

FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 2 OF 8



PINELLAS COUNTY, FLORIDA AND INCORPORATED AREAS

COMMUNITY NAME	NUMBER	COMMUNITY NAME	NUMBER
BELLEAIR, TOWN OF	125088	REDINGTON SHORES, TOWN OF	125141
BELLEAIR BEACH, CITY OF	125089	SAFETY HARBOR, CITY OF	125143
BELLEAIR BLUFFS, CITY OF	120239	SEMINOLE, CITY OF	120257
BELLEAIR SHORE, TOWN OF	125090	SOUTH PASADENA, CITY OF	125151
CLEARWATER, CITY OF	125096	ST. PETE BEACH, CITY OF	125149
DUNEDIN, CITY OF	125103	ST. PETERSBURG, CITY OF	125148
GULFPORT, CITY OF	125108	TARPON SPRINGS, CITY OF	120259
INDIAN ROCKS BEACH, CITY OF	125117	TREASURE ISLAND, CITY OF	125153
INDIAN SHORES, TOWN OF	125118		
KENNETH CITY, TOWN OF	120245		
LARGO, CITY OF	125122		
MADEIRA BEACH, CITY OF	125127		
NORTH REDINGTON BEACH, TOWN OF	125133		
OLDSMAR, CITY OF	120250		
PINELLAS COUNTY, UNINCORPORATED AREAS	125139		
PINELLAS PARK, CITY OF	120251		
REDINGTON BEACH, TOWN OF	125140		

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Transect Profiles

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Transect 2	04 T
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Transect 6	08-10 T
Transect 7	11-12 T
Transect 8	13-14 T
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Transect 20	29-30 T
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Transect 34	54-55 T
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Transect 38	62-63 T
Transect 39	64-66 T
Transect 40	67-68 T
Transect 41	69-70 T
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Transect 45	78-79 T
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Transect 48	85-86 T
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Transect 52	93-94 T
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Transect 74	145-147 T
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Transect 78	153-154 T
Transect 79	155 T
Transect 80	156 T
Transect 81	157 T
Transect 82	158 T
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Transect 95	182-183 T
Transect 96	184-185 T
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Transect 98	188 T
Transect 99	189-190 T
Transect 100	191-192 T
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Transect 105	201-202 T
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Transect 116	225-226 T
Transect 117	227 T
Transect 118	228-229 T
Transect 119	230-231 T
Transect 120	232-234 T
Transect 121	235-237 T
Transect 122	238-240 T
Transect 123	241-243 T
Transect 124	244-246 T
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Transect 141	276-277 T
Transect 142	278-279 T
Transect 143	280 T
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Transect 145	282 T
Transect 146	283-284 T
Transect 147	285 T
Transect 148	286 T

Transect 149	287 T
Transect 150	288 T
Transect 151	289-290 T
Transect 152	291 T
Transect 153	292-293 T
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Transect 193	359 T
Transect 194	360-361 T
Transect 195	362-363 T
Transect 196	364 T
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Transect 238	429-430 T
Transect 239	431-433 T
Transect 240	434-436 T
Transect 241	437-438 T
Transect 242	439-440 T

Published Separately

Flood Insurance Rate Map (FIRM)

5.3 Coastal Analyses

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

The following subsections provide summaries of how each coastal process was considered for this FIS Report. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation. Table 14 summarizes the methods and/or models used for the coastal analyses. Refer to Section 2.5.1 for descriptions of the terms used in this section.

Table 14: Summary of Coastal Analyses

Flooding Source	Study Limits From	Study Limits To	Hazard Evaluated	Model or Method Used	Date Analysis was Completed
Boca Ciega Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Storm Surge	ADCIRC	01/01/2016
Boca Ciega Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Setup	SWAN	01/01/2016
Boca Ciega Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Statistical Analysis	JPM	01/01/2016
Boca Ciega Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Runup	CSHORE/ Runup 2.0/TAW	01/01/2016
Boca Ciega Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Generation	SWAN	01/01/2016
Boca Ciega Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Overland Wave Propagation	WHAFIS	01/01/2016
Clearwater Harbor	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Storm Surge	ADCIRC	01/01/2016

Table 14: Summary of Coastal Analyses (continued)

Flooding Source	Study Limits From	Study Limits To	Hazard Evaluated	Model or Method Used	Date Analysis was Completed
Clearwater Harbor	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Setup	SWAN	01/01/2016
Clearwater Harbor	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Statistical Analysis	JPM	01/01/2016
Clearwater Harbor	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Runup	CSHORE/ Runup 2.0/TAW	01/01/2016
Clearwater Harbor	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Generation	SWAN	01/01/2016
Clearwater Harbor	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Overland Wave Propagation	WHAFIS	01/01/2016
Gulf of Mexico	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Storm Surge	ADCIRC	01/01/2016
Gulf of Mexico	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Setup	SWAN	01/01/2016
Gulf of Mexico	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Statistical Analysis	JPM	01/01/2016
Gulf of Mexico	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Runup	CSHORE/ Runup 2.0/TAW	01/01/2016
Gulf of Mexico	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Generation	SWAN	01/01/2016

Table 14: Summary of Coastal Analyses (continued)

Flooding Source	Study Limits From	Study Limits To	Hazard Evaluated	Model or Method Used	Date Analysis was Completed
Gulf of Mexico	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Overland Wave Propagation	WHAFIS	01/01/2016
Lake Seminole	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Storm Surge	ADCIRC	01/01/2016
Lake Seminole	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Setup	SWAN	01/01/2016
Lake Seminole	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Statistical Analysis	JPM	01/01/2016
Lake Seminole	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Runup	CSHORE/ Runup 2.0/TAW	01/01/2016
Lake Seminole	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Generation	SWAN	01/01/2016
Lake Seminole	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Overland Wave Propagation	WHAFIS	01/01/2016
Long Bayou/ Cross Bayou	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Storm Surge	ADCIRC	01/01/2016
Long Bayou/ Cross Bayou	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Setup	SWAN	01/01/2016
Long Bayou/ Cross Bayou	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Statistical Analysis	JPM	01/01/2016

Table 14: Summary of Coastal Analyses (continued)

Flooding Source	Study Limits From	Study Limits To	Hazard Evaluated	Model or Method Used	Date Analysis was Completed
Long Bayou/ Cross Bayou	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Runup	CSHORE/ Runup 2.0/TAW	01/01/2016
Long Bayou/ Cross Bayou	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Generation	SWAN	01/01/2016
Long Bayou/ Cross Bayou	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Overland Wave Propagation	WHAFIS	01/01/2016
Old Tampa Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Storm Surge	ADCIRC	01/01/2016
Old Tampa Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Setup	SWAN	01/01/2016
Old Tampa Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Statistical Analysis	JPM	01/01/2016
Old Tampa Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Runup	CSHORE/ Runup 2.0/TAW	01/01/2016
Old Tampa Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Generation	SWAN	01/01/2016
Old Tampa Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Overland Wave Propagation	WHAFIS	01/01/2016
St. Joseph Sound	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Storm Surge	ADCIRC	01/01/2016

Table 14: Summary of Coastal Analyses (continued)

Flooding Source	Study Limits From	Study Limits To	Hazard Evaluated	Model or Method Used	Date Analysis was Completed
St. Joseph Sound	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Setup	SWAN	01/01/2016
St. Joseph Sound	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Statistical Analysis	JPM	01/01/2016
St. Joseph Sound	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Runup	CSHORE/Runup 2.0/TAW	01/01/2016
St. Joseph Sound	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Generation	SWAN	01/01/2016
St. Joseph Sound	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Overland Wave Propagation	WHAFIS	01/01/2016
Tampa Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Storm Surge	ADCIRC	01/01/2016
Tampa Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Setup	SWAN	01/01/2016
Tampa Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Statistical Analysis	JPM	01/01/2016
Tampa Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Runup	CSHORE/Runup 2.0/TAW	01/01/2016
Tampa Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Wave Generation	SWAN	01/01/2016

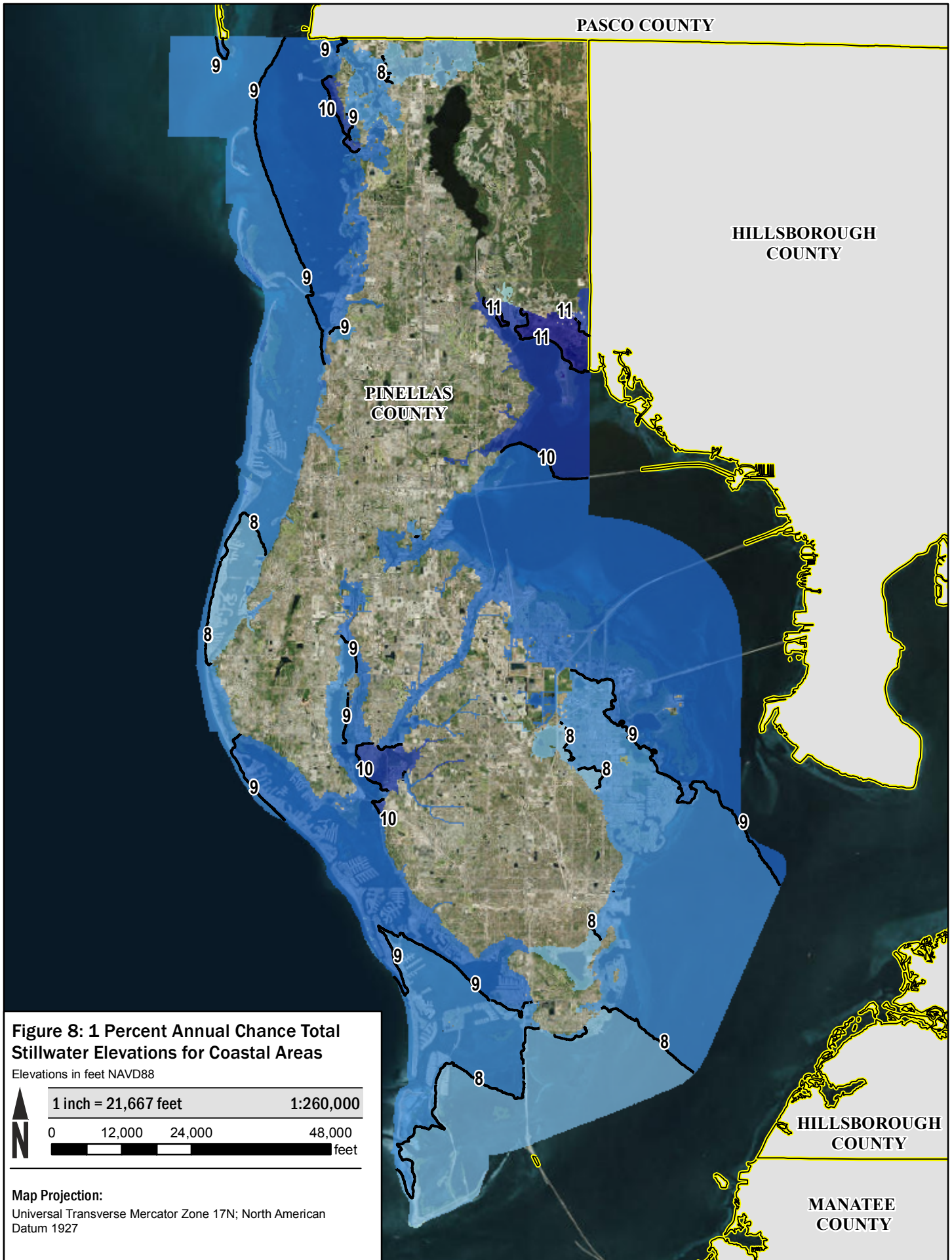
Table 14: Summary of Coastal Analyses (continued)

Flooding Source	Study Limits From	Study Limits To	Hazard Evaluated	Model or Method Used	Date Analysis was Completed
Tampa Bay	Entire shoreline of Pinellas County	Entire shoreline of Pinellas County	Overland Wave Propagation	WHAFIS	01/01/2016

5.3.1 Total Stillwater Elevations

The total stillwater elevations (stillwater including storm surge plus wave setup) for the 1% annual chance flood were determined for areas subject to coastal flooding. The models and methods that were used to determine storm surge and wave setup are listed in Table 14. The stillwater elevation that was used for each transect in coastal analyses is shown in Table 16, “Coastal Transect Parameters.” Figure 8 shows the total stillwater elevations for the 1% annual chance flood that was determined for this coastal analysis.

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



The region wide storm surge modeling was performed using the Advanced Circulation Model for Oceanic, Coastal and Estuarine Waters (ADCIRC), as described in Table 14. The ADCIRC model was coupled with the unstructured numerical wave model Simulating Waves Nearshore (SWAN) to calculate the contribution of waves to coastal flooding. The resulting model system is typically referred to as SWAN+ADCIRC. A seamless modeling grid was developed to support the storm surge modeling efforts. The modeling system validation consisted of a comprehensive tidal calibration followed by a validation using carefully reconstructed wind and pressure fields for four major flood events affecting the region: Hurricane Dennis, Hurricane Frances, Tropical Storm Josephine, and the March 1993 Extra-Tropical Storm.

Model skill was assessed by quantitative comparison of model output to wind, wave, and high water mark observations. The model was then used to re-create 744 synthetic storms (664 tropical and 80 extra-tropical) to create a synthetic water elevation record from which the 10-, 4-, 2-, 1-, and 0.2- percent annual chance of exceedance elevations were determined.

Astronomical Tide

Astronomical tidal statistics were generated directly from local tidal constituents by sampling the predicted tide at random times throughout the tidal epoch.

Storm Surge Statistics

Storm surge is modeled based on characteristics of actual storms responsible for significant coastal flooding. The characteristics of these storms, specifically tropical storms, were determined by statistical study of the regional historical record of storms. Characteristics such as the strength, size, and track were used in the Joint Probability Method (JPM) to define tropical storm behavior for the West Florida Study Region. Storm data was used in conjunction with numerical hydrodynamic models to determine the corresponding storm surge levels. An extreme value analysis was performed on the storm surge modeling results to determine a stillwater elevation for the 1-percent-annual-chance event.

Table 15: Tide Gage Analysis Specifics

[Not applicable to this Flood Risk Project]

Combined Riverine and Tidal Effects

A combined rate of occurrence analysis was conducted to compute a 1-percent-annual-chance BFE for areas subject to flooding by both coastal and riverine flooding mechanisms. Since riverine and coastal analyses were based on independent events, the resulting combined BFE would be higher than that of their individual occurrence. In other words, at the location where the computed 1-percent-annual-chance coastal flood level equals the computed 1-percent-annual-chance riverine flood level, there was a greater than 1-percent-annual-chance of this flood level being equaled or exceeded.

In Pinellas County, combined probability calculations were performed for Alligator Creek Channel A, Alligator Creek Channel E, Channel 1, Channel 2, Channel 3, Curlew Creek, Hammond Creek, Hollin Creek Tributary A, Joe's Creek, and Stevenson Creek.

Wave Setup Analysis

Wave setup was computed during the storm surge modeling through the methods and models listed in Table 14 and included in the frequency analysis for the determination of the total stillwater elevations.

5.3.2 Waves

The SWAN coastal wave model was used to calculate the nearshore wave field required for the addition of wave setup effects. The SWAN model is tightly coupled to the ADCIRC hydrodynamic model so that forces are passed between models as they run (Dietrich, et al., 2011). This results in the wave setup from breaking waves being part of the computed water elevations.

5.3.3 Coastal Erosion

A single storm episode can cause extensive erosion in coastal areas. Storm-induced erosion was evaluated to determine the modification to existing topography that is expected to be associated with flooding events. Erosion was evaluated using the methods listed in Table 14. The post-event eroded profile was used for the subsequent transect-based onshore wave hazard analyses.

5.3.4 Wave Hazard Analyses

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

Transect locations were chosen with consideration given to the physical land characteristics as well as development type and density so that they would closely represent conditions in their locality. Additional consideration was given to changes in the total stillwater elevation. Transects were spaced close together in areas of complex topography and dense development or where total stillwater elevations varied. In areas having more uniform characteristics, transects were spaced at larger intervals. Transects shown in Figure 9, "Transect Location Map," are also depicted on the FIRM. Table 16 provides the location, stillwater elevations, and starting wave conditions for each transect evaluated for overland wave hazards. In this table, "starting" indicates the parameter value at the beginning of the transect.

Wave Height Analysis

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

Wave heights and wave crest elevations were modeled using the methods and models listed in Table 14, "Summary of Coastal Analyses". For the 0.2-percent-annual-chance event, wave profiles were created to indicate the results of the wave height analysis at each transect (FEMA 2007). Such wave profiles may show greater detail than the

mapping product, due to limitations of the map scale and smoothing tolerances applied during boundary cleanup. Wave runup analysis for the 0.2-percent-annual-chance event was not performed for this study and is not included in the profiles.

Wave Runup Analysis

Wave runup analyses were performed to determine the height and extent of runup beyond the limit of stillwater inundation for the 1% annual chance flood. Wave runup elevations were modeled using the methods and models listed in Table 14.

Table 16: Coastal Transect Parameters

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Tampa Bay	1	4.20	3.89	7.0 6.9 - 7.0	8.6 8.6 - 8.7	9.8 9.8 - 10.1	11.0 11.0 - 11.4	13.7 13.7 - 14.3
Tampa Bay	2	5.16	3.58	6.8 6.8 - 6.9	8.5 8.4 - 8.5	9.7 9.6 - 9.8	10.9 10.9 - 11.0	13.6 13.5 - 13.7
Tampa Bay	3	4.98	3.84	6.6 6.6 - 6.7	8.2 8.2 - 8.3	9.4 9.4 - 9.5	10.5 10.5 - 10.6	13.1 13.1 - 13.2
Tampa Bay	4	5.63	4.36	6.7 6.7 - 6.9	8.3 8.3 - 8.5	9.5 9.5 - 9.8	10.7 10.7 - 11.0	13.3 13.3 - 13.7
Tampa Bay	5	5.06	3.67	6.7 6.7 - 6.9	8.4 8.4 - 8.5	9.6 9.6 - 9.8	10.8 10.8 - 10.9	13.4 13.4 - 13.6
Tampa Bay	6	5.80	4.01	6.8 6.5 - 6.9	8.5 8.0 - 8.7	9.7 9.1 - 10.1	11.0 10.3 - 11.4	13.7 13.3 - 14.3
Tampa Bay	7	5.91	4.36	6.8 6.8 - 6.9	8.5 8.5 - 8.7	9.8 9.8 - 10.1	11.0 11.0 - 11.4	13.7 13.6 - 14.4

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Tampa Bay	8	5.09	4.38	6.8 6.8 - 6.9	8.5 8.5 - 8.6	9.8 9.8 - 10.0	11.0 11.0 - 11.2	13.8 12.8 - 14.2
Tampa Bay	9	5.84	4.45	6.8 6.8 - 6.8	8.4 8.3 - 8.6	9.7 9.6 - 9.9	10.9 10.9 - 11.2	13.7 12.3 - 14.1
Tampa Bay	10	5.31	3.60	6.8 6.7 - 6.8	8.4 8.3 - 8.5	9.7 9.7 - 9.8	11.0 10.9 - 11.0	13.8 12.4 - 14.0
Tampa Bay	11	5.02	4.20	6.7 6.7 - 6.7	8.3 8.3 - 8.3	9.6 9.6 - 9.6	10.8 10.8 - 10.8	13.6 13.6 - 13.6
Tampa Bay	12	5.15	4.30	6.7 6.7 - 6.7	8.3 8.3 - 8.3	9.6 9.5 - 9.6	10.8 10.7 - 10.8	13.5 13.3 - 13.5
Tampa Bay	13	5.49	4.23	6.7 6.7 - 6.7	8.3 8.3 - 8.3	9.5 9.5 - 9.5	10.7 10.7 - 10.7	13.3 13.3 - 13.4
Tampa Bay	14	5.23	3.80	6.6 6.6 - 6.6	8.2 8.2 - 8.2	9.4 9.4 - 9.4	10.6 10.6 - 10.6	13.2 13.2 - 13.2

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Tampa Bay	15	4.97	4.19	6.5 6.5 - 6.6	8.1 8.1 - 8.1	9.3 9.3 - 9.3	10.4 10.4 - 10.5	13.0 13.0 - 13.0
Tampa Bay	16	5.01	4.37	6.5 6.5 - 6.5	8.0 8.0 - 8.0	9.2 9.2 - 9.2	10.3 10.3 - 10.3	12.8 12.8 - 12.8
Tampa Bay	17	4.76	4.24	6.4 6.4 - 6.4	7.9 7.9 - 7.9	9.1 9.1 - 9.1	10.2 10.2 - 10.2	12.7 12.7 - 12.7
Tampa Bay	18	5.47	4.05	6.3 6.3 - 6.4	7.8 7.8 - 7.9	9.0 9.0 - 9.0	10.1 10.1 - 10.1	12.5 12.5 - 12.6
Tampa Bay	19	5.08	3.50	6.3 6.3 - 6.3	7.8 7.8 - 7.9	9.0 9.0 - 9.0	10.1 10.1 - 10.2	12.5 12.5 - 12.7
Tampa Bay	20	4.01	3.30	6.3 6.2 - 6.3	7.8 7.8 - 7.8	8.9 8.9 - 9.0	10.0 10.0 - 10.1	12.5 12.5 - 12.6
Tampa Bay	21	3.79	3.36	6.3 6.3 - 6.3	7.8 7.8 - 7.8	8.9 8.9 - 8.9	10.0 10.0 - 10.0	12.4 12.4 - 12.5

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Tampa Bay	22	3.26	2.88	6.2 6.2 - 6.3	7.7 7.7 - 7.8	8.8 8.8 - 8.9	9.9 9.9 - 10.0	12.3 12.3 - 12.4
Tampa Bay	23	4.90	3.80	6.2 6.2 - 6.2	7.7 7.7 - 7.7	8.8 8.8 - 8.9	9.9 9.9 - 10.0	12.4 12.4 - 12.5
Tampa Bay	24	4.44	3.97	6.2 6.2 - 6.2	7.7 7.7 - 7.7	8.8 8.8 - 8.8	9.9 9.9 - 9.9	12.4 12.4 - 12.4
Tampa Bay	25	4.24	3.88	6.2 6.2 - 6.2	7.7 7.7 - 7.7	8.8 8.8 - 8.8	9.9 9.9 - 9.9	12.4 12.4 - 12.4
Tampa Bay	26	4.32	4.03	6.2 6.2 - 6.2	7.6 7.6 - 7.6	8.7 8.7 - 8.8	9.8 9.8 - 9.9	12.4 12.4 - 12.6
Tampa Bay	27	5.21	3.83	6.1 6.1 - 6.1	7.6 7.6 - 7.6	8.7 8.7 - 8.7	9.7 9.7 - 9.8	12.2 12.2 - 12.4
Tampa Bay	28	4.65	3.50	6.1 6.1 - 6.1	7.6 7.6 - 7.6	8.7 8.7 - 8.7	9.7 9.7 - 9.8	12.2 12.2 - 12.4

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Tampa Bay	29	3.85	3.17	6.1 6.1 - 6.1	7.6 7.1 - 7.6	8.7 8.4 - 8.7	9.7 9.3 - 9.8	12.2 11.1 - 12.3
Tampa Bay	30	3.50	3.17	6.1 6.1 - 6.1	7.5 7.5 - 7.5	8.6 8.6 - 8.6	9.7 9.7 - 9.7	12.1 12.1 - 12.2
Tampa Bay	31	3.44	3.09	6.1 6.1 - 6.1	7.5 7.5 - 7.5	8.6 8.5 - 8.6	9.6 9.6 - 9.6	12.0 12.0 - 12.1
Tampa Bay	32	3.43	3.11	6.1 6.1 - 6.1	7.5 7.5 - 7.5	8.6 8.6 - 8.6	9.6 9.5 - 9.6	12.0 11.9 - 12.0
Tampa Bay	33	3.45	3.13	6.1 6.1 - 6.1	7.5 7.5 - 7.5	8.6 8.5 - 8.6	9.6 9.6 - 9.6	12.0 12.0 - 12.0
Tampa Bay	34	3.43	3.18	6.1 5.7 - 6.1	7.5 7.1 - 7.5	8.5 8.2 - 8.5	9.6 9.1 - 9.6	11.9 11.5 - 12.6
Tampa Bay	35	3.21	3.70	6.1 6.0 - 6.1	7.5 7.4 - 7.5	8.5 8.4 - 8.5	9.6 9.5 - 9.6	11.9 11.8 - 11.9

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Tampa Bay	36	2.91	3.31	6.0 6.0 - 6.0	7.5 7.4 - 7.5	8.5 8.3 - 8.5	9.6 9.0 - 9.6	11.9 11.5 - 11.9
Tampa Bay	37	2.97	3.20	6.0 5.9 - 6.0	7.4 7.2 - 7.4	8.5 8.2 - 8.5	9.5 9.2 - 9.5	11.9 11.2 - 11.9
Tampa Bay	38	3.36	3.62	6.0 5.9 - 6.0	7.4 7.3 - 7.4	8.5 8.2 - 8.5	9.5 9.2 - 9.5	11.9 11.2 - 11.9
Tampa Bay	39	3.42	3.47	6.0 5.9 - 6.0	7.4 7.2 - 7.4	8.5 8.2 - 8.5	9.6 9.2 - 9.6	12.0 11.4 - 12.0
Tampa Bay	40	2.90	2.94	6.1 5.8 - 6.1	7.5 7.2 - 7.5	8.5 8.2 - 8.5	9.6 9.4 - 9.6	11.9 11.5 - 12.0
Tampa Bay	41	3.16	3.05	6.1 5.6 - 6.1	7.5 6.9 - 7.5	8.6 7.9 - 8.6	9.6 7.2 - 9.6	11.9 10.1 - 11.9
Tampa Bay	42	2.10	2.41	6.0 5.6 - 6.0	7.3 6.9 - 7.3	8.4 7.8 - 8.4	9.4 8.1 - 9.4	11.8 10.5 - 11.8

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Tampa Bay	43	2.63	2.81	5.9 5.6 - 6.0	7.3 6.9 - 7.3	8.4 7.8 - 8.4	9.4 8.1 - 9.4	11.8 10.4 - 11.8
Tampa Bay	44	2.33	2.63	5.9 5.6 - 5.9	7.3 6.9 - 7.3	8.4 7.8 - 8.4	9.4 8.7 - 9.4	11.7 10.9 - 11.7
Tampa Bay	45	2.25	2.62	5.9 5.6 - 5.9	7.3 6.8 - 7.3	8.4 7.7 - 8.4	9.4 7.7 - 9.4	11.7 10.3 - 11.7
Tampa Bay	46	2.31	2.54	5.9 5.6 - 5.9	7.3 6.9 - 7.3	8.3 7.8 - 8.3	9.4 8.0 - 9.4	11.7 10.4 - 11.7
Tampa Bay	47	3.14	2.97	5.8 5.7 - 5.8	7.2 6.9 - 7.2	8.2 7.9 - 8.2	9.3 8.8 - 9.3	11.6 10.9 - 11.6
Tampa Bay	48	2.08	2.15	5.8 5.7 - 5.8	7.2 7.0 - 7.2	8.2 7.8 - 8.2	9.3 8.3 - 9.3	11.6 10.7 - 11.7
Tampa Bay	49	4.38	3.11	5.8 5.5 - 5.8	7.1 6.7 - 7.2	8.2 7.7 - 8.2	9.2 8.1 - 9.4	11.6 10.5 - 11.7

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Tampa Bay	50	3.06	3.47	5.7 5.7 - 5.8	7.1 6.9 - 7.1	8.2 7.9 - 8.2	9.2 8.3 - 9.4	11.6 10.5 - 11.7
Tampa Bay	51	3.38	3.95	5.7 5.7 - 5.7	7.1 6.9 - 7.1	8.1 7.8 - 8.2	9.2 8.2 - 9.4	11.6 10.2 - 11.7
Tampa Bay	52	3.75	3.72	5.7 5.6 - 5.7	7.1 6.8 - 7.1	8.1 7.7 - 8.1	9.1 7.8 - 9.1	11.5 10.3 - 11.5
Tampa Bay	53	3.56	3.96	5.7 5.6 - 5.7	7.0 6.8 - 7.0	8.1 7.7 - 8.1	9.1 8.3 - 9.1	11.5 10.6 - 11.5
Tampa Bay	54	3.67	3.97	5.7 5.5 - 5.7	7.0 6.8 - 7.0	8.1 7.6 - 8.1	9.1 8.4 - 9.1	11.5 10.3 - 11.5
Tampa Bay	55	3.77	4.56	5.6 5.6 - 5.7	7.0 6.9 - 7.0	8.1 7.8 - 8.1	9.1 7.8 - 9.1	11.5 10.4 - 11.5
Tampa Bay	56	3.76	4.91	5.6 5.5 - 5.6	7.0 6.7 - 7.0	8.0 7.6 - 8.1	9.1 8.4 - 9.1	11.5 10.5 - 11.5

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Tampa Bay	57	2.10	2.19	5.6 5.4 - 5.6	6.9 6.7 - 6.9	8.0 7.6 - 8.0	9.0 7.5 - 9.0	11.4 10.2 - 11.4
Tampa Bay	58	4.82	5.98	5.5 5.5 - 5.6	6.9 6.7 - 7.0	7.9 7.6 - 8.0	8.9 8.6 - 9.0	11.4 10.8 - 11.5
Tampa Bay	59	4.20	4.82	5.6 5.5 - 5.6	6.9 6.7 - 6.9	7.9 7.6 - 7.9	8.9 8.5 - 8.9	11.3 10.7 - 11.3
Tampa Bay	60	3.88	5.08	5.5 5.5 - 5.6	6.9 6.7 - 6.9	7.9 7.6 - 7.9	8.9 7.9 - 8.9	11.2 10.2 - 11.2
Tampa Bay	61	3.74	5.56	5.5 5.5 - 5.5	6.8 6.8 - 6.9	7.8 7.8 - 7.9	8.8 8.7 - 8.8	11.2 10.9 - 11.2
Tampa Bay	62	4.48	5.87	5.4 5.4 - 5.5	6.8 6.8 - 6.8	7.8 7.7 - 7.8	8.8 8.5 - 8.8	11.1 10.4 - 11.1
Tampa Bay	63	5.01	5.22	5.4 5.4 - 5.5	6.7 6.7 - 6.8	7.7 7.7 - 7.8	8.7 8.7 - 8.8	11.0 10.9 - 11.1

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Tampa Bay	64	4.25	4.61	5.4 5.4 - 5.5	6.7 6.7 - 6.8	7.7 7.7 - 7.8	8.7 8.5 - 8.7	11.0 10.6 - 11.0
Tampa Bay	65	3.89	4.69	5.4 5.4 - 5.4	6.7 6.7 - 6.8	7.6 7.6 - 7.7	8.6 8.6 - 8.6	10.9 10.9 - 10.9
Tampa Bay	66	3.11	3.53	5.4 5.3 - 5.4	6.6 6.6 - 6.6	7.6 7.6 - 7.6	8.5 8.5 - 8.5	10.8 10.8 - 10.8
Tampa Bay	67	3.49	2.92	5.3 5.1 - 5.3	6.6 6.2 - 6.6	7.6 7.4 - 7.6	8.5 8.5 - 8.6	10.8 10.7 - 11.1
Tampa Bay	68	3.91	3.70	5.3 5.2 - 5.3	6.6 6.4 - 6.6	7.5 7.5 - 7.5	8.5 8.4 - 8.5	10.8 10.6 - 10.8
Tampa Bay	69	3.18	2.95	5.3 5.2 - 5.3	6.5 6.4 - 6.5	7.5 7.3 - 7.5	8.4 8.1 - 8.4	10.7 10.1 - 10.7
Tampa Bay	70	2.60	2.98	5.3 5.2 - 5.3	6.5 6.4 - 6.5	7.4 7.2 - 7.4	8.4 7.9 - 8.4	10.6 9.8 - 10.6

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Tampa Bay	71	3.92	3.43	5.2 5.2 - 5.2	6.4 6.4 - 6.5	7.4 7.2 - 7.4	8.3 7.8 - 8.4	10.6 8.7 - 10.6
Tampa Bay	72	3.32	4.55	5.2 5.2 - 5.3	6.4 6.4 - 6.4	7.3 7.2 - 7.4	8.3 7.8 - 8.3	10.5 9.0 - 10.6
Tampa Bay	73	3.46	4.60	5.2 5.2 - 5.2	6.4 6.4 - 6.4	7.3 7.2 - 7.4	8.3 7.8 - 8.4	10.5 9.0 - 10.6
Tampa Bay	74	3.72	4.57	5.1 5.1 - 5.2	6.3 6.3 - 6.4	7.3 7.2 - 7.3	8.2 7.8 - 8.2	10.4 9.0 - 10.4
Tampa Bay	75	3.87	4.09	5.1 5.1 - 5.3	6.3 6.3 - 6.4	7.2 7.2 - 7.3	8.1 7.8 - 8.2	10.3 9.0 - 10.4
Tampa Bay	76	4.05	4.22	5.1 5.1 - 5.1	6.2 6.2 - 6.3	7.1 7.1 - 7.2	8.0 8.0 - 8.0	10.1 10.1 - 10.2
Tampa Bay	77	3.58	4.29	5.1 5.1 - 5.1	6.2 6.2 - 6.2	7.1 7.1 - 7.1	8.0 7.9 - 8.0	10.1 10.0 - 10.1

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Tampa Bay	78	5.23	4.03	5.0 5.0 - 5.0	6.2 6.2 - 6.3	7.0 7.0 - 7.2	7.9 7.9 - 8.1	10.0 10.0 - 10.2
Tampa Bay	79	5.16	4.21	5.0 5.0 - 5.1	6.2 6.2 - 6.3	7.0 7.0 - 7.2	7.8 7.8 - 8.1	10.0 10.0 - 10.3
Tampa Bay	80	4.96	4.30	5.0 5.0 - 5.1	6.2 6.2 - 6.3	7.1 7.1 - 7.2	8.0 8.0 - 8.1	10.3 10.3 - 10.4
Tampa Bay	81	5.38	4.51	5.0 5.0 - 5.0	6.2 6.2 - 6.2	7.1 7.1 - 7.1	8.0 8.0 - 8.0	10.2 10.2 - 10.2
Tampa Bay	82	6.89	4.34	5.0 5.0 - 5.0	6.2 6.2 - 6.2	7.1 7.1 - 7.2	7.9 7.9 - 8.1	10.1 10.1 - 10.4
Tampa Bay	83	6.40	3.94	5.1 5.1 - 5.3	6.5 6.5 - 6.7	7.6 7.6 - 7.9	8.8 8.8 - 9.3	11.7 11.7 - 12.9
Boca Ciega Bay	84	5.80	3.78	5.2 5.2 - 5.2	6.5 6.5 - 6.6	7.7 7.7 - 7.9	9.0 9.0 - 9.5	12.6 12.6 - 13.4

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Boca Ciega Bay	85	6.29	4.25	5.2 5.2 - 5.2	6.6 6.6 - 6.6	7.8 7.8 - 8.0	9.2 9.2 - 9.5	12.9 12.9 - 13.6
Boca Ciega Bay	86	6.62	4.32	5.2 5.2 - 5.2	6.6 6.6 - 6.6	7.9 7.9 - 8.0	9.3 9.3 - 9.5	13.0 13.0 - 13.7
Boca Ciega Bay	87	6.64	4.43	5.3 5.3 - 5.3	6.7 6.7 - 6.8	8.0 8.0 - 8.2	9.4 9.4 - 9.7	13.1 13.1 - 13.6
Boca Ciega Bay	88	6.68	4.47	5.3 5.3 - 5.3	6.7 6.7 - 6.7	7.9 7.9 - 8.0	9.3 9.3 - 9.5	12.9 12.9 - 13.1
Boca Ciega Bay	89	6.65	4.47	5.2 5.2 - 5.4	6.6 6.6 - 6.8	7.8 7.8 - 8.2	9.2 9.2 - 9.7	12.6 12.6 - 13.5
Boca Ciega Bay	90	6.56	4.55	5.2 5.2 - 5.3	6.6 6.6 - 6.7	7.7 7.7 - 8.0	9.1 9.1 - 9.5	12.5 12.5 - 13.1
Boca Ciega Bay	91	6.47	4.30	5.2 5.2 - 5.3	6.6 6.6 - 6.7	7.8 7.8 - 8.0	9.1 9.1 - 9.4	12.5 12.5 - 13.1

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Boca Ciega Bay	92	5.81	3.98	5.3 5.3 - 5.3	6.7 6.7 - 6.7	7.9 7.9 - 8.0	9.2 9.2 - 9.4	12.7 12.7 - 13.2
Boca Ciega Bay	93	6.18	4.14	5.3 5.3 - 5.3	6.6 6.6 - 6.7	7.8 7.8 - 8.1	9.2 9.2 - 9.6	12.5 12.5 - 13.4
Boca Ciega Bay	94	6.22	3.94	5.2 5.2 - 5.3	6.6 6.6 - 6.6	7.7 7.7 - 7.8	9.0 9.0 - 9.2	12.3 12.3 - 12.9
Boca Ciega Bay	95	5.51	3.54	5.2 5.2 - 5.2	6.6 6.5 - 6.6	7.7 7.7 - 7.7	9.0 9.0 - 9.1	12.3 12.3 - 12.9
Boca Ciega Bay	96	4.98	3.34	5.2 5.1 - 5.2	6.5 6.4 - 6.5	7.6 7.5 - 7.6	8.9 8.7 - 8.9	12.1 12.0 - 12.6
Boca Ciega Bay	97	6.08	3.78	5.2 5.2 - 5.2	6.5 6.4 - 6.5	7.6 7.6 - 7.6	8.8 8.8 - 8.9	12.0 12.0 - 12.2
Boca Ciega Bay	98	3.80	2.74	5.1 5.1 - 5.1	6.4 6.3 - 6.4	7.4 7.4 - 7.5	8.7 8.6 - 8.7	11.9 11.8 - 12.5

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Boca Ciega Bay	99	5.34	3.76	5.1 5.1 - 5.1	6.4 6.3 - 6.4	7.5 7.4 - 7.5	8.8 8.5 - 8.8	12.2 11.5 - 12.2
Boca Ciega Bay	100	5.28	3.80	5.1 5.1 - 5.1	6.4 6.4 - 6.4	7.6 7.5 - 7.6	9.0 8.8 - 9.0	12.5 11.8 - 12.5
Tampa Bay	101	5.32	4.14	5.1 5.1 - 5.1	6.3 6.3 - 6.4	7.4 7.4 - 7.6	8.5 8.5 - 8.8	11.3 11.3 - 11.9
Tampa Bay	102	5.77	3.80	5.1 5.1 - 5.1	6.4 6.4 - 6.4	7.4 7.4 - 7.5	8.6 8.6 - 8.8	11.4 11.4 - 12.1
Tampa Bay	103	5.92	3.78	5.0 5.0 - 5.1	6.2 6.2 - 6.3	7.1 7.1 - 7.4	8.2 8.2 - 8.6	10.9 10.9 - 11.8
Tampa Bay	104	6.76	4.01	5.0 5.0 - 5.0	6.2 6.1 - 6.2	7.2 7.1 - 7.2	8.3 8.3 - 8.4	11.3 11.3 - 11.4
Tampa Bay	105	3.64	3.35	4.9 4.9 - 5.0	6.1 6.1 - 6.2	7.0 7.0 - 7.2	8.0 8.0 - 8.3	10.5 10.5 - 11.6

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Tampa Bay	106	3.38	2.84	4.8 4.8 - 4.9	5.9 5.9 - 6.2	6.8 6.8 - 7.3	7.7 7.7 - 8.6	10.1 10.1 - 12.1
Tampa Bay	107	7.27	6.11	4.7 4.5 - 4.8	5.7 5.6 - 5.9	6.5 6.3 - 6.8	7.4 7.2 - 7.8	9.6 9.4 - 10.6
Gulf of Mexico	108	9.43	5.62	4.5 4.5 - 4.7	5.5 5.5 - 5.8	6.3 6.2 - 6.7	7.0 7.0 - 7.7	9.0 9.0 - 10.3
Gulf of Mexico	109	7.18	5.04	4.8 4.6 - 5.0	5.9 5.6 - 6.2	6.9 6.4 - 7.2	8.0 7.3 - 8.3	11.1 9.5 - 11.3
Gulf of Mexico	110	6.63	4.80	5.0 4.8 - 5.0	6.1 5.9 - 6.2	7.2 6.8 - 7.2	8.4 7.6 - 8.5	11.9 10.1 - 11.9
Gulf of Mexico	111	6.53	3.82	4.9 4.9 - 4.9	6.1 6.0 - 6.2	7.2 6.9 - 7.2	8.5 7.8 - 8.6	12.1 10.3 - 12.4
Gulf of Mexico	112	7.36	5.20	5.0 4.9 - 5.0	6.3 6.1 - 6.3	7.4 7.0 - 7.4	8.7 8.1 - 8.7	12.6 10.7 - 12.6

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H_s (ft)	Peak Wave Period T_p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Gulf of Mexico	113	7.73	5.48	5.1 5.0 - 5.1	6.3 6.1 - 6.3	7.4 7.2 - 7.4	8.8 8.3 - 8.8	12.7 11.2 - 12.7
Gulf of Mexico	114	10.24	5.82	5.1 5.0 - 5.2	6.4 6.2 - 6.6	7.5 7.2 - 7.8	8.9 8.3 - 9.1	12.7 11.0 - 12.7
Gulf of Mexico	115	8.98	5.96	5.1 5.0 - 5.1	6.4 6.3 - 6.4	7.5 7.3 - 7.5	8.9 8.5 - 8.9	12.8 11.6 - 12.8
Gulf of Mexico	116	9.57	5.93	5.1 5.1 - 5.2	6.5 6.4 - 6.5	7.6 7.4 - 7.6	9.0 8.7 - 9.0	13.0 11.9 - 13.0
Gulf of Mexico	117	9.84	5.99	5.2 5.1 - 5.2	6.5 6.4 - 6.5	7.7 7.4 - 7.8	9.2 8.6 - 9.3	13.2 11.9 - 13.4
Gulf of Mexico	118	9.40	5.85	5.2 5.1 - 5.3	6.5 6.4 - 6.7	7.7 7.5 - 7.8	9.2 8.7 - 9.4	13.3 12.0 - 13.6
Gulf of Mexico	119	8.63	6.00	5.1 5.1 - 5.2	6.4 6.4 - 6.6	7.6 7.6 - 7.9	9.1 8.8 - 9.3	13.1 12.1 - 13.3

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Gulf of Mexico	120	8.42	6.16	5.2 5.1 - 5.3	6.5 6.4 - 6.7	7.7 7.5 - 8.0	9.1 9.0 - 9.6	13.1 12.4 - 13.4
Gulf of Mexico	121	9.04	6.02	5.2 5.2 - 5.3	6.5 6.5 - 6.8	7.7 7.6 - 8.1	9.1 9.0 - 9.6	13 12.5 - 13.4
Gulf of Mexico	122	9.55	5.79	5.2 5.2 - 5.3	6.6 6.5 - 6.7	7.8 7.6 - 8	9.2 9.0 - 9.6	13.2 12.8 - 13.8
Gulf of Mexico	123	9.38	5.62	5.3 5.2 - 5.3	6.6 6.5 - 6.7	7.8 7.7 - 8	9.2 9.1 - 9.5	13.1 12.9 - 13.8
Gulf of Mexico	124	12.12	5.90	5.3 5.2 - 5.5	6.6 6.5 - 7	7.8 7.7 - 8.3	9.4 9.2 - 9.8	13.2 13.0 - 14.3
Gulf of Mexico	125	8.42	5.43	5.3 5.2 - 5.3	6.6 6.6 - 6.7	7.8 7.7 - 8.0	9.3 9.2 - 9.6	13.2 13.1 - 13.5
Gulf of Mexico	126	7.44	5.78	5.2 5.2 - 5.3	6.6 6.6 - 6.7	7.8 7.8 - 8.0	9.2 9.2 - 9.5	13.1 13.0 - 13.4

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Boca Ciega Bay	127	5.11	3.58	5.3 5.2 - 5.4	6.6 6.6 - 6.7	7.9 7.7 - 8.0	9.4 9.2 - 9.6	13.5 13.1 - 13.5
Boca Ciega Bay	128	4.99	3.32	5.3 5.2 - 5.3	6.6 6.5 - 6.6	7.8 7.7 - 7.8	9.3 9.0 - 9.3	13.3 12.7 - 13.3
Boca Ciega Bay	129	6.53	4.13	5.3 5.3 - 5.4	6.8 6.8 - 6.8	8.0 8.0 - 8.1	9.6 9.6 - 9.7	13.8 13.8 - 14.0
Boca Ciega Bay	130	6.73	4.27	5.4 5.4 - 5.4	6.8 6.8 - 6.9	8.1 8.1 - 8.2	9.7 9.7 - 9.9	13.9 13.9 - 14.3
Long Bayou	131	6.52	4.30	5.4 5.4 - 5.5	6.9 6.9 - 7.0	8.2 8.2 - 8.3	9.9 9.9 - 10.0	14.1 14.1 - 14.3
Long Bayou	132	6.61	4.28	5.5 5.5 - 5.5	6.9 6.9 - 7.1	8.3 8.3 - 8.5	9.9 9.9 - 10.2	14.1 13.7 - 14.3
Long Bayou	133	4.44	4.25	5.5 5.5 - 5.6	7.0 7.0 - 7.2	8.4 8.3 - 8.6	9.9 9.9 - 10.3	13.7 13.6 - 14.0

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Long Bayou	134	3.42	2.99	5.6 5.6 - 5.6	7.1 7.1 - 7.2	8.5 8.2 - 8.5	10.0 10.0 - 10.1	13.6 13.6 - 13.9
Lake Seminole	135	2.90	2.68	6.2 5.9 - 6.2	7.2 7.1 - 7.2	7.9 7.9 - 8.3	8.6 8.6 - 9.6	10.8 10.8 - 12.9
Lake Seminole	136	3.07	2.81	6.2 5.9 - 6.2	7.2 7.1 - 7.2	7.9 7.9 - 8.2	8.6 8.6 - 9.3	10.9 10.9 - 12.6
Lake Seminole	137	3.05	2.87	6.2 6.0 - 6.2	7.2 7.1 - 7.2	7.9 7.9 - 8.1	8.7 8.7 - 9.1	11.1 11.1 - 11.9
Lake Seminole	138	2.79	2.76	6.2 6.0 - 6.2	7.2 7.2 - 7.2	8.0 8.0 - 8.2	8.8 8.8 - 9.1	11.2 11.2 - 11.8
Long Bayou	139	5.99	4.28	5.5 5.5 - 5.5	6.9 6.9 - 7.0	8.2 8.2 - 8.3	9.8 9.8 - 9.9	13.8 13.7 - 13.9
Boca Ciega Bay	140	6.41	4.14	5.4 5.4 - 5.4	6.8 6.8 - 6.9	8.0 8.0 - 8.2	9.6 9.6 - 9.9	13.6 13.6 - 14.0

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Boca Ciega Bay	141	6.20	3.82	5.4 5.4 - 5.4	6.8 6.8 - 6.9	8.1 8.1 - 8.2	9.6 9.5 - 9.8	13.7 13.5 - 14.0
Boca Ciega Bay	142	6.33	3.81	5.4 5.4 - 5.5	6.8 6.8 - 7.0	8.1 8.1 - 8.3	9.6 9.6 - 9.9	13.6 13.6 - 14.0
Boca Ciega Bay	143	6.20	3.80	5.4 5.4 - 5.4	6.8 6.8 - 6.9	8.1 8.1 - 8.1	9.6 9.6 - 9.7	13.5 13.5 - 13.8
Boca Ciega Bay	144	5.33	3.41	5.3 5.3 - 5.4	6.7 6.7 - 6.7	7.9 7.9 - 8.0	9.4 9.4 - 9.7	13.5 13.5 - 14.0
Boca Ciega Bay	145	5.98	3.76	5.4 5.4 - 5.4	6.7 6.7 - 6.8	7.9 7.9 - 8.0	9.4 9.4 - 9.7	13.5 13.5 - 14.1
Boca Ciega Bay	146	5.42	3.72	5.4 5.4 - 5.4	6.7 6.7 - 6.8	8.0 8.0 - 8.1	9.5 9.5 - 9.8	13.5 13.5 - 14.1
Boca Ciega Bay	147	6.07	3.85	5.4 5.4 - 5.5	6.8 6.8 - 6.9	8.0 8.0 - 8.1	9.5 9.5 - 9.7	13.6 13.6 - 14.0

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Boca Ciega Bay	148	5.95	3.80	5.4 5.4 - 5.5	6.8 6.8 - 6.8	8.0 8.0 - 8.0	9.5 9.5 - 9.6	13.5 13.5 - 13.7
Boca Ciega Bay	149	5.78	3.66	5.5 5.5 - 5.5	6.8 6.8 - 6.9	8.0 8.0 - 8.1	9.4 9.4 - 9.6	13.3 13.3 - 13.8
Boca Ciega Bay	150	4.91	3.40	5.5 5.5 - 5.5	6.8 6.8 - 6.9	8.0 7.9 - 8.1	9.4 9.4 - 9.5	13.3 13.3 - 13.6
Boca Ciega Bay	151	4.66	3.28	5.4 5.4 - 5.4	6.7 6.5 - 6.8	7.9 7.7 - 8.0	9.4 9.1 - 9.4	13.3 12.8 - 13.3
Boca Ciega Bay	152	4.75	3.25	5.3 5.2 - 5.3	6.6 6.5 - 6.6	7.8 7.6 - 7.8	9.3 9.1 - 9.3	13.2 13.1 - 13.3
Boca Ciega Bay	153	6.13	3.94	5.4 5.3 - 5.4	6.7 6.7 - 6.7	8.0 7.8 - 8.0	9.5 9.3 - 9.5	13.4 13.2 - 13.4
Gulf of Mexico	154	8.15	5.47	5.3 5.1 - 5.3	6.6 6.4 - 6.7	7.8 7.7 - 7.9	9.3 9.1 - 9.4	13.3 13.0 - 13.3

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H_s (ft)	Peak Wave Period T_p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Gulf of Mexico	155	9.00	5.78	5.3 5.3 - 5.4	6.6 6.6 - 6.7	7.8 7.8 - 8.0	9.3 9.2 - 9.5	13.2 13.1 - 13.4
Gulf of Mexico	156	9.50	6.02	5.3 5.3 - 5.4	6.7 6.6 - 6.7	7.9 7.7 - 8.0	9.3 9.2 - 9.5	13.2 13.1 - 13.5
Gulf of Mexico	157	9.65	6.17	5.3 5.3 - 5.3	6.6 6.6 - 6.7	7.8 7.7 - 7.9	9.2 9.2 - 9.4	13.2 13.2 - 13.4
Gulf of Mexico	158	9.52	6.21	5.3 5.3 - 5.3	6.6 6.5 - 6.6	7.8 7.7 - 7.8	9.2 9.2 - 9.3	13.0 13.0 - 13.3
Gulf of Mexico	159	9.45	6.11	5.3 5.2 - 5.4	6.6 6.5 - 6.7	7.8 7.6 - 7.9	9.2 9.1 - 9.4	13.0 13.0 - 13.4
Gulf of Mexico	160	9.12	6.18	5.2 5.2 - 5.3	6.5 6.5 - 6.7	7.6 7.6 - 7.8	9.1 9.1 - 9.3	12.9 12.9 - 13.2
Gulf of Mexico	161	9.01	6.18	5.2 5.2 - 5.4	6.5 6.5 - 6.7	7.6 7.6 - 7.9	9.0 9.0 - 9.4	12.7 12.7 - 13.3

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Gulf of Mexico	162	9.42	6.06	5.2 5.2 - 5.5	6.4 6.4 - 6.8	7.5 7.5 - 8.0	8.9 8.9 - 9.4	12.5 12.5 - 13.3
Gulf of Mexico	163	9.57	5.87	5.2 5.2 - 5.4	6.4 6.4 - 6.8	7.5 7.5 - 7.9	8.8 8.8 - 9.4	12.3 12.3 - 13.2
Gulf of Mexico	164	9.72	5.87	5.2 5.2 - 5.4	6.4 6.4 - 6.8	7.5 7.4 - 8.0	8.7 8.7 - 9.5	12.2 12.2 - 13.6
Gulf of Mexico	165	9.47	5.92	5.1 5.1 - 5.2	6.3 6.3 - 6.4	7.4 7.3 - 7.4	8.7 8.6 - 8.8	12.2 12.2 - 12.7
Gulf of Mexico	166	9.29	6.44	5.1 5.1 - 5.2	6.3 6.2 - 6.4	7.3 7.2 - 7.4	8.6 8.5 - 8.7	12.0 12.0 - 12.5
Gulf of Mexico	167	9.26	6.55	5.1 5.1 - 5.2	6.3 6.2 - 6.4	7.3 7.2 - 7.4	8.6 8.5 - 8.7	11.9 11.9 - 12.7
Gulf of Mexico	168	9.18	6.69	5.1 5.1 - 5.1	6.3 6.1 - 6.3	7.3 7.1 - 7.3	8.5 8.3 - 8.5	11.8 11.8 - 12.6

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Gulf of Mexico	169	9.18	6.75	5.1 5.0 - 5.1	6.2 6.0 - 6.3	7.2 6.9 - 7.3	8.4 8.0 - 8.5	11.5 11.3 - 11.7
Gulf of Mexico	170	9.90	6.59	5.0 5.0 - 5.1	6.2 6.0 - 6.2	7.2 6.8 - 7.3	8.4 7.8 - 8.4	11.5 10.9 - 11.5
Gulf of Mexico	171	10.06	6.68	4.9 4.9 - 5.0	6.0 5.9 - 6.0	7.0 6.7 - 7.0	8.1 7.7 - 8.1	11.3 10.8 - 11.3
Gulf of Mexico	172	10.43	6.48	4.9 4.9 - 5.0	6.0 5.9 - 6.0	7.0 6.7 - 7.0	8.2 7.7 - 8.2	11.3 10.8 - 11.3
Gulf of Mexico	173	10.64	5.91	5.0 4.9 - 5.0	6.1 5.9 - 6.1	7.0 6.7 - 7.0	8.2 7.7 - 8.2	11.4 10.9 - 11.4
Gulf of Mexico	174	10.81	5.95	4.9 4.9 - 5.0	6.1 5.9 - 6.1	7.0 6.7 - 7.0	8.2 7.8 - 8.2	11.4 11.0 - 11.4
Gulf of Mexico	175	10.63	6.03	4.9 4.9 - 4.9	6.0 5.9 - 6.0	6.9 6.7 - 6.9	8.1 7.7 - 8.1	11.3 11.0 - 11.3

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Gulf of Mexico	176	10.73	6.04	5.0 4.9 - 5.0	6.1 5.9 - 6.1	7.0 6.8 - 7.0	8.2 7.8 - 8.2	11.4 11.1 - 11.6
Gulf of Mexico	177	10.75	6.07	5.0 4.9 - 5.0	6.1 5.9 - 6.1	7.1 6.8 - 7.1	8.3 7.8 - 8.3	11.4 11.1 - 11.5
Gulf of Mexico	178	10.67	6.04	5.0 4.9 - 5.0	6.1 6.0 - 6.1	7.1 6.8 - 7.1	8.3 7.8 - 8.3	11.4 11.2 - 11.4
Gulf of Mexico	179	10.32	6.10	5.0 5.0 - 5.0	6.1 6.0 - 6.2	7.1 6.9 - 7.1	8.3 7.9 - 8.3	11.5 11.3 - 11.6
Gulf of Mexico	180	9.44	6.09	5.1 5.0 - 5.1	6.2 6.1 - 6.3	7.3 6.9 - 7.4	8.6 8.1 - 8.7	11.8 11.5 - 12.0
Gulf of Mexico	181	8.92	6.13	5.1 5.0 - 5.1	6.3 6.1 - 6.6	7.3 7.0 - 7.8	8.6 8.1 - 9.0	11.9 11.6 - 12.1
Gulf of Mexico	182	7.60	5.78	5.1 5.1 - 5.2	6.3 6.2 - 6.5	7.4 7.1 - 7.5	8.7 8.2 - 8.8	12.0 11.7 - 12.0

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Gulf of Mexico	183	9.87	6.16	5.1 5.1 - 5.2	6.3 6.2 - 6.3	7.3 7.0 - 7.3	8.6 8.3 - 8.6	11.9 11.8 - 12.1
Gulf of Mexico	184	8.76	5.81	5.2 5.2 - 5.4	6.4 6.2 - 6.7	7.4 7.1 - 7.9	8.8 8.4 - 9.2	12.1 11.8 - 12.4
Gulf of Mexico	185	8.52	5.78	5.3 5.1 - 5.3	6.5 6.2 - 6.5	7.5 7.1 - 7.5	8.8 8.4 - 8.8	12.1 12.0 - 12.2
Gulf of Mexico	186	7.85	5.80	5.2 5.2 - 5.2	6.4 6.2 - 6.4	7.4 7.2 - 7.5	8.7 8.4 - 8.9	12.2 11.9 - 12.5
Gulf of Mexico	187	7.74	5.79	5.2 5.2 - 5.3	6.4 6.4 - 6.4	7.5 7.3 - 7.5	8.7 8.5 - 8.7	12.1 12.1 - 12.4
Gulf of Mexico	188	8.08	5.59	5.2 5.2 - 5.4	6.4 6.4 - 6.6	7.5 7.5 - 7.8	8.8 8.7 - 9.1	12.2 12.2 - 12.5
Gulf of Mexico	189	7.66	5.71	5.4 5.3 - 5.4	6.6 6.5 - 6.6	7.7 7.5 - 7.7	8.9 8.8 - 8.9	12.4 12.4 - 12.4

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Gulf of Mexico	190	6.62	5.60	5.4 5.3 - 5.4	6.7 6.5 - 6.7	7.8 7.5 - 7.8	9.1 8.8 - 9.1	12.8 12.6 - 12.8
Gulf of Mexico	191	7.46	6.77	5.3 5.3 - 5.3	6.5 6.4 - 6.5	7.5 7.4 - 7.5	8.8 8.7 - 8.8	12.3 12.3 - 12.6
St. Joseph Sound	192	4.76	3.85	5.3 5.3 - 5.4	6.5 6.5 - 6.6	7.5 7.5 - 7.7	8.8 8.7 - 8.9	12.7 12.5 - 12.7
St. Joseph Sound	193	4.13	3.07	5.2 5.1 - 5.2	6.4 6.2 - 6.4	7.3 7.1 - 7.3	8.5 8.4 - 8.5	12.1 12.0 - 12.1
Clearwater Harbor	194	4.28	3.15	5.2 5.2 - 5.2	6.3 6.3 - 6.4	7.3 7.1 - 7.3	8.5 8.4 - 8.6	12.2 11.9 - 12.2
Clearwater Harbor	195	4.68	3.56	5.2 5.1 - 5.2	6.3 6.2 - 6.3	7.3 7.1 - 7.3	8.5 8.3 - 8.5	12.2 11.8 - 12.2
Clearwater Harbor	196	5.07	3.52	5.1 5.1 - 5.1	6.3 6.2 - 6.3	7.2 7.2 - 7.2	8.4 8.3 - 8.4	12.0 12.0 - 12.1

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Clearwater Harbor	197	5.36	3.85	5.1 5.1 - 5.1	6.2 6.2 - 6.2	7.1 7.0 - 7.2	8.2 8.1 - 8.3	11.7 11.7 - 11.8
Clearwater Harbor	198	3.71	2.81	5.0 5.0 - 5.0	6.0 6.0 - 6.0	6.8 6.8 - 6.9	7.9 7.9 - 8.1	11.3 11.3 - 11.4
Clearwater Harbor	199	4.35	3.28	4.9 4.9 - 5.0	6.0 6.0 - 6.0	6.8 6.8 - 6.9	7.9 7.8 - 8.1	11.2 11.1 - 11.5
Clearwater Harbor	200	3.74	2.90	4.9 4.9 - 4.9	5.9 5.9 - 5.9	6.8 6.7 - 6.8	7.8 7.7 - 7.8	11.1 11.0 - 11.1
Clearwater Harbor	201	4.87	3.46	4.9 4.9 - 5.0	6.0 6.0 - 6.0	6.8 6.8 - 7.0	7.9 7.9 - 8.1	11.2 11.2 - 11.4
Clearwater Harbor	202	4.86	3.60	5.0 5.0 - 5.0	6.0 6.0 - 6.0	6.9 6.9 - 6.9	7.9 7.9 - 7.9	11.4 11.4 - 11.4
Clearwater Harbor	203	5.43	3.83	5.0 5.0 - 5.0	6.0 6.0 - 6.1	6.9 6.9 - 7.0	8.0 8.0 - 8.1	11.4 11.4 - 11.5

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Clearwater Harbor	204	5.55	4.03	5.0 5.0 - 5.0	6.1 6.1 - 6.1	7.0 7.0 - 7.0	8.0 8.0 - 8.0	11.5 11.5 - 11.5
Clearwater Harbor	205	5.57	4.08	5.0 5.0 - 5.1	6.1 6.1 - 6.1	7.0 7.0 - 7.1	8.1 8.1 - 8.2	11.6 11.6 - 11.7
Clearwater Harbor	206	5.75	4.14	5.1 5.1 - 5.1	6.1 6.1 - 6.2	7.1 7.0 - 7.1	8.2 8.2 - 8.2	11.8 11.8 - 11.9
Clearwater Harbor	207	5.98	4.31	5.1 5.1 - 5.1	6.2 6.2 - 6.2	7.1 7.1 - 7.1	8.3 8.3 - 8.3	11.9 11.9 - 11.9
Clearwater Harbor	208	6.23	4.33	5.1 5.1 - 5.1	6.2 6.2 - 6.2	7.2 7.2 - 7.2	8.3 8.3 - 8.3	12.0 12.0 - 12.0
Clearwater Harbor	209	5.90	4.07	5.1 5.1 - 5.1	6.2 6.2 - 6.2	7.2 7.2 - 7.2	8.4 8.4 - 8.4	12.1 12.1 - 12.2
Clearwater Harbor	210	5.78	3.82	5.1 5.1 - 5.2	6.3 6.3 - 6.3	7.2 7.2 - 7.4	8.4 8.4 - 8.5	12.2 12.2 - 12.3

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Clearwater Harbor	211	5.68	3.93	5.2 5.2 - 5.2	6.3 6.3 - 6.3	7.3 7.3 - 7.3	8.6 8.6 - 8.6	12.4 12.4 - 12.4
Clearwater Harbor	212	5.84	4.03	5.2 5.2 - 5.2	6.4 6.4 - 6.4	7.4 7.3 - 7.4	8.6 8.6 - 8.6	12.4 12.4 - 12.5
Clearwater Harbor	213	5.92	4.06	5.2 5.2 - 5.3	6.4 6.4 - 6.4	7.4 7.4 - 7.5	8.7 8.7 - 8.8	12.5 12.5 - 12.7
Clearwater Harbor	214	5.98	4.14	5.3 5.3 - 5.3	6.5 6.5 - 6.5	7.5 7.4 - 7.6	8.8 8.8 - 8.9	12.6 12.6 - 12.8
Clearwater Harbor	215	6.21	4.27	5.3 5.3 - 5.3	6.5 6.5 - 6.5	7.5 7.5 - 7.5	8.8 8.8 - 8.8	12.7 12.7 - 12.8
Clearwater Harbor	216	6.29	4.30	5.4 5.4 - 5.4	6.6 6.6 - 6.6	7.6 7.6 - 7.7	8.9 8.9 - 9.1	12.8 12.8 - 13.2
St. Joseph Sound	217	6.20	4.34	5.4 5.4 - 5.4	6.6 6.6 - 6.6	7.6 7.6 - 7.6	9.0 8.9 - 9.0	12.8 12.8 - 13.0

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H_s (ft)	Peak Wave Period T_p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
St. Joseph Sound	218	6.28	4.39	5.4 5.4 - 5.4	6.6 6.6 - 6.7	7.7 7.7 - 7.8	9.0 9.0 - 9.2	12.9 12.9 - 13.2
St. Joseph Sound	219	6.35	4.40	5.4 5.4 - 5.4	6.6 6.6 - 6.7	7.7 7.7 - 7.8	9.0 9.0 - 9.1	12.9 12.9 - 13.1
St. Joseph Sound	220	5.75	4.19	5.4 5.4 - 5.4	6.6 6.6 - 6.7	7.7 7.6 - 7.8	9.1 8.8 - 9.1	13.0 13.0 - 13.1
St. Joseph Sound	221	6.27	4.31	5.4 5.4 - 5.5	6.7 6.6 - 6.8	7.8 7.7 - 8.0	9.2 9.2 - 9.4	13.1 13.1 - 13.4
St. Joseph Sound	222	6.20	4.35	5.4 5.4 - 5.4	6.7 6.6 - 6.7	7.8 7.8 - 7.9	9.2 9.2 - 9.4	13.1 13.1 - 13.5
St. Joseph Sound	223	4.52	3.62	5.4 5.4 - 5.4	6.7 6.7 - 6.7	7.8 7.8 - 7.9	9.2 9.0 - 9.4	13.3 13.0 - 13.5
St. Joseph Sound	224	4.46	3.75	5.4 5.4 - 5.4	6.7 6.7 - 6.8	7.9 7.8 - 7.9	9.4 9.1 - 9.5	13.5 13.2 - 13.6

Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
St. Joseph Sound	225	4.87	3.97	5.4 5.4 - 5.4	6.7 6.7 - 6.8	7.8 7.8 - 8.0	9.3 9.1 - 9.5	13.4 13.2 - 13.7
St. Joseph Sound	226	4.87	3.86	5.4 5.4 - 5.5	6.7 6.7 - 6.8	7.9 7.9 - 8.1	9.5 9.5 - 9.6	13.7 13.7 - 14.0
St. Joseph Sound	227	4.71	3.90	5.5 5.5 - 5.5	6.8 6.8 - 6.9	8.0 8.0 - 8.1	9.5 9.5 - 9.7	13.8 13.8 - 14.2
St. Joseph Sound	228	5.07	4.09	5.4 5.4 - 5.5	6.7 6.7 - 6.9	7.9 7.9 - 8.1	9.4 9.4 - 9.7	13.6 13.6 - 14.1
St. Joseph Sound	229	5.02	4.10	5.5 5.5 - 5.6	6.8 6.8 - 7.0	8.0 8.0 - 8.2	9.5 9.5 - 9.8	13.7 13.7 - 14.3
St. Joseph Sound	230	5.00	4.04	5.5 5.5 - 5.5	6.8 6.7 - 6.8	8.0 7.9 - 8.0	9.5 9.4 - 9.6	13.7 13.7 - 14.3
St. Joseph Sound	231	4.85	4.01	5.6 5.5 - 5.6	6.9 6.9 - 7.0	8.1 8.1 - 8.2	9.7 9.7 - 9.8	13.9 13.9 - 14.1

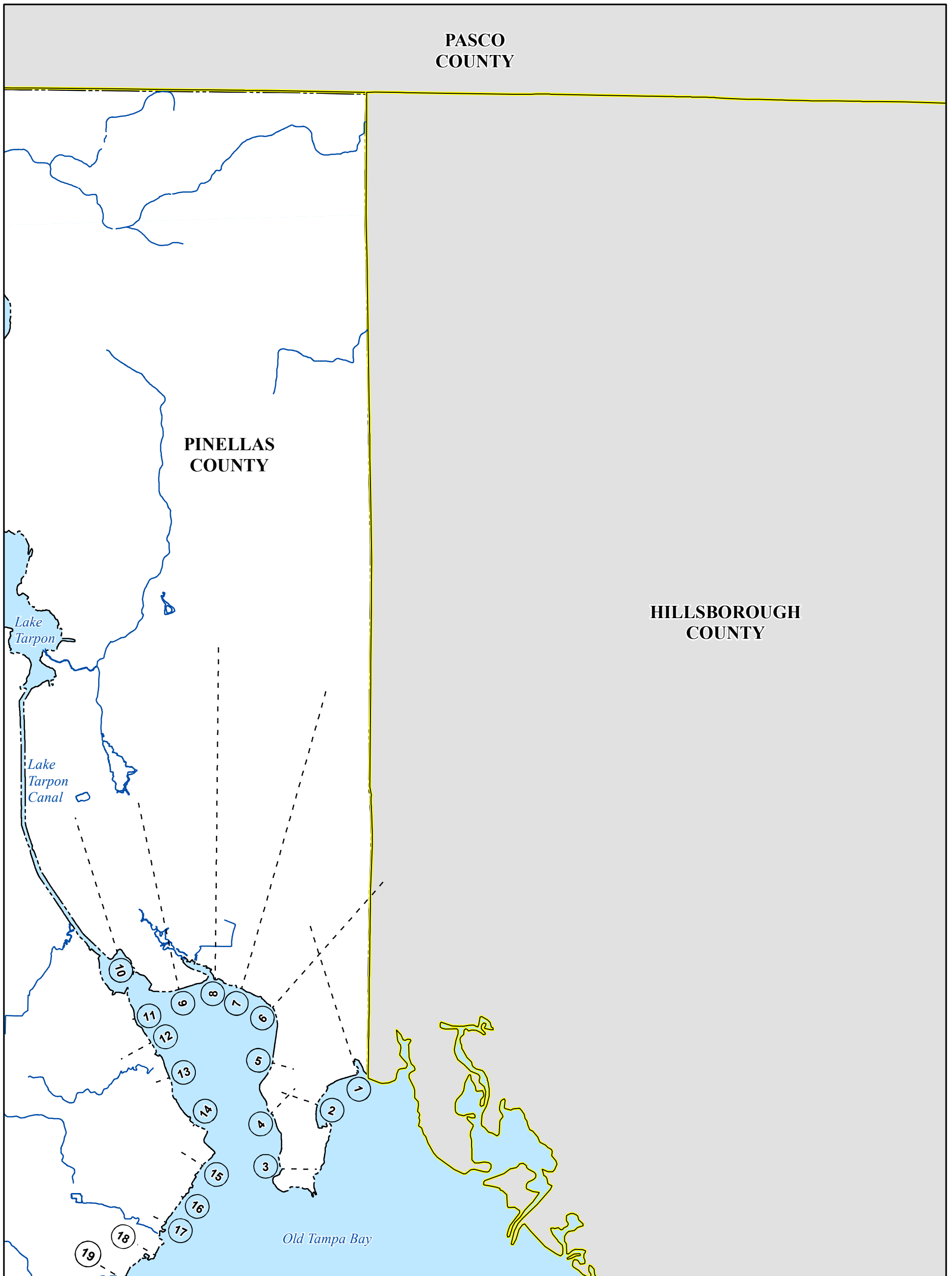
Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
St. Joseph Sound	232	4.94	4.05	5.6 5.6 - 5.7	6.9 6.9 - 7.0	8.1 8.1 - 8.3	9.6 9.6 - 9.9	13.9 13.9 - 14.4
St. Joseph Sound	233	4.78	4.05	5.7 5.6 - 5.7	7.0 6.9 - 7.1	8.2 8.1 - 8.3	9.8 9.3 - 10.0	14.1 12.6 - 14.4
St. Joseph Sound	234	5.06	4.02	5.7 5.7 - 5.8	7.0 7.0 - 7.2	8.3 8.3 - 8.5	9.8 9.8 - 10.1	14.1 14.1 - 14.6
St. Joseph Sound	235	4.71	3.93	5.7 5.2 - 5.7	7.1 6.3 - 7.1	8.4 7.2 - 8.4	10.0 8.2 - 10.1	14.3 10.8 - 14.7
St. Joseph Sound	236	4.78	3.89	5.8 5.3 - 5.8	7.2 6.4 - 7.2	8.5 7.3 - 8.5	10.1 8.4 - 10.1	14.4 11.0 - 14.5
St. Joseph Sound	237	4.71	3.88	5.8 5.4 - 5.8	7.2 6.4 - 7.2	8.5 7.3 - 8.5	10.1 8.2 - 10.2	14.4 10.8 - 14.5
St. Joseph Sound	238	4.71	3.81	5.8 4.9 - 5.8	7.2 6.0 - 7.3	8.5 6.9 - 8.6	10.1 7.8 - 10.2	14.3 10.4 - 14.7

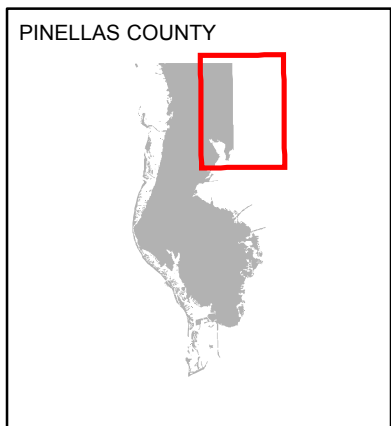
Table 16: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H _s (ft)	Peak Wave Period T _p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Gulf of Mexico	239	4.08	3.51	5.5 5.2 - 5.7	6.8 6.0 - 7.0	8.0 6.9 - 8.3	9.5 8.0 - 9.9	13.8 10.6 - 14.4
Gulf of Mexico	240	4.40	3.77	5.6 4.9 - 5.6	6.8 5.9 - 6.9	8.0 6.8 - 8.1	9.5 7.8 - 9.6	13.8 10.3 - 14.0
Gulf of Mexico	241	4.09	3.72	5.6 5.4 - 5.6	6.9 6.6 - 6.9	8.1 7.7 - 8.1	9.6 8.9 - 9.6	13.7 12.4 - 13.7
Gulf of Mexico	242	4.51	3.79	5.6 5.4 - 5.6	6.9 6.6 - 6.9	8.1 7.6 - 8.1	9.5 8.9 - 9.6	13.6 12.7 - 13.6

Figure 9: Transect Location Map



1 inch = 5,417 feet 1:65,000
 0 3,050 6,100 12,200 feet
 Map Projection:
 Universal Transverse Mercator Zone 17N;
 North American Datum 1927



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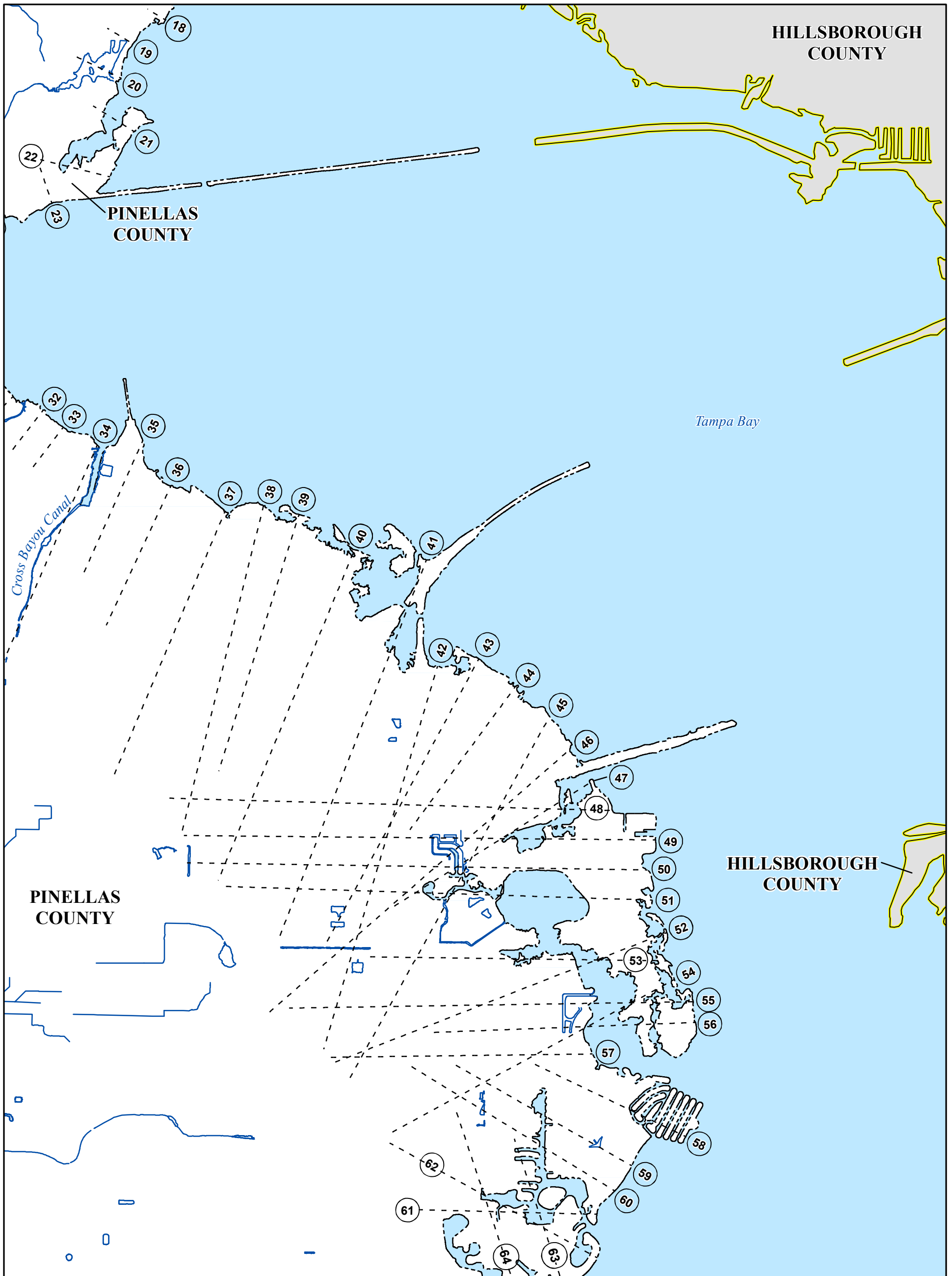
Figure 9. Transect Location Map

PANELS WITH TRANSECTS

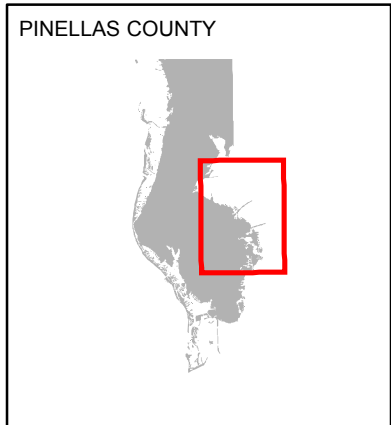
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Figure 9: Transect Location Map (continued)



1 inch = 5,417 feet 1:65,000
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 Map Projection:
 Universal Transverse Mercator Zone 17N;
 North American Datum 1927



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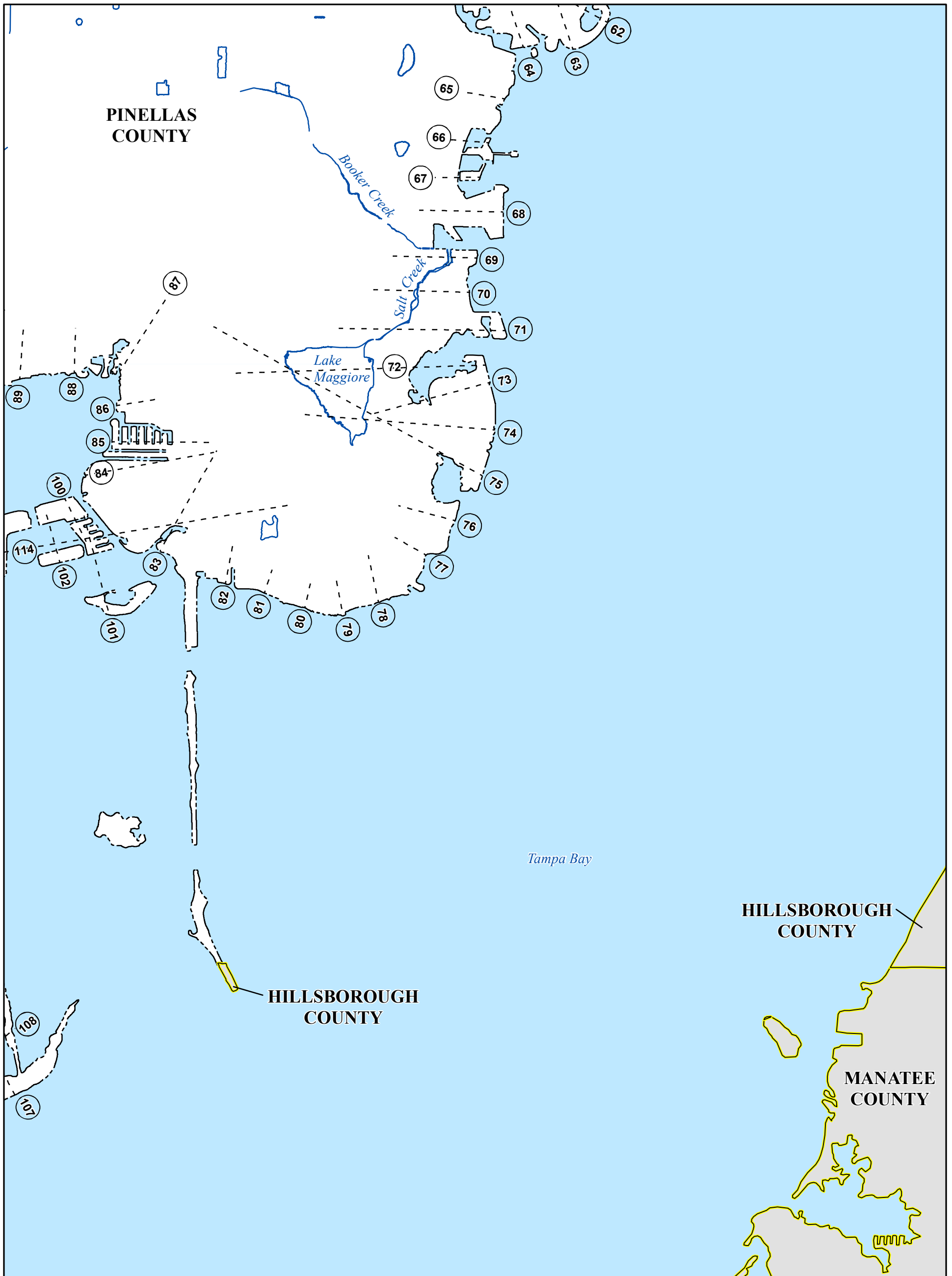
Figure 9. Transect Location Map

PANELS WITH TRANSECTS

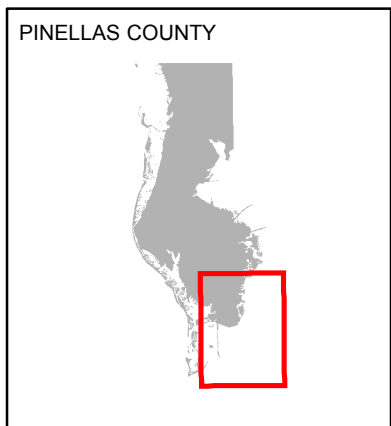
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Figure 9: Transect Location Map (continued)



1 inch = 5,417 feet 1:65,000
 0 3,050 6,100 12,200 feet
 Map Projection:
 Universal Transverse Mercator Zone 17N;
 North American Datum 1927



NATIONAL FLOOD INSURANCE PROGRAM

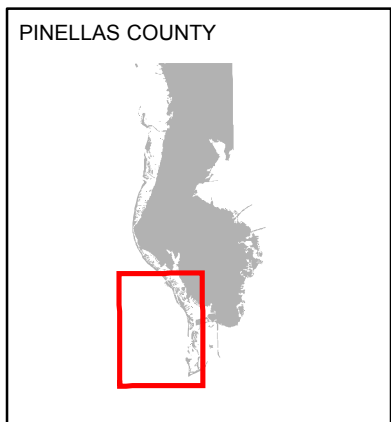
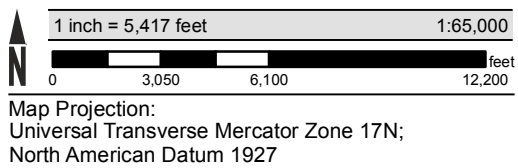
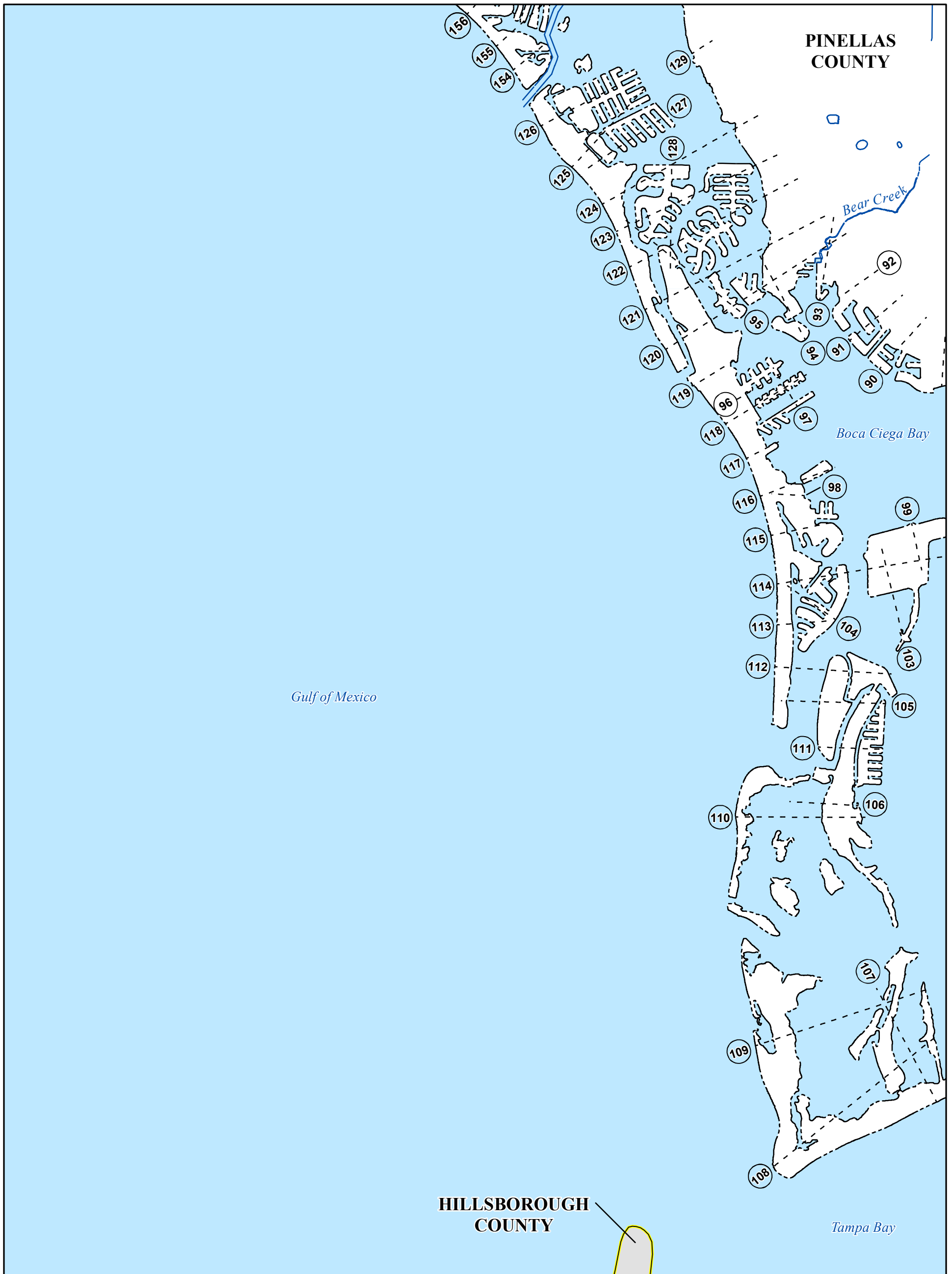
Figure 9. Transect Location Map

PANELS WITH TRANSECTS

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Figure 9: Transect Location Map (continued)



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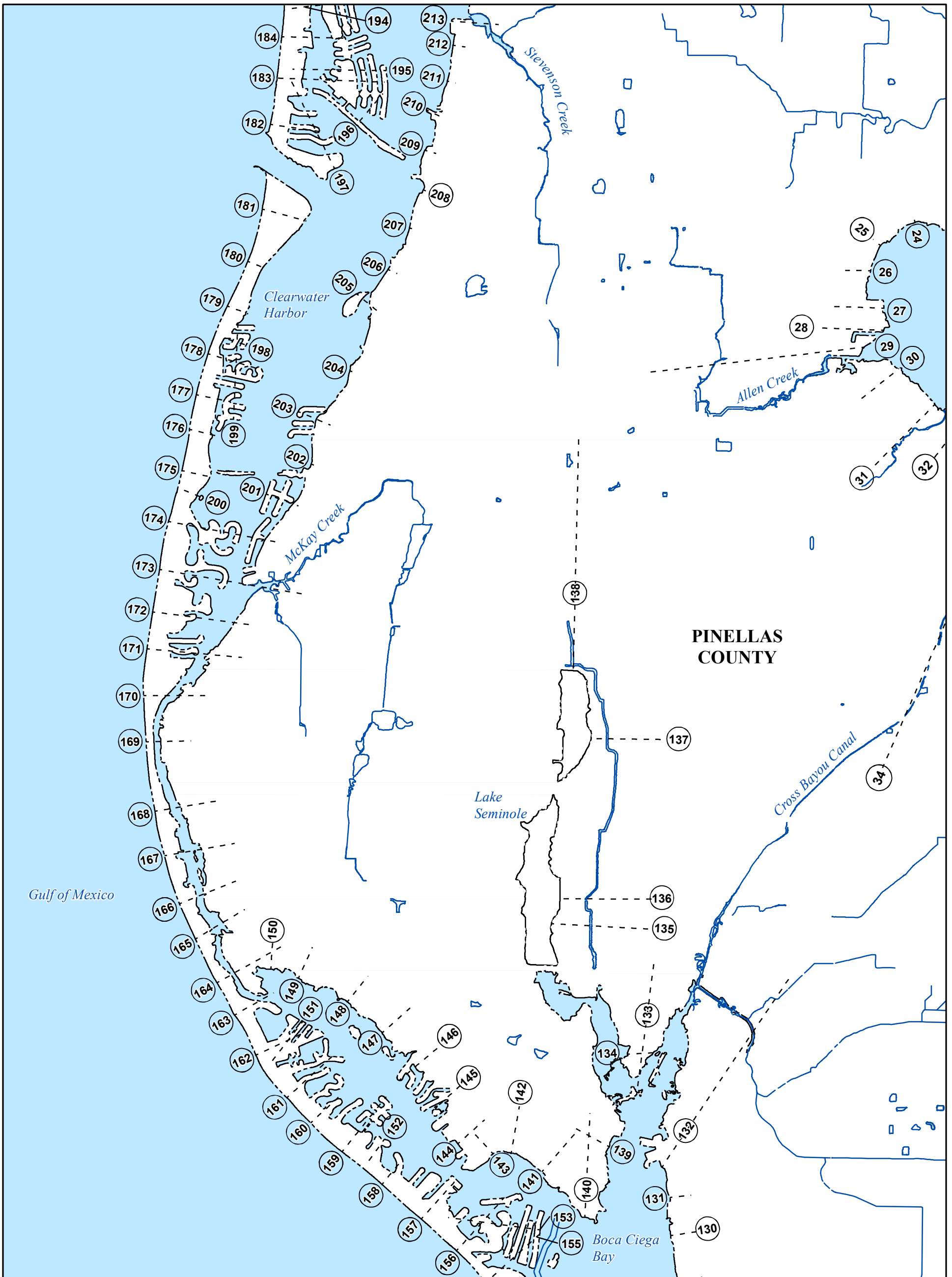
Figure 9. Transect Location Map

PANELS WITH TRANSECTS

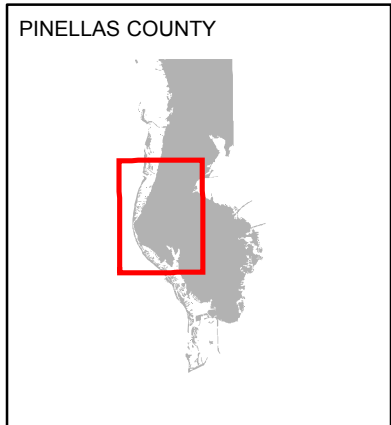
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Figure 9: Transect Location Map (continued)



1 inch = 5,417 feet 1:65,000
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 Map Projection:
 Universal Transverse Mercator Zone 17N;
 North American Datum 1927



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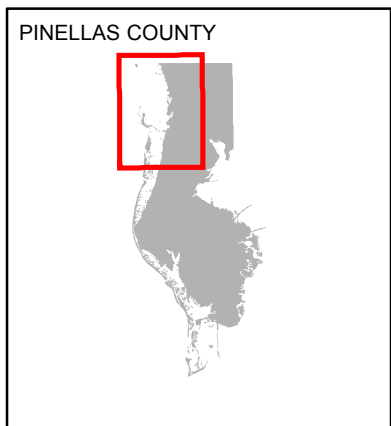
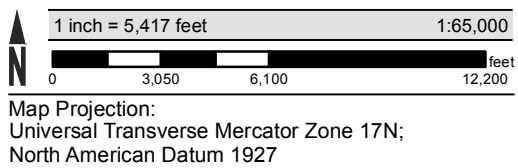
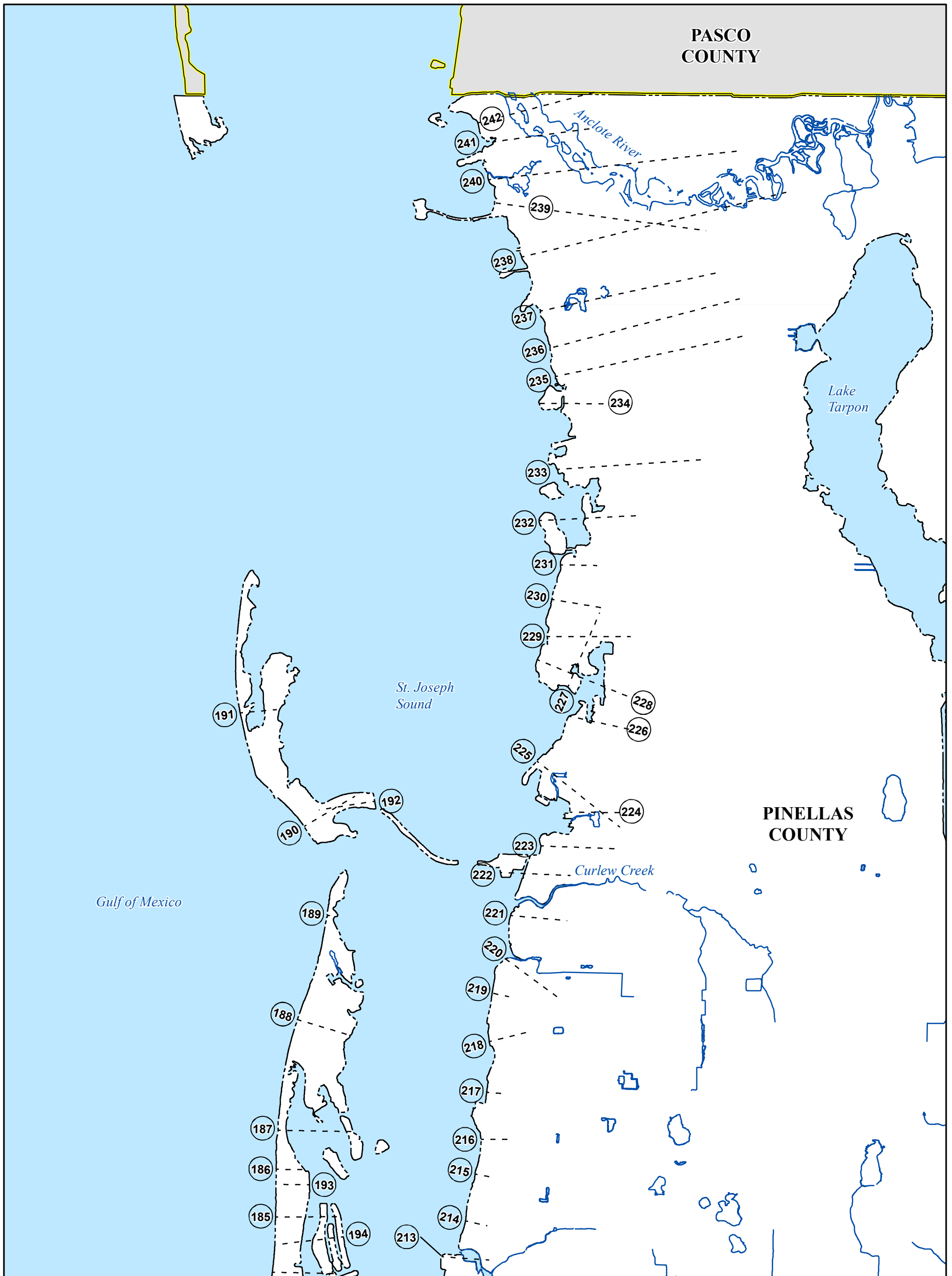
Figure 9. Transect Location Map

PANELS WITH TRANSECTS

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- 0128, 0129, 0136, 0137, 0176, 0177, 0179, 0182, 0183, 0184,
- 0187, 0191, 0192, 0201, 0203




Figure 9: Transect Location Map (continued)



NATIONAL FLOOD INSURANCE PROGRAM
 Figure 9. Transect Location Map

PANELS WITH TRANSECTS
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 0059, 0062, 0064, 0066, 0067, 0068, 0069, 0102, 0106



FEMA

5.4 Alluvial Fan Analyses

This section is not applicable to this Flood Risk Project.

Table 17: Summary of Alluvial Fan Analyses
[Not Applicable to this Flood Risk Project]

Table 18: Results of Alluvial Fan Analyses
[Not Applicable to this Flood Risk Project]

SECTION 6.0 – MAPPING METHODS

6.1 Vertical and Horizontal Control

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

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

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 -0.88 feet was calculated for the previous Pinellas County FIS (FEMA 2009).

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/flood-maps/guidance-partners/guidelines-standards.

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	Florida Department of Transportation	2017	1:100	Pinellas County Orthoimagery
Digital Orthophoto	Florida Department of Transportation	2017	1:100	Pasco County Orthoimagery
Digital Orthophoto	Florida Department of Transportation	2017	1:100	Hillsborough County Orthoimagery
Digital Orthophoto	U.S. Department of Agriculture	2016	1 meter	Orthoimagery for open water areas in Pinellas County
Political boundaries	Pinellas County	2017	*	Municipal and county boundaries
Public Land Survey System (PLSS)	Florida Resources and Environmental Analysis Center	2003	1:24,000	Florida Public Land Survey System
Transportation Features	Pinellas County	2017	*	All roads within the study
Transportation Features	Pinellas County	2017	*	All railroads within the study
Transportation Features	Pinellas County Board of County Commissioners Information Systems	2002	1:6,000	Roads, railroads and bridges

Table 21: Base Map Sources (continued)

Data Type	Data Provider	Data Date	Data Scale	Data Description
Subbasins	U.S. Department of Agriculture	2014	1:12,000	Watershed boundary dataset HUC8
Surface Water Features	Pinellas County Board of County Commissioners Information Systems	2002	1:6,000	Streams

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."

Table 22: Summary of Topographic Elevation Data used in Mapping

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Vertical Accuracy	Horizontal Accuracy	Citation
Belleair, Town of; Belleair Beach, City of; Belleair Bluffs, City of; Belleair Shore, Town of; Clearwater, City of; Dunedin, City of; Gulfport, City of; Indian Rocks Beach, City of; Indian Shores, Town of; Largo, City of; Madeira Beach, City of; North Redington Beach, Town of; Oldsmar, City of; Pinellas Park, City of; Pinellas County, Unincorporated Areas; Redington Beach, Town of; Redington Shores, Town of; Safety Harbor, City of; Seminole, City of; South Pasadena, City of; St. Pete Beach, City of; St. Petersburg, City of; Tarpon Springs, City of; Treasure Island, City of	All coastal areas within Pinellas County	Light Detection and Ranging data (LiDAR)	0.43 feet RMSEz	N/A	FDEM 2007
Kenneth City, Town of; Pinellas County, Unincorporated Areas; Pinellas Park, City of	All sources studied in the 08/18/2009 FIS Report	Topographic maps	N/A	N/A	CDM 2005

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
Clearwater, City of; Largo, City of; Pinellas County, Unincorporated Areas	All sources studied for the 05/17/2005 FIS Report	Topographic maps	N/A	N/A	SWFWMD 1985
Clearwater, City of; Dunedin, City of; Kenneth City, Town of; Pinellas County, Unincorporated Areas; Pinellas Park, City of; Safety Harbor, City of; St. Petersburg, City of	All redelineated and studied sources in the 09/03/2003 FIS Report	Topographic maps	N/A	N/A	FEMA 2009

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	1,045	75	257	6.6	10.7 ²	9.2	10.2	1.0
B	1,715	55	583	2.9	12.3 ²	11.7	12.5	0.8
C	2,685	95	734	2.3	13.6 ²	13.4	14.3	0.9
D	3,435	56	460	3.7	16.6 ²	16.6	17.3	0.7
E	4,505	55	357	4.8	16.7	16.7	17.7	1.0
F	5,215	176	2,552	0.7	19.2	19.2	19.7	0.5
G	9,510	167	2,550	0.7	19.5	19.5	20.1	0.6
H	11,890	87	509	2.7	21.6	21.6	22.6	1.0
I	13,540	361	2,253	0.6	25.4	25.4	26.4	1.0
J	14,005	266	1,502	0.8	26.1	26.1	27.0	0.9
K	16,285	82	371	3.2	28.7	28.7	29.5	0.8
L	16,845	29	245	4.7	30.6	30.6	31.4	0.8
M	18,045	26	152	7.7	36.1	36.1	37.0	0.9
N	20,170	25	95	7.2	44.9	44.9	45.9	1.0
O	21,090	75	235	1.8	49.8	49.8	50.8	1.0
P	21,960	143	896	0.5	50.1	50.1	51.1	1.0
Q	22,450	34	281	1.5	51.0	51.0	51.9	0.9
R	23,270	30	226	1.9	52.2	52.2	53.1	0.9
S	23,775	42	258	1.6	53.0	53.0	53.3	0.3
T	26,455	76	284	0.9	53.0	53.0	54.0	1.0

¹Feet above mouth

²Combined coastal and riverine effects from Alligator Lake and Alligator Creek Channel A

TABLE 23	FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
	PINELLAS COUNTY, FLORIDA AND INCORPORATED AREAS	FLOODING SOURCE: ALLIGATOR CREEK CHANNEL A

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	340	27	104	7.3	19.4	17.9 ²	18.7	0.8
B	2,540	55	67	10.5	30.8	30.8	30.8	0.0
C	3,880	36	252	2.7	50.1	50.1	50.1	0.0
D	5,270	25	107	5.8	53.4	53.4	53.4	0.0
E	7,220	205	853	0.7	55.5	55.5	56.5	1.0
F	8,290	75	327	1.9	58.7	58.7	59.2	0.5
G	8,940	110	1,075	0.5	62.4	62.4	63.1	0.7
H	10,155	37	172	2.9	62.4	62.4	63.1	0.7
I	11,270	50	229	2.2	74.5	74.5	75.2	0.7
J	11,870	60	97	5.2	86.4	86.4	86.6	0.2
K	12,700	145	532	0.8	87.7	87.7	88.5	0.8

¹Feet above mouth

²Elevation computed without consideration of backwater effects from Alligator Creek Channel A

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
PINELLAS COUNTY, FLORIDA
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: ALLIGATOR CREEK CHANNEL B

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	220	45	58	7.3	37.6	36.7 ²	37.2	0.5
B	1,015	38	200	2.1	44.7	44.7	45.7	1.0
C	1,520	18	62	6.6	44.7	44.7	45.8	1.1
D	3,825	94	577	0.7	58.9	58.9	59.9	1.0
E	4,305	36	151	2.3	64.1	64.1	64.1	0.0
F	5,605	60	88	3.9	65.0	65.0	65.4	0.4

¹Feet above mouth

²Elevation computed without consideration of backwater effects from Alligator Creek Channel A

TABLE 23	FEDERAL EMERGENCY MANAGEMENT AGENCY PINELLAS COUNTY, FLORIDA AND INCORPORATED AREAS	FLOODWAY DATA
		FLOODING SOURCE: ALLIGATOR CREEK CHANNEL C

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	200	81	409	1.2	*	7.9 ³	8.9	1.0
B	565	65	410	1.2	11.8 ²	11.6 ³	12.2	0.6
C	835	65	412	1.2	17.6 ²	17.6 ³	18.4	0.8
D	2,000	144	262	1.7	19.6	19.6	19.7	0.1
E	2,590	371	1,290	0.3	19.7	19.7	20.0	0.3
F	3,730	79	296	1.5	19.8	19.8	20.2	0.4
G	4,045	184	489	0.9	20.7	20.7	21.7	1.0

¹Feet above mouth

²Combined coastal and riverine effects from Alligator Lake and Alligator Creek Channel E

³Elevation computed without consideration of backwater effects from Alligator Lake

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

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
PINELLAS COUNTY, FLORIDA
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: ALLIGATOR CREEK CHANNEL E

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	860	160	591	0.6	19.5	19.3 ²	20.3	1.0
B	2,290	20	90	3.1	20.1	20.1	20.9	0.8

¹Feet above mouth

²Elevation computed without consideration of backwater effects from Alligator Creek Channel A

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
PINELLAS COUNTY, FLORIDA
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: ALLIGATOR CREEK CHANNEL G

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	1,562	54	416	1.0	25.6	24.5 ²	25.5	1.0
B	2,645	39	159	2.5	28.8	28.8	29.4	0.6
C	2,760	100	994	0.4	33.6	33.6	34.6	1.0
D	3,150	188	1,383	0.3	33.6	33.6	34.6	1.0
E	3,915	21	37	7.6	39.5	39.5	39.5	0.0

¹Feet above mouth

²Elevation computed without consideration of backwater effects from Alligator Creek Channel A

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
PINELLAS COUNTY, FLORIDA
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: ALLIGATOR CREEK CHANNEL H

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	31,750	N/A	N/A	N/A	*	6.6 ²	N/A	N/A

¹Feet above mouth

²Elevation computed without consideration of backwater effects from Gulf of Mexico

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

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
PINELLAS COUNTY, FLORIDA
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: ANCLOTE RIVER

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	4,467	562	3,363	0.7	8.0	8.0	8.8	0.8
B	6,554	375	1,423	1.1	8.9	8.9	9.6	0.7
C	7,668	350	1,173	2.0	11.0	11.0	11.5	0.5
D	9,149	560	1,791	1.3	12.8	12.8	13.8	1.0
E	10,699	318	1,336	1.7	13.6	13.6	14.4	0.8
F	13,696	895	5,274	0.5	15.5	15.5	16.2	0.7

¹Feet above confluence with Lake Tarpon

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
PINELLAS COUNTY, FLORIDA
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: BROOKER CREEK TRIBUTARY A

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	1,100	156	651	1.6	7.8	5.0 ²	6.0	1.0
B	3,660	572	2,130	0.1	7.8	6.9 ²	7.7	0.8
C	4,650	602	2,580	0.1	7.8	7.6	8.3	0.7
D	7,360	640	1,815	0.2	7.8	7.6	8.3	0.7

¹Feet above confluence with Brooker Creek Tributary A

²Elevation computed without consideration of backwater effects from Brooker Creek Tributary A

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
PINELLAS COUNTY, FLORIDA
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: BROOKER CREEK TRIBUTARY B

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	2,079	190	1,499	5.1	10.5 ²	6.5 ³	7.4	0.9
B	2,879	161	1,206	6.3	10.6 ²	7.2 ³	8.1	0.9
C	3,765	136	1,353	5.6	10.6 ²	8.7 ³	9.7	1.0
D	5,805	320	2,940	2.6	13.0 ²	12.7	13.5	0.8
E	7,655	339	2,786	2.6	15.3 ²	15.2	15.6	0.4
F	9,900	320	2,876	2.6	17.3	17.3	18.3	1.0
G	11,797	153	1,465	5.0	20.9	20.9	21.8	0.9

¹Feet above mouth

²Combined coastal and riverine effects from St. Joseph Sound and Curlew Creek

³Elevation computed without consideration of backwater effects from St. Joseph Sound

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
PINELLAS COUNTY, FLORIDA
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: CURLEW 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	5,880	69	524	3.3	8.4 ²	7.9 ³	8.8	0.9
B	8,993	242	1,351	0.9	13.6	13.6	14.6	1.0
C	10,483	201	1,137	1.1	14.8	14.8	15.7	0.9
D	12,292	146	658	1.5	17.5	17.5	18.2	0.7
E	14,112	604	2,850	0.9	18.5	18.5	19.3	0.8
F	18,596	273	347	0.7	21.1	21.1	21.2	0.1
G	19,461	311	447	0.5	21.7	21.7	22.0	0.3

¹Feet above confluence with Salt Lake

²Combined coastal and riverine effects from Salt Lake and Hollin Creek Tributary A

³Elevation computed without consideration of backwater effects from Salt Lake

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
PINELLAS COUNTY, FLORIDA
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: HOLLIN CREEK TRIBUTARY A

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	3,020	117	465	1.1	18.5	17.5 ²	18.2	0.7

¹Feet above confluence with Hollin Creek Tributary A

²Elevation computed without consideration of backwater effects from Hollin Creek Tributary A

TABLE 23	FEDERAL EMERGENCY MANAGEMENT AGENCY PINELLAS COUNTY, FLORIDA AND INCORPORATED AREAS	FLOODWAY DATA
		FLOODING SOURCE: HOLLIN CREEK TRIBUTARY A-2

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	1,581	39	116	5.0	13.1	13.1	13.5	0.4
B	4,842	220	791	0.9	18.3	18.3	19.0	0.7
C	5,664	457	2,187	0.3	19.6	19.6	20.3	0.7
D	7,919	730	3,080	0.2	19.6	19.6	20.3	0.7
E	9,129	65	71	5.1	19.7	19.7	20.1	0.4
F	10,139	167	520	0.7	20.3	20.3	21.2	0.9

¹Feet above confluence with Hollin Creek Tributary A

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
PINELLAS COUNTY, FLORIDA
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: HOLLIN CREEK TRIBUTARY B

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	1,100	42	279	8.7	24.7	21.1 ²	21.8	0.7
B	2,153	139	771	3.1	28.7	28.7	29.2	0.5
C	4,045	198	782	2.7	33.5	33.5	34.0	0.5
D	4,615	80	337	6.2	35.0	35.0	35.2	0.2
E	5,124	75	414	5.1	36.4	36.4	37.3	0.9
F	5,314	60	434	4.9	36.7	36.7	37.5	0.8
G	5,579	92	749	2.8	37.3	37.3	38.0	0.7
H	6,648	70	391	5.4	38.5	38.5	39.3	0.8
I	7,093	64	280	7.5	39.4	39.4	39.9	0.5
J	8,425	200	2,245	0.9	42.0	42.0	42.3	0.3
K	10,070	171	1,613	0.7	44.2	44.2	45.2	1.0
L	10,998	52	346	3.3	45.2	45.2	46.2	1.0

¹Feet above confluence with Curlew Creek

²Elevation computed without consideration of backwater effects from Curlew Creek

TABLE 23

**FEDERAL EMERGENCY MANAGEMENT AGENCY
PINELLAS COUNTY, FLORIDA
AND INCORPORATED AREAS**

FLOODWAY DATA

FLOODING SOURCE: JERRY BRANCH

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	1,300	1,637	6,499	1.0	*	5.0 ³	5.3	0.3
B	2,800	227	1,932	4.7	*	5.0 ³	6.0	1.0
C	4,150	220	2,165	3.9	*	5.9 ³	6.8	0.9
D	6,880	212	2,021	4.2	*	7.9 ³	8.6	0.7
E	8,432	147	1,171	5.0	10.2 ²	8.9 ³	9.4	0.5
F	10,202	105	1,074	5.5	10.8 ²	10.2	10.5	0.3
G	11,080	114	985	6.0	11.4 ²	10.9	11.2	0.3
H	13,142	124	1,475	4.0	12.5 ²	12.3	12.5	0.2
I	13,762	122	1,511	3.9	12.7 ²	12.5	12.7	0.2
J	14,994	70	602	4.5	14.8 ²	14.7	14.9	0.2
K	16,379	58	495	5.0	15.7 ²	15.6	15.7	0.1
L	17,447	64	539	4.6	17.5	17.5	18.1	0.6
M	19,082	54	433	5.7	18.8	18.8	19.2	0.4
N	20,578	50	366	5.1	20.0	20.0	20.3	0.3
O	21,698	44	311	6.0	21.3	21.3	21.5	0.2
P	22,398	47	326	5.7	22.4	22.4	22.5	0.1
Q	23,058	50	315	5.9	23.5	23.5	23.6	0.1
R	24,285	59	501	3.7	31.4	31.4	31.4	0.0
S	24,770	51	393	4.7	31.8	31.8	31.8	0.0
T	27,097	61	361	3.2	33.7	33.7	33.7	0.0

¹Feet above confluence with Cross Bayou Canal

²Combined coastal and riverine effects from Boca Ciega Bay and Joe's Creek

³Elevation computed without consideration of backwater effects from Boca Ciega Bay

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

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

PINELLAS COUNTY, FLORIDA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: JOE'S 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
U	28,557	240	2,375	0.5	34.1	34.1	34.1	0.0
V	29,991	37	233	2.3	34.6	34.6	34.6	0.0
W	30,391	171	856	0.6	34.7	34.7	35.7	1.0
X	31,822	171	856	0.6	45.2	45.2	46.2	1.0
Y	33,611	90	857	1.3	45.4	45.4	46.4	1.0
Z	34,411	80	878	0.7	45.4	45.4	46.4	1.0

¹Feet above confluence with Cross Bayou Canal

TABLE 23	FEDERAL EMERGENCY MANAGEMENT AGENCY PINELLAS COUNTY, FLORIDA AND INCORPORATED AREAS	FLOODWAY DATA
		FLOODING SOURCE: JOE'S CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET) ²	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	890	33	253	10.8	*	10.0	10.0	0.0
B	1,370	49	353	8.6	*	10.1	10.1	0.0
C	2,200	47	351	6.3	11.8	11.8	11.8	0.0
D	3,035	47	364	5.6	12.0	12.0	12.0	0.0
E	4,626	46	413	6.7	12.5	12.5	12.5	0.0
F	5,406	45	285	5.5	13.8	13.8	13.8	0.0
G	5,801	43	327	5.1	14.0	14.0	14.6	0.6
H	7,226	39	269	4.8	14.3	14.3	14.8	0.5
I	8,451	90	321	4.6	14.6	14.6	15.3	0.7
J	10,201	34	245	3.5	15.0	15.0	15.4	0.4
K	10,406	28	344	5.2	15.8	15.8	16.1	0.3
L	11,779	75	305	4.9	16.6	16.6	16.6	0.0
M	13,072	70	185	7.2	17.5	17.5	17.8	0.3
N	13,612	80	539	6.0	18.2	18.2	18.7	0.5
O	14,577	34	214	2.8	18.4	18.4	19.2	0.8

¹Feet above confluence with Joe's Creek

²From HEC-RAS run

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

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
PINELLAS COUNTY, FLORIDA
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: JOE'S CREEK TRIBUTARY NO. 4 (CHANNEL 4)

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	1,340	106	513	2.2	*	5.0 ²	6.0	1.0
B	4,748	22	83	6.1	*	8.5 ²	8.9	0.4
C	7,327	27	163	0.6	13.6	13.6	14.0	0.4
D	7,677	36	145	0.6	13.6	13.6	14.0	0.4
E	8,850	50	131	0.7	14.0	14.0	14.3	0.3
F	9,992	15	53	0.8	15.2	15.2	15.7	0.5

¹Feet above confluence with Joe's Creek

²Elevation computed without consideration of backwater effects from Joe's Creek

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

TABLE 23

**FEDERAL EMERGENCY MANAGEMENT AGENCY
PINELLAS COUNTY, FLORIDA
AND INCORPORATED AREAS**

FLOODWAY DATA

FLOODING SOURCE: JOE'S CREEK TRIBUTARY NO. 5

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	880	57	342	8.9	12.8	8.3 ²	8.6	0.3
B	2,762	56	442	6.2	14.0	14.0	14.1	0.1
C	4,128	108	567	4.8	16.5	16.5	16.6	0.1
D	5,469	100	692	4.0	17.2	17.2	17.7	0.5
E	6,865	58	603	2.2	17.7	17.7	18.6	0.9
F	7,650	95	587	1.5	17.9	17.9	18.9	1.0
G	8,100	93	456	1.9	17.9	17.9	18.9	1.0
H	9,420	47	337	1.2	18.4	18.4	19.4	1.0
I	11,351	94	416	1.0	18.5	18.5	19.5	1.0

¹Feet above confluence with Joe's Creek

²Elevation computed without consideration of backwater effects from Joe's Creek

TABLE 23	FEDERAL EMERGENCY MANAGEMENT AGENCY PINELLAS COUNTY, FLORIDA AND INCORPORATED AREAS	FLOODWAY DATA
		FLOODING SOURCE: MILES CREEK

Table 24: Flood Hazard and Non-Encroachment Data for Selected Streams

[Not Applicable to this Flood Risk Project]