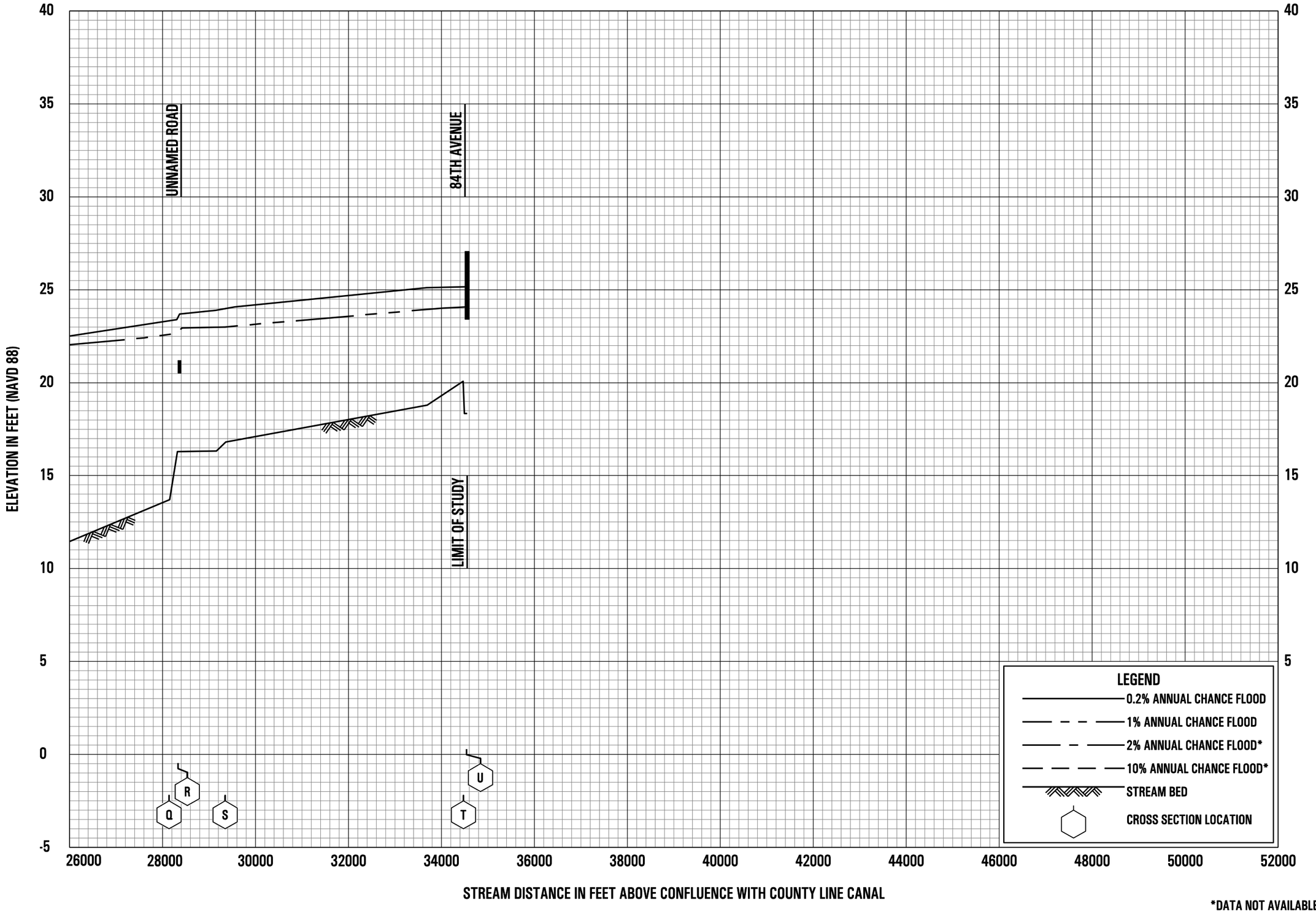
BESSEY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

01P



*DATA NOT AVAILABLE

FLOOD PROFILES

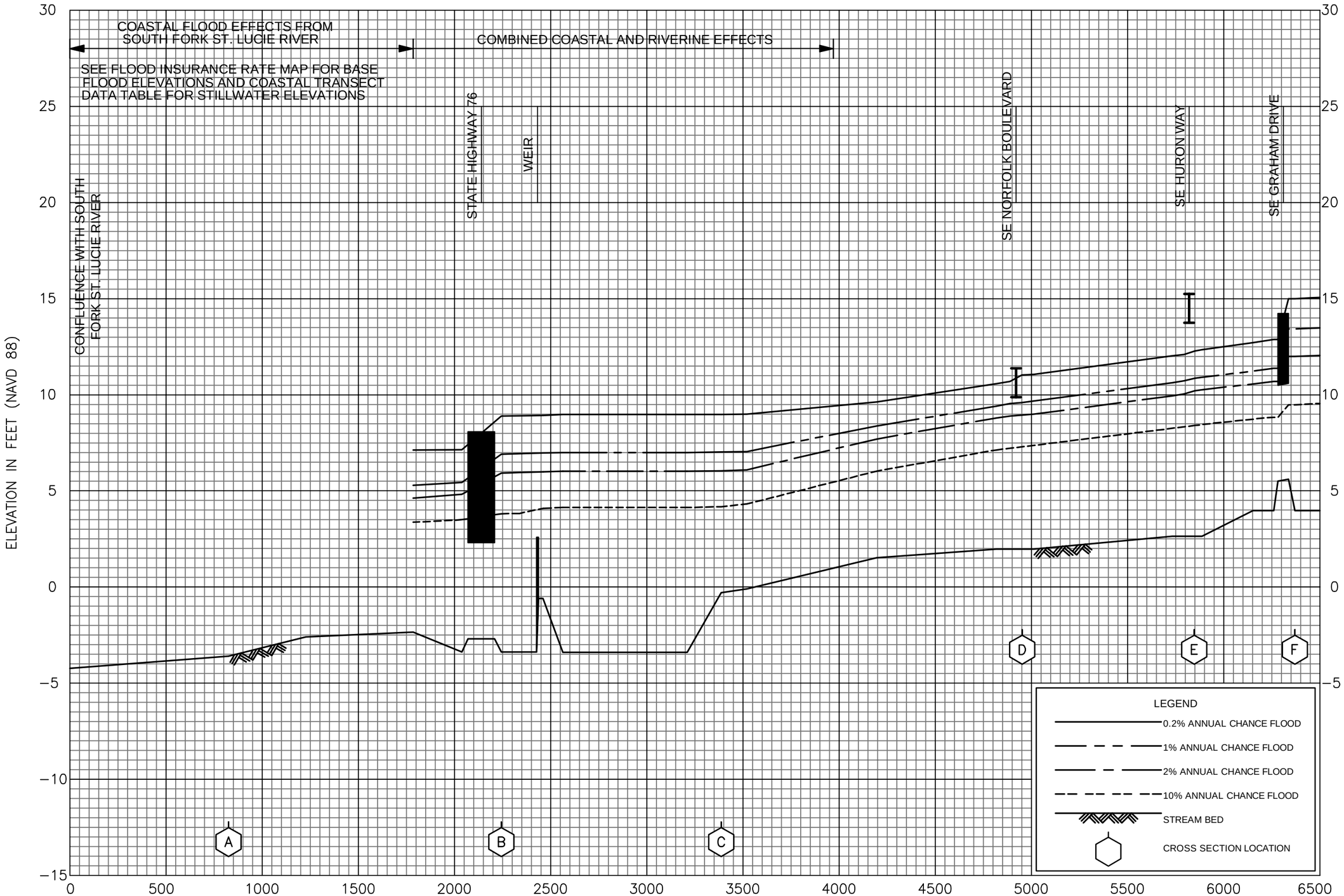
BESSEY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

02P



FLOOD PROFILES

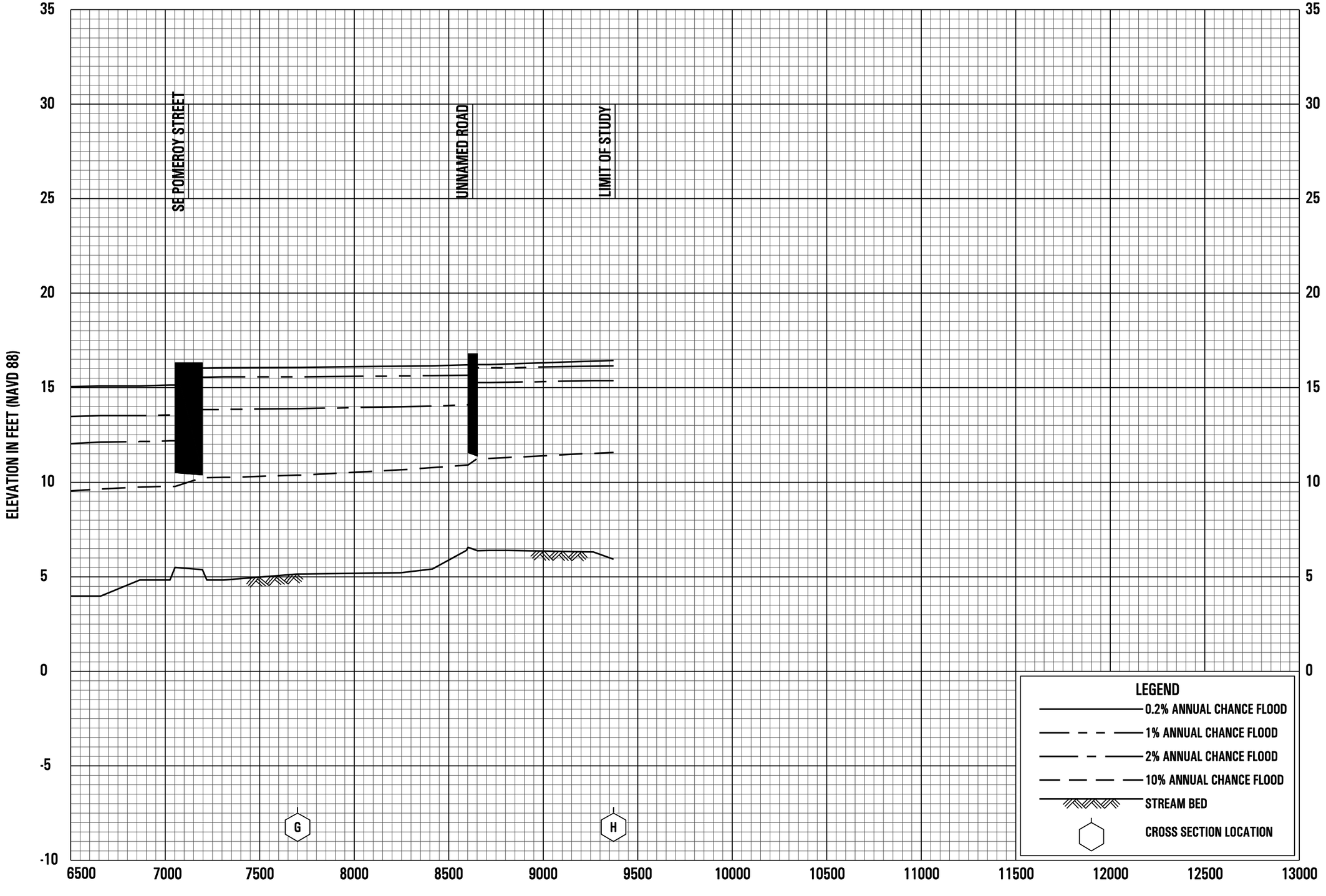
CORAL GARDENS CANAL

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

03P



FLOOD PROFILES

CORAL GARDENS CANAL

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

04P

DANFORTH CREEK

FLOOD PROFILES

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD 88)

30
25
20
15
10
5
0
−5
−10
−15

0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
6500

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH SOUTH FORK ST. LUCIE RIVER

COMBINED COASTAL AND RIVERINE EFFECTS

CONFLUENCE WITH SOUTH FORK ST. LUCIE RIVER

MAPP ROAD

STATE HIGHWAY 714 / SW MARTIN DOWNS BLVD

SW SUNSET TRAIL

RIVER TW

MAPP RD UP

MAPP RD DN

MARTIN DN

PINE RIDGE

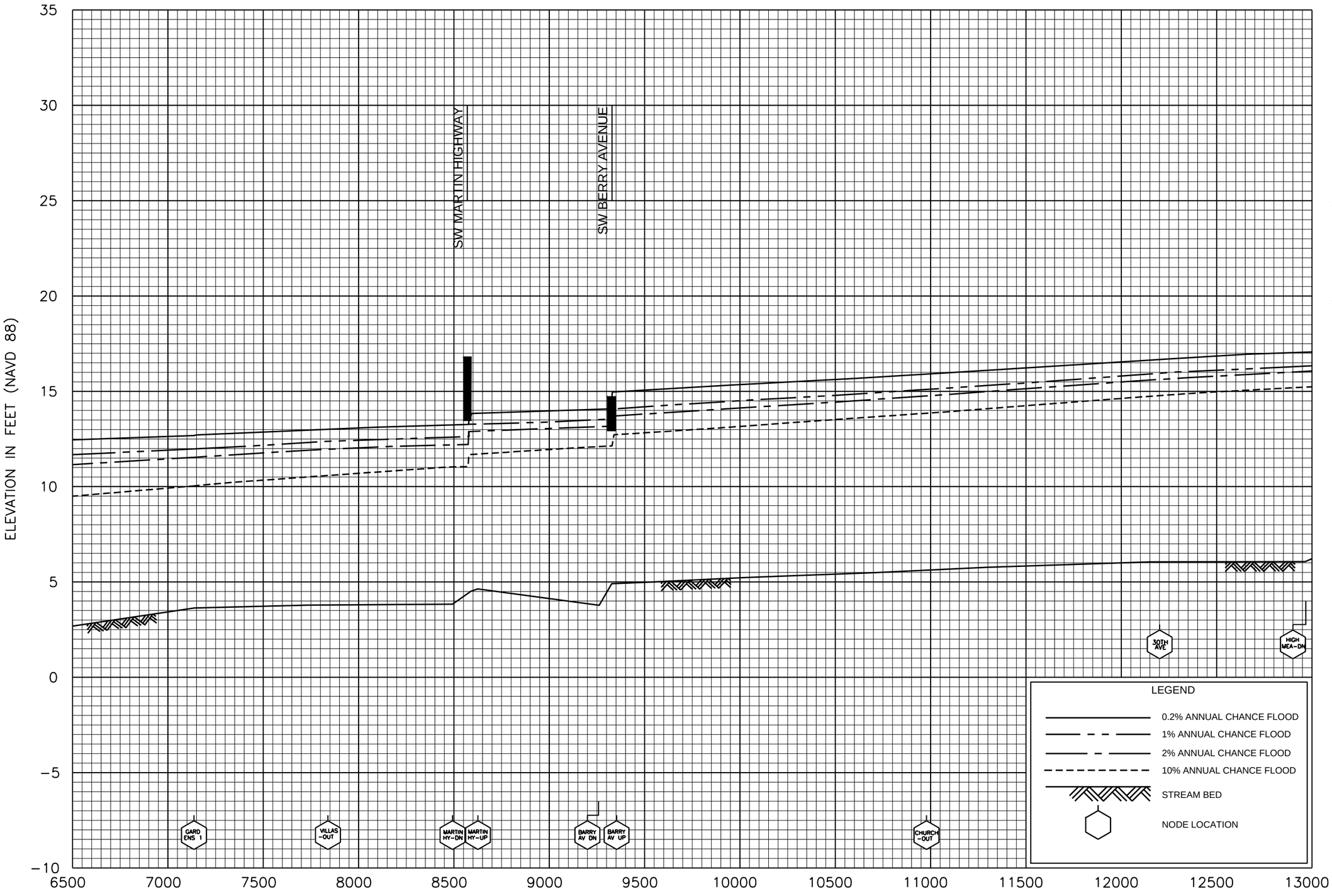
SUNSET-DN

SUNSET-UP

LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- NODE LOCATION

05P



FLOOD PROFILES

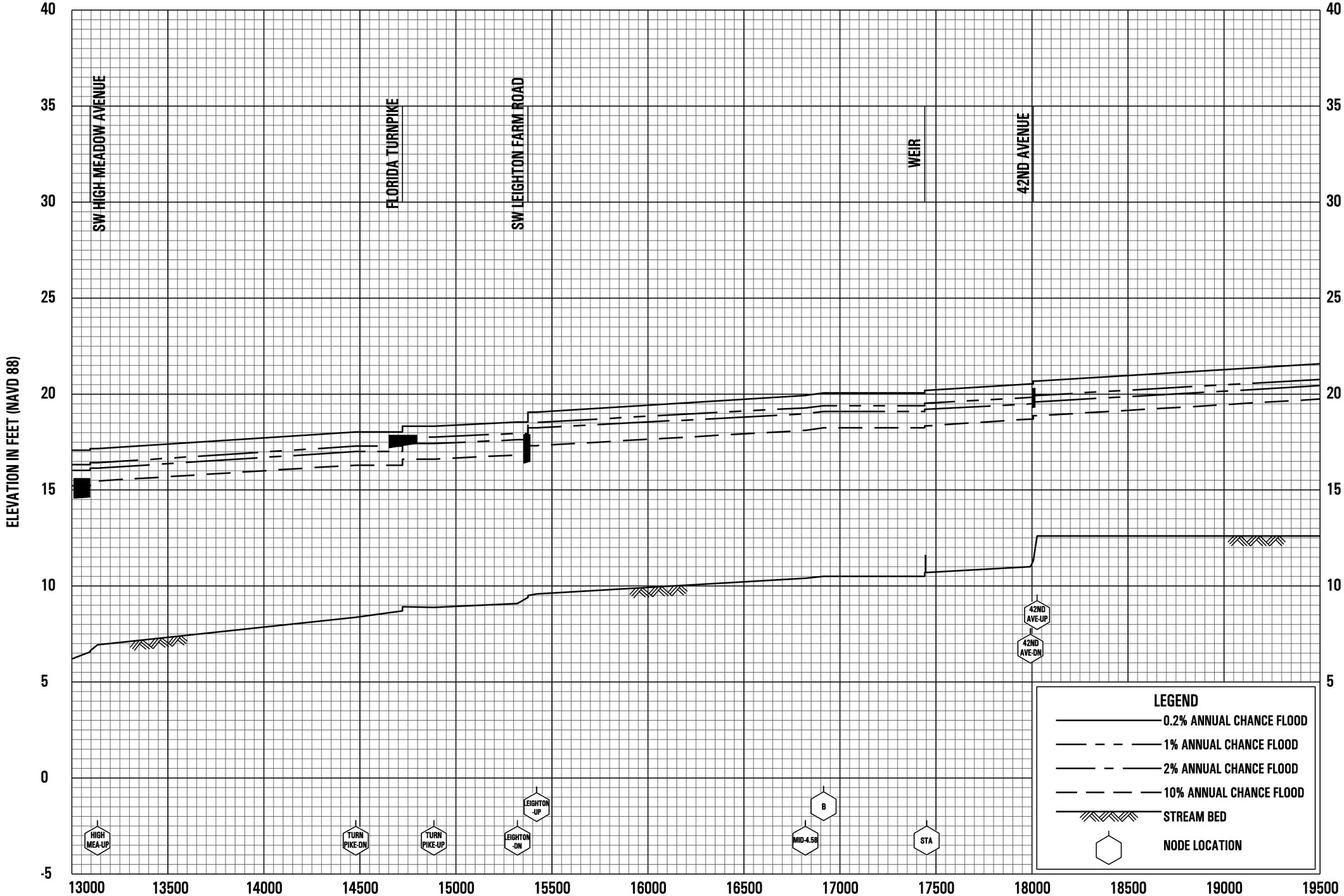
DANFORTH CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

06P



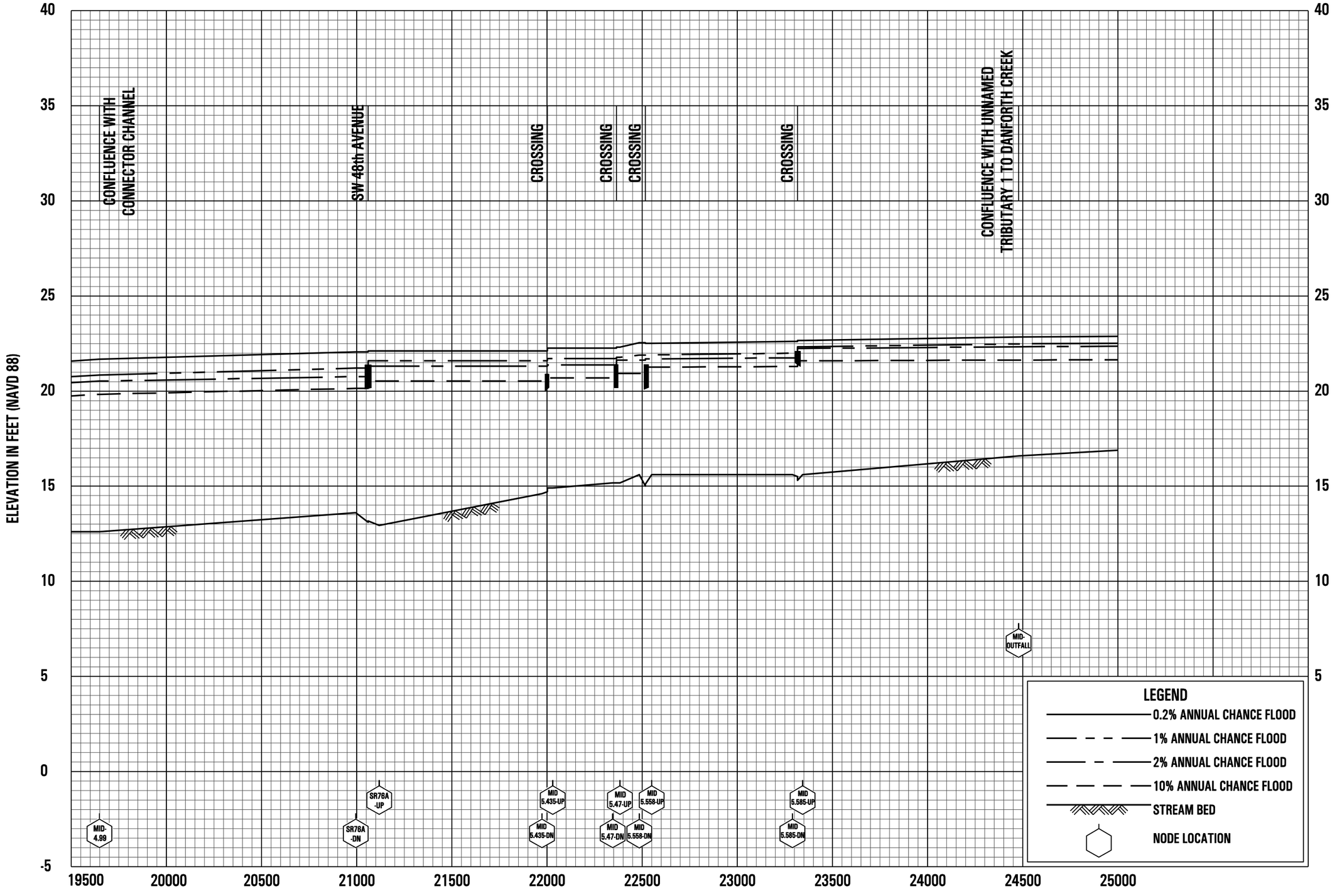
FLOOD PROFILES

DANFORTH CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

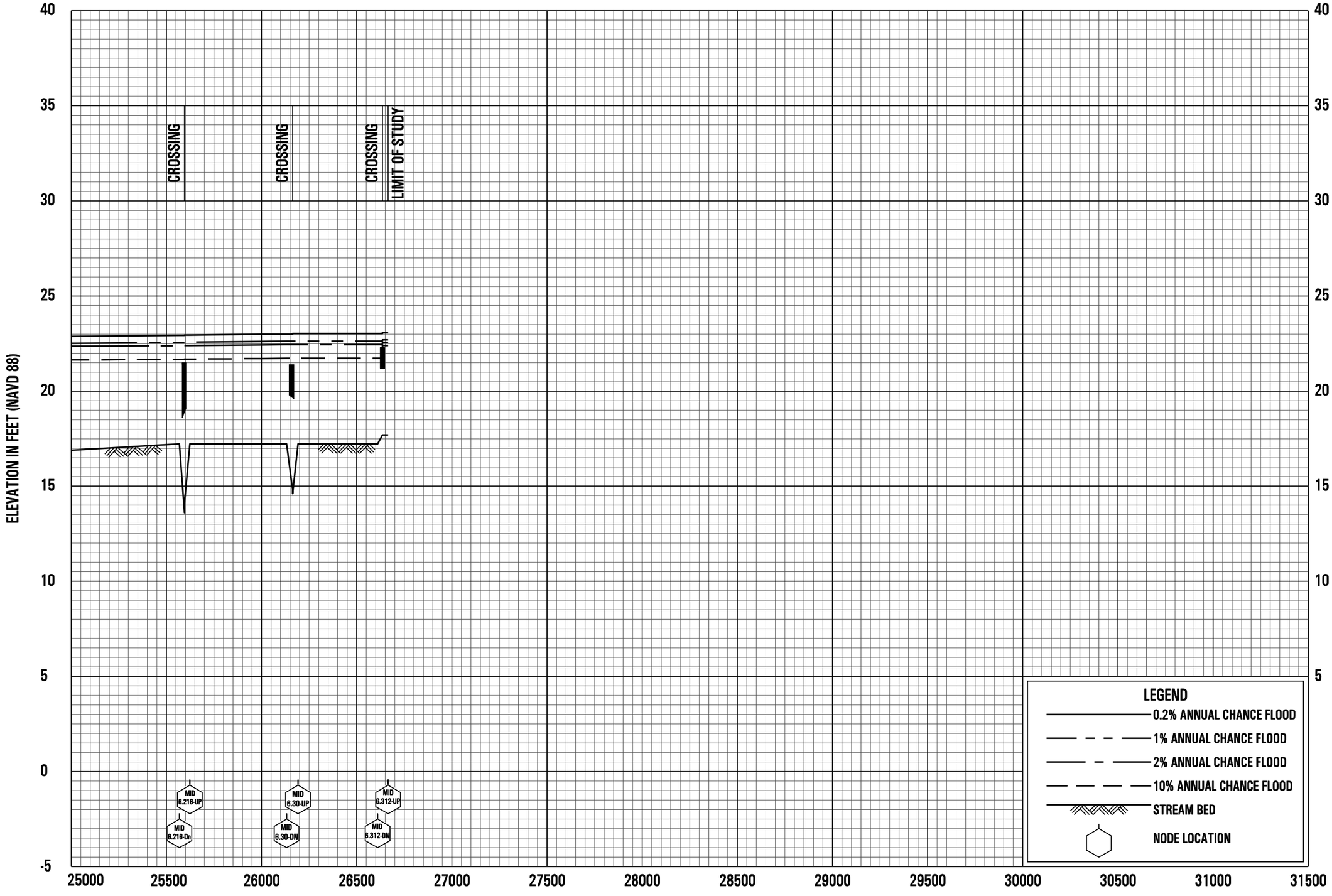


FLOOD PROFILES

DANFORTH CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
MARTIN COUNTY, FL
AND INCORPORATED AREAS

08P



FLOOD PROFILES

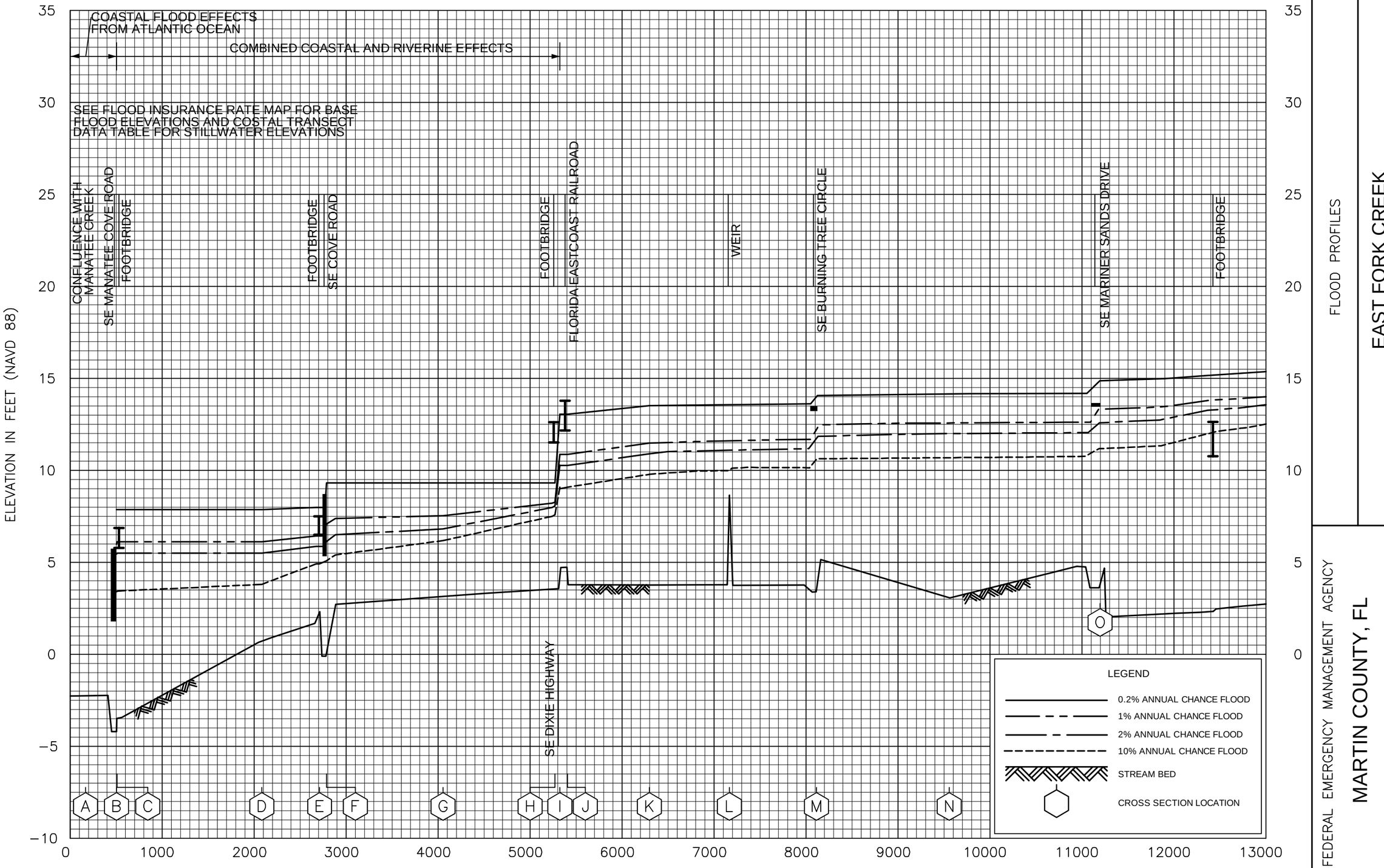
DANFORTH CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

09P



FLOOD PROFILES

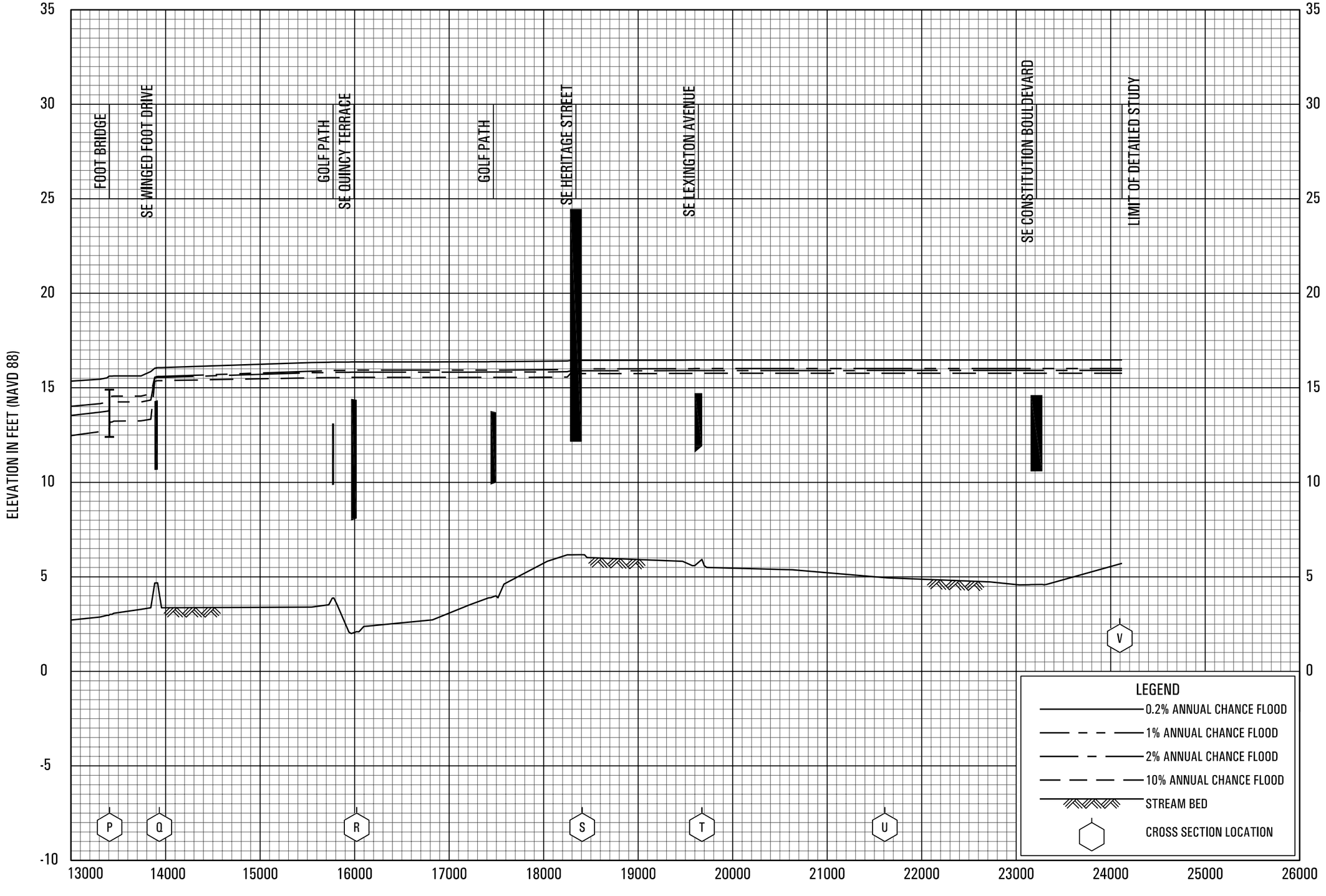
EAST FORK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

10P



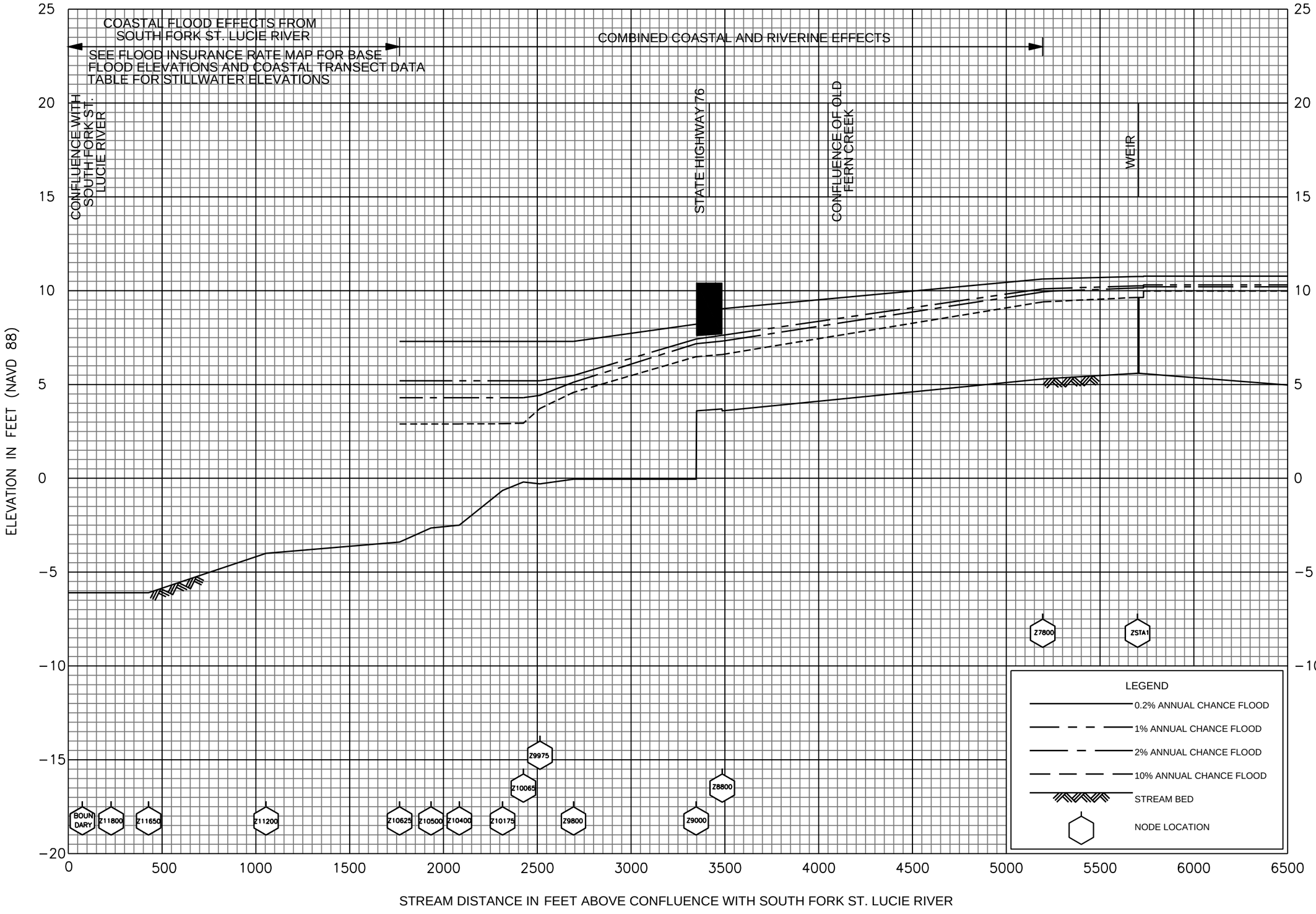
FLOOD PROFILES

EAST FORK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS



FLOOD PROFILES

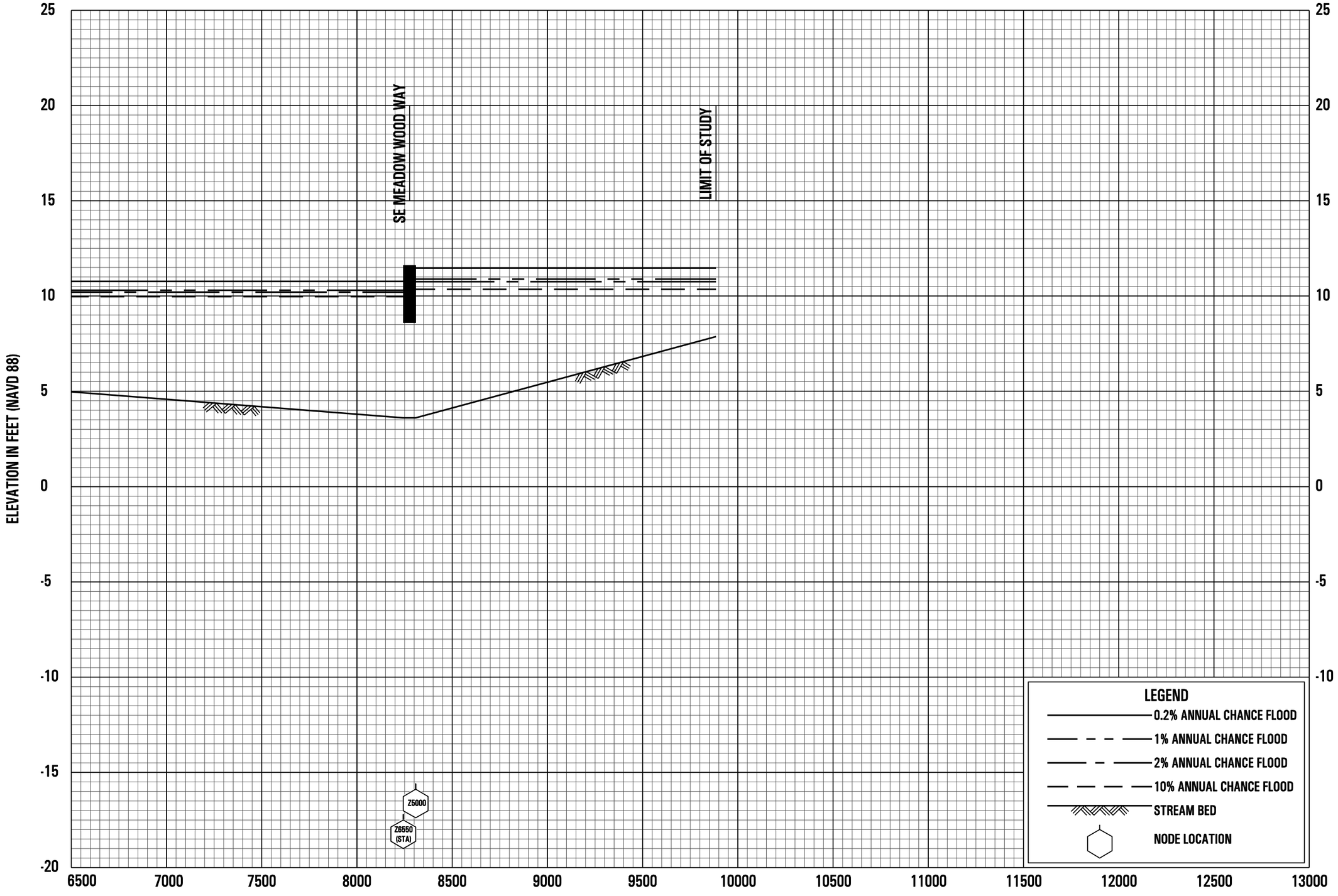
FERN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

12P



FLOOD PROFILES

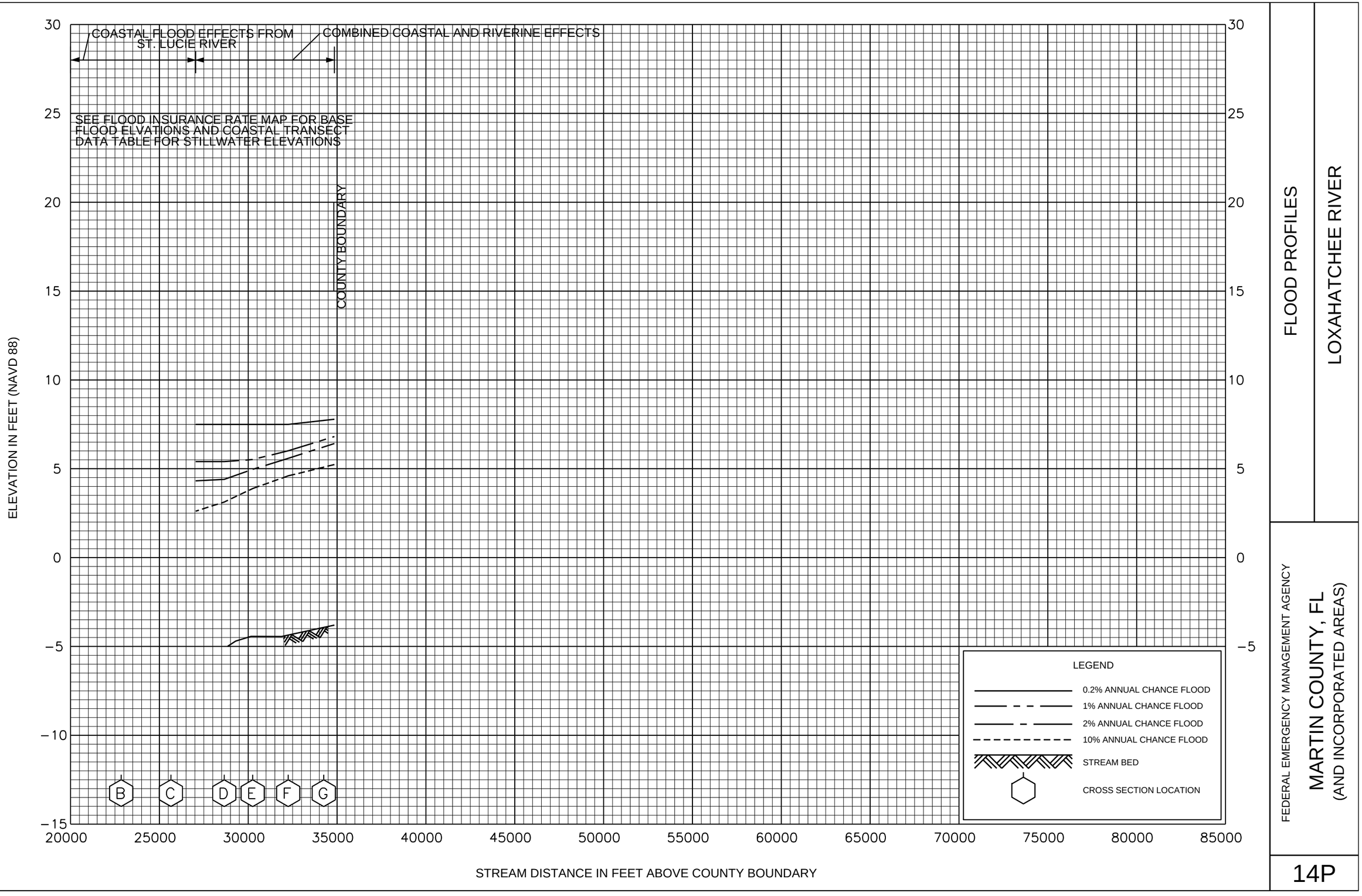
FERN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

13P



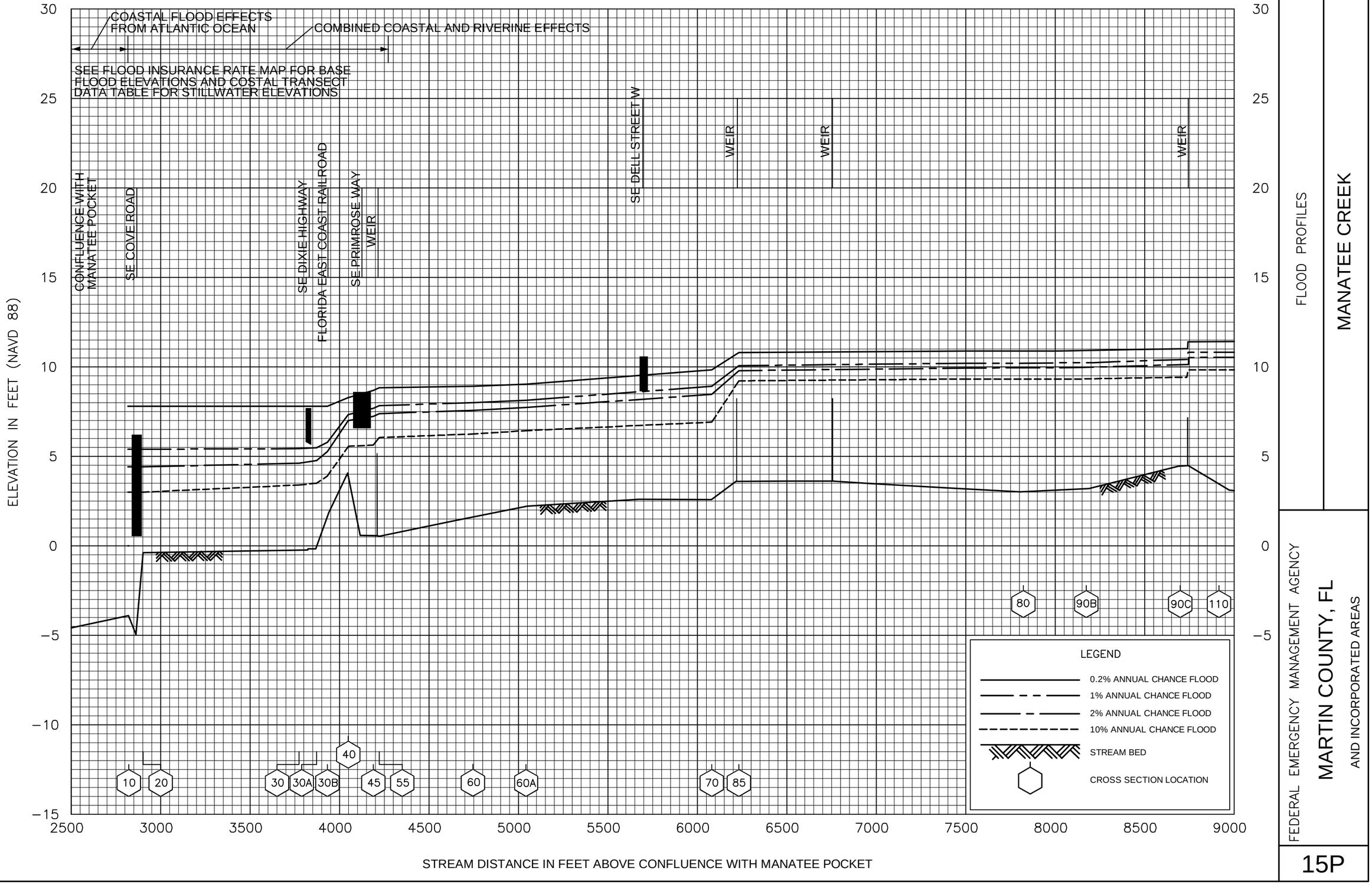
FLOOD PROFILES

LOXAHATCHEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
(AND INCORPORATED AREAS)

14P



FLOOD PROFILES

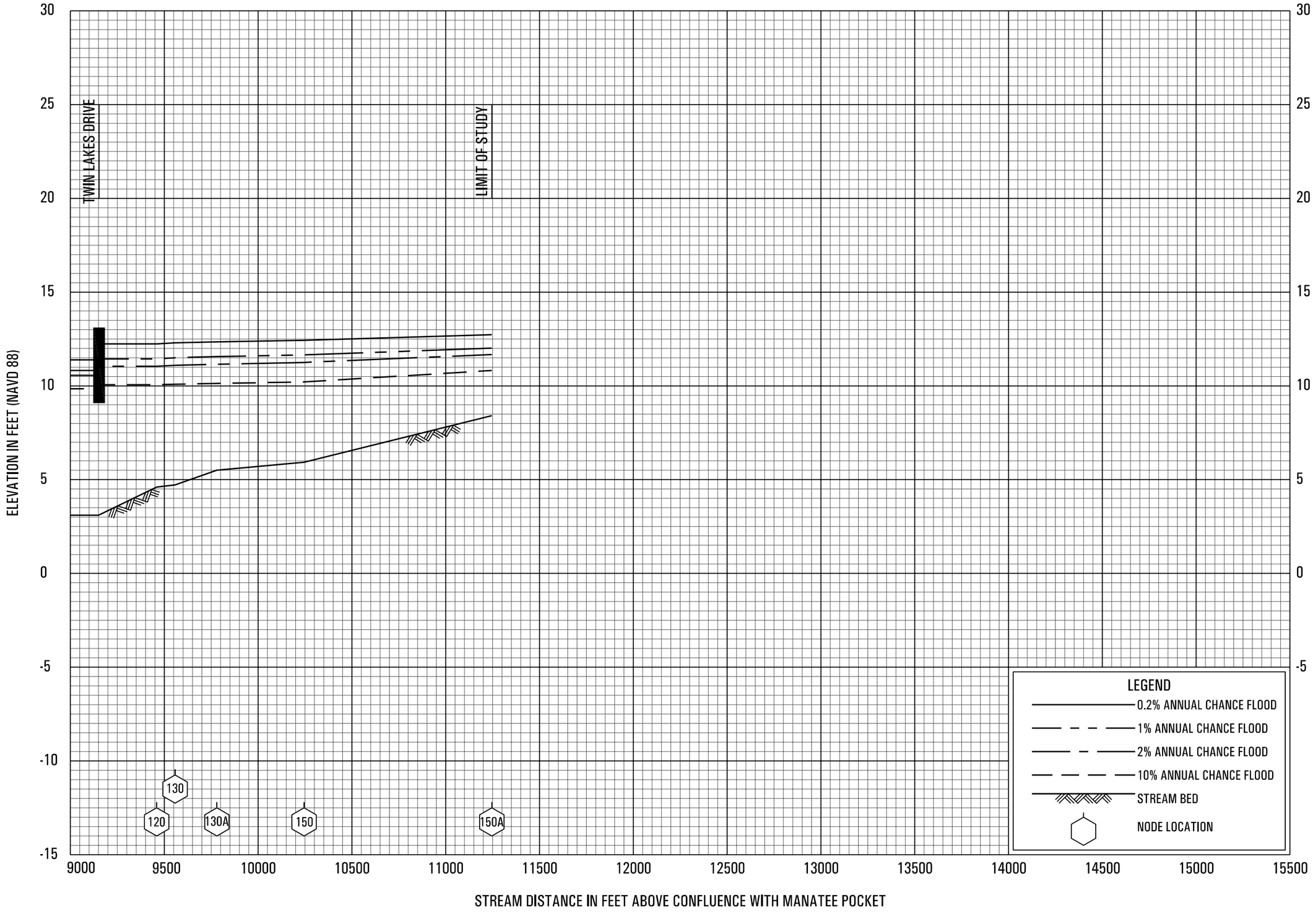
MANATEE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

15P



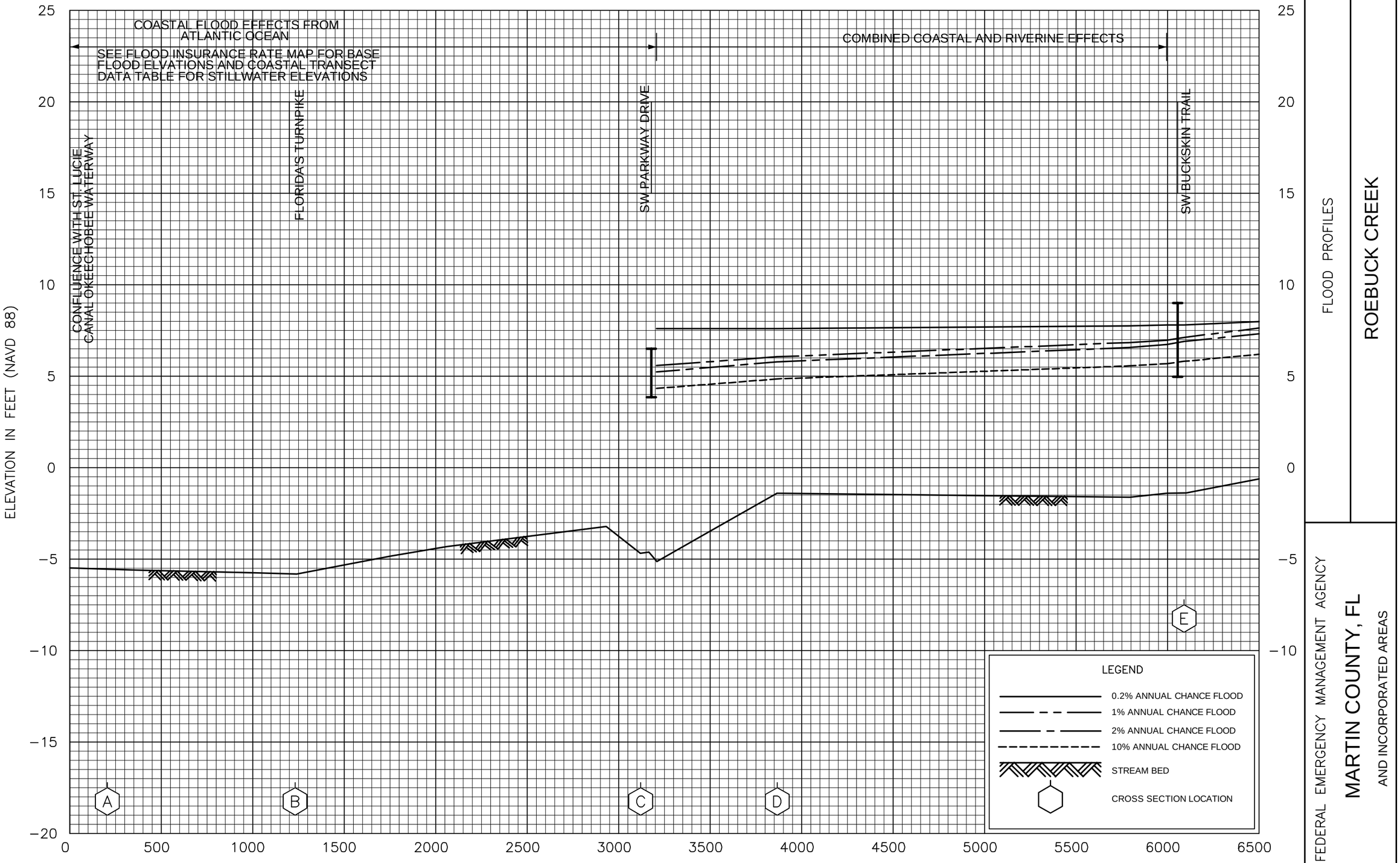
FLOOD PROFILES

MANATEE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS



FLOOD PROFILES

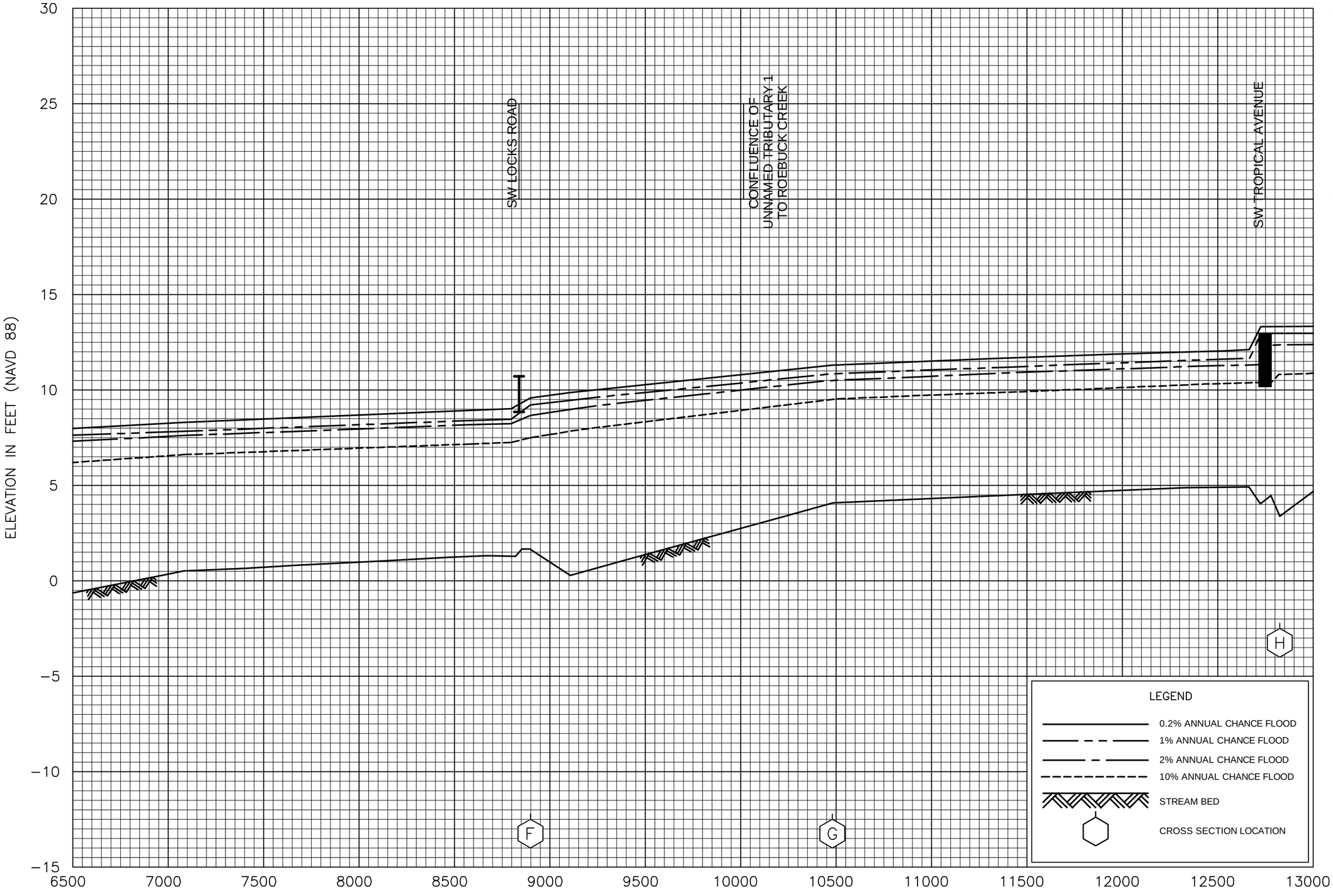
ROEBUCK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

17P



FLOOD PROFILES

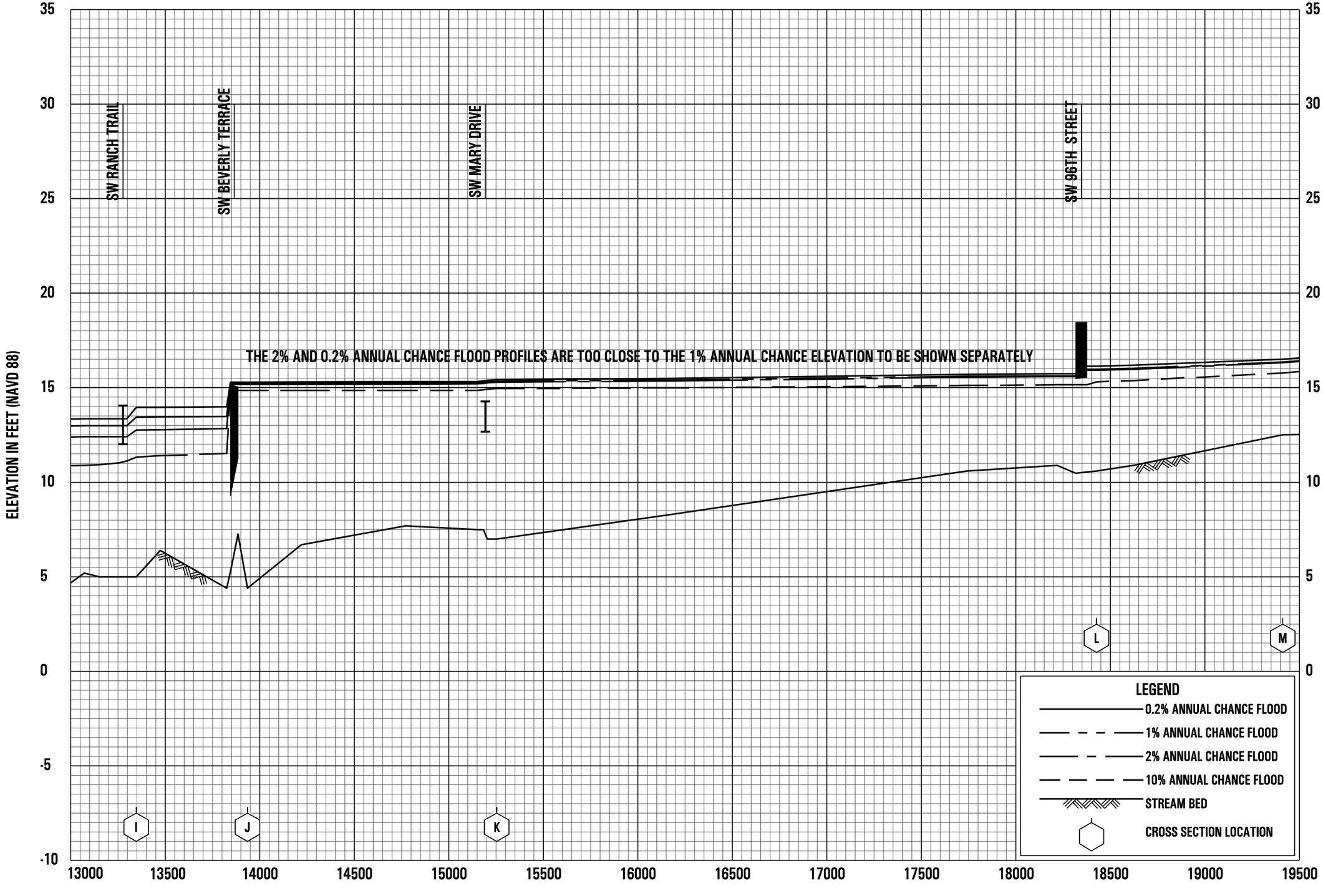
ROEBUCK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

18P



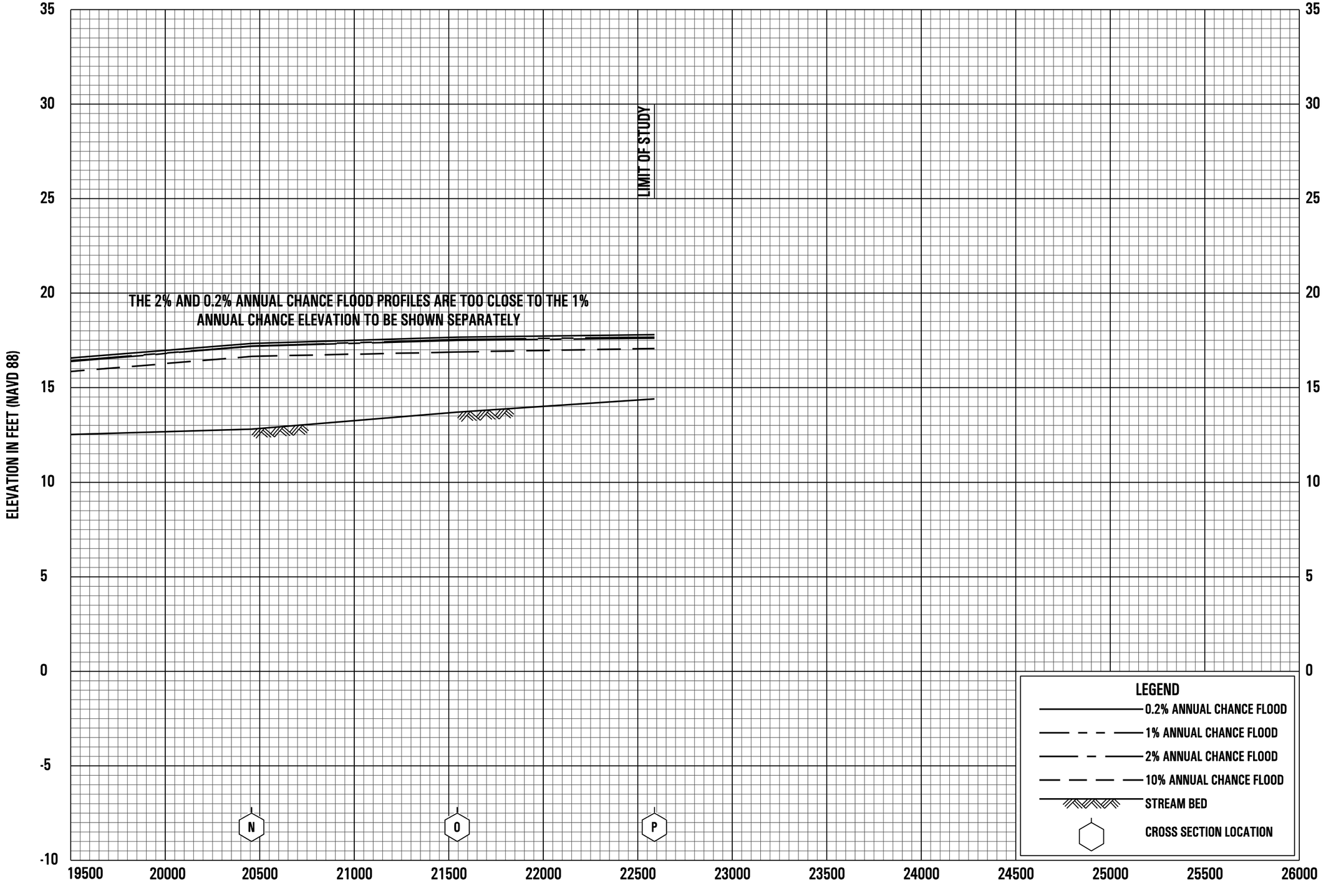
FLOOD PROFILES

ROEBUCK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS



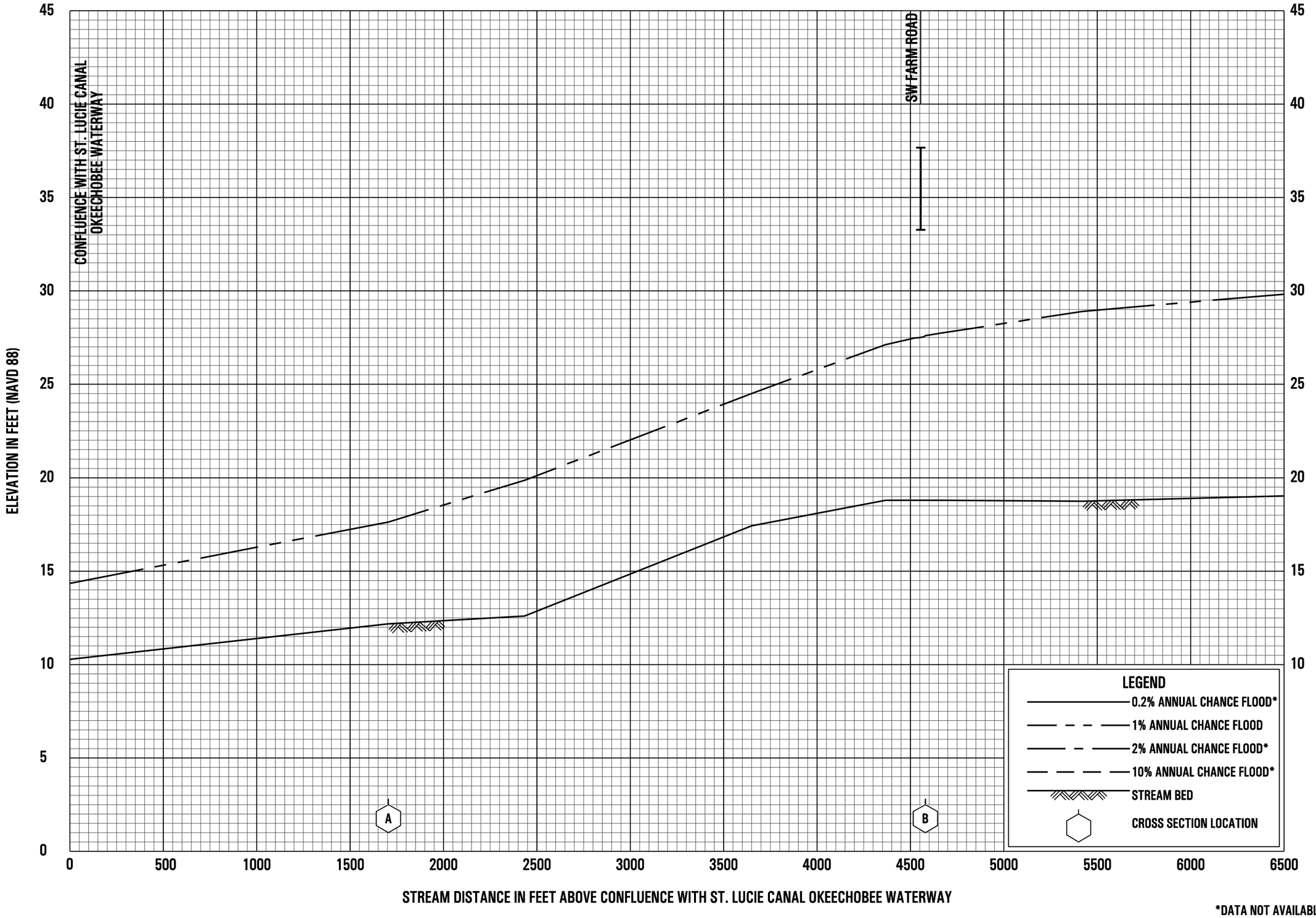
FLOOD PROFILES

ROEBUCK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS



*DATA NOT AVAILABLE

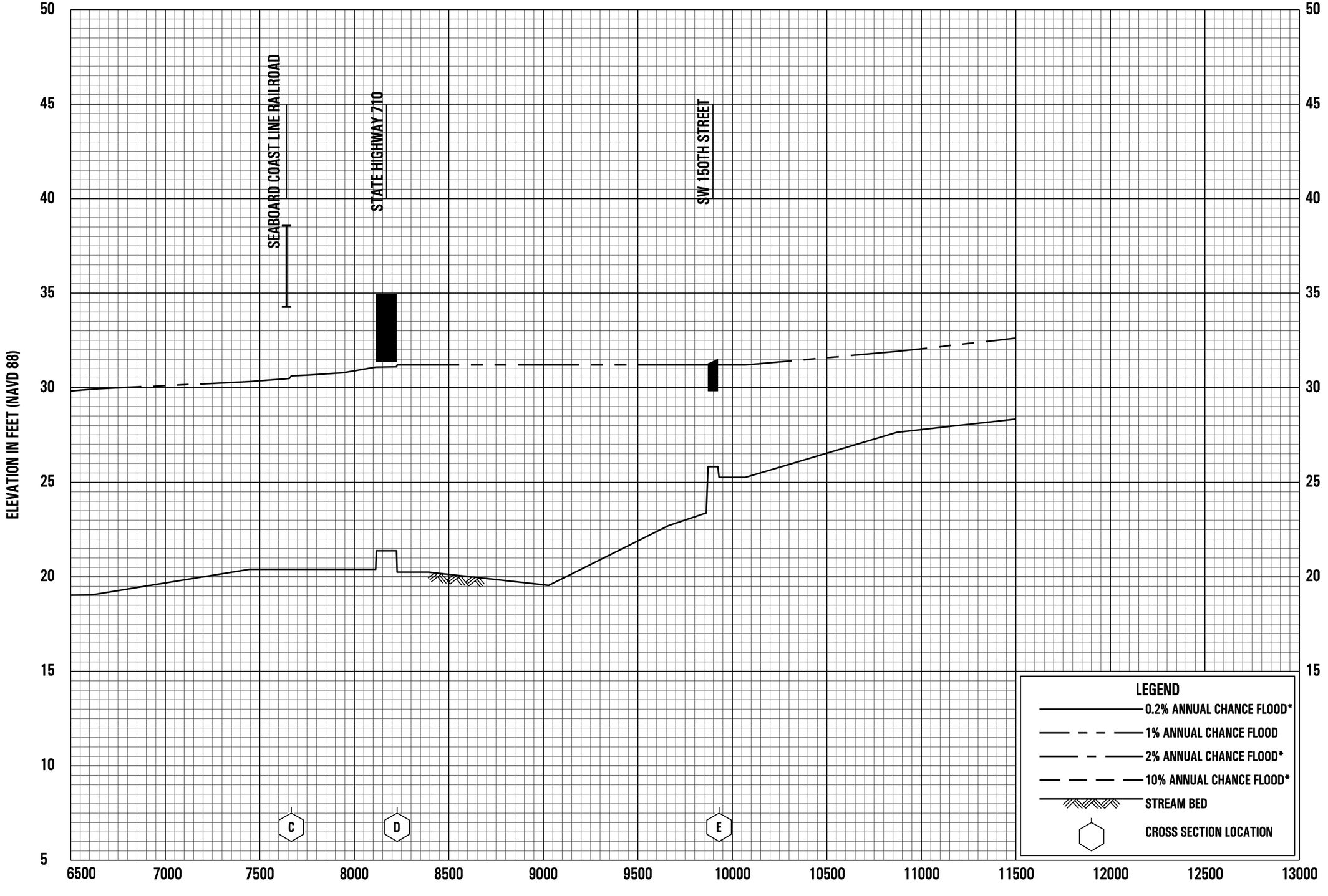
FLOOD PROFILES

ROWLAND CANAL

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS



*DATA NOT AVAILABLE

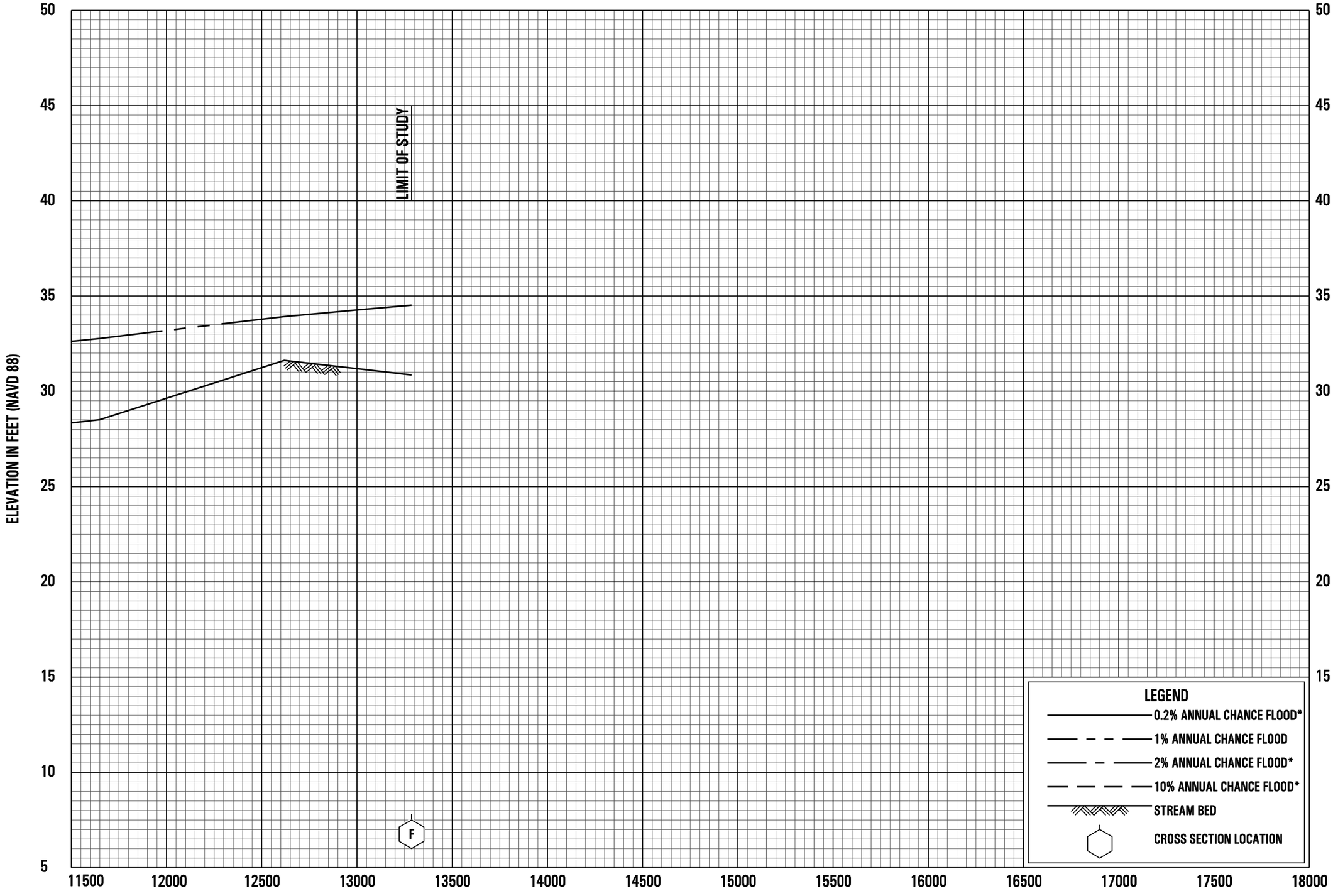
FLOOD PROFILES

ROWLAND CANAL

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS



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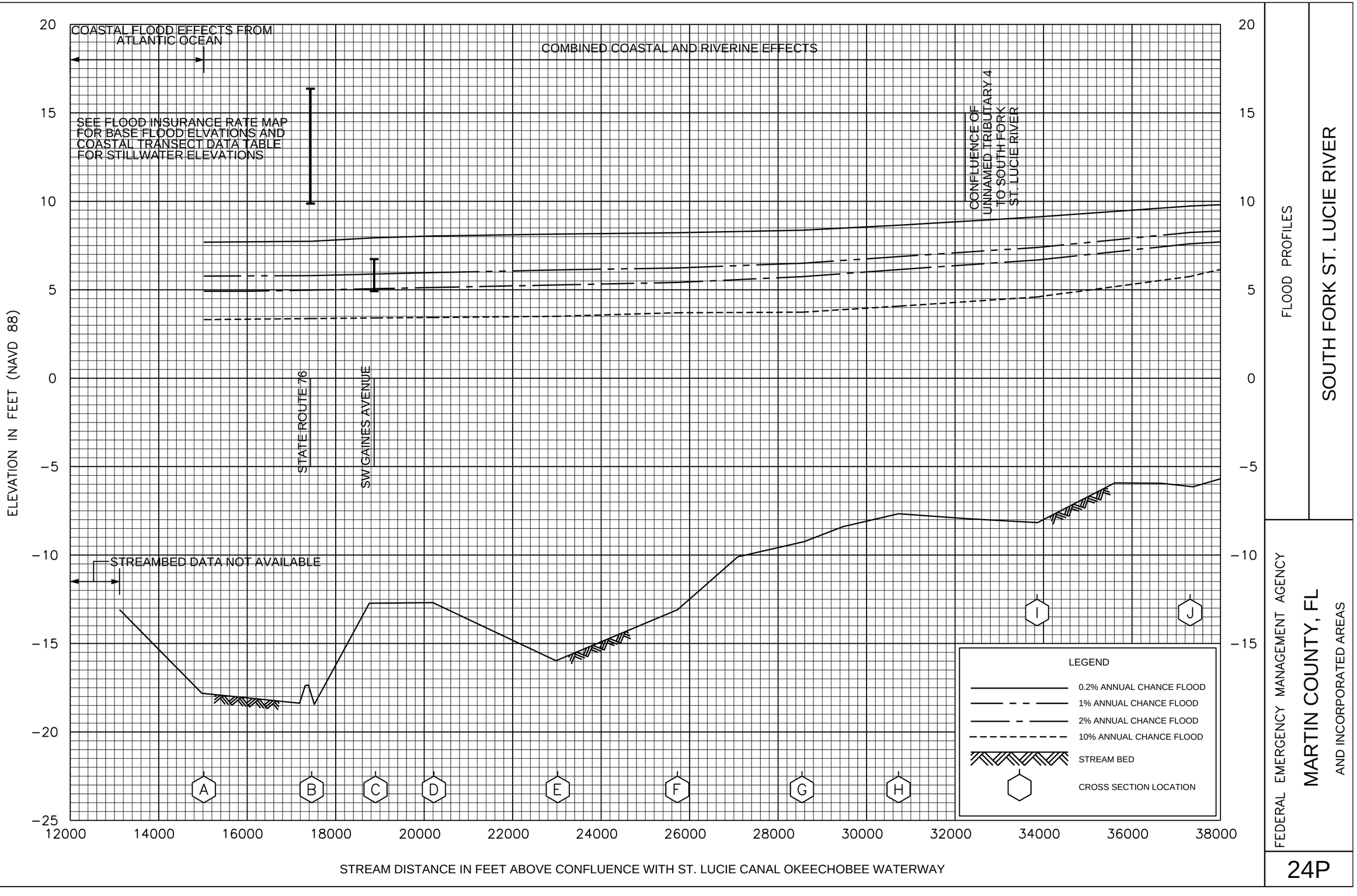
FLOOD PROFILES

ROWLAND CANAL

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS



FLOOD PROFILES

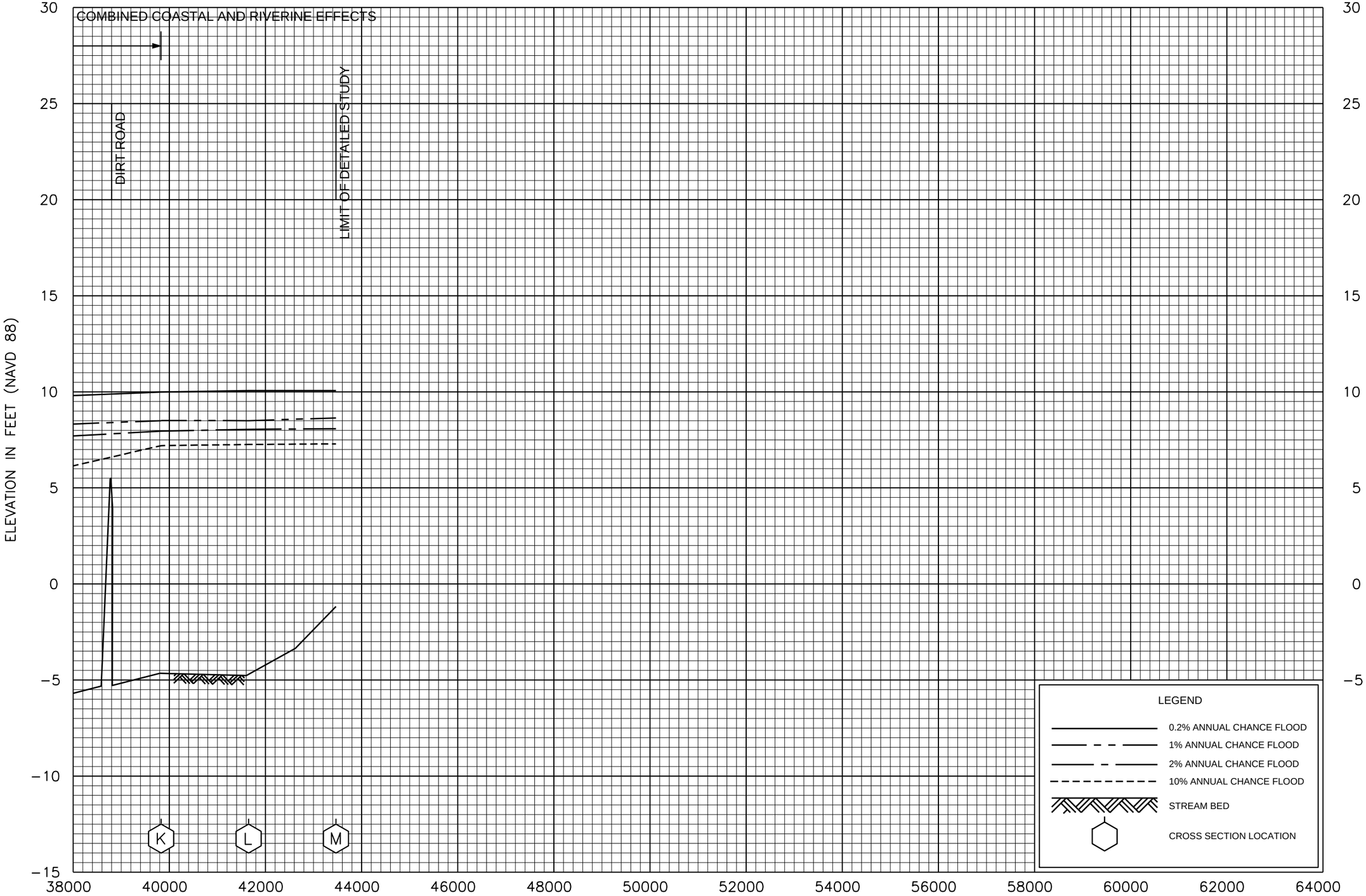
SOUTH FORK ST. LUCIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

24P



FLOOD PROFILES

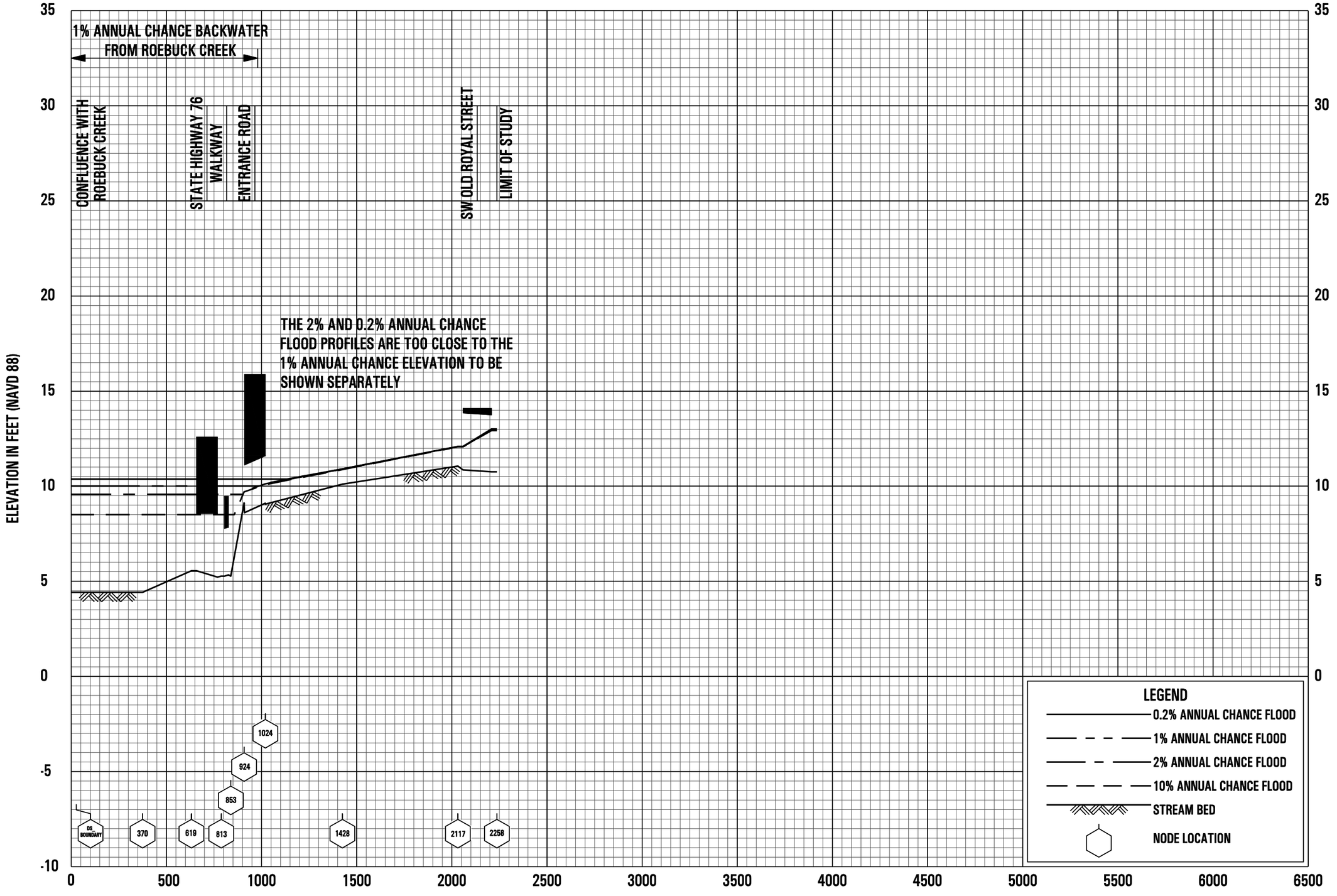
SOUTH FORK ST. LUCIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

25P



FLOOD PROFILES

UNNAMED TRIBUTARY 1 TO ROEBUCK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

COASTAL FLOOD EFFECTS FROM ST. LUCIE RIVER

COMBINED COASTAL AND RIVERINE EFFECTS

SEE FLOOD INSURANCE RATE MAP FOR BASE FLOOD ELVATIONS AND COASTAL TRANSECT DATA TABLE FOR STILLWATER ELEVATIONS

CONFLUENCE WITH ST. LUCIE RIVER

NE DIXIE HIGHWAY

WEIR

FLORIDA EAST COAST RAILROAD

NE TROPICAL/AL LANE

WEIR

NE PINELAKE VILLAGE BOULEVARD

ELEVATION IN FEET (NAVD 88)

30
25
20
15
10
5
0
−5
−10
−15

0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
6500

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH ST. LUCIE RIVER

028+26
SEC3 +50
SEC5 +00
SEC5 +50
034 +66
37 +00
CS1−DN
CS1−UP
038 +45
042 +47
046 +80
047 +33
048 +72
049 +58
052 +17
052 +50
057 +50
057 +52
062 +30
Leilani6

LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

FLOOD PROFILES

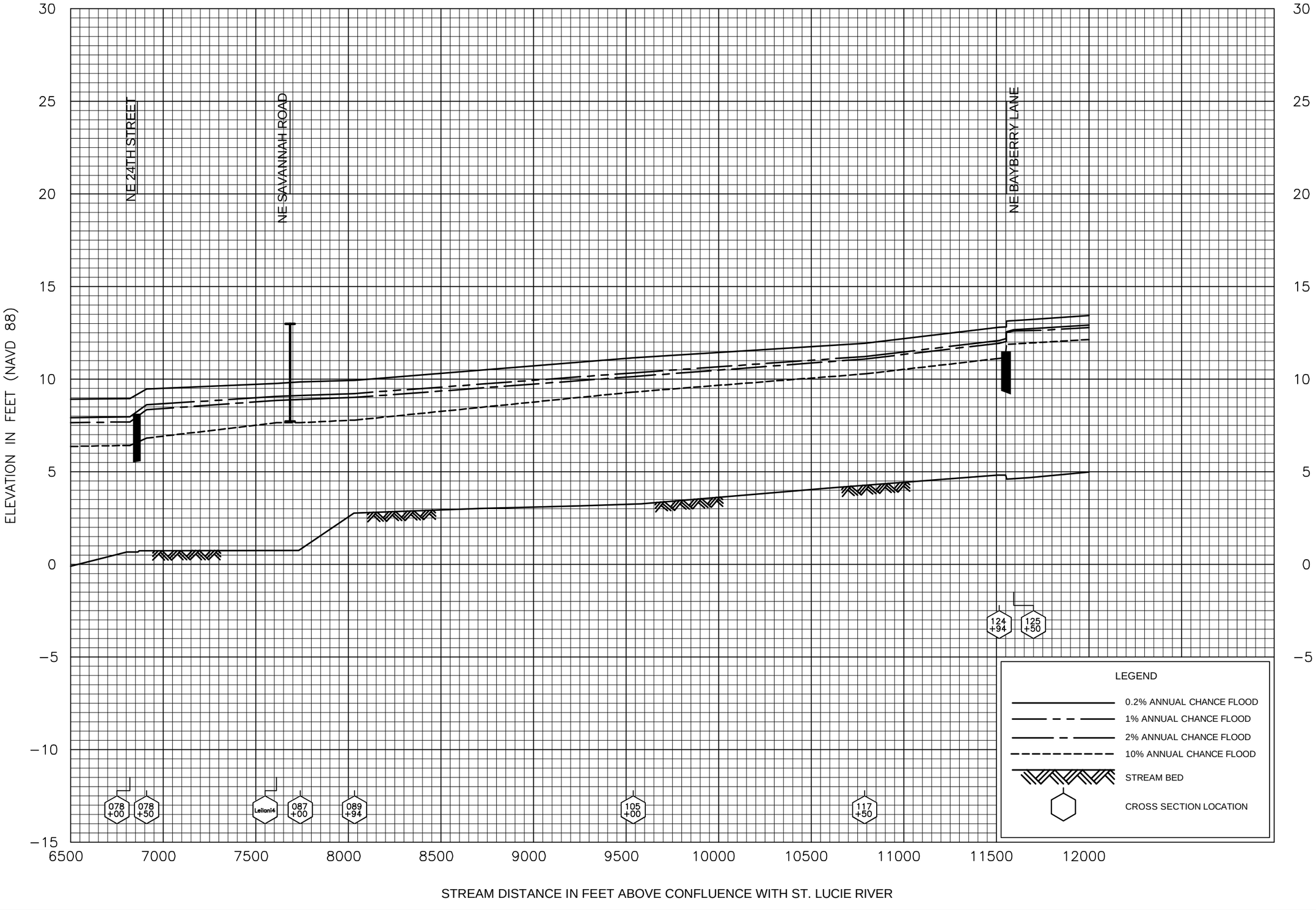
WARNER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

27P



FLOOD PROFILES

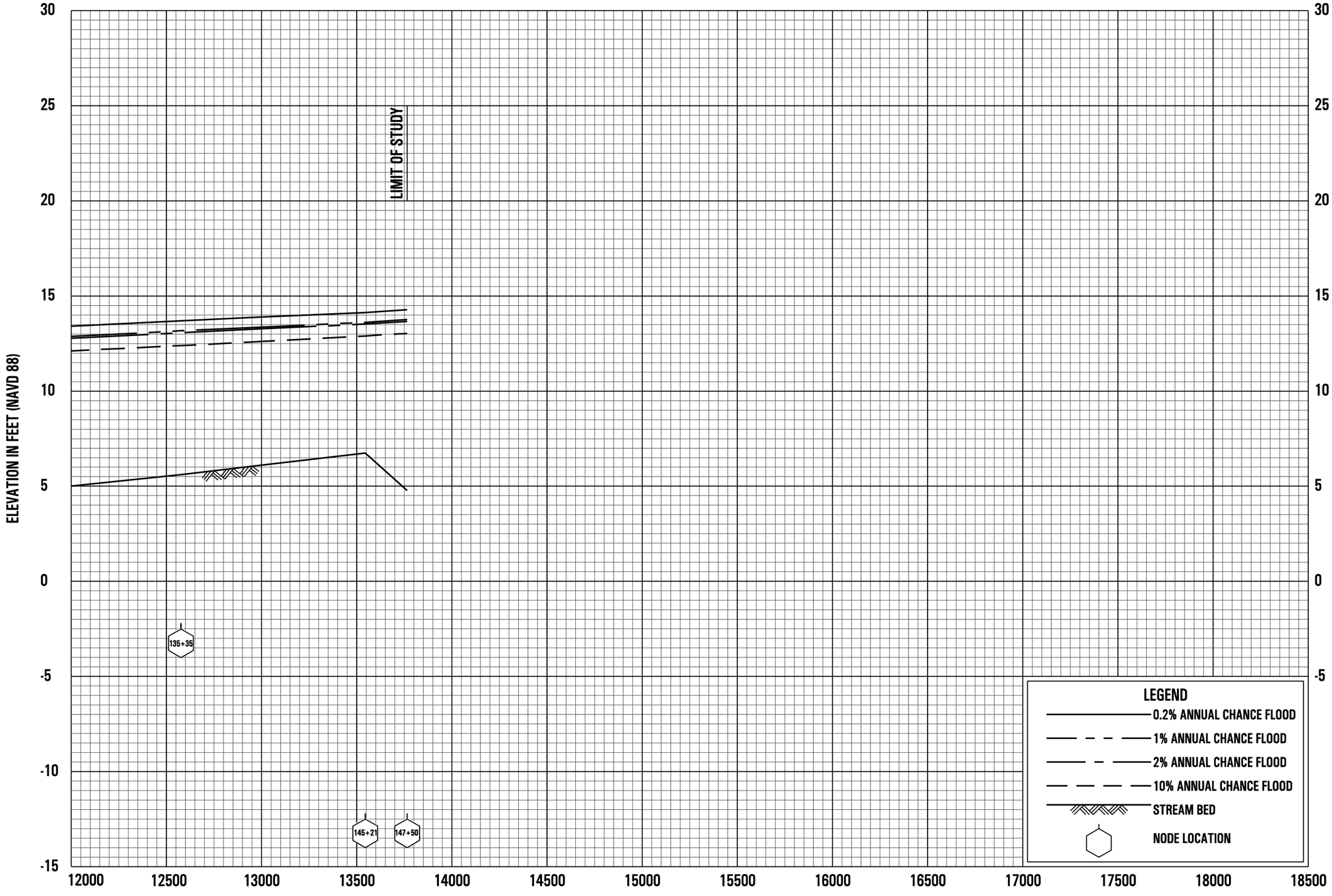
WARNER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS

28P



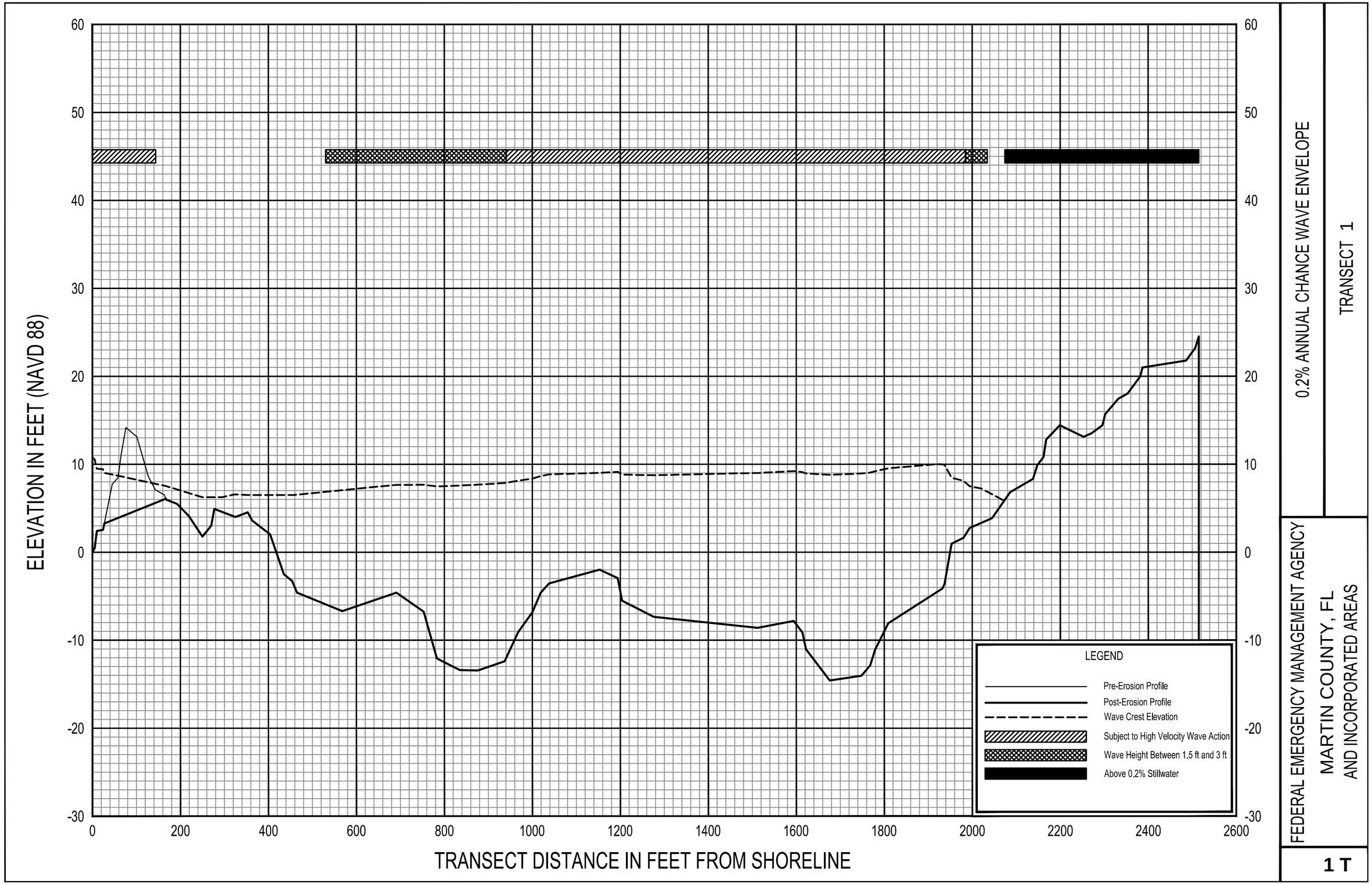
FLOOD PROFILES

WARNER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL

AND INCORPORATED AREAS



0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

1 T

ELEVATION IN FEET (NAVD 88)

60
50
40
30
20
10
0
-10
-20
-30

0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600

TRANSECT DISTANCE IN FEET FROM SHORELINE

LEGEND

- Pre-Erosion Profile
- Post-Erosion Profile
- Wave Crest Elevation
- Subject to High Velocity Wave Action
- Wave Height Between 1.5 ft and 3 ft
- Above 0.2% Stillwater

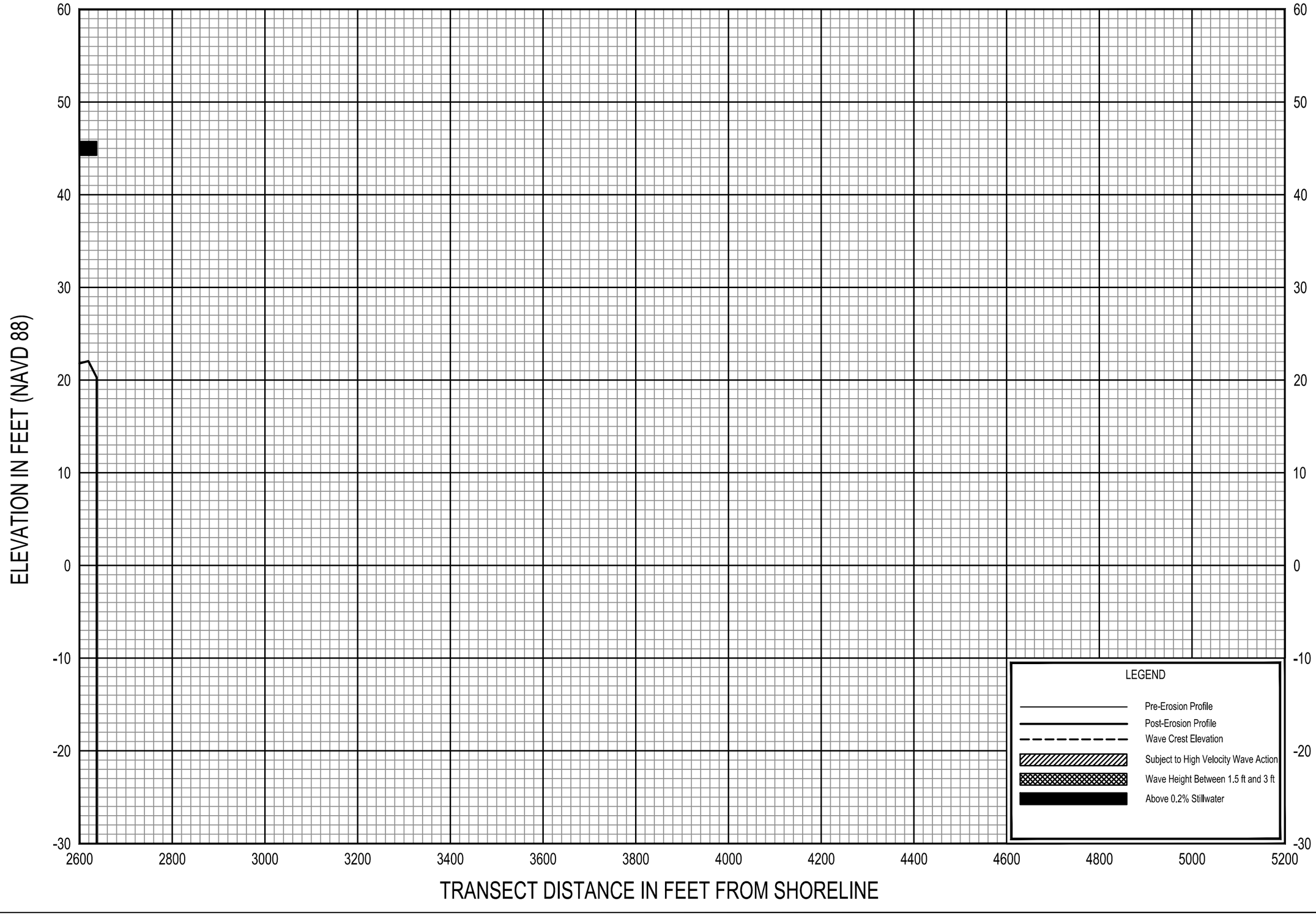
0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

2 T



0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

3 T

ELEVATION IN FEET (NAVD 88)

60
50
40
30
20
10
0
-10
-20
-30

0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600

TRANSECT DISTANCE IN FEET FROM SHORELINE

LEGEND

- Pre-Erosion Profile
- Post-Erosion Profile
- Wave Crest Elevation
- Subject to High Velocity Wave Action
- Wave Height Between 1.5 ft and 3 ft
- Above 0.2% Stillwater

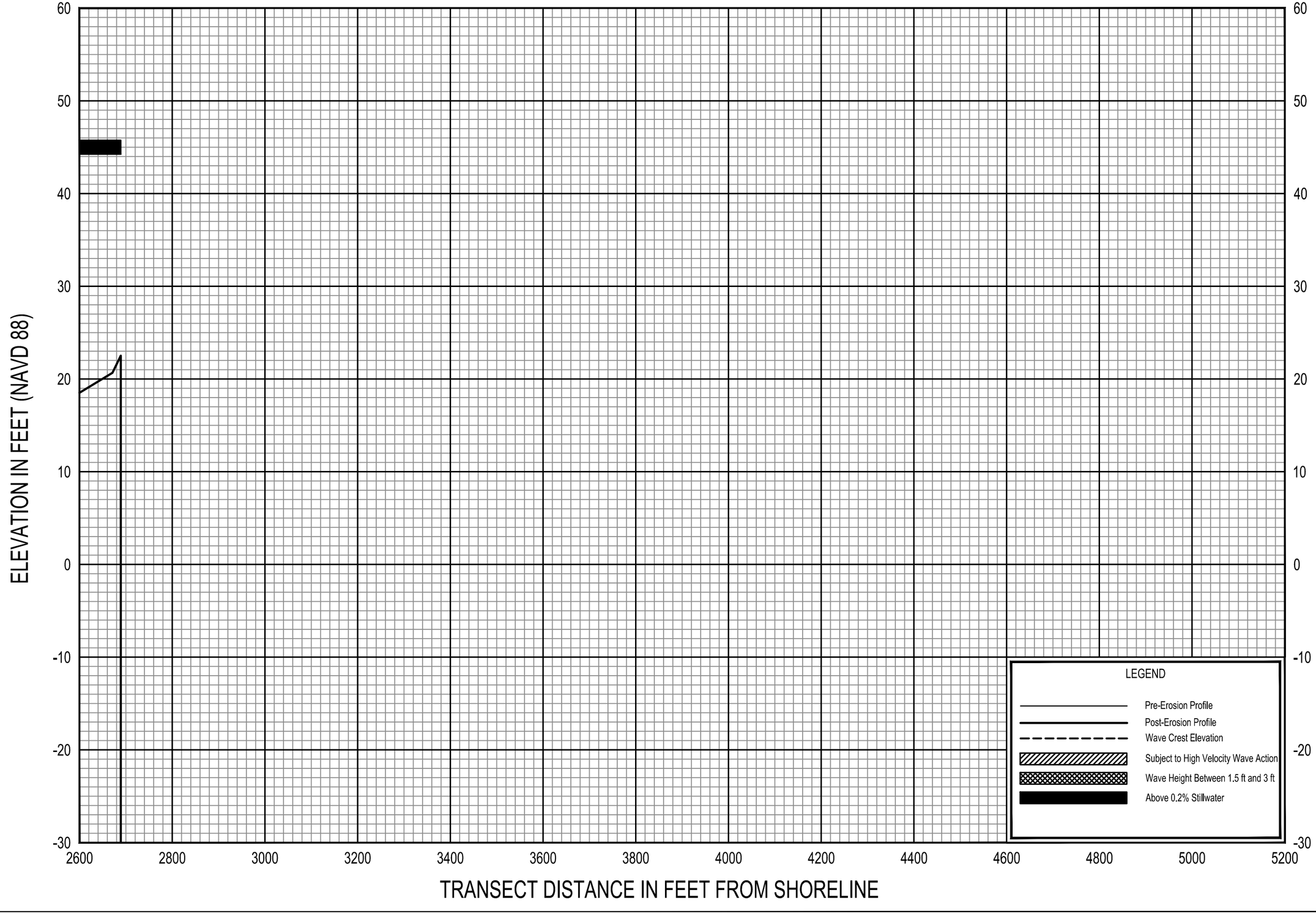
0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

4 T



0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

5 T

ELEVATION IN FEET (NAVD 88)

60
50
40
30
20
10
0
-10
-20
-30

0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600

TRANSECT DISTANCE IN FEET FROM SHORELINE

LEGEND

- Pre-Erosion Profile
- Post-Erosion Profile
- Wave Crest Elevation
- Subject to High Velocity Wave Action
- Wave Height Between 1.5 ft and 3 ft
- Above 0.2% Stillwater

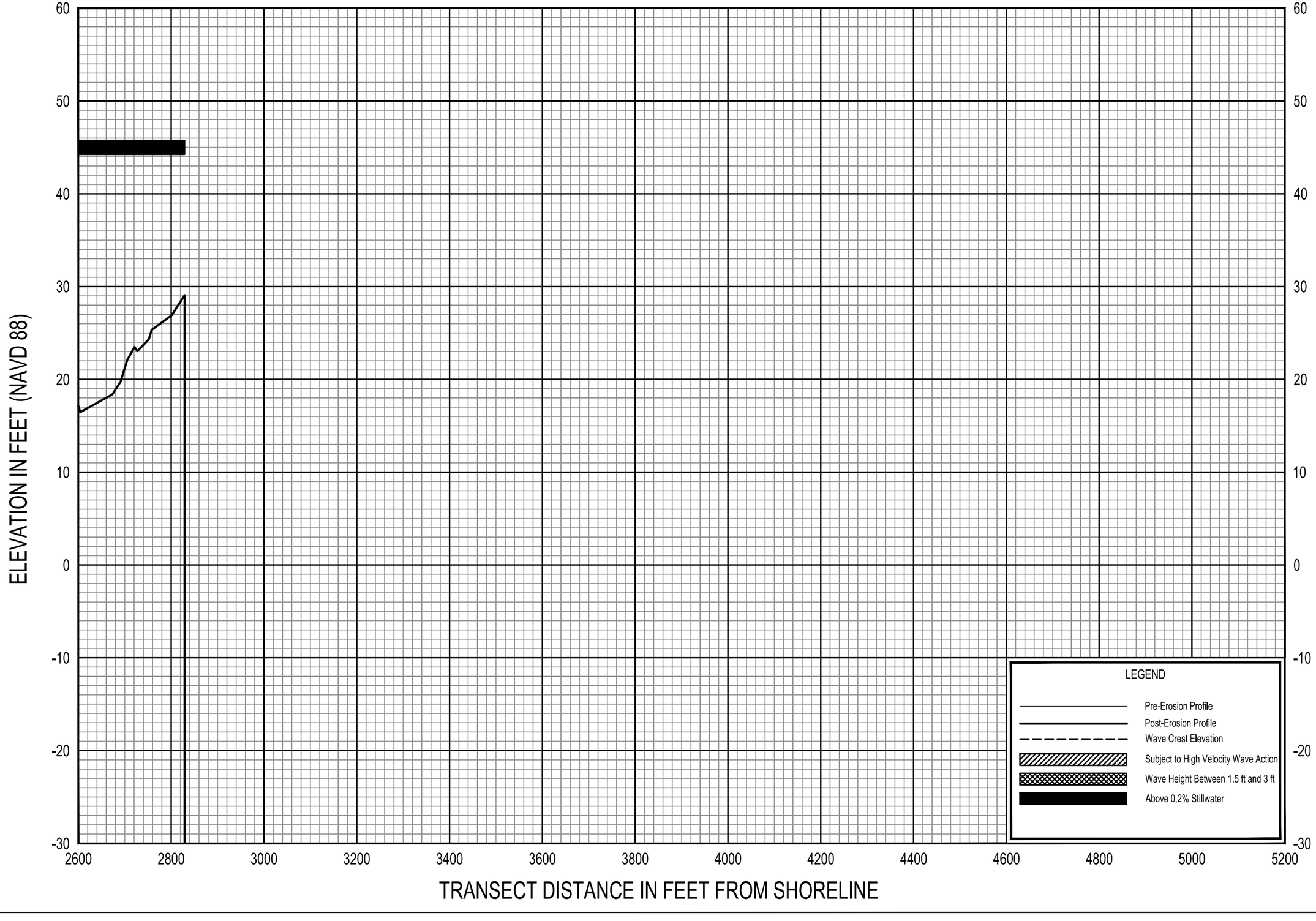
0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

6 T



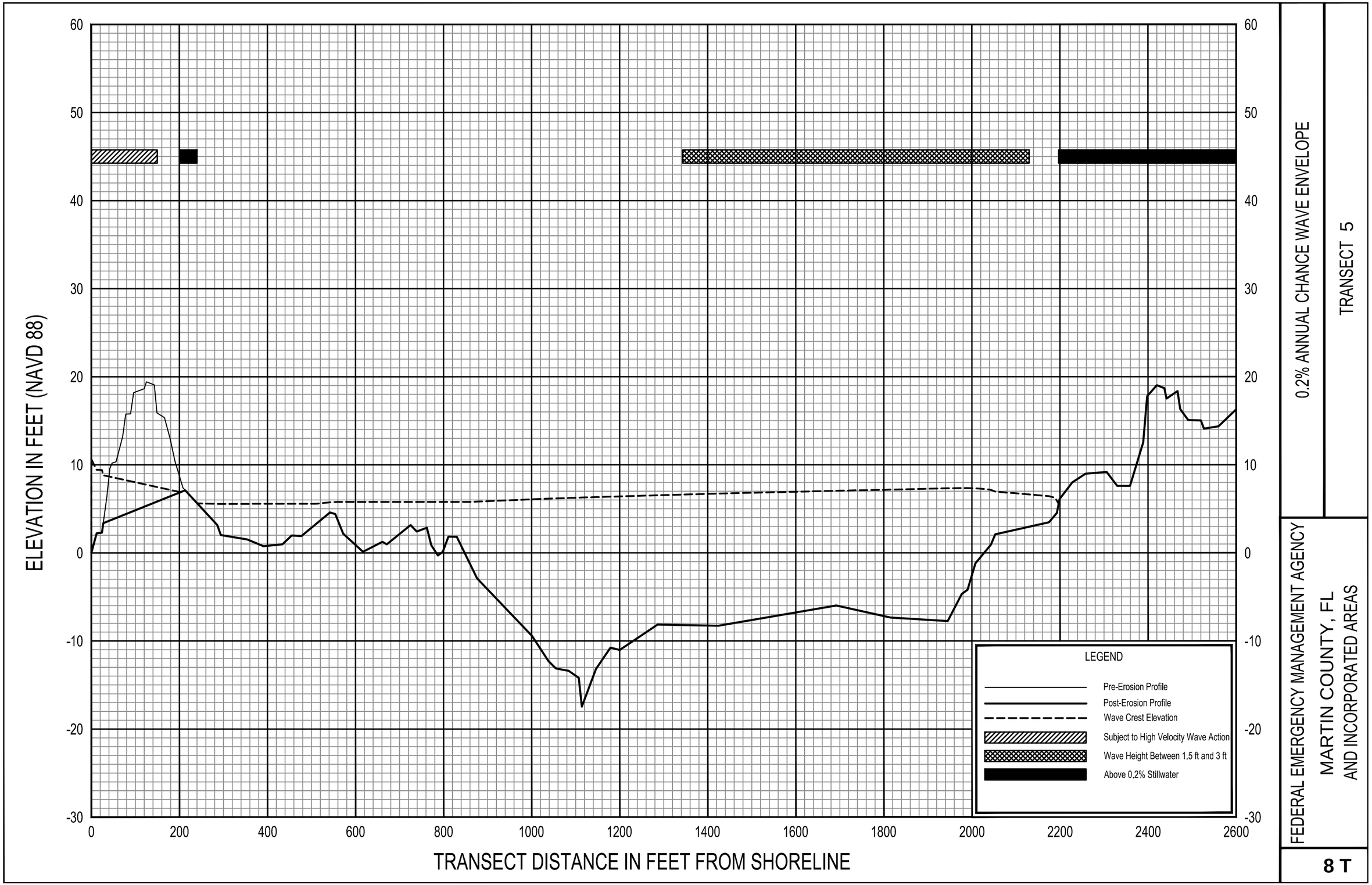
0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

7 T



0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

8 T

ELEVATION IN FEET (NAVD 88)

60
50
40
30
20
10
0
-10
-20
-30

2600 4600 6600 8600 10600 12600 14600 16600 18600 20600 22600 24600 26600 28600

TRANSECT DISTANCE IN FEET FROM SHORELINE

LEGEND

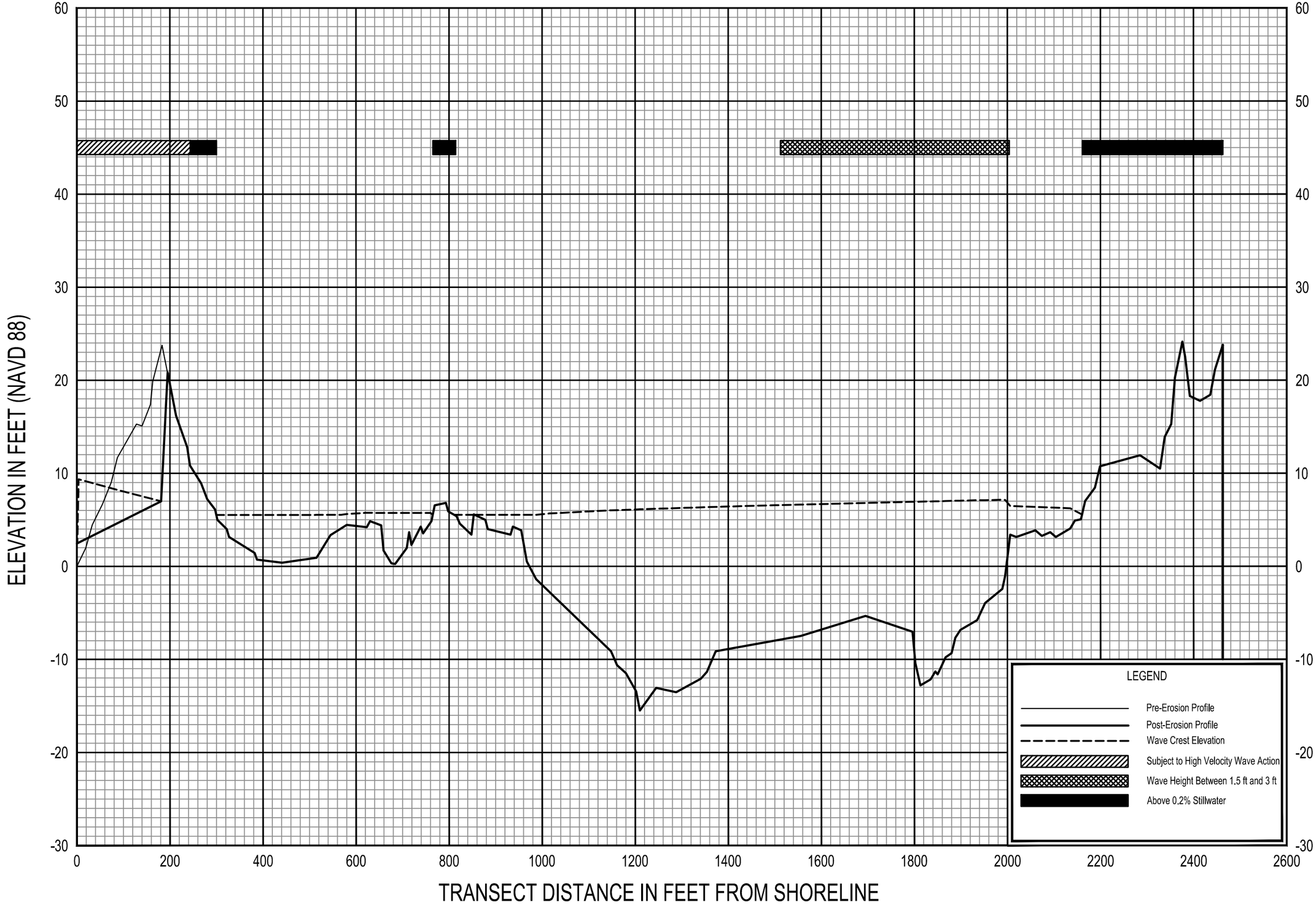
- Pre-Erosion Profile
- Post-Erosion Profile
- Wave Crest Elevation
- Subject to High Velocity Wave Action
- Wave Height Between 1.5 ft and 3 ft
- Above 0.2% Stillwater

0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 5

FEDERAL EMERGENCY MANAGEMENT AGENCY
MARTIN COUNTY, FL
AND INCORPORATED AREAS

9 T



0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

10 T

ELEVATION IN FEET (NAVD 88)

60
50
40
30
20
10
0
-10
-20
-30

0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600

TRANSECT DISTANCE IN FEET FROM SHORELINE

LEGEND

- Pre-Erosion Profile
- Post-Erosion Profile
- Wave Crest Elevation
- Subject to High Velocity Wave Action
- Wave Height Between 1.5 ft and 3 ft
- Above 0.2% Stillwater

0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

11 T

ELEVATION IN FEET (NAVD 88)

60
50
40
30
20
10
0
-10
-20
-30

2600 4600 6600 8600 10600 12600 14600 16600 18600 20600 22600 24600 26600 28600

TRANSECT DISTANCE IN FEET FROM SHORELINE

LEGEND

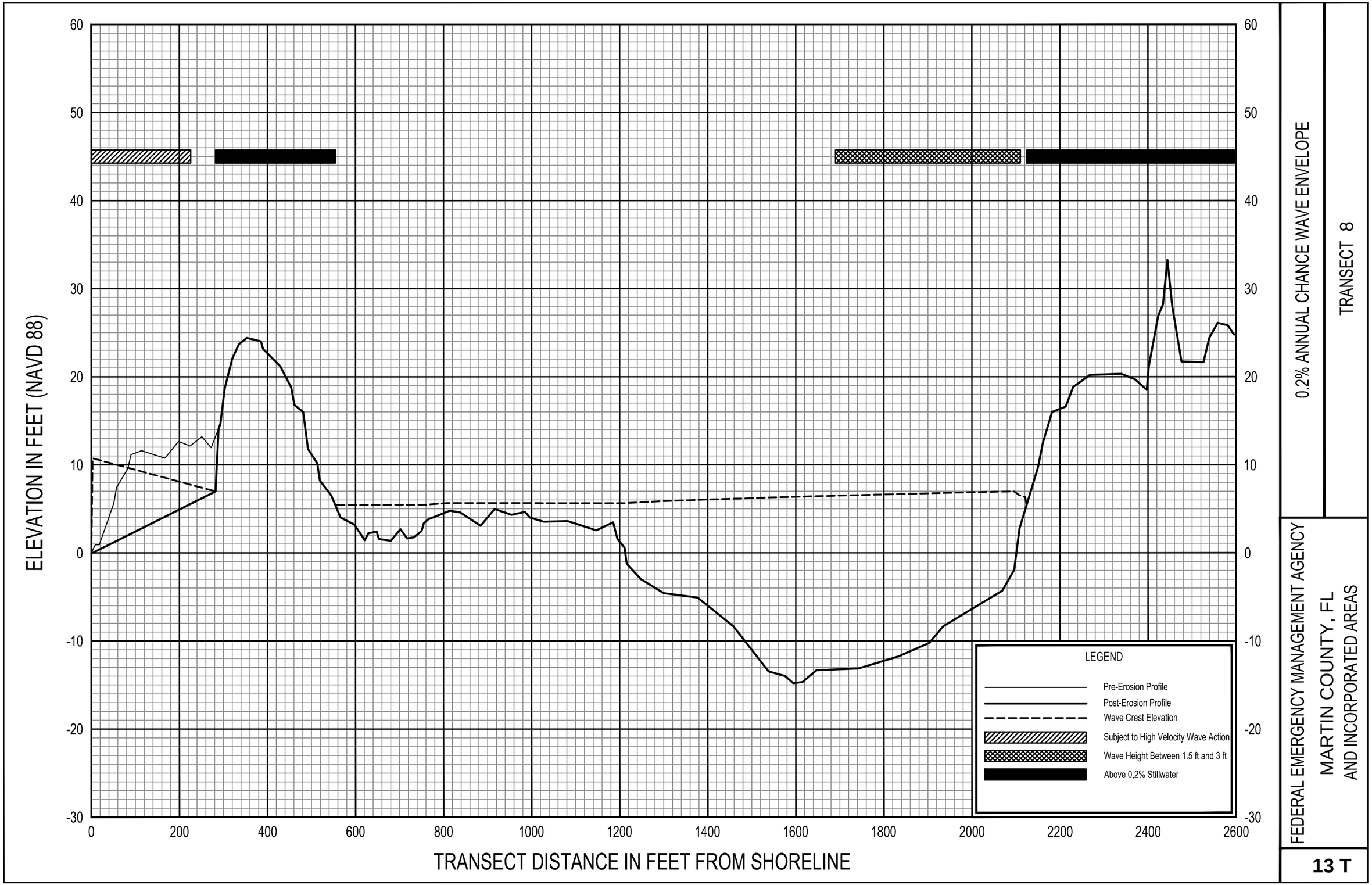
- Pre-Erosion Profile
- Post-Erosion Profile
- Wave Crest Elevation
- Subject to High Velocity Wave Action
- Wave Height Between 1.5 ft and 3 ft
- Above 0.2% Stillwater

0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 7

FEDERAL EMERGENCY MANAGEMENT AGENCY
MARTIN COUNTY, FL
AND INCORPORATED AREAS

12 T



0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 8

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

13 T

ELEVATION IN FEET (NAVD 88)

60
50
40
30
20
10
0
-10
-20
-30

2600 4600 6600 8600 10600 12600 14600 16600 18600 20600 22600 24600 26600 28600

TRANSECT DISTANCE IN FEET FROM SHORELINE

LEGEND

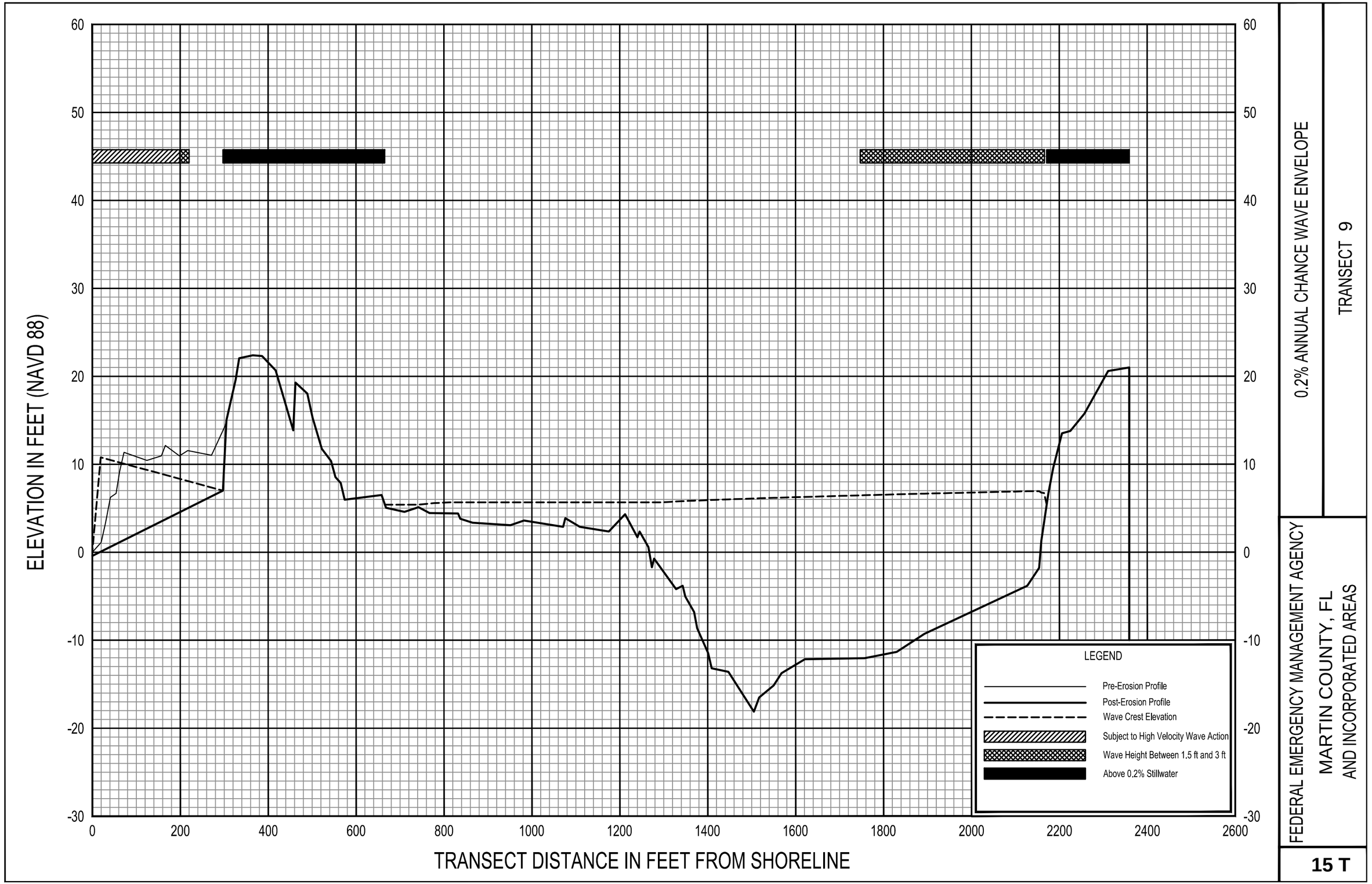
- Pre-Erosion Profile
- Post-Erosion Profile
- Wave Crest Elevation
- Subject to High Velocity Wave Action
- Wave Height Between 1.5 ft and 3 ft
- Above 0.2% Stillwater

0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 8

FEDERAL EMERGENCY MANAGEMENT AGENCY
MARTIN COUNTY, FL
AND INCORPORATED AREAS

14 T



0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 9

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

15 T

ELEVATION IN FEET (NAVD 88)

60
50
40
30
20
10
0
-10
-20
-30

0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600

TRANSECT DISTANCE IN FEET FROM SHORELINE

LEGEND

- Pre-Erosion Profile
- Post-Erosion Profile
- Wave Crest Elevation
- Subject to High Velocity Wave Action
- Wave Height Between 1.5 ft and 3 ft
- Above 0.2% Stillwater

0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 10

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

16 T

ELEVATION IN FEET (NAVD 88)

60
50
40
30
20
10
0
-10
-20
-30

2600
4600
6600
8600
10600
12600
14600
16600
18600
20600
22600
24600
26600
28600

TRANSECT DISTANCE IN FEET FROM SHORELINE

LEGEND

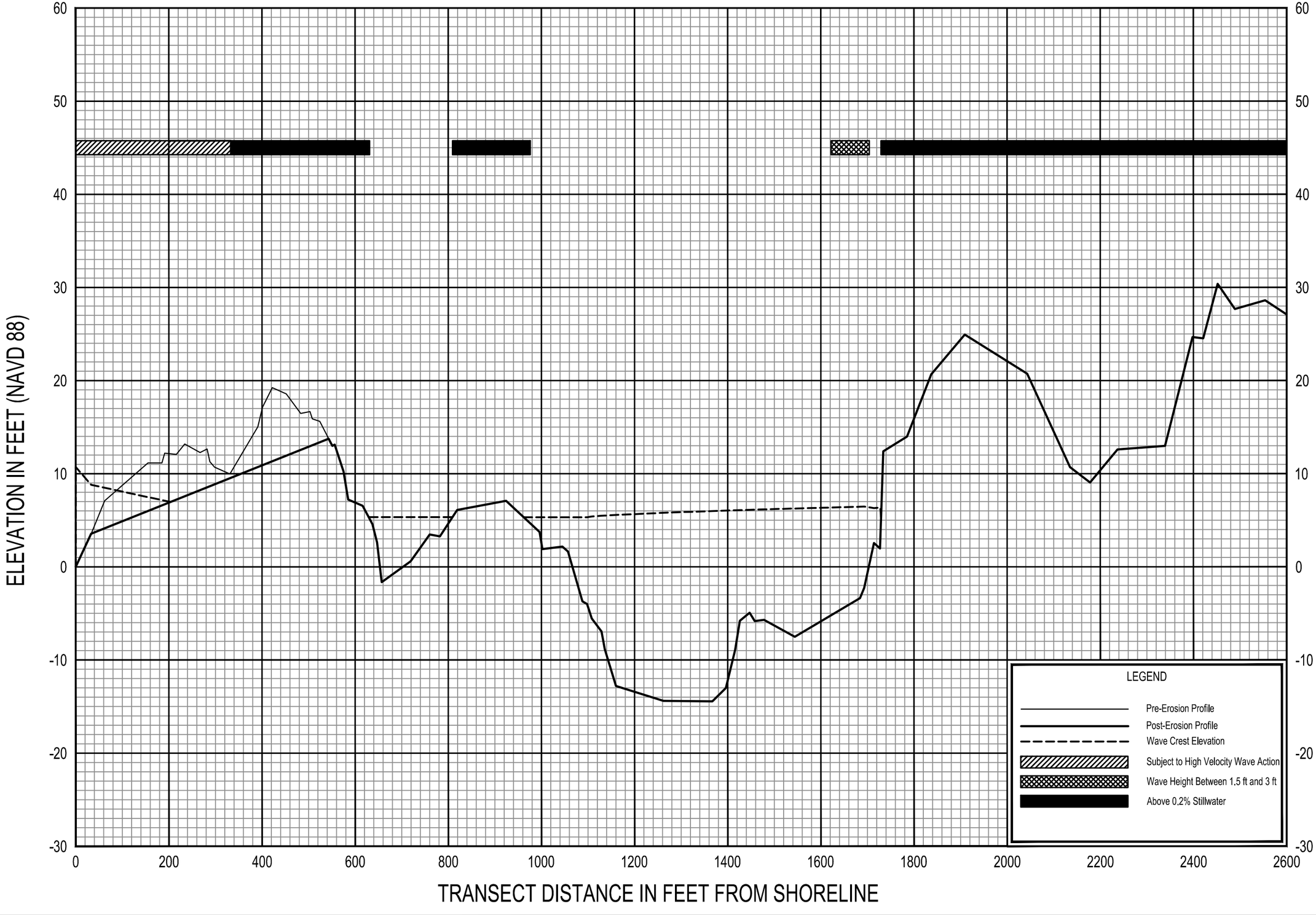
- Pre-Erosion Profile
- Post-Erosion Profile
- Wave Crest Elevation
- Subject to High Velocity Wave Action
- Wave Height Between 1.5 ft and 3 ft
- Above 0.2% Stillwater

0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 10

FEDERAL EMERGENCY MANAGEMENT AGENCY
MARTIN COUNTY, FL
AND INCORPORATED AREAS

17 T



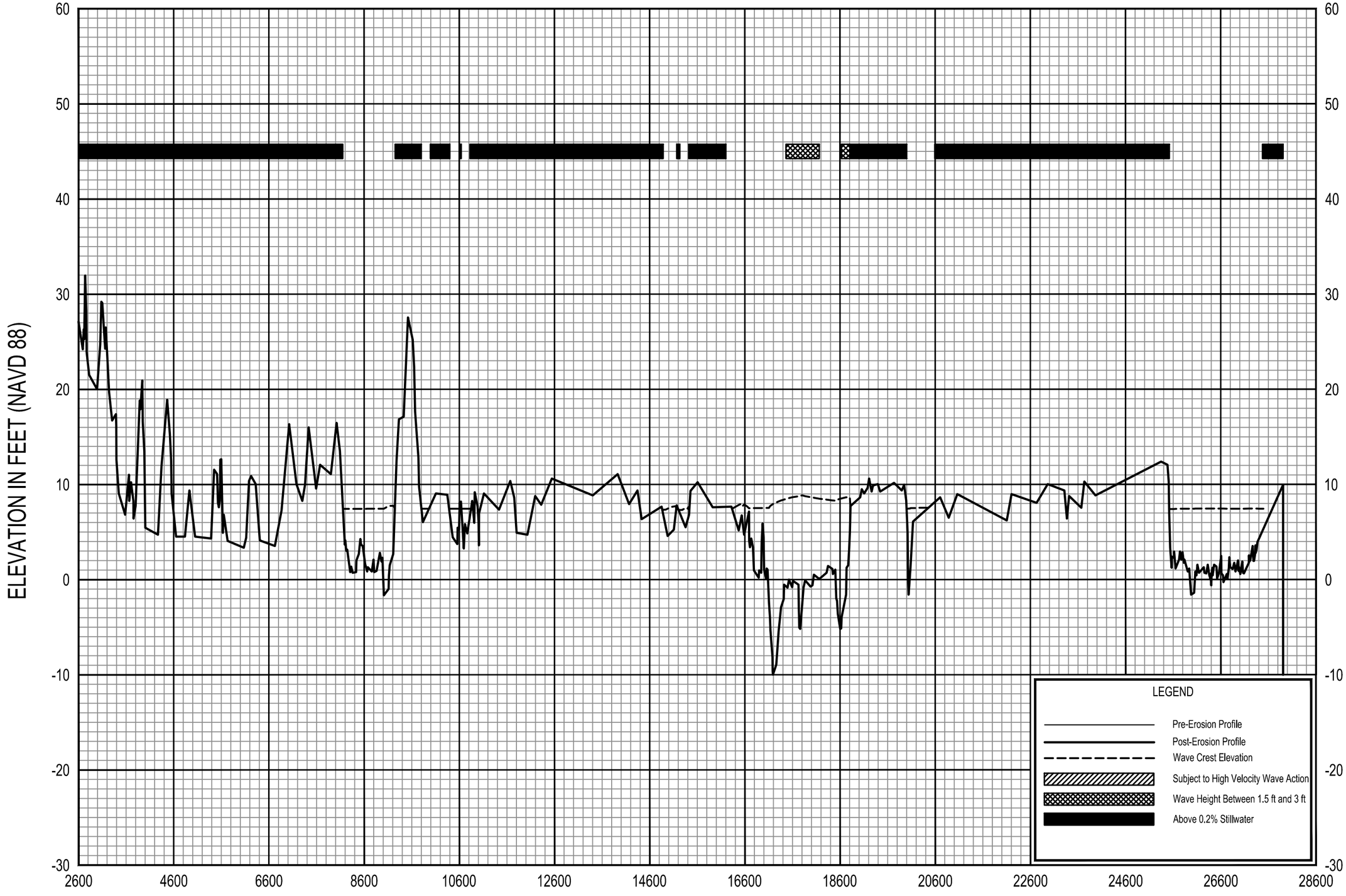
0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

18 T



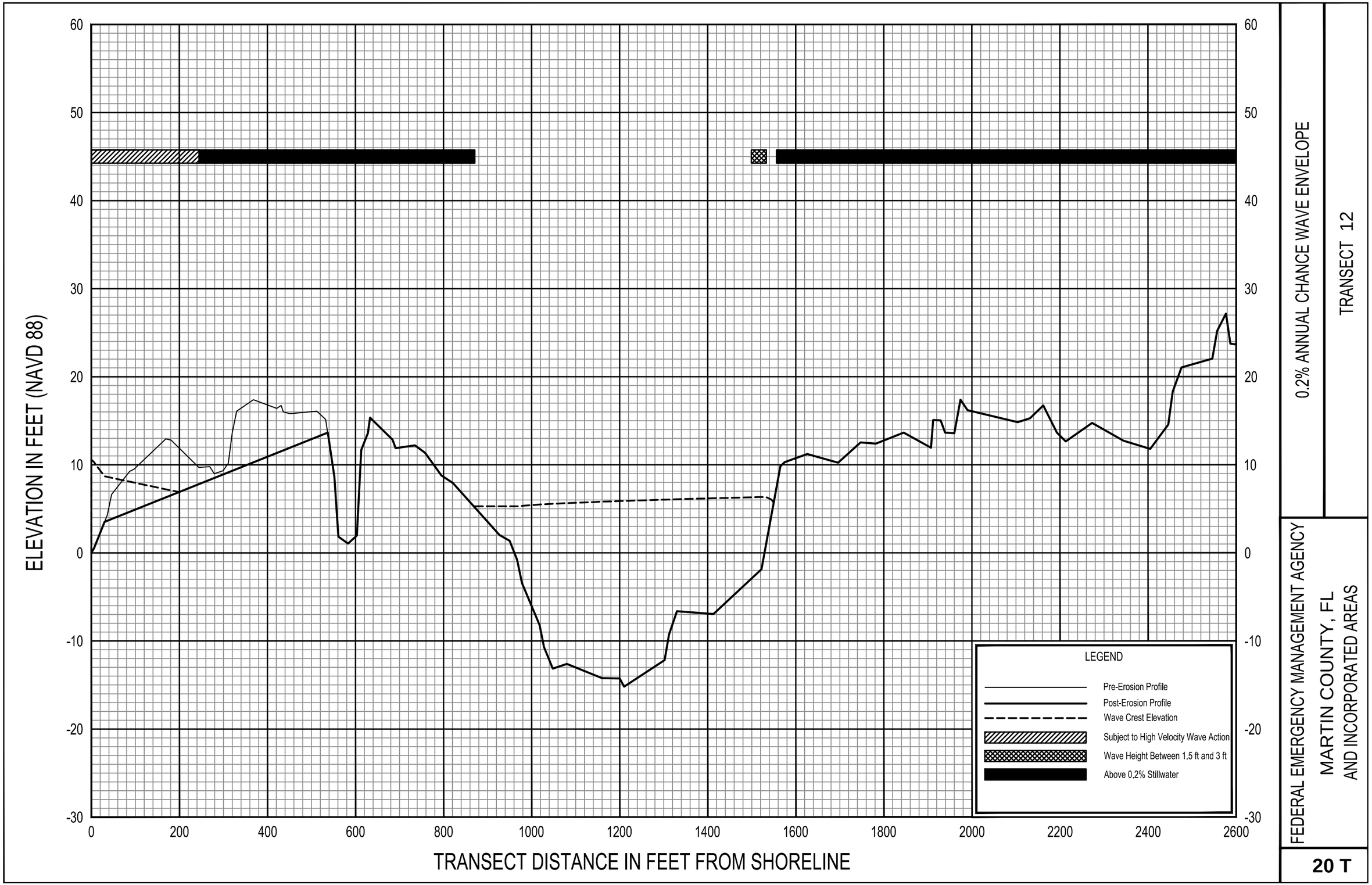
0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

19 T



0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

20 T

ELEVATION IN FEET (NAVD 88)

60
50
40
30
20
10
0
-10
-20
-30

2600
4600
6600
8600
10600
12600
14600
16600
18600
20600
22600
24600
26600
28600

TRANSECT DISTANCE IN FEET FROM SHORELINE

LEGEND

- Pre-Erosion Profile
- Post-Erosion Profile
- Wave Crest Elevation
- Subject to High Velocity Wave Action
- Wave Height Between 1.5 ft and 3 ft
- Above 0.2% Stillwater

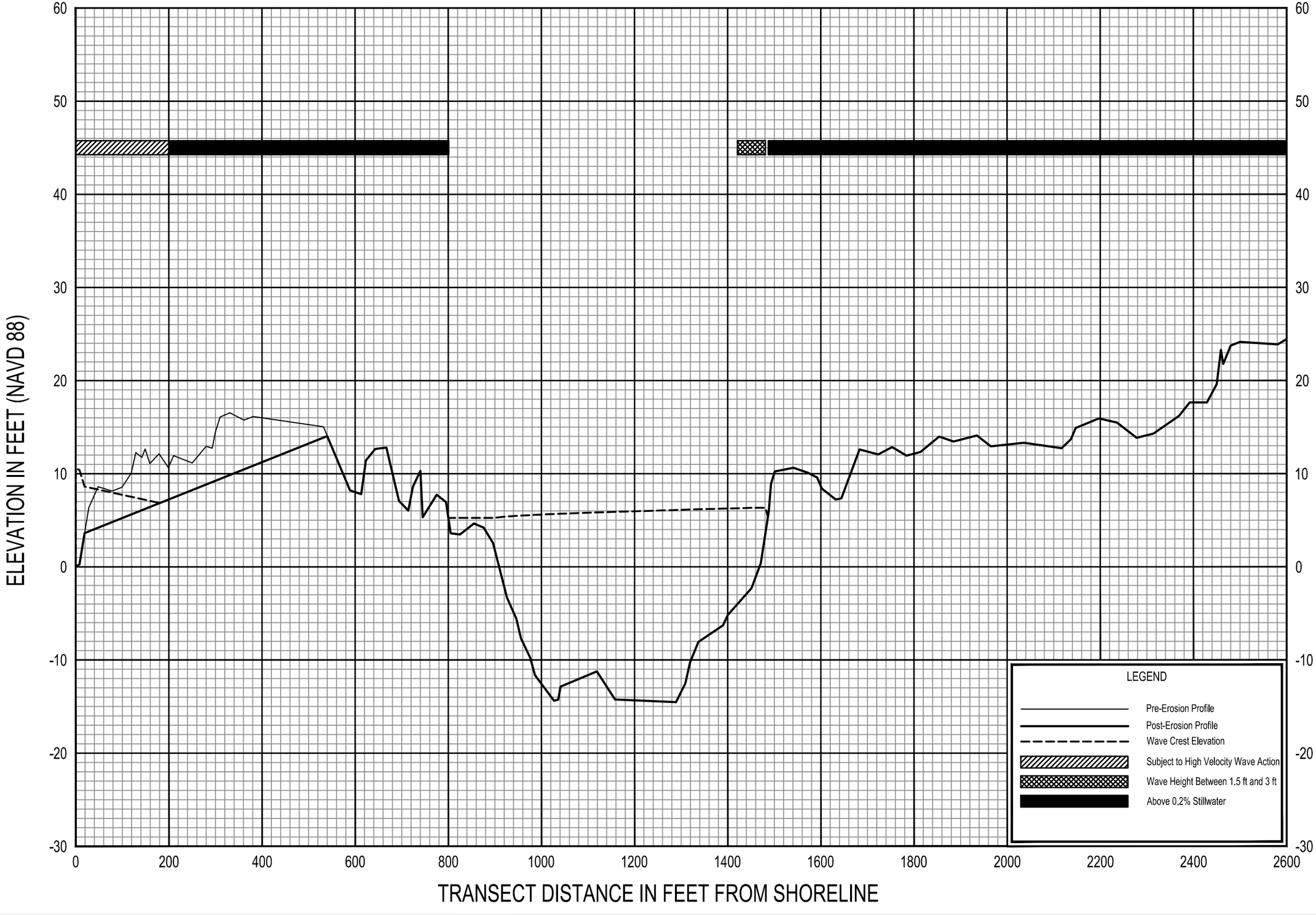
0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

21 T



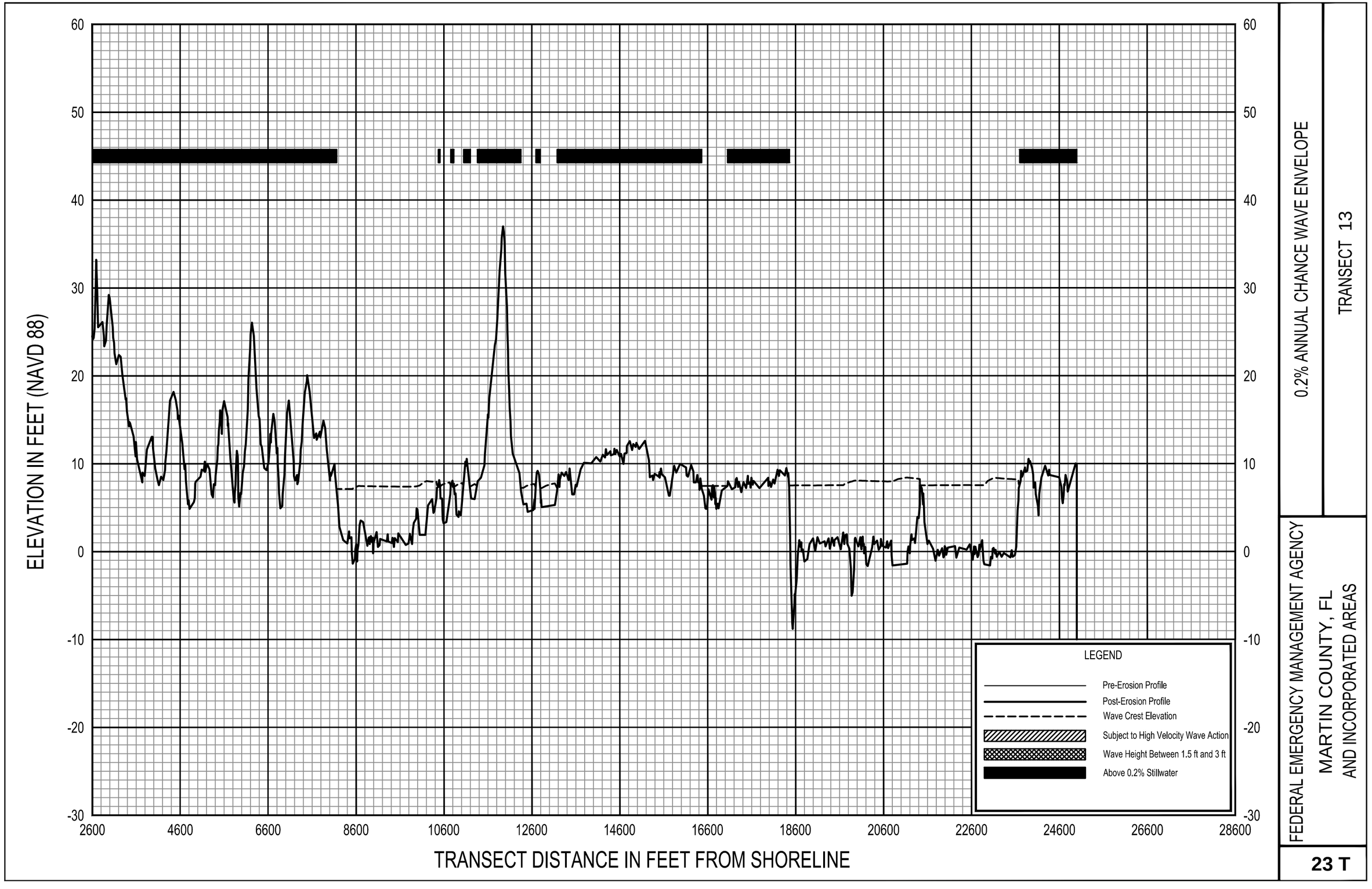
0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 13

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

22 T



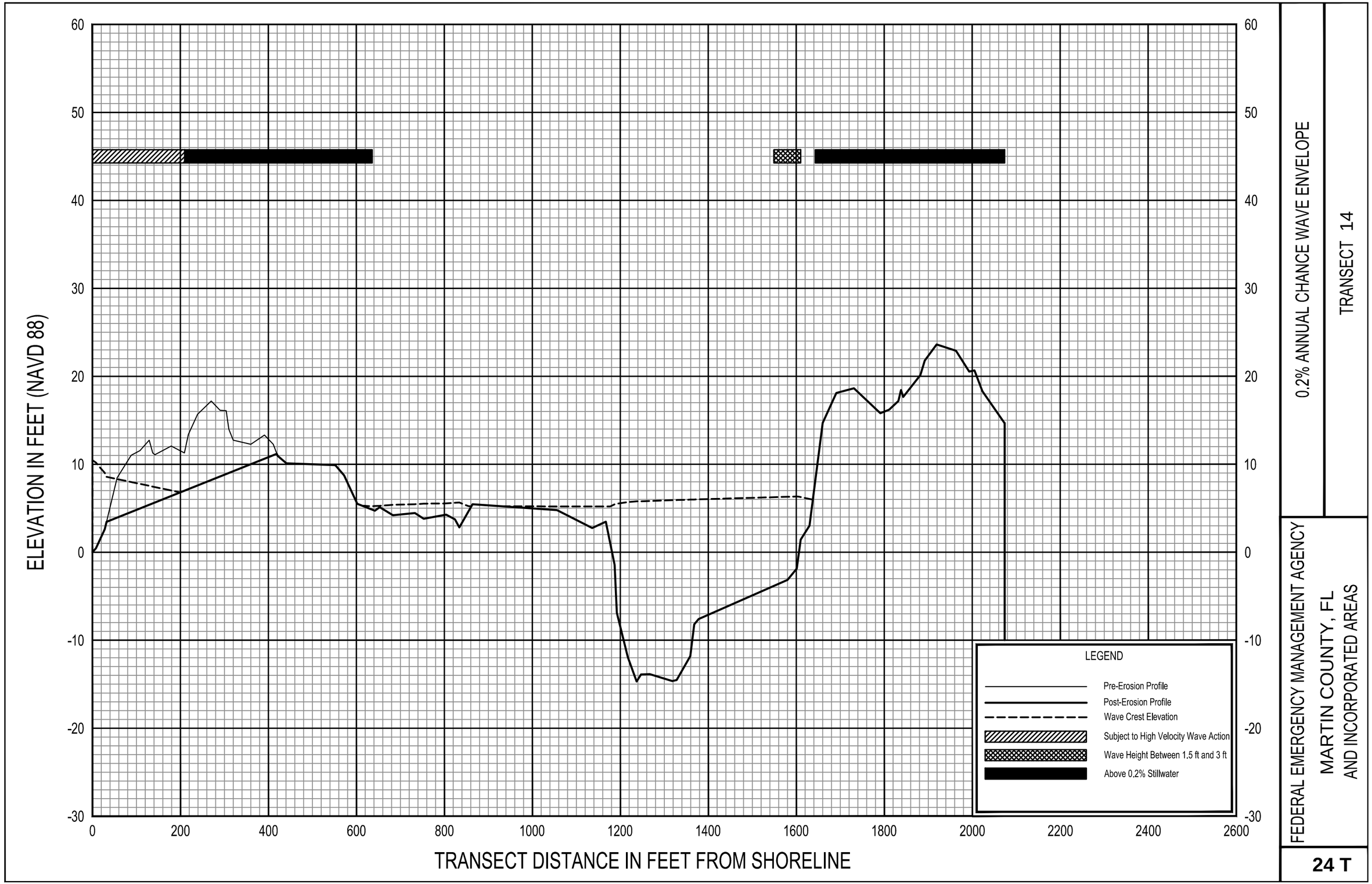
0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 13

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

23 T



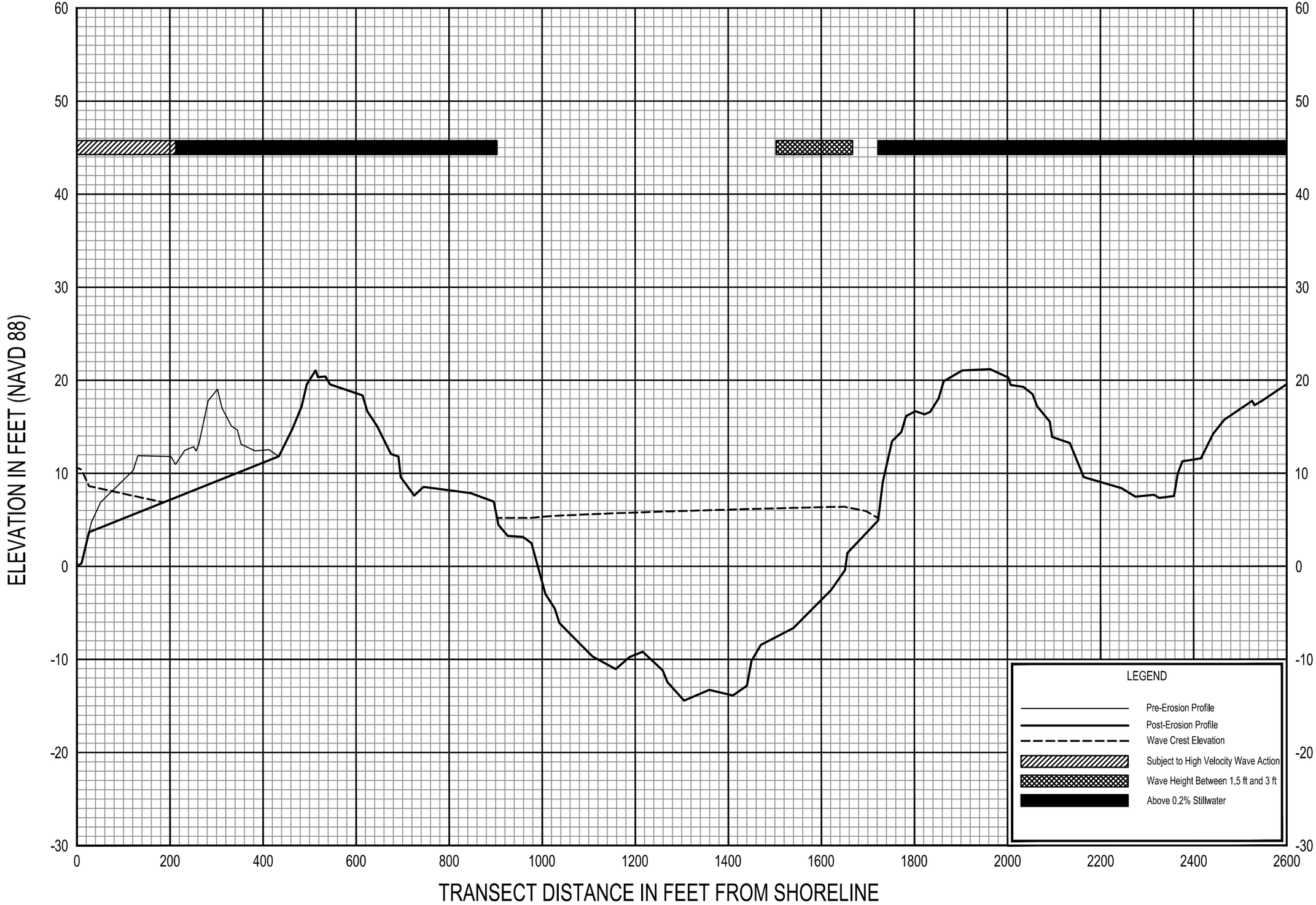
0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 14

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

24 T



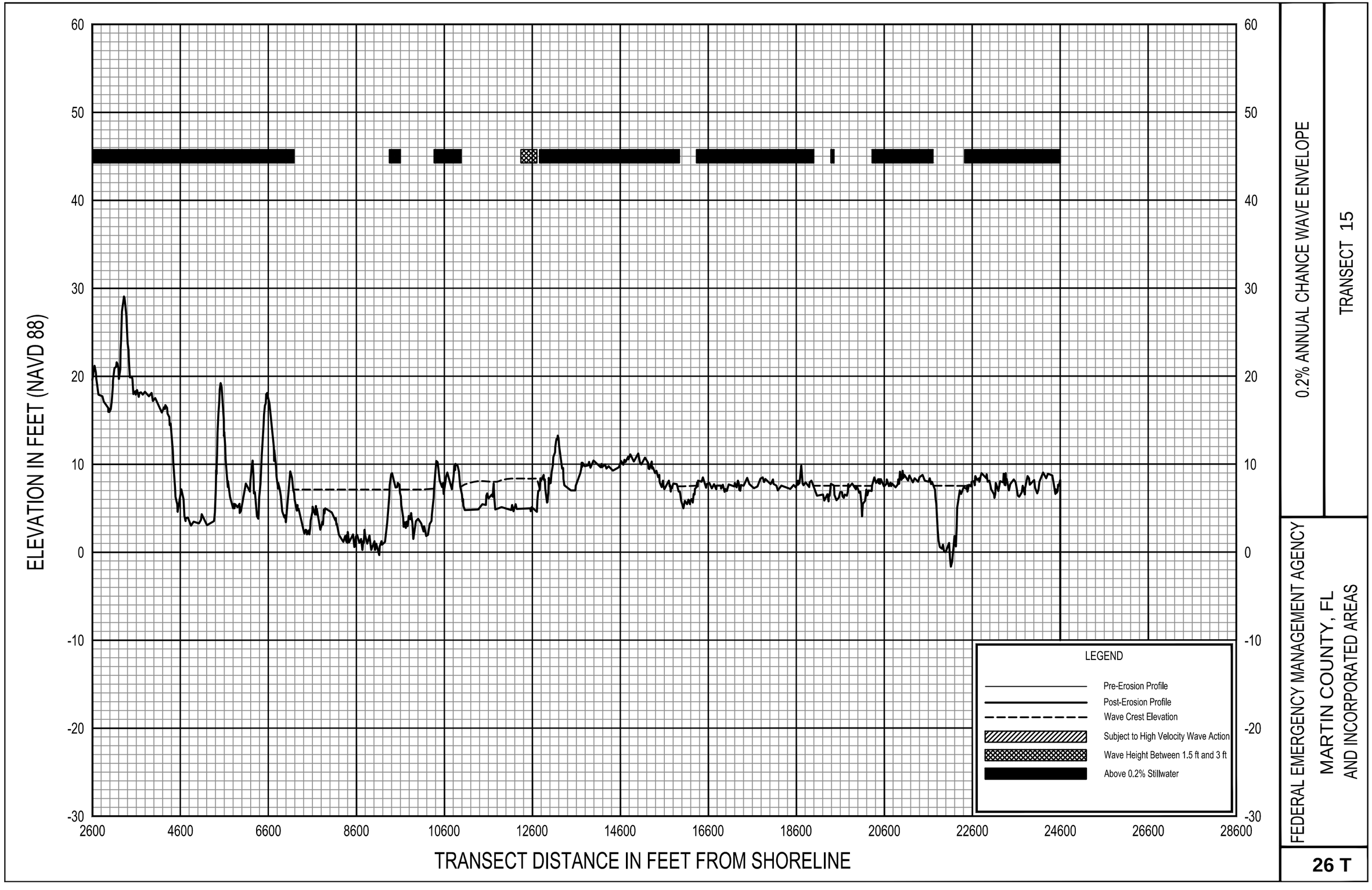
0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 15

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

25 T



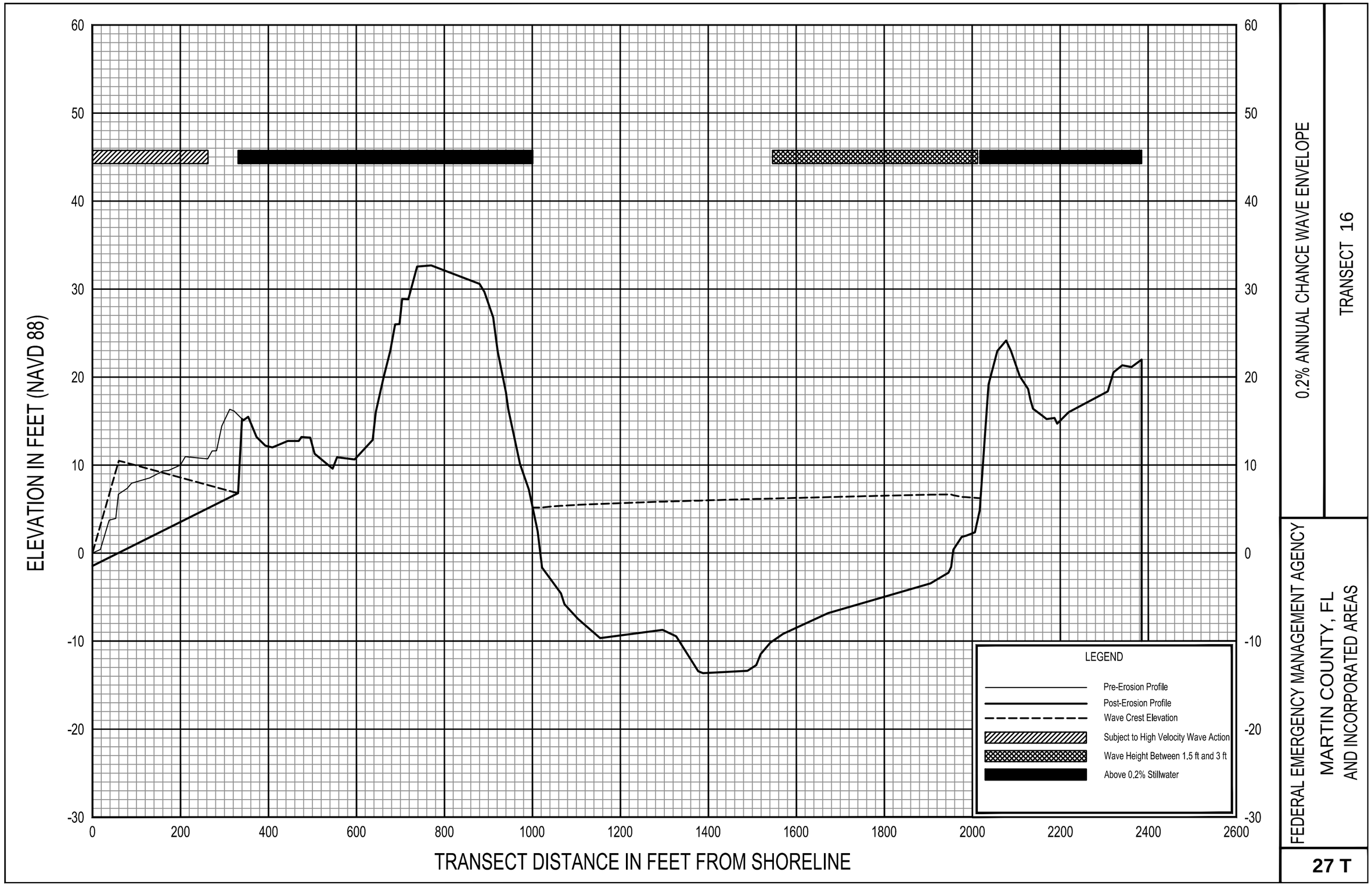
0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 15

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

26 T



0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 16

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

27 T

ELEVATION IN FEET (NAVD 88)

60
50
40
30
20
10
0
-10
-20
-30

0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600

TRANSECT DISTANCE IN FEET FROM SHORELINE

LEGEND

- Pre-Erosion Profile
- Post-Erosion Profile
- Wave Crest Elevation
- Subject to High Velocity Wave Action
- Wave Height Between 1.5 ft and 3 ft
- Above 0.2% Stillwater

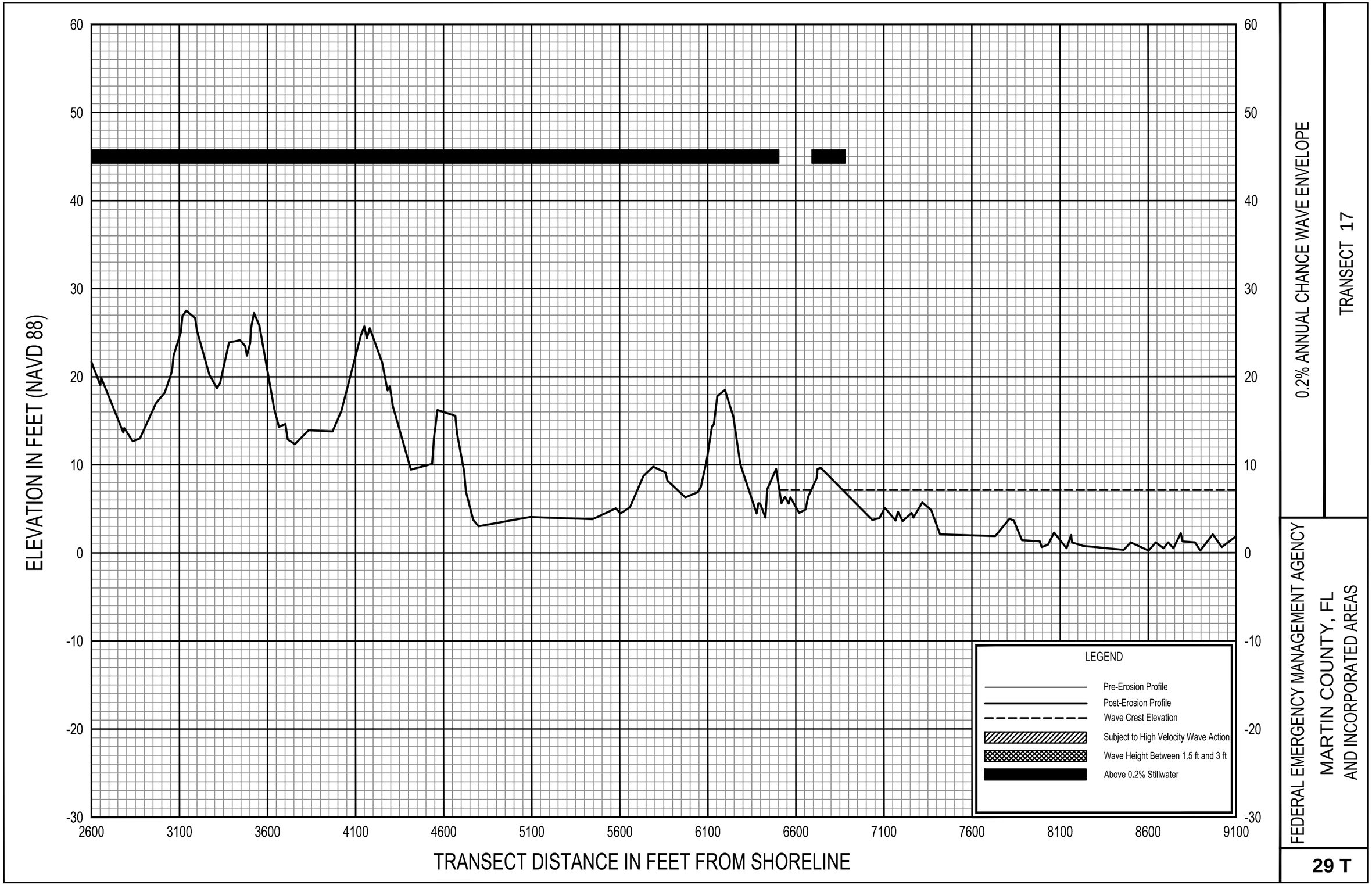
0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 17

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

28 T



0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 17

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

29 T

ELEVATION IN FEET (NAVD 88)

60
50
40
30
20
10
0
-10
-20
-30

9100 9600 10100 10600 11100 11600 12100 12600 13100 13600 14100 14600 15100 15600

TRANSECT DISTANCE IN FEET FROM SHORELINE

LEGEND

- Pre-Erosion Profile
- Post-Erosion Profile
- Wave Crest Elevation
- Subject to High Velocity Wave Action
- Wave Height Between 1.5 ft and 3 ft
- Above 0.2% Stillwater

0.2% ANNUAL CHANCE WAVE ENVELOPE

TRANSECT 17

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARTIN COUNTY, FL
AND INCORPORATED AREAS

30 T