Tampa Bay Region Hurricane Loss and Contingency Planning Study

October 1983

TAMPA BAY REGION HURRICANE LOSS AND CONTINGENCY PLANNING STUDY

OCTOBER 1983

This study was conducted by the Tampa Bay Regional Planning Council for the Federal Emergency Management Agency and the Florida Bureau of Disaster Preparedness.

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TABLE OF CONTENTS

		PAGE NO.
List of Tables		iii
List of Figures		vi
List of Appendices		viii
Acknowledgements		x
CHAPTER I.	INTRODUCTION	1
	Objectives	1
	Scope	3
	Integration Into Comprehensive Emergency Management	4
	PHASE I: HURRICANE LOSS STUDY	
CHAPTER II.	HURRICANE LOSS METHODOLOGY	7
	Hazard Analysis	7
	Risk Area Mapping	22
	Property-at-Risk	
	Valuation of Projected Loss: Replacement of Property	25
	Service Disruption: Loss of Public Facilities	30
	Social Disruption: Temporary Employment Loss and Income Loss	32
	Probability Analysis of Hurricane Loss: Annualized Structural Loss	32
CHAPTER III.	PROPERTY VULNERABILITY ANALYSIS	34
	Hazard Analysis	34
	Determination of the Hazard Areas: Risk Area Mapping	41
	Property-at-Risk	59
CHAPTER IV.	VALUATION OF PROJECTED LOSS: REPLACEMENT OF OF PROPERTY	101
	Short Term Replacement of Structures	101
	Potential Loss to Agricultural Yield	107
	Replacement of Potential Roadway Loss	107
	Potential Military Structural Loss	107
CHAPTER V.	SERVICE DISRUPTION: LOSS OF PUBLIC FACILITIES	113
	Public Facilities Exposure to Hurricane Hazards	117
	Potential Service Disruption	118
	Long-Range Service Disruption	122
CHAPTER VI.	SOCIAL DISRUPTION: TEMPORARY EMPLOYMENT LOSS AND INCOME LOSS	145
CHAPTER VII.	PROBABILITY ANALYSIS OF VULNERABILITY: ANNUALIZED STRUCTURAL LOSS	148

TABLE OF CONTENTS (Cont)

PHASE II: CONTINGENCY PLANNING

CHAPTER VIII. RECOVERY METHODOLOGY..... 181
Overview of the Recovery Process..... 181
Organization of Recovery Operations..... 182
Projecting Potential Disaster Assistance Needs..... 186

CHAPTER IX. PROJECTED TEMPORARY HOUSING AND OTHER ASSISTANCE NEEDS..... 205

Projected Temporary Housing Needs..... 205
Individual Assistance..... 210
Community Disaster Assistance..... 213
Pre-designation of Disaster Field Office and Disaster Assistance Center Locations..... 216
Requests for State and Federal Emergency/Disaster Declaration..... 220

CHAPTER X. HILLSBOROUGH COUNTY RECOVERY IMPLEMENTATION GUIDE..... 221

CHAPTER XI. MANATEE COUNTY RECOVERY IMPLEMENTATION GUIDE..... 237

CHAPTER XII. PASCO COUNTY RECOVERY IMPLEMENTATION GUIDE..... 253

CHAPTER XIII. PINELLAS COUNTY RECOVERY IMPLEMENTATION GUIDE..... 269

CHAPTER XIV. HURRICANE HAZARD MITIGATION POLICIES..... 285
Hurricane Hazard Mitigation Policies for Future Development..... 286
Hazard Mitigation Policies for Post-Hurricane Redevelopment..... 287

REFERENCES

APPENDICES

BIBLIOGRAPHY

LIST OF TABLES

TABLE NO.		PAGE NO.
1	Hurricanes Simulated by Numerical Storm Surge Prediction Models	11
2	Model Hypothetical Hurricanes Representing County Damage Scenarios	22
3	Historical Hurricane Property Loss	35
4	Reference Hurricanes for the Tampa Bay Region Hurricane Loss Study	40
5	County Damage Scenario Created By Individual Hypothetical Hurricanes	42
6	Regional Damage Scenarios	43
7	Land Use-Tampa Bay Region	60
8	Hillsborough County Land Use Inventory of Hurricane Loss Zones	61
9	Manatee County Land Use Inventory of Hurricane Loss Zones	63
10	Pasco County Land Use Inventory of Hurricane Loss Zones	64
11	Pinellas County Land Use Inventory of Hurricane Loss Zones	65
12	Hillsborough County Structural Inventory of Hurricane Loss Zones	67
13	Manatee County Structural Inventory of Hurricane Loss Zones	69
14	Pasco County Structural Inventory of Hurricane Loss Zones	70
15	Pinellas County Structural Inventory of Hurricane Loss Zones	71
16	General Agricultural Inventory-Tampa Bay Region	73
17	Hillsborough County Agricultural Inventory of Hurricane Loss Zones	74
18	Manatee County Agricultural Inventory of Hurricane Loss Zones	75
19	Pasco County Agricultural Inventory of Hurricane Loss Zones	76
20	Pinellas County Agricultural Inventory of Hurricane Loss Zones	77
21	Potential Hurricane Exposure of Hazardous Materials-Waterfront Storage Facilities	79
22	Potential Hurricane Exposure of Hazardous Materials-Hillsborough County Hazardous Waste Sites	84
23	Potential Hurricane Exposure of Hazardous Materials-Manatee County Hazardous Waste Sites	90
24	Potential Hurricane Exposure of Hazardous Materials-Pasco County Hazardous Waste Sites	91
25	Potential Hurricane Exposure of Hazardous Materials-Pinellas County Hazardous Waste Sites	92
26	Hillsborough County Projected Hurricane Structural Loss ($) By Hurricane Scenario	103
27	Manatee County Projected Hurricane Structural Loss ($) By Hurricane Scenario	104

LIST OF TABLES (Cont)

28	Pasco County Projected Hurricane Structural Loss ($) By Hurricane Scenario	105
29	Pinellas County Projected Hurricane Structural Loss ($) By Hurricane Scenario	106
30	Tampa Bay Region Projected Hurricane Structural Loss by Regional Scenario	108
31	Potential Agricultural Loss ($): Tampa Bay Region	109
32	Potential Hurricane Velocity Surge Roadway Loss ($): Tampa Bay Region	110
33	Military Facilities Vulnerability Inventory	111
34	Public Facilities Vulnerability Summary	115
35	Health Care Facilities Vulnerability Summary	116
36	Potential Hurricane Public Facilities Service Disuption: Hillsborough County	123
37	Potential Hurricane Public Facilities Service Disruption: Manatee County	129
38	Potential Hurricane Public Facilities Disruption: Pasco County	131
39	Potential Hurricane Public Facilities Service Disruption: Pinellas County	134
40	Hillsborough County Projected Hurricane Structural Taxable Loss ($) by Hurricane Scenario	140
41	Manatee County Projected Hurricane Structural Taxable Loss ($) By Hurricane Scenario	141
42	Pasco County Projected Hurricane Structural Taxable Loss ($) By Hurricane Scenario	142
43	Pinellas County Projected Hurricane Structural Taxable Loss ($) By Hurricane Scenario	143
44	Tampa Bay Region Projected Hurricane Structural Ad Valorem Loss by Regional Scenario	144
45	Tampa Bay Region Average Employment Income of Establishment/Structure	146
46	Temporary Employment and Income Loss By Hurricane Damage Scenario	147
47	Occurrence Probabilities of Hurricane Damage Scenarios	149
48	Hillsborough County Annualized Hurricane Structural Loss (%) By Loss Zone	150
49	Manatee County Annualized Hurricane Structural Loss (%) By Loss Zone	160
50	Pasco County Annualized Hurricane Structural Loss (%) By Loss Zone	165
51	Pinellas County Annualized Hurricane Structural Loss (%) By Loss Zone	170
52	Annualized Hurricane Structural Loss ($) by Regional Scenario	180
53	Percentage of Value Loss Due to Wind by Structure Type	190
54	Hillsborough County Projected Structural Loss Due to Surge	191
55	Manatee County Projected Structural Loss Due to Surge	192
56	Pasco County Projected Structural Loss Due to Surge	193

LIST OF TABLES (Cont)

57	Pinellas County Projected Structural Loss Due to Surge...	194
58	Hillsborough County Projected Structural Loss Due to Wind.....	195
59	Manatee County Projected Structural Loss Due to Wind.....	196
60	Pasco County Projected Structural Loss Due to Wind.....	197
61	Pinellas County Projected Structural Loss Due to Wind....	198
62	Number of NFIP Policies: Tampa Bay Region.....	199
63	NFIP Policies in Surge Vulnerable Zones.....	200
64	Structural Inventory of Surge Vulnerable Zones.....	201
65	Percentage of Structures Insured Under NFIP.....	202
66	Hillsborough County Projected Temporary Housing Needs....	206
67	Manatee County Projected Temporary Housing Needs.....	207
68	Pasco County Projected Temporary Housing Needs.....	208
69	Pinellas County Projected Temporary Housing Needs.....	209
70	Tampa Bay Region Projected Temporary Housing Needs.....	210
71	Tampa Bay Region Projected Insured Structural Loss.....	211
72	Historical Insured Loss.....	212
73	Tampa Bay Region Projected Disaster Assurance Needs: Uninsured Structural Loss ($) By County.....	214
74	Projected Uninsured Structural Loss by Regional Scenarios	215

LIST OF FIGURES

FIGURE NO.		PAGE NO.
1	Integration Into Comprehensive Emergency Management.....	6
2	Methodology Flow Chart.....	8
3	Tracks of Hurricanes Simulated By SLOSH Numerical Storm Surge Model.....	14
4	Tampa Bay SLOSH Geographic Grid Configuration.....	16
5	SLOSH Surge Envelope Printout and Polar Grid System Base	19
6	Depth-Damage Loss Curve.....	26
7	Regional Hurricane Storm Surge Vulnerability Comparison.	37
8	Regional Hurricane Winds Vulnerability Comparison.....	38
9	Hillsborough County Hurricane Loss Zones.....	45
10	Manatee County Hurricane Loss Zones.....	46
11	Pasco County Hurricane Loss Zones.....	47
12	Pinellas County Hurricane Loss Zones.....	48
13	Storm Surge Flooding Depth/Percent Damage-Single Unit and Multi-Unit Residential Structures.....	49
14	Storm Surge Flooding Depth/Percent Damage-Mobile Home Structures.....	50
15	Storm Surge Flooding Depth/Percent Damage-Commercial and Industrial Structures.....	51
16	Storm Surge Flooding Depth/Percent Damage-Public Facilities Structures.....	52
17	Storm Surge Velocity Flooding Depth/Percent Damage-Single Unit and Multi-Unit Residential Structures.....	53
18	Storm surge Velocity Flooding Depth/Percent Damage-Mobile Home Structures.....	54
19	Storm Surge Velocity Flooding Depth/Percent Damage-Commercial and Industrial Structures.....	55
20	Windspeed/Percent Damage-Single Unit and Multi-Unit Residential Structures.....	56
21	Windspeed/Percent Damage-Mobile Home Structures.....	57
22	Windspeed/Percent Damage-Commercial, Industrial, and Public Facilities Structures.....	58
23	Hazardous Materials Hurricane Exposure Location Map-Tampa Bay Facilities.....	81
24	Hazardous Materials Hurricane Exposure Location Map-Tampa Port Facilities.....	82
25	Hazardous Materials Hurricane Exposure Location Map-Alafia River, Port Tampa, Big Bend, Rattlesnake Area Facilities.....	83
26	Potential Hurricane Exposure of Hazardous Materials-Hillsborough County Hazardous Waste Sites.....	97
27	Potential Hurricane Exposure of Hazardous Materials-Manatee County Hazardous Waste Sites.....	98
28	Potential Hurricane Exposure of Hazardous Materials-Pasco County Hazardous Waste Sites.....	99
29	Potential Hurricane Exposure of Hazardous Materials-Manatee County Hazardous Waste Sites.....	100

30 Public Facilities Estimated Time of Inoperation from Hurricane Structure Loss..... 114
31 Hillsborough County Predesignated Disaster Assistance Center and Disaster Field Office Sites..... 235
32 Manatee County Predesignated Disaster Assistance Center Sites..... 251
33 Pasco County Predesignated Disaster Assistance Center Sites..... 267
34 Pinellas County Predesignated Disaster Assistance Center and Disaster Field Office Sites..... 283

LIST OF APPENDICES

APPENDIX		PAGE NO.
A	Saffir/Simpson Hurricane Damage Potential Scale.....	A-1
B	Tampa Bay SLOSH Model Description.....	B-1
C	Loss Valuation Software Application Narrative.....	C-1
D	EPA Hazardous Waste Numbers.....	D-1
E	Hurricane Structural Loss ($) Projections By Hurricane Loss Zone By Structure Type.....	E-1
F	Public Facilities Vulnerability Inventory: Hillsborough County	
	Potable Water Facilities.....	F-1
	Waste-Water Facilities.....	F-2
	Electric Utility Facilities.....	F-3
	Hospitals.....	F-6
	Nursing Homes.....	F-8
	Maps.....	F-10
G	Public Facilities Vulnerability Inventory: Manatee County	
	Potable Water Facilities.....	G-1
	Waste-Water Facilities.....	G-2
	Electric Utility Facilities.....	G-2
	Hospitals.....	G-3
	Nursing Homes.....	G-3
	Maps.....	G-5
H	Public Facilities Vulnerability Inventory: Pasco County	
	Potable Water Facilities.....	H-1
	Waste-Water Facilities.....	H-2
	Electric Utility Facilities.....	H-3
	Hospitals.....	H-4
	Nursing Homes.....	H-5
	Maps.....	H-6
I	Public Facilities Vulnerability Inventory: Pinellas County	
	Potable Water Facilities.....	I-1
	Waste-Water Facilities.....	I-2
	Electric Utility Facilities.....	I-3
	Hospitals.....	I-5
	Nursing Homes.....	I-7
	Maps.....	I-13

LIST OF APPENDICES (cont.)

J	Transportation Network Hurricane Vulnerability Inventory: Roadway/Bridge Potential Loss.....	J-1
K	Hurricane Taxable Structural Loss ($) Projections By Loss Zone and Structure Type.....	K-1
L	Hurricane Temporary Unemployment/Income Loss By Loss Zone and Modified Economic Sector.....	L-1
	Hurricane Temporary Unemployment/Income Loss By Loss Zone....	L-31
M	Return Periods of Surge Heights in the Tampa Bay Area.....	M-1
N	Average Percentage Structural Loss by Loss Zone.....	N-1

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CHAPTER I

INTRODUCTION

This report documents the analyses, findings, and recommendations of the Tampa Bay Region Hurricane Loss and Contingency Planning Study. The study is being conducted for and funded by the Federal Emergency Management Agency (FEMA) under contract to the Florida Bureau of Disaster Preparedness, Division of Public Safety Planning and Assistance, Department of Community Affairs. The study is the current major research and planning project under the Tampa Bay Regional Planning Council's (TBRPC) Regional Disaster Preparedness Program.

Since 1978, the Regional Disaster Preparedness Program has conducted emergency planning projects to assist the local governments of the Region in coping with large-scale hazards through improved preparedness, response, recovery, and mitigation. Other projects conducted under the Program, which analyze and plan for the hazards of hurricanes, have included the **Tampa Bay Region Hurricane Evacuation Plan** and the **1982 Tampa Bay Region Hurricane Evacuation Exercise.** Along with these previous projects, this **Regional Hurricane Loss Study** is directed at guiding the local governments of the region toward the comprehensive emergency management of hurricane hazards. This chapter describes the project's objectives, scope, and integration into the region's effort toward comprehensive emergency management of hurricane hazards.

OBJECTIVES

The magnitude of property damage from a hurricane strike in the Tampa Bay Region would likely result in homelessness, loss of public facilities, and other varying degrees of suffering depending on the type of hurricane and location of property. The basic problem addressed by this study is how to quickly and effectively recover from such a hurricane disaster to minimize the length and intensity of human suffering.

The project's overall objective is to formulate quantitatively-based recovery strategies and hazard mitigation policies based on quantitative property loss estimates from future probable hurricane scenarios. The Regional Hurricane Loss and Contingency Planning Project is composed of two phases: Phase I is the Hurricane Loss Study and Phase II is the Contingency Planning portion of the project.

The objective of Phase I: Hurricane Loss Study, which is documented by Chapters II through VII of this report, is to estimate quantitatively the property loss that would occur from potential future hurricanes striking areas of the Tampa Bay Region. This entails conducting a property vulnerability analysis. The specific procedures developed and utilized for this analysis are described in Chapter II; Hurricane Loss Methodology.

The objective of the second phase of the project is to formulate quantitatively based hurricane long-range response/recovery strategies for use by federal,

state, local and voluntary disaster assistance agencies; and to formulate geographically specific hurricane hazard mitigation policies for both future development and post-hurricane redevelopment for use by local planning agencies and federal, state, local and voluntary disaster assistance agencies. Specific procedures utilized in their formulation are described in Chapter VIII; Recovery Methodology.

Quantitative property loss estimates are necessary to form the basis for any hurricane recovery plan. To plan for the resources necessary to recover from a hurricane, a local government first must identify where and to what extent hurricane hazards are likely to occur within its jurisdiction. Thus, the projections of hurricane loss documented by this report will be specific as to the amount and geographic location of damage to be expected from various intensities of discrete hypothetical, yet probable, hurricanes. Through the knowledge of expected amounts and locations of future damage, emergency management officials will be able to conduct post-hurricane preliminary damage assessments more rapidly and more accurately. The damage projections also will serve as the basis upon which to plan the entire range of general hurricane recovery operations. Recovery operations for which quantitative loss estimates will make pre-planning possible include immediate operations, such as temporary housing and debris removal, as well as long-range operations, such as reconstruction and restoration of necessary public facilities. Ultimately, quicker and more accurate damage assessments and recovery operations mean less suffering by the inevitable victims of the hurricane.

The property loss estimates are also set forth as a management tool for use by State and Federal disaster assistance agencies in determining recovery resource needs during the disaster assistance process.

Quantitative property loss estimates are also necessary to provide the basis for long-range hurricane hazard mitigation policies for both future development of vulnerable areas and post-hurricane redevelopment. To make hazard-conscious land use and site selection decisions, a local government first must identify where and to what extent hurricane hazards are likely to occur. This relative occurrence probability must be quantified so that the level of risk to the proposed development can be part of considerations in the land use and site selection decision process. Through the knowledge of expected amounts and locations of future hurricane hazards, emergency management officials will be able to pre-plan the general locations for emergency temporary housing. This is crucial because post-disaster mobile temporary housing units often become permanent housing for displaced disaster victims. The hazard and damage projections also will serve as bases for post-hurricane site selection decisions on the relocation of completely devastated housing, public facilities, and hazardous materials storage sites. Also, the geographically-specific hurricane loss projections will provide local governments with an added consideration in normal ongoing land use and site selection decisions.

Finally, as a pilot project, a prime objective of this study is to formulate a sound methodology that can then be utilized by other hurricane-vulnerable regions to arrive at hurricane loss estimates.

SCOPE

In June of 1981, a comprehensive hurricane evacuation plan was completed by TBRPC for the four-county Tampa Bay Region. That project, the **Tampa Bay Region Hurricane Evacuation Plan**, specifically identified the hurricane-vulnerable residents of the region and quantified all response activities necessary to evacuate and shelter those threatened residents before a hurricane makes landfall. However, that project did not conduct a vulnerability analysis of real or personal property or plan for the recovery operations necessary if a hurricane struck the region. The scope of the Evacuation Plan project was to formulate a plan to save lives through the emergency relocation of vulnerable residents before a hurricane makes landfall. Through that project, it was found that the hurricane evacuation of the four-county region is a multifaceted problem requiring a highly complex and coordinated warning, traffic movement, and sheltering system. However, it is also recognized that a whole new realm of emergency and long-range problems would face the four counties when they would attempt to recover from such a devastating natural event. It is these hurricane recovery problems and long-range hazard mitigation policies that this Regional Hurricane Loss and Contingency Planning project addresses.

The Hurricane Loss Study documented by this report is a hurricane vulnerability analysis of structural property. It estimates the extent and location of potential hurricane loss. Because potential loss of life caused by a hurricane is heavily dependent on the highly unpredictable factor of human behavior, any estimates of number of deaths or injuries from future hurricanes is largely postulation. Such estimates are not within the scope of this study. The geographic study area includes the entire areas of Hillsborough, Manatee, Pasco, and Pinellas counties from the major hurricane hazards of overland storm surge and high winds.

The first task of the Loss Study (vulnerability analysis) is to identify the property-at-risk. Next, the risk areas are mapped, followed by a land use and structural inventory of those areas. The basic property loss that is most visually evident in the wake of a hurricane strike is structural loss. The valuation of such structural loss is then quantified. The types of structural loss quantified include residential, commercial, industrial, and military. These estimates, or "short-term replacement" costs serve as the basis for the quantification of certain indirect, secondary or intangible losses. These losses include service and/or social disruption as well as temporary employment loss. Finally, the risk of such loss is quantified through a probability of occurrence analysis. This results in final estimates of potential hurricane loss that are quantitative in terms of extent and location as well as defined by levels of risk (annualized hurricane loss).

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INTEGRATION INTO COMPREHENSIVE EMERGENCY MANAGEMENT

Since the beginning of the Regional Disaster Preparedness Program in 1978 marked by the **Regional Disaster Preparedness Needs Study**, TBRPC has conducted projects to assist the local governments of the region toward the comprehensive emergency management of hurricane hazards. The concept of comprehensive emergency management (CEM) is the capability for managing all phases of an emergency or disaster situation. Although CEM includes managing all types of hazards, this study primarily addresses two (2) phases of managing the most critical large-scale natural hazard: the hurricane.

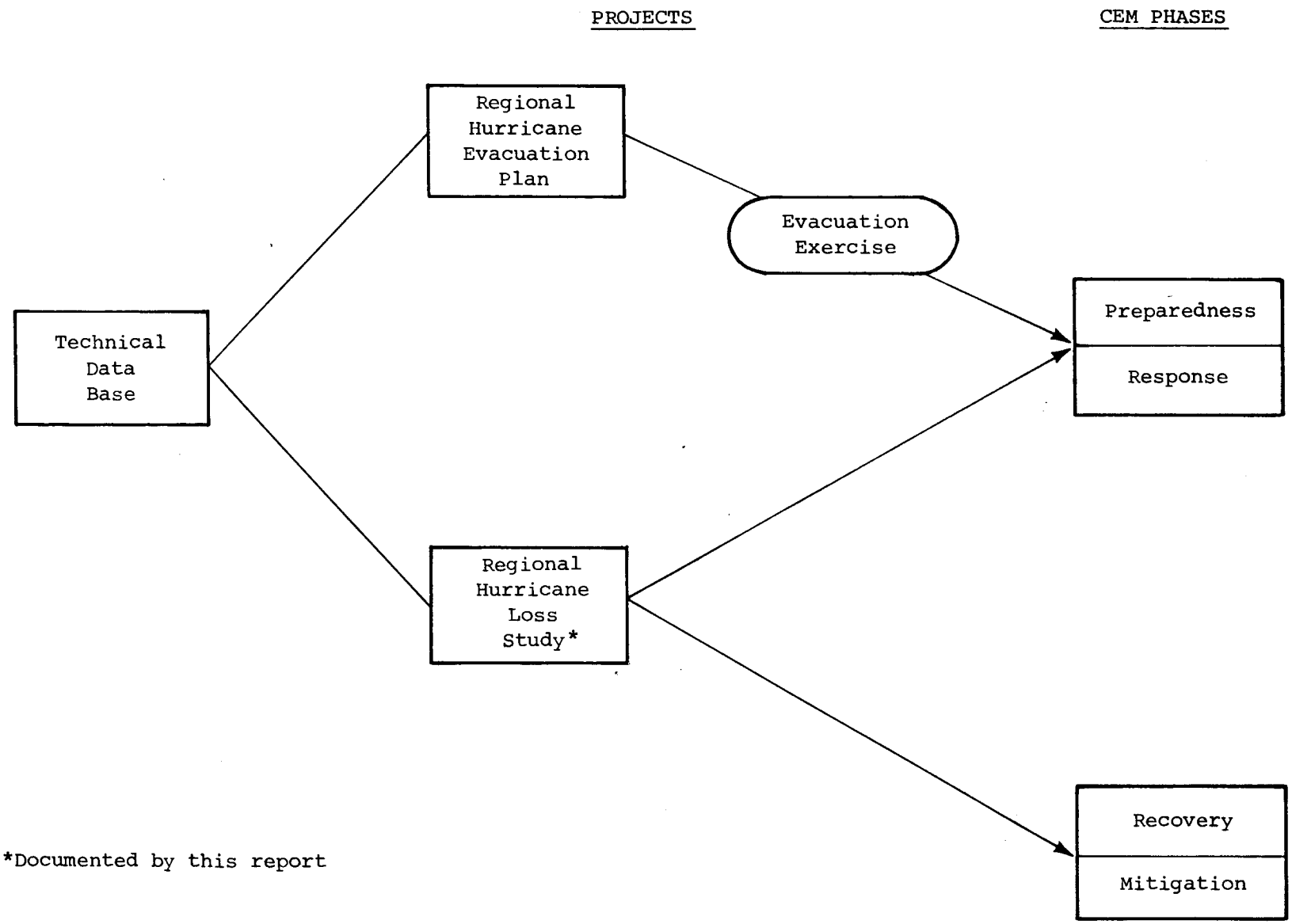
Like any man-made, attack, or natural hazard; comprehensively managing the hurricane hazard includes carrying out and coordinating actions under four (4) related phases: mitigation, preparedness, response, and recovery. The **Regional Disaster Preparedness Needs Study** completed in June 1979 called for efforts to improve emergency capability in all four of these phases. One of the most immediate needs identified was the need to improve the preparedness of the region's local governments for a potential response to an approaching hurricane through formulating a quantitative evacuation plan. This need was met with the completion of the **Tampa Bay Region Hurricane Evacuation Plan** in June 1981. The hurricane preparedness and response capabilities of the Region's local governments were increased even further through conducting the Tampa Bay Region Hurricane Evacuation Exercise on May 6, 1982. Thus, the Evacuation Plan and Evacuation Exercise projects were primarily hurricane preparedness and response projects. In contrast, this **Regional Hurricane Loss Study**, also called for by the Needs Study, is aimed at increasing the hurricane recovery and mitigation capabilities of the region's local governments. The damage projections and recommendations of this study are set forth as the basis for quick and efficient hurricane recovery operations as well as wise long-range hurricane mitigation measures.

The four activity phases of managing the hurricane hazard make up a continuous cycle of activities. They are not discrete phases; it often is not easily identifiable where one phase ends and the other begins. For example, there is no distinct point at which the "response" phase ends and the "recovery" phase begins. It can be said that any emergency research and/or planning project will, to some degree, enhance the capabilities in all four activity phases. Just as in the Evacuation Plan/Exercise projects, the basis for such increased emergency capabilities is a sound base of technical data. This report sets forth this technical data base for hurricane recovery and mitigation. The key to comprehensive emergency management is planning for inevitable hazards based on sound technical data. Figure 1 graphically illustrates this process as it relates to the previous evacuation projects as well as this Hurricane Loss Study.

Chapter II of this study documents the hurricane loss methodology utilized in this pilot project. The remaining chapters present the findings of the various analyses conducted throughout the study. Chapter III presents the results of the structural property vulnerability analysis. Chapter IV then quantifies the dollar loss associated with the projected structural loss. Chapters V and VI analyze and quantify the more indirect hurricane losses: service disruption and social disruption. A probability analysis of vulnerability in the form of expected annualized hurricane loss is presented as Chapter VII. Chapter VIII describes the recovery planning methodology utilized. Chapter IX presents the projected temporary housing and other assistance needs. Chapters X through XIII are the Recovery Implementation guides for each county of the Region. Finally, Chapter XIV presents regional policies for hurricane hazard mitigation.

FIGURE 1

INTEGRATION INTO COMPREHENSIVE EMERGENCY MANAGEMENT (CEM)



*Documented by this report

PHASE I

HURRICANE LOSS STUDY

CHAPTER II

HURRICANE LOSS METHODOLOGY

Since this is the first hurricane loss study initiated in the U.S. (similar efforts have since begun in the Galveston Bay, Texas and Charlotte Harbor, Florida regions), a prime objective of this pilot project is to formulate a sound methodology that can then be utilized by other hurricane-vulnerable regions to arrive at hurricane loss estimates. This prototypical characteristic of the study makes the description of the methodology by this chapter very important. Figure 2 presents the major steps in this methodology in the form of a flow chart, to be referred to throughout this chapter.

Generally, the methodological basis for this study lies in two types of previous quantitative hurricane analyses: (1) the **Tampa Bay Region Hurricane Evacuation Plan (Technical Data Report**, TBRPC, June 1981) and (2) "macro" hurricane hazard impact assessment analyses on a nation-wide level by Dr. Donald G. Friedman, Travelers Insurance Co. (1974) and the J. H. Wiggins Co. (1978).

The five-scenario and loss zone concepts of the study stem from the Regional Hurricane Evacuation Plan. To maintain consistency of the hurricane hazard data base through the four phases of comprehensive emergency management (CEM), the same general geographical pattern of hazard severity and effect of local conditions were analyzed for this recovery/mitigation study as were analyzed for the preparedness/response evacuation plan.

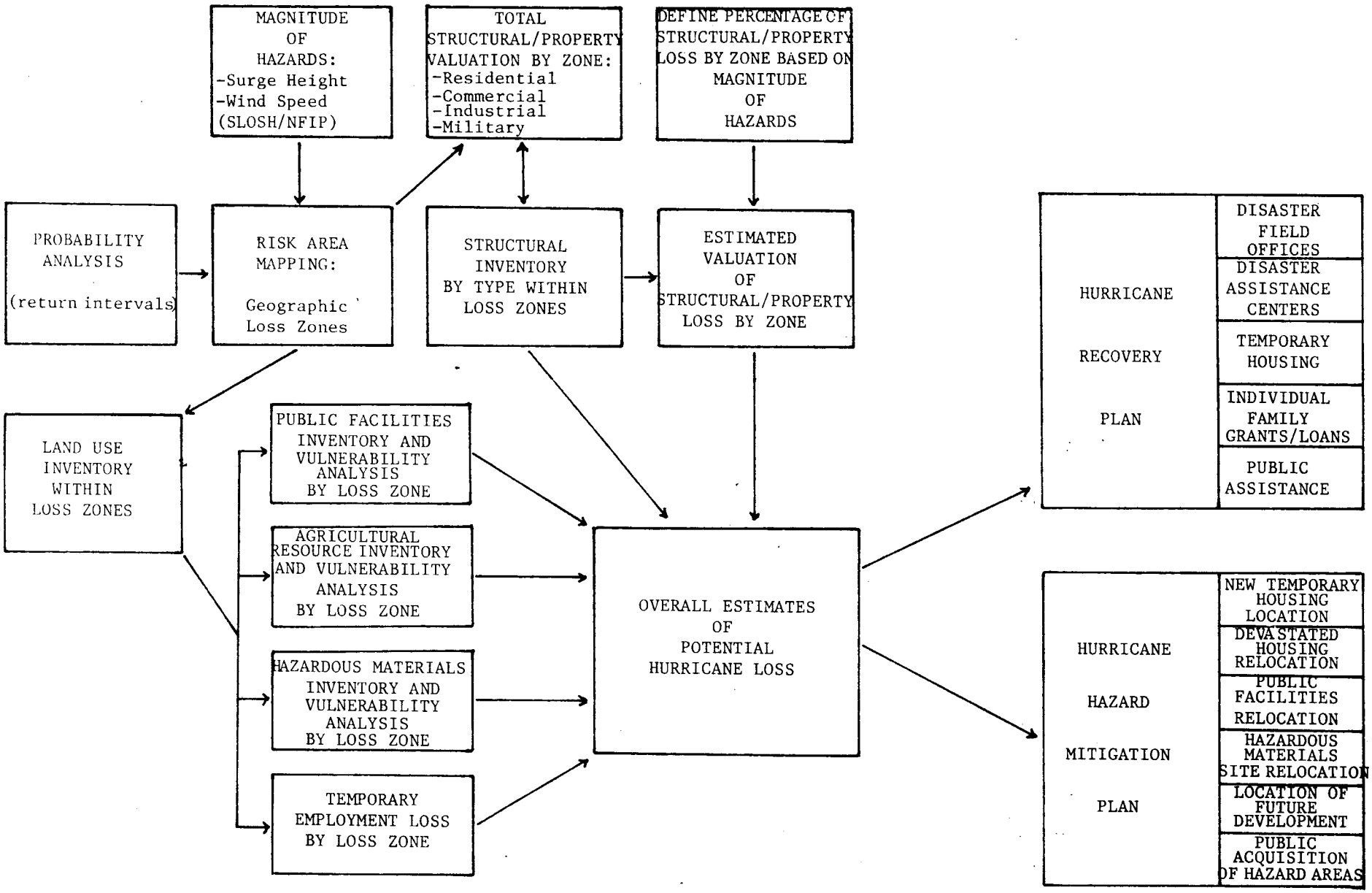
The major steps of hazard impact analysis are based, in part, on those documented by Friedman (1974) and Wiggins (1978). Those previous efforts are similar to this study in that dollar ($) loss is the major measurement of hazard impact, yet they differ as to the geographical level of resolution addressed. Those previous studies are referred to as "macro" analyses because they addressed all hurricane-vulnerable areas of the country at either the county level or a 35 square mile grid level. The vulnerability analysis for this Loss Study is based on a geographical grid system composed of cells from .5 square mile to 1.5 square mile in size. The overall determination of projected hurricane loss followed the interaction of factors set forth by the Expert Group Meeting on Vulnerability Analysis, Office of the United Nations Disaster Relief Co-ordinator, July 1979.

HAZARD ANALYSIS

The projection of property loss estimates from hurricane hazards requires the determination and definition of the hazard area as well as the analysis of vulnerability of property-at-risk to both storm surge (flooding) and high winds.

The potential geographic extent and depth of coastal and inland inundation caused by hurricane storm surge throughout the four-county region was measured by NOAA's SLOSH (Sea, Lake, and Overland Surges from Hurricanes) numerical storm surge prediction model. TBRPC's in-house data base of 64 hypothetical hurricane SLOSH simulations was utilized to measure the major storm surge

FIGURE 2
TAMPA BAY REGION HURRICANE LOSS AND CONTINGENCY PLANNING PROJECT
METHODOLOGY



components that would inundate the region. This was the same data base that was previously utilized for the **Regional Hurricane Evacuation Plan** project.

In addition to the depth of the surge, another characteristic of the storm surge -- velocity is a large determinant of the type and magnitude of structural damage caused by surge in immediate coastal areas. The geographic extent to which this characteristic would be present throughout the region was measured utilizing revised National Flood Insurance Program coastal flooding data provided by FEMA.

The potential hurricane wind velocities at the open coastline were measured by NOAA's SLOSH model. The international standard sustained wind velocity (10-minute average) output from the SLOSH model was first converted to the U.S. standard sustained wind velocity (1-minute average). These velocity levels were then transformed to peak gust velocities for application to separate "loss curves" described later in this chapter. Finally, decreases in the open coastline peak gust velocities over the land areas of the four counties were quantified and distributed throughout the region based on filling and intensity changes of the hypothetical hurricanes immediately after landfall.

Hurricane Damage Scenarios

In formulating any contingency plan for an event that is not totally predictable, the number of hypothetical scenarios of that event that must be prepared for is very important to the ultimate value and utility of the plan. In the case of hurricane hazards planning, it is impossible to formulate a plan for the infinite number of exact types of hurricanes that might potentially strike a local area. Therefore, the number of scenarios upon which a plan is based must be flexible enough to match the level of detailed predictability of the event, yet also be limited to ensure that the emergency operations for each scenario can be quickly interpreted and implemented. As in the previously formulated evacuation plan, these considerations resulted in the adoption of the five (5)-scenario concept for this loss study.

The formulation of county damage scenarios and regional damage scenarios is similar to the formulation of county and regional evacuation scenarios under the **Regional Evacuation Plan.** The primary parameter leading to a particular damage scenario is the hurricane's intensity. The standard intensity classification system in the U.S. is the Saffir/Simpson Hurricane Damage Potential Scale, which classifies any hurricanes into one of five (5) Categories: from a Category 1 (minimal intensity) hurricane to a Category 5 (maximum intensity) hurricane. The Saffir/Simpson Scale appears as Appendix A to this report. Just as in the **Regional Evacuation Plan,** this study adopts the intensity categories of the Saffir/Simpson Scale as the initial parameter toward defining Tampa Bay damage scenarios.

In addition to its intensity category, any hurricane's damage potential to a particular county depends on several other factors, including the track of the hurricane, the size of the hurricane, the forward speed of the hurricane, and the county's offshore bathymetric configuration. The 64 hypothetical hurricane SLOSH simulations were analyzed to define more specifically their damage potentials into county damage scenarios. The parameters of those hypothetical hurricanes analyzed are included in Table 1. The location code letters for the tracks of the hypothetical hurricanes correspond to the hurricane tracks graphically presented in Figure 3.

TABLE 1

HURRICANES SIMULATED BY NUMERICAL STORM SURGE PREDICTION MODELS

MODEL TYPE LOCATION CATEGORY	Landfall/Exiting Point or Closest Approach	Area Receiving Maximum Surge/Winds	Pressure Drop (Millibars)	Radius of Maximum Winds (Statute Miles)	Forward Speed (Miles per hour)	Direction Storm Moving Toward (Degree Clockwise from North)
SP-L-H-1	Homosassa (Citrus Co.)	Hudson	30	15	15	40°
SP-L-H-2	Homosassa (Citrus Co.)	Hudson	40	15	15	40°
SP-L-H-3	Homosassa (Citrus Co.)	Hudson	60	15	15	40°
SP-L-H-4	Homosassa (Citrus Co.)	Hudson	80	15	15	40°
SP-L-H-5	Homosassa (Citrus Co.)	Hudson	100	10	15	40°
SP-L-NPR-1	Chassahowitzka Bay	New Port Richey	30	15	15	40°
SP-L-NPR-2	Chassahowitzka Bay	New Port Richey	40	15	15	40°
SP-L-NPR-3	Chassahowitzka Bay	New Port Richey	60	15	15	40°
SP-L-NPR-4	Chassahowitzka Bay	New Port Richey	80	15	15	40°
SP-L-NPR-5	Chassahowitzka Bay	New Port Richey	100	10	15	40°
SP-L-TS-1	Pine Island (Hernando Co.)	Tarpon Springs	30	15	15	40°
SP-L-TS-2	Pine Island (Hernando Co.)	Tarpon Springs	40	15	15	40°
SP-L-TS-3	Pine Island (Hernando Co.)	Tarpon Springs	60	15	15	40°
SP-L-TS-4	Pine Island (Hernando Co.)	Tarpon Springs	80	15	15	40°
SP-L-TS-5	Pine Island (Hernando Co.)	Tarpon Springs	100	10	15	40°
SP-P-P15-3	Pasco County	Pasco County	60	15	15	345° to 20°
SP-P-P30-3	Pasco County	Pasco County	60	15	15	345° to 20°
SL-L-NN-1	Aripeka	New Port Richey	30	15	15	40°
SL-L-NN-2	Aripeka	New Port Richey	40	15	15	40°
SL-L-NN-3	Aripeka	New Port Richey	60	15	15	40°
SL-L-NN-4	Aripeka	New Port Richey	80	15	15	40°
SL-L-NN-5	Aripeka	New Port Richey	100	10	15	40°
SL-L-NP-1	New Port Richey	Caladesi Island	30	15	15	40°
SL-L-NP-3	New Port Richey	Caladesi Island	60	15	15	40°
SL-L-NP-4	New Port Richey	Caladesi Island	80	15	15	40°
SL-L-NP-5	New Port Richey	Caladesi Island	100	10	15	40°
SL-L-TN-1	Tarpon Springs	Belleair Beach	30	15	15	40°
SL-L-TN-2	Tarpon Springs	Belleair Beach	40	15	15	40°
SL-L-TN-3	Tarpon Springs	Belleair Beach	60	15	15	40°
SL-L-TN-4	Tarpon Springs	Belleair Beach	80	15	15	40°
SL-L-TN-5	Tarpon Springs	Belleair Beach	100	10	15	40°

TABLE 1 (Cont'd)

MODEL TYPE LOCATION CATEGORY	Landfall/Exiting Point or Closest Approach	Area Receiving Maximum Surge/Winds	Pressure Drop (Millibars)	Radius of Maximum Winds (Statute Miles)	Forward Speed (Miles per hour)	Direction Storm Moving Toward (Degree Clockwise from North)
SL-L-CL-1	Clearwater	Treasure Island	30	15	15	40°
SL-L-CL-3	Clearwater	Treasure Island	60	15	15	40°
SL-L-CL-5	Clearwater	Treasure Island	100	10	15	40°
SL-L-TC-1	Madeira Beach	Mouth of Tampa Bay	30	15	15	40°
SL-L-TC-2	Madeira Beach	Mouth of Tampa Bay	40	15	15	40°
SL-L-TC-3	Madeira Beach	Mouth of Tampa Bay	60	15	15	40°
SL-L-TC-4	Madeira Beach	Mouth of Tampa Bay	80	15	15	40°
SL-L-TC-5	Madeira Beach	Mouth of Tampa Bay	100	10	15	40°
SL-L-ST-1	St. Petersburg Beach	Anna Maria/Terra Ceia	30	15	15	40°
SL-L-ST-3	St. Petersburg Beach	Anna Maria/Terra Ceia	40	15	15	40°
SL-L-ST-5	St. Petersburg Beach	Anna Maria/Terra Ceia	100	10	15	40°
SL-L-KE-1	Egmont Key	Longboat Key	30	15	15	40°
SL-L-KE-2	Egmont Key	Longboat Key	40	15	15	40°
SL-L-KE-3	Egmont Key	Longboat Key	60	15	15	40°
SL-L-KE-4	Egmont Key	Longboat Key	80	15	15	40°
SL-L-KE-5	Egmont Key	Longboat Key	100	10	15	40°
SL-L-TS-1	Holmes Beach	New Pass/So. Manatee Co.	30	15	15	40°
SL-L-TS-3	Holmes Beach	New Pass/So. Manatee Co.	60	15	15	40°
SL-L-TS-5	Holmes Beach	New Pass/So. Manatee Co.	100	10	15	40°
SL-E-T-3	Anclote Keys	McKay Bay	60	15	15	288°
SL-E-N-3	Dunedin	McKay Bay	60	15	15	288°
SL-E-C-3	St. Petersburg Beach	Terra Ceia Bay	60	15	15	288°
SL-E-S-3	Whitney Beach	Sarasota Bay	60	15	15	288°
SL-P-P00-1	Egmont Key	Boca Ciega Bay/ St. Joseph Sound	30	15	15	335°
SL-P-P00-2	Egmont Key	Boca Ciega Bay St. Joseph Sound	40	15	15	335°
SL-P-P00-3	Egmont Key	Boca Ciega Bay/ St. Joseph Sound	60	15	15	335°
SL-P-P15-1	15 mi. West of Egmont Key	Boca Ciega Bay	30	15	15	335°
SL-P-P15-2	15 mi. West of Egmont Key	Boca Ciega Bay	40	15	15	335°
SL-P-P15-3	15 mi. West of Egmont Key	Boca Ciega Bay	60	15	15	335°
SL-P-P30-1	30 mi. West of Egmont Key	Boca Ciega Bay	30	15	15	335°
SL-P-P30-2	30 mi. West of Egmont Key	Boca Ciega Bay	40	15	15	335°
SL-P-P30-3	30 mi. West of Egmont Key	Boca Ciega Bay	60	15	15	335°
SL-P-P60-4	60 mi. West of Egmont Key	Boca Ciega Bay	80	20	15	335°
SL-P-P60-5	60 mi. West of Egmont Key	Pinellas/Pasco Gulf Beaches	100	10	15	335°

TABLE 1 (Cont'd)

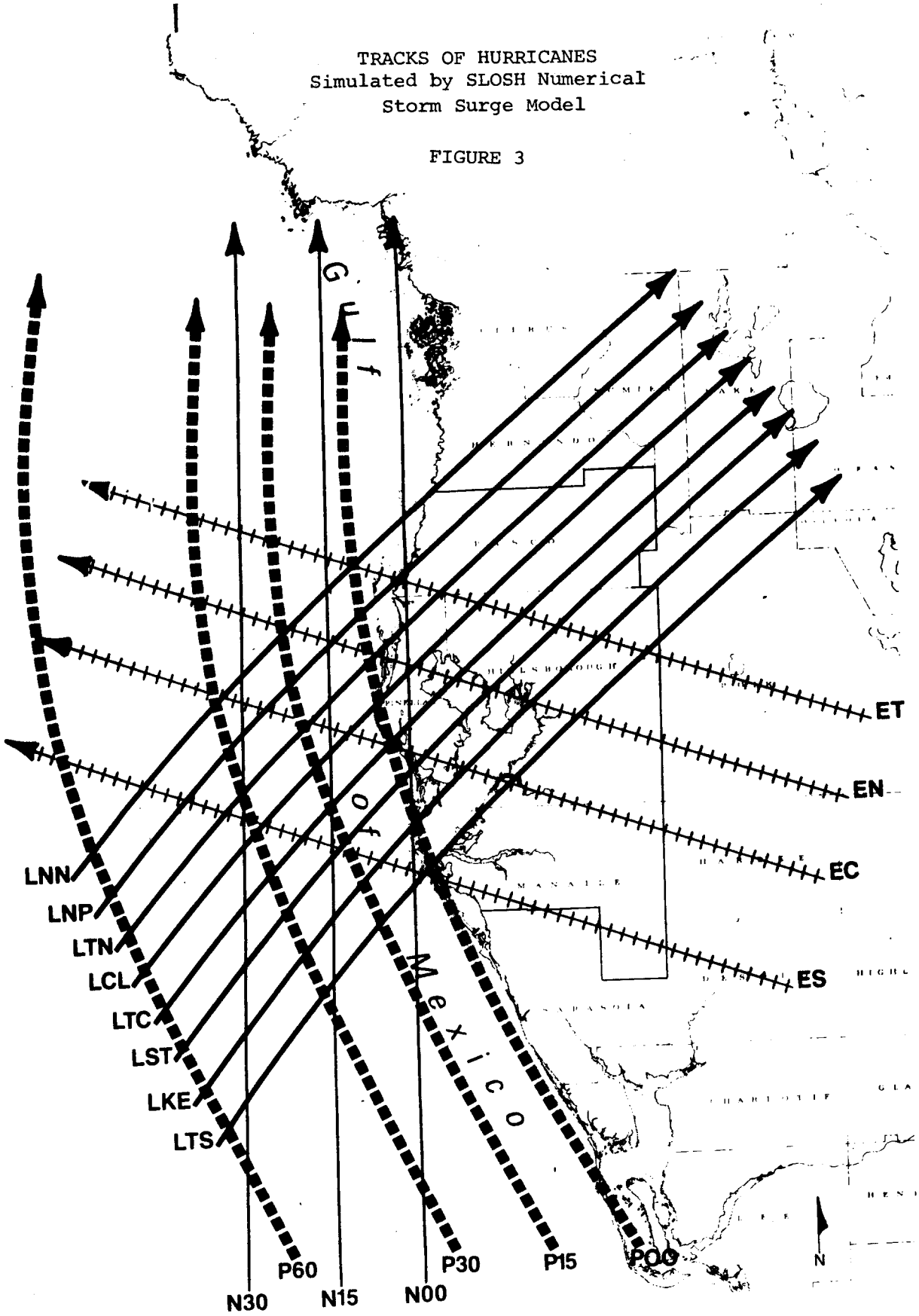
MODEL TYPE LOCATION CATEGORY	Landfall/Exiting Point or Closest Approach	Area Receiving Maximum Surge/Winds	Pressure Drop (Millibars)	Radius of Maximum Winds (Statute Miles)	Forward Speed (Miles per hour)	Direction Storm Moving Toward (Degree Clockwise from North)
SL-P-N00-3	Egmont Key	McKay Bay/Sarasota Bay St. Joseph Sound/Boca Ciega Bay	60	15	15	0°
SL-P-N15-3	15 mi. West of Egmont Key	McKay Bay/Sarasota Bay St. Joseph Sound/Boca Ciega Bay	60	15	15	0°
SL-P-N30-3	30 mi. West of Egmont Key	McKay Bay St. Joseph Sound/ Boca Ciega Bay	60	15	15	0°
SL-L-WSW-3	Belleair Beach	Hillsborough Bay	60	15	15	75°
SL-L-TP1-3	Egmont Key	Longboat Key	60	15	5.75	25°
SL-L-TP2-3	Egmont Key	Longboat Key	60	15	11.5	25°
SL-L-TP3-1	Egmont Key	Longboat Key	30	15	11.5	25°
SL-L-TP4-3	Egmont Key	Longboat Key	60	15	17.25	25°
SL-L-TP5-3	Belleair Beach	St. Petersburg Beach	60	15	11.5	25°
SL-L-TP6-3	Longboat Key	Siesta Key	60	15	11.5	25°
SL-P-TP7-3	25 Mi. west of Egmont Key	Boca Ciega Bay	60	15	11.5	0°
SL-L-TP8-3	Tarpon Springs	Belleair Beach	60	20	15	40°
SL-L-TP9-3	Tarpon Springs	Belleair Beach	60	25	15	40°
SL-L-TP10-3	Tarpon Springs	Belleair Beach	60	30	15	40°
SL-L-TP11-3	Tarpon Springs	Belleair Beach	60	35	15	40°
SL-L-TP12-3	Tarpon Springs	Belleair Beach	60	40	15	40°

KEY

SP - SPLASH (Special Program to List Amplitudes of Surges from Hurricanes) Model
SL - SLOSH (Sea, Lake, and Overland Surges from Hurricanes) Model
L - Landfalling Hurricane
E - Exiting Hurricane
P - Paralleling Hurricane

TRACKS OF HURRICANES
Simulated by SLOSH Numerical
Storm Surge Model

FIGURE 3



In summary, the utility of property loss estimates for hurricane recovery purposes depends upon a system of pre-formulated damage scenarios. The county and regional scenario concept just described serves as the general base for the detailed storm surge and windspeed vulnerability analysis. A description of the specific methods of analyzing both the storm surge and windspeed hazards follows.

Storm Surge Flooding

To project property loss estimates for coastal counties from future hurricanes, the geographic pattern of storm surge severity must be predicted throughout the counties from various hypothetical hurricanes. NOAA's SLOSH (Sea, Lake, and Overland Surges from Hurricanes) numerical storm surge prediction model was utilized as the primary tool to simulate 64 hypothetical hurricanes and quantify their geographic pattern of storm surge severity throughout the region. The Tampa Bay SLOSH computer model was selected primarily because the output from each hurricane simulated represents the predicted surge height pattern in a county from a discrete hurricane, as opposed to a pattern from the joint effects of many hurricanes striking that county. Property loss estimates as guidance for local civil defense recovery operations must be based on county-wide surge patterns from discrete hypothetical hurricanes with actual potential for occurrence. A general description of the SLOSH model appears as Appendix B.

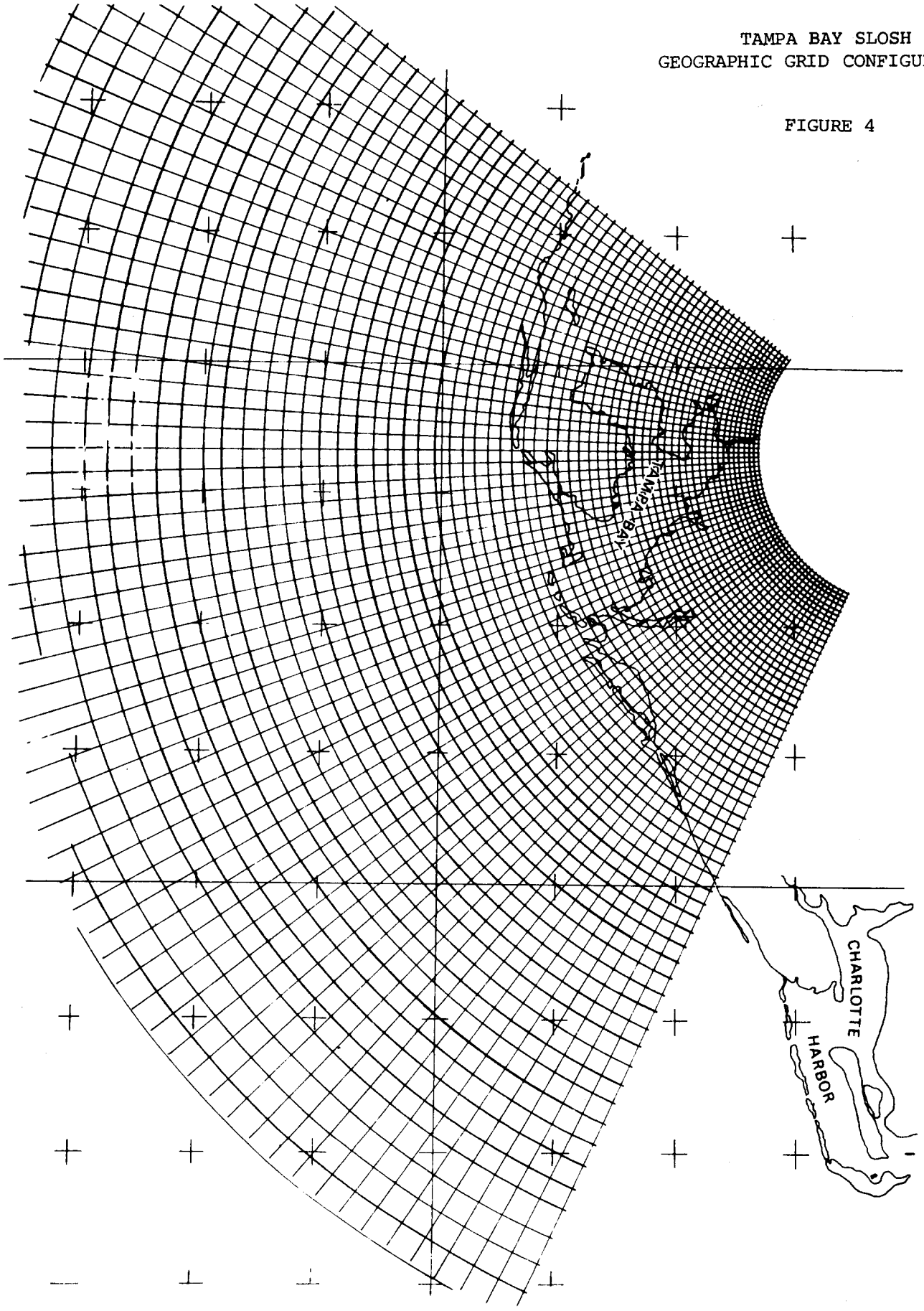
The SLOSH model provides a geographic pattern of the extent and depth of coastal and inland storm surge inundation through a polar grid system of 3,600 cells over both water and land. The model has the capability of generating surge heights in every cell for each hypothetical hurricane simulated through the model. The effect of local conditions throughout the Tampa Bay Region on an approaching and landfalling hurricane's surge is considered in each simulation; the model incorporates the geographic configuration of land and water bodies, water depth, land elevation, and barriers to surge action such as roads, bridges, and vegetation. The model, developed by Jelesnianski (documentation in preparation), numerically solves certain equations of motion to compute the surge over the polar grid cells. The configuration of the grid system over the Tampa Bay Region is presented in Figure 4.

The SLOSH model surge height output is quantified in relation to mean sea level (MSL) in all grid cells over both water and land. For structural damage analysis, the predicted height of surge actually inundating land areas is necessary. Therefore, the land elevation of each grid cell was subtracted from each surge height output by the model to quantify the actual height of water predicted to flood structures located in each cell.

A storm surge characteristic that is very important in projecting structural property damage is the forward movement of the water striking structures located in immediate shoreline areas. This "velocity" characteristic of surge in certain areas logically inflicts greater damage to a structure when compared to the slowly rising flooding that the surge creates for structures further inland. The SLOSH model does not identify the velocity characteristic in its computer output of ultimate surge heights. To consider the presence of surge velocity in certain areas throughout the region, the SLOSH surge heights were supplemented with an identification of surge velocity from the community

TAMPA BAY SLOSH
GEOGRAPHIC GRID CONFIGURATION

FIGURE 4



flood hazard mapping delineations of the National Flood Insurance Program (NFIP) studies.

After the SLOSH surge height data was compiled for all areas of the region and all hurricane scenarios, the areas of the region located in "V-zones" were identified using the NFIP's revised preliminary flood insurance rate maps. The structures in these areas were assigned higher "velocity" vulnerability coefficients rather than the general surge height vulnerability coefficients (see description of loss curves later in this chapter). The NFIP studies and flood insurance rate maps covering all local governments in the region with potential flood hazards were provided by FEMA.

Hurricane Winds

Significant hurricane-caused structural property damage also results from high winds. Projecting property loss estimates from future hurricanes in coastal counties also requires predicting the geographic pattern of wind velocities throughout the counties from various hypothetical hurricanes.

In addition to the surge height data, the SLOSH model predicts sustained wind velocities for selected cells throughout the geographic grid system for each simulated hypothetical hurricane. However, since the available structural vulnerability data is defined in terms of peak gust wind velocities rather than sustained wind velocities, a conversion procedure was undertaken consisting of the following steps to predict peak gust velocities from the hypothetical hurricanes.

- conversion of ten-minute sustained velocities (SLOSH) to one-minute sustained velocities
- conversion of one-minute sustained velocities to peak gust velocities
- adjustment of peak gust velocities for frictional effects at the coast
- adjustment of peak gust velocities for filling of hurricane as it moves inland

The sustained wind velocities generated by the SLOSH model are "ten-minute sustained" velocities, (the international standard for sustained winds) which is the average velocity for a ten-minute period. The U.S. standard for sustained winds is the average velocity for a one-minute period, or a "one-minute sustained" velocity. SLOSH-generated ten-minute sustained velocities were multiplied by a factor of 1.30 to convert to one-minute sustained velocities. This factor is a generally accepted conversion for estimating simulated windspeeds (Jarvinen, 1982).

The next step was to convert the one-minute sustained velocities to peak gust velocities. Atkinson (1974) sets forth multiplier factors for such conversions, taking into consideration the general type of surface the winds are passing over. The factors range from 1.43 for a water surface to 1.11 for a surface characteristic of suburban development. The latter factor was utilized for this study to conform to the type of structural density generally found at the shoreline in the Tampa Bay Region.

As a hurricane approaches the coastline before landfall, its wind field moves over land. The topography and physical character of the land presents a rougher interface with the surface winds than does the water, resulting in a reduction in wind velocity from the friction at the interface. In addition, as the eye of the hurricane moves inland, the loss of ocean-warmed surface air causes dissipation of tropical characteristics which further reduces wind velocity. This is termed "filling" of the hurricane. For this study, the peak coastline velocities were adjusted for both the frictional effects and filling effects utilizing coefficients developed by Malkin (1959) and refined by Goldman and Ushijima (1974). For example, the adjustment decreases peak gust velocities about 12 percent as the location of the hypothetical hurricane is 30 miles inland and 18 percent at 60 miles inland.

RISK AREA MAPPING

The preceding sections identified the potential hurricane damage scenarios that must be planned for and described the methods and tools that were utilized to predict the geographic pattern of storm surge and wind speed. These tools and methods consider the effect of local conditions in modifying the severity of the surge and wind hazards throughout the four counties of the Region. The next step in a hurricane property vulnerability analysis applies the geographic pattern of surge and wind severity to the spatial spread, type, and density of property which is exposed to those surge and wind hazards.

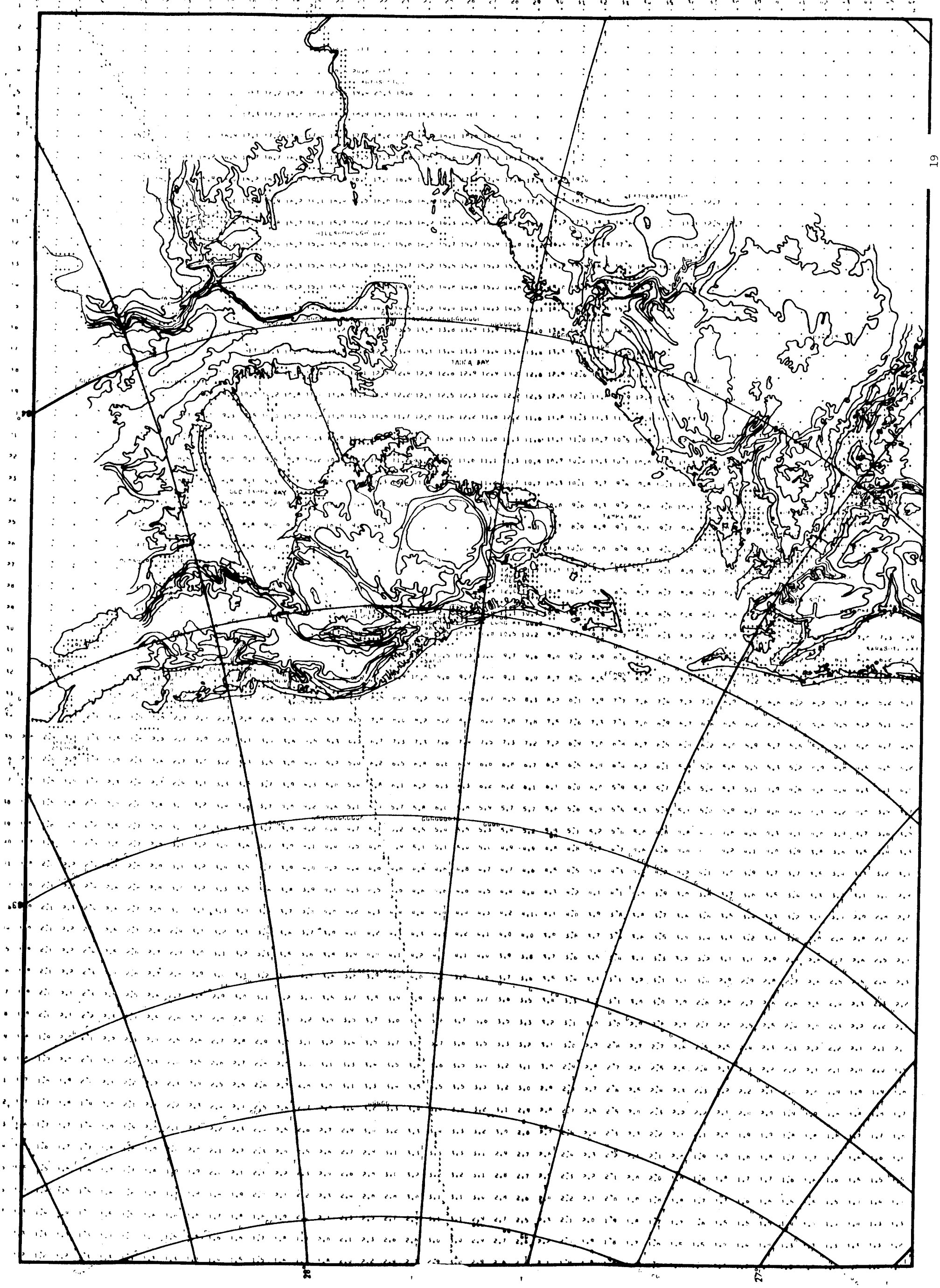
The SLOSH model provides the basic pattern of storm surge extent and depth of inundation through a geographic computer printout of the surface envelope of highest surges above mean sea level. This is provided by each simulation of a hypothetical hurricane through the model, with surge heights printed for the 3,600 cells of the polar grid system. The printout is approximately 24" x 30" in size and is nonuniform in scale because of its "telescoping" nature (see Figure 4). An example of the surge envelope output printout from one simulated hurricane, combined with the polar latitude/longitude lines and topographic contours of the region, appears as Figure 5. The hurricane's track is represented on the printout by the dollar sign ($) symbol.

The surge envelope printout was transformed to a larger scale suitable for the detailed identification of surge height values relative to specific areas of the region. A transparent overlay of the model's geographic grid configuration was produced by the NOAA Techniques Development Lab. This allowed the surge heights to be analyzed at a working scale of 1:62,500, utilizing National Ocean Survey Storm Evacuation Maps as the topographic and physical feature base map for the overlay system. This is very important because the numerical surge values appearing on each simulated hurricane printout are in relation to mean sea level (MSL), requiring a subtraction of the land elevation from the printed surge height.

The level of resolution of the model's grid ranges from cells approximately 1.5 square miles in size at the extreme western end of the land grid to cells of approximately .5 square miles in size in the back bay areas of the grid. (See Figure 4). The SLOSH surge heights are output corresponding to these grid cells. However, the structural inventory and value of that property (described later in chapter) was quantified utilizing the existing county property appraisers data files, which uses the government grid system survey (section, township, and range). Therefore, the surge height output by the

FIGURE 5

SLOSH SURGE ENVELOPE
PRINTOUT AND POLAR GRID
SYSTEM BASE



SLOSH grid system was geographically converted to the section, township, and range (S/T/R) system and mapped using the following procedure:

First, the existing land elevation by S/T/R throughout the region was compiled from the National Ocean Survey Storm Evacuation Maps and S/T/R overlays. The average surge height (in relation to MSL) by S/T/R was then calculated by combining the SLOSH grid cell heights that composed that particular section. This was done for each of the five hypothetical hurricane damage scenarios for each of the four counties, utilizing a map overlay system composed of (1) National Ocean Survey Storm Evacuation Maps, (2) SLOSH grid system overlay, and (3) S/T/R overlay. This resulted in average surge heights (to MSL) for every section of the S/T/R system. Finally, the existing land elevation was subtracted from the surge height in each section, resulting in an ultimate surge height overland for every section in the S/T/R system throughout the four counties. In summary, the storm surge hazard of each of the five hypothetical hurricane damage scenarios is composed of surge heights and surge velocity indications for each of the approximately 700 affected sections of the S/T/R system throughout the region.

The mapping of predicted wind velocities from the five hypothetical hurricane damage scenarios was also geographically converted to the S/T/R system throughout all areas of the region's four counties. First, for each of the five damage scenarios, the "open-water" peak gust velocities were selected from the SLOSH grid cell at the coastal north-south midpoints of each county. These grid cell velocities represent the maximum wind velocity experienced in each county from the radius of maximum winds or eye wall of each hypothetical hurricane modeled as a damage scenario. Using the north-south midpoints of each county as the reference point, the peak gust velocity (radius of maximum winds) was then reduced inland by section based on distance inland (Malkin 1959, Goldman and Ushijima 1974) of the section, township, and range. This predicted peak gust velocities throughout the four coastal counties including physical frictional effects and hurricane filling effects. In summary, the high wind hazard of each of the five hypothetical hurricane damage scenarios is composed of peak gust wind velocities for each of the approximately 3,000 affected sections of the S/T/R system throughout the region.

As described in the first section of this chapter, the county damage scenarios are generally based on the expected surge height intervals of the Saffir/Simpson Hurricane Damage Potential Scale. From among the 64 hypothetical hurricanes simulated through the SLOSH model, five were selected for each of the four counties to represent the five county hurricane damage scenarios. These five storms for each county would produce the five levels of surge height throughout that county. These "model" hypothetical hurricanes are the basis for the risk area mapping of the hazards just described and are listed below as Table 2. (See Table 1 for hurricane parameters represented by the code letters and numbers in Table 2).

TABLE 2

MODEL HYPOTHETICAL HURRICANES
REPRESENTING COUNTY DAMAGE SCENARIOS

Damage Scenario	COUNTY Pasco	Pinellas	Hillsborough	Manatee
A	SL-L-TN-1	SL-L-KE-4	SL-L-KE-1	SL-L-KE-1
B	SL-L-TN-2	SL-L-TN-1	SL-L-KE-3	SL-L-KE-2
C	SL-L-NN-2	SL-L-TN-3	SL-L-KE-4	SL-L-KE-3
D	SL-L-NN-4	SL-L-TN-4	SL-L-TC-3	SL-L-KE-4
E	SL-L-NN-5	SL-L-TN-5	SL-L-TC-5	SL-L-KE-5

PROPERTY-AT-RISK

Property damage from a hurricane strike at or near Tampa Bay will likely be widespread throughout most, if not all, of the four counties of the region. The final results of the risk area mapping just described presents five hurricane vulnerability scenarios which represent five levels of property-at-risk for each county. In reporting results of preliminary damage assessments during the initial recovery stage, predesignated geographic zones describing community areas that experienced a common level of damage are very useful to emergency management officials at all government levels. For this study, such zones are called hurricane loss zones.

Hurricane Loss Zones

Through the analysis of the SLOSH results from 64 hypothetical hurricanes of varying parameters, geographic patterns of expected storm surge inundation were identified throughout the region. These same patterns were used, in part, to delineate evacuation zones for the 1981 Regional Hurricane Evacuation Plan. The patterns indicate community-wide areas in each county that would receive similar amounts and types of storm surge flooding from potential future hurricanes. Therefore, these patterns also indicate the general degrees of structural damage that can be expected by community area. By delineating these patterns into "loss zones", expected damage levels and, subsequently, expected recovery resources can be defined and allocated by such community-wide geographic areas. To maintain continuity between the definition of geographic zones for evacuation (preparedness) and damage assessment (recovery), the 184 evacuation zones of the region are also utilized as the "hurricane loss zones" for damage assessment purposes. These zones are generally homogeneous in land elevation and distance from major water bodies. Most important, the land area within each zone is expected to receive a similar type and amount of storm surge based on results from the SLOSH modeling. Pinellas County is divided into 72 loss zones, Hillsborough County has 59 loss zones, Manatee County contains 29 loss zones, and Pasco County has 24 loss zones.

Land Use Inventory of Loss Zones

An immediate overall indication of an area's hurricane vulnerability is possible by noting the patterns of various land uses within the hurricane loss

zones. A land use survey and inventory of the region by hurricane loss zone was conducted for this purpose.

First, total acreage of the major land uses was inventoried for each of the Region's four counties according to the following categories: residential, commercial, industrial, public utilities, public transportation, and military. This information was obtained from the county planning departments, land use elements of the county comprehensive plans, and individual military base contacts.

The land use survey by hurricane loss zone was conducted utilizing existing land use aggregations also provided by the county planning departments. Acreage calculation by loss zone were then completed utilizing map planimeter and an areal grid calculation method. The grid method entailed overlaying the land use maps with a grid of equal acreage squares and adding the squares of that particular land use. Results of the survey and inventory by hurricane loss zone appear in Chapter III.

Structural Inventory of Loss Zones

The next step towards quantifying potential hurricane structural loss is to enumerate the number and type of structures which exist within loss zones predicted to receive common levels of storm surge flooding. This step was accomplished through a comprehensive locational survey of structures utilizing the real property assessment rolls compiled and maintained by the four county property appraisers. The survey of structures was one of several data components received from the "valuation of projected loss" (VPL) data processing effort conducted by TBRPC's data processing consultant. The overall VPL effort included the development and utilization of computer software by TBRPC's data processing consultant and is described in detail in the VALUATION OF PROJECTED LOSS section of this chapter. The VPL computer program resulted in output of structural inventory by section/township/range. This inventory was then geographically aggregated into loss zones.

Damage assessment and insurance activities resulting from past hurricane strikes have allowed the compilation of vulnerability data by type of structure that experienced specific levels of hurricane storm surge flooding and winds. For example, the same level and type of flooding will create differing amounts of damage to structures depending on the types of those structures. For example, mobile home units are typically more vulnerable to flooding of a particular height than are single-family structures with a foundation. Since such type-specific structure vulnerability indicators are available (vulnerability coefficients or "loss curves"), the structural inventory by loss zone was conducted according to the following ten (10) categories of structural type:

- single-family residential structures
- multi-family residential structures
- mobile home residential structures
- commercial structures
- industrial structures
- public utilities structures
- agricultural structures
- public transportation structures
- health care structures
- government and institutional structures

The results of the structural inventory by loss zone are presented in Chapter III.

Agricultural Inventory of Loss Zones

In addition to structural damage, another major economic loss from a hurricane striking the Tampa Bay Region would be agricultural losses. Storm surge flooding of current agriculture yielding lands can be devastating since such saltwater inundation usually means the loss of one to two growing seasons (one year) due to the salinity retained by affected soils. (Source: Cooperative Extension Services, March 1982). An even greater agricultural loss may result from the hurricane wind hazard. Shallow-rooted fruit trees and vegetable crops, particularly cover crops such as strawberries, are vulnerable to a virtual "leveling" effect from hurricane-force winds as a storm moves inland. Surviving plants would be weakened and highly susceptible to disease and pests, making the determination of salvageability difficult.

The region-wide agricultural inventory by hurricane loss zone began with a locational survey of acreage of agricultural land by the following categories:

- cropland
- improved pasture
- citrus groves

The survey relied upon geographically-specific data acquired from the Cooperative Extension Services of Hillsborough, Manatee, Pasco and Pinellas Counties; the Soil Conservation Services of Hillsborough, Manatee and Pasco Counties; and the Pasco/Pinellas Agricultural Stabilization Conservation Service.

The description of flood and wind vulnerability assumptions for projected agricultural loss appears in the VALUATION OF PROJECTED LOSS section of this chapter. The results of the agricultural inventory by loss zone are presented in Chapter III. Projections of hurricane loss to normal agricultural yield are presented in Chapter V.

Hazardous Material Inventory of Loss Zones

The hazardous material inventory by hurricane loss zone presented in this study is for use by local emergency management officials as the first level of preparedness for potential hurricane-caused hazardous materials exposures. The locational inventory set forth in this study provides a tool for the rapid checking of specific potential exposure sites after evacuation and immediate relief of public suffering (food, shelter, medical attention) is accomplished.

The Resource Conservation and Recovery Act of 1976 (RCRA) requires any person who generates or transports hazardous materials, or who owns a facility for the treatment, storage or disposal of hazardous-materials, to notify the U.S. Environmental Protection Agency (EPA) of their activity. Through the Florida Department of Environmental Regulation (DER), TBRPC received EPA's list for the State of Florida. The sites of the facilities within the Tampa Bay Region were then located geographically and identified within the corresponding hurricane loss zones. Additional information regarding the specific hazardous material generated, treated, stored, or transported was obtained from EPA, Region 4 in Atlanta. Consultation with the Florida Bureau of Disaster Preparedness and the Tampa Port Authority, Environmental Department provided

additional information regarding hazardous waste activity in the region. Each site was listed and mapped by county.

The EPA listing was supplemented by additional identified sites. Therefore, a listing of regionally significant potential hazardous materials storage sites was made, using information obtained by the Director of Florida Industries, the Tampa Port Authority, and local phone directives. The U.S. Coast Guard Marine Environmental Protection Branch provided additional data concerning major bulk storage capacities for waterfront facilities. This supplemental inventory of locally identified hazardous material storage sites was also arranged by county and subsequently geographically located by hurricane loss zone. The results of the hazardous materials inventory by loss zone is presented in Chapter III.

VALUATION OF PROJECTED LOSS: REPLACEMENT OF PROPERTY

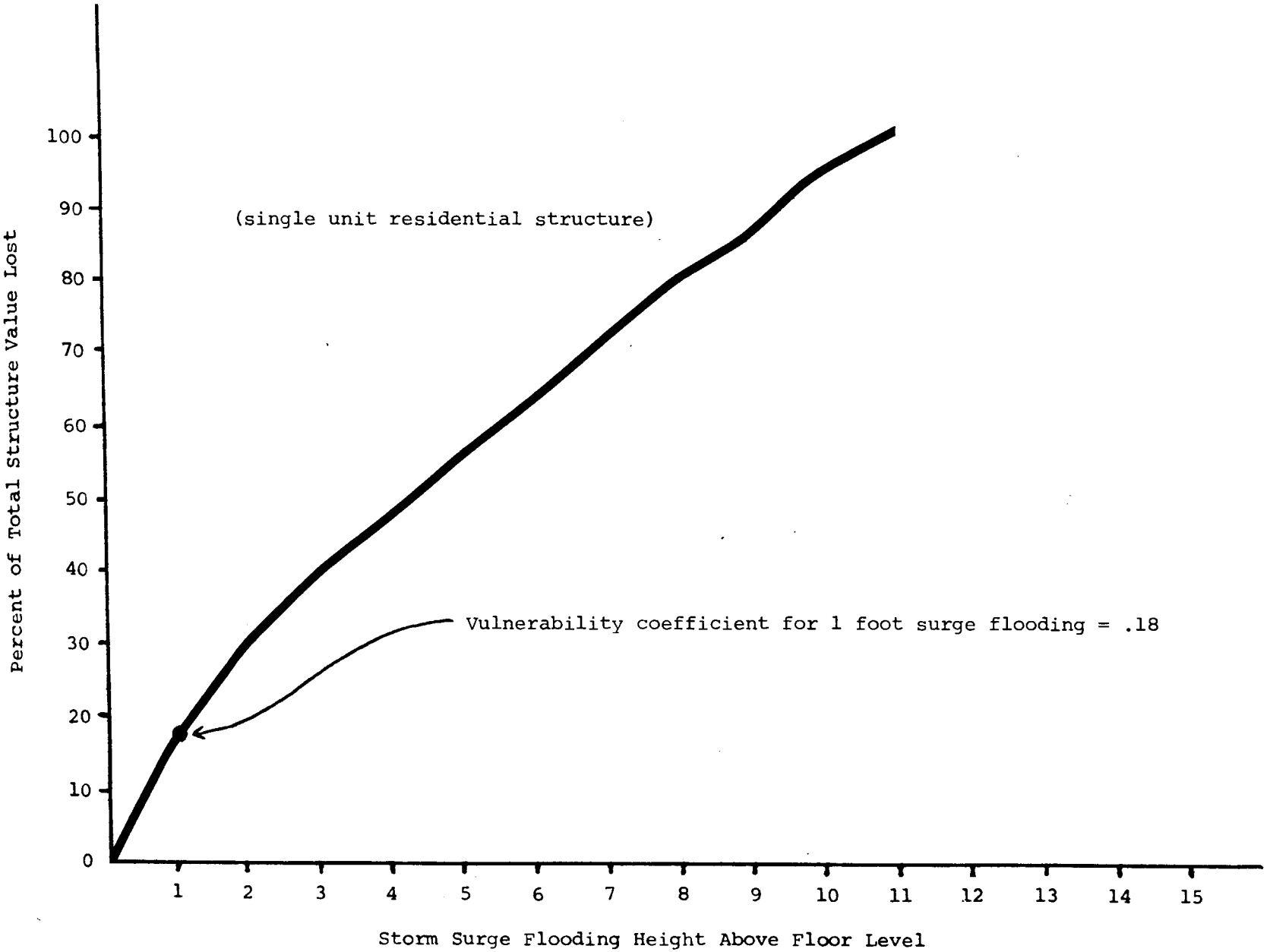
In the RISK AREA MAPPING section, the storm surge and wind speed modeling results were identified as types and heights of storm surge flooding in each of approximately 700 affected sections of the S/T/R system throughout the region and peak gust wind velocities in each of approximately 3,000 affected sections of the region. This data was geocoded for five (5) hurricane scenarios for each of the four (4) counties of the region. Next, the vulnerability of specific types of structures to those types and heights of flooding, as well as to peak gust wind velocities, must be determined. This was accomplished through acquiring and adapting experienced-based value loss vulnerability coefficients for types of structures for the magnitude of hazard experienced. Structural loss estimates (in dollars) were then calculated by applying these coefficients to the actual value of the structures currently located in the 700 flood-affected sections and 3,000 wind-affected sections of the region.

Vulnerability Coefficients

The most desirable method of projecting the potential structural loss to an area from a natural hazard is to examine actual past occurrences of that hazard(s) and apply those experienced-based loss quantities of loss to the current structures at risk. Over the last few decades, such data has been compiled after hurricane strikes in certain areas and, more recently, quantified into "loss curves". Loss curves are results of compiled insurance claims and damage assessments that quantify the expected loss to a particular type of structure according to the specific magnitude of hazard experienced. Curves have been formulated by various public and private agencies using the cumulative experience of loss adjusters, surveyors, and structural engineers, and quantifying this relationship for several types of structures for both flooding and wind velocity. These "depth-damage curves" and "windspeed-damage curves" are the basis for the vulnerability coefficients used in this study to project hurricane loss.

An example of a "depth-damage curve" for slowly rising water affecting single unit residential structures appears as Figure 6. Referring to that curve as an example, based on data gathered for past hurricane/flooding occurrences, a single unit residential structure experienced an average of 18 percent of its total value lost to the effects of one foot of slowly rising flood waters. This would mean that the loss in dollar value of a single unit residential structure valued at $50,000 would be approximately $9,000. For this study,

FIGURE 6
DEPTH-DAMAGE LOSS CURVE



then, the vulnerability coefficient for a single unit residential structure expected to experience one foot of slowly rising flood water is 0.18.

Structures experiencing flooding along with a battering impact from quickly moving currents or wave action from past hurricanes logically incurred greater structural loss than those experiencing slowly rising water. This type of "velocity" depth-damage relationship has also been formulated into loss curves for various types of structures.

Finally, past structural damage from hurricane-caused high winds have also been compiled and formulated into "windspeed-damage" loss curves for various types of structures. The vulnerability coefficients from these curves are used in this study to quantify the additional potential for structural loss throughout the region from specific wind velocity levels modeled and converted from the SLOSH model.

As stated above, several entities have formulated loss curves; this study adapted and utilized specific loss curves for application to various types of hazards and types of structures. The sources of these loss curves follow. Complete sources appear in the References section at the end of this study.

- surge flooding/single unit residential - Friedman 1974
- surge flooding/multi-unit residential - Friedman 1974
- surge flooding/mobile home - Pinellas County Interim Natural Disaster Plan 1980
- surge flooding/commercial - J. H. Wiggins Co. 1978
- surge flooding/industrial - J. H. Wiggins Co. 1978
- surge flooding/public utilities - Friedman 1974
- surge flooding/agriculture - Friedman 1974
- surge flooding/public transportation - Friedman 1974
- surge flooding/health care - Friedman 1974
- surge flooding/government and institutional - Friedman 1974
- velocity surge flooding/single unit residential - FIA, FEMA 1978-80, 1982
- velocity surge flooding/mobile home - J. H. Wiggins 1978
- velocity surge flooding/commercial - J. H. Wiggins 1978
- velocity surge flooding/industrial - J. H. Wiggins 1978
- velocity surge flooding/public utilities - J. H. Wiggins 1978
- velocity surge flooding/agricultural - J. H. Wiggins 1978
- velocity surge flooding/public transportation - J. H. Wiggins 1978
- velocity surge flooding/health care - J. H. Wiggins 1978
- velocity surge flooding/government and institutional - J. H. Wiggins 1978
- peak gust windspeed/single unit residential - Friedman 1974
- peak gust windspeed/multi-unit residential - Friedman 1974
- peak gust windspeed/mobile home - Foremost Insurance Co. 1979
- peak gust windspeed/commercial - Friedman 1974
- peak gust windspeed/industrial - Friedman 1974
- peak gust windspeed/public utilities - Friedman 1974
- peak gust windspeed/agriculture - Friedman 1974
- peak gust windspeed/public transportation - Friedman 1974
- peak gust windspeed/health care - Friedman 1974
- peak gust windspeed/government and institutional - Friedman 1974

For each of the approximately 700 sections (S/T/R system) affected by surge and each of the approximately 3,000 sections also affected by winds, the specific type and height of surge and wind velocity generated by SLOSH were entered into the appropriate loss curve to arrive at a vulnerability coefficient for each section. This resulted in ten vulnerability coefficients for surge flooding (one for each type of structure) and ten coefficients for windspeed (one for each type of structure) for each of approximately 3,000 sections of land. Throughout the calculation of vulnerability coefficients the land elevation used in computer calculations by SLOSH was assumed to equal the floor level elevation of all structures.

In immediate coastal areas, structural damage from hurricanes does not result only from storm surge flooding or only from high winds, but from both hazards. Therefore, for any given homogeneous group of structures located in a section of land, their surge flooding vulnerability coefficient must be combined with their windspeed vulnerability coefficient to account for the combined actions of both hazards on the structure. However, the combination of surge flooding vulnerability and windspeed vulnerability is not a simple additive relationship. Certain types of damage could be caused by either of the two hazards in the absence of the other, so simply adding the two vulnerability coefficients together would ultimately over-estimate the damage potential. For example, early arriving hurricane-force winds could damage a structural component of a house, followed by moving storm surge that would have caused the same type of structural damage. To quantify this relationship, the following formula was utilized to combine the storm surge flooding vulnerability coefficients with the corresponding windspeed vulnerability coefficients for the approximately 700 sections of land projected to be affected by both hazards:

$$L_t = L_f + L_w - (L_f L_w)$$

where, L_t = total structural loss (%) (FEMA,NFIP 1982)

L_f = structural loss (%) from flooding

L_w = structural loss (%) from high winds

For example, combining a surge flooding vulnerability coefficient of .35 with a windspeed vulnerability coefficient of .10 would result in an overall structural vulnerability coefficient of .42.

This resulted in overall structural vulnerability coefficients assigned and geocoded by the approximately 3,000 sections of land in the region for each of the five (5) hurricane damage scenarios.

Loss Valuation

The next step in the projection of hurricane loss is to apply the geographically-specific vulnerability coefficients to the structures and their value as they currently exist within all sections of the region. The estimated dollar value lost to those structures, if that hurricane were to strike, is produced by multiplying the total dollar value of the existing structures in a section by the appropriate vulnerability coefficient. For example, if 50 single unit residential structures in a section are expected to experience a foot of storm surge flooding, the appropriate loss curve shows their vulnerability coefficient to be .18. If the total value of those structures is

$2,500,000, then the projected value loss to those structures would be $450,000 if that hurricane were to strike.

For property taxing purposes, each county property appraiser maintains a comprehensive record of existing structural value by structural type and location (S/T/R) on the yearly real property assessment roll. Under rules of the Florida Department of Revenue (DOR), Division of Ad Valorem Tax, each county's real property assessment roll must be updated yearly and filed with DOR on magnetic tape for computer processing. The format of the assessment roll files includes codes for structural type, location (S/T/R), just value, and taxable value of all parcels throughout the four counties of the region. This provides the means to apply the vulnerability coefficients to the actual dollar value of the structure throughout the region for the five hypothetical hurricane damage scenarios.

The real property assessment rolls for each of the four counties of the Region were acquired from the DOR in a tape file format compatible with TBRPC's in-house computer-based data processing equipment. The necessary software was developed to apply the geocoded vulnerability coefficients to the approximately 3,000 sections (S/T/R) of structures by structural type and five hurricane scenarios. The Council employed its on-going data processing consultant under approved subcontract for the actual development of the software.

As described previously, the storm surge flooding heights and wind velocities generated by the SLOSH model were assigned vulnerability coefficients based on the depth-damage curves and windspeed-damage curves. The windspeed vulnerability coefficients and the surge flooding coefficients had to be combined for each of the 700 of the approximately 3,000 sections (S/T/R) using the formula described earlier. These computations had to be accomplished before the 3,000 overall vulnerability coefficients were input for application to the existing structures. The computations were performed using TBRPC's in-house Radio Shack TRS-80 Model I micro computer. The actual application of the overall vulnerability coefficients to total structural values throughout the region by section (S/T/R) was performed using TBRPC's in-house Data General Nova 3/12 mini computer. A more detailed description of the computer processing method appears as Appendix C - Software Application Narrative.

Through application of the appropriate vulnerability coefficients, projected structural dollar value loss from each of the five hypothetical hurricane damage scenarios for each of the approximately 3,000 sections (S/T/R) of the region were estimated for the following types of structures:

- single-family residential structures
- multi-family residential structures
- mobile home residential structures
- commercial structures
- industrial structures
- public utilities structures
- agricultural structures
- public transportation structures
- health care structures
- government and institutional structures

To define the projected loss by community area, the approximately 3,000 sections (S/T/R) were aggregated into the previously delineated hurricane loss

zones. The structural damage dollar value loss is presented by hurricane loss zone and hurricane damage scenario in Chapter IV. Finally, the projection of loss of agricultural yield based on specific land areas affected by the hypothetical hurricane strikes was calculated based on average market volumes of a normal acre yield for cropland and citrus groves. A late season storm (September-October) was assumed as it would present the worst case situation. The agricultural loss is based on total loss of the market value of vegetable crops (1982) from high winds. In addition, the acreage yield of citrus (one year) in areas where saltwater inundation is projected by the SLOSH model is assumed to be destroyed. The value loss of the citrus is based on approximate yield of 240 boxes per acre with an at-farm value of $4.50 per box. The potential agricultural loss is presented for each county scenario on Table 31.

SERVICE DISRUPTION: LOSS OF PUBLIC FACILITIES

The structural damage estimates described above also were used as a base to calculate related economic and social impacts resulting from a hurricane strike. Methods used to calculate these impacts are decribed below.

The disruption of local services because of hurricane damage can be viewed as two major loss types:

- immediate loss of services from damage to utilities structures, roads, and other critical public service facilities
- indirect loss of local government's ability to provide services due to loss of ad valorem tax revenues resulting from lower structural property values.

Immediate Service Disruption

The immediate disruption of necessary services to residents from damage to major public facilities was estimated through defining the general "damage state" that each facility would be in immediately after each of the hypothetical hurricane strikes. These five damage states were originally formulated by R. V. Whitman (Whitman 1974) in the development of a methodology and pilot application for analyzing earthquake damages. They were adapted for hurricane wind damage and storm surge damage by Hirschberg, Gordon, and Petak (Wiggins 1978) and defined as follows:

- Light = Minor roof/ceiling tile or partition cracking; possible damage due to missiles.
- Moderate = Many partitions cracked or ceiling tiles fallen down; a few structural members appear to be stressed beyond yield level.
- Heavy = Significant number of structural members with structural damage, or damage to a structural system; roof having major damage.
- Very Severe = Major damage; structure standing but will probably be taken down.
- Collapse = Structure does not remain standing.

SOCIAL DISRUPTION: TEMPORARY EMPLOYMENT LOSS AND INCOME LOSS

Projections of estimated structural loss also make possible a general analysis and quantification of the temporary employment loss and accompanying personal income loss that would result from hurricane-caused disruption of commercial, industrial and other facilities.

The first step in the analysis used the same inventory of structures by type compiled by the loss valuation computer program. Using that program, the following types of structural facilities were inventoried and totaled for each of the approximately 3,000 S/T/R sections:

- commercial
- industrial
- public utilities
- agriculture
- public transportation
- health care
- government/institution

The estimated days of inoperation of those facilities were calculated using the vulnerability coefficients and damage states in the same manner as the calculation of "service disruption" described earlier. The average number of employees of each facility and the average income of those employees were then estimated from data derived from county-level data compiled by the Florida Division of Economic Development (State of Florida, 1981). The above seven categories of structural facilities were linked to the county-level employment and income data through the two-digit ten-category Standard Industrial Classification code.

Each section's seven facility types were then quantified by the number of employees that would be laid off because of hurricane-caused inoperation of the facilities. Each section's unemployment by facility type was then further quantified as to the duration (in days) of that inoperation based on the initial vulnerability coefficient of that facility's location.

Finally, the estimated income loss due to the inoperation of the facilities was calculated. The average income (by facility type) of the laid off employees in each section was applied to the duration (in days) of the hurricane-caused inoperation to project the total income loss by facility type in each of the approximately 3,000 sections.

The results of the temporary employment loss and income loss analyses are presented in Chapter VI.

PROBABILITY ANALYSIS OF HURRICANE LOSS: ANNUALIZED STRUCTURAL LOSS

To determine the region's risk of experiencing the hurricane loss projections described above, numerical recurrence probabilities or return periods were defined for the hurricane damage scenarios. This allowed the creation of yearly risks by loss zone in the form of a percentage of structural value that could be expected to be lost to hurricane hazards under each damage scenario. The percentages were quantified by dividing each zone's vulnerability coefficient by the return period of each damage scenario.

The damage scenarios simulated by SLOSH and utilized for this study were assigned general return periods through technical assistance provided by FEMA Region IV. The methodology for the return period assignments appears as Appendix M to this report.

CHAPTER III

PROPERTY VULNERABILITY ANALYSIS

As coastal areas experience direct strikes and near misses from hurricanes over time , the ability to quantify the existing storm surge and wind vulnerability of such local areas grows. Just as scientific and technological advances in meteorology, hydrology, physics, and computer applications have provided quantitative tools to develop improved comprehensive evacuation plans, these same advances are providing an increased capability to measure the vulnerability of areas to hurricane-caused property damage. The key to mitigating future hurricane-caused property damage is in quantifying the vulnerability and risk of loss to existing structures and land areas, so that unwise development of highly vulnerable areas does not continue without respecting the risk to inevitable future hurricane hazards. Also, an important first step in the hurricane recovery process is the preliminary damage assessment, a task requiring immediate numerical estimates of the damage level sustained from the type of hurricane that just struck. The hurricane property vulnerability analysis presented in this chapter forms the basis for the quantitative property loss projections and annualized risk identifications presented in later chapters.

HAZARD ANALYSIS

Just as in analyzing loss of life vulnerability from hurricanes, property damage vulnerability analysis begins with an examination of past hurricane activity, magnitude of the specific hazards (storm surge, wind speed), and resulting property damage/dollar loss. Such an examination also provides a perspective for comparing hazards, impacts, and resulting losses between different local coastal areas over time. Table 3 presents a compiled history of property loss from available post-hurricane records throughout the country, adjusted to 1980 dollars for comparison purposes. An asterisk beside the year of occurrence on the Table identifies those hurricanes that passed within 100 nautical miles of Tampa Bay.

Regional Vulnerability Comparison

Before identifying the specific vulnerability of property in the Tampa Bay Region to hurricane storm surge and high winds, the region's general structural vulnerability compared to other regions throughout the hurricane-prone coast should be noted. A general comparison based on exposed dwellings was conducted by Friedman (Friedman 1974) for 70 landfall points along the Gulf and Atlantic coasts from Brownsville, Texas to Norfolk, Virginia. Friedman generally quantified the comparison using an "index of catastrophe potential." Figures 7 and 8 present this comparison for storm surge and high winds respectively. As can be noted in Figure 7, the Tampa Bay Region is twice as vulnerable to hurricane storm surge than any other region analyzed except the Mobile Bay Region. The same lopsided comparison is also noted with respect to hurricane winds. The Tampa Bay Region greatly exceeds all other regions except for the Southeast Florida Region, which was found to have slightly more exposed dwellings as a measure of high wind vulnerability. By combining these general vulnerability comparisons for both surge flooding and winds, a clear

TABLE 3

HISTORICAL HURRICANE PROPERTY LOSS
1900 - 1980

NO./NAME	CENTRAL PRESSURE (INCHES)	WINDS[1] (MPH)	SURGE (FEET)	CATEGORY (SAFFIR-SIMPSON SCALE)	DATES	YEAR	LIVES[2] LOST	PROPERTY LOSS	ADJUSTED[4] PROPERTY LOSS (1980)	AREAS MOST AFFECTED
1	27.64	77	20	4	August 27 - September 15	1900	6,000	$ 30,000,000	$ 702,127,660	Galveston Island, Texas
2	27.90	-	-	3	September 3 - September 18	1906	-	-	-	North Carolina
3	28.30	-	15.0	3	September 19- September 29	1906	34	2,000,000	43,465,045	Alabama, Florida Panhandle
4	28.55	-	-	2	October 11 - October 22	1906	164	-	-	Miami, Florida
5	-	-	10.0	(Major)	July 13 - July 22	1909	41	2,000,000	43,465,046	Galveston, Texas
6	-	-	15.0	(Extreme)	September 10- September 21	1909	350	5,000,000	108,662,614	Louisiana and Mississippi
7	28.26	-	-	3	October 6 - October 13	1909	15	1,000,000	21,732,523	Southern Florida
8	28.20	125E	15.0	3	October 9 - October 23	1910*	30	365,000	7,403,546	Florida
9				(Major)	August 23 - August 30	1911	17	-	-	Charleston, S.C.
10	28.06	120	16.1	3	August 5 - August 23	1915	275	50,000,000	950,797,872	Galveston, Texas (Louisiana)
11	28.02	-	11.8	3	September 22- October 1	1915	275	13,000,000	247,207,447	Middle Gulf Coast, Bay St. Louis, Miss.
12	28.38	107	11.9	3	June 29 - July 10	1916	4	3,000,000	50,702,220	Mobile to Pensacola
13	28.00	90	5.9	3	August 12 - August 19	1916	20	1,800,000	30,425,532	Texas (Corpus Christi)
14	28.76	120	-	2	October 12 - October 19	1916	-	-	-	Alabama and Florida Panhandle
15	28.51	103	7.8	2	September 21- September 29	1917	-	170,000	2,248,844	Florida Panhandle
16	28.36	125	-	3	August 1 - August 6	1918	34	5,000,000	56,343,578	Louisiana
17	27.51	110	16.0	4	September 2 - September 15	1919	900	22,270,000	225,858,865	Florida (Key West), Texas (Corpus Christi)
18	28.12	100	11.0	3	October 20 - October 29	1921*	6	3,000,000	30,425,532	Tampa Bay, Florida[3]
19	28.31	-	15.0	3	August 22 - August 27	1926	25	4,000,000	40,567,376	Louisiana
20	27.61	138	13.2	4	September 11- September 22	1926*	243	112,000,000	1,135,886,525	Florida (Miami) and Southern Alabama
21	27.43	160E	9.8	4	September 6 - September 20	1928*	2,136	76,000,000	770,780,142	Florida (Ft. Pierce and Lake Okeechobee), Puerto Rico
22	28.0	150E	10.2	3	September 22- October 4	1929*	3	821,000	8,326,454	Florida
23	27.83	100E	-	4	August 11 - August 14	1932*	40	7,500,000	99,213,691	Texas
24	28.67	68	7.0	2	August 17 - August 28	1933	-	21,000,000	225,574,468	N.C., Va., Md.
25	28.02	80	15.0	3	August 28 - September 5	1933	40	12,000,000	146,042,553	Texas (Brownsville)
26	27.98	125	-	3	August 31 - September 7	1933*	2	4,120,000	50,141,277	Florida (Jupiter, Vero Beach)
27	28.25	76	-	3	September 8 - September 21	1933	21	1,000,000	12,170,213	North Carolina
28 Labor Day Storm	26.35	200E	20	5	August 29 - September 10	1935*	408	6,000,000	67,612,293	Southern Florida (Key West)
29 Yankee	28.73	94		2	October 30 - November 8	1935	19	5,500,000	61,977,935	Florida (Miami)
30	-	80	-	(Major)	September 8 - September 25	1936	2	1,600,000	17,386,018	N.C. (Storm extreme just offshore)
31 New England	28.04	136E	15.25	3	September 10- September 22	1938	600	306,000,000	3,103,404,255	New England
32	28.70	82	14.5	2	August 2 - August 10	1940	-	1,800,000	18,884,813	La.
33	28.79	-	10.7	2	August 5 - August 15	1940	50	7,000,000	73,440,939	S.C. (Charleston), Ga. and the Carolinas
34	28.66	83	11.0	2	September 16- September 25	1941	4	6,000,000	58,888,126	Texas (Matagorda, Texas City)
35	28.43	123	8.0	2	October 3 - October 14	1941*	5	700,000	6,870,281	Florida (Miami, Keys and Panhandle)
36	28.46	120E	14.7	3	August 21 - August 31	1942	8	26,500,000	230,364,742	Texas (Port Lavaca, Matagorda)
37	27.97	134	-	3	September 9 - September 16	1944	390	100,000,000	822,311,673	N.C. to New England
38	28.02	120	12.0	3	October 12 - October 23	1944*	18	60,000,000	493,387,004	Florida (Dry Tortugas)
39	28.92	135	14.5	2	August 24 - August 29	1945	3	20,100,000	156,808,511	Florida (Port Lavaca)
40	28.09	138	13.7	3	September 11- September 20	1945*	26	54,000,000	421,276,596	Florida (Homestead), Ga. and S. C., Bahamas
41	28.95	80	5.1	2	October 4 - October 14	1946*	-	7,200,000	48,680,851	Florida (Ft. Myers, Punta Gorda)
42	27.97	155	21.6	3	September 4 - September 21	1947*	51	110,000,000	619,779,354	Florida (Hillsboro, Clewiston), Middle Gulf Coast
43	28.75	95	-	2	October 9 - October 16	1947	1	23,000,000	129,590,229	Ga. (Savannah), S. Florida, S.C.
44	28.45	122	19.0	3	September 18- September 25	1948	3	17,500,000	88,741,135	Southern Florida (Key West, Canal Pt.)
45	28.92	100	6.2	2	October 3 - October 15	1948	11	5,000,000	25,354,610	Florida (Keys, Homestead)
46	28.17	132	24.0	3	August 23 - August 31	1949*	2	52,000,000	263,687,943	Florida (Jupiter, Belle Glade) to Carolinas
47	28.88	135	11.4	2	September 27- October 6	1949	2	7,000,000	35,496,454	Texas
48 Easy	28.30	125	-	3	September 1 - September 9	1950*	2	3,300,000	16,194,235	Florida

NO./NAME	CENTRAL PRESSURE (INCHES)	WINDS (MPH)	SURGE (FEET)	CATEGORY (SAFFIR-SIMPSON SCALE	DATES	YEAR	LIVES[2] LOST	PROPERTY LOSS	ADJUSTED[4] PROPERTY LOSS (1980)	AREAS MOST AFFECTED
49 King	28.20	120	19.3	3	October 13 - October 19	1950*	4	$ 28,000,000	$ 137,405,628	Florida
50 Carol	-	130	10	(Extreme)	August 25 - August 31	1954	60	461,000,000	1,975,516,930	New England, Rhode Island
51 Edna	-	95		(Extreme)	September 2- September 14	1954	21	40,600,000	173,982,619	New York
52 Hazel	28.47	150E	17.0	3	October 5 - October 18	1954	98	251,600,000	1,078,178,004	N. C. (Cape Fear, Wilmington)
53 Connie	-	75	8.0	(Minimal)	August 3 - August 14	1955	-	40,000,000	166,715,243	N.C.
54 Diane	28.62	74	8.0	2	August 7 - August 21	1955	184	831,700,000	3,466,426,696	N.C., N.E. U.S.
55 Ione	28.35	-	-	3	September 10- September 23	1955	7	88,000,000	366,773,535	N.C.
56 Flossy	28.93	84	10.0	2	September 21- September 30	1956	15	24,874,000	98,286,322	Louisiana
57 Audrey	27.32	180	13.9	4	January 25 - January 28	1957	390	150,000,000	570,478,723	Oak Grove Ridge, Louisiana
58 Helene	27.55	125	7.5	4	September 21- October 3	1958	0	11,200,000	42,069,871	N.C. (offshore)
59 Gracie	28.05	150	12.0	3	September 20- October 2	1959	22	14,000,000	51,946,030	N.C.
60 Donna	27.46	140	13.0	4	August 29 - September 13	1960*	50	426,000,000	1,561,599,589	Florida (Keys) to New England
61 Carla	27.62	175	16.6	4	September 3- September 15	1961	46	408,200,000	1,478,535,967	(Port Lavaca) Texas
62 Cleo	28.57	130	5.5	2	August 20 - September 5	1964	3	128,500,000	437,511,905	Florida (Miami)
63 Dora	28.52	125	14.0	2	August 28 - September 16	1964	5	250,000,000	851,190,476	North Florida (St. Augustine), Georgia
64 Hilda	28.40	135E	10.0	3	September 28- October 5	1964	38	125,000,000	425,595,238	Louisiana (Point-au-Fer)
65 Betsy	28.0	165	15.2	3	August 27 - September 12	1965	75	1,420,500,000	4,658,979,357	Florida, Louisiana
66 Alma	28.65	125	10	2	June 4 - June 14	1966*	6	5,000,000	15,748,899	Florida (Big Pine Key)
67 Inez	27.38	165	5.0	4	September 21- October 11	1966*	48	10,050,000	31,655,286	Florida (Dry Tortugas, St. Petersburg, New Port Richey)
68 Beulah	28.07	120	18	3	September 5- September 22	1967	15	200,000,000	607,218,684	Texas (Raymondville, Padre Island)
69 Camille	26.84	135	24.6	5	August 5 - August 22	1969	256	1,420,700,000	3,804,496,254	Mississippi (Columbia, Pass Christian)
70 Celia	27.80	161	9.2	4	July 31 - August 5	1970	11	453,000,000	1,140,475,352	Texas (Corpus Christi)
71 Agnes	29.04	43	6.4	1	June 14 - June 23	1972	122	3,000,000,000	6,703,125,000	Florida to New York
72 Carmen	-	86	-		August 29 - September 10	1974	1		-	Louisiana
73 Eloise	28.20	104	-	3	September 13- September 24	1975	4	650,000,000	1,044,382,023	Ft. Walton Beach to Panama City
74 Belle	-	77	-		August 6 - August 10	1976	5		-	New York, New Jersey, Southern New England
75 Frederic	27.84	135	-	4	August 29 - September 14	1979	12	2,300,000,000	2,555,555,555	Mississippi, Alabama
76 David	27.29	175	-	4	August 25 - September 7	1979	1,268	1,320,000,000	1,466,666,661	S.E. Florida, Puerto Rico and the Virgin Islands
77 Allen	26.55	195	-	5	August 1 - August 12	1980	265	1,062,000,000	1,062,000,000	Texas

[1]Fastest one-mile unless otherwise noted

[2]Includes marine casualties/U.S. casualties

[3]Last direct hit of a major hurricane in the Tampa Bay Region

[4]Adjusted to 1980 dollars utilizing U.S. Department of Commerce composite cost index

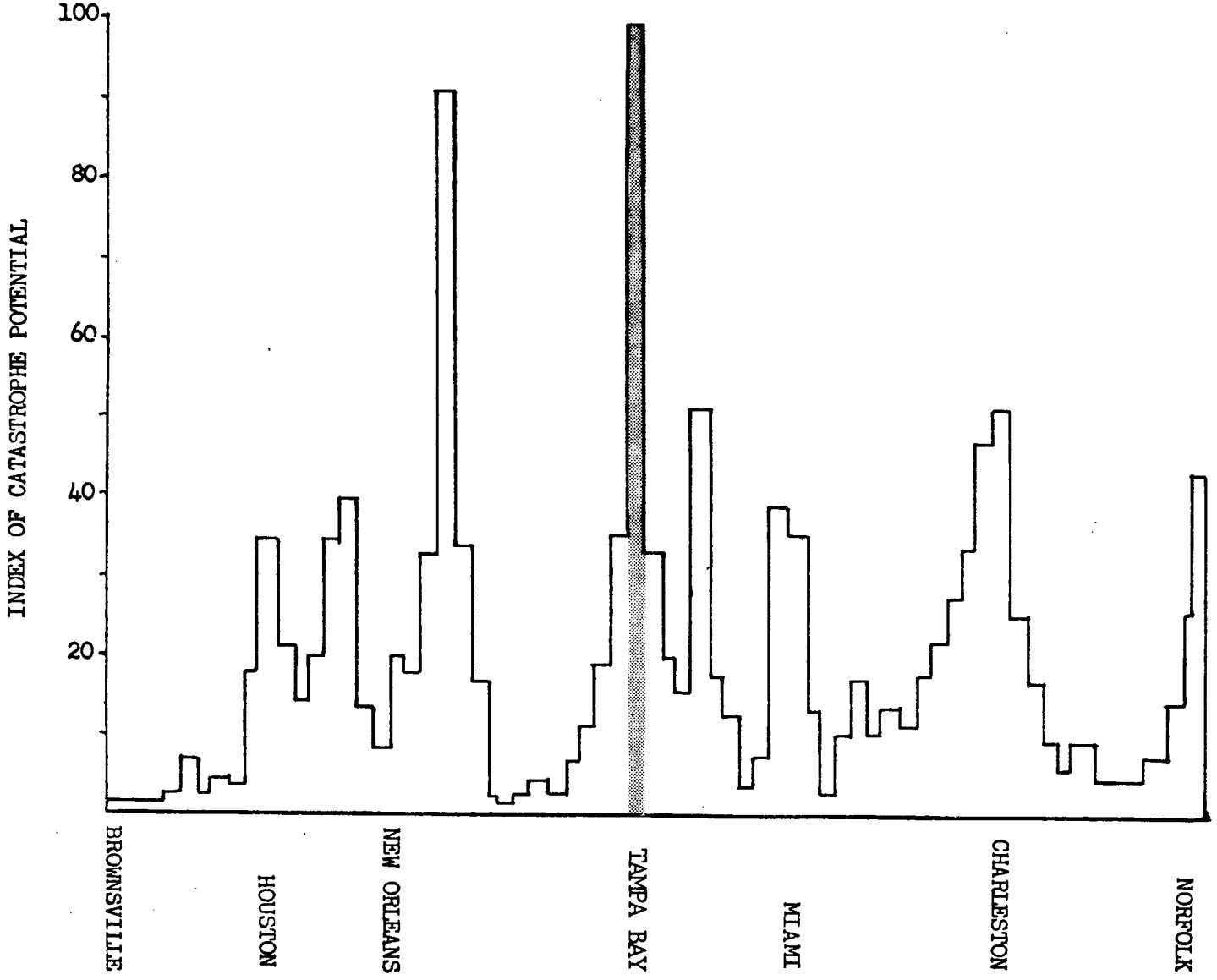
E-Estimated Wind Speed

*-Denotes hurricane passed within 100 nautical miles of Tampa Bay

FIGURE 7

REGIONAL HURRICANE STORM SURGE

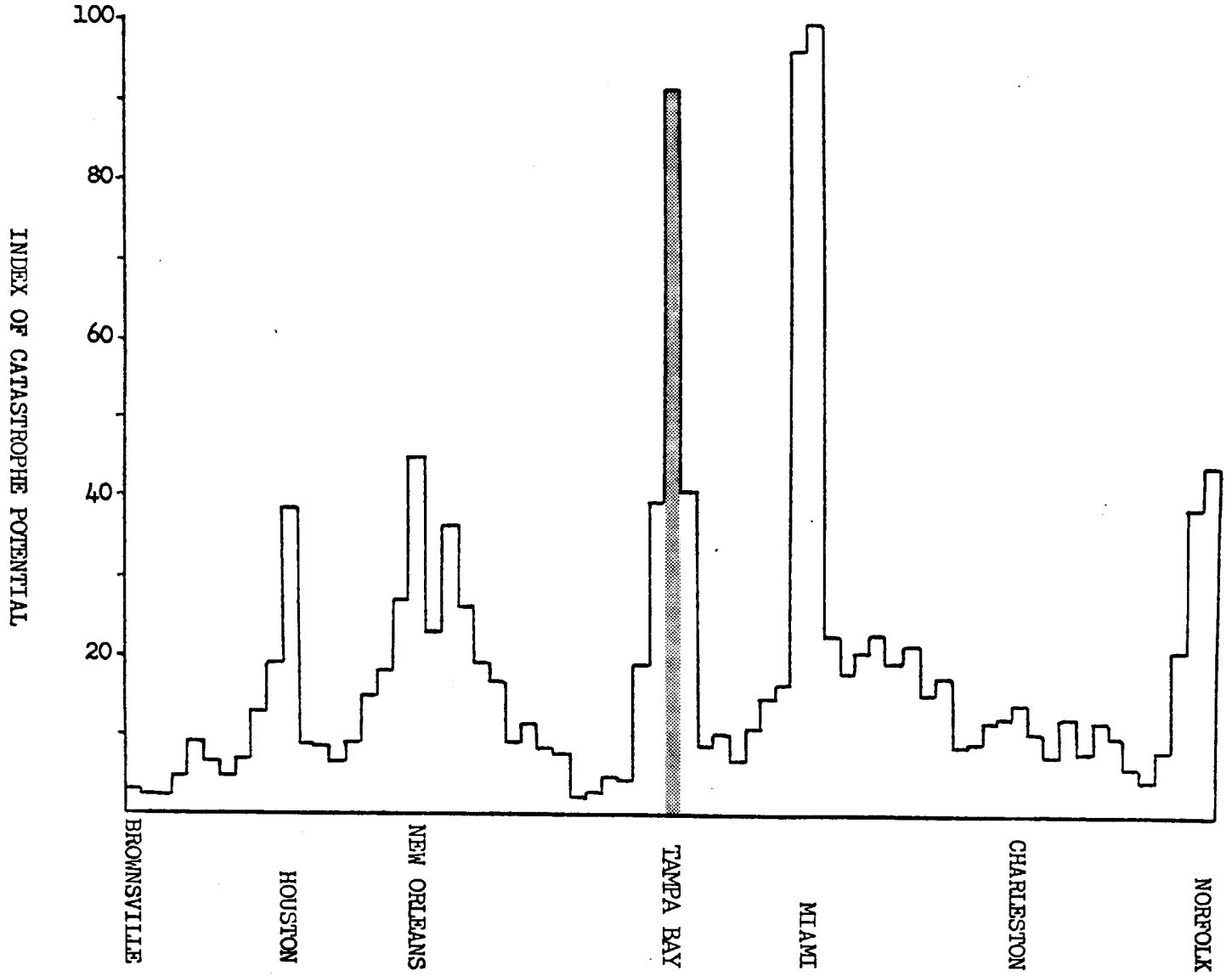
VULNERABILITY COMPARISON



Source: Friedman, 1974

FIGURE 8

REGIONAL HURRICANE WINDS
VULNERABILITY COMPARISON



Source: Friedman, 1974

indication can be seen of the extreme vulnerability facing the Tampa Bay Region from hurricane-caused property damage.

Hurricane Damage Scenarios

As described in the previous chapter, NOAA's SLOSH model is the major hazard analysis tool used in this study to quantify the magnitudes of both hurricane storm surge and hurricane winds. The geographic patterns and trends of surge heights and wind speeds from the simulation of 64 hypothetical hurricanes through the model form the basis for the damage scenarios within the Tampa Bay Region.

In Florida, the preliminary assessment of hurricane property damage, which is the first step in the recovery process, is carried out at the county level. Although preliminary property damage assessments are also usually conducted at the municipal level, these estimates are usually reported to their respective counties where they become part of the overall county damage figures. The county-wide estimates are the primary basis for state and/or federal disaster declarations which are normally issued on a county-by-county basis. The projected property loss estimates of this study are being set forth to assist counties in conducting preliminary damage assessments after future potential hurricanes strike. Therefore, the hypothetical hurricanes selected to represent the five scenarios of property loss were those that would produce five distinct levels of hazard severity for each county as a whole. For this study, these levels of hazard severity are termed county damage scenarios.

Just as inter-county evacuation impacts must be anticipated, the comparative property damage levels projected among counties provide a capability for anticipating two important types of recovery guidance:

- County knowledge of the concurrent damage levels in neighboring counties from certain types of hurricanes to gauge the potential for inter-county recovery assistance.

- State knowledge of the relative severity of damage levels between counties from different types of hurricanes to identify resource needs and priorities for state recovery assistance.

To provide these two types of guidance, the five hypothetical hurricane scenarios for each county were combined into five regional scenarios representing the relative damage levels that would be expected among all four counties of the region. These five regional damage scenarios were formulated based on the overall patterns identified through the analysis of the SLOSH output of 64 hypothetical hurricanes of varying parameters.

The analysis of the 64 hypothetical hurricanes output resulted in a framework of 35 "reference hurricanes" which, due to differences in one or more of each hurricane's parameters, placed one of the four counties of the region into one of five (5) different damage scenarios. These hypothetical hurricanes are listed in Table 4. (See Figure 3 for the tracks of the hypothetical hurricanes.)

The resulting county damage scenarios are based on the county-wide shoreline storm surge heights and windspeeds produced from the simulation of all hypothetical hurricanes analyzed. Each hypothetical hurricane simulated by SLOSH

TABLE 4

REFERENCE HURRICANES
FOR THE
TAMPA BAY REGION HURRICANE LOSS STUDY

MODEL / TYPE / LOCATION / CATEGORY	Landfall/Exiting Point or Closest Approach	Area Receiving Maximum Surge/Winds	Pressure Drop (Milli-bars)	Radius of Maximum Winds (Stat. Miles)	Forward Speed (Miles per hour)	Direction Storm Moving Toward (Degree Clockwise from North)
SL-L-NN-1	Aripeka	New Port Richey	30	15	15	40°
SL-L-NN-2	Aripeka	New Port Richey	40	15	15	40°
SL-L-NN-3	Aripeka	New Port Richey	60	15	15	40°
SL-L-NN-4	Aripeka	New Port Richey	80	15	15	40°
SL-L-NN-5	Aripeka	New Port Richey	100	10	15	40°
SL-L-TN-1	Tarpon Springs	Belleair Beach	30	15	15	40°
SL-L-TN-2	Tarpon Springs	Belleair Beach	40	15	15	40°
SL-L-TN-3	Tarpon Springs	Belleair Beach	60	15	15	40°
SL-L-TN-4	Tarpon Springs	Belleair Beach	80	15	15	40°
SL-L-TN-5	Tarpon Springs	Belleair Beach	100	10	15	40°
SL-L-TC-1	Madeira Beach	Mouth of Tampa Bay	30	15	15	40°
SL-L-TC-2	Madeira Beach	Mouth of Tampa Bay	40	15	15	40°
SL-L-TC-3	Madeira Beach	Mouth of Tampa Bay	60	15	15	40°
SL-L-TC-4	Madeira Beach	Mouth of Tampa Bay	80	15	15	40°
SL-L-TC-5	Madeira Beach	Mouth of Tampa Bay	100	10	15	40°
SL-L-KE-1	Egmont Key	Longboat Key	30	15	15	40°
SL-L-KE-2	Egmont Key	Longboat Key	40	15	15	40°
SL-L-KE-3	Egmont Key	Longboat Key	60	15	15	40°
SL-L-KE-4	Egmont Key	Longboat Key	80	15	15	40°
SL-L-KE-5	Egmont Key	Longboat Key	100	10	15	40°
SL-E-T-3	Anclote Keys	McKay Bay	60	15	15	288°
SL-E-N-3	Dunedin	McKay Bay	60	15	15	288°
SL-E-C-3	St. Petersburg Beach	Terra Ceia Bay	60	15	15	288°
SL-E-S-3	Whitney Beach	Sarasota Bay	60	15	15	288°
SL-P-POO-1	Egmont Key	Boca Ciega Bay/ St. Joseph Sound	30	15	15	335°
SL-P-POO-2	Egmont Key	Boca Ciega Bay/ St. Joseph Sound	40	15	15	335°
SL-P-POO-3	Egmont Key	Boca Ciega Bay/ St. Joseph Sound	60	15	15	335°
SL-P-P15-1	15 mi. West of Egmont Key	Boca Ciega Bay	30	15	15	335°
SL-P-P15-2	15 mi. West of Egmont Key	Boca Ciega Bay	40	15	15	335°
SL-P-P15-3	15 mi. West of Egmont Key	Boca Ciega Bay	60	15	15	335°
SL-P-P30-1	30 mi. West of Egmont Key	Boca Ciega Bay	30	15	15	335°
SL-P-P30-2	30 mi. West of Egmont Key	Boca Ciega Bay	40	15	15	335°
SL-P-P30-3	30 mi. West of Egmont Key	Boca Ciega Bay	60	15	15	335°
SL-P-P60-4	60 mi. West of Egmont Key	Boca Ciega Bay	80	20	15	335°
SL-P-P60-5	60 mi. West of Egmont Key	Pinellas/Pasco Gulf Beaches	100	10	15	335°

SL - SLOSH (Sea, Lake, and Overland Surges from Hurricanes) Model
L - Landfalling Hurricane
E - Exiting Hurricane
P - Paralleling Hurricane

(see Table 2) would confront a county with one of the following five scenarios:

- Scenario A - Storm Surge at Shoreline of 4 to 5 feet and Hurricane-Force Winds.
- Scenario B - Storm Surge at Shoreline of 6 to 8 feet and Hurricane-Force Winds.
- Scenario C - Storm Surge at Shoreline of 9 to 12 feet and Hurricane-Force Winds.
- Scenario D - Storm Surge at Shoreline of 13 to 18 feet and Hurricane-Force winds.
- Scenario E - Storm Surge at Shoreline 18+ feet and Hurricane-Force Winds.

Table 5 presents the damage scenario that would confront each county of the region, for the 35 reference hurricanes.

Finally, the hazard analysis utilizing SLOSH revealed patterns of hazard severity among counties that form the basis for the formulation of regional damage scenarios. No single hurricane would confront all four counties of the region with the same level of hazard severity or damage scenario. The major patterns identified in the combination of county damage scenarios are presented as the five (5) regional damage scenarios in Table 6.

DETERMINATION OF THE HAZARD AREAS: RISK AREA MAPPING

Determination of hazard areas not only depends on the type of hurricane having the potential to strike, but also the effect of local conditions in modifying the hurricane's severity at a given location. Local conditions affecting surge heights include land elevation, distance to shoreline, type of shoreline (smooth beach, bay, estuary), offshore water depth, and existence of coastal protection structures (seawall, levee, etc...). These local conditions are considered by the SLOSH model. Local conditions affecting winds that are quantified in this study include frictional effects of coastal and inland topography, development density, and filling of the hurricane as it moves inland.

Hurricane Loss Zones

The determination of areas projected to experience similar surge height and wind speed levels resulted in the damage scenarios described in the previous section. These areas logically run along the major surge source/water body such as the Gulf of Mexico and/or Tampa Bay throughout the entire length of the coastal counties. Generally, those areas determined as vulnerable to similar degrees of property damage coincide with the geographic extents of evacuation (evacuation scenarios) determined by the 1981 Regional Hurricane Evacuation Plan. Just as smaller zones of land within each evacuation scenario were delineated according to their common evacuation route, similar zones are necessary for systematic damage assessment and recovery operations. For these reasons, the previously delineated evacuation zones, were chosen to represent the geographic areas for systematic damage assessment and recovery operations: hurricane loss zones. To aid to local governments in using this

TABLE 5

COUNTY DAMAGE SCENARIOS
CREATED BY INDIVIDUAL HYPOTHETICAL HURRICANES

REFERENCE HURRICANE (See Table 4)	COUNTY			
	PASCO	PINELLAS	HILLSBOROUGH	MANATEE
SL-L-NN-1	B	A	A	X
SL-L-NN-2	C	B	B	A
SL-L-NN-3	D	C	C	B
SL-L-NN-4	D	C	C	B
SL-L-NN-5	E	C	C	B
SL-L-TN-1	A	B	B	X
SL-L-TN-2	B	B	B	A
SL-L-TN-3	B	C	C	B
SL-L-TN-4	C	D	D	C
SL-L-TN-5	C	E	D	C
SL-L-TC-1	X	A	B	A
SL-L-TC-2	X	A	C	A
SL-L-TC-3	A	B	D	B
SL-L-TC-4	B	C	E	C
SL-L-TC-5	B	C	E	C
SL-L-KE-1	X	X	A	A
SL-L-KE-2	X	X	A	B
SL-L-KE-3	X	A	B	C
SL-L-KE-4	A	A	C	D
SL-L-KE-5	A	A	C	E
SL-P-P00-1	A	A	X	X
SL-P-P00-2	A	A	A	A
SL-P-P00-3	C	C	B	B
SL-P-P15-1	X	X	X	X
SL-P-P15-2	A	A	X	A
SL-P-P15-3	B	B	B	B
SL-P-P30-1	X	X	X	X
SL-P-P30-2	X	X	X	X
SL-P-P30-3	A	A	A	A
SL-E-T-3	A	B	B	X
SL-E-N-3	A	B	B	A
SL-E-C-3	X	A	A	B
SL-E-S-3	X	X	X	A
SL-P-P60-4	B	B	B	B
SL-P-P60-5	A	A	A	A

Scenario A - Storm Surge at Shoreline of 4 to 5 feet and Hurricane-Force Winds
Scenario B - Storm Surge at Shoreline of 6 to 8 feet and Hurricane-Force Winds
Scenario C - Storm Surge at Shoreline of 9 to 12 feet and Hurricane-Force Winds
Scenario D - Storm Surge at Shoreline of 13 to 18 feet and Hurricane-Force Winds
Scenario E - Storm Surge at Shoreline of 18+ feet and Hurricane-Force Winds
X - Gale to Hurricane-Force Winds and 0 to 3 feet Tidal Increase

TABLE 6

REGIONAL DAMAGE SCENARIOS

	REGIONAL SCENARIO				
County	1	2	3	4	5
Pasco Scenario	E	D	C	A	B
Pinellas Scenario	C	E	D	A	B
Hillsborough Scenario	B	D	E	C	A
Manatee Scenario	B	C	D	E	A

Regional Scenario 1: Worst probable scenario for Pasco County (E=18'+ of shoreline surge); Pinellas County Scenario C (9'-12' shoreline surge); Hillsborough County Scenario B (6'-8' shoreline surge); and Manatee County Scenario B (6'-8' shoreline surge). This general combination of vulnerability levels is predicted to be created by landfalling hurricanes moving on the "NN" track (see Figure 1 and Table 4).

Regional Scenario 2: Worst probable scenario for Pinellas County (E=18'+ of shoreline surge); Pasco County Scenario D (13'-18' shoreline surge); Hillsborough County Scenario D (13'-18' shoreline surge); and Manatee County Scenario C (9'-12' shoreline surge). This general combination of vulnerability levels is predicted to be created by landfalling hurricanes moving on the "TN" track (see Figure 1 and Table 4).

Regional Scenario 3: Worst probable scenario for Hillsborough County (E=18'+ of shoreline surge); Pasco County Scenario C (9'-12' shoreline surge); Pinellas County Scenario D (13'-18' shoreline surge); Manatee County Scenario D (13'-18' shoreline surge). This general combination of vulnerability levels is predicted to be created by landfalling hurricanes moving on the "TC" track (see Figure 1 and Table 4).

Regional Scenario 4: Worst probable scenario for Manatee County (E=18'+ of shoreline surge); Pasco County Scenario A (4'-5' shoreline surge); Pinellas County Scenario A (4'-5' shoreline surge); and Hillsborough County Scenario C (9'-12' shoreline surge). This general combination of vulnerability levels is predicted to be created by landfalling hurricanes moving on the "KE" track (see Figure 1 and Table 4).

Regional Scenario 5: This regional scenario represents the combination of county vulnerability levels predicted to be created by paralleling hurricanes moving on the tracks depicted on Figure 1 and described on Table 4. Pasco County Scenario B (6'-8' shoreline surge); Pinellas County Scenario B (6'-8' shoreline surge); Hillsborough County Scenario A (4'-5' shoreline surge); and Manatee County Scenario A (4'-5' shoreline surge).

geographic zone framework for systematic damage assessment and recovery operations, loss projections in lost dollar value are presented by hurricane loss zone in the next chapter.

Figures 9, 10, 11 and 12 show the mapped hurricane loss zones for Pinellas, Hillsborough, Manatee, and Pasco Counties. The hurricane loss zones in each county define community areas vulnerable to common degrees of property damage. These maps also identify the zones vulnerable to significant storm surge flooding and consequent property damage under each of the five (5) county damage scenarios. (Hurricane-force and gale-force winds will be experienced throughout the entire geographic areas of each of the coastal counties.)

Structure Vulnerability

The vulnerability of structures throughout the region to hurricane storm surge and hurricane winds is quantified using "loss curves" (depth/percent damage scales, windspeed/percent damage scales) formulated by various agencies and insurance organizations from actual past hurricane damage data. Figures 13 through 22 graphically present the loss curves from which the vulnerability coefficients utilized in this study were derived.

Figures 13 through 16 are loss curves describing structure vulnerability from varying levels of hurricane storm surge flooding. Figure 13 shows the expected percent of total structure value that would be lost to storm surge levels for single unit residential and multi-unit residential structures. The curve representing the vulnerability coefficients for multi-unit residential structures is lower reflecting fewer exterior walls per unit exposed to surge and the multi-story character of many multi-unit residential complexes, often removing units above the first floor level from exposure to surge. Figure 14 shows the higher surge vulnerability of mobile home units. Figure 15 presents the curve of surge vulnerability for commercial and industrial structures. Finally, Figure 16 shows the loss curves for public facilities structures from storm surge. Since little data is available from past-hurricanes' surge effects on specialized public facilities structures, this curve was derived from a non-residential depth/percent damage scale formulated by Friedman (Friedman 1974). For this study, this curve of vulnerability coefficients is applied to public utilities structures, agricultural structures, public transportation structures, health care structures, and governmental/institutional structures.

Figures 17, 18, and 19 present depth/percent damage curves for the various types of structures from hurricane velocity storm surge flooding. These curves rise markedly faster because of the added rapid movement of the water and the battering effects of wave action associated with velocity flooding.

Finally, Figures 20, 21 and 22 are windspeed/percent damage curves showing structure vulnerability from various hurricane peak gust wind velocities. Limited experience-based wind damage data is available, only allowing the application of four distinct curves of vulnerability coefficients to the different types of structures existing throughout the region. Figure 20 presents the curves for single unit and multi-unit residential structures. Figure 21 shows the curve for mobile home unit vulnerability. This curve assumes approved tie-down systems in-place on mobile homes; the rapid rise in the curve as 100 mph is reached reflects the failure of tie-down systems at such extreme wind gust velocities. Figure 22 presents the curve utilized for

FIGURE 9

HILLSBOROUGH COUNTY HURRICANE
LOSS ZONES

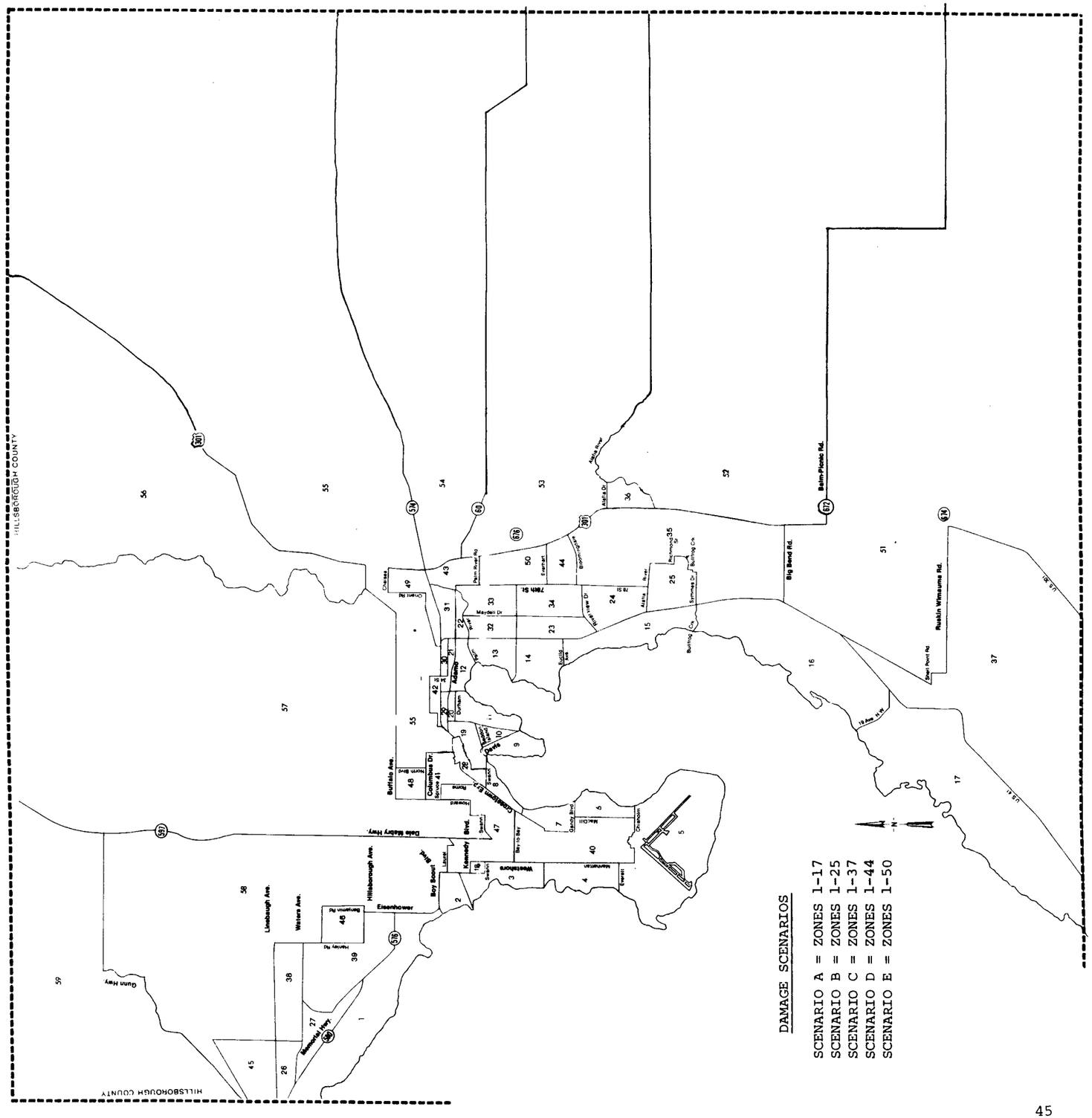
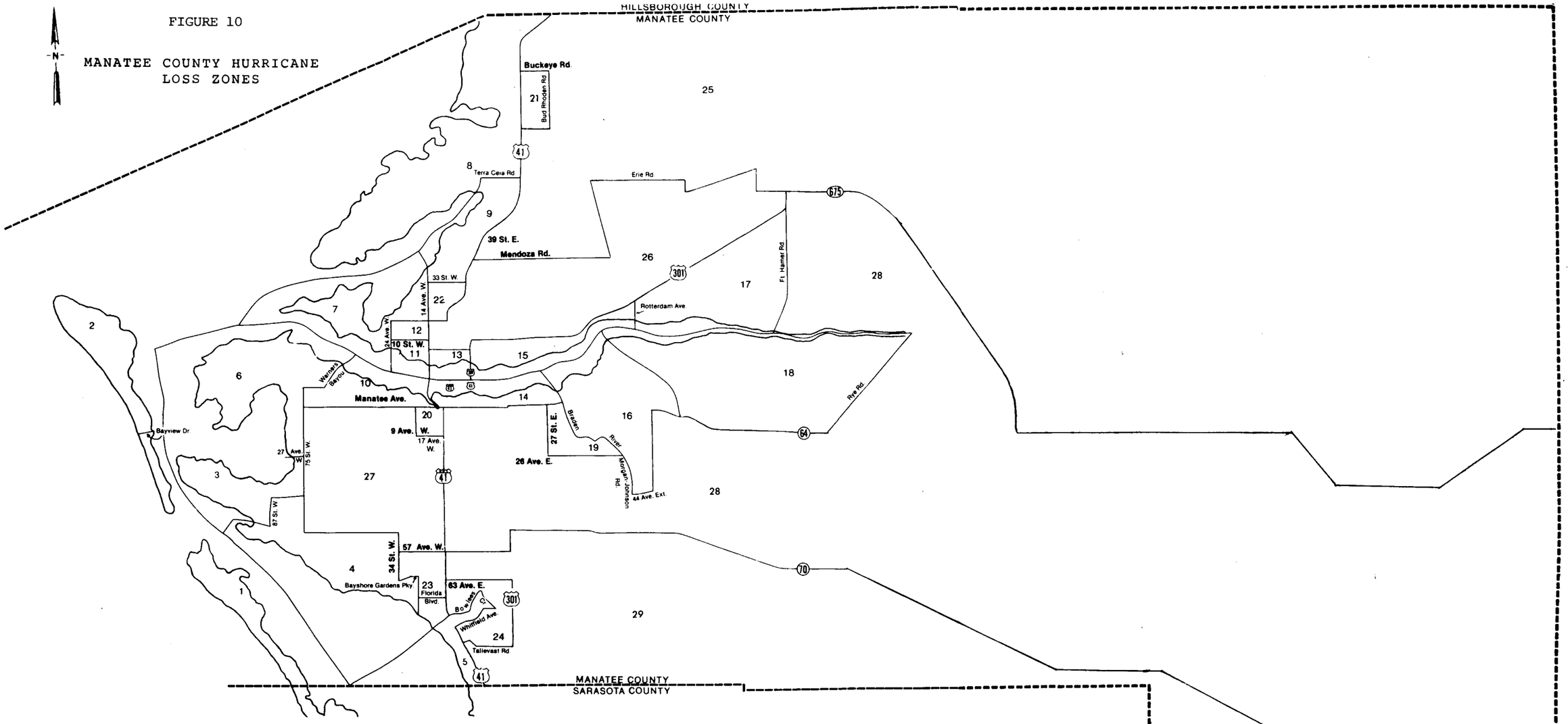


FIGURE 10

MANATEE COUNTY HURRICANE
LOSS ZONES



DAMAGE SCENARIOS

SCENARIO A = ZONES 1-9
SCENARIO B = ZONES 1-11
SCENARIO C = ZONES 1-18
SCENARIO D = ZONES 1-21
SCENARIO E = ZONES 1-24

FIGURE 11

PASCO COUNTY HURRICANE
LOSS ZONES

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-6
SCENARIO B = ZONES 1-9
SCENARIO C = ZONES 1-10
SCENARIO D = ZONES 1-14
SCENARIO E = ZONES 1-16

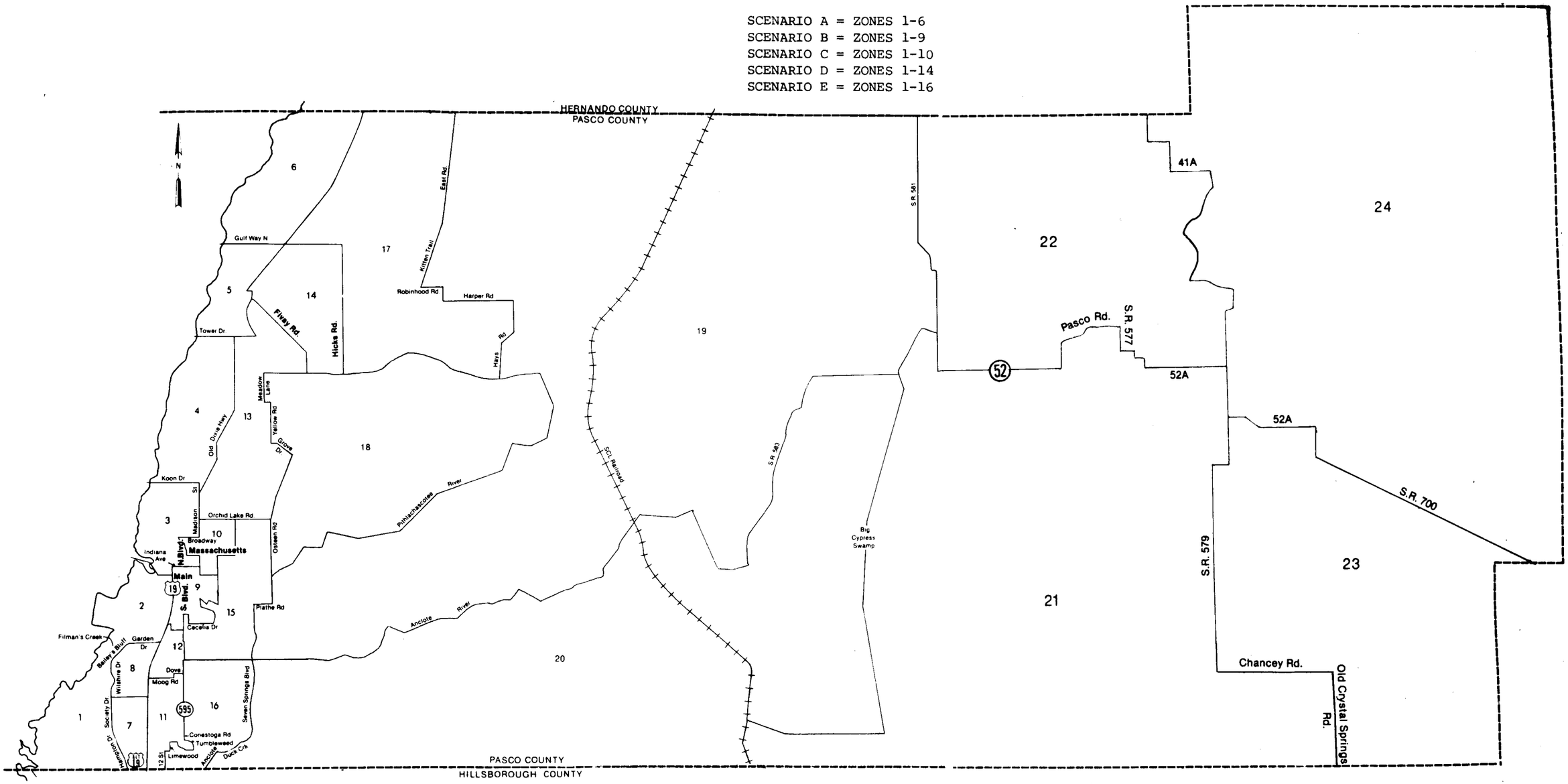
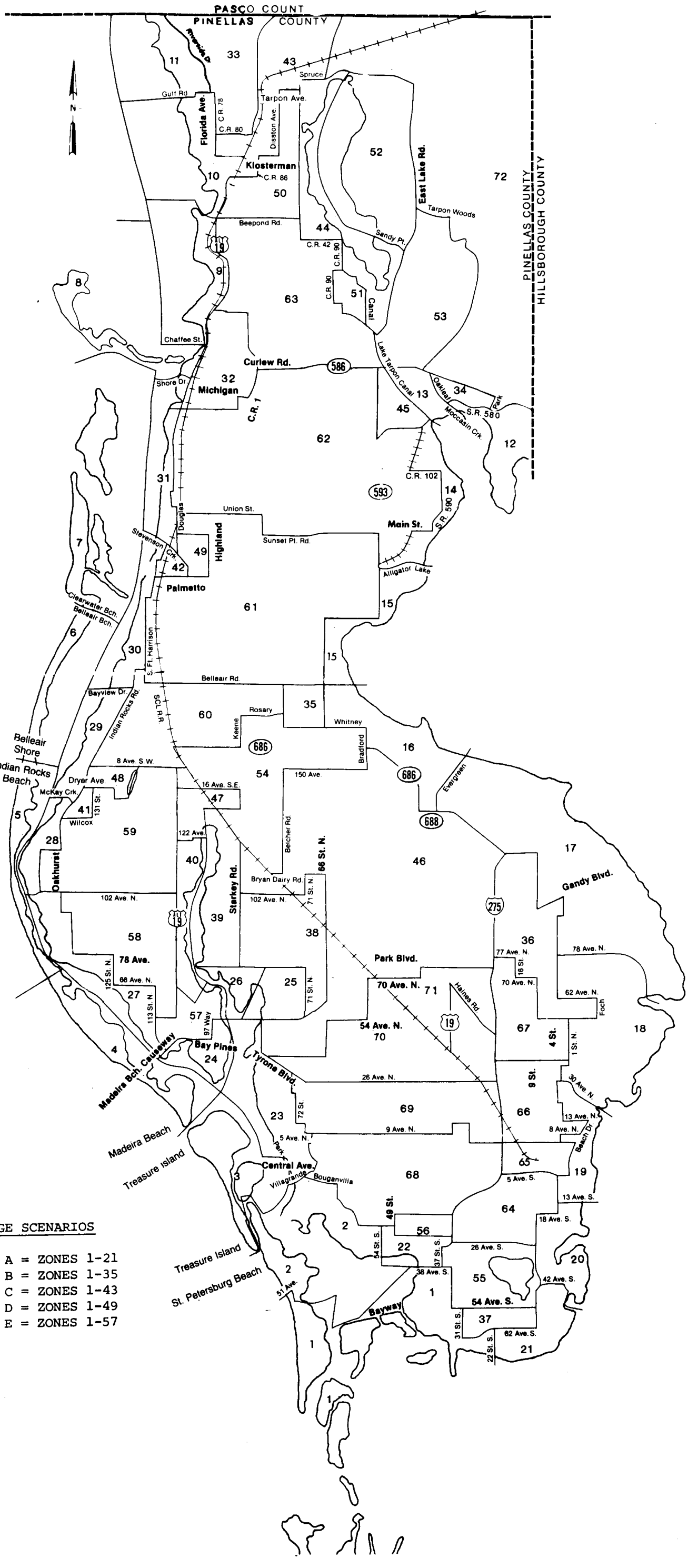


FIGURE 12

PINELLAS COUNTY HURRICANE
LOSS ZONES

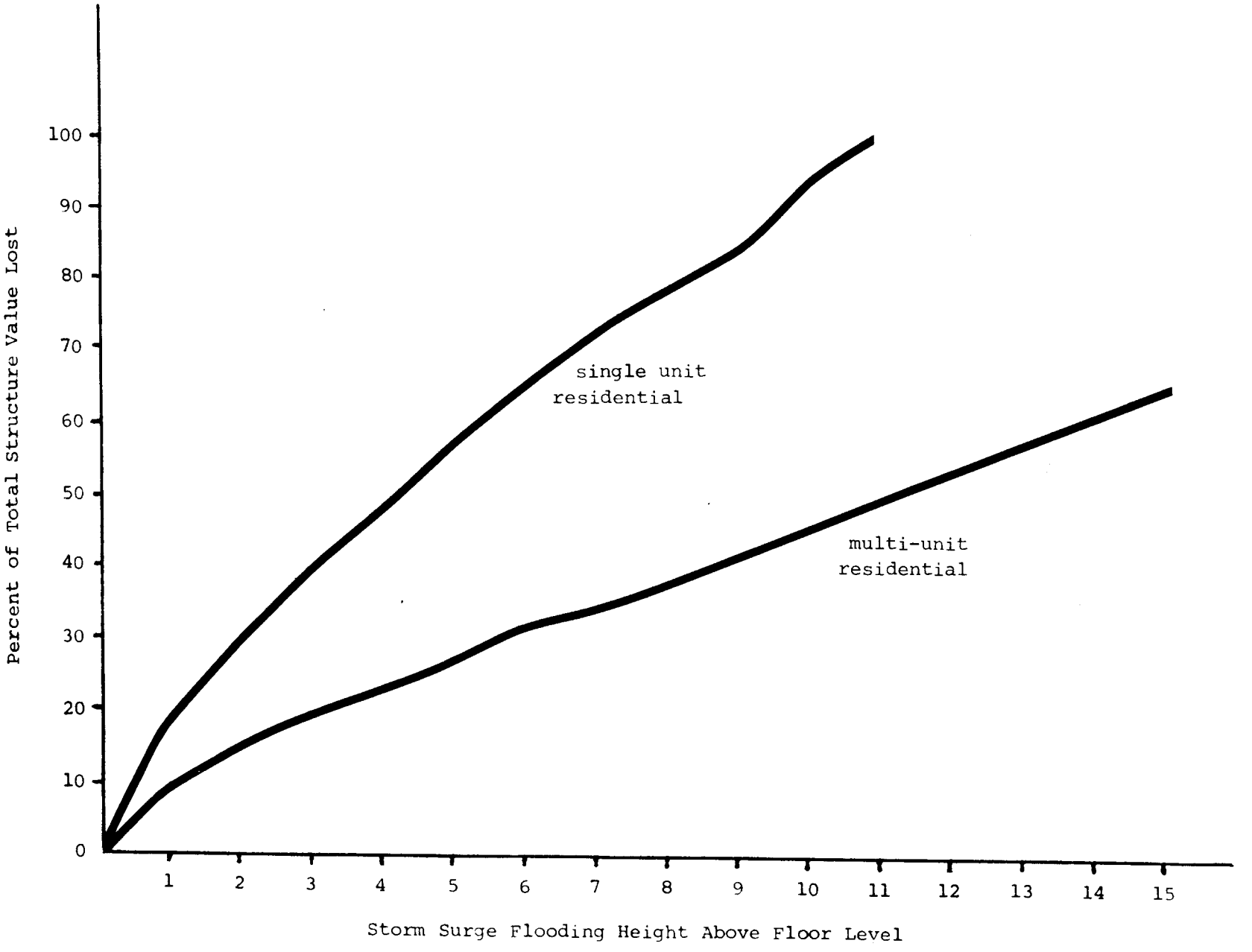


DAMAGE SCENARIOS

SCENARIO A = ZONES 1-21
SCENARIO B = ZONES 1-35
SCENARIO C = ZONES 1-43
SCENARIO D = ZONES 1-49
SCENARIO E = ZONES 1-57

FIGURE 13

STORM SURGE FLOODING DEPTH/PERCENT DAMAGE
SINGLE UNIT AND MULTI-UNIT RESIDENTIAL STRUCTURES

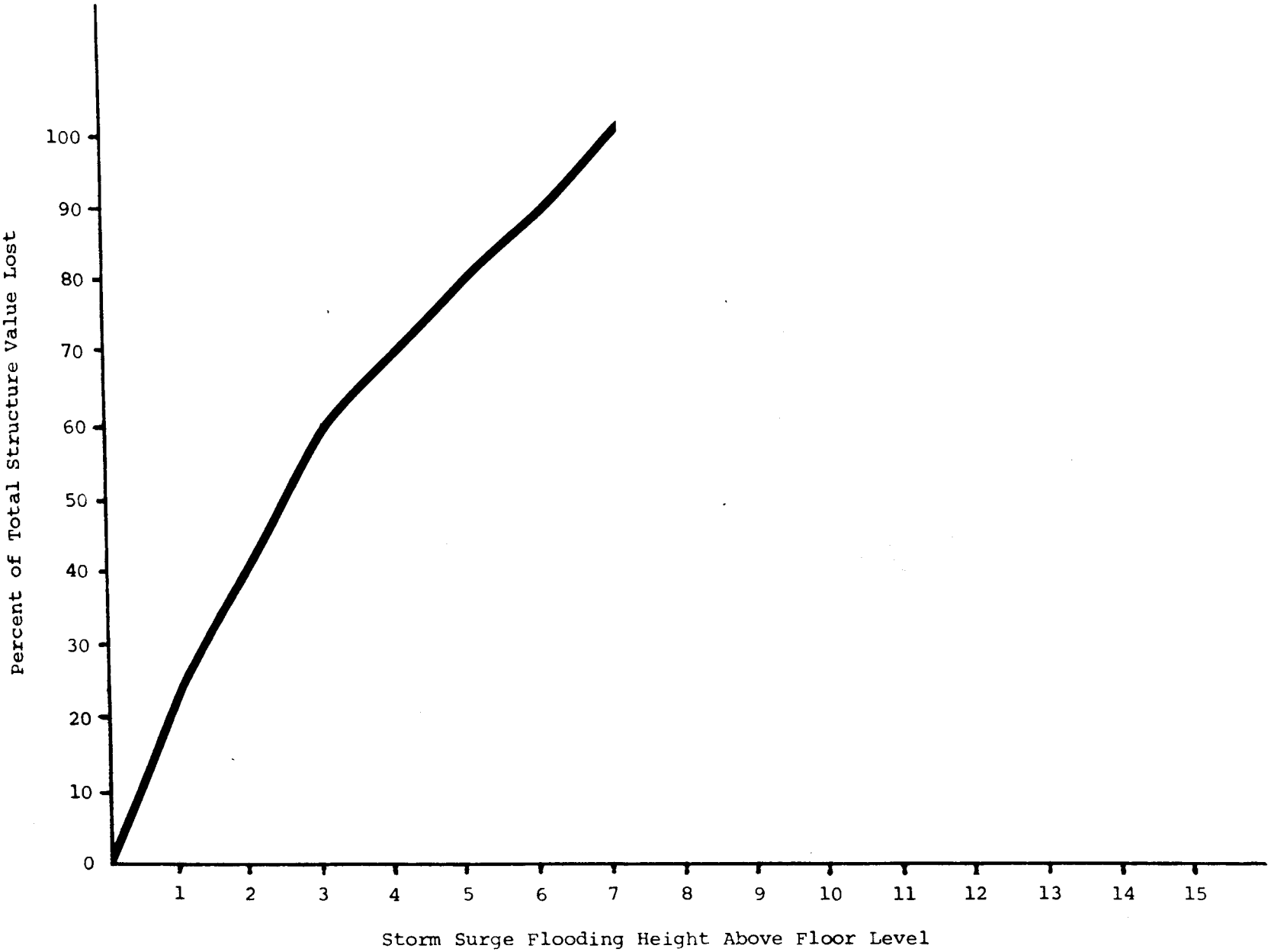


Source: Friedman, 1974

FIGURE 14

STORM SURGE FLOODING DEPTH/PERCENT DAMAGE

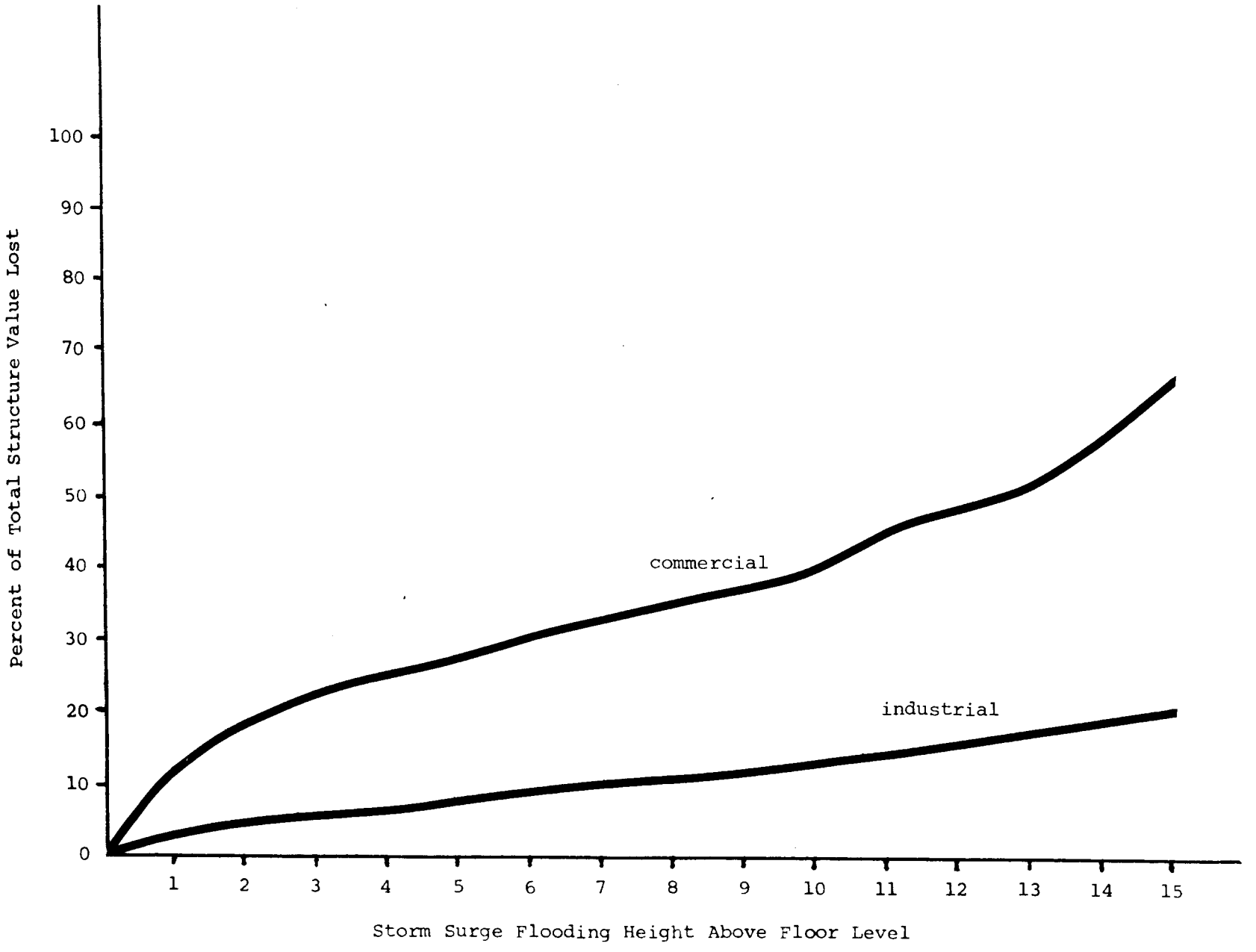
MOBILE HOME STRUCTURES



Source: Pinellas County CES, 1980

FIGURE 15

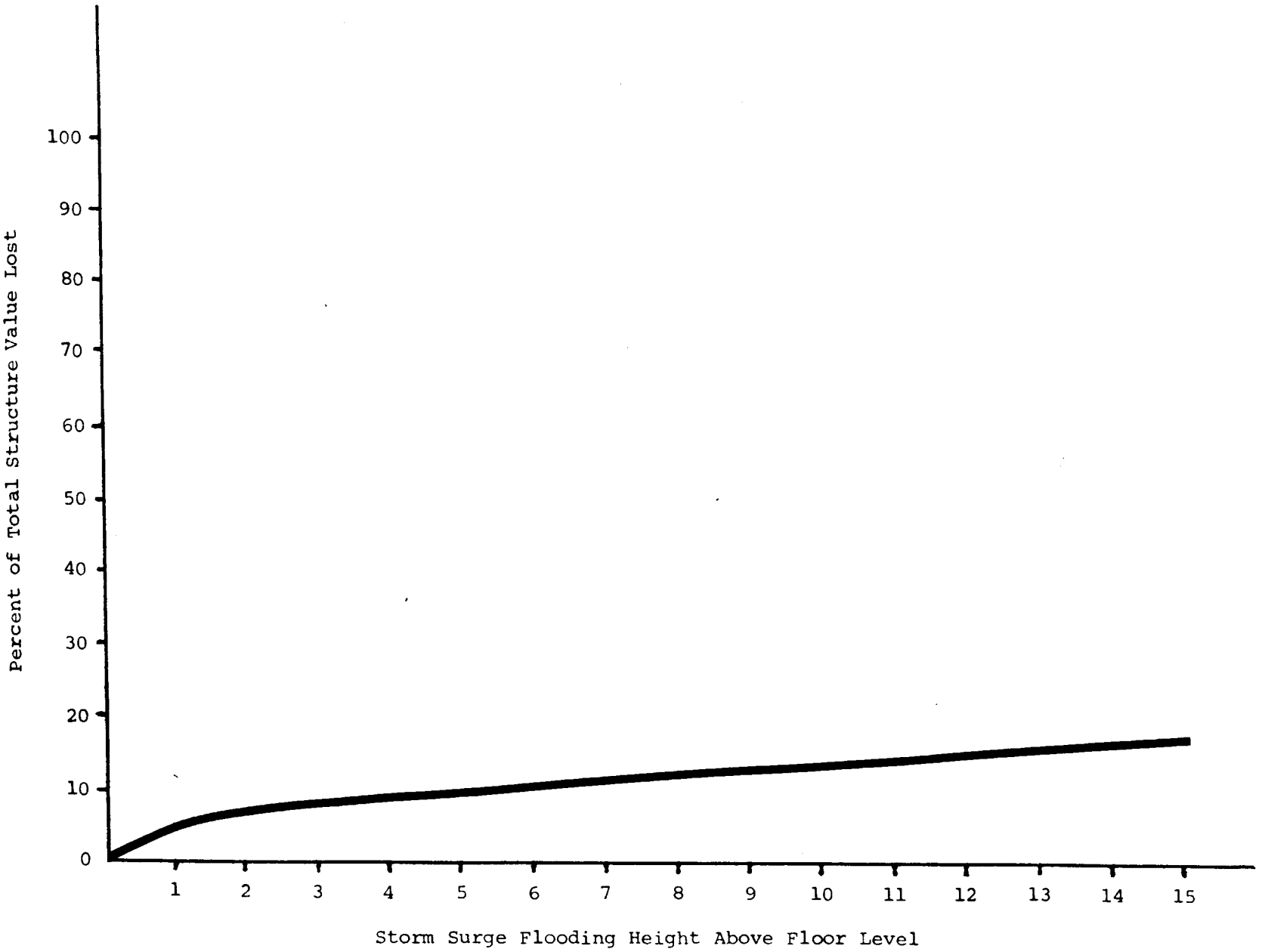
STORM SURGE FLOODING DEPTH/PERCENT DAMAGE
COMMERCIAL AND INDUSTRIAL STRUCTURES



Source: J.H. Wiggins Co., 1978

FIGURE 16

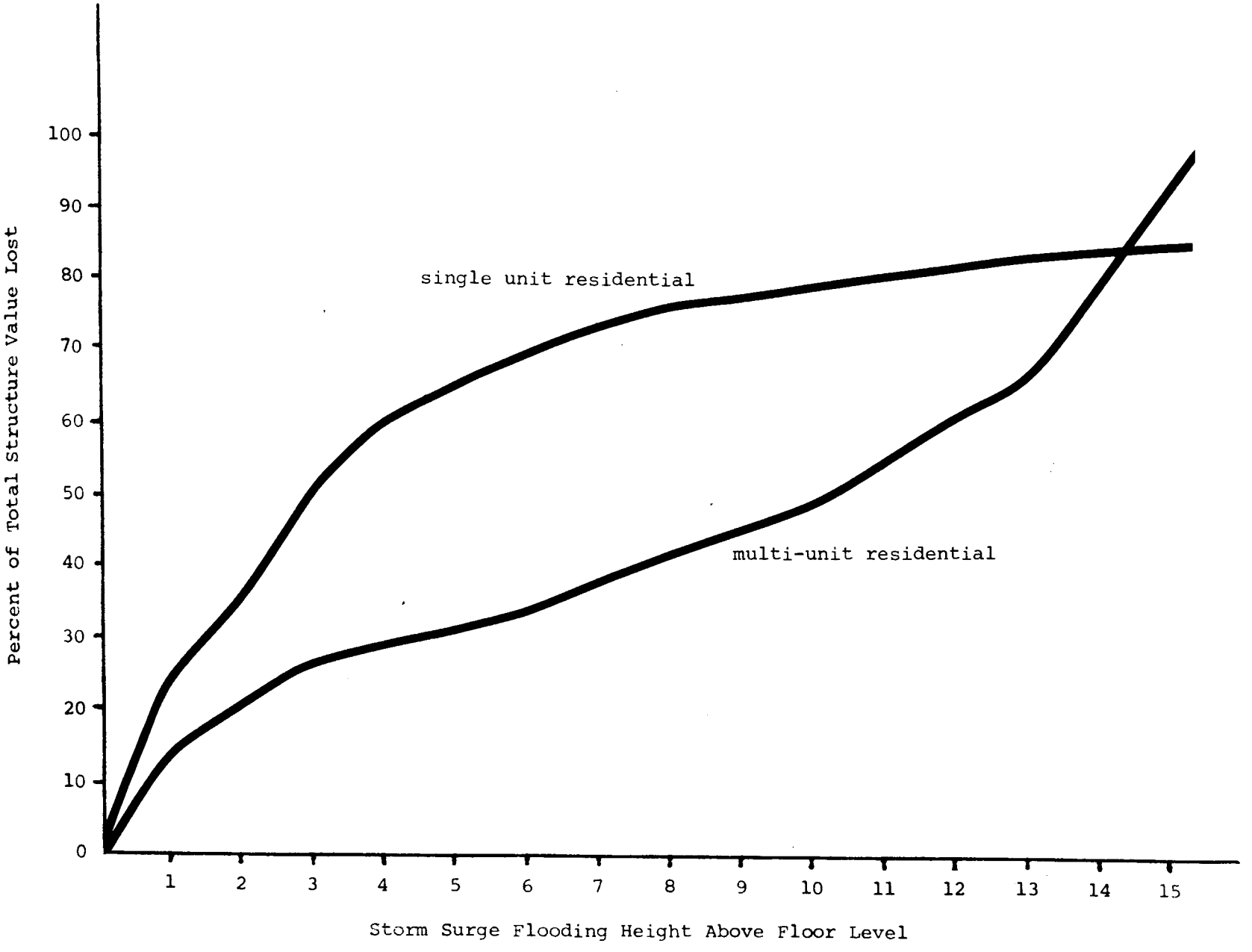
STORM SURGE DEPTH/PERCENT DAMAGE
PUBLIC FACILITIES STRUCTURES



Source: Friedman, 1974

FIGURE 17

VELOCITY STORM SURGE FLOODING DEPTH/PERCENT DAMAGE
SINGLE UNIT AND MULTI-UNIT RESIDENTIAL STRUCTURES

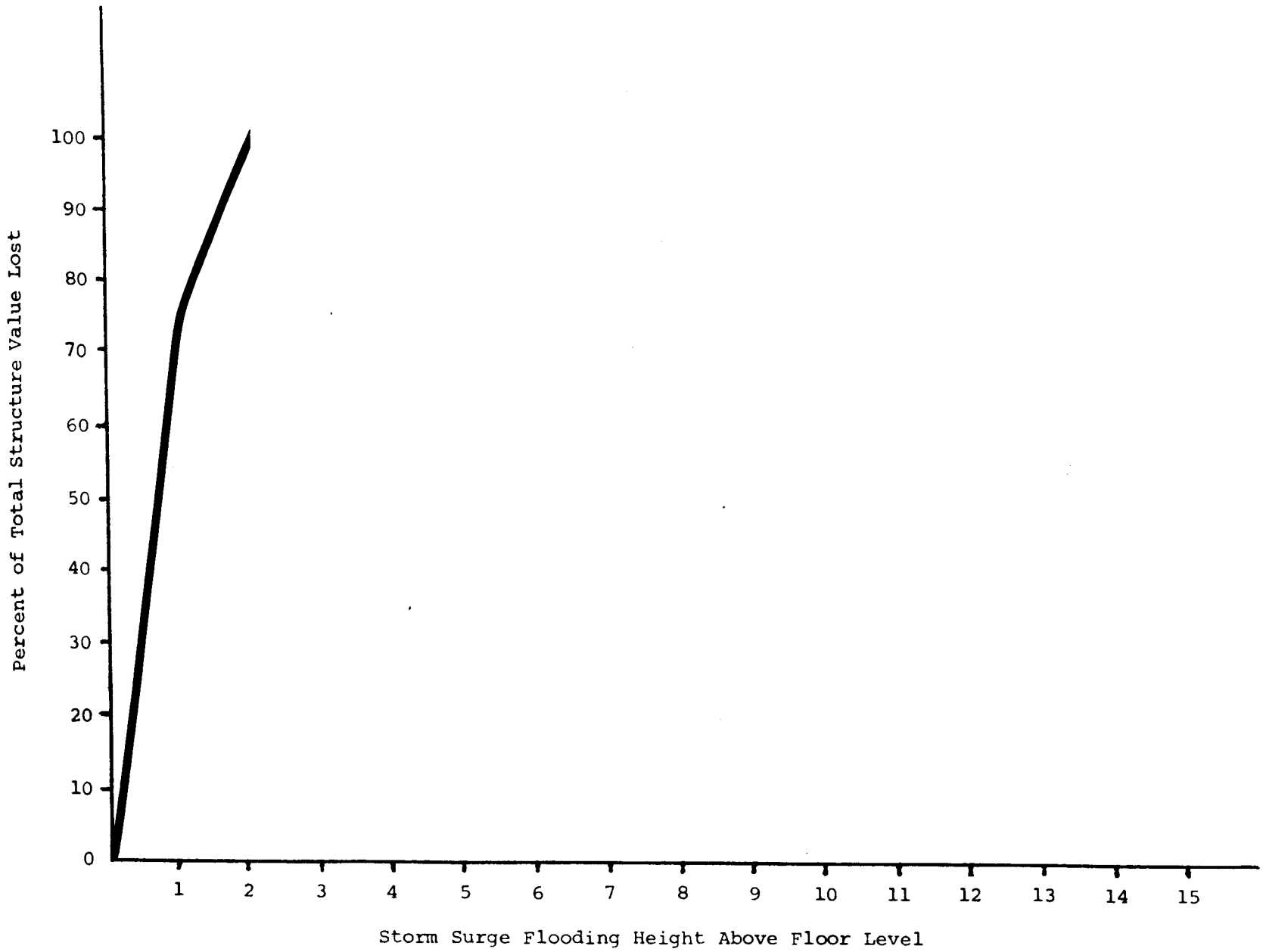


Sources: Single unit structures - FEMA, 1981
Multi-unit structures - J.H. Wiggins, Co., 1978

FIGURE 18

VELOCITY STORM SURGE FLOODING DEPTH/PERCENT DAMAGE

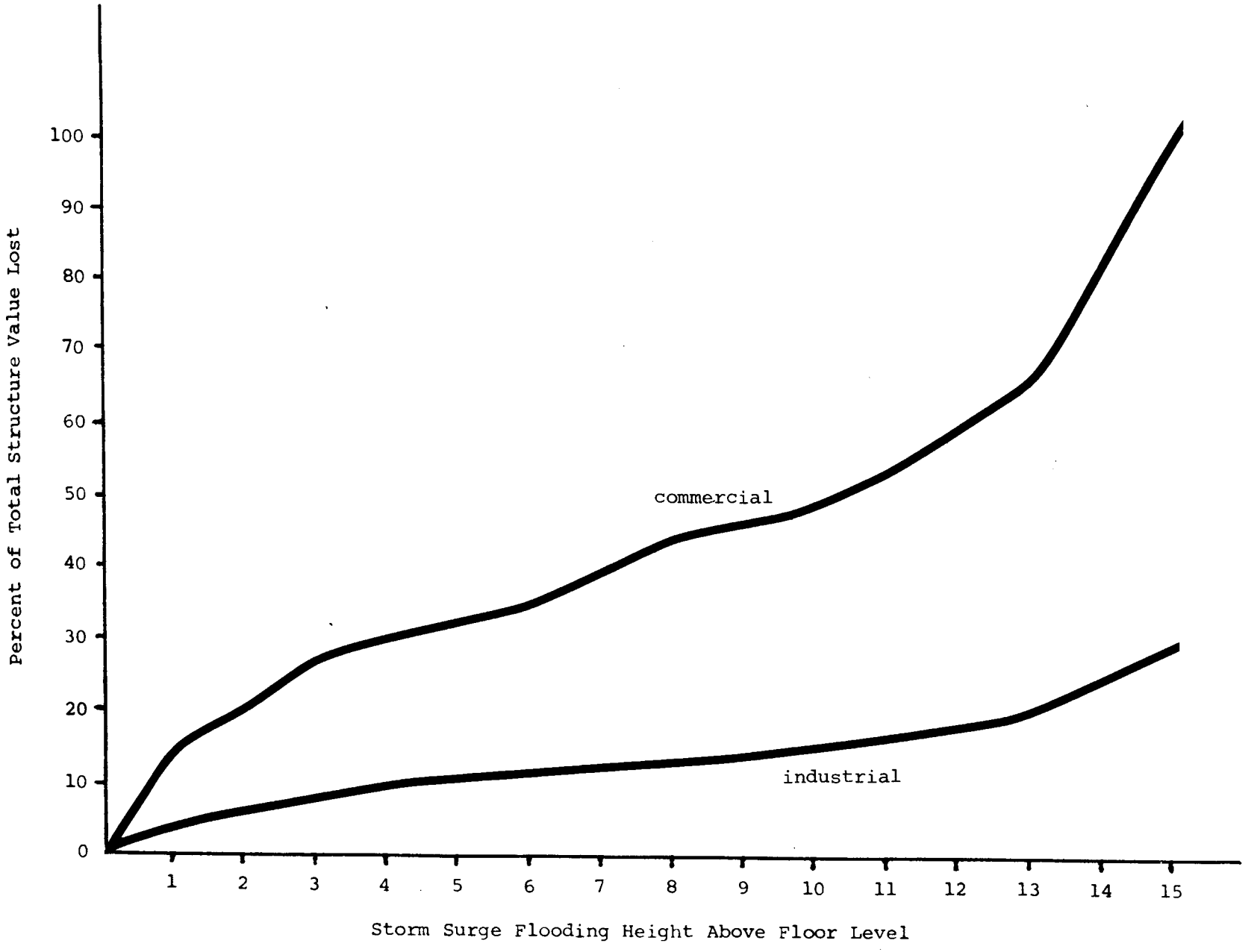
MOBILE HOME STRUCTURES



Source: J.H. Wiggins Co., 1978

FIGURE 19

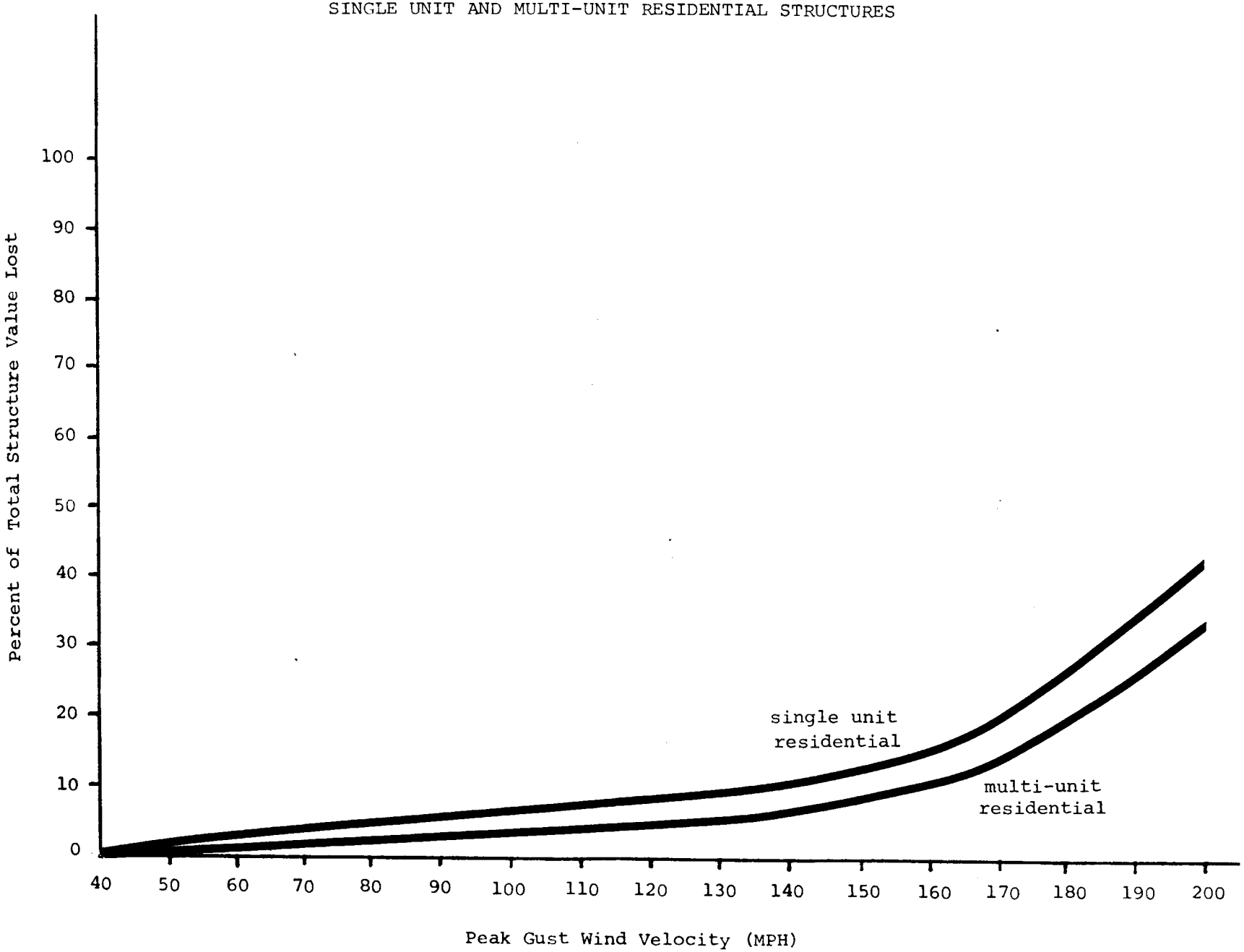
VELOCITY STORM SURGE FLOODING DEPTH/PERCENT DAMAGE
COMMERCIAL AND INDUSTRIAL STRUCTURES



Source: J.H. Wiggins Co., 1978

FIGURE 20

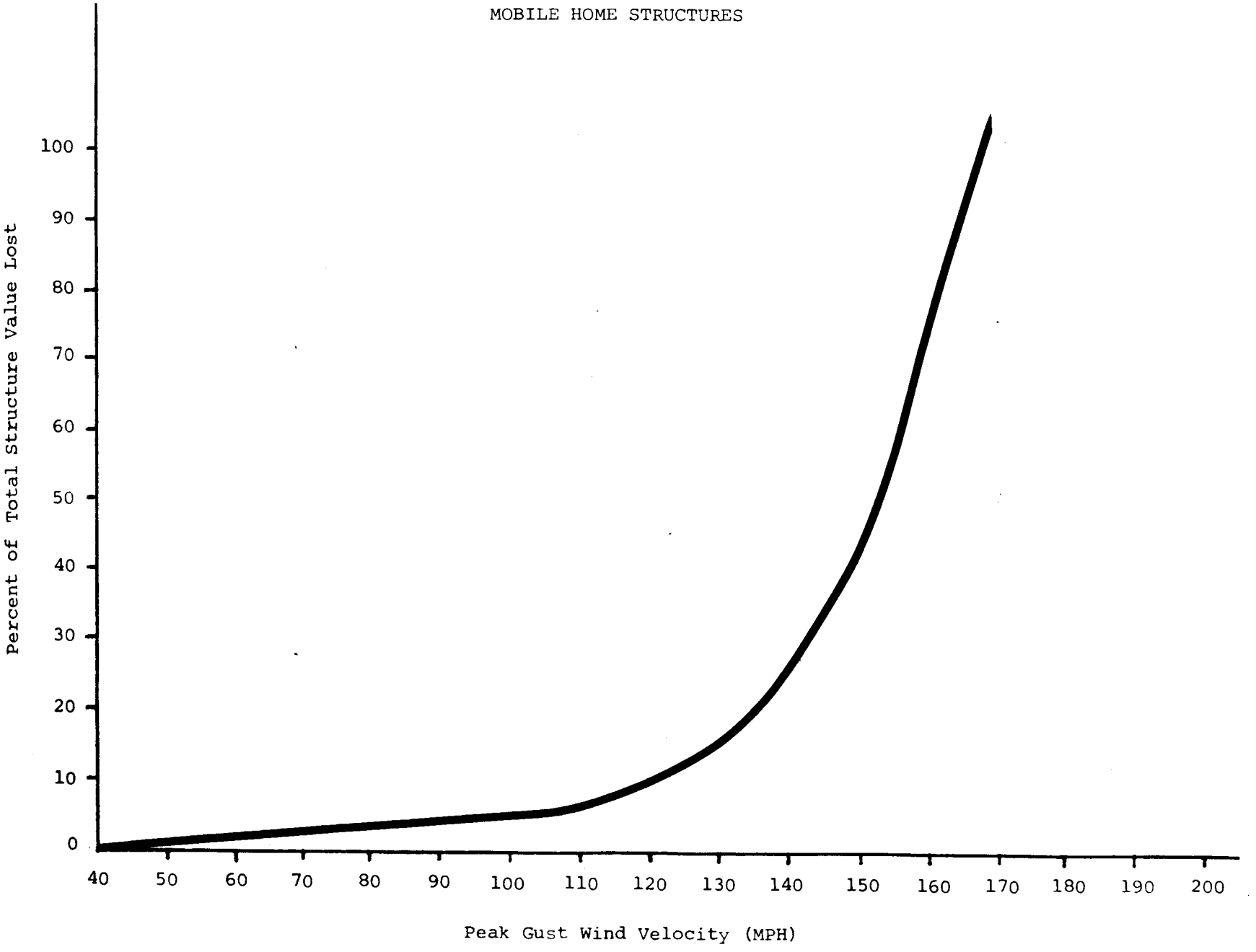
WINDSPEED/PERCENT DAMAGE
SINGLE UNIT AND MULTI-UNIT RESIDENTIAL STRUCTURES



Source: Friedman, 1974

FIGURE 21

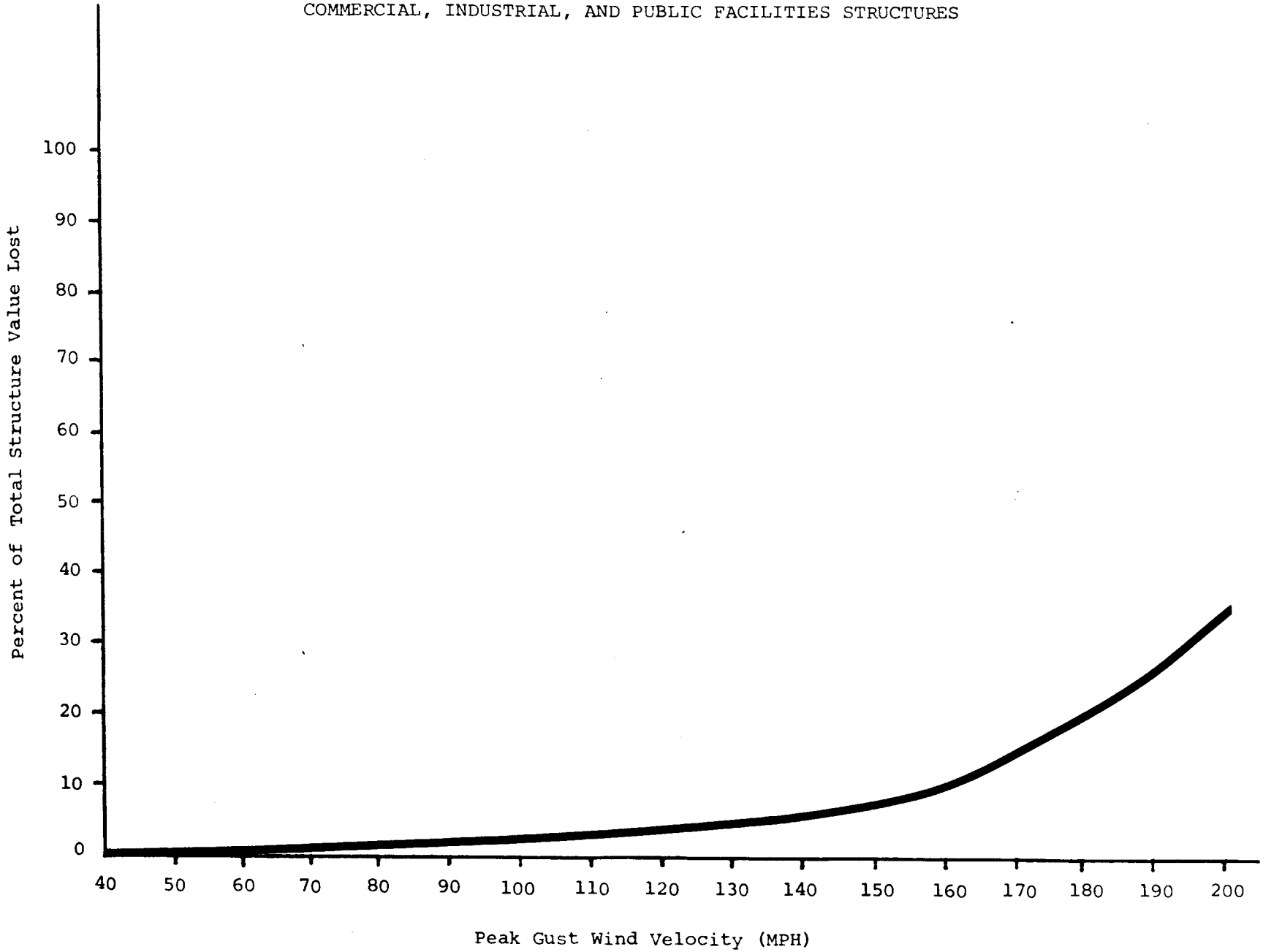
WINDSPEED/PERCENT DAMAGE
MOBILE HOME STRUCTURES



note: Assumption of Tie-down System to Local Code Specifications

Source: Foremost Ins. Co., 1979

FIGURE 22
WINDSPEED/PERCENT DAMAGE
COMMERCIAL, INDUSTRIAL, AND PUBLIC FACILITIES STRUCTURES



Source: Friedman '974

commercial, industrial, and public facilities structures. Again, because of lack of data for specific structure types, this "non-residential" curve is applied to commercial structures, industrial structures, public utilities structures, agricultural structures, public transportation structures, health care structures, and governmental/institutional structures.

PROPERTY-AT-RISK

After quantifying the structure vulnerability; the type, spatial spread, and density of the structures and property throughout the region exposed to the effects of storm surge and/or wind hazards must be surveyed. Inventories of land use, structures, agricultural property, and hazardous materials by hurricane loss zone follow.

Land Use Inventory of Hurricane Loss Zones

An initial indicator of the impact of hurricane surge and wind hazards on property and structures is the existing land use distribution exposed to those hazards. The general distribution of land use throughout the four counties of the region is presented in Table 7.

The type of recovery resources needed after a hurricane strike largely depends on the predominant land use occupying those geographic areas affected. Tables 8, 9, 10 and 11 present the existing land use by hurricane damage scenario and hurricane loss zone for each of the four counties of the region. (See Figures 9 through 12 for a geographic orientation of these land use concentrations).

Structural Inventory of Hurricane Loss Zones

Inventories of number and type of structures existing in hurricane loss zones provide initial estimates of recovery resources needed after a hurricane strike. The magnitude of temporary housing assistance and debris clearance needs are examples of types of contingency planning that will be based on such inventories. An early step in the valuation of projected loss procedure is the inventory of structures in each of the approximately 3000 sections (S/T/R) throughout the region. The structures are inventoried by ten (10) structure types and then aggregated into each county's hurricane loss zones. Tables 12, 13, 14 and 15 present the structural inventories of hurricane loss zones for each of the four counties of the region. (See Figures 9 through 12 for a geographic orientation of these structural concentrations).

Agricultural Inventory of Hurricane Loss Zones

Agriculture represents a significant economic sector that would experience hurricane loss in the Tampa Bay Region. The general distribution of agricultural lands by type for the region appears as Table 16.

To project the loss of normal agricultural yield from the surge and wind hazards of a hurricane strike, an inventory is necessary of the agricultural lands within the vulnerable hurricane loss zones. Tables 17, 18 19 and 20 present an agricultural inventory by hurricane damage scenario and hurricane loss zone for each of the four counties of the region. (See Figures 9 through 12 for geographic orientation of these agricultural concentrations).

TABLE 7

LAND USE - TAMPA BAY REGION

Damage Scenario	Residential	Commercial	Industrial	Public Utilities Transportation	Government Institution Military	Total
A	27,855	4,379	3,155	4,333	2,858	42,580
B	38,121	5,836	4,397	4,709	3,409	56,472
C	50,830	8,006	5,503	5,459	3,830	73,628
D	63,672	10,655	7,064	5,929	2,756	90,076
E	72,791	12,564	7,778	6,422	3,362	102,917

TABLE 8

HILLSBOROUGH COUNTY

Land Use Inventory of Hurricane Loss Zones (In Acres)

Loss Zone	Residential	Commercial	Industrial	Public Utilities Transportation	Government Institution Military	Total
1	840	200				
2		560				
3	1,360	200				
4	760	400	70	20		
5	760	80	200	320	1,280	
6	640	70				
7	720	70				
8	400	50				
9	580	40		40		
10						
11	160		720	200		
12		80	80			
13	440		60			
14	40	120	160	980		
15	180	120	840			
16	640	100	400	240		
17	840	80				
Scenario A	8,360	2,170	2,530	1,800	1,280	16,140
18	110	10	20	100		
19	80	360				
20	100		15	20		
21	40		400	15		
22			110			
23	50		80			
24	140	40	320			
25	760	40				
Scenario B	9,640	2,620	3,475	1,925	1,280	18,940

Table 8 - Hillsborough County (Continued)

Loss Zone	Residential	Commercial	Industrial	Public Utilities Transportation	Government Institution Military	Total
26	80					
27	140	10				
28	80	240				
29	120	80	200			
30	100	20	120			
31	100	160	320	300		
32	420		10			
33	720	70				
34	160					
35	680	160				
36	500	30				
37	960	480				
Scenario C	13,700	3,870	4,125	2,225	1,280	25,200
38	480	40	40			
39	1,800	380				
40	1,600	480				
41	320	440				
42	80	50	40			
43	10	80	240			
44	280	10				
Scenario D	18,270	5,350	4,445	2,225	1,280	31,570
45	120	40				
46	600	80	160			
47	1,080	360				
48	440	60				
49	400	280	120			
50	400	100				
Scenario E	21,310	6,270	4,725	2,225	1,280	35,810

TABLE 9

MANATEE COUNTY

Land Use Inventory of Hurricane Loss Zones (In Acres)

Loss Zone	Residential	Commercial	Industrial	Public Utilities Transportation	Government Institution Military	Total
1	1,014	18		NOT AVAILABLE		
2	250					
3	490	25				
4	828	5				
5	140	35				
6	1,065	40				
7	510	18				
8	111	20	460			
9	555	25	15			
Scenario A	4,963	191	475			5,629
10	1,196	130				
11	45					
Scenario B	6,204	321	475			7,000
12	358	4				
13	55	32	2			
14	560	210				
15	630	80	305	NOT AVAILABLE		
16	770	25				
17	1,340	20				
18	245					
Scenario C	10,167	697	782			11,646
19	110	5				
20	620					
21	70		160			
Scenario D	10,967	702				12,611
22	138	13				
23	900	20				
24	855	130	65			
Scenario E	12,860	865	1,007			14,732

TABLE 10

PASCO COUNTY

Land Use Inventory of Hurricane Loss Zones (In Acres)

Loss Zone	Residential	Commercial	Industrial	Public Utilities Transportation	Government Institution Military	Total
1	1,009.04	2.66	0	498.53	17.82	
2	962.42	118.32	20	517.80	171.60	
3	672.16	97.00	16.6	14.9	7.19	
4	443.73	61.14	0	14.13	7.99	
5	581.19	76.87	0	11.72	18.93	
6	82.13	48.20	0	1.27	85.46	
Scenario A	3,750.67	404.19	36.6	1,058.35	308.99	5,558.8
7	565.91	124.65	0	6.42	30.86	
8	305.92	61.19	0	2.35	16.28	
9	89.72	3.12	0	2.18	.31	
Scenario B	4,712.22	593.15	36.6	1,069.3	356.44	6,767.71
10	71.64	7.79	10	0	25.55	
Scenario C	4,783.86	600.94	46.6	1,069.3	381.99	6,882.69
11	481.82	99.99	0	13.11	6.55	
12	700.31	61.92	5.01	12.35	36.30	
13	1,738.35	209.16	0	44.49	21.46	
14	493.99	98.88	0	.63	16.10	
Scenario D	8,198.33	1,070.89	51.61	1,139.88	462.4	10,923.11
15	375.80	174.89	0	8.89	15.00	
16	184.88	11.26	0	56.53	18.75	
Scenario E	8,759.01	1,257.04	51.61	1,205.3	496.15	11,769.11

TABLE 11

PINELLAS COUNTY

Land Use Inventory of Hurricane Loss Zones (In Acres)

Loss Zone	Residential	Commercial	Industrial	Public Utilities Transportation	Government Institution Military	Total
1	798	120		45	240	
2	543	263	3	4	50	
3	655	165	3	10	10	
4	620	125		10	10	
5	640	120		15	15	
6	355	93		3	2	
7	398	125		3		
8	140	12		5	5	
9	250	5		2	20	
10	270	23			40	
11	191			115	40	
12	70	2				
13	118	12				
14	260	20		12	10	
15	265	95		8	45	
16	220	50		820	85	
17	1,027	164	42	226	80	
18	1,775	42	15	70	102	
19	240	100		110	52	
20	1,070	45	40	7	35	
21	1,120	25			70	
Scenario A	10,782	1,606	113	1,475	871	14,847
22	580	70	5	28	15	
23	1,080	100	60	30	95	
24	160	20	30	15	164	
25	180	17		30	10	
26	160	2		20	5	
27	520	10		5	20	
28	180	2		20	180	
29	900	75	10	1	35	

Table 11- Pinellas County (Continued)

Loss Zone	Residential	Commercial	Industrial	Public Utilities Transportation	Government Institution Military	Total
30	440	250	35	37	110	
31	1,360	90	45	21	159	
32	640	18	4	6	79	
33	50		100			
34	70	7	13	7	10	
35	220	35	6	20	20	
Scenario B	17,565	2,302	411	1,715	1,773	23,766
36	1,195	72		292	45	
37	420	35			75	
38	1,180	116	85	28	85	
39	470	20		10	45	
40	600	115		10	30	
41	150				10	
42	140	10		5		
43	460	168	53	105	105	
Scenario C	22,180	2,838	549	2,165	2,168	29,900
44	412	45		30	2	
45	20	1			2	
46	3,090	588	897	329	560	
47	280	50	180	20	20	
48	145				15	
49	110	10		20		
Scenario D	26,237	3,532	1,626	2,564	1,014	34,973
50	270	40	5		70	
51	20				2	
52	140					
53	145		60	210		
54	1,180	423	293	205	160	
55	920	90		10	90	
56	560	25	10		50	
57	390	62		3	200	
Scenario E	29,862	4,172	1,994	2,992	1,586	40,606

TABLE 12

HILLSBOROUGH COUNTY

STRUCTURAL INVENTORY OF HURRICANE LOSS ZONES

HURRICANE LOSS ZONE	NUMBER OF STRUCTURES BY TYPE										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	792	706	156	22	1	0	4	0	0	10	1,691
2	69	87	0	31	6	1	0	0	1	6	201
3	2,676	0	108	34	0	1	1	0	0	13	2,833
4	2,754	6	541	76	14	2	0	0	3	19	3,415
5	377	0	197	24	7	7	0	0	0	15	627
6	2,414	54	122	75	2	2	0	0	1	24	2,694
7	1,468	209	48	26	1	2	0	0	0	6	1,780
8	1,919	460	0	115	15	1	0	0	133	32	2,675
9	1,662	40	0	29	0	1	0	0	0	14	1,746
11	423	0	99	91	102	11	0	0	0	28	745
12	456	0	66	13	7	0	0	0	0	5	547
13	176	1	154	26	4	1	3	0	0	0	365
14	55	0	54	20	23	1	0	0	0	1	154
15	5	0	396	0	2	0	0	0	0	0	403
16	1,448	157	635	12	3	6	47	0	0	8	2,316
17	966	51	1,049	40	1	2	83	0	0	7	2,099
19	783	122	1	103	4	2	0	0	0	3	1,018
20	569	2	0	172	75	7	0	0	11	65	901
21	169	0	1	59	40	5	1	0	0	6	281
22	386	0	6	12	2	1	7	0	0	7	421
23	104	0	28	25	27	3	36	0	0	4	227
24	57	0	136	4	3	0	9	0	0	1	210
25	770	2	806	73	11	5	22	0	0	18	1,707
26	44	0	134	12	1	1	30	0	0	0	222
27	11	0	535	0	0	1	1	0	0	4	552
28	227	83	0	205	51	5	0	0	16	72	659
31	195	0	13	48	27	3	0	0	0	4	290
32	168	0	64	19	5	1	6	0	0	2	265
33	1,744	1	210	28	8	2	8	0	0	16	2,017
34	214	0	106	7	0	2	45	0	0	3	377
35	447	0	257	36	6	0	96	0	0	13	855
36	732	0	373	37	0	0	25	0	0	19	1,186
37	655	1	1,019	112	10	4	234	0	0	30	2,065
38	966	0	1,613	8	0	1	8	0	0	3	2,599
39	5,721	265	468	122	7	3	5	0	1	53	6,645
40	4,939	555	549	224	36	5	1	0	1	63	6,373
41	3,567	13	0	728	142	17	4	0	23	188	4,682
42	670	0	0	158	79	7	0	0	1	11	926
43	42	0	41	40	31	1	19	0	0	8	182

TABLE 12 (cont)

HILLSBOROUGH COUNTY

STRUCTURAL INVENTORY OF HURRICANE LOSS ZONES

HURRICANE LOSS ZONE	NUMBER OF STRUCTURES BY TYPE										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
44	858	0	32	3	0	0	29	0	0	13	926
45	36	0	0	3	2	1	8	0	0	0	50
46	1,586	3	81	40	2	0	0	0	0	9	1,721
47	4,326	249	0	392	14	6	0	0	0	46	5,033
48	1,696	2	0	66	4	0	1	0	1	10	1,780
49	385	0	239	22	12	2	0	0	0	6	666
50	1,274	0	80	16	0	3	17	0	0	5	1,395
51	4,008	1,692	1,540	137	9	8	1,279	0	156	319	9,148
52	4,160	1	1,452	106	6	5	739	0	0	94	6,563
53	8,930	299	1,934	399	66	12	902	0	1	157	12,700
54	10,347	7	2,053	604	84	26	737	1	5	225	14,089
55	11,525	8	4,109	683	123	28	1,334	4	9	294	16,116
56	1,054	46	2,545	81	7	2	529	0	0	49	4,313
57	26,507	2,519	4,706	1,170	206	29	301	0	619	424	36,481
58	38,783	2,106	1,189	2,289	533	66	172	1	28	492	45,659
59	7,425	25	303	168	12	7	633	0	0	66	8,639
TOTALS:	163,660	9,772	30,239	9,045	1,833	309	7,367	6	1,009	2,990	226,230

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 13

MANATEE COUNTY

STRUCTURAL INVENTORY OF HURRICANE LOSS ZONES

HURRICANE LOSS ZONE	NUMBER OF STRUCTURES BY TYPE										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	1,298	2,542	298	91	2	0	0	0	2	18	4,251
2	2,645	952	0	69	3	2	0	5	0	24	3,700
3	673	463	1,280	60	2	0	5	2	0	7	2,492
4	542	1,436	255	14	3	1	6	0	0	3	2,260
5	727	87	1	57	3	0	0	0	0	7	882
6	2,257	401	112	23	1	3	21	2	1	9	2,830
7	233	1	480	15	2	1	5	1	0	1	739
8	137	1	31	4	13	1	21	0	0	3	211
9	705	13	180	36	12	3	8	0	0	13	970
10	3,164	215	34	161	0	0	1	0	1	28	3,604
11	43	0	0	0	0	0	0	0	0	0	43
12	910	1	0	6	0	0	4	0	0	9	930
13	74	2	385	13	1	0	0	1	0	3	479
14	1,509	204	0	263	48	4	0	1	10	73	2,112
15	555	10	934	53	33	0	6	1	1	22	1,615
16	971	1	2	7	0	2	20	0	0	4	907
17	199	0	2,394	14	0	0	21	0	0	6	2,624
18	505	16	4	10	0	0	87	0	0	6	628
20	1,932	24	0	3	0	0	0	0	0	13	1,972
21	28	0	1	2	1	2	17	0	0	0	51
22	182	1	456	11	1	0	3	0	0	4	658
23	2,081	1,411	846	23	1	1	0	0	1	18	4,382
24	1,774	184	317	78	27	0	4	0	1	14	2,399
25	319	175	983	21	1	3	324	0	0	9	1,835
26	1,879	13	1,712	225	35	3	570	0	2	65	4,104
27	5,377	3,314	2,445	129	15	5	2	0	2	42	11,331
28	7,097	1,656	5,659	649	85	13	563	0	10	121	15,853
29	1,396	636	2,116	104	159	4	472	5	0	30	4,922
TOTALS:	39,102	13,759	20,525	2,141	448	48	2,160	18	31	552	78,784

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 14

PASCO COUNTY

STRUCTURAL INVENTORY OF HURRICANE LOSS ZONES

HURRICANE LOSS ZONE	NUMBER OF STRUCTURES BY TYPE										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	5,178	252	180	20	1	0	1	0	0	0	5,632
2	3,603	1,517	278	212	1	0	1	0	0	0	5,612
3	1,733	67	345	131	0	0	4	0	0	0	2,280
4	1,497	116	424	67	0	0	1	0	0	0	2,105
5	1,481	49	883	78	0	0	1	0	0	0	2,492
6	143	1	113	10	0	0	8	0	0	0	275
7	2,255	392	777	104	1	0	0	0	0	0	3,529
8	1,748	431	67	30	0	0	0	0	0	0	2,276
9	1,470	45	343	11	0	0	1	0	0	0	1,870
10	631	0	61	15	0	0	1	0	0	0	708
11	2,289	14	717	29	1	0	3	0	0	0	3,053
12	3,369	300	199	50	0	0	2	0	0	0	3,920
13	7,011	424	1,107	64	1	0	7	0	0	0	8,614
14	343	22	675	28	0	0	2	0	0	0	1,070
15	1,416	195	612	8	0	0	7	0	0	0	2,238
16	740	1	390	5	1	0	4	0	0	0	1,141
17	368	72	775	24	0	0	31	0	0	0	1,270
18	1,160	731	1,174	24	0	0	14	0	0	0	3,103
19	817	70	1,106	29	0	0	360	0	0	0	2,382
20	2,080	535	819	68	1	0	232	0	0	0	3,755
21	340	330	1,318	17	0	0	253	0	0	0	2,258
22	264	9	213	27	0	0	269	0	0	0	782
23	3,882	150	7,143	269	0	0	306	0	0	0	11,750
24	3,676	119	1,403	282	0	0	527	0	0	0	6,007
TOTALS:	47,494	5,842	21,122	1,622	7	0	2,035	0	0	0	78,122

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 15

PINELLAS COUNTY

STRUCTURAL INVENTORY OF HURRICANE LOSS ZONES

HURRICANE LOSS ZONE	NUMBER OF STRUCTURES BY TYPE										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	2,763	4,139	235	81	2	1	0	2	0	18	7,241
2	1,829	4,873	208	173	7	1	0	11	7	19	7,128
3	3,293	2,725	12	349	2	3	0	4	1	29	6,418
4	2,928	3,213	464	157	0	3	0	2	0	19	6,786
5	2,566	2,181	37	136	1	4	0	1	0	20	4,946
6	734	2,065	0	14	0	0	0	1	0	12	2,826
7	1,328	1,590	30	259	0	0	0	0	0	14	3,221
8	377	860	0	26	0	0	0	0	0	3	1,266
9	817	39	191	32	3	1	1	0	0	4	1,088
10	795	309	38	2	1	0	2	0	0	3	1,150
11	364	105	0	3	0	0	0	1	1	3	477
12	157	0	0	0	0	1	0	0	0	0	158
13	222	42	28	11	1	0	0	0	0	1	305
14	992	32	42	44	7	3	0	0	0	17	1,137
15	189	746	913	27	0	0	0	2	0	20	1,897
16	500	1,287	143	29	18	0	2	1	0	4	1,984
17	2,906	1,294	472	157	19	7	0	6	3	19	4,883
18	7,227	725	758	99	5	0	0	0	1	38	8,853
19	631	260	0	5	0	0	0	0	1	9	906
20	3,023	44	844	111	35	3	0	2	8	34	4,104
21	3,981	186	0	21	0	0	0	0	7	27	4,222
22	1,994	397	0	49	0	2	0	13	0	17	2,472
23	2,991	616	259	122	16	1	0	15	0	29	4,049
24	404	152	127	15	39	0	0	2	0	3	742
25	41	1,319	177	3	0	0	1	0	0	3	1,544
26	232	359	300	2	0	0	0	0	0	2	895
27	2,093	362	0	7	0	0	1	0	0	6	2,469
28	1,990	1,305	137	69	3	1	3	1	0	8	3,517
29	1,750	674	39	61	2	0	0	0	0	5	2,531
30	1,143	893	0	330	42	3	0	42	11	72	2,536
31	4,396	401	1	175	14	1	0	3	10	50	5,051
32	1,648	485	1,048	33	0	2	3	0	0	16	3,235
33	2,251	249	474	246	80	4	3	1	1	66	3,375
34	355	3	1	19	24	1	0	1	0	11	415
35	398	127	433	13	2	0	1	0	0	2	976
36	4,241	1,129	1,547	84	1	3	0	0	1	20	7,026
37	758	80	0	10	0	1	0	0	1	3	853
38	4,805	1,276	958	98	23	2	1	1	2	17	7,183
39	1,918	707	526	23	12	2	1	0	0	12	3,201

TABLE 15 (cont)

PINELLAS COUNTY

STRUCTURAL INVENTORY OF HURRICANE LOSS ZONES

HURRICANE LOSS ZONE	NUMBER OF STRUCTURES BY TYPE										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
40	2,979	1,389	1,818	133	5	1	2	2	4	17	6,350
41	1,938	26	3	17	1	0	0	1	8	4	1,998
42	1,315	39	0	52	20	1	0	4	0	33	1,464
43	306	0	221	13	8	0	1	0	0	5	554
44	768	103	495	34	2	0	2	0	0	10	1,414
45	251	346	80	4	0	0	1	0	0	2	684
46	9,759	2,584	1,372	620	341	5	4	22	6	150	14,863
50	400	1,022	24	33	4	0	0	0	0	3	1,486
51	321	311	2	1	0	0	0	0	0	1	636
52	320	86	1	2	0	0	2	0	0	2	413
53	938	1,173	2	4	1	0	0	0	0	0	2,118
54	3,404	1,542	2,988	200	93	4	5	1	0	23	8,260
55	2,733	137	0	31	0	1	0	4	0	38	2,944
56	1,935	2	0	27	40	0	0	3	1	22	2,030
57	661	407	1,251	36	0	0	0	5	0	7	2,367
58	5,811	373	717	83	9	2	4	4	0	34	7,037
59	5,607	550	2,240	130	14	6	4	6	2	48	8,607
60	6,615	1,223	2,155	383	46	1	3	7	2	64	10,499
61	17,980	4,855	3,920	1,015	217	14	3	45	9	189	28,247
62	9,383	6,649	4,997	220	40	5	20	5	2	59	21,380
63	2,954	644	14	50	8	3	17	0	0	19	3,709
64	3,901	15	121	145	7	8	0	26	3	77	4,303
65	1,076	609	0	619	57	7	0	88	7	123	2,586
66	5,832	250	78	263	28	0	0	27	14	48	6,540
67	4,415	1,903	767	116	3	2	1	15	1	31	7,254
68	9,924	282	640	593	89	8	0	93	8	87	11,714
69	16,526	1,106	357	376	155	4	0	21	5	86	18,636
70	5,348	734	1,956	195	100	2	0	42	2	37	8,416
71	2,499	87	1,814	180	86	3	5	25	2	40	4,741
72	317	94	9	12	1	2	10	0	0	5	450
TOTALS:	197,246	65,790	38,484	8,682	1,734	129	103	548	131	1,919	314,766

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 16

GENERAL AGRICULTURAL INVENTORY
TAMPA BAY REGION

Agricultural Acreage

COUNTY	PASTURE	CITRUS	CROPLAND	TOTAL
Hillsborough	156,220	37,620	15,830	209,670
Manatee	186,335	14,060	8,365	208,760
Pasco	131,885	33,400	5,000	170,285
Pinellas	7,018	2,405	200	9,623
REGION	481,458	87,485	29,395	598,338

TABLE 17
HILLSBOROUGH COUNTY AGRICULTURAL INVENTORY
OF HURRICANE LOSS ZONES

Agricultural Acreage

Hurricane Loss Zone	Pasture	Citrus Grove	Crop
1	360	0	0
16	890	120	1,960
17	720	1,440	2,240
Scenario A	1,920	1,560	4,200
23	260	0	0
24	120	0	0
25	280	0	0
Scenario B	2,580	1,560	4,200
26	200	0	0
27	200	0	0
32	360	0	0
33	60	0	0
34	640	0	0
35	2,680	440	700
36	20	0	2,400
Scenario C	11,100	3,440	7,300
38	880	0	0
39	120	0	0
43	240	0	0
44	480	0	0
Scenario D	12,820	3,440	7,300
45	320	0	0
46	280	0	0
49	80	0	0
50	720	0	0
Scenario E	14,220	3,440	7,300
Wind Loss	142,000	34,180	8,530
Total County	156,220	37,620	15,830

TABLE 18
MANATEE COUNTY AGRICULTURAL INVENTORY
OF HURRICANE LOSS ZONES

Hurricane Loss Zone	Agricultural Acreage		
	Pasture	Citrus Grove	Crop
3	0	0	240
4	1,680	0	0
6	0	40	80
7	80	80	280
8	200	1,120	0
9	160	0	600
Scenario A	2,120	1,240	1,200
Scenario B	2,120	1,240	1,200
13	0	0	320
16	720	0	56
18	1,840	4,600	0
Scenario C	4,680	5,840	2,080
19	920	160	0
21	0	0	80
Scenario D	5,600	6,000	2,160
22	0	0	360
Scenario E	5,600	6,000	2,520
Wind Loss	180,735	8,060	5,845
Total County	186,335	14,060	8,365

TABLE 19

PASCO COUNTY AGRICULTURAL INVENTORY
Of HURRICANE LOSS ZONES

Hurricane Loss Zone	Agricultural Acreage		
	Pasture	Citrus Grove	Crop
1	102.4	0	0
2	0	0	0
3	0	20.63	0
4	0	0	0
5	201.88	0	0
6	0	0	0
Scenario A	304.28	20.63	0
7	0	6.59	0
8	0	0	0
9	0	66.25	0
Scenario B	304.28	93.47	0
10	0	0	0
Scenario C	304.28	93.47	0
11	0	0	0
12	0	101.48	0
13	0	898.35	0
14	289.3	0	0
Scenario D	593.58	1,093.3	0
15	534.40	295.01	0
16	333.62	295.94	0
Scenario E	1,461.6	1,614.25	0
Wind Loss	138,538 (98%)	31,700 (95%)	5,000 (100%)
Total County	140,000	33,314	5,000

TABLE 20
PINELLAS COUNTY AGRICULTURAL INVENTORY
OF HURRICANE LOSS ZONES

Hurricane Loss Zone	Agricultural Acreage		
	Pasture	Citrus Grove	Crop
13	300	0	0
14	0	20	0
15	0	30	0
16	0	45	0
17	0	50	0
Scenario A	300	145	0
26	0	10	0
27	0	10	0
28	70	0	0
29	60	0	0
32	0	130	0
Scenario B	430	295	0
38	145	0	0
39	80	0	0
40	40	0	0
43	120	0	0
Scenario C	815	295	0
44	350	100	0
45	100	0	0
46	135	0	0
47	60	0	0
Scenario D	1,460	395	0
50	45	30	0
51	125	275	0
52	500	400	0
53	300	290	0
54	140	0	0
Scenario E	2,570	1,390	0
Wind Loss	4,448	1,016	200
Total County	7,018	2,406	+200

Hazardous Materials Inventory of Hurricane Loss Zones

The port facilities of the Tampa Bay Region, along with the many industries supporting major petroleum and phosphate activities, contribute to many sites that store potentially hazardous materials. If such sites experience storm surge flooding/velocity damage or wind damage (from the velocity itself or other flying debris), then the probability greatly increases for that stored hazardous material to become exposed to the public. This is an example of a natural hazard (hurricane) triggering a man-made hazard (the stored material). Comprehensive hurricane preparedness must include the planning of response to such contingencies.

The hazardous material inventory by hurricane loss zone presented by this study is for use by local emergency management officials as the first level of preparedness for such potential hurricane-caused hazardous materials exposures. The locational inventory set forth in this study provides a tool for the rapid checking of specific potential exposure sites that could be carried out after evacuation and immediate relief of public suffering (food, shelter, medical attention) are accomplished.

Contingency planning for hurricane-caused exposure of existing hazardous materials and/or hazardous wastes begins with the identification, inventory, and locational analysis of such sites in relation to potential exposure to hurricane surge and/or winds. Table 21 presents an inventory of hazardous material sites including the location, materials description, and volume description of waterfront storage facilities throughout the region. The relative hurricane vulnerability of these sites is noted on Figures 23, 24, and 25, which graphically show the site locations. All of these sites are located within the Hurricane Damage Scenario A areas of the respective counties.

An inventory and decription of the location and type of hazardous waste sites for each county throughout the region is presented as Tables 22, 23, 24, and 25. A more detailed identification of the type of waste at each site appears at the far right of the Tables in the form of EPA hazardous waste numbers keyed to their chemical decription in Appendix D. The relative vulnerability of the waste sites can be noted from Figures 26, 27, 28, and 29 showing the hurricane loss zone in which each site exists and the hurricane damage scenarios that would affect the sites.

TABLE 21

POTENTIAL HURRICANE EXPOSURE OF HAZARDOUS MATERIALS
WATERFRONT STORAGE FACILITIES

Map #*	Loss** Zone	Name	Address	No. of Tanks	Capacity	Product	Pipelines
		Liquid Bulk Facilities - Petroleum					
34	H-11	American Petrofina of Texas, 801 McCloskey Blvd., Hookers Point		8	323,000 barrels	Petroleum	(2) 10", (5) 8"
33	H-11	Amoco Oil Company, 848 McCloskey Blvd., Hookers Point		18	641,000 barrels	Petroleum	
88	H- 5	Chevron Oil U.S.A., Inc., 5500 Commerce Street, Port Tampa		19	813,220 barrels	Petroleum	(3) 12", (5) 8"
37	H-11	Cities Service Company, 1700 Hemlock Avenue, Hookers Point		12	268,105 barrels	Petroleum	(3) 10"
103	P-17	Florida Power Corporation, Weedon Island, St. Petersburg		6	900,000 barrels	Petroleum	(3) 8", (2) 6"
				2	300,000 barrels	Crude Oil	
86	H- 5	Gulf Oil Company, Ingraham Rd., Port Tampa		27	559,906 barrels	Petroleum	(2) 14",(2) 10", (1) 8" (2) 6"
41	H-11	Marathon Oil Company, 425 S. 20th St., Hookers Point		30	1,300,000 barrels	Petroleum	(5) 8"
26	H-11	Murphy Oil Corporation, 1306 Ingram Ave., Hookers Point		8	325,000 barrels	Petroleum	(1) 12", (1) 8" (1) 6"
25	H-11	Petroleum Packers, Inc., 1601 McCloskey, Hookers Point		13	90,000 barrels	Petroleum	(1) 6"
45	H-11	Phillips Petroleum Company, 504 N. 19th St.,Hookers Point		5	383,000 barrels	Petroleum	(2) 12"
87	H- 5	Shell Oil Company, Commerce St., Port Tampa		12	1,000,000 barrels	Petroleum	(1) 12", (1) 10", (4) 8"
20	H-11	South State Terminals Company (GATX), 2802 Maritime, Hookers Point		8	610,000 barrels	Petroleum	(3) 10", (1) 12"
55	H-19	Sun Oil Company, 1021 Ellamae Ave., Hookers Point		2	45,000 barrels	(Citrus Spray Oil)	(2) 6"
36	H-11	Tampa Electric Company - Hookers Point		4	270,000 barrels	Petroleum	(2) 10"
67	H-14	Tampa Electric Company - Gannon Station, Port Sutton		3	285,000 barrels	Petroleum	(2) 12"
42	H-11	Texaco, Inc., 519 - 19th St., Hookers Point		34	525,738 barrels	Petroleum	(5) 8", (4) 6", (7) 4"
85	H- 5	Union Chemicals Division, 5600 Commerce St., Port Tampa		13	76,116 barrels	Petroleum	(10) 6"
24	H-11	Union 76 Division, 1523 Port Ave., Hookers Point		7	479,000 barrels	Petroleum	(5) 10"
88	H- 5	U.S. Government Petroleum Dock, Port Tampa		7	337,000 barrels	Petroleum	(2) 8"
77	H-14	Western Fuels, Pendola Point Rd., Port Sutton		4	460,000 barrels	Petroleum	(1) 12", (1) 14"
106	M-8	Belcher Oil Company, Port Manatee		20	1,388,000 barrels	Petroleum	
104	P-12	Florida Power Corporation (Higgins Plant)		2	161,000 barrels	Petroleum	
105	P-19	Florida Power Corporation (Bayboro Plant)		2	44,925 barrels	Petroleum	
107	M-8	Florida Power & Light (Port Manatee)			(See Belcher Oil)	Petroleum	
108	PA-1	Florida Power Corporation (Anclote Plant)		2	400,000 barrels	Petroleum	
					11,985,010 barrels	Petroleum	
		Liquid Bulk Facilities - Other					
75	H-14	Brimstone (Duval Sulphur) Terminals, Inc., Pendola Point, Port Sutton		6	90,000 Long Tons	Liquid Sulphur	(1) 14"
44	H-11	Chevron U.S.A., Inc., Asphalt Div., N. 19th St., Tampa		15	84,000 barrels	Asphalt	(2) 8"
101	H-14	Comco, 4420 Pendola Point Rd., Port Sutton		2	28,000 barrels	Coal Oil Mixture	(1)
74	H-14	Exxon Company, U.S.A., Hwy. 41 S., Port Sutton		12	118,000 barrels	Asphalt	

TABLE 21 (cont.)

Map #*	Loss** Zone	Name	Address	No. of Tanks	Capacity	Product	Pipelines
78	H-15	Gardinier, Inc., Hwy. 41 S.		2	24,000 Net Tons	Sulphur	(1) 12"-Sul.
				3	20,000 Net Tons	Phosphoric Acid	(1) 10"-Phos.
71	H-14	W.R. Grace and Company, Port Sutton Rd.		2	82,000 Net Tons	Ammonia	(1) 10"
73	H-14	IMC Phosphate Terminal, Inc., Port Sutton		1	50,000 Net Tons	Ammonia	(1) 6"
81	H-16	Intercontinental Terminals Company, Hwy. 41, Big Bend		3	96,000 barrels	Phosphoric Acid	(1) 12"
14	H-11	Kreher Terminal - Berth 220, Maritime Blvd., Hookers Point			27,000 barrels	Petro-Chemicals	
					50,000 Tons	Phosphoric Acid	
					12,000 Tons	Caustic soda	
69	H-14	Pasco Terminals, Inc., Port Sutton		5	55,000 barrels	Liquid Sulphur	(1) 10"
21	H-11	Royster Company, 3222 Maritime, Hookers Point		1	35,000 Metric Tons	Ammonia	(1) 16"
20	H-11	South State Terminals Company, 2802 Maritime, Hookers Point		7	72,000 barrels	Phosphoric Acid	(1) 10"
				4	75,000 barrels	Caustic Soda	(2) 6"
				3	25,000 barrels	Chemicals	(1) 6"
32	H-11	Sulphur Terminals Company, McCloskey Blvd, Hookers Point		8	90,000 Long Tons	Liquid Sulphur	(2) 10",(1)4"
15	H-11	Texasgulf, Inc., 4041 Maritime Blvd., Hookers Point			60,000 Long Tons	Liquid Sulphur	(1) 16"
102	H-14	TransFlorida Terminals, Pendola Point, Port Sutton		1	10,000 Short Tons	Liquid Nitrogen Fert.	(1) 8"
96	H- 4	Warren Petroleum Corporation, 5105 S. Westshore Blvd,		52	2,040,000 Gal.	Propane (L.P.)	(1) 6",(1) 4"
19	H-11	Union Carbide Corp, Carbide Ave., Hookers Point		24		Chemicals & Solvents	
22	H-11	Richard E. Knight Oil Pier, Hookers Point			905,000 barrels	Petroleum/Products	
					88 Tons	Anhydrous Ammonia	
					15 Tons	Phosphoric Acid	
					6 Tons	Caustic Soda	
		Dry Bulk Facilities					
49	H-19	Detsco Terminals, Inc., 14th St. & Harbor, Hookers Point			3,100 Tons	Caustic Soda	
27	H-11	Paktank, Florida, Inc., 1331 Barton Ave., Hookers Point			17,000 Tons	Grain, fertilizer, Potash, Caustic Soda, Salt	
76	H-14	Paktank, Florida, Inc., Pendolo Point, Port Sutton			138,000 Tons	Potash, Phosphatic Products, Caustic Soda (25,000 barrels), L.P. Products (tank)	

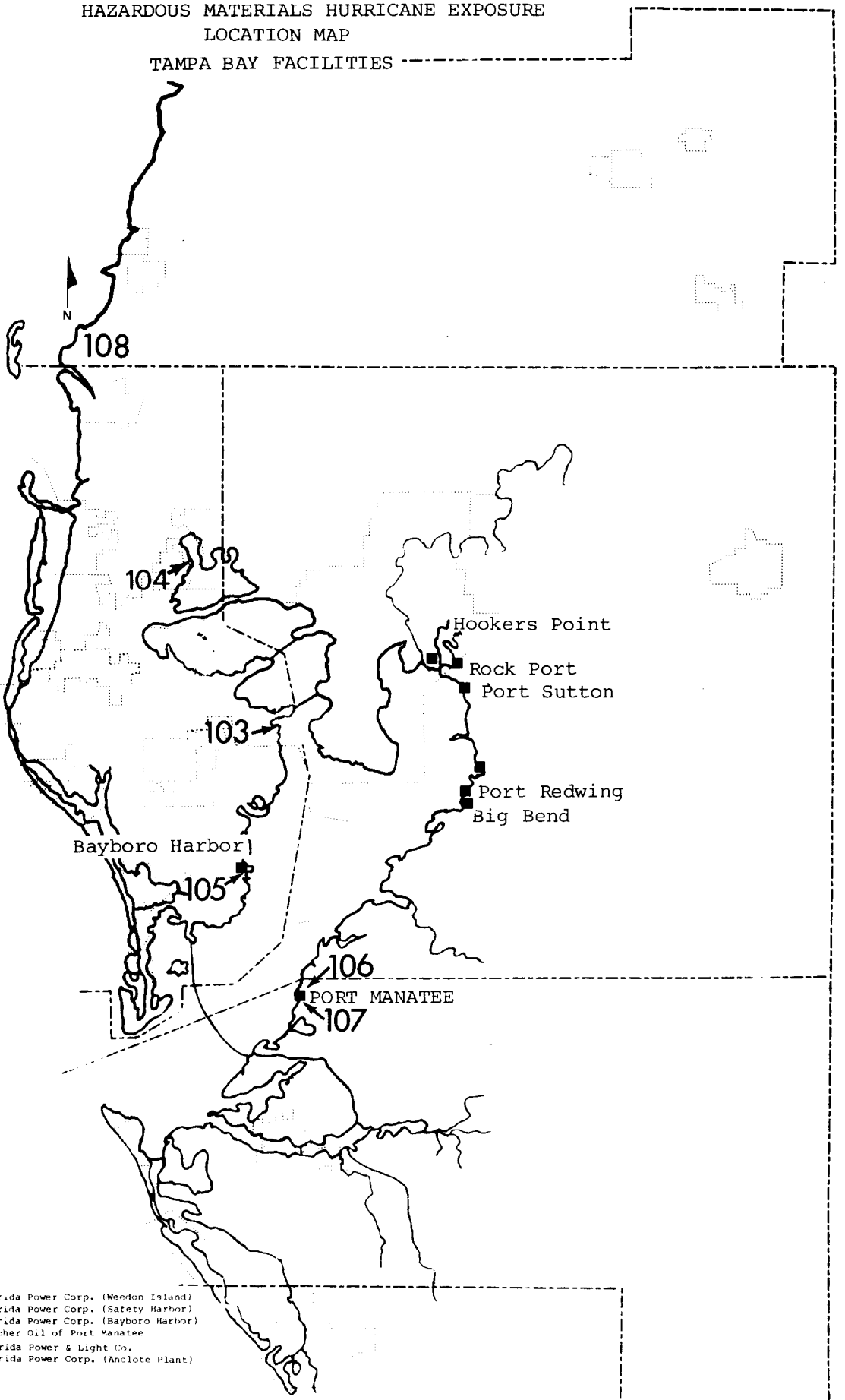
* Refer to Figures 21, 22, 23

** Loss Zones refer to the primary hurricane loss zones; counties are designated by the letter preceding the number: H (Hillsborough County), P (Pinellas County), M (Manatee County), PA (Pasco County).

NOTE: All facilities listed on this Table are located within Scenario A loss zone.

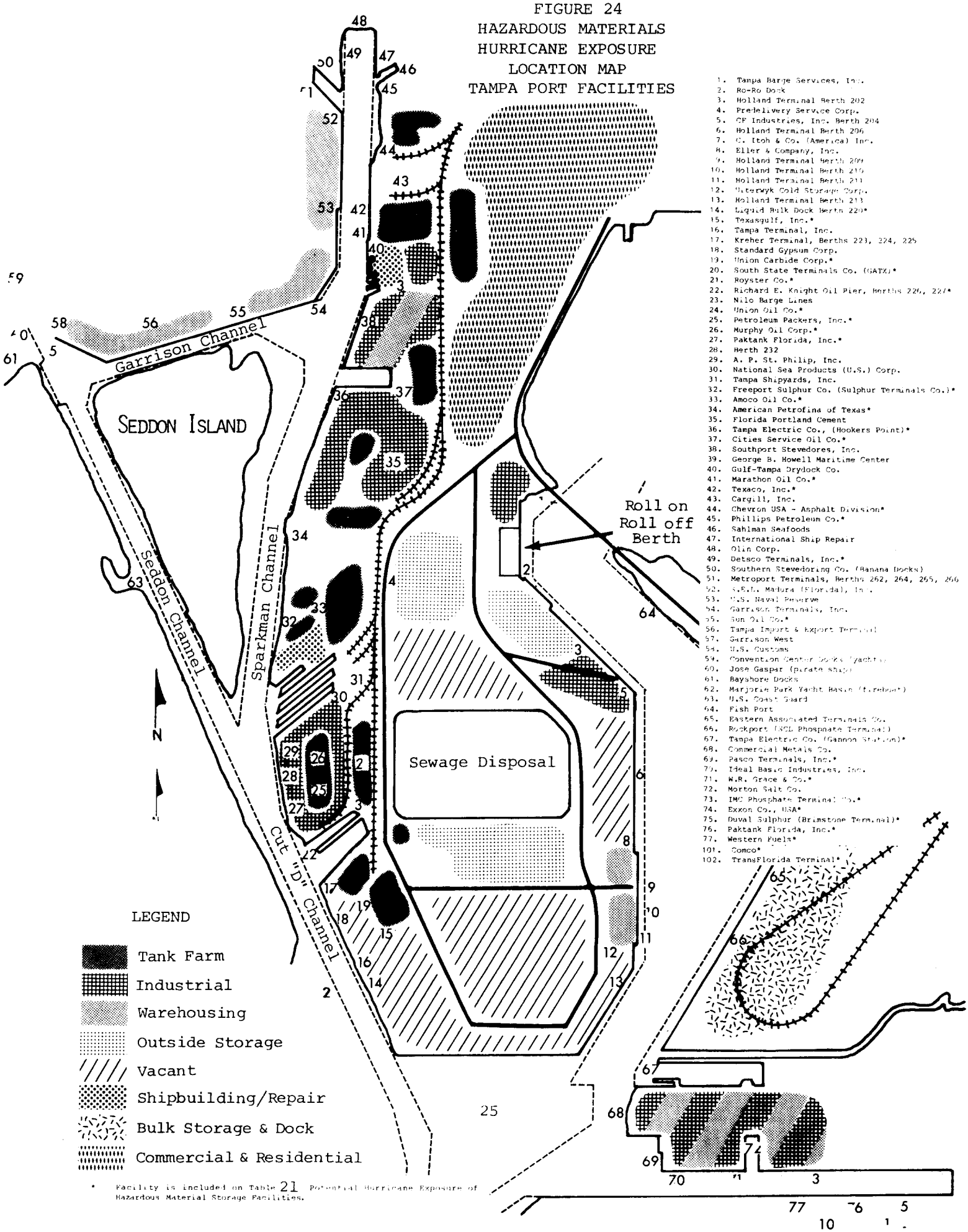
FIGURE 23

HAZARDOUS MATERIALS HURRICANE EXPOSURE
LOCATION MAP
TAMPA BAY FACILITIES



103. Florida Power Corp. (Weedon Island)
104. Florida Power Corp. (Safety Harbor)
105. Florida Power Corp. (Bayboro Harbor)
106. Belcher Oil of Port Manatee
107. Florida Power & Light Co.
108. Florida Power Corp. (Anclote Plant)

FIGURE 24
HAZARDOUS MATERIALS
HURRICANE EXPOSURE
LOCATION MAP
TAMPA PORT FACILITIES

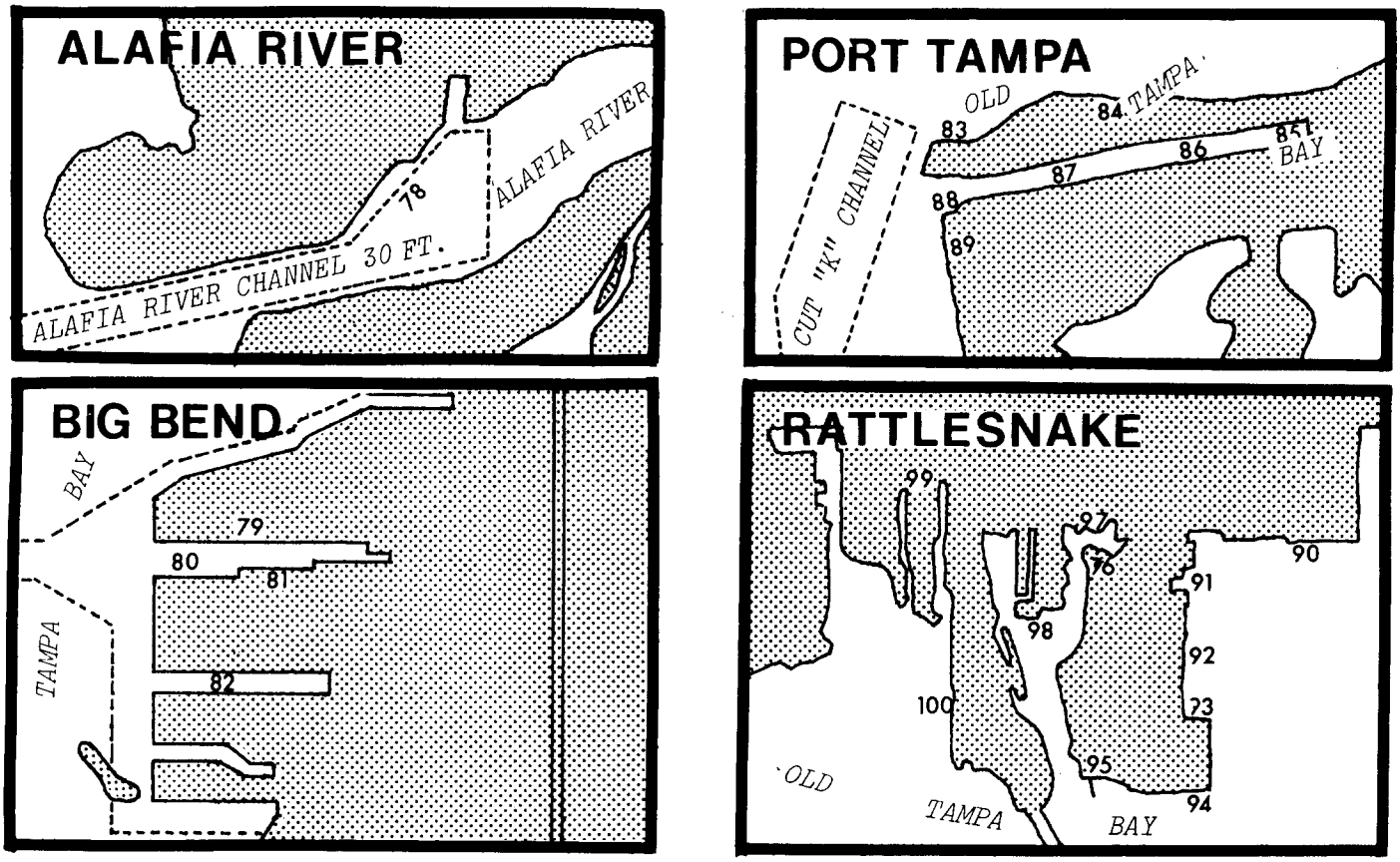


1. Tampa Barge Services, Inc.
2. Ro-Ro Dock
3. Holland Terminal Berth 202
4. Predelivery Service Corp.
5. CF Industries, Inc. Berth 204
6. Holland Terminal Berth 206
7. C. Itoh & Co. (America) Inc.
8. Eller & Company, Inc.
9. Holland Terminal Berth 209
10. Holland Terminal Berth 210
11. Holland Terminal Berth 211
12. Uiterwyk Cold Storage Corp.
13. Holland Terminal Berth 213
14. Liquid Bulk Dock Berth 220*
15. Texasgulf, Inc.*
16. Tampa Terminal, Inc.
17. Kreher Terminal, Berths 223, 224, 225
18. Standard Gypsum Corp.
19. Union Carbide Corp.*
20. South State Terminals Co. (GATX)*
21. Royster Co.*
22. Richard E. Knight Oil Pier, Berths 226, 227*
23. Nilo Barge Lines
24. Union Oil Co.*
25. Petroleum Packers, Inc.*
26. Murphy Oil Corp.*
27. Paktank Florida, Inc.*
28. Berth 232
29. A. P. St. Philip, Inc.
30. National Sea Products (U.S.) Corp.
31. Tampa Shipyards, Inc.
32. Freeport Sulphur Co. (Sulphur Terminals Co.)*
33. Amoco Oil Co.*
34. American Petrofina of Texas*
35. Florida Portland Cement
36. Tampa Electric Co., (Hookers Point)*
37. Cities Service Oil Co.*
38. Southport Stevedores, Inc.
39. George B. Howell Maritime Center
40. Gulf-Tampa Drydock Co.
41. Marathon Oil Co.*
42. Texaco, Inc.*
43. Cargill, Inc.
44. Chevron USA - Asphalt Division*
45. Phillips Petroleum Co.*
46. Sahlman Seafoods
47. International Ship Repair
48. Olin Corp.
49. Detsco Terminals, Inc.*
50. Southern Stevedoring Co. (Banana Docks)
51. Metroport Terminals, Berths 262, 264, 265, 266
52. S.E.A. Madura (Florida), Inc.
53. U.S. Naval Reserve
54. Garrison Terminals, Inc.
55. Sun Oil Co.*
56. Tampa Import & Export Terminal
57. Garrison West
58. U.S. Customs
59. Convention Center Docks Yachts
60. Jose Gaspar (pirate ship)
61. Bayshore Docks
62. Marjorie Park Yacht Basin (Firehost)
63. U.S. Coast Guard
64. Fish Port
65. Eastern Associated Terminals Co.
66. Rockport (SCL Phosphate Terminal)
67. Tampa Electric Co. (Gannon Station)*
68. Commercial Metals Co.
69. Pasco Terminals, Inc.*
70. Ideal Basic Industries, Inc.
71. W.R. Grace & Co.*
72. Morton Salt Co.
73. IMC Phosphate Terminal Co.*
74. Exxon Co., USA*
75. Duval Sulphur (Brimstone Terminal)*
76. Paktank Florida, Inc.*
77. Western Fuels*
101. Comco*
102. TransFlorida Terminal*

* Facility is included on Table 21 Potential Hurricane Exposure of Hazardous Material Storage Facilities.

FIGURE 25

HAZARDOUS MATERIALS HURRICANE EXPOSURE
LOCATION MAP



Alafia River, Port Tampa, Big Bend,
Rattlesnake Area Facilities

78. Gardinier, Inc., U.S. Phosphoric Products*
79. Port Redwing
80. Agrico Chemical Co.
81. Intercontinental Terminals Co.*
82. Tampa Electric Co., (Big Bend)*
83. Hardaway Constructors
84. I.S. Joseph Co.
85. Union Chemicals Division*
86. Gulf Oil Co.*
87. Shell Oil Co.*
88. Chevron USA, Inc.*
89. National Gypsum Co.
90. Westinghouse Electric Corp.
91. Interbay Marine
92. CSY Yachts
93. Seabrook Foods, Inc.
94. Misener Marine
95. Misener Industries
96. Warren Petroleum Corp.*
97. Hendry Corporation
98. Imperial Yacht Basin
99. Gandy Moorings
100. Marine Corps Reserve

TABLE 22

POTENTIAL HURRICANE EXPOSURE OF HAZARDOUS MATERIALS

Hillsborough County Hazardous Waste Sites

Scenario Level	Zone	Facility Name	Location Address	Location City	GEN	TRN	TSD	UIC
A		USCG Lt. Station	Tampa Bay-Egmont Key		x			
A	4	CSY Yacht Corporation	5250 Tyson Avenue	Tampa	x			
A	4	Treasure Chest Adv.	5400 S.Westshore Blvd.	Tampa	x			
A	4	Warren Petroleum Company *D001,D002	5101 W. Tyson	Tampa	x			
A	4	Westinghouse Electric Corp. D001,U069	6001 S.Westshore Blvd.	Tampa	x			
A	5	Chevron USA, Inc. D000,D001	5500 Commerce St.	Port Tampa	x			
A	5	DFSP Tampa	Tank Farm CR + Bound	MacDill AFB	x			
A	5	Gulf Oil Company D001,K049,D000,K051,K052	5881 Ingraham St.	Tampa	x		x	
A	5	Shell Oil Company D000,D001,K049,K051,K052	Commerce St.	Port Tampa	x	x		
A	5	Union Oil Co.of CA-Chemicals D001,K051,U002,U031,U057,U080,U112,U140,U154,U159,U161,U210 U220,U226,U228	5600 Commerce St.	Port	x			
A	5	USAF MacDill 56 Combat Sup.Grp. D000,D001,D002,F001,F003,F005,F017,P035,U080,U123,U159,U188,U210,U220		MacDill	x		x	
A	11	A & A Coastal Pollution Cont. D001,F002,F005,F017	2414 Marconi St.	Tampa		x		
A	11	Texaco, Inc. D000,D001,D002	519 19th St.	Tampa	x	x	x	
A	11	Cities Service Co.	1700 Hemlock Ave.	Tampa	x			
A	11	CorBan Plant	1800 Knox Rd.	Tampa	x			
A	11	Marathon Oil Company D000,D001	725 S. 20th St.	Tampa	x			
A	11	Tampa Electric Company D000,D001,K001,F003,F005	Hemlock St.	Tampa	x	x		
A	11	American Petrofina Mktg. K051,K052	801 McClosky Blvd.	Tampa	x			
A	11	Amoco Oil Company D000,D001	848 McClosky Blvd.	Tampa	x			
A	11	Gibson-Homans Company.	1505 McClosky Blvd.	Tampa	x			
A	11	Predelivery Servide Corp. D001	1803 E.Point Dr.	Tampa	x			
A	11	Sulphur Terminals Company D000,D001,D002,D003,F017,U013,U159	1015 McClosky Blvd.	Tampa	x			
A	11	Union Oil Company D000,D001	1523 Port Ave	Tampa	x			
A	11	Chevron USA D000,D001	2802 Maritime Blvd.	Tampa	x			
A	11	Paktank Florida, Inc. D002	3202 Carbide Ave.	Tampa	x			
A	11	USAMEX Fertilizers	2802 Maritime Blvd.	Tampa	x			

TABLE 22 (cont.)

Scenario Level	Zone	Facility Name	Location Address	Location City	GEN	TRN	TSD	UIC
A	11	So.State Terminals Co. D001,D002,K052	2802 Maritime Blvd.	Tampa	x			
A	12	Union Carbide Corp.	Adamo Dr.& 31st St.	Tampa	x			
A	13	Kenan Transport Company	4313-1/2 Causeway Blvd.	Tampa	x	x		
A	13	Tank Welding & Services Co. D000,D001	4101 S.22nd St.	Tampa		x		
A	14	Fleet Transport Co., Inc. D002,U159,U220,U239	4012 22nd St.	Tampa	x		x	
A	14	U.S. Steel-Polyester Union D001,F003,P100,U112,U154,U160	5110 Causeway Blvd.	Tampa	x			
A	14	Fla.Petroleum Tank Service K052	3140 S.50th St.	Tampa		x		
A	14	A-AAA Printing, Inc. Co. K086	5201 36th Ave. S.	Tampa	x			
A	14	Thompson-Hayward	5132 Trenton St.	Tampa	x			
A	14	Chloride Metals D000,D002,K069	3507 S.50th St.	Tampa	x	x	x	
A	14	Combustion Engineering, Inc. D000,D008	5115 Hartford St.	Tampa			x	
A	14	Griffin Paint Mftg.Co.	4202 S.50th St.	Tampa	x			
A	14	Nitram, Inc.	5321 Hartford St.	Tampa	x			
A	14	Exxon Corp. - Term. #4355 D000,D001	U.S. 41 at Port Sutton	Tampa	x			
A	14	IMC Terminal	Port Sutton Rd.	Tampa	x	x		
A	14	TPA.Elect.Co. - Gannon Sta. D000,D001,D002,F001,F003,F005	Port Sutton Rd.	Tampa	x			
A	14	W.R. Grace & Co.Pesticides	1604 36th St.	Tampa	x			
A	14	Paktank Fla., Inc. D002	Pendola Point Rd.	Tampa	x			
A	15	Gardinier, Inc. D000,D001,D002,D003,P001,P018,P022,P055,P098,P102,P120,U002, U013,U019,U021,U031,U032,U044,U057,U112,U117,U133,U134,U144, U151,U154,U160,U161,U169,U188,U197,U201,U211,U218,U220,U226, U239	U.S. Hwy 41 So.	Tampa	x			
A	16	Intercontinental Terminal D002	Pembroke Rd.	Gibsonton	x			
A	16	Agrico Chemical Company	Hwy 41 S.	Gibsonton	x			
A	16	Tampa Elect.Co.-Big Bend D000,D001,D002,F001,F003,F005	Big Bend Rd.	N.Ruskin	x			
B	19	Tribune Co., Inc. D001	202 S.Parker St.	Tampa	x			
B	19	Sunmark Petroleum Mktg. D000,D001	1021 Ellamae Ave.	Tampa	x			
B	19	Brulin & Company, Inc. P035,P090,U009,U052,U054,U070,U071,U072,U080,U122,U134,U154, U188,U210,U220,U226,U238,U239	104 N. 13th St.	Tampa	x			
B	20	Phillips Petroleum D000,D001	504 N.19th St.	Tampa	x			
C	28	Thornton Laboratories, Inc.	1145 E. Cass	Tampa	x			
C	28	GAF Corporation, Tampa	5138 Madison Ave.	Tampa	x			
C	29	Detsco Terminals	739 N. 14th St.	Tampa	x		x	

TABLE 22 (cont.)

Scenario Level	Zone	Facility Name	Location Address	Location City	GEN	TRN	TSD	UIC
C	29	Chevron USA D000,D001	500 N.19th St.	Tampa	x		x	
C	29	Swift Adhesives & Coatings D000,D001	605 N.26th St.	Tampa	x			
C	30	Superior Fertilizer U038,U224,U233,U239	4701 E. Broadway	Tampa			x	
C	31	Seaboard Coastline R.R. D000,D001	50th St. & Uceta Rd.	Tampa	x			
C	31	Fla. Steel Corp. - Mill Div. D001,K061	7105 6th Ave.	Tampa	x	x	x	
C	31	Plastic Futures D000,D008	6908 8th Ave.	Tampa			x	
D	39	Bock Industries F003,F005,F017	4920 Eisenhower Blvd.	Tampa	x		x	x
D	39	TRAK Microwave Corp. D000,D002,P029,P030,P098,P106,U002,U154,U159,U161,U186,U220, U228	4726 Eisenhower Blvd.	Tampa	x			
D	40	Chemcentral/Tampa D000,D001,D002	3820 Fair Oaks Ave.	Tampa	x	x		
D	41	Rechem Transport	1301 N.Rome Ave.	Tampa		x		
D	41	Shutters Unlimited	902 N.Rome Ave.	Tampa	x			
D	41	Industrial Chemical & Supply	1301 Rome	Tampa	x			
D	42	Devoe & Reynolds Co. K078,K079,K081,K082	1010-26 N.19th St.	Tampa	x		x	
D	43	United Tube Corp. U226,U239	8100 E. Broadway	Tampa	x			
D	43	Crown Zellerbach D000,D001	8700 Adamo Dr.	Tampa	x			
D	43	Westinghouse Electric	8507 Adamo Dr.	Tampa	x			
E	47	Central Truck Lines	3825 Henderson Blvd.	Tampa		x		
E	47	Kemco Electronics	2722 S.MacDill Ave.	Tampa	x			
E	49	Chemetron Corp. D002	1502 Orient Rd.	Tampa	x			
E	49	Cook Lumber	1905 - 66th St.	Tampa	x	x		
E	49	Standard Auto Bumper D000,D001,D002,D003,D007,F006,F008,F009	5607 E. Broadway	Tampa	x			
E	50	Redwing Carriers	8515 Palm River Rd.	Tampa		x		
WIND	51	Brewster Phosphate-Lonesome Mine D001,D002,S001,S002,U226,U002,U154,U117,U134,U196,U144	Ft. Lonesome		x		x	x
WIND	53	Sydney Mine Disposal D000,D001	Lon 82 11'44" Lat.27'55"	Hills.Co.	x			
WIND	54	Alumax Extrusions F017	Industrial Park	Plant City	x			
WIND	54	Reeves SE Corp. Galv.Div. D000,D002	9510-20 E. Broadway	Tampa	x		x	
WIND	54	Reeves SE Corp. Wire Div. D000,D002	9521-23 E. Broadway	Tampa	x	x	x	
WIND	54	Peak Oil Co. D001	S.R. 574	Tampa	x			

TABLE 22 (cont.)

Scenario Level	Zone	Facility Name	Location Address	Location City	GEN	TRN	TSD	UIC
WIND	54	Chloride Automotive Batteries D000,D002	200 S.Faulkenberg	Tampa	x		x	
WIND	54	Kaiser Agricultural Chemical D000	1/2 mile N.Hwy 60	Tampa	x		x	
WIND	54	National Electric Coil D001,F003	3106 Central Dr.	Plant City	x			
WIND	54	Schuylkill Metal Corp. D000,D002	Sammonds Rd.	Plant City	x	x	x	
WIND	54	National Oil Service	105 S.Alexander St.	Plant City	x			
WIND	54	Central Phosphates D002,P018,P022,P053,P098,P119,P120,U002,U019,U031,U044,U056, U108,U117,U122,U134,U135,140,U151	County Line Rd.	Plant City	x			
WIND	54	General Electric Co.	115 Wayne Place	Tampa	x	x		
WIND	54	AMAX Phosphate	Coronet Rd.	Plant City	x		x	
WIND	55	Delta Asphalt Paving co.	U.S. 301 & S.R.579	Thonotassa				x
WIND	55	Asgrow Fla. Co. See Asgrow below	101 N.Evers St.	Plant City	x			
WIND	55	American Bank Stationary D000	404 N.Frontage Rd.	Plant City	x			
		Asgrow Fla. Co. D000,D001,D002,P001,P020,P022,P035,P044,P048,P049,P050,P051, P059,P066,P069,P070,P071,P089,P090,P094,P105,P122,U002,U036, U038,U057,U148,U154,U159,U165,U185,U188,U220,U224,U233,U239, U224,U233,U239	S.R. 39 N.	Plant City	x	x	x	
WIND	55	Waste Resources of Tampa Bay	3411 N. 40th St.	Tampa		x		
WIND	55	Chemical Waste Mgmt. D000,D001,D002,D003,D004,D005,D006,D007,D008,D009,D010,D011, D012,D013,D014,D015,D016,D017,F001,F002,F003,F005,F006,F007, F008,F009,F010,F011,F012,F014,K001,D002,D004,K005,K006,K007, K008,K009,K010,K011,K013,K014,K015,K017,K018,K019,K020,K021, K022,K023,K024,K026,K028,K029,K030,K031,K032,K037,K038,K039, K040,K041,K048,K049,K050,K051,K052,K053,K054,K055,K056,K057, K058,K059,K060,K061,K062,K064,K065,K066,K067,K068,K069	6015 Hwy 301 N.	Tampa		x	x	
WIND	55	Continental Can Co.-58 D000,D001,F017	1601 39th St.	Tampa	x		x	
WIND	55	Helena Chemical Co. D000,P044,P048,P066,P071,P089,U224	2405 N.71st St.	Tampa	x			
WIND	55	Gulf Coast Lead Co. D000,D002,K069	1901 N. 66th St.	Tampa	x	x	x	
WIND	55	FMC Corporation D001,P050	1808 N. 57th St.	Tampa	x	x		
WIND	55	Chemex Chem. & Coat Co. K081,K078	2822 35th St.	Tampa	x			
WIND	55	Clorox Company D002	3601 E. Columbus Dr.	Tampa				
WIND	55	Stauffer Chemical Co. D000	2009 Orient Rd.	Tampa	x			

TABLE 22 (cont.)

Scenario Level	Zone	Facility Name	Location Address	Location City	GEN	TRN	TSD	UIC
WIND	55	Tennant Dental Lab U013,U134	6820 Oak Dale Dr.	Tampa		x		
WIND	57	Moreland McKesson Co. D002,U002,U031,U057,U069	6051 Highway 41A	Tampa	x	x		
WIND	57	Southern Mill Creek Prod. P035,P039,P044,P048,P050,P051,P066,P071,P088,P090,P029,U036, U038,U104,U114,U148,U232,U233	5414 N.56th St.	Tampa	x			
WIND	57	Robbins Mfg.Co. D000	13015 N. Nebraska	Tampa	x		x	
WIND	57	Schlitz Brewing Co F001,F002,F005,F017	11111 30th St.	Tampa	x			
WIND	57	Johnson Controls, Inc. D008,D005	10215 N.30th St.	Tampa		x	x	
WIND	57	Honeywell, Inc. D000,D001,D002,D003,F001,F002,F003,F005,F006,F007,F008,F009, F015,P022,P030,P098,U002,U031,U054,U069,U112,U115,U122,U123, U134,U140,U151,U154,U159,U161,U162,U188,U219,U220,U223,U226, U229,U238,U239	10901 M.McKinley	Tampa	x	x		
WIND	57	Reynolds Metals-Plant D000,D001,D002,F001,F002,F003,F005,F006,F007	10420 Malcom McKinley	Tampa	x			
WIND	57	Hendry A.L. Co. K078,K079	14919 Nebraska Ave.	Tampa	x		x	
WIND	57	Schlitz Brewing Co. F001,F002,F005,F017	4700 Whiteway Dr.	Tampa	x			
WIND	57	Pullman-Holt	10702 46th St.	Tampa	x			
WIND	57	Weyerhauser Tampa	53rd St. & Sligh Ave.	Tampa	x		x	
WIND		Southern Mill Creek Prod. D000,F017,P001,P006,P008,P020,P030,P035,P039,P044,P048,P050, P051,P059,P066,P070,P071,P088,P089,P090,P094,P122,U002,U003, U009,U011,U029,U036,U038,U044,U056,U061,U104,U114,U122,U127, U129,U140,U141,U148,U154,U161,U169,U185,U220,U224,U232,U233, U239	5414 N. 56th St.	Tampa	x			
WIND	57	Cross Pest Control	6411 N. 40th St.	Tampa	x			
WIND	57	TR-CITY Oil Conservationist	8767-1/2 N.50th St.	Tampa		x		
WIND	57	Bangor Punta Marine	7710 N.30th St.	Tampa	x			
WIND	57	Walt Senkbell D000,D002	8507 N.28th St.	Tampa		x		
WIND	57	General Cable Co. D000,D001,D002,F001,F005,F006,F007,F008,F009	2515 Hanna Ave.	Tampa	x			
WIND	57	American Lacquer D000,D001,F003,F005,K078,K079,K081,K082,P092,P100,U069,U107, U112,U140,U159,U161,U171,U220,U226,U238,U239	2601 E.Hendry	Tampa	x			
WIND	57	Tanner Paint Co. K079	4917 N.Armenia	Tampa	x			
WIND	57	Cagno Service Station D000,D001	3601 Henderson	Tampa	x			
WIND	57	Thatcher Glass	11316 - 46th St.	Tampa	x		x	

TABLE 22 (cont.)

Scenario Level	Zone	Facility Name	Location Address	Location City	GEN	TRN	TSD	UIC
WIND	57	USF	4204 E. Fowler Ave.	Tampa	x			
WIND	57	Tampa Water Dept.	7125 N. 30th St.	Tampa	x			
WIND	58	Polygard, Inc. D001,K078	4310 W.South Ave.	Tampa	x			
WIND	58	AMSA 536 Tampa D000,D001,D002,D003	4823 N.Hubert	Tampa	x		x	
WIND	58	Safety-Kleen Corp. F002,F004	4701 N.Manhattan	Tampa	x	x	x	
WIND	58	Belcher Oil Co. D001,D002	4111 N.Trask	Tampa	x			
WIND	58	Borden Dairy & Ser.	4010 N.Lois Ave.	Tampa	x			
WIND	58	Starrett Corp. F001,U238	4522 W.Ohio	Tampa	x			
WIND	58	Norant Corp.	5009 N.Grady Ave.	Tampa		x		
WIND	58	Electro Painters D002,F017,U210,U239	4421 Church Ave.	Tampa	x			
WIND	58	Pathology Assoc. D002	5415 Laurel Blvd.	Tampa	x			
WIND	58	Atlanta Metal Ind. *	6302 Anderson Rd.	Tampa	x		x	
WIND	58	Ashland Chemical Co. D000,D001,D002,D003,F002,F003,F005,P022,P029,P053,P090,U001, U002,U004,U012,U019,U028,U031,U037,U044,U054,U055,U056,U057, U069,U070,U071,U072,U088,U092,U102,U103,U107,U108,U110,U112, U117,U122,U123,U125,U134,U140,U147,U154,U159,U160,U165,U171, U189,U190,U194,U210,U211,U213,U219,U220,U223,U226,U228,U239	5125 W.Hanna Ave.	Tampa	x	x	x	
WIND	58	PHK Products, Inc. D000,K078,K079,K081,K082,P092,P100,U220,U239	6315 N.Anderson	Tampa	x		x	
WIND	58	Honeywell, Inc. See Honeywell	3602 W.Waters Ave.	Tampa	x	x	x	
WIND	58	Groff Industries D001,D002,F003,F005,U220	9507 N.Trask	Tampa	x		x	
WIND	58	MCI Corp. K078,K079,K081	6110 Gunn Hwy.	Tampa	x		x	
WIND	58	Leto Sanitary Serv.	6402 Gant Rd.	Tampa		x		
WIND	58	Burke Co.	5701-C.Airport Rd.	Tampa	x			
WIND	58	Strickland Trucking	4519 W. Knox St.	Tampa		x		

*EPA Hazardous Waste Numbers, see Appendix C

GEN = generation
TRN = transport
TSD = treatment, storage, or disposal
UIC = underground injection

TABLE 23

POTENTIAL HURRICANE EXPOSURE OF HAZARDOUS MATERIALS

Manatee County Hazardous Waste Sites

Scenario Level	Zone	Facility Name	Location Address	Location City	GEN	TRN	TSD	UIC
W	29	American Beryllium Co. *P015	1600 Tallevast Rd.	Tallevast	x			
W	26	Asgrow Florida Co.	3203 U.S. Hwy. 301 N.E.	Ellenton	x			
A	8	Belcher Oil-Port Manatee D001,D002,K051,K052	Port Manatee Rt. 1	Palmetto	x			
C	14	Bradenton Herald D001	401-13th St. W.	Bradenton	x			
W	29	Cedar Hammock Refuse Disp.Corp. D000	6120-21st St. E.	Bradenton		x	x	
C	13	Club Kit	410-10th Avenue	Palmetto			x	
C	14	Florida P & L,Brad.Serv.Ctr. D000,D001,D002,D003	420 Manatee Avenue	Bradenton	x	x		
A	3	Florida P & L,Cortez Serv.Ctr. D000,D001,D002,D003	86 St. West	Bradenton	x	x		
W	25	Florida P & L,Manatee Plant D000,D001,D002,D003	5 mi.E.of Parrish on SR62	Bradenton	x	x	x	
W	25	Florida P & L,Manatee Reserv. D000,D001,D002,D003	7 mi.E.of Parrish	Parrish	x	x	x	
W	28	Kristal Kraft, Inc.	1507-17th St. E.	Palmetto	x			
W	26	Manatee Boats, Inc. U002,U160	1103-12th Ave. W.	Palmetto	x			
W	28	Manatee County S.W.,Reg.WWTP	6600 West Cortez Rd.	Bradenton		x	x	
W	28	Manatee County WWTP D000	SR 64	Bradenton			x	
A	8	NL Baroid Pt. Manatee Serv.Ctr.	Adj.Deep Water Berth	Palmetto	x	x		
W	25	Pineypoint Phosphoric Prod.Co. D002	Hwy. 41 N.	Palmetto	x		x	
W	29	Spindrift One-Design	1220 Tallevast Rd.	Tallevast	x			
A	3	USCG Station Cortez	124 St.Ct.W.	Cortez	x		x	
W	26	USS Agri-Chemicals P050,P070	1012-24th Ave. E.	Ellenton	x			
A	8	Florida P & L,Manatee Fuel Oil Supply D001,D002	Reeder Road	Port Manatee	x			

*EPA Hazardous Waste Numbers, see Appendix C

GEN = generation
TRN = transport
TSD = treatment, storage, or disposal
UIC = underground injection

TABLE 24

POTENTIAL HURRICANE EXPOSURE OF HAZARDOUS MATERIALS

Pasco County Hazardous Waste Sites

Scenario Level	Zone	Facility Name	Location Address	Location City	GEN	TRN	TSD	UIC
W	24	Bushnell Elec.Mfg.Warehouse *U002,U031,U140,U154,U159,U220,U226	1602 Hwy. 301	Dade City		x		
W	22	Chevron USA,Inc., Dade City Bulk Plant D000,D001	I-75/SR 52	Dade City	x			
W	24	Lykes Pasco Packing Co. **	U.S. Hwy. 301	Dade City	x			
W	23	Memcor Fla. Operations	2 Giles Rd.	Zephyrhills	x			
W	18	Pall Land & Marine Corps. D001,F001,F006,F007	7070 Moon Lake Rd.	New Port Richey	x			
A	1	Florida Power-Anclote D002,U133,U219,U226	Baileys Bluff Rd.	New Port Richey	x		x	

**D002,P053,P023,P022,P018,P017,P014,P005,P105,P100,U080,U056,U045,U044, U032,U031,U019,U017,U006,U003,U002,U108,U228,U220,U211,U210,U202

* EPA Hazardous Waste Numbers, see Appendix C

GEN = generation
TRN = transport
TSD = treatment, storage, or disposal
UIC = underground injection

TABLE 25

POTENTIAL HURRICANE EXPOSURE OF HAZARDOUS MATERIALS

Pinellas County Hazardous Waste Sites

Scenario Level	Zone	Facility Name	Location Address	Location City	GEN	TRN	TSD	UIC
A	7	USCG Sta. Clearwater	245 Windward Passage	Clearwater	x		x	
A	9	Elfer's Citrus Growers Assoc. *D001	605-10th St.	Palm Harbor	x			
A	13	Florida Power Corp.-Higgins D002,U133,U219,U226	Shore Boulevard	Oldsmar	x		x	
A	16	USCG Air Station	St.Pete-Cleaw. Airport	Clearwater	x		x	
A	17	Jim Walter Resources Corp.	10301-9th St. No.	St. Petersburg	x			
A	17	Leeds & Northrup	3000 Old Roosevelt Blvd.	St. Petersburg	x			
A	17	Henefelt Precision Prod. U226	3001 Ulmerton Rd.	Largo	x			
A	17	Florida Power Corp. D002,U133,U219,U226	Bartow Plant	Weedon Island	x		x	
A	19	USCG Station-St.Petersburg	600-8th Ave. S.E.	St. Petersburg	x		x	
A	20	Resource Recovery of America D000,D001,D002,F001,F002,F003,F004,F005,F013,K030,K049, K052,K078,P022,P110,U002,U043,U154,U165,U210,U211,U220, U226,U236	100-14th Ave. So.	St. Petersburg	x	x	x	
B	24	Assoc.Plating & Finishing Co. D006,K004,P099,P098,P021,P106	4800-95th St. No.	St. Petersburg	x		x	
B	24	PB & S Chemical Co. D002	4685-95th St. No.	St. Petersburg	x	x		
B	33	Stauffer Chemical Co. D000	Anclote Rd.	Tarpon Springs	x			
B	33	Sanitary Dash of Fla. D002,F006	2800 Oakmont	Tarpon Springs			x	
C	38	J & F Scrap Processors, Inc.	9380-67th St. No.	Pinellas Park	x			
C	39	Cheron Chemical Corp.	8944-95th St. No.	Seminole		x	x	
C	43	Metal Industries F018,F017,F005,F003,F001,U228	955 Live Oak St.	Tarpon Springs	x	x	x	
D	46	Zero Manufacturing Co. D002,D001,D000,F018,F017,U210	14501-49th St. No.	Clearwater	x		x	
D	46	Smith's Industries F001,F002,F003	14081 Roosevelt Blvd.	Cleawater	x			
D	46	Sperry's Microwave F001,F007,F009,F017	13133-34th St. No.	Clearwater	x		x	

TABLE 25 (cont.)

Scenario Level	Zone	Facility Name	Location Address	Location City	GEN	TRN	TSD	UIC
D	46	Chemlawn Corp. D000	14042-66th St. No.	Largo	x			
D	46	Honeywell, Inc. D003,D002,D001,D000,F008,F005,F004,F003,F002,F001, P099,P098,P077,P074,P030,P029,P024,P018,P015,P005, P121,P120,P116,P106,P105,P104,P101,U093,U088,U080, U070,U069,U057,U045,U044,U043,U037,U031,U021,U020, U019,U012,U003,U002,U001,U197,U196,U194,U190,U188, U170,U169,U167,U165,U161,U160,U159,U154,U151,U147, U144,U140,U138,U134,U133,U123,U112,U108,U239,U238, U234,U228,U227,U226,U220,U219,U218,U214,U213,U210, U204,U202,U201	13350 U.S. Hwy. 19 N.	St. Petersburg	x	x	x	
D	46	Dyco Chemical & Coatings	5850 Ulmerton Rd.	Clearwater	x			
D	46	Manufctured Bldgs., Inc.	12690-60th St.	Clearwater	x			
D	46	Prairie Boat Works, Inc.	4620-122nd Ave. No.	Clearwater			x	
D	46	Professional Business Printing	4745-126th Ave. No.	Clearwater			x	
D	46	Teal Industries U210,U220	11993-44th St. No.	Clearwater	x			
D	46	Dixie Plating, Inc. F006,F007,F008,F009	5095-113th Ave. No.	Clearwater	x			
D	46	Silor Optical of Fla. D002,F002	4900 Park St. No.	St. Petersburg	x			
D	46	Tim's Waste Oil D001	5621-81st. St. No.	Pinellas Park		x		
D	46	National Env.Poll. Control	14620-62nd St. No.	Clearwater	x			
D	46	Reliable Circuit Systems	12880 P Automobile Blvd.	Clearwater	x			
D	46	Square D Co. D001,D000,F002,F001,U226	1111 Belcher Rd.	Pinellas Park	x			
D	46	Sun Coatings K078,K079,K081,K082,P092,U239	12295-75th St. No.	Largo	x			
D	46	General Components D007,D000,F009,F001,U159,U122,U228	7425-124th Ave. No.	Largo			x	x
D	46	Nautical Coatings, Inc. K078	12490 Belcher Rd.	Largo	x		x	
E	54	Little Vet. Hospital	2444 E. Bay Dr.	Clearwater	x		x	
E	54	USDOE-Pinellas Plant D001,F001,F003,F005,U032,D007,D004,F007	7887 Bryan Dairy Rd.	Clearwater	x		x	
E	54	Anvil Paints & Coatings K079,K081	1255 Starkey Rd.	Largo	x			
W	58	ECPCS, Inc.	8050 Seminole Mall #325	Seminole	x	x		

TABLE 25 (cont.)

Scenario Level	Zone	Facility Name	Location Address	Location City	GEN	TRN	TSD	UIC
W	59	Key Laboratories	1181 Baskins Rd.	Largo	x			
W	59	Ametek Mansfield & Green Div.	8600 Somerset	Largo	x			
W	61	Square D Co.	2005 Calumet St.	Clearwater	x			
W	61	Powder Coated Products	1101 Seminole St.	Clearwater			x	
W	61	Professional H & A U075	2074 Gentry St.	Clearwater		x		
W	61	DPI Quality Paints K079,K078	1959 Sherwood St.	Clearwater	x			
W	61	Metal Industries, Inc. F018,F017,F005,F003,F001,U228	1310 N. Hercules	Clearwater	x	x	x	
W	62	Hallmark Interprises	909 Howard Ave.	Clearwater	x			
W	62	Hood H.P., Inc. D001,D002,P090	427 San Christopher Dr.	Dunedin	x		x	
W	62	Atech, Inc. of Fla. K081,K079,K078,P092	2323 SR 580	Dunedin	x		x	
W	63	Alligator Pumping Co. P090	CR 94 & SR 584	Palm Harbor		x	x	
W	65	St. Pete. Osteopathic Hospital	401-15th St. No.	St. Petersburg	x			
W	65	Southern Supply & Mfg. Co.	336-9th St. So.	St. Petersburg	x		x	
W	68	Amaral & Sons, Inc. F003,F005,U002,U019,U140,U154,U220,U159	4601-8th Ave. So.	St. Petersburg		x	x	
W	68	Redak Service Station D000,D001	2753-5th Ave. So.	St. Petersburg	x			
W	68	Nylon Seal Coatings	615-27th St.	St. Petersburg	x		x	
W	68	I.T.D. Industries D001,F003,F005,U002,U031,U069,U112,U159,U220,U238	2544 Terminal Dr. So.	St. Petersburg	x			
W	68	Anthony Enterprises D000,D001,D003,F003,F010,F017,K078,U002,U239	300-24thSt. So.	St. Petersburg		x	x	x
W	68	Tim's Oil Recovery	4320-8th Ave. So.	St. Petersburg		x	x	
W	69	Jones Chemical, Inc. D002	3000-22nd Ave. No.	St. Petersburg	x		x	
W	69	Colt & Dumont Mfg.	2375-72nd St. No.	St. Petersburg	x			
W	69	E-Systems-ECI Div. D003,D002,D001,D000,F008,U159,U134,F007,F005,F003, F001,P030,U002,U239,U238,U226,U223,U220,U213	1501-72nd St. No.	St. Petersburg	x			
W	70	Dixie Plating, Inc. F006,F007,F008,F009	3140-46th Ave. No.	St. Petersburg	x		x	
W	70	Fla. Plating, Inc.	2885-46th Ave. No.	St. Petersburg	x			
W	70	Diversa-Pak, Inc. F003,F005	4242-31st St. No.	St. Petersburg	x			

TABLE 25 (cont.)

Scenario Level	Scenario Zone	Facility Name	Location Address	Location City	GEN	TRN	TSD	UIC
W	70	Omega Printed Circuits	2877-47th Ave. No.	St. Petersburg	x		x	
W	70	Micro Plate, Inc. F015,F009,F008,F007,F006	3115-44th Ave. No.	St. Petersburg	x		x	
W	71	Aircraft Porous Media D001,F007,F006,F001,U159,U226,U210	6301-49th St. No.	Pinellas Park			x	
W	71	Marine Industrial Paint F003,P092,U043,U239	4590-60th Ave. No.	S. Petersburg	x			
W	71	Polyplastics Int., Inc. F017,U159	6200-49th St. No.	Pinellas Park	x		x	
W	72	Metal Industries F018,F017,F005,F003,F001,U228	Gim Gong Rd.	Oldsmar	x	x	x	
W	72	Sperry Univac U002,U031,U043,U112,U121,U159,U220,U239,D000,D001, D002,D003,D012,F001,F002,F003,F004,F005,F017,U080, U228,U229	SR 584	Oldsmar	x			

* EPA Hazardous Waste Numbers, see Appendix C

GEN = generation
TRN = transport
TSD = treatment, storage, or disposal
UIC = underground injection

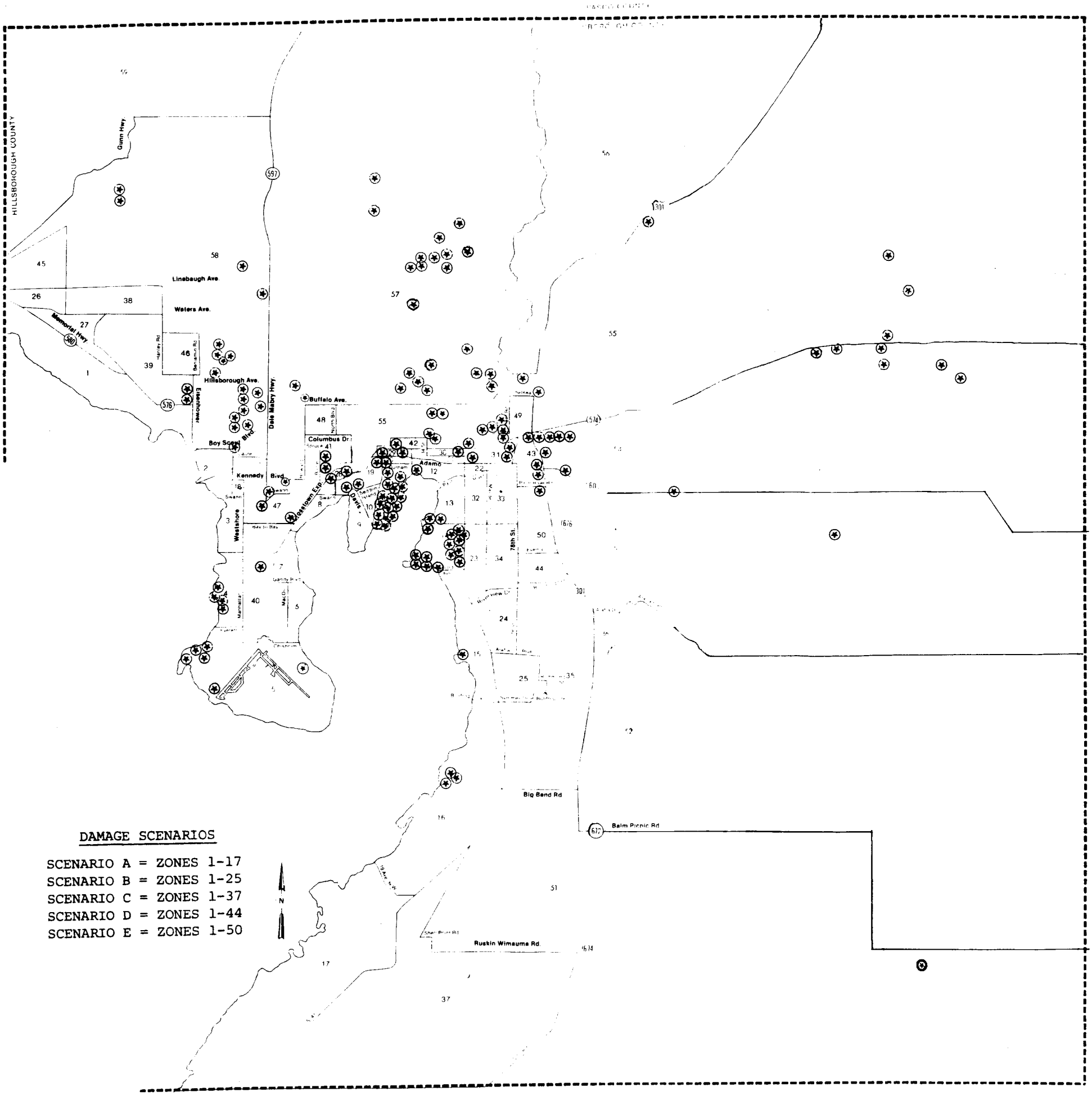


FIGURE 26

POTENTIAL HURRICANE EXPOSURE OF HAZARDOUS MATERIALS

Hillsborough County Hazardous Waste Sites

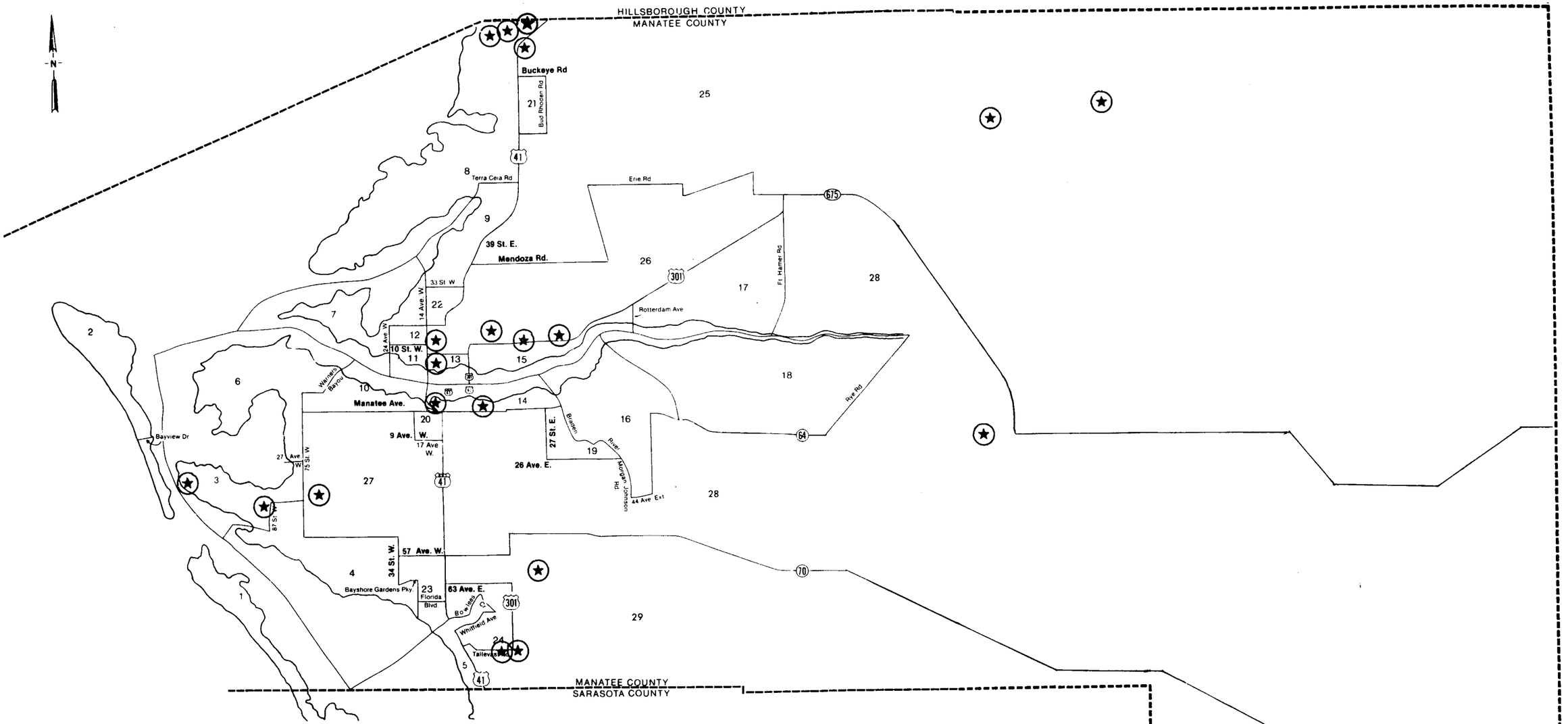


FIGURE 27

POTENTIAL HURRICANE EXPOSURE OF HAZARDOUS MATERIALS

Manatee County Hazardous Waste Sites

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-9
SCENARIO B = ZONES 1-11
SCENARIO C = ZONES 1-18
SCENARIO D = ZONES 1-21
SCENARIO E = ZONES 1-24

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-6
SCENARIO B = ZONES 1-9
SCENARIO C = ZONES 1-10
SCENARIO D = ZONES 1-14
SCENARIO E = ZONES 1-16

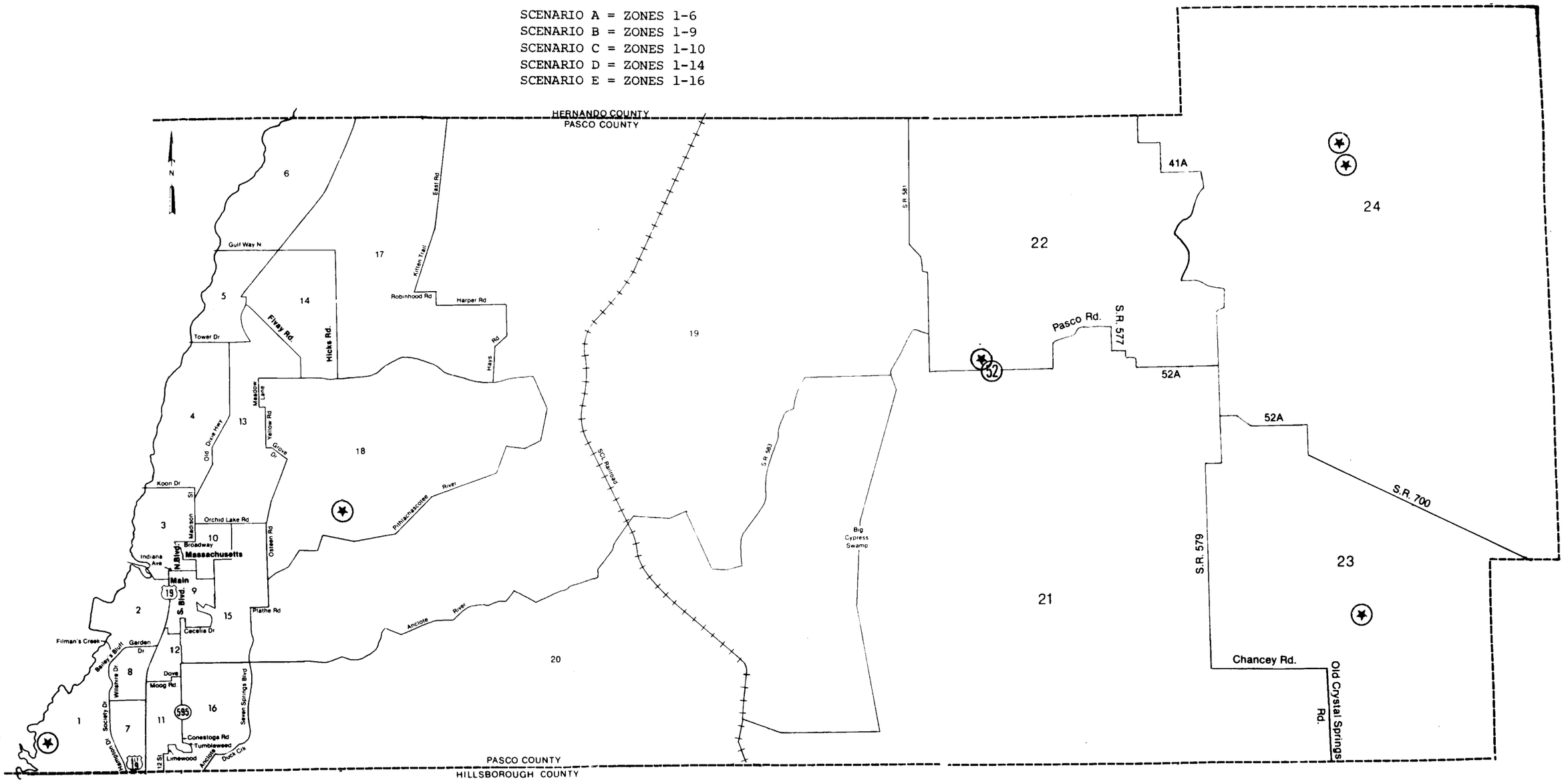


FIGURE 28

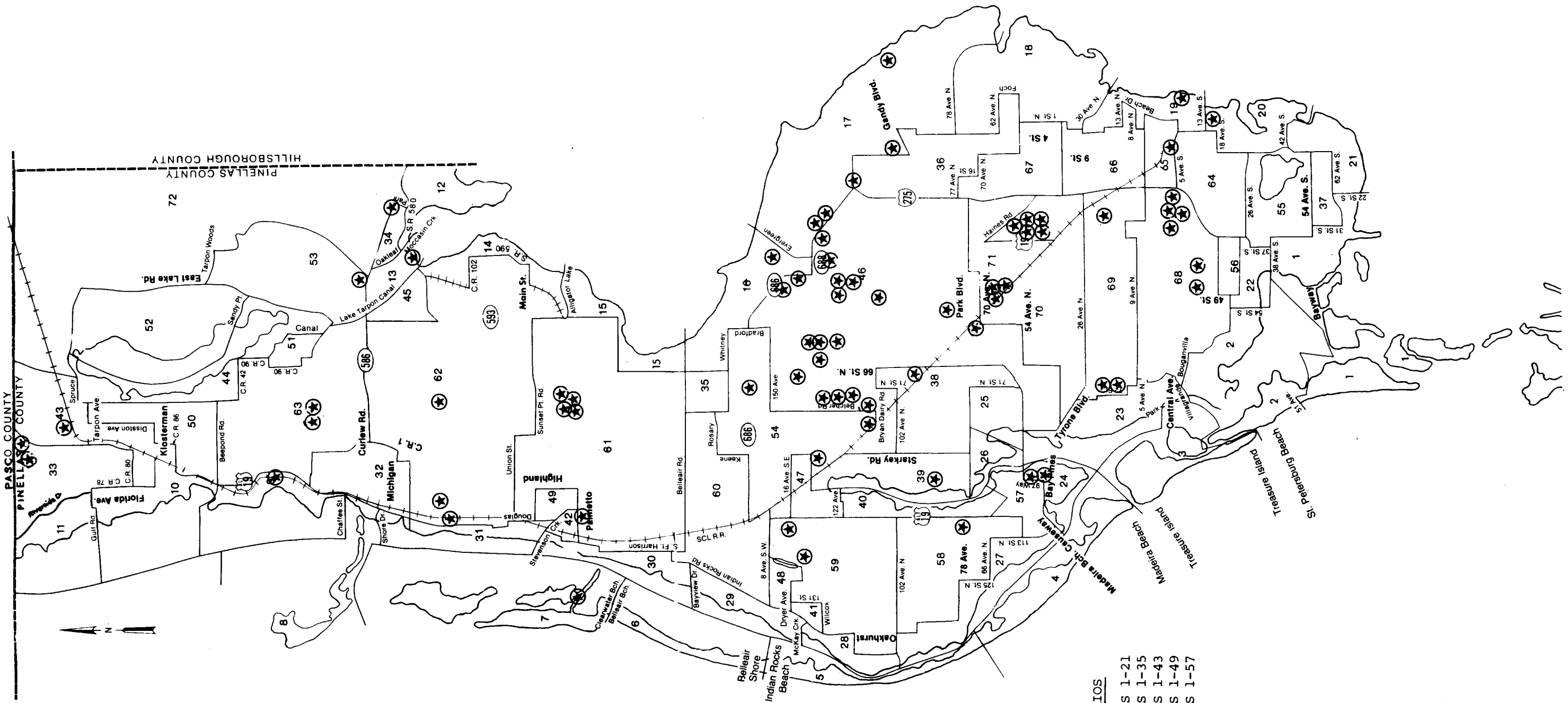
POTENTIAL HURRICANE EXPOSURE OF HAZARDOUS MATERIALS

Pasco County Hazardous Waste Sites

FIGURE 29

POTENTIAL HURRICANE EXPOSURE OF HAZARDOUS MATERIALS

Pinellas County Hazardous Waste Sites



DAMAGE SCENARIOS

SCENARIO A = ZONES 1-21
SCENARIO B = ZONES 1-35
SCENARIO C = ZONES 1-43
SCENARIO D = ZONES 1-49
SCENARIO E = ZONES 1-57

CHAPTER IV

VALUATION OF PROJECTED LOSS; REPLACEMENT OF PROPERTY

Short-term Replacement of Structures

The major measurement of hurricane loss for this study is structural property damage. Almost all such direct hurricane damage results from storm surge tidal flooding and/or high-velocity winds. The value lost to a particular structure is a result of the magnitude of either or both of these hazards.

Given the corrosive nature of saltwater during and after its inundation of structural components, storm surge tidal flooding can result in significant floor and/or carpet damage from only a few inches of flood water above the first floor level. As flood levels increase, structural value lost increases because of damage to baseboards, wall electrical wiring, insulation, and doors. If the flooding is moving tidal water from surge and wave action, the value lost takes a substantial increase as load bearing walls, doors and other structural supports are damaged. Such "velocity" flooding is particularly damaging to mobile homes, where the potential exists for pushing the unit off its exterior supports or tie-down system.

High velocity winds, the other major direct damage-causing hazard of a hurricane, cause roof damage and window breakage even in minimal hurricanes. Medium intensity hurricanes historically cause moderate structural damage to many buildings within the storm's radius of maximum winds. With wind velocities as high as 200 miles per hour, major hurricanes can cause widespread major structural damage. Such high hurricane velocities often result in complete destruction of mobile homes as the entire unit may be overturned and collapsed.

In immediate coastal areas such as barrier islands and bayshores, both storm surge and wind concurrently attack structures. For example, in past hurricanes, many buildings would withstand hurricane winds until their foundations were undermined by surge scour and erosion; the weakened foundation would then fail under wind load.

As described in Chapter II, structure vulnerability was quantified for each of the two major hazards and the resulting vulnerability coefficients were combined. All value loss projections presented in this report represent the combined damage to all affected structures from both storm surge and winds.

The tables in this chapter list the projected dollar loss to all structures throughout the Region if future hurricanes of given parameters were to strike, as defined by a spectrum of five (5) hurricane scenarios. Dollar loss projections are based on 1982 total just value of structures in Hillsborough, Manatee, Pasco, and Pinellas Counties and the hurricane vulnerability coefficients. The dollar loss projections are calculated by geographic section (S/T/R) and specific to each of ten (10) structure types. The section totals of dollar loss to structures were aggregated into the hurricane loss zones of each county, then further aggregated into county totals, and are listed by

hurricane damage scenario as Tables 26, 27, 28, and 29. Dollar loss totals by hurricane loss zone are compiled and listed as Appendix E.

Table 26 presents the projected structural loss in thousands of dollars for ten major types of structures throughout Hillsborough County for the five hurricane damage scenarios. Appendix E breaks out the loss by hurricane loss zone. For a geographic picture of the loss zones, see Figure 8. For Scenario A in Appendix E, the high concentration of structural loss projected for Zones 1-17 reflects the vulnerability of those zones to both overland storm surge and high winds; the remaining zones are only vulnerable to winds. The total projected structural damage for this minimal hurricane scenario in Hillsborough County is approximately $292 million. A medium hurricane scenario is projected at approximately $905 million, two-thirds of which is single-family residential structure damage. Finally, the very low probability hurricane damage Scenario E is projected at approximately $3.3 billion dollars in structural loss.

Manatee County structural damage projections listed in Table 27, and broken out by hurricane loss zone in Appendix E, reflect potential high concentrations of structural loss in Zones 1-9 for Scenario A; those zones vulnerable to both surge and winds in this minimal hurricane scenario. The countywide total loss projection for Scenario A is approximately $243 million. A geographic picture of the hurricane loss zones damage projections can be seen by referring to Figure 9. Scenario C, the medium hurricane damage scenario projects the countywide structural loss at approximaely $556 million, of which approximately one-half is single-family residential damage and one-third multi-family residential damage. This high proportion of multi-family residential loss is based on the surge and wind vulnerability of multi-family structures concentrated in the island and bayshore Zones 1, 2, and 4. Finally, the very low probability hurricane damage scenario (Scenario E) projects approximately $1 and a half billion in potential structural loss in Manatee County.

Table 28 shows the structural damage projections for Pasco County. The breakout by hurricane loss zone in Appendix E shows that Scenario A is projected at approximately $140 million in structural damage, over 75 percent of which is projected for single-family residential structural loss. The medium hurricane damage scenario (Scenario C) is projected at approximately $385 million with the very low probability Scenario E projected at over $1 billion throughout Pasco County.

Projections of potential hurricane structural damage for Pinellas County are presented in Table 29, listing dollar loss estimates in thousands of dollars for all five damage scenarios. Appendix E breaks out the dollar loss estimates by hurricane loss zone. The minimal hurricane damage scenario, Scenario A, projects a countywide structural loss of approximately $659 million, including $427 million in single-family residential damage (65 percent of total structure loss), $159 million to multi-family residential structures (24 percent), and $43 million to commercial structures (6 percent of total). A concentration of projected damage can be noted in zones 1-21, those zones vulnerable to both surge and winds in Scenario A. (See Figure 10 for a geographic orientation of loss zones and their projected structural damage). The medium hurricane damage scenario (Scenario C) for Pinellas County is projected at a countywide structure damage of approximately $3 billion, over half of which would be single-family residential loss ($1.75 billion) and

TABLE 26

HILLSBOROUGH COUNTY

Projected Hurricane Structural Loss ($$$) By Scenario

(In $ Thousands)

SCENARIO	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
A	196,510	13,762	11,967	23,690	9,539	3,330	14,149	14	3,927	15,145	292,033
B	309,558	19,858	25,178	51,152	14,127	5,395	18,391	16	7,205	26,873	477,753
C	587,110	40,513	54,405	94,478	26,775	8,442	34,427	32	13,017	45,299	904,498
D	1,235,400	90,736	103,349	208,510	50,656	13,406	57,766	57	22,489	82,795	1,865,164
E	2,027,253	168,783	210,292	413,713	103,209	23,403	121,399	176	43,666	163,561	3,275,455
TOTAL STRUCTURE VALUE	5,004,040	551,875	212,497	1,114,448	417,989	85,802	711,134	675	196,500	755,826	9,050,786

TABLE 27

MANATEE COUNTY

Projected Hurricane Structural Loss ($$$) By Scenario

(In $ Thousands)

SCENARIO	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
A	102,873	88,721	15,315	13,156	2,231	1,166	13,860	243	1,198	5,095	243,858
B	180,676	125,351	25,126	19,807	3,313	1,665	17,383	344	1,512	6,852	382,029
C	255,442	164,997	49,037	29,807	6,119	2,746	32,035	540	3,063	13,111	556,897
D	371,559	223,619	104,299	48,646	11,575	5,178	60,524	953	5,658	25,061	857,072
E	631,037	353,381	157,812	107,046	30,697	12,586	146,624	2,298	17,425	70,799	1,529,705
TOTAL STRUCTURE VALUE	1,147,227	675,081	158,186	269,810	95,176	56,741	663,501	6,307	51,648	206,663	3,330,340

TABLE 28

PASCO COUNTY

Projected Hurricane Structural Loss ($$$) By Scenario

(In $ Thousands)

SCENARIO	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
A	108,232	12,287	9,900	6,700	1,579	0	1,045	0	0	0	139,743
B	179,033	20,287	14,293	12,805	2,045	0	1,309	0	0	0	229,772
C	288,036	32,083	31,214	28,644	2,906	0	2,452	0	0	0	385,335
D	691,292	79,231	73,098	63,725	6,276	0	4,680	0	0	0	918,302
E	868,964	105,916	110,305	86,272	8,951	0	11,341	0	0	0	1,191,749
TOTAL STRUCTURE VALUE	1,205,551	184,280	110,305	162,206	16,649	0	48,940	0	0	0	1,727,931

NOTE: The projected structural Loss of Public Utilities (PU), Public Transportation (PT), Health Care (HC), and Government and Institutional Buildings (GI), is included under commercial loss because of original land use coding by the Pasco County Property Appraiser's Office.

TABLE 29

PINELLAS COUNTY

Projected Hurricane Structural Loss ($$$) By Scenario

(In $ Thousands)

SCENARIO	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
A	426,664	158,604	3,098	43,732	6,398	1,941	112	570	5,033	13,728	658,880
B	852,147	552,784	6,102	124,603	8,867	3,351	157	987	9,242	20,272	1,578,512
C	1,753,094	961,167	29,427	248,250	22,096	6,435	334	1,931	17,995	43,521	3,084,250
D	2,678,222	1,417,129	59,097	373,758	42,471	10,887	673	3,352	31,753	82,787	4,700,129
E	3,570,034	1,901,837	69,112	585,122	87,262	19,634	1,414	7,410	67,498	174,749	6,484,072
TOTAL STRUCTURE VALUE	6,533,674	3,928,520	69,112	1,428,950	267,962	58,741	4,630	23,977	207,437	565,069	13,088,072

including approximately $248 million in projected commercial structure damage. Finally, the very low probability Scenario E countywide structure damage is projected at over $6 billion.

The results of the SLOSH model simulations show that a specific hurricane will rarely confront any of the four counties of the region with the same damage scenario. Regional scenarios (5) made up of these differnces in county scenarios are formulated and their associated regional dollar loss are presented in Table 30.

Potential Loss to Agricultural Yield

The geographic analysis of agricultural lands vulnerable to overland storm surge flooding and highwinds resulted in the quantification of potential agricultural loss based on disruption of normal crop yield. These estimates are presented in Table 31.

Replacement of Potential Roadway Loss

Loss of transportation facilities can result from the washout and/or upheaval of roadways in immediate coastal areas exposed to velocity overland storm surge. Identification of those vulnerable roadways and bridge facilities leads to an assessment of the potential replacement costs of restoring major access routes after hurricane damage. Table 32 presents the identification of vulnerable roadways/bridges and current approximate replacement costs for those facilities.

Potential Military Structural Loss

Military facilities throughout the region are also exposed to varying degrees of structural damage from hurricane hazards. An inventory of those facilities, their value, and projected hurricane loss in dollars by damage scenario is presented in Table 33.

TABLE 30

TAMPA BAY REGION

PROJECTED HURRICANE STRUCTURAL LOSS
(In $ Thousands)

Regional Scenario

COUNTY	1	2	3	4	5
Pasco Loss/ Scenario	1,191,749/E	918,302/D	385,335/C	139,743/A	229,772/B
Pinellas Loss/ Scenario	3,084,250/C	6,484,072/E	4,700,129/D	658,880/A	1,578,512/B
Hillsborough Loss/Scenario	477,753/B	1,865,164/D	3,275,455/E	904,498/C	292,033/A
Manatee Loss/ Scenario	382,029/B	556,897/C	857,072/D	1,529,705/E	243,858/A
TOTAL REGIONAL STRUCTURAL LOSS	5,135,781	9,824,435	9,217,991	3,232,826	2,344,175

See Table 6 (page 41) for descriptions of hazards representing county damage scenarios.

TABLE 31

POTENTIAL AGRICULTURAL LOSS
(In $ Dollars)

Tampa Bay Region

	A	B	C	D	E
Hillsborough	95,489,800	95,489,800	97,520,200	97,520,200	97,520,200
Manatee	33,686,655	33,686,655	38,654,655	38,827,455	38,827,455
Pasco	9,702,680	9,781,520	9,781,520	10,860,440	11,423,120
Pinellas	543,800	705,800	705,800	813,800	1,888,400

NOTE: The agricultural loss is based on total loss of the (1982) market value of vegetable crops plus the loss of the acreage yield of citrus crop (1 year) in areas were saltwater inundation is projected. The value loss of the citrus is based on an approximate yield of 240 boxes per acre with an at-farm value of $4.50 per box.

TABLE 32

POTENTIAL HURRICANE VELOCITY SURGE
ROADWAY LOSS - TAMPA BAY REGION

Hillsborough County	$218,324,344
Manatee County	$ 39,895,660
Pasco County	$ 27,278,000
Pinellas County	$215,466,188
	$500,964,192
Major Causeways	$412,863,444
Total	$913,827,636

Notes: The estimates of potential hurricane roadway loss represent the total reconstruction cost of the portions of major roadways (arterials, expressways and major collectors) which lie within the Scenario A geographic area in each county. This area is composed of all areas projected to receive velocity surge and/or high levels of overland surge flooding. The following projected unit cost estimates, obtained through the Florida Department of Transportation, were used to determine total vulnerability:

	Reconstruction Cost (1981) Per system mile
Urban 2 Lane	$ 435,911
Urban 4 Lane	$ 871,822
Urban 4 Lane w/Div. Median	$1,257,989
Urban 6 Lane	$2,493,363
Urban 6 Lane w/Div. Median	$2,908,576

The inventory of roadways by hurricane loss zones is presented in Appendix J. Replacement Costs for the major causeways, as well as the bridges linking the barrier islands to the mainland, are also included. There were two assumptions made in deriving these estimates. First, bridges were defined as either low-level (under 30 ft.), medium-level (including the Gandy, Howard-Frankland, and Courtney-Campbell Causeways), and high-level (The Sunshine Skyway Bridge). Appropriate reconstruction cost estimates per square foot were used as follows: $33.00 per square foot for low-level bridges and $47.00 per square foot for medium-level. FDOT calculated a replacement cost figure for the main span of the Skyway of $250 million.

It was assumed, secondly, that should a bridge require reconstruction following a hurricane, that it would be built according to present design criteria. A two lane bridge, therefore, would be upgraded if necessary to include emergency lanes, median, etc. The average width was calculated to be 42 feet for 2-lane structures, 84 feet for 4-lane structures.

It should be noted that the above estimates are maximum projections; it is highly unlikely that all major roadways and bridges in the Scenario A geographic area analyzed would require total reconstruction. Immediate coastal roadways in or adjacent to velocity zones are projected as needing total reconstruction. Insufficient experience-based data exists for a quantification of proportion of reconstruction caused in the remainder of the Scenario A area.

TABLE 33

MILITARY FACILITIES VULNERABILITY INVENTORY

HILLSBOROUGH COUNTY

Scenario	Hurricane Loss Zone	S/T/R	Base/Location	Acres	Total No.of Structures	Structural Value $	Structural Loss (%) A	B	C	D	E
A	5	22/30/18 26/30/18 27/30/18	MacDill AFB/Tampa	5,631	650	$154,864,180					
					215 (SFDU)	10,799,305	367,176	2,365,048	4,794,891	8,909,427	10,799,305
					22 Garages	476,583	9,532	34,791	55,760	91,027	150,124
					100 M. H.	1,000,000	18,000	288,000	656,000	1,000,000	1,100,000
					16 Dorms. (MFDU)	6,659,645	139,853	779,179	1,568,996	3,003,500	4,155,618
					38 Port.Bldg. (M. H.)	552,916	9,953	159,240	362,713	552,916	552,916
					259 Adm.Bldg.	135,198,180	2,703,964	9,869,467	15,818,187	25,822,852	42,587,427
A	9	25/29/18	U. S. Coast Guard/ 155 Columbia Drive, Tampa	4.07	3 Bldgs.						
					Field Oil Id Lab	96,363	1,927	9,636	13,876	20,622	33,342
					Port Operat.	140,000	2,800	14,000	20,160	29,960	48,440
					Admin.	210,000	4,200	21,000	30,240	44,940	72,660
					Boathouse/Dock (M. H.)	30,000	540	30,000	30,000	30,000	30,000
					2 Mobile Homes	60,000	1,080	60,000	60,000	60,000	60,000
W	57	23/29/18	Army National Guard, 530 Infantry Brigade 514 N. Howard Avenue, Tampa	10	1 Armory	2,853,889	57,078	82,763	134,133	239,727	807,651

*Privately owned mobile homes

MANATEE COUNTY

A	3	3/35/16	Coast Guard-Cortez Station, 124th St. Cortez, Fla.	1.18	1 Administrative Offices (hotel) Dock, out buildings	176,000	16,544	21,824	27,280	44,880	74,272
C	12	15/34/17	National Guard Battery C., 1st Battalion, 116th Field Artillery, 1107 - 14th Ave. W., Palmetto, Fla.	5	1 Armory	568,000	13,064	16,472	33,512	92,016	220,952
W	28	31/34/18	National Guard, 1st Battalion Service Battery, 116th Field Artillery, 2100 - 13th Ave. E., Bradenton, Fla.	10	1 Armory Maintenance Building	557,000	12,811	16,153	32,863	60,713	149,276

Scenario	Hurricane Loss Zone	S/T/R	Base/Location	Acres	Total No.of Structures	Structural Value $	Structural Loss ($) A	B	C	D	E
PASCO COUNTY											
W	24	26/24/21	National Guard Company A (part) 2nd Battalion, 124th Infantry, 601 E. Live Oak St., Dade City, Fla.	1.37	1 Armory	509,000	10,180	11,707	23,923	42,756	102,818
PINELLAS COUNTY											
A	1	3/32/16	HDQTRS., 53D Support Battalion, Fla. Army National Guard, 3601 38th Ave. So. St. Petersburg	5	1 Armory	1,022,447	20,449	113,492	155,412	230,051	371,148
A	16	34/29/16	Coast Guard Air Station/St. Peters-burg-Clearwater Airport		9 Admin. Bldg. 2 Hangers 11 Total	2,100,000	140,700	153,300	308,700	447,300	720,30
A	19	30/31/16	U. S. Coast Guard, 600 Eighth Ave. S. E., St. Petersburg	14.2	19 Bldgs.	2,600,000	59,800	288,600	423,800	585,000	943,80
A	20	30/31/16	U. S. Coast Guard, "Moorings",	7.9	8 Bldgs.	490,000	11,270	54,390	79,870	110,250	117,80
W	61	10/29/15	Hdqtrs, Company A, 2d Battalion,124th Infantry, Fla. Army National Guard Eldridge Street, Clearwater	3.1	1 Armory	644,509	14,824	21,913	38,026	70,252	244,93

CHAPTER V

SERVICE DISRUPTION: LOSS OF PUBLIC FACILITIES

Structural damage and loss from hurricane surge flooding and wind can also greatly impact the operation of essential public facilities; immediately disrupting basic services such as water, waste water, electricity, health care, and transportation. Hurricane contingency planning for such service disruption requires vulnerability analyses of the major service facility sites/structures throughout the region. In addition, an indirect or delayed loss of local government's ability to provide services can occur when the private taxable structural loss from a hurricane ultimately results in a decreased ad valorem tax revenue available to meet the cost of public service provision.

Both immediate service disruption from direct structure damage and indirect service disruption are measured and quantified in this chapter.

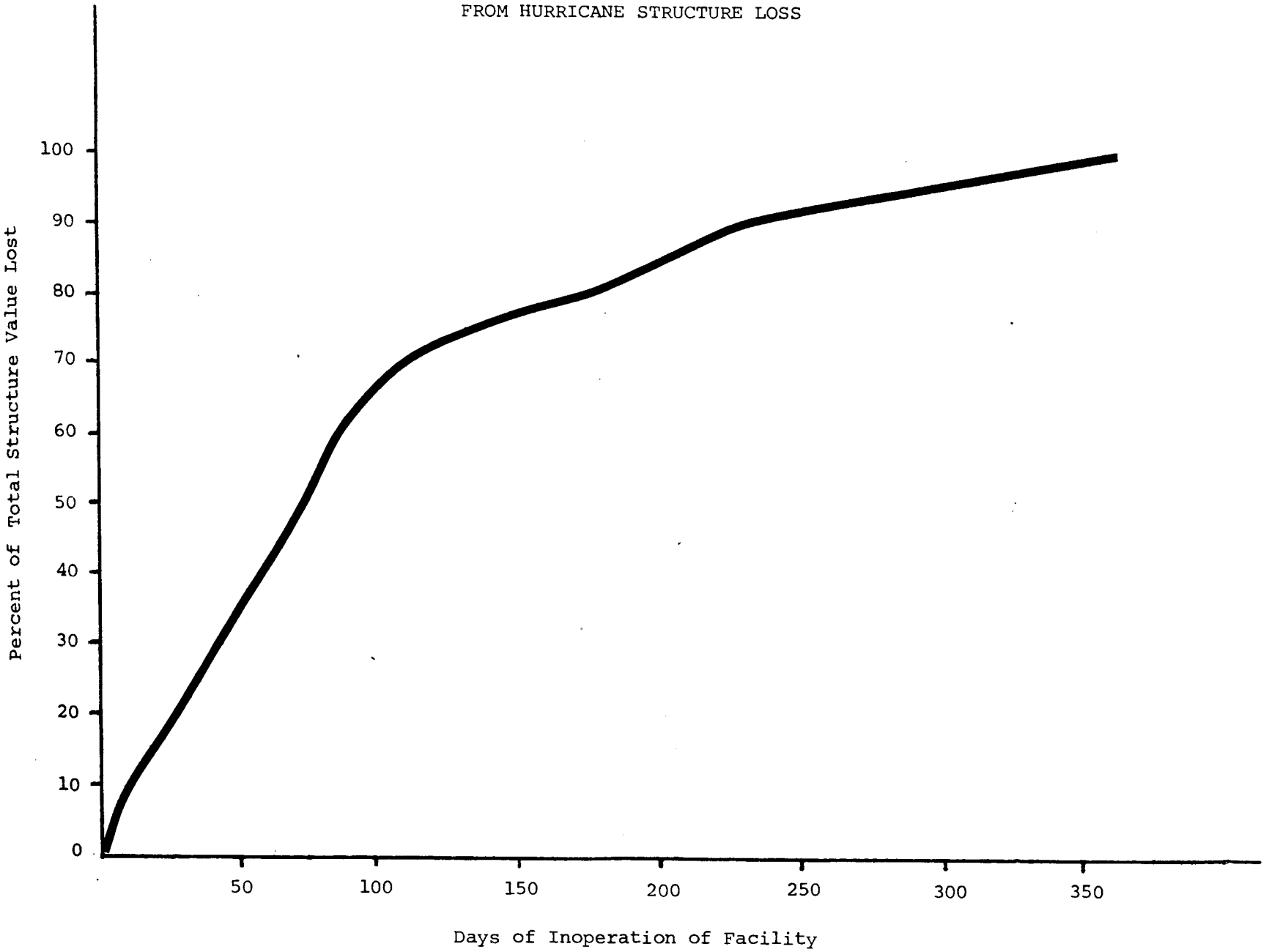
The length and extent of service disruption caused by a hurricane is largely based on the amount of structural damage experienced by the facility from where the service is generated and/or provided. The length of inoperation (in days) of major public facility sites throughout the region is estimated based on the magnitude of surge height and/or windspeed simulated to occur at each facility site under the five hurricane damage scenarios. As described in the hurricane loss methodology chapter, the vulnerability coefficients (representing percent of total structure value lost) derived for the specific surge height and/or windspeed levels are scaled to time of inoperation based on previous vulnerability studies. This scale is utilized to quantify service disruption caused by structural damage to a particular facility site and appears as Figure 30. This "total facility structure value lost" percentage curve represents the relationship between vulnerability coefficients and the estimated number of days a facility would be inoperative because of hurricane-caused repair and restoration. The estimates of immediate service disruption that follow are based on this general relationship.

The hurricane vulnerability analysis of public facilities begins with a locational survey of those major facilities throughout the four counties of the region. The scope of the survey for each county is presented as Appendix F, G, H, and I to this report. These Appendices also include maps showing the location of these facilities in their respective hurricane loss zones. The location of a facility in a hurricane loss zone, included in one or more of the five damage scenarios (A through E), means that the facility may be exposed to overland storm surge flooding under that damage scenario(s). Although the geographic location of a site by loss zone represents a general indication of storm surge vulnerability, a facility may be located within a hurricane loss zone and yet, because it is located at a higher elevation than the surrounding area, may not be exposed directly to potential storm surge.

All facilities throughout the region would be exposed to hurricane-force (>74 mph) winds. The exposure of potable water facilities, wastewater treatment facilities, electric power plants, and electric substations is summarized by hurricane damage scenario and number of facilities in Table 34. The exposure of hospitals and nursing home facilities is summarized in Table 35.

FIGURE 30

PUBLIC FACILITIES ESTIMATED TIME OF INOPERATION
FROM HURRICANE STRUCTURE LOSS



Sources: Whitman 1974
Wiggins 197?

TABLE 34

PUBLIC FACILITIES VULNERABILITY SUMMARY

	Damage Scenario					
	Storm Surge Vulnerability					Wind
	A	B	C	D	E	Total No.of Facl.
Potable Water Facilities						
Hillsborough County	3	3	6	8	9	28
Manatee County	5	6	7	7	7	20
Pasco County	1	1	1	5	5	11
Pinellas County	4	5	6	6	6	27
Total (Region)	13	15	20	26	27	86
Wastewater Treatment Facilities						
Hillsborough County	1	1	1	2	2	6
Manatee County	1	1	2	2	2	3
Pasco County	2	2	2	3	3	8
Pinellas County	9	10	11	14	15	19
Total (Region)	13	14	16	21	22	36
Electric Power Plants						
Hillsborough County	3	3	3	3	3	3
Manatee County	0	0	0	0	0	1
Pasco County	1	1	1	1	1	1
Pinellas County	2	2	2	2	2	2
Total (Region)	6	6	6	6	6	7
Electric Substations						
Hillsborough County	13	17	25	32	37	114
Manatee County	0	1	2	2	2	8
Pasco County	44	44	44	5	7	23
Pinellas County	11	14	17	23	26	55
Total (Region)	26	34	46	59	69	190

TABLE 35

HEALTH CARE FACILITIES VULNERABILITY SUMMARY

	Damage Scenario					
	Storm Surge Vulnerability					Wind
	A	B	C	D	E	Total No.of Facl.
Hospitals						
County						
Hillsborough County	3	3	3	5	6	17
Manatee County	0	0	1	1	1	2
Pasco County	0	1	2	3	3	5
Pinellas County	3	5	9	10	10	22
Total (Region)	6	9	15	19	20	46
Nursing Homes						
Hillsborough County	3	3	3	3	4	20
Manatee County	0	0	3	3	3	8
Pasco County	0	0	1	2	4	9
Pinellas County	14	19	25	28	29	60
Total (Region)	17	22	32	36	40	97

The degree of exposure, defined by the height of surge flooding and/or velocity of peak gust winds projected for a facility, indicates the length of time the service provided by that facility might be disrupted. (See Figure 30) Facilities were located within a particular section, township, and range and utilizing vulnerability coefficients to quantify the degree of exposure, the estimated length of disruption for the major public facilities for each of the four counties of the region is presented in Tables 36 through 39. Also, estimates of the population and/or geographic areas affected by the service disruption are included in Table 36 through 39. It is assumed that all population served by the facility structure damaged would be affected by the days of disruption.

Public Facilities Exposure to Hurricane Hazards

The exposure of each county's major public facilities structures is summarized by their vulnerability to overland storm surge and/or hurricane winds. The general exposure of potable water facilities presented in Table 34 projects that a minimal hurricane scenario would render 13 facilities, or approximately 15 percent of the total 86 water facilities, vulnerable to overland storm surge because of their location and/or elevation. A medium hurricane damage scenario could affect 20 (or 23 percent) of the facilities and the worst but very low probability scenario (Scenario E) could affect 27 (or 31 percent) of the potable water facilities throughout the region. All facilities would receive hurricane-force winds in each of the five damage scenarios.

A general indication of potential exposure of the waste water treatment facilities to storm surge and winds in Table 34 shows that 13, or 36 percent of the region-wide total of 36 facilities are projected as vulnerable to surge under a minimal hurricane scenario (Damage Scenario A). A medium damage scenario (Scenario C) would render 16 (or 44 percent) of the facilities vulnerable and the worst but very los probability scenario could affect 22 (or 61 percent) of the region's waste water treatment facilities. All facilities would be subject to at least hurricane-force winds under each of the five scenarios.

The third matrix on Table 34 provides a general indication of exposure to surge flooding and winds of the seven power plant facilities in the region. Because of the shoreline location of all but one of the facilities, six of the seven plants would be exposed to storm surge flooding under all five of the hurricane damage scenarios. Since hurricane-force peak gust winds would be present throughout the coastal counties, Table 34 shows this wind exposure for all seven facilities in the right-hand column. Because of its inland location and elevation, the Manatee County plant facility is the only plant in the region projected not to receive overland storm surge flooding under any of the hurricane damage scenarios.

The bottom matrix of Table 34 presents the general exposure of the electricity substations throughout the region. Again, the exposure is based on location in a loss zone that would receive storm surge flooding under one or more of the damage scenarios. Depending on the parameters of the hurricane, 11 percent to 32 percent of the substations in Hillsborough County would receive overland surge flooding. Zero to 25 percent of the Manatee County substations are exposed to surge; 18 percent to 36 percent of Pasco County substations are exposed; and 20 percent to 47 percent of Pinellas County substations would

receive overland storm surge flooding depending on the parameters of the hurricane.

Table 35 summarizes the exposure and subsequent vulnerability of the region's health care facilities by county.

The top matrix of Table 35 provides a general indication of the exposure of hospitals to storm surge flooding and winds under each of the five hurricane damage scenarios. Of Hillsborough County's 17 hospitals, 3 of those facilities would receive overland storm surge flooding in a minimal hurricane scenario (Scenario A), with up to 6 hospitals exposed to surge flooding under the worst probable damage scenario (Scenario E). One of Manatee County's two hospitals would receive surge flooding under a major hurricane (Damage Scenarios C, D, and E). In Pasco County, a minimal hurricane would not expose any of the five hospitals to overland surge flooding; however, a medium hurricane damage scenario (Scenario C) would render 2 of the hospitals flooded from overland surge and the worst probable scenario would expose 3 of the 5 hospitals to storm surge flooding. Finally, a minimal hurricane (Scenario A) would expose 3 of Pinellas County's 22 hospitals to overland surge flooding; a medium damage scenario would render 9 of the hospitals flooded from surge and the worst probable damage scenario would expose 10 of the 22 facilities to hurricane overland surge flooding. Again, all hospitals would be exposed to hurricane-force peak wind gusts which is reflected at the right of Table 36.

The lower matrix of Table 36 provides a general indication of the exposure of nursing homes to storm surge flooding and winds under each of the five hurricane damage scenarios. In Hillsborough County, in all but the worst probable scenario (4 nursing homes exposed), 3 of the County's 20 nursing home facilities would receive overland storm surge flooding. In Manatee County, 3 of the 8 nursing homes would receive storm surge flooding from a major hurricane. Of Pasco County's 9 nursing homes, one of these facilities would be exposed to surge flooding in the medium hurricane damage scenario (Scenario C) and 4 of the 9 nursing homes would receive surge flooding in the worst probable hurricane scenario. Finally, 14 of Pinellas County's 60 nursing home facilities would receive overland storm surge flooding in a minimal hurricane; 25 of the nursing homes are exposed under the medium hurricane damage scenario, and 29 of the facilities would receive surge flooding in the worst probable damage scenario. All nursing homes would be exposed to hurricane-force peak gust winds in all scenarios.

Potential Service Disruption

Tables 36 through 39, for Hillsborough, Manatee, Paco, and Pinellas Counties respectively, present the potential for service disruption because of structural damage to each county's major public facilities structures.

Because of temporary exposure to freshwater flooding, high winds, and/or overland surge flooding, all potable water facilities throughout the region would probably experience operational problems during the 8 to 10 hour hurricane passage itself. This vulnerability is indicated by one day of service disruption in Tables 36 through 39. Residential stocking of potable water as a preparedness measure upon the potential approach of a hurricane would mitigate such potential water service problems during the passage of the storm. However, projected long-term disruption based on estimated degrees of

structural damage to water facilities is useful as a guide for post-hurricane emergency water provision.

Due to temporary exposure to freshwater flooding, high winds, and/or overland surge flooding, all waste water treatment facilities throughout the region would probably experience operational problems during the 8 to 10 hour hurricane passage itself. This vulnerability is indicated by one day of service disruption in Table 36 through 39. Projecting long-term treatment service disruption based on estimated degrees of structual damage to the facilities is useful as a guide for post-hurricane emergency sanitation measures.

Because of temporary exposure to freshwater flooding, high winds, and/or overland surge flooding, all electricity facilities throughout the region would probably experience operational problems during the 8 to 10 hour hurricane passage itself. This vulnerability is indicated by one day of service disruption on Table 35. Residential stocking of candles, batteries, etc. as a preparedness measure upon the potential approach of a hurricane would somewhat mitigate such electricity service problems during the passage of the storm. However, projected long-term electricity service disruption based on estimated degrees of structural damage to facilities is useful as a guide for post-hurricane emergency power provision.

A general contingency guide for the availability of hospital and nursing home beds immediately after hurricane landfall is useful not only in planning response to damage-caused disruption of beds serving ongoing patients, but also in assigning potential mass injuries from the hurricane itself. In most direct hurricane strikes, all health care facilities in the region will experience problems in maintaining normal patient care throughout the 8 to 10 hour duration of hurricane passage because of inaccessibility, causing virtual isolation of the facility for that time period. Adequate individual facility emergency plans and availability of emergency power should meet these problems at the facilities. However, the structural damage in the wake of the storm may mean that patients cannot be returned to beds in facilities that were evacuated and received extensive damage. As a guide for such potential disruption of hospitals and nursing homes, patient transfer, and need for establishment of emergency temporary facilities; a general service disruption projection is set forth for the five hurricane damage scenarios by county in Tables 36 through 39.

As described in the hurricane loss methodology chapter, correlating the projected percentage of value lost to the structures housing the facility with a scale of average inoperation of the facility (based on past occurrences and restoration of buildings) can provide a general indication of the length of time that the building could be out of function. Because of the life-sustaining implications of health care facilities shutdowns, plus the unpredictability of equipment damage, etc., potential service disruption can only be defined in terms of the maximum bed capacity that could be affected in each facility. This bed capacity is also indicated in Tables 36 through 39 by county.

Structural loss and damage from hurricane surge flooding and wind can also greatly impact the operation of essential transportation facilities; immediately disrupting basic transport modes including air and rail travel. Hurricane contingency planning for such transportation disruption requires vulnerability analyses of the major transportation facility sites/structures throughout the region. Tables 36 through 39 also present the potential trans-

portation service disruption in days because of hurricane structural damage for each of the region's four counties.

HILLSBOROUGH COUNTY

As shown in Table 36, long-term service disruption from structural damage is not projected for any Hillsborough County water facilities under Damage Scenario A. Two facilities are projected for potential service disruption of approximately 5 and 12 days respectively as a result of estimated damage under Scenario B. Scenario C projects 5 facilities for disruption ranging from 2 to 15 days. Almost all facilities would be affected under the low-probability Scenarios D and E.

Only one wastewater treatment facility in Hillsborough County is projected for potential service disruption under a minimal hurricane scenario (2 days) to a medium scenario (15 days). Four of the six facilities in the County are projected for disruption under the low-probability Scenario D and all facilities would be disrupted under the very low-probability Scenario E.

One electricity plant in Hillsborough County is projected to experience a potential 2-day service disruption under Scenario A, a minimal hurricane scenario. Under Scenario B, 15 of the County's 114 facilities are projected for potential disruption up to 5 days; the medium hurricane scenario (Scenario C) includes 21 facilities projected for disruption, most up to 15 days. Almost all facilities are projected to experience service-disrupting damage under the low-probability Scenarios D and E.

Beyond problems stemming from isolation of hospital facilities during the hurricane's passage itself, Hillsborough County hospitals are not projected to receive service-disrupting structural damage under Damage Scenario A. Scenario B is projected for one facility, with a total capacity of 75 beds, potentially unavailable for a length of approximately 5 days due to repair and restoration. Scenario C increases to 2 facilities with a combined total bed capacity of 686 potentially unavailable for approximately 15 days; the less-probable Scenarios D and E are projected for substantially higher health care facility disruption.

With the exception of problems stemming from isolation of nursing home facilities during the hurricane's passage itself, none of the Hillsborough County nursing homes are projected to receive service-disrupting damage under Scenarios A or B. One facility, with a maximum capacity of 40 beds, is projected for potential service disruption of approximately 5 days under Scenario C due to repair and restoration. Projection of disruption jumps rapidly to include 17 nursing home facilities under Scenario D, most for an estimated 2 day period for this low probability hurricane scenario.

MANATEE COUNTY

Under Damage Scenario A in Manatee County, one water facility is projected for a potential 2-day service disruption. The Scenario B projection includes 2 facilities for 2 and 12 days potential disuption respectively. Scenario C vulnerability increases the potential disruption for the same two facilities by three days; the low-probability Scenarios D and E would have long-term affects on all facilities of the County.

Manatee County is not projected to experience any damage-caused service disruption to its 3 waste water treatment facilities under Scenarios A or B; only 1 facility is projected for a potential disruption of 5 days under the medium Damage Scenario C. All facilities in the County are projected for disruption under the low-probability Scenarios D and E.

One electricity facility in Manatee County is projected to experience service disruption of approximately 5 days under the medium damage Scenario C, with no facilities vulnerable to service-disrupting damage under the lesser hurricane Scenarios A and B. All facilities would be vulnerable to such damage under the low-probability Scenarios D and E.

Neither of the two Manatee County hospitals are projected to receive service-disrupting structural damage under Scenarios A, B, or C; however, the less-probable Scenarios D and E would confront both facilities, having a total combined bed capacity of 810, with potential service disruption of approximately 5 and 50 days respectively.

Manatee County nursing homes are not projected for long-term service disruption from damage under Scenarios A and B; one facility with a total of 105 available beds is projected for an approximate two-day service disruption, with all 8 facilities affected by the low probability Scenarios D and E.

PASCO COUNTY

Only one water facility in Pasco County is estimated to receive a level of damage that projects potential service disruption of 2 days under Scenario A and 12 days under Scenario B. Scenario C service disruption is projected to include a second facility and the low-probability Scenarios D and E would affect all facilities.

Pasco County waste water treatment facilities are not projected for any damage-caused disruption under the minimal hurricane Scenario A; however, 2 facilities under Scenario B and 3 facilities under the medium Damage Scenario C are projected for potential service disruption ranging from 2 to 15 days. Again, all eight facilities in the county are projected for potential disruption under the low-probability Scenarios D and E.

In Pasco County, one electricity facility could experience disruption of up to 5 days under Scenario A; four facilities are projected for potential disruption of 2 to 12 days for Scenario B, and five facilities for 15 to 20 days under Scenario C. All facilities could be vulnerable to service-disrupting damage under low-probability Scenarios D and E.

Pasco County also is not projected for long-term hospital service disruption as a result of Damage Scenarios A, B or C; yet all 5 hospital facilities are projected for varying degrees of service disruption for the less-probable Scenarios D and E as shown in Table 38.

Service-disrupting damage is not projected for any Pasco County nursing home facilities under Scenarios A, B, or C; again, all 9 facilities are projected for disruption under Scenarios D and E.

PINELLAS COUNTY

With the exception of operational problems during the hurricane passage itself, no water facilities in Pinellas County are projected for damage-caused service disruption under Scenario A. Two facilities are projected for a potential 5 day disruption under Scenario B and four facilities are projected for potential disruption of between 12 and 15 days in a Scenario C. As projected in the other three counties of the region, the low-probability Damage Scenarios D and E would affect all water facilities in Pinellas County.

One of the 19 waste water treatment facilities in Pinellas County is projected to experience potential damage-caused service disruption of 5 days under a minimal hurricane damage scenario; however, four facilities are projected for disruption under Scenario B and 13 facilities could disrupt service under the medium hurricane damage Scenario C. All facilities would experience disruption under the low-probability hurricane Scenarios D and E.

None of the electricity facilities in Pinellas County are projected vulnerable to damage-causing service disruption for over one day under a minimal hurricane scenario (Scenario A). Seven facilities are projected for such disruption of approximately 5 days under Scenario B and 27 of the County's 57 facilities would be vulnerable under the medium hurricane damage scenario (Scenario C) to disruption of from 5 to 15 days. Almost all electricity facilities in the County would experience service-disrupting damage under the low-probability hurricane Scenarios D and E.

Pinellas County hospitals are not projected to receive service-disrupting structural damage under Scenarios A or B; however, six hospitals, representing a combined total capacity of 1,655 beds, are projected for potential service disruption of approximately 5 days. Again, the less-probable Damage Scenarios D and E would affect the service provision of all 22 hospitals for varying lengths of time ranging from 5 days to 56 days because of damage from very high peak gust winds and storm surge flooding.

Finally, two Pinellas County nursing homes are projected for damaged-caused service disruption of a maximum of 274 and 109 available beds for 2 and 3 days respectively under Scenario A. Projected disruption logically increases to include 6 facilities up to approximately 5 days under Scenario B; 14 facilities are projected for long-term disruption of varying lengths up to approximately 20 days under Scenario C. The low-probability Scenarios D and E are projected to affect the service provision of all nursing home facilities in the County.

LONG-RANGE SERVICE DISRUPTION

An assessment of the potential loss in local government capability to provide essential services from hurricane-caused ad valorem tax base loss from structural damage can be viewed by projecting such loss in terms of the five damage scenarios. Tables 40, 41, 42, and 43 present a general projection of such potential loss to taxable structural value by type of structure by county. This potential loss is summarized by scenario for the region in Table 44. Finally, the taxable loss is broken out by hurricane loss zone in Appendix K.

TABLE 36

POTENTIAL HURRICANE SERVICE DISRUPTION:
HILLSBOROUGH COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
		POTABLE WATER SYSTEMS FACILITIES						
		City of Tampa	500,000					
24/27/19	W-57	Morris Bridge Water Treatment Plant		1	1	1	1	15
29/28/19	W-57	Hillsborough River Water Treatment Plant		1	1	1	2	15
25/28/18	W-57	Sulphur Springs (Raw Water) Pumping Station		1	1	1	2	15
30/28/18	W-58	N.W. Repump Station		1	1	1	2	15
15/29/18	W-57	West Tampa Elevated Storage Tank		1	1	1	2	25
28/29/18	E-47	Palma Ceia Elevated Tank		1	1	1	2	35
9/30/18	D-40	Interbay Repump Station & Reservoir		1	1	1	15	45
26/28/19	W-56	Tampa By-Pass RWPS		1	1	1	2	15
1/29/19	W-55	Proposed Fairground Elevated Tank		1	1	1	2	15
35/29/19	C-34	Proposed Southeast Elevated Storage Tank		1	1	2	15	50
		Apollo Beach	6,125					
22/31/19	W-51	Water Treatment Plant		1	1	12	15	45
17/31/19	A-16	Repump Station		1	5	15	25	50
22/31/19	A-16	Elevated Storage		1	1	12	15	45
3/31/19	A-16	Gibsonton Elevated Storage		1	12	15	25	50
		Ruskin	6,342					
18/32/19	C-37	Water Treatment Plant		1	1	1	2	40
18/32/19	C-37	Storage Reservoir		1	1	1	2	40
		Sun City	18,665					
7/32/20	W-57	Water Treatment Plant		1	1	1	2	25
7/32/20	W-51	Storage Reservoir		1	1	1	2	25
		Riverview	17,157					
5/31/20	W-52	Water Treatment Plant		1	1	1	2	25
5/31/20	W-52	Storage Tanks (2)		1	1	1	2	25

TABLE 36 (cont.)

POTENTIAL HURRICANE SERVICE DISRUPTION:
HILLSBOROUGH COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
		Brandon	49,665					
3/30/20	W-53	Water Treatment Plant		1	1	1	2	15
3/30/20	W-53	Storage Reservoir		1	1	1	2	15
4/29/20	W-55	Claypit Rd. Repump		1	1	1	2	15
4/29/20	W-53	Claypit Rd. Storage		1	1	1	2	15
14/28/17	D-38	River Oaks Water Treatment Plant	12,334	1	1	1	2	15
20/28/18	W-58	Plantation Water Treatment Plant	4,165	1	1	1	2	15
4/28/18	W-58	Dale Mabry Treatment Plant	9,244	1	1	1	2	15
21/27/18	W-58	N.W. Regional Pump Station (Under Construction)		1	1	1	2	15
		WASTE-WATER TREATMENT FACILITIES						
32/29/19	11	Tampa's Hookers Point Regional WWTP	335,000	2	5	15	30	50
23/28/17	38	River Oaks WWTP	41,314	1	1	1	2	25
10/32/19	51	South Hillsborough Reg. WWTP	15,000	1	1	1	2	25
6/30/21	53	Brandon WWTP (Interim)	2,000	1	1	1	1	15
30/28/22	55	Plant City WWTP	130,104	1	1	1	1	15
5/28/18	58	Dale Mabry WWTP	28,546	1	1	1	2	15
		ELECTRICAL UTILITY FACILITIES	*					
7/27/18	1	Skyway Substation (TECO)	**	1	1	1	2	15
20/29/18	2	Cypress Substation (TECO)	**	1	1	1	20	45
5/30/18	4	Westinghouse Substation (TECO)	**	1	1	5	23	45
10/30/18	5	MacDill Substation (TECO)	**	1	1	5	22	45
3/30/18	7	Baycourt Substation (TECO)	**	1	1	1	20	45
30/29/19	11	Hookers Point Plant (TECO)		1	1	5	25	45
30/29/19	11	Maritime Substation (TECO)	**	1	2	15	25	45
21/29/19	13	12th Avenue Substation (TECO)	**	1	5	15	25	45
5/30/19	14	Gannon Plant (TECO)		2	5	15	25	50
4/30/19	14	Port Sutton (TECO)	**	1	5	15	25	50
3/30/19	14	Madison Substation (TECO)	**	1	5	15	25	50
22/30/19	15	Gardinier Substation (TECO)	**	1	5	15	25	50
22/30/19	15	Mill Point Substation (TECO)	**	1	5	15	25	50
9&10/31/19	16	Agrico Terminal (TECO)	**	1	5	25	25	50
9&10/31/19	16	Big Bend Plant (TECO)		1	5	15	25	50
32/31/19	17	1st Avenue Substation (TECO)	**	1	2	15	25	45

TABLE 36 (cont.)

POTENTIAL HURRICANE SERVICE DISRUPTION:
HILLSBOROUGH COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
		ELECTRICAL UTILITY FACILITIES	*					
24/29/18	19	Washington Substation (TECO)	**	1	2	5	25	45
34/29/19	23	Nitram Substation (TECO)	**	1	1	5	25	45
26/30/19	25	Gibsonton Substation (TECO)	**	1	5	15	25	50
26/30/19	25	South Gibsonton Substation (TECO)	**	1	5	15	25	50
24/29/18	28	Plant Substation (TECO)	**	1	2	5	25	45
18/29/19	29	3rd Avenue Substation (TECO)	**	1	1	1	20	45
17/29/19	29	2nd Avenue Substation (TECO)	**	1	1	1	15	45
14/29/19	31	Joseph Substation (TECO)	**	1	1	1	15	45
14/29/19	31	Florida Steel Substation (TECO)	**	1	1	1	15	45
26/29/19	33	78th Street Substation (TECO)	**	1	5	15	15	45
2/30/19	34	S.R. 676A Substation (TECO)	**	1	1	5	25	50
11/31/19	35	East Bay Substation (TECO)	**	1	1	5	15	45
26/28/17	39	Rocky Creek Substation (TECO)	**	1	1	1	5	35
35/28/17	39	Jackson Road Substation (TECO)	**	1	1	1	15	45
6/27/18	39	George Road Substation (TECO)	**	1	1	1	2	15
33/29/18	40	Prado Substation (TECO)	**	1	1	1	2	40
4/30/18	40	Manhattan Substation (TECO)	**	1	1	1	2	40
3/30/18	40	Himes Substation (TECO)	**	1	1	1	15	45
17/29/19	42	11th Avenue Substation (TECO)	**	1	1	1	15	45
20/29/18	47	Gray Substation (TECO)	**	1	1	1	15	45
28/29/18	47	Lois Substation (TECO)	**	1	1	1	2	35
23/29/18	47	Hyde Park Substation (TECO)	**	1	1	1	2	45
23/29/18	47	Rome Substation (TECO)	**	1	1	1	2	45
11/29/19	49	Orient Park Substation (TECO)	**	1	1	1	2	25
9/32/19	51	Ruskin Substation (TECO)	**	1	1	1	2	25
12/32/19	51	Del Webb Substation (TECO)	**	1	1	1	2	25
8/32/20	51	Sun City Substation (TECO)	**	1	1	1	2	25
7/32/22	51	Mines Substation (TECO)	**	1	1	1	2	25
26/32/22	51	Four Corners No. 1 Substation (TECO)	**	1	1	1	2	25
26/32/22	51	Four Corners No. 2 Substation (TECO)	**	1	1	1	2	25
26/32/22	51	Four Corners No. 3 Substation (TECO)	**	1	1	1	2	25
26/32/22	51	Four Corners Substation (TECO)	**	1	1	1	2	25
33/32/22	51	Four Corners (temporary) Cap.	**	1	1	1	2	25
34/32/22	51	Four Corners (temporary) No. 1	**	1	1	1	2	25
34/32/22	51	Four Corners (temporary) No. 2	**	1	1	1	2	25
34/32/22	51	Four Corners (temporary) A Substation	**	1	1	1	2	25
34/32/22	51	Four Corners (temporary) B Substation	**	1	1	1	2	25
3/31/20	52	Rhodine Road Substation (TECO)	**	1	1	1	2	25
32/31/22	52	Ft. Lonesome Plant Substation (TECO)	**	1	1	1	2	15
5/32/22	52	Ft. Lonesome Cap. Substation (TECO)	**	1	1	1	2	15
32/31/22	52	Ft. Lonesome No. 1 Substation (TECO)	**	1	1	1	2	15
29/31/22	52	Ft. Lonesome No. 3 Substation (TECO)	**	1	1	1	2	15
29/31/22	52	Ft. Lonesome No. 5 Substation (TECO)	**	1	1	1	2	15
21/31/22	52	Ft. Lonesome No. 2 Substation (TECO)	**	1	1	1	2	15
15/31/22	52	Ft. Lonesome No. 4 Substation (TECO)	**	1	1	1	2	25
25/31/22	52	AMAX Plant Substation (TECO)	**	1	1	1	2	25

TABLE 36 (cont.)

POTENTIAL HURRICANE SERVICE DISRUPTION:
HILLSBOROUGH COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
		ELECTRICAL UTILITY FACILITIES	*					
36/31/22	52	AMAX River Mine Substation (TECO)	**	1	1	1	2	25
11/32/22	52	AMAX Temporary Substation (TECO)	**	1	1	1	2	25
19/29/20	53	S.R. 60 Substation (TECO)	**	1	1	1	2	35
26/29/20	53	Brandon Substation (TECO)	**	1	1	1	2	25
9/30/20	53	Buckhorn Substation (TECO)	**	1	1	1	2	15
11/30/20	53	Bloomingdale Substation (TECO)	**	1	1	1	2	15
5/30/21	53	Phearson Substation (TECO)	**	1	1	1	1	15
27/29/22	53	Hopewell Substation (TECO)	**	1	1	1	1	15
32/29/22	53	Florida Agglite Substation (TECO)	**	1	1	1	1	15
11/29/20	54	South Seffner Substation (TECO)	**	1	1	1	2	15
21/29/20	54	Lakewood Substation (TECO)	**	1	1	1	2	25
18/29/22	54	Hampton Substation (TECO)	**	1	1	1	1	15
12/29/18	55	Plymouth Substation (TECO)	**	1	1	1	2	25
13/29/18	55	Marion Street Substation (TECO)	**	1	1	1	15	45
7/29/19	55	14th Street Substation (TECO)	**	1	1	1	2	15
7/29/20	55	S.R. 574 Substation (TECO)	**	1	1	1	2	30
34/28/20	55	Peach Avenue Substation (TECO)	**	1	1	1	2	15
21/28/21	55	Kirland Substation (TECO)	**	1	1	1	1	15
30/28/22	55	Wilson Substation (TECO)	**	1	1	1	1	15
31/28/22	55	Alexander Substation (TECO)	**	1	1	1	1	15
28/28/22	55	Plant City Substation (TECO)	**	1	1	1	1	15
13/28/19	56	River Substation (TECO)	**	1	1	1	2	15
8&9/28/20	56	Clark Wild Substation (TECO)	**	1	1	1	2	15
22/29/18	57	Clearview Substation (TECO)	**	1	1	1	2	25
22/29/18	57	Mantanzas Substation (TECO)	**	1	1	1	2	25
10/29/18	57	Ohio Substation (TECO)	**	1	1	1	2	25
10/29/18	57	Ivy Substation (TECO)	**	1	1	1	2	25
3/29/18	57	Habana Substation (TECO)	**	1	1	1	2	25
26/28/28	57	Juneau Substation (TECO)	**	1	1	1	2	15
36/28/18	57	Fern Substation (TECO)	**	1	1	1	2	15
19/28/19	57	Yukon Substation (TECO)	**	1	1	1	2	15
32/28/19	57	30th Street Substation (TECO)	**	1	1	1	2	15
5/29/19	57	Belmont Substation (TECO)	**	1	1	1	2	15
20/28/19	57	Industrial Park Substation (TECO)	**	1	1	1	2	15
22/28/19	57	Temple Terrace Substation (TECO)	**	1	1	1	2	15
34/28/19	57	56th Street Substation (TECO)	**	1	1	1	2	15
13/27/18	57	Sunset Lane Substation (TECO)	**	1	1	1	2	15
36/27/18	57	Florida Avenue Substation (TECO)	**	1	1	1	2	15
11/28/18	57	Pine Lake Substation (TECO)	**	1	1	1	2	15
12/28/18	57	McFarland Substation (TECO)	**	1	1	1	2	15
13/28/18	57	Seneca Substation (TECO)	**	1	1	1	2	15
8/28/19	57	27th Street Substation (TECO)	**	1	1	1	2	15
9/28/19	57	USF Substation (TECO)	**	1	1	1	2	15
16/28/19	57	Thatcher Glass Substation (TECO)	**	1	1	1	2	15
16/28/19	57	46th Street Substation (TECO)	**	1	1	1	2	15
15/28/19	57	Fowler Substation (TECO)	**	1	1	1	2	15
15/28/17	58	Sheldon Road Substation (TECO)	**	1	1	1	2	15
27/27/17	58	Keystone Substation (TECO)	**	1	1	1	2	15
32/27/18	58	Ehrlich Road Substation (TECO)	**	1	1	1	2	15
5/28/18	58	Carrollwood Village Substation (TECO)	**	1	1	1	2	15

TABLE 36 (cont.)

POTENTIAL HURRICANE SERVICE DISRUPTION:
HILLSBOROUGH COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
		ELECTRICAL UTILITY FACILITIES	*					
21/27/18	58	Van Dyke Road Substation (TECO)	**	1	1	1	2	15
30/28/18	58	Patterson Road Substation (TECO)	**	1	1	1	2	15
29/28/18	58	Waters Substation (TECO)	**	1	1	1	2	15
33/28/18	58	Coolidge Substation (TECO)	**	1	1	1	2	15
9/29/18	58	Tampa Bay Substation (TECO)	**	1	1	1	2	25
		HOSPITALS						
17, 18	4	Interbay Community Hospital	18	1	1	1	15	45
13, 22	5	USAF Regional Hospital, MacDill	75	1	5	15	25	50
13, 14	9	Tampa General Hospital	486	1	1	15	25	50
22, 12	39	Town & Country Hospital	142	1	1	1	2	25
14, 9	42	Centro Asturiano Hospital	111	1	1	1	2	15
16, 15	47	Memorial Hospital of Tampa	91	1	1	1	2	15
(26/29/20)	53	Brandon Community Hospital	115	1	1	1	2	15
(30/28/22)	54	South Florida Baptist Hospital	84	1	1	1	2	15
16, 12	57	St. Joseph's Hospital	530	1	1	1	2	15
15, 12	57	Tampa Heights Hospital	103	1	1	1	25	45
15, 4	57	University Community Hospital	291	1	1	1	2	15
15, 5	57	James A. Haley V.A. Medical Center	491	1	1	1	2	15
16, 12	57	Women's Hospital	88	1	1	1	2	25
16, 11	57	Centro Espanol Memorial	88	1	1	1	2	25
15, 4	57	Northside Community Mental Health Center	23	1	1	1	2	15
18, 10	57	Good Samaritan Hospital of Tampa	57	1	1	1	2	15
13, 9	57	Hillsborough County Hospital	81	1	1	1	2	15
		NURSING HOMES						
17, 18	4	Manhattan Convalescent Center	171	1	1	1	2	45
15, 16	7	Bay-to-Bay Nursing Center	73	1	1	1	2	40
15, 17	8	Canterbury Tower	38	1	1	5	25	45
15, 12	48	River Heights Nursing Home	42	1	1	1	25	45
5, 35	51	Trinity Lakes Health Center	52	1	1	1	2	25
(28/20)	54	Community Convalescent Center	116	1	1	1	1	15
(28/20)	54	Forest Park Nursing Center	95	1	1	1	1	15
13, 12	55	Home Association	88	1	1	1	2	15
14, 13	55	St. Francis Residence	17	1	1	1	2	25
(28/20)	56	Lowe's Nursing & Convalescent Center	119	1	1	1	2	15
14, 13	57	Ambrosia Home	78	1	1	1	2	25
15, 7	57	Cambridge Convalescent Center	69	1	1	1	2	15
15, 4	57	John Knox Village Medical Center	54	1	1	1	2	15
16, 12	57	Medicenter of Tampa	161	1	1	1	2	25
13, 10	57	Oakwood Park Su Casa	237	1	1	1	2	15
12, 9	57	Padgett's Nursing Home	95	1	1	1	2	15
17, 13	57	Tampa Health Care Center	149	1	1	1	2	25
16, 4	57	University Park	255	1	1	1	2	15
16, 7	57	Wellington Manor	174	1	1	1	2	15
15, 3	57	Woodlands Convalescent	118	1	1	1	2	15

TABLE 36 (cont.)

POTENTIAL HURRICANE SERVICE DISRUPTION:
HILLSBOROUGH COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
		TRANSPORTATION FACILITIES						
36/29/18	A-9	Peter O'Knight Airport/ Davis Island		1	5	15	25	50
29/29/19	A-11	C.F. Industries Phosphate Rail Terminal		2	5	15	35	50
33/29/19	A-13	SCL/Rockport Phosphate Rail Terminal		2	5	15	35	50
34/29/19	A-13	Eastern Associated Phosphate Rail Terminals		1	1	15	25	45
4/30/19	A-14	International Mineral & Chemical Corporation Rail Terminal/ Port Sutton		2	5	15	30	50
15/30/19	A-15	Gardinier Phosphate Rail Terminal		1	5	15	25	50
9/31/19	A-16	Agrico Phosphate Rail Terminal		5	15	20	25	25
18/29/19	C-29	Amtrak Rail Terminal		1	1	1	2	15
4/30/20	W-51	Brandon Airport		1	1	1	1	15
36/28/21	W-54	Plant City Municipal Airport		1	1	1	1	15
31/28/20	W-55	Vandenberg Airport		1	1	1	2	40
31/28/21	W-55	Hillsboro Airport		1	1	1	1	15
8/29/18	W-58	Tampa International Airport		1	1	1	2	25

(TECO) Tampa Electric Company

* Households/Customer Connections (Residential, Commercial, and Industrial).

** TECO estimates an average of 3,500 customer connections per substation.

Length of Service Disruption of 1 day represents disruption of normal operations during the hurricane passage itself.

TABLE 37

POTENTIAL HURRICANE SERVICE DISRUPTION:
MANATEE COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
POTABLE WATER SYSTEMS FACILITIES								
		Manatee County Utilities Dept.	**234,000**					
1/33/17	A-8	Port Manatee Pump Station		1	2	5	25	50
6/33/18	A-8	Raw Water Elevated Storage		1	1	1	15	50
11/34/17	A-7	Palmetto Elevated Storage		1	1	1	15	50
15/34/17	A-7	Palmetto Storage		1	1	1	15	55
25/34/17	C-14	Hospital Booster Station		1	1	1	5	50
30/34/17	B-10	Northwest Elevated Storage		1	1	1	15	55
3/35/16	A-3	Cortez Pump & Booster Station		2	12	15	35	56
8/35/17	W-27	Cortez Elevated Storage		1	1	1	15	56
4/35/18	W-28	Elwood I Pump Station		1	1	1	5	40
16/35/18	W-28	Elwood II Pump Station		1	1	1	5	40
25/34/19	W-28	MCUD Water Treatment Plant		1	1	1	5	40
25/34/19	W-28	Raw Water Pump Stations		1	1	1	5	40
25/34/19	W-28	Elevated Storage Tank		1	1	1	5	40
		City of Bradenton	**12,500**					
15/35/18	W-29	Ward Lake Pumping Station		1	1	1	5	40
26/34/17	W-28	Bradenton Water Treatment Plant & Pumping Station		1	1	1	5	50
32/34/17	W-27	No. 1 Elevated Storage Tank (59th St.W. & 29th Ave.)		1	1	1	5	50
27/34/17	W-27	No. 2 Elevated Storage Tank (6th Ave. W. & 29th St.)		1	1	1	5	55
34/34/17	W-27	No. 3 Elevated Storage Tank (17th Ave. W.)		1	1	1	5	50
26/34/17	W-28	No. 4 Elevated Storage Tank (6th Ave. W. & 2nd St.)		1	1	1	5	50
30/34/18	W-28	No. 5 Elevated Storage Tank (8th Ave. E. & 19th St. Ct. E.)		1	1	1	5	40
WASTE-WATER TREATMENT FACILITIES								
8/35/17	4	Manatee County Southwest Regional WWTP	36,000	1	1	1	15	55
15/34/17	12	Palmetto WWTP	9,500	1	1	5	15	55
35/34/17	28	Bradenton WWTP	12,500	1	1	1	5	50

TABLE 37 (cont.)

POTENTIAL HURRICANE SERVICE DISRUPTION:
MANATEE COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
		ELECTRICAL UTILITIES FACILITIES	*					
30/34/17	10	Palma Sola Substation (FPL)	13,408	1	1	1	5	55
33/34/18	16	Castle Substation (FPL)	7,752	1	1	5	20	45
	25	Manatee County Plant (FPL)	N.D.	1	1	1	2	25
19/33/22	25	Duette Substation (PREC)	3,500	1	1	1	2	25
23/33/18	25	Regulator Substation (PREC)	(3,500)	1	1	1	5	40
8/33/18	25	Borden Substation (FPL)	6,828	1	1	1	5	40
33/34/17	27	Bradenton Substation (FPL)	16,988	1	1	1	5	50
4/35/17	27	Cortez Substation (FPL)	16,065	1	1	1	5	50
36/34/17	28	Fruit Industries Substations[1] (FPL)	1	1	1	1	5	50
19/35/18	29	Whitfield Substation (FPL)	8,798	1	1	1	5	45
18/35/18	29	Oneco Substation (FPL)	16,673	1	1	1	5	40
		HOSPITALS						
25, 42	14	Manatee Memorial	360	1	1	1	5	50
28, 41	27	L. W. Blake Memorial	261	1	1	1	5	50
		NURSING HOMES						
26, 42	14	Asbury Towers	26	1	1	1	5	15
25, 42	14	Bradenton Convalescent	105	1	1	2	15	25
25, 42	14	Shore Health Care Center	16	1	1	1	15	25
27, 42	27	Bradenton Manor	36	1	1	1	5	15
28, 41	27	Carol Lou Mora Care Center	120	1	1	1	5	15
26, 43	28	AMNC/Bradenton	59	1	1	1	5	15
25, 42	28	Manatee Convalescent Center	141	1	1	1	5	15
26, 41	28	Suncoast Manor Nursing Home	192	1	1	1	5	15
		TRANSPORTATION FACILITIES						
24/34/16	A-6	Palma Sola Airfield		1	5	15	35	58
1/33/17	A-8	Manatee Phosphate Rail Terminals/Port Manatee		1	2	10	25	55
36/35/17	W-29	Sarasota-Bradenton International Airport		1	1	1	5	50

(FPL) Florida Power and Light Company

(PREC) Peace River Electric Cooperative

* Households/Customer Connections (Residential, Commercial, and Industrial)

1 Tropicana, Inc.

TABLE 38

POTENTIAL HURRICANE SERVICE DISRUPTION:
PASCO COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
		POTABLE WATER SYSTEMS FACILITIES						
		Pasco County Utilities Dept.	56,596					
15/25/16	D-13	High Service Pump Station		1	1	1	35	56
15/25/16	D-13	Storage Reservoir		1	1	1	35	56
		Port Richey	4,300					
28/25/16	D-13	Water Treatment Plant & Pump Station		1	1	5	35	56
29/25/16	A-3	Elevated Storage		2	12	15	45	60
		New Port Richey	20,000					
1/26/16	W-19	Pump Station		1	1	1	15	55
1/26/16	W-19	Storage Reservoir Storage Tank		1	1	1	15	55
		Dade City	10,300					
/24/21	W-24	Elevated Storage (2 Tanks)		1	1	1	2	25
		Hudson Water Works	3,400					
26/24/16	D-14	Elevated Storage		1	1	1	25	56
		Zephyrhills	10,000					
/26/21	W-23	Elevated Storage		1	1	1	2	25
		St. Leo	950					
/25/20	W-21	Elevated Storage		1	1	1	2	25
		San Antonio	750					
/25/20	W-21	Elevated Storage		1	1	1	2	25
		WASTE-WATER TREATMENT FACILITIES						
6/26/16	2	New Port Richey (South) Regional WWTP	14,203	1	5	15	35	60
21/25/16	4	The Embassy Hills WWTP	1,000	1	2	15	40	60
34/24/16	13	Beacon Woods WWTP	12,000	1	1	5	25	58

TABLE 38 (cont.)

POTENTIAL HURRICANE SERVICE DISRUPTION:
PASCO COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
WASTE-WATER TREATMENT FACILITIES								
18/25/17	18	Veterans Village		1	1	1	5	50
15/26/16	19	Deer Park Plant	2,500	1	1	1	25	58
7&18/26/19	20	Lake Padgett Pines WWTP		1	1	1	2	40
13/26/21	23	Zephyrhills WWTP		1	1	1	2	25
27/24/21	24	Dade City WWTP	4,300	1	1	1	2	25
ELECTRICAL UTILITIES FACILITIES *								
24/26/15	1	Anclote Substation (FP)	2,201	1	2	15	35	60
27/26/15	1	Anclote Generating Plant (FP)	N.A.	1	2	15	35	60
29/25/16	3	Port Richey W. Substation (FP)	12,183	5	12	20	45	60
9/25/16	4	Bayonet Point No. 31 Substation (WREC)	***	1	12	20	45	60
14/24/16	6	Sea Pines No. 26 Substation (WREC)	***	1	1	15	25	60
26/25/16	13	A No. 13, B No. 32 Substation (WREC)	***	1	1	1	15	50
16/26/16	15	Flora-Mar Substation (FP)	9,277	1	1	1	5	55
29/26/16	16	Elfers Substation (FP)	15,725	1	1	1	25	56
22/26/16	16	Seven Springs Substation (FP)	9,500	1	1	1	25	56
29/24/17	17	Hudson A No. 12 Substation (WREC)	***	1	1	1	5	40
13/25/16	18	Golden Acres No. 11 Substation (WREC)	***	1	1	1	25	55
11/25/18	19	Pasco Trails No. 25 Substation (WREC)	***	1	1	1	5	40
22/26/16	20	Seven Springs No. 18 Substation	***	1	1	1	25	56
27/26/17	20	Odessa No. 14 Substation (WREC)	***	1	1	1	5	40
28/26/18	20	Pasco Wellfields No. 15 Substation	***	1	1	1	5	40
25/26/18	20	Dunham Station (FP)	2,999	1	1	1	5	40
2/25/20	21	San Antonio Substation (TECO)	**	1	1	1	2	25
22/26/19	21	Tampa Downs No. 17 Substation	***	1	1	1	5	40
17/26/21	23	Zephyrhills No. 8 Substation	***	1	1	1	2	25
34/23/21	24	Trilby No. 6 Substation (WREC)	***	1	1	1	2	25
19/25/21	24	Richland No. 19 Substation (WREC)	***	1	1	1	2	25
27/24/21	24	Pasco Packing Substation (TECO)	**	1	1	1	2	25
27/24/21	24	Dade City Substation (TECO)	**	1	1	1	2	25
4/25/21	24	Fort King Substation (TECO)	**	1	1	1	2	25

TABLE 38 (cont.)

POTENTIAL HURRICANE SERVICE DISRUPTION:
PASCO COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
		HOSPITALS						
33, 4	9	Community Hospital of New Port Richey	317	1	1	1	15	56
34, 3	10	West Pasco Hospital	80	1	1	1	25	56
(35/24/16)	14	Bayonet Point Medical Center	156	1	1	1	5	50
(27/24/21)	24	Jackson Memorial Hospital	21	1	1	1	2	25
(34/24/21)	24	Community General Hospital	53	1	1	1	2	25
		NURSING HOMES						
33, 3	10	Richey Manor Nursing Home	111	1	1	1	15	56
(3/25/16)	14	Bear Creek Nursing Home	112	1	1	1	25	56
33, 3	15	Heather Hill Nursing Home	113	1	1	1	5	50
33, 3	15	Southern Pines Nursing Center	118	1	1	1	5	50
32, 1	18	Whispering Pines	52	1	1	1	15	50
(26/21)	23	Zephyr Haven Nursing Home	59	1	1	1	2	25
(24/21)	24	Dade City Geriatric Center	104	1	1	1	2	25
(24/21)	24	Pasco Nursing Center	37	1	1	1	2	25
(24/21)	24	Royal Oaks Nursing Center	112	1	1	1	2	25
		TRANSPORTATION FACILITIES						
30/25/17	W-18	Hidden Lake Airport		1	1	1	15	55
3/25/18	W-19	Pilots Country Estates Airport		1	1	1	5	40
29/26/17	W-20	West Pasco Airport		1	1	1	5	40
14/26/19	W-21	Tampa Downs Airport		1	1	1	2	40
13/26/21	W-23	Zephyrhills Municipal Airport		1	1	1	2	25

* Households/Customer Connections (Residential, Commercial, and Industrial)

** TECO estimates an average of 3,500 customer connections per substation.

*** WREC estimates an average of 3,500 customer connections per substation.

(FP) Florida Power Corporation

(WREC) Withlacoochee River Electric Cooperative

(TECO) Tampa Electric Company

TABLE 39

POTENTIAL HURRICANE SERVICE DISRUPTION:
PINELLAS COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
		POTABLE WATER SYSTEMS FACILITIES						
		St. Petersburg Water System	302,783					
33/27/17	W-59(H)	Cosme Water Treatment Plant		1	1	1	2	15
17/29/16	A-15	Gulf-to-Bay Booster Station		1	1	1	5	35
31/30/16	C-38	Oberly Pumping Station		1	1	15	25	45
35/30/16	W-71	Washington Terrace PS		1	1	1	5	40
18/31/17	W-66	(No. 1) Elevated Tank		1	1	1	5	40
13/31/16	W-66	(No. 2) Elevated Tank		1	1	1	5	40
30/31/17	W-64	(No. 3) Elevated Tank		1	1	12	25	50
		Pinellas County Water System	391,800					
11/27/16	W-72	S.K. Keller Water Treatment Plant		1	1	1	5	40
7/32/16	A-1	Gulf Beach Pumping Station		1	5	15	30	56
23/31/15	A-3	Capri Isle Pumping Station		1	5	15	35	56
27/30/15	W-58	Oakhurst Pumping Station		1	1	1	15	50
3/30/15	W-59	Logan Pumping Station		1	1	1	5	40
30/28/16	W-62	North Booster Station						
		Clearwater Water System	98,000					
29/28/16	W-62	(No. 1) Ground Storage (Countryside)		1	1	1	5	40
29/28/16	W-62	(No. 2) Ground Storage (Countryside)		1	1	1	5	40
12/29/15	W-61	(No. 3) Ground Storage (Clearwater Golf)		1	1	1	5	50
17/29/16	W-61	(No. 4) Ground Storage (Gulf-to-Bay)		1	1	1	5	35
22/29/15	W-61	(No. 1) Elevated Storage (Morton Park)		1	1	1	5	50
9/29/16	A-15	(No. 2) Elevated Storage (McMullin Booth)		1	1	1	5	35
1/29/15	W-62	(No. 3) Elevated Storage (Montclair Rd.)		1	1	1	5	50
		Dunedin Municipal Water System	30,200					
26/28/15	W-62	(No. 1) Water Treatment Plant		1	1	1	5	40
30/28/16	W-62	(No. 2) Water Treatment Plant		1	1	1	5	40
14/28/15	B-32	(No. 1) Elevated Storage Tanks Curlew		1	1	1	5	40
26/28/15	W-62	(No. 2) Elevated Storage Tanks		1	1	1	5	40
		Belleair Municipal Water System	3,800					
28/29/15	W-60	Belleair Water Treatment Plant		1	1	1	5	50
28/29/15	W-60	Elevated Storage		1	1	1	5	50
28/29/15	W-60	Ground Storage		1	1	1	5	50

TABLE 39 (cont.)

POTENTIAL HURRICANE SERVICE DISRUPTION:
PINELLAS COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
		WASTE-WATER TREATMENT FACILITIES						
5/33/16	1	Ft. DeSoto Park Treatment Plants No. 1	-	1	1	2	10	45
7/33/16	1	No. 2	-	1	1	2	10	45
8/33/16	1	No. 3	-	1	2	5	15	45
18/33/16	1	No. 4	-	1	1	2	10	45
10/32/16	1	St. Petersburg Southwest Regional WWTP	101,581	1	5	15	25	50
24/28/16	12	Oldsmar WWTP	11,875	1	1	5	25	50
16/29/16	15	Clearwater East WWTP	35,009	1	2	15	25	50
32/30/17	18	St. Petersburg N.E. Regional WWTP	68,672	1	1	10	25	50
29/31/17	20	Albert Whitted Regional WWTP	273,097	5	5	15	25	50
12/27/15	33	Tarpon Springs WWTP	20,359	1	1	10	25	50
9/29/15	42	Clearwater Marshall St. WWTP	49,418	1	1	10	25	56
4/30/16	46	Largo WWTP	87,388	1	1	5	25	50
6/31/16	46	South Cross Bayou WWTP	174,802	1	1	5	25	50
21/28/16	45	Clearwater N.E. WWTP	46,141	1	1	1	5	40
25/27/15	50	Pinellas County N. WWTP	23,687	1	1	1	15	40
18/30/15	59	McKay Creek WWTP	38,916	1	1	1	15	50
28/29/15	60	Belleair WWTP	4,078	1	1	1	5	50
22/28/15	62	Dunedin WWTP	49,105	1	1	1	15	45
7/31/16	69	St. Petersburg N.W. Regional WWTP	64,000	1	1	1	5	40

TABLE 39 (cont.)

POTENTIAL HURRICANE SERVICE DISRUPTION:
PINELLAS COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
		ELECTRIC UTILITY FACILITIES	*					
7/32/16	1	Bayway Substation (FP)	10,317[1]	1	5	15	25	50
6/32/16	1	Pass-a-Grille Substation (FP)		1	5	15	25	50
25/30/15	2	St. Petersburg Beach (FP)		1	5	15	25	58
23/31/15	3	Treasure Island Substation (FP)		1	5	15	25	58
9/31/15	5	Madeira Substation (FP)		1	5	15	25	58
30/30/15	5	Indian Rocks South Shore Substation (FP)	4,905	1	1	5	25	56
23/18/16	12	Higgins Plant (FP)	N.A.	1	1	15	25	50
23/28/16	12	Higgins Transmission Plant (FP)	N.A.	1	1	15	25	50
29/29/16	16	Tri City (FP)	5,942	1	1	1	15	45
21/30/17	17	Bartow Plant (FP)	N.A.	1	5	15	25	50
21/30/17	17	Bartow 120 kv/240 kv (FP) (Transmission Station)	N.A.	1	5	15	25	50
5/31/17	18	Pilsbury Substation (FP)	20,442	1	1	15	25	50
30/31/17	19	Bayboro Substation (FP)	9,455	1	1	10	25	48
9/31/16	23	Pasadena Substation (FP)	9,766	1	1	1	5	40
2/31/15	24	Bay Pines Substation (FP)	1	1	1	15	25	58
11/28/15	32	Palm Harbor (FP)	5,454	1	1	15	25	48
25/30/16	36	Northeast (FP)	17,455	1	1	5	25	45
19/30/16	38	Cross Bayou (FP)	7,349	1	1	15	25	50
25/30/15	38	Starkey Road (FP)	6,744	1	1	15	45	60
7/27/16	44	Tarpon Springs (FP)	13,702	1	1	1	5	45
8/30/16	46	Honeywell Reg. Substation (FP)	1	1	1	5	25	50
8/30/16	46	Minneapolis Honeywell (FP)	(1)	1	1	5	25	50
8/30/16	46	Minneapolis-Honeywell #4 (FP)		1	1	5	25	50
9/30/16	46	Ulmerton 120 kv Station (FP)	(1)	1	1	5	25	50
9/30/16	46	Ulmerton 240 kv Station (FP)	(5,660)	1	1	5	25	50
13/30/15	54	G.E. Pinellas Substation (FP)	1	1	1	1	25	55
2/30/15	54	Largo 69 kv Substation (FP)	15,327	1	1	15	35	58
2/30/15	54	Largo 240 kv Substation (FP)	(15,327)	1	1	15	35	58
20/30/15	58	Seminole Substation (FP)	15,607	1	1	1	15	50
34/30/15	58	Oakhurst Substation (FP)	11,027	1	1	1	15	50
16/30/15	59	Walsingham Substation (FP)	18,900	1	1	1	15	50
34/30/15	60	Taylor Avenue Substation (FP)	11,672	1	1	1	5	50
27/29/15	60	Belleair Substation (FP)	13,540	1	1	1	5	50
18/29/16	61	Bayview Substation (FP)	16,655	1	1	1	5	40
15/29/15	61	Clearwater Substation (FP)	15,542	1	1	1	5	50
34/28/16	62	Safety Harbor (FP)	6,948	1	1	1	5	40
26/28/15	62	Dunedin (FP)	11,075	1	1	1	5	40
26/28/15	62	Dunedin Citrus (FP)	1	1	1	1	5	40
30/28/16	62	East Clearwater (FP)	12,499	1	1	1	5	40
35/28/15	62	Highlands (FP)	11,195	1	1	1	5	40
7/28/16	63	Curlew (FP)	4,446	1	1	1	5	40

TABLE 39 (cont.)

POTENTIAL HURRICANE SERVICE DISRUPTION:
PINELLAS COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
		ELECTRIC UTILITY FACILITIES (cont.)	*					
31/27/16	63	Alderman (FP)	4,587	1	1	1	5	40
26/31/16	64	Maximo (FP)	14,449	1	1	1	5	40
13/31/16	65	Sixteenth Street Substation (FP)	12,429	1	1	1	5	40
18/31/17	65	Vinoy Substation (FP)	9,452	1	1	1	5	40
22/31/16	68	Central Plaza Substation (FP)	10,387	1	1	1	5	40
21/31/16	68	Fifty-first Street Substation (FP)	14,854	1	1	1	5	40
17/31/16	69	Crossroads Substation (FP)	7,520	1	1	1	15	45
15/31/16	69	Fortieth Street Substation (FP)	11,949	1	1	1	5	40
8/31/16	70	Kenneth Substation (FP)	14,379	1	1	5	15	45
33/30/16	70	Disston Substation (FP)	17,230	1	1	1	15	45
8/27/16	72	Lake Tarpon Substation (FP)	1	1	1	15	25	50
1/28/16	72	Pinellas Wellfield Substation (FP)	1	1	1	1	15	45
15/28/16	72	Sperry Rand Substation (FP)	1	1	1	5	25	45
14/28/16	72	Oldsmar Substation (FP)	2	1	1	1	5	40
12/28/16	72	Race Track Substation (TECO)	**	1	1	1	5	40
13/28/16	72	Double Branch Substation (TECO)	**	1	1	1	5	40
		HOSPITALS						
29, 27	2	Palms of Pasadena	221	1	1	5	25	50
34, 8	11	Anclote Manor	67	1	1	1	15	40
24, 28	20	Sun Bay Community	114	1	1	1	5	40
30, 24	24	V.A. Medical Center	453	1	1	5	20	56
32, 17	30	Morton F. Plant	544	1	1	1	5	50
28, 22	38	Metropolitan General	102	1	1	5	25	50
30, 21	40	Lake Seminole	73	1	1	5	35	50
32, 20	41	Sun Coast Hospital	171	1	1	1	15	50
32, 9	43	Tarpon Springs General	97	1	1	1	5	40
27, 20	46	Horizon Hospital	135	1	1	5	20	50
31, 21	59	University General Hospital of Seminole	78	1	1	1	15	50
30, 20	59	Medfield Center	22	1	1	1	15	50
31, 19	60	Medical Center Hospital	190	1	1	1	5	50
30, 17	61	Clearwater Community	94	1	1	1	5	50
31, 14	62	Mease Hospital & Clinic	219	1	1	1	5	40
24, 27	64	Bayfront Medical Center	300	1	1	1	5	40
24, 27	64	All Children's Hospital	77	1	1	1	5	40
25, 26	65	St. Petersburg Osteopathic	68	1	1	1	5	40
25, 26	66	St. Anthony's Hospital	365	1	1	1	5	40
25, 25	69	Edward H. White Hospital	114	1	1	1	5	40
28, 24	70	St. Petersburg General Hospital	182	1	1	5	20	45
27, 23	70	Gateway Community	136	1	1	1	5	40

TABLE 39 (cont.)

POTENTIAL HURRICANE SERVICE DISRUPTION:
PINELLAS COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
		NURSING HOMES						
26, 29	1	Whitehall of St. Petersburg	52	1	1	5	25	50
29, 27	2	Beach Convalescent	37	1	5	20	25	56
29,28	2	Crown Nursing Home	48	1	5	15	25	50
29, 27	2	Deluxe Care Inn	55	1	5	15	25	50
29, 26	2	Majestic Towers	50	1	1	15	25	50
23, 26	2	Palm Shores Retirement Center	32	1	1	1	5	40
24, 20	17	Maria Manor Health Care	267	2	2	5	25	50
23, 24	18	Masonic Home of Florida	72	1	1	2	25	45
28, 27	18	Pasadena Manor	121	1	5	20	25	50
22, 24	18	Shore Acres Nursing & Convalescent Home	101	3	5	15	25	50
24, 28	20	AMNC/South Heritage	68	1	1	5	25	45
31, 20	20	Bayou Manor	68	1	1	1	15	50
24, 30	21	Suncoast Manor	101	1	1	5	25	50
32, 17	30	Oak Bluffs Retirement Center	51	1	1	1	5	50
32, 16	30	Oak Cove Retirement Center	47	1	1	1	5	50
32, 16	30	Osceola Inn	13	1	1	1	5	50
33, 8	33	Tarpon Springs Convalescent Center	117	1	1	1	5	40
24, 22	36	The Abbey	147	1	1	2	25	45
23, 22	36	The Huber Restorium	93	1	1	1	5	40
24, 22	36	Jaylene Manor Nursing Home	58	1	1	1	5	40
28, 21	38	Morningside Sanitorium	34	1	1	5	25	50
28, 22	38	Parkway Nursing Home	52	1	1	1	5	40
32, 8	43	Tarpon Health Care Center	115	1	1	1	5	40
30, 11	44	Baytree Nursing Center	111	1	1	1	5	40
26, 25	46	Geri-Care Nursing Center	298	1	1	1	5	40
28, 19	46	Tierra Pines Convalescent Center	111	1	1	5	15	45
26, 27	56	AMNC/Alpine	54	1	1	1	5	40
32, 21	59	Wright's Nursing Home	56	1	1	1	15	40
32, 19	60	Belleair East Health Center	111	1	1	1	5	45
32, 20	60	Oak Manor Nursing Center	137	1	1	1	15	50
31, 20	61	Bruce Manor Nursing Home	68	1	1	1	15	50
31, 17	61	Clearwater Convalescent Center	118	1	1	1	5	40
31, 17	61	Druid Hills Nursing Home	74	1	1	1	5	50
30, 17	61	Highland Pines Nursing Manor	117	1	1	1	5	50
30, 15	61	Sunset Point Nursing Center	110	1	1	1	5	50
31, 14	62	Dunedin Care Center	102	1	1	1	5	40
31, 14	62	Spanish Gardens Nursing Home	80	1	1	1	5	40
30, 11	63	St. Mark Village	43	1	1	1	5	40
24, 26	64	Beverly Manor	255	1	1	1	5	40
25, 27	64	Colonial Manor	249	1	1	1	5	40
24, 27	64	Lakeview Manor Nursing Home	20	1	1	1	5	40
25, 27	64	Palms Nursing Center	40	1	1	1	5	40
	65	Leisure Manor	19	1	1	1	5	40
24, 26	66	AMNC/North Horizon	47	1	1	1	5	40

TABLE 39 (cont.)

POTENTIAL HURRICANE SERVICE DISRUPTION:
PINELLAS COUNTY PUBLIC FACILITIES

Section/ Township/ Range	Hurricane Loss Zone	Facility/Location	Service Population	Service Disruption (Days) Damage Scenario A	B	C	D	E
		NURSING HOMES (cont.)						
24, 25	66	Concordia Manor	29	1	1	1	5	40
24, 26	66	New Fern Restorium	103	1	1	1	5	40
27, 25	68	Convalescent Care Center	119	1	1	1	5	40
28, 27	68	Gulfport Convalescent Center	117	1	1	1	5	40
28, 26	68	Swanholm Nursing Hotel	245	1	1	1	5	40
26, 26	68	Victoria Martin Nursing Home	35	1	1	1	5	40
25, 25	69	AMNC/Greenbrook	115	1	1	1	5	40
26, 25	69	Golfview Nursing Home	53	1	1	1	5	40
28, 25	69	Tyrone Medical Inn	56	1	1	1	5	40
29, 24	70	Alhambra, Inc.	59	1	1	1	5	45
28, 24	70	AMNC/Colonial	97	1	1	1	5	40
25, 23	70	Good Samaritan Nursing Home	56	1	1	1	5	40
26, 23	71	Rosedale Manor	186	1	1	1	5	40
		TRANSPORTATION FACILITIES						
34/29/16	A-16	St. Petersburg-Clearwater International Airport		1	2	15	25	50
20/31/17	A-19	Albert Whitted		1	2	15	25	50
11/29/15	W-61	Clearwater Executive Airport		1	1	1	5	50
15/29/15	W-61	Amtrak Rail Station		1	1	1	5	50
11/31/16	W-70	Amtrak Rail Station		1	1	1	5	40

* Households/Customer Connections (Residential, Commercial, and Industrial).

** TECO estimates an average 3,500 customer connections per substation.

(FP) Florida Power Corporation

(TECO) Tampa Electric Company

1 Bayway Substation "feeds" island substations. Service populations reflects total customers.

TABLE 40

HILLSBOROUGH COUNTY

Projected Hurricane Structural Taxable Loss ($$$) By Scenario

(In $ Thousands)

SCENARIO	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
A	100,706	12,203	424	23,417	9,518	3,327	1,331	13	662	683	152,284
B	161,826	17,555	1,304	50,618	14,099	5,392	1,800	16	857	1,160	254,627
C	294,935	35,310	3,692	93,441	26,722	8,436	3,411	31	1,803	1,825	469,606
D	614,286	79,371	10,112	206,383	50,557	13,396	5,725	55	3,307	3,389	986,581
E	991,614	147,585	19,753	409,540	103,010	23,379	11,511	169	6,821	7,029	1,720,411

TABLE 41

MANATEE COUNTY

Projected Hurricane Structural Taxable Loss ($$$) By Scenario

(In $ Thousands)

SCENARIO	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
A	65,037	81,165	2,015	12,891	2,220	1,089	402	164	511	212	165,706
B	112,526	114,375	4,609	19,429	3,278	1,561	566	244	645	333	257,566
C	154,896	149,552	8,878	29,228	6,071	2,557	1,003	347	1,312	569	354,413
D	218,810	201,466	16,452	47,667	11,480	4,797	1,910	600	2,429	1,151	506,762
E	360,782	311,540	21,667	104,877	30,513	11,530	4,554	1,243	7,396	2,916	857,018

TABLE 42

PASCO COUNTY

Projected Hurricane Structural Taxable Loss ($$$) By Scenario

(In $ Thousands)

SCENARIO	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
A	52,620	8,361	4,478	6,516	1,579	0	566	0	0	0	74,120
B	85,385	13,915	6,515	12,515	2,045	0	722	0	0	0	121,097
C	132,938	22,540	13,695	28,148	2,906	0	1,333	0	0	0	201,560
D	305,543	55,511	30,260	62,502	6,276	0	2,623	0	0	0	462,715
E	386,072	75,950	44,426	84,447	8,951	0	6,273	0	0	0	606,119

TABLE 43

PINELLAS COUNTY

Projected Hurricane Structural Taxable Loss ($$$) By Scenario

(In $ Thousands)

SCENARIO	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
A	237,687	136,468	608	41,939	6,368	1,936	22	514	1,935	656	428,133
B	495,315	485,585	1,166	122,754	8,817	3,344	39	897	3,276	930	1,122,123
C	960,826	825,646	6,296	243,408	21,991	6,415	78	1,737	6,717	2,012	2,075,126
D	1,420,624	1,205,970	13,846	366,201	42,282	10,853	163	3,022	11,712	3,618	3,078,291
E	1,877,096	1,607,584	16,206	573,113	86,879	19,567	316	6,652	24,807	7,502	4,219,722

TABLE 44

TAMPA BAY REGION

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS
(In $ Thousands)

Regional Scenario

County	1	2	3	4	5
Pasco Loss/ Scenario	606,119/E	462,715/D	201,560/C	74,120/A	121,097/B
Pinellas Loss/ Scenario	2,075,126/C	4,219,722/E	3,078,291/D	428,133/A	1,122,123/B
Hillsborough Loss/Scenario	254,627/B	986,581/D	1,720,411/E	469,606/C	152,284/A
Manatee Loss/ Scenario	257,566/B	354,413/C	506,762/D	857,018/E	165,706/A
TOTAL REGIONAL AD VALOREM LOSS	3,193,438	6,023,431	5,507,024	1,828,877	1,561,210

See Table 6 (page 41) for descriptions of hazards representing county damage scenarios.

CHAPTER VI

SOCIAL DISRUPTION: TEMPORARY EMPLOYMENT LOSS AND INCOME LOSS

The economy of the Tampa Bay Region has traditionally been dominated by services and retail trade. Tourism and retail trade are the major factors which have shaped the economy and its employment characteristics.

An indirect hurricane loss that would result from structural damage to non-residential establishments is the temporary employment loss and consequent employee income loss due to the inoperation of the business, industry or facility during damage repair and restoration. The length of inoperation caused by a hurricane strike is largely based on the amount of structural damage experienced by the establishment. The length of inoperation (in days) of non-residential establishments throughout the region is estimated based on the magnitude of surge height and/or windspeed simulated to occur at each facility site under the five hurricane damage scenarios. As described in the hurricane loss methodology chapter, the vulnerability coefficients (representing percent of total structure value lost) derived for the specific surge height and/or windspeed levels are scaled to time of inoperation based on previous vulnerability studies. This is the same scale that was utilized to quantify service disruption caused by structural damage to a particular facility site and appeared as Figure 30. The curve of percentages of "total facility structure value lost" represents the relationship between vulnerability coefficients and the estimated number of days an establishment would be inoperative due to hurricane-caused repair and restoration.

Temporary employment loss and income loss estimates are based on the number of employment establishments, their average employment levels, and their average employee income. The region's average employment levels and employee income by modified economic sector appears in Table 45. Based on the number of establishments of a particular economic sector in each loss zone, and the vulnerability of those establishments (vulnerability coefficients), temporary employment/income loss estimates are quantified for the five hurricane damage scenarios. These estimates are presented for each of the region's four counties by damage scenario in Table 46. Appendix L presents a more detailed breakout of these estimates for each county by hurricane loss zone and modified economic sector.

TABLE 45

TAMPA BAY REGION

Average Employment and Employee Income
of Establishment Structure

County	Economic Sector						
	Commercial	Industrial	Public Utilities	Agriculture	Public Trans-portation	Health Care	Government Institution
Hillsborough							
Avg. No. Empl.	13	32	47	22	47	27	27
Avg. Income	$13,944	$15,689	$21,034	$22,039	$21,034	$12,569	$12,676
Manatee							
Avg. No. Empl.	11	32	25	63	25	21	21
Avg. Income	12,459	15,248	19,742	22,143	19,742	12,398	10,328
Pasco							
Avg. No. Empl.	9	25	17	26	17	19	19
Avg. Income	11,351	13,234	20,569	29,634	20,569	12,643	9,874
Pinellas							
Avg. No. Empl.	12	27	33	2	33	20	20
Avg. Income	12,556	15,515	19,975	19,294	19,975	12,530	12,809

Source: Florida County Comparisons, 1981,
State of Florida, Division of
Economic Development

TABLE 46

TEMPORARY EMPLOYMENT AND INCOME LOSS BY HURRICANE
DAMAGE SCENARIO - TAMPA BAY REGION
(Income Loss in $ Thousands)

	DAMAGE SCENARIO									
	A		B		C		D		E	
County	Employment Loss (Emp./Days)	Income Loss ($$$)	Employment Loss (Emp./Days)	Income Loss ($$$)	Employment Loss (Emp./Days)	Income Loss ($$$)	Employment Loss (Emp./Days)	Income Loss ($$$)	Employment Loss (Emp./Days)	Income Loss ($$$)
Hillsborough	13,323 / 2 Days	1,627	28,714 / 15 Days	24,032	32,744 / 25 Days	47,618	88,271 / 50 Days	270,589	266,286 / 60 Days	998,561
Manatee	5,667 / 20 Days	5,738	7,326 / 25 Days	9,432	19,961 / 30 Days	34,978	29,010 / 50 Days	100,761	122,391 / 60 Days	532,786
Pasco	3,448 / 15 Days	2,297	6,014 / 20 Days	5,300	12,716 / 25 Days	17,728	24,128 / 50 Days	73,390	52,237 / 60 Days	255,807
Pinellas	28,075 / 2 Days	2,810	35,163 / 20 Days	34,759	91,084 / 30 Days	138,863	90,248 / 50 Days	233,213	188,169 / 60 Days	602,453

NOTE: The number of employees were derived by dividing the number of person-days loss presented in Appendix L (see L-31) by the average number of days loss within each scenario.

CHAPTER VII

PROBABILITY ANALYSIS OF VULNERABILITY: ANNUALIZED STRUCTURAL LOSS

The usefulness of hurricane loss projections is somewhat limited for considering mitigation policies unless a measure of the risk of such future losses is also expressed. The Region's chances of experiencing such large-scale losses must be considered as perspective for practical contingency recovery planning or long-range mitigation measures to be undertaken. Therefore, qualitative hurricane loss projections must be defined in terms of the probability of that hurricane occurring in any particular year. Similarly, a geographic indication of hurricane vulnerability must be defined in terms of the amount of structural loss at risk in any given year in any given loss zone. For such "annualized loss percentages", quantitative probabilities of occurrence or return periods must be defined for the hypothetical hurricanes used as the basis of the county hurricane damage scenarios. The probabilities of occurrence of the hypothetical hurricane hazards utilized as model damage scenarios to estimate loss in this study were quantified based on the surge height intervals associated with the five Scenarios A, B, C, D, and E. Table 47 presents approximate probabilities of occurrence in the form of return periods in years for the hurricane damage scenarios for the Tampa Bay Region. For each damage scenario, the vulnerability coefficient of every loss zone is divided by the scenario's return period to result in an annualized loss percentage for each loss zone. This percentage represents the portion of a structure's total value at risk to loss each year from the given damage scenario.

The identification of geographic hurricane surge flooding risks and wind risks in the form of annualized loss percentages for geographic zones provides a guide for hurricane hazard mitigation. Through hazard-concious comparison of such expected site-specific annualized loss percentages in making land use decisions, structural damage from future hurricanes can be prevented. In making land use decisions through hazard-concious comparison of such expected site-specific annualized loss percentages, structural damage from future hurricanes can be prevented.

Tables 48, 49, 50 and 51 present the comparable structural damage risks, in annualized loss percentages for the hurricane loss zones throughout each county of the region.

Finally, the annualized structural loss by damage scenario for each county is calculated and presented in Table 52. Lower annualized loss can be noted for damage Scenarios D and E because of the very high return periods of these low probability hurricane scenarios.

TABLE 47

OCCURRENCE PROBABILITIES OF HURRICANE DAMAGE SCENARIOS

DAMAGE SCENARIO	RETURN PERIOD (In Years)			
	HILLSBOROUGH	MANATEE	PASCO	PINELLAS
A	6	7	5	7
B	22	18	12	22
C	125	90	50	130
D	2,500	2,000	500	2,500
E	10,000	10,000	5,000	10,000

Source: Brownlie, 1983

TABLE 48

HILLSBOROUGH COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (ZZZ) BY LOSS ZONE

SCENARIO A

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	3.65383	2.05768	9.16153	2.04102	0.84615	0.85640	0.85640	0.85640	0.85640	0.85640
2	1.96110	1.11110	4.44443	1.09443	0.56110	0.57777	0.57777	0.57777	0.57777	0.57777
3	1.61250	0.92083	3.40833	0.90417	0.50417	0.51667	0.51667	0.51667	0.51667	0.51667
4	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
5	2.24000	1.26333	5.27333	1.24667	0.60667	0.62667	0.62667	0.62667	0.62667	0.62667
6	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
7	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
8	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
9	2.65833	1.49167	6.51667	1.47500	0.67500	0.70000	0.70000	0.70000	0.70000	0.70000
11	2.82000	1.49333	3.57333	1.61000	0.71667	0.76667	0.76667	0.76667	0.76667	0.76667
12	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
13	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
14	6.91667	3.72222	13.39443	3.82222	1.37777	1.37777	1.37777	1.37777	1.37777	1.37777
15	5.75000	3.22333	15.09333	3.20667	1.19667	1.20667	1.20667	1.20667	1.20667	1.20667
16	4.27820	2.35897	8.98845	2.44615	0.96667	0.98460	0.98460	0.98460	0.98460	0.98460
17	2.64242	1.45453	4.62348	1.49697	0.70983	0.71968	0.71968	0.71968	0.71968	0.71968
18	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
20	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
21	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
22	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
23	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
24	0.56667	0.35000	0.30000	0.33333	0.33333	0.55833	0.55833	0.55833	0.55833	0.55833
25	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
26	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
27	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
28	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
31	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
32	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
33	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
34	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
35	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
36	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
37	0.46353	0.28593	0.28437	0.27292	0.27292	0.27292	0.27292	0.27292	0.27292	0.27292
38	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
39	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
40	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
41	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
42	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
43	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333

TABLE 48

HILLSBOROUGH COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO A

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
44	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
45	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
46	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
47	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
48	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
49	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
50	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
51	0.51025	0.31515	0.27013	0.30015	0.30015	0.30015	0.30015	0.30015	0.30015	0.30015
52	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
53	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
54	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
55	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
56	0.54120	0.33472	0.26435	0.31805	0.31805	0.31805	0.31805	0.31805	0.31805	0.31805
57	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
58	0.56667	0.35000	0.30000	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333	0.33333
59	0.48571	0.30000	0.25714	0.28571	0.28571	0.28571	0.28571	0.28571	0.28571	0.28571

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 48

HILLSBOROUGH COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	1.31958	0.73706	3.11084	0.74265	0.29685	0.29720	0.29720	0.29720	0.29720	0.29720
2	0.73030	0.42273	1.66666	0.41818	0.21212	0.21060	0.21060	0.21060	0.21060	0.21060
3	0.60682	0.35682	1.30682	0.35227	0.19773	0.19659	0.19659	0.19659	0.19659	0.19659
4	0.49545	0.29091	1.04773	0.28636	0.17841	0.18182	0.18182	0.18182	0.18182	0.18182
5	1.47182	0.84182	3.68182	0.83727	0.34273	0.33909	0.33909	0.33909	0.33909	0.33909
6	0.66455	0.37455	1.09091	0.55182	0.20364	0.19636	0.19636	0.19636	0.19636	0.19636
7	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
8	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
9	2.46818	1.32727	4.54545	1.32273	0.49091	4.54545	4.54545	4.54545	4.54545	4.54545
11	1.95909	1.02273	2.95818	1.03818	0.38364	0.39909	0.39909	0.39909	0.39909	0.39909
12	1.48636	0.77273	1.90000	0.85909	0.33182	0.36818	0.36818	0.36818	0.36818	0.36818
13	1.87955	0.97273	2.56136	1.03636	0.38409	0.42273	0.42273	0.42273	0.42273	0.42273
14	2.85606	1.51060	4.25151	1.50757	0.53788	0.53333	0.53333	0.53333	0.53333	0.53333
15	2.72909	1.45000	4.20000	1.46364	0.53091	0.51636	0.51636	0.51636	0.51636	0.51636
16	2.42902	1.29300	3.54895	1.30315	0.48321	0.48951	0.48951	0.48951	0.48951	0.48951
17	1.88016	1.00434	2.96550	1.03202	0.57479	0.40764	0.40764	0.40764	0.40764	0.40764
18	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
20	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
21	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
22	1.48636	0.77273	1.90000	0.85909	0.33182	0.36818	0.36818	0.36818	0.36818	0.36818
23	1.73333	0.90757	2.43636	0.99242	0.38333	0.42121	0.42121	0.42121	0.42121	0.42121
24	0.56591	0.37955	0.72045	0.39773	0.21136	0.23182	0.23182	0.23182	0.23182	0.23182
25	1.79432	0.94091	2.54886	1.02727	0.40000	0.43636	0.43636	0.43636	0.43636	0.43636
26	0.57045	0.30909	0.68864	0.37045	0.18409	0.20455	0.20455	0.20455	0.20455	0.20455
27	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
28	1.51364	0.80000	1.95455	0.88182	0.35909	0.39091	0.39091	0.39091	0.39091	0.39091
31	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
32	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
33	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
34	0.19545	0.12273	0.18182	0.11818	0.11818	0.11818	0.11818	0.11818	0.11818	0.11818
35	0.25979	0.15629	0.27552	0.16224	0.13356	0.13671	0.13671	0.13671	0.13671	0.13671
36	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
37	0.25639	0.15199	0.29915	0.15966	0.12003	0.12358	0.12358	0.12358	0.12358	0.12358
38	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
39	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
40	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
41	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
42	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
43	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455

TABLE 48

HILLSBOROUGH COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
44	0.19545	0.12273	0.18182	0.11818	0.11818	0.11818	0.11818	0.11818	0.11818	0.11818
45	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
46	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
47	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
48	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
49	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
50	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
51	0.17279	0.10810	0.15570	0.10401	0.10401	0.10401	0.10401	0.10401	0.10401	0.10401
52	0.18155	0.11230	0.14705	0.10775	0.10775	0.10775	0.10775	0.10775	0.10775	0.10775
53	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
54	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
55	0.17772	0.10943	0.13748	0.10488	0.10488	0.10488	0.10488	0.10488	0.10488	0.10488
56	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
57	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455
58	0.18510	0.11496	0.15594	0.11042	0.11042	0.11042	0.11042	0.11042	0.11042	0.11042
59	0.21667	0.13333	0.16667	0.12778	0.12778	0.12778	0.12778	0.12778	0.12778	0.12778

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 48

HILLSBOROUGH COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	0.41206	0.22314	0.67563	0.22523	0.09397	0.09108	0.09108	0.09108	0.09108	0.09108
2	0.29520	0.16533	0.57067	0.16480	0.07573	0.07387	0.07387	0.07387	0.07387	0.07387
3	0.29880	0.16420	0.49900	0.16900	0.07700	0.07620	0.07620	0.07620	0.07620	0.07620
4	0.18900	0.10700	0.49900	0.18820	0.08240	0.08120	0.08120	0.08120	0.08120	0.08120
5	0.45040	0.24416	0.69680	0.24784	0.10064	0.09856	0.09856	0.09856	0.09856	0.09856
6	0.32384	0.19056	0.66240	0.19040	0.08304	0.08128	0.08128	0.08128	0.08128	0.08128
7	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
8	0.27880	0.15280	0.45600	0.15200	0.07200	0.06960	0.06960	0.06960	0.06960	0.06960
9	0.55760	0.31280	0.80000	0.31200	0.12000	0.11520	0.11520	0.11520	0.11520	0.11520
11	0.58032	0.32624	0.71744	0.30880	0.11904	0.11984	0.11984	0.11984	0.11984	0.11984
12	0.54800	0.28960	0.73120	0.26640	0.10640	0.11520	0.11520	0.11520	0.11520	0.11520
13	0.65200	0.34320	0.80000	0.29680	0.11520	0.12720	0.12720	0.12720	0.12720	0.12720
14	0.63680	0.38107	0.80000	0.36267	0.13547	0.13120	0.13120	0.13120	0.13120	0.13120
15	0.59808	0.37664	0.80000	0.37584	0.13936	0.12848	0.12848	0.12848	0.12848	0.12848
16	0.55951	0.32892	0.72591	0.31551	0.12098	0.11969	0.11969	0.11969	0.11969	0.11969
17	0.52916	0.29989	0.73258	0.29378	0.11967	0.12124	0.12124	0.12124	0.12124	0.12124
18	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
20	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
21	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
22	0.59280	0.37360	0.80000	0.37280	0.13840	0.12720	0.12720	0.12720	0.12720	0.12720
23	0.57307	0.30267	0.75413	0.27653	0.10907	0.11813	0.11813	0.11813	0.11813	0.11813
24	0.37800	0.20240	0.52480	0.20920	0.08920	0.09560	0.09560	0.09560	0.09560	0.09560
25	0.63700	0.33540	0.78280	0.29880	0.16920	0.12520	0.12520	0.12520	0.12520	0.12520
26	0.26680	0.14520	0.38720	0.14440	0.06960	0.07320	0.07320	0.07320	0.07320	0.07320
27	0.17040	0.09560	0.24960	0.10240	0.05720	0.06000	0.06000	0.06000	0.06000	0.06000
28	0.41440	0.22080	0.59360	0.22800	0.09440	0.10160	0.10160	0.10160	0.10160	0.10160
31	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
32	0.19280	0.10720	0.28400	0.12880	0.06480	0.07200	0.07200	0.07200	0.07200	0.07200
33	0.23680	0.12960	0.35280	0.13280	0.06600	0.06960	0.06960	0.06960	0.06960	0.06960
34	0.37040	0.19840	0.50760	0.19760	0.08560	0.09360	0.09360	0.09360	0.09360	0.09360
35	0.09114	0.05483	0.15434	0.05403	0.04252	0.04308	0.04308	0.04308	0.04308	0.04308
36	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
37	0.11625	0.06642	0.16615	0.06775	0.04255	0.04407	0.04407	0.04407	0.04407	0.04407
38	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
39	0.08147	0.04987	0.14067	0.05280	0.04213	0.04333	0.04333	0.04333	0.04333	0.04333
40	0.05920	0.03840	0.28400	0.11400	0.06020	0.05860	0.05860	0.05860	0.05860	0.05860
41	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
42	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
43	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760

TABLE 48

HILLSBOROUGH COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
44	0.30360	0.16400	0.42160	0.15200	0.07200	0.07640	0.07640	0.07640	0.07640	0.07640
45	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
46	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
47	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
48	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
49	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
50	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
51	0.11361	0.03293	0.09388	0.03221	0.03221	0.03221	0.03221	0.03221	0.03221	0.03221
52	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
53	0.05345	0.03446	0.09535	0.03366	0.03366	0.03366	0.03366	0.03366	0.03366	0.03366
54	0.05672	0.03670	0.10482	0.03590	0.03590	0.03590	0.03590	0.03590	0.03590	0.03590
55	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
56	0.04653	0.02729	0.07533	0.02893	0.02893	0.02893	0.02893	0.02893	0.02893	0.02893
57	0.05231	0.03368	0.09205	0.03288	0.03288	0.03288	0.03288	0.03288	0.03288	0.03288
58	0.05920	0.03840	0.11200	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760	0.03760
59	0.08222	0.05333	0.15556	0.05222	0.05222	0.05222	0.05222	0.05222	0.05222	0.05222

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 48

HILLSBOROUGH COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO D

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	0.03049	0.01917	0.03963	0.01880	0.00798	0.00768	0.00768	0.00768	0.00768	0.00768
2	0.02993	0.01877	0.04000	0.01873	0.00797	0.00756	0.00756	0.00756	0.00756	0.00756
3	0.03058	0.01840	0.04000	0.01764	0.00764	0.00764	0.00764	0.00764	0.00764	0.00764
4	0.03005	0.01748	0.03940	0.01646	0.00729	0.00750	0.00750	0.00750	0.00750	0.00750
5	0.02966	0.01943	0.03952	0.01919	0.00811	0.00772	0.00772	0.00772	0.00772	0.00772
6	0.02975	0.01855	0.03952	0.01830	0.00784	0.00753	0.00753	0.00753	0.00753	0.00753
7	0.02580	0.01440	0.04000	0.01436	0.00664	0.00644	0.00644	0.00644	0.00644	0.00644
8	0.02580	0.01440	0.04000	0.01436	0.00664	0.00644	0.00644	0.00644	0.00644	0.00644
9	0.03300	0.02536	0.04000	0.02536	0.00996	0.00856	0.00856	0.00856	0.00856	0.00856
11	0.03720	0.02441	0.04000	0.02520	0.00991	0.00876	0.00876	0.00876	0.00876	0.00876
12	0.04000	0.02280	0.04000	0.02160	0.00880	0.00856	0.00856	0.00856	0.00856	0.00856
13	0.04000	0.02536	0.04000	0.02496	0.00984	0.00908	0.00908	0.00908	0.00908	0.00908
14	0.03605	0.03132	0.04000	0.03205	0.01197	0.00915	0.00915	0.00915	0.00915	0.00915
15	0.03318	0.02624	0.04000	0.02624	0.01021	0.00866	0.00866	0.00866	0.00866	0.00866
16	0.03130	0.01998	0.03778	0.01935	0.00815	0.00777	0.00777	0.00777	0.00777	0.00777
17	0.02865	0.01744	0.03855	0.01695	0.00801	0.00802	0.00802	0.00802	0.00802	0.00802
18	0.02464	0.01364	0.03520	0.01360	0.00644	0.00676	0.00676	0.00676	0.00676	0.00676
20	0.00508	0.00340	0.01596	0.00336	0.00336	0.00336	0.00336	0.00336	0.00336	0.00336
21	0.01556	0.00888	0.02556	0.00960	0.00524	0.00552	0.00552	0.00552	0.00552	0.00552
22	0.04000	0.02536	0.04000	0.02496	0.00984	0.00908	0.00908	0.00908	0.00908	0.00908
23	0.03931	0.02207	0.04000	0.02059	0.00852	0.00841	0.00841	0.00841	0.00841	0.00841
24	0.03406	0.01858	0.04000	0.01618	0.00720	0.00776	0.00776	0.00776	0.00776	0.00776
25	0.03896	0.02207	0.04000	0.02050	0.00850	0.00840	0.00840	0.00840	0.00840	0.00840
26	0.02708	0.01492	0.03520	0.01400	0.00654	0.00696	0.00696	0.00696	0.00696	0.00696
27	0.02498	0.01384	0.03520	0.01344	0.00638	0.00676	0.00676	0.00676	0.00676	0.00676
28	0.03512	0.01912	0.04000	0.01656	0.00732	0.00788	0.00788	0.00788	0.00788	0.00788
31	0.02812	0.01548	0.03760	0.01436	0.00664	0.00708	0.00708	0.00708	0.00708	0.00708
32	0.03300	0.01804	0.04000	0.01580	0.00708	0.00764	0.00764	0.00764	0.00764	0.00764
33	0.03092	0.01750	0.03640	0.01706	0.00746	0.00750	0.00750	0.00750	0.00750	0.00750
34	0.03128	0.01712	0.03760	0.01600	0.00716	0.00744	0.00744	0.00744	0.00744	0.00744
35	0.00879	0.00534	0.01947	0.00511	0.00388	0.00396	0.00396	0.00396	0.00396	0.00396
36	0.00508	0.00340	0.01596	0.00336	0.00336	0.00336	0.00336	0.00336	0.00336	0.00336
37	0.00832	0.00501	0.01915	0.00504	0.00352	0.00361	0.00361	0.00361	0.00361	0.00361
38	0.00508	0.00340	0.01596	0.00336	0.00336	0.00336	0.00336	0.00336	0.00336	0.00336
39	0.02044	0.01145	0.03079	0.01155	0.00581	0.00617	0.00617	0.00617	0.00617	0.00617
40	0.01276	0.00742	0.02347	0.00804	0.00476	0.00498	0.00498	0.00498	0.00498	0.00498
41	0.01207	0.00705	0.02236	0.00752	0.00461	0.00480	0.00480	0.00480	0.00480	0.00480
42	0.02184	0.01220	0.03280	0.01252	0.00612	0.00644	0.00644	0.00644	0.00644	0.00644
43	0.01904	0.01072	0.03038	0.01144	0.00576	0.00604	0.00604	0.00604	0.00604	0.00604

TABLE 48

HILLSBOROUGH COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO D

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
44	0.01660	0.00944	0.01778	0.00886	0.00502	0.00522	0.00522	0.00522	0.00522	0.00522
45	0.00770	0.00477	0.01836	0.00492	0.00383	0.00390	0.00390	0.00390	0.00390	0.00390
46	0.00508	0.00340	0.01596	0.00336	0.00336	0.00336	0.00336	0.00336	0.00336	0.00336
47	0.00508	0.00340	0.01596	0.00336	0.00336	0.00336	0.00336	0.00336	0.00336	0.00336
48	0.02812	0.01548	0.03760	0.01436	0.00664	0.00708	0.00708	0.00708	0.00708	0.00708
49	0.00508	0.00340	0.01596	0.00336	0.00336	0.00336	0.00336	0.00336	0.00336	0.00336
50	0.00822	0.00504	0.01896	0.00556	0.00402	0.00418	0.00418	0.00418	0.00418	0.00418
51	0.00436	0.00290	0.01336	0.00287	0.00287	0.00287	0.00287	0.00287	0.00287	0.00287
52	0.00450	0.00298	0.01327	0.00294	0.00294	0.00294	0.00294	0.00294	0.00294	0.00294
53	0.00411	0.00268	0.01140	0.00264	0.00264	0.00264	0.00264	0.00264	0.00264	0.00264
54	0.00461	0.00305	0.01375	0.00301	0.00301	0.00301	0.00301	0.00301	0.00301	0.00301
55	0.00521	0.00347	0.01608	0.00344	0.00338	0.00339	0.00339	0.00339	0.00339	0.00339
56	0.00395	0.00257	0.01066	0.00253	0.00253	0.00253	0.00253	0.00253	0.00253	0.00253
57	0.00446	0.00295	0.01308	0.00291	0.00291	0.00291	0.00291	0.00291	0.00291	0.00291
58	0.00524	0.00348	0.01611	0.00346	0.00339	0.00339	0.00339	0.00339	0.00339	0.00339
59	0.00635	0.00425	0.01995	0.00420	0.00420	0.00420	0.00420	0.00420	0.00420	0.00420

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 48

HILLSBOROUGH COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO E

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	0.00881	0.00668	0.01000	0.00681	0.00338	0.00307	0.00307	0.00307	0.00307	0.00307
2	0.00855	0.00680	0.01000	0.00681	0.00346	0.00315	0.00315	0.00315	0.00315	0.00315
3	0.00933	0.00670	0.01000	0.00659	0.00339	0.00317	0.00317	0.00317	0.00317	0.00317
4	0.00862	0.00727	0.00900	0.00539	0.00323	0.00313	0.00313	0.00313	0.00313	0.00313
5	0.00887	0.00787	0.01000	0.00778	0.00375	0.00320	0.00320	0.00320	0.00320	0.00320
6	0.00899	0.00757	0.01000	0.00753	0.00374	0.00322	0.00322	0.00322	0.00322	0.00322
7	0.00812	0.00569	0.01000	0.00569	0.00312	0.00300	0.00300	0.00300	0.00300	0.00300
8	0.00819	0.00581	0.01000	0.00581	0.00316	0.00303	0.00303	0.00303	0.00303	0.00303
9	0.00906	0.01000	0.01000	0.01000	0.00495	0.00346	0.00346	0.00346	0.00346	0.00346
11	0.01000	0.00830	0.01000	0.00948	0.00459	0.00322	0.00322	0.00322	0.00322	0.00322
12	0.01000	0.00806	0.01000	0.01000	0.00435	0.00313	0.00313	0.00313	0.00313	0.00313
13	0.01000	0.00874	0.01000	0.01000	0.00498	0.00335	0.00335	0.00335	0.00335	0.00335
14	0.01000	0.00963	0.01000	0.01000	0.00561	0.00358	0.00358	0.00358	0.00358	0.00358
15	0.00967	0.01000	0.01000	0.01000	0.00535	0.00348	0.00348	0.00348	0.00348	0.00348
16	0.00860	0.00773	0.01000	0.00801	0.00398	0.00319	0.00319	0.00319	0.00319	0.00319
17	0.00860	0.00647	0.01000	0.00637	0.00369	0.00351	0.00351	0.00351	0.00351	0.00351
18	0.00957	0.00577	0.01000	0.00529	0.00300	0.00306	0.00306	0.00306	0.00306	0.00306
20	0.00218	0.00156	0.01000	0.00156	0.00156	0.00156	0.00156	0.00156	0.00156	0.00156
21	0.01000	0.00637	0.01000	0.00620	0.00295	0.00281	0.00281	0.00281	0.00281	0.00281
22	0.01000	0.00916	0.01000	0.01000	0.00536	0.00342	0.00342	0.00342	0.00342	0.00342
23	0.01000	0.00801	0.01000	0.01000	0.00446	0.00336	0.00336	0.00336	0.00336	0.00336
24	0.01000	0.00736	0.01000	0.00840	0.00394	0.00336	0.00336	0.00336	0.00336	0.00336
25	0.01000	0.00788	0.01000	0.00940	0.00441	0.00346	0.00346	0.00346	0.00346	0.00346
26	0.00813	0.00477	0.01000	0.00435	0.00240	0.00251	0.00251	0.00251	0.00251	0.00251
27	0.00891	0.00519	0.01000	0.00490	0.00256	0.00260	0.00260	0.00260	0.00260	0.00260
28	0.01000	0.00736	0.00100	0.00840	0.00394	0.00336	0.00336	0.00336	0.00336	0.00336
31	0.01000	0.00688	0.01000	0.00738	0.00331	0.00293	0.00293	0.00293	0.00293	0.00293
32	0.01000	0.00721	0.01000	0.00831	0.00359	0.00298	0.00298	0.00298	0.00298	0.00298
33	0.01000	0.00747	0.01000	0.00810	0.00390	0.00307	0.00307	0.00307	0.00307	0.00307
34	0.01000	0.00850	0.01000	0.01000	0.00489	0.00344	0.00344	0.00344	0.00344	0.00344
35	0.00433	0.00291	0.01000	0.00287	0.00215	0.00214	0.00214	0.00214	0.00214	0.00214
36	0.00218	0.00156	0.01000	0.00156	0.00156	0.00156	0.00156	0.00156	0.00156	0.00156
37	0.00367	0.00248	0.00781	0.00244	0.00195	0.00197	0.00197	0.00197	0.00197	0.00197
38	0.00448	0.00280	0.01000	0.00299	0.00199	0.00206	0.00206	0.00206	0.00206	0.00206
39	0.00761	0.00456	0.01000	0.00428	0.00248	0.00259	0.00259	0.00259	0.00259	0.00259
40	0.00757	0.00467	0.01000	0.00443	0.00275	0.00284	0.00284	0.00284	0.00284	0.00284
41	0.00836	0.00510	0.01000	0.00468	0.00282	0.00293	0.00293	0.00293	0.00293	0.00293
42	0.01000	0.00662	0.01000	0.00654	0.00305	0.00288	0.00288	0.00288	0.00288	0.00288
43	0.01000	0.00603	0.01000	0.00578	0.00283	0.00276	0.00276	0.00276	0.00276	0.00276

TABLE 48

HILLSBOROUGH COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO E

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
44	0.00609	0.00406	0.01000	0.00399	0.00245	0.00238	0.00238	0.00238	0.00238	0.00238
45	0.00363	0.00234	0.01000	0.00240	0.00181	0.00185	0.00185	0.00185	0.00185	0.00185
46	0.00531	0.00325	0.01000	0.00342	0.00212	0.00218	0.00218	0.00218	0.00218	0.00218
47	0.00531	0.00342	0.01000	0.00340	0.00244	0.00248	0.00248	0.00248	0.00248	0.00248
48	0.01000	0.00601	0.01000	0.00577	0.00315	0.00311	0.00311	0.00311	0.00311	0.00311
49	0.01000	0.00637	0.01000	0.00620	0.00295	0.00281	0.00281	0.00281	0.00281	0.00281
50	0.00781	0.00460	0.01000	0.00426	0.00237	0.00249	0.00249	0.00249	0.00249	0.00249
51	0.00219	0.00158	0.00900	0.00159	0.00158	0.00158	0.00158	0.00158	0.00158	0.00158
52	0.00225	0.00161	0.01000	0.00161	0.00161	0.00161	0.00161	0.00161	0.00161	0.00161
53	0.00265	0.00182	0.01000	0.00183	0.00164	0.00165	0.00165	0.00165	0.00165	0.00165
54	0.00232	0.00163	0.01000	0.00164	0.00158	0.00159	0.00159	0.00159	0.00159	0.00159
55	0.00252	0.00175	0.01000	0.00174	0.00162	0.00162	0.00162	0.00162	0.00162	0.00162
56	0.00218	0.00156	0.01000	0.00156	0.00156	0.00156	0.00156	0.00156	0.00156	0.00156
57	0.00237	0.00167	0.01000	0.00166	0.00159	0.00159	0.00159	0.00159	0.00159	0.00159
58	0.00240	0.00171	0.01000	0.00171	0.00168	0.00168	0.00168	0.00168	0.00168	0.00168
59	0.00218	0.00156	0.01000	0.00156	0.00156	0.00156	0.00156	0.00156	0.00156	0.00156

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 49

MANATEE COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO A

ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	7.73846	4.08461	13.18680	4.07143	1.43406	1.25604	1.25604	1.25604	1.25604	1.25604
2	3.91746	2.15554	8.12697	2.14126	0.87301	0.84920	0.84920	0.84920	0.84920	0.84920
3	6.04000	3.24571	11.51429	3.23143	1.20000	1.13429	1.13429	1.13429	1.13429	1.13429
4	4.90857	2.64429	7.35714	2.60571	1.02143	0.97857	0.97857	0.97857	0.97857	0.97857
5	4.62857	2.43571	7.35714	2.42143	0.95714	0.91429	0.91429	0.91429	0.91429	0.91429
6	3.14444	1.70634	5.67936	1.76983	0.76190	0.78253	0.78253	0.78253	0.78253	0.78253
7	2.57857	1.43571	5.04761	1.42143	0.65714	0.63571	0.63571	0.63571	0.63571	0.63571
8	3.47714	1.92000	7.38571	1.98857	0.82714	0.84714	0.84714	0.84714	0.84714	0.84714
9	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
10	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
11	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
12	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
13	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
14	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
15	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
16	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
17	0.53333	0.32857	0.37143	0.31429	0.31429	0.31429	0.31429	0.31429	0.31429	0.31429
18	0.51631	0.31836	0.33060	0.30407	0.30407	0.30407	0.30407	0.30407	0.30407	0.30407
20	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
21	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
22	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
23	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
24	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
25	0.50667	0.31257	0.30744	0.29829	0.29829	0.29829	0.29829	0.29829	0.29829	0.29829
26	0.49220	0.30389	0.27271	0.28960	0.28960	0.28960	0.28960	0.28960	0.28960	0.28960
27	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
28	0.49517	0.30567	0.27986	0.29139	0.29139	0.29139	0.29139	0.29139	0.29139	0.29139
29	0.69378	0.42826	0.39310	0.40826	0.40826	0.40826	0.40826	0.40826	0.40826	0.40826

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 49

MANATEE COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	3.42179	1.88077	4.74359	1.87863	0.68418	0.65128	0.65128	0.65128	0.65128	0.65128
2	2.87037	1.57160	5.55556	1.56667	0.60185	0.57531	0.57531	0.57531	0.57531	0.57531
3	3.43333	1.85000	5.13333	1.87111	0.69000	0.67222	0.67222	0.67222	0.67222	0.67222
4	2.62278	1.58056	3.82000	1.58167	0.59000	0.55889	0.55889	0.55889	0.55889	0.55889
5	2.90278	1.65000	3.97222	1.69722	0.62500	0.61667	0.61667	0.61667	0.61667	0.61667
6	2.19814	1.18580	3.28827	1.20000	0.48518	0.48951	0.48951	0.48951	0.48951	0.48951
7	2.03518	1.11018	4.04259	1.10463	0.44444	0.44259	0.44259	0.44259	0.44259	0.44259
8	2.49667	1.34167	4.31556	1.36389	0.52278	0.51444	0.51444	0.51444	0.51444	0.51444
9	1.00333	0.55444	1.59778	0.58222	0.28778	0.28889	0.28889	0.28889	0.28889	0.28889
10	0.26111	0.16667	0.27778	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111
11	0.26111	0.16667	0.27778	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111
12	0.26111	0.16667	0.27778	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111
13	0.26111	0.16667	0.27778	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111
14	0.26111	0.16667	0.27778	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111
15	0.26111	0.16667	0.27778	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111
16	0.26111	0.16667	0.27778	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111
17	0.26111	0.16667	0.27778	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111
18	0.30661	0.18968	0.34074	0.19206	0.17037	0.17275	0.17275	0.17275	0.17275	0.17275
20	0.26111	0.16667	0.27778	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111
21	0.26111	0.16667	0.27778	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111
22	0.26111	0.16667	0.27778	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111
23	1.05556	0.57222	1.33333	0.61944	0.30000	0.31944	0.31944	0.31944	0.31944	0.31944
24	0.26111	0.16667	0.27778	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111
25	0.24758	0.15652	0.24396	0.15096	0.15096	0.15096	0.15096	0.15096	0.15096	0.15096
26	0.23661	0.14829	0.21654	0.14274	0.14274	0.14274	0.14274	0.14274	0.14274	0.14274
27	0.26111	0.16667	0.27778	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111	0.16111
28	0.24210	0.15241	0.23025	0.14685	0.14685	0.14685	0.14685	0.14685	0.14685	0.14685
29	0.34300	0.21350	0.29502	0.20517	0.20517	0.20517	0.20517	0.20517	0.20517	0.20517

STRUCTURE CODES

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TABLE 49

MANATEE COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	0.74436	0.45197	1.02564	0.45154	0.17778	0.16701	0.16701	0.16701	0.16701	0.16701
2	0.69049	0.38000	1.11111	0.37914	0.15975	0.15284	0.15284	0.15284	0.15284	0.15284
3	0.77822	0.45933	1.07733	0.45844	0.18356	0.17711	0.17711	0.17711	0.17711	0.17711
4	0.61111	0.39256	0.85778	0.38756	0.16200	0.15256	0.15256	0.15256	0.15256	0.15256
5	0.66778	0.40111	0.94222	0.41056	0.16889	0.16500	0.16500	0.16500	0.16500	0.16500
6	0.51481	0.29654	0.76395	0.29432	0.13432	0.13420	0.13420	0.13420	0.13420	0.13420
7	0.54778	0.31037	0.93667	0.30963	0.13889	0.13444	0.13444	0.13444	0.13444	0.13444
8	0.60667	0.33478	0.94800	0.33600	0.14589	0.14556	0.14556	0.14556	0.14556	0.14556
9	0.30822	0.17467	0.51467	0.17800	0.09733	0.09778	0.09778	0.09778	0.09778	0.09778
10	0.10333	0.06667	0.26667	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556
11	0.36556	0.21333	0.90889	0.21222	0.11000	0.11222	0.11222	0.11222	0.11222	0.11222
12	0.10333	0.06667	0.26667	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556
13	0.10333	0.06667	0.26667	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556
14	0.10333	0.06667	0.26667	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556
15	0.10333	0.06667	0.26667	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556
16	0.12597	0.07847	0.29306	0.08125	0.07028	0.07139	0.07139	0.07139	0.07139	0.07139
17	0.09630	0.06222	0.22963	0.06111	0.06111	0.06111	0.06111	0.06111	0.06111	0.06111
18	0.13175	0.08005	0.25074	0.08439	0.06587	0.06762	0.06762	0.06762	0.06762	0.06762
20	0.10333	0.06667	0.26667	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556
21	0.08222	0.05333	0.15556	0.05222	0.05222	0.05222	0.05222	0.05222	0.05222	0.05222
22	0.10333	0.06667	0.26667	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556
23	0.34500	0.19222	0.56222	0.19611	0.10500	0.10944	0.10944	0.10944	0.10944	0.10944
24	0.10333	0.06667	0.26667	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556
25	0.07924	0.05129	0.14692	0.05018	0.05018	0.05018	0.05018	0.05018	0.05018	0.05018
26	0.07778	0.05023	0.14583	0.04912	0.04912	0.04912	0.04912	0.04912	0.04912	0.04912
27	0.10333	0.06667	0.26667	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556	0.06556
28	0.08502	0.05510	0.17028	0.05399	0.05399	0.05399	0.05399	0.05399	0.05399	0.05399
29	0.15324	0.09931	0.30759	0.09731	0.09731	0.09731	0.09731	0.09731	0.09731	0.09731

STRUCTURE CODES

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TABLE 49

MANATEE COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO D

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	0.03683	0.02548	0.04615	0.02518	0.01250	0.01190	0.01190	0.01190	0.01190	0.01190
2	0.03655	0.02272	0.05000	0.02318	0.01228	0.01309	0.01309	0.01309	0.01309	0.01309
3	0.03952	0.02687	0.05000	0.02686	0.01318	0.01254	0.01254	0.01254	0.01254	0.01254
4	0.03403	0.02393	0.04673	0.02378	0.01110	0.01038	0.01038	0.01038	0.01038	0.01038
5	0.03780	0.02375	0.04918	0.02305	0.01073	0.01063	0.01063	0.01063	0.01063	0.01063
6	0.02979	0.01893	0.04501	0.01844	0.01044	0.01049	0.01049	0.01049	0.01049	0.01049
7	0.03578	0.02166	0.05000	0.02163	0.01030	0.01003	0.01003	0.01003	0.01003	0.01003
8	0.03608	0.02170	0.04902	0.02122	0.01020	0.01012	0.01012	0.01012	0.01012	0.01012
9	0.03133	0.01840	0.04722	0.01801	0.00922	0.00937	0.00937	0.00937	0.00937	0.00937
10	0.00800	0.00550	0.03365	0.00545	0.00545	0.00545	0.00545	0.00545	0.00545	0.00545
11	0.02985	0.01750	0.05000	0.01750	0.00905	0.00870	0.00870	0.00870	0.00870	0.00870
12	0.02060	0.01220	0.04020	0.01300	0.00770	0.00810	0.00810	0.00810	0.00810	0.00810
13	0.02325	0.01410	0.05000	0.01435	0.00810	0.00810	0.00810	0.00810	0.00810	0.00810
14	0.00800	0.00550	0.03365	0.00545	0.00545	0.00545	0.00545	0.00545	0.00545	0.00545
15	0.01304	0.00818	0.03631	0.00868	0.00641	0.00661	0.00661	0.00661	0.00661	0.00661
16	0.01661	0.01006	0.03846	0.01085	0.00707	0.00734	0.00734	0.00734	0.00734	0.00734
17	0.00800	0.00550	0.03365	0.00545	0.00545	0.00545	0.00545	0.00545	0.00545	0.00545
18	0.01252	0.00790	0.03614	0.00806	0.00623	0.00634	0.00634	0.00634	0.00634	0.00634
20	0.00800	0.00550	0.03365	0.00545	0.00545	0.00545	0.00545	0.00545	0.00545	0.00545
21	0.02438	0.01420	0.04265	0.01480	0.00825	0.00865	0.00865	0.00865	0.00865	0.00865
22	0.01555	0.00950	0.03775	0.01080	0.00705	0.00745	0.00745	0.00745	0.00745	0.00745
23	0.02185	0.01285	0.04100	0.01213	0.00745	0.00773	0.00773	0.00773	0.00773	0.00773
24	0.00800	0.00550	0.03365	0.00545	0.00545	0.00545	0.00545	0.00545	0.00545	0.00545
25	0.00683	0.00462	0.02397	0.00457	0.00457	0.00457	0.00457	0.00457	0.00457	0.00457
26	0.00655	0.00439	0.02130	0.00435	0.00433	0.00433	0.00433	0.00433	0.00433	0.00433
27	0.00800	0.00550	0.03365	0.00545	0.00545	0.00545	0.00545	0.00545	0.00545	0.00545
28	0.00678	0.00457	0.02350	0.00452	0.00452	0.00452	0.00452	0.00452	0.00452	0.00452
29	0.02631	0.01769	0.08736	0.01749	0.01749	0.01749	0.01749	0.01749	0.01749	0.01749

STRUCTURE CODES

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TABLE 49

MANATEE COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO E

ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	0.00796	0.00623	0.00923	0.00624	0.00408	0.00394	0.00394	0.00394	0.00394	0.00394
2	0.00809	0.00582	0.01000	0.00584	0.00394	0.00408	0.00408	0.00408	0.00408	0.00408
3	0.00896	0.00687	0.01000	0.00685	0.00444	0.00430	0.00430	0.00430	0.00430	0.00430
4	0.00837	0.00730	0.01000	0.00735	0.00458	0.00425	0.00425	0.00425	0.00425	0.00425
5	0.00884	0.00669	0.01000	0.00651	0.00434	0.00427	0.00427	0.00427	0.00427	0.00427
6	0.00793	0.00583	0.01000	0.00575	0.00411	0.00410	0.00410	0.00410	0.00410	0.00410
7	0.00833	0.00618	0.01000	0.00620	0.00425	0.00416	0.00416	0.00416	0.00416	0.00416
8	0.00854	0.00590	0.01000	0.00578	0.00361	0.00357	0.00357	0.00357	0.00357	0.00357
9	0.00810	0.00550	0.00820	0.00536	0.00359	0.00360	0.00360	0.00360	0.00360	0.00360
10	0.00532	0.00404	0.01000	0.00410	0.00362	0.00363	0.00363	0.00363	0.00363	0.00363
11	0.00764	0.00537	0.01000	0.00539	0.00400	0.00396	0.00396	0.00396	0.00396	0.00396
12	0.00653	0.00470	0.01000	0.00486	0.00384	0.00389	0.00389	0.00389	0.00389	0.00389
13	0.00722	0.00517	0.01000	0.00519	0.00394	0.00389	0.00389	0.00389	0.00389	0.00389
14	0.00395	0.00313	0.01000	0.00317	0.00317	0.00317	0.00317	0.00317	0.00317	0.00317
15	0.00451	0.00340	0.01000	0.00352	0.00319	0.00322	0.00322	0.00322	0.00322	0.00322
16	0.00483	0.00342	0.01000	0.00360	0.00295	0.00300	0.00300	0.00300	0.00300	0.00300
17	0.00342	0.00263	0.01000	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268
18	0.00407	0.00299	0.01000	0.00310	0.00280	0.00282	0.00283	0.00283	0.00283	0.00283
20	0.00421	0.00338	0.01000	0.00341	0.00341	0.00341	0.00341	0.00341	0.00341	0.00341
21	0.00789	0.00514	0.01000	0.00495	0.00336	0.00345	0.00345	0.00345	0.00345	0.00345
22	0.00525	0.00397	0.01000	0.00420	0.00365	0.00371	0.00371	0.00371	0.00371	0.00371
23	0.00670	0.00481	0.01000	0.00460	0.00377	0.00382	0.00382	0.00382	0.00382	0.00382
24	0.00421	0.00338	0.01000	0.00341	0.00341	0.00341	0.00341	0.00341	0.00341	0.00341
25	0.00310	0.00233	0.01000	0.00236	0.00236	0.00236	0.00236	0.00236	0.00236	0.00236
26	0.00288	0.00213	0.01000	0.00215	0.00214	0.00214	0.00214	0.00214	0.00214	0.00214
27	0.00421	0.00338	0.01000	0.00341	0.00341	0.00341	0.00341	0.00341	0.00341	0.00341
28	0.00297	0.00222	0.01000	0.00224	0.00224	0.00224	0.00224	0.00224	0.00224	0.00224
29	0.00569	0.00420	0.02000	0.00423	0.00423	0.00423	0.00423	0.00423	0.00423	0.00423

STRUCTURE CODES

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PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 50

PASCO COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO A

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	4.66444	2.56666	9.82444	2.54666	1.08444	1.06888	1.06888	1.06888	1.06888	1.06888
2	5.60332	3.11666	12.75666	3.09666	1.25332	1.23000	1.23000	1.23000	1.23000	1.23000
3	7.06000	3.76400	12.24000	3.74400	1.44400	1.35600	1.35600	1.35600	1.35600	1.35600
4	7.57200	4.15200	16.12000	4.13200	1.56400	1.49200	1.49200	1.49200	1.49200	1.49200
5	6.17600	3.41200	14.25600	3.39200	1.34000	1.32800	1.32800	1.32800	1.32800	1.32800
6	2.52500	1.45500	5.45000	1.43500	0.75500	0.75000	0.75000	0.75000	0.75000	0.75000
7	0.78000	0.48000	0.60000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000
8	0.78000	0.48000	0.60000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000
9	0.78000	0.48000	0.60000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000
10	0.78000	0.48000	0.60000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000
11	0.78000	0.48000	0.60000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000
12	0.78000	0.48000	0.60000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000
13	0.78000	0.48000	0.60000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000
14	0.78000	0.48000	0.60000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000
15	0.78000	0.48000	0.60000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000
16	0.78000	0.48000	0.60000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000
17	0.78000	0.48000	0.60000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000
18	0.78000	0.48000	0.60000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000	0.46000
19	0.75552	0.46530	0.54126	0.44530	0.44530	0.44530	0.44530	0.44530	0.44530	0.44530
20	0.73130	0.45078	0.48314	0.43078	0.43078	0.43078	0.43078	0.43078	0.43078	0.43078
21	0.68000	0.42000	0.36000	0.40000	0.40000	0.40000	0.40000	0.40000	0.40000	0.40000
22	0.68000	0.42000	0.36000	0.40000	0.40000	0.40000	0.40000	0.40000	0.40000	0.40000
23	0.68000	0.42000	0.36000	0.40000	0.40000	0.40000	0.40000	0.40000	0.40000	0.40000
24	0.48571	0.30000	0.25714	0.28571	0.28571	0.28571	0.28571	0.28571	0.28571	0.28571

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 50

PASCO COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	3.57222	1.95926	6.63888	1.95648	0.78518	0.75278	0.75278	0.75278	0.75278	0.75278
2	4.00833	2.16944	7.06250	2.16250	0.84722	0.81111	0.81111	0.81111	0.81111	0.81111
3	4.09667	2.25167	6.80833	2.24833	0.87333	0.84333	0.84333	0.84333	0.84333	0.84333
4	4.90333	2.64000	8.33333	2.63500	0.99000	0.94833	0.94833	0.94833	0.94833	0.94833
5	4.03167	2.17500	6.80833	2.16833	0.84833	0.80500	0.80500	0.80500	0.80500	0.80500
6	1.97917	1.07708	3.09167	1.12917	0.53750	0.54167	0.54167	0.54167	0.54167	0.54167
7	0.45833	0.29167	0.70833	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333
8	0.45833	0.29167	0.70833	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333
9	0.45833	0.29167	0.70833	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333
10	0.45833	0.29167	0.70833	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333
11	0.45833	0.29167	0.70833	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333
12	0.45833	0.29167	0.70833	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333
13	0.45833	0.29167	0.70833	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333
14	0.45833	0.29167	0.70833	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333
15	0.45833	0.29167	0.70833	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333
16	0.45833	0.29167	0.70833	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333	0.28333
17	0.39483	0.25198	0.43055	0.24365	0.24365	0.24365	0.24365	0.24365	0.24365	0.24365
18	0.41309	0.26339	0.51042	0.25506	0.25506	0.25506	0.25506	0.25506	0.25506	0.25506
19	0.39308	0.25079	0.42420	0.24246	0.24246	0.24246	0.24246	0.24246	0.24246	0.24246
20	0.39342	0.25109	0.42434	0.24276	0.24276	0.24276	0.24276	0.24276	0.24276	0.24276
21	0.38160	0.24245	0.39151	0.23412	0.23412	0.23412	0.23412	0.23412	0.23412	0.23412
22	0.33500	0.20750	0.27500	0.19917	0.19917	0.19917	0.19917	0.19917	0.19917	0.19917
23	0.32500	0.20000	0.25000	0.19167	0.19167	0.19167	0.19167	0.19167	0.19167	0.19167
24	0.17727	0.10909	0.13636	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455	0.10455

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 50

PASCO COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	1.13978	0.66711	1.66222	0.66622	0.28244	0.27000	0.27000	0.27000	0.27000	0.27000
2	1.34467	0.76200	2.00000	0.73600	0.30300	0.30400	0.30400	0.30400	0.30400	0.30400
3	1.30240	0.80080	1.92720	0.79960	0.32240	0.30440	0.30440	0.30440	0.30440	0.30440
4	1.44600	0.87600	2.00000	0.87440	0.34480	0.32440	0.32440	0.32440	0.32440	0.32440
5	1.28280	0.75920	1.92720	0.75800	0.31040	0.29720	0.29720	0.29720	0.29720	0.29720
6	0.93750	0.53400	1.39200	0.54100	0.24550	0.24900	0.24900	0.24900	0.24900	0.24900
7	0.73000	0.40200	1.08800	0.43800	0.21400	0.23000	0.23000	0.23000	0.23000	0.23000
8	0.73000	0.40200	1.08800	0.43800	0.21400	0.23000	0.23000	0.23000	0.23000	0.23000
9	0.18600	0.12000	0.48000	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800
10	0.18600	0.12000	0.48000	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800
11	0.18600	0.12000	0.48000	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800
12	0.18600	0.12000	0.48000	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800
13	0.18600	0.12000	0.48000	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800
14	0.18600	0.12000	0.48000	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800
15	0.18600	0.12000	0.48000	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800
16	0.40360	0.23280	0.72320	0.24600	0.15640	0.16280	0.16280	0.16280	0.16280	0.16280
17	0.18600	0.12000	0.48000	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800
18	0.18600	0.12000	0.48714	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800	0.11800
19	0.17670	0.11413	0.43106	0.11213	0.11213	0.11213	0.11213	0.11213	0.11213	0.11213
20	0.15450	0.10010	0.31421	0.09810	0.09810	0.09810	0.09810	0.09810	0.09810	0.09810
21	0.14800	0.09600	0.28000	0.09400	0.09400	0.09400	0.09400	0.09400	0.09400	0.09400
22	0.14800	0.09600	0.28000	0.09400	0.09400	0.09400	0.09400	0.09400	0.09400	0.09400
23	0.13963	0.09027	0.25576	0.08827	0.08827	0.08827	0.08827	0.08827	0.08827	0.08827
24	0.05425	0.03509	0.09996	0.03433	0.03433	0.03433	0.03433	0.03433	0.03433	0.03433

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
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MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
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HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 50

PASCO COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO D

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	0.16907	0.15193	0.20000	0.14993	0.06538	0.04809	0.04809	0.04809	0.04809	0.04809
2	0.17020	0.16973	0.20000	0.16973	0.06667	0.04930	0.04930	0.04930	0.04930	0.04930
3	0.17236	0.17028	0.20000	0.17028	0.07548	0.05760	0.05760	0.05760	0.05760	0.05760
4	0.16848	0.16592	0.20000	0.16512	0.07280	0.05616	0.05616	0.05616	0.05616	0.05616
5	0.16944	0.16868	0.20000	0.16868	0.06648	0.04908	0.04908	0.04908	0.04908	0.04908
6	0.18155	0.12835	0.20000	0.12385	0.05245	0.04630	0.04630	0.04630	0.04630	0.04630
7	0.17640	0.09860	0.20000	0.08600	0.04100	0.04380	0.04380	0.04380	0.04380	0.04380
8	0.19000	0.10560	0.20000	0.09480	0.04380	0.04500	0.04500	0.04500	0.04500	0.04500
9	0.15300	0.08600	0.20000	0.07880	0.03900	0.04140	0.04140	0.04140	0.04140	0.04140
10	0.15620	0.09200	0.20000	0.08520	0.04740	0.04980	0.04980	0.04980	0.04980	0.04980
11	0.16640	0.09320	0.19670	0.08500	0.04080	0.04250	0.04250	0.04250	0.04250	0.04250
12	0.07230	0.04340	0.15750	0.04410	0.02850	0.02930	0.02930	0.02930	0.02930	0.02930
13	0.08149	0.05164	0.20000	0.05069	0.03704	0.03791	0.03791	0.03791	0.03791	0.03791
14	0.08260	0.04934	0.16543	0.04783	0.03054	0.03166	0.03166	0.03166	0.03166	0.03166
15	0.09476	0.05600	0.17516	0.05608	0.03340	0.03476	0.03476	0.03476	0.03476	0.03476
16	0.14016	0.08288	0.18300	0.07988	0.03924	0.03912	0.03912	0.03912	0.03912	0.03912
17	0.04671	0.02980	0.14224	0.02951	0.02411	0.02447	0.02447	0.02447	0.02447	0.02447
18	0.04526	0.02985	0.15329	0.03099	0.02620	0.02664	0.02664	0.02664	0.02664	0.02664
19	0.03142	0.02133	0.12178	0.02122	0.02077	0.02080	0.02080	0.02080	0.02080	0.02080
20	0.02918	0.01978	0.10814	0.01965	0.01945	0.01947	0.01947	0.01947	0.01947	0.01947
21	0.02540	0.01700	0.07980	0.01680	0.01680	0.01680	0.01680	0.01680	0.01680	0.01680
22	0.02540	0.01700	0.07980	0.01680	0.01680	0.01680	0.01680	0.01680	0.01680	0.01680
23	0.02540	0.01700	0.07980	0.01680	0.01680	0.01680	0.01680	0.01680	0.01680	0.01680
24	0.00508	0.00340	0.01596	0.00336	0.00336	0.00336	0.00336	0.00336	0.00336	0.00336

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
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HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 50

PASCO COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (XX%) BY LOSS ZONE

SCENARIO E

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	0.01805	0.01653	0.02000	0.01635	0.00973	0.00879	0.00879	0.00879	0.00879	0.00879
2	0.01798	0.01786	0.02000	0.01787	0.01018	0.00887	0.00887	0.00887	0.00887	0.00887
3	0.01800	0.01775	0.02000	0.01776	0.01028	0.00890	0.00890	0.00890	0.00890	0.00890
4	0.01813	0.01910	0.02000	0.01910	0.01060	0.00896	0.00896	0.00896	0.00896	0.00896
5	0.01789	0.01767	0.02000	0.01768	0.01013	0.00884	0.00884	0.00884	0.00884	0.00884
6	0.01913	0.01527	0.02000	0.01492	0.00926	0.00874	0.00874	0.00874	0.00874	0.00874
7	0.02000	0.01338	0.02000	0.01302	0.00868	0.00862	0.00862	0.00862	0.00862	0.00862
8	0.01930	0.01298	0.02000	0.01222	0.00844	0.00854	0.00854	0.00854	0.00854	0.00854
9	0.01838	0.01246	0.02000	0.01156	0.00824	0.00844	0.00844	0.00844	0.00844	0.00844
10	0.01838	0.01246	0.02000	0.01156	0.00824	0.00844	0.00844	0.00844	0.00844	0.00844
11	0.01884	0.01292	0.02000	0.01236	0.00848	0.00853	0.00853	0.00853	0.00853	0.00853
12	0.01167	0.00861	0.02000	0.00867	0.00737	0.00743	0.00743	0.00743	0.00743	0.00743
13	0.01308	0.00936	0.02000	0.00934	0.00758	0.00769	0.00769	0.00769	0.00769	0.00769
14	0.01262	0.00916	0.02000	0.00904	0.00748	0.00757	0.00757	0.00757	0.00757	0.00757
15	0.01485	0.01044	0.02000	0.01033	0.00787	0.00802	0.00802	0.00802	0.00802	0.00802
16	0.01639	0.01184	0.02000	0.01162	0.00826	0.00823	0.00823	0.00823	0.00823	0.00823
17	0.00925	0.00676	0.02000	0.00683	0.00604	0.00609	0.00609	0.00609	0.00609	0.00609
18	0.00991	0.00761	0.02000	0.00777	0.00711	0.00715	0.00715	0.00715	0.00715	0.00715
19	0.00699	0.00537	0.02000	0.00547	0.00543	0.00543	0.00543	0.00543	0.00543	0.00543
20	0.00693	0.00533	0.02000	0.00543	0.00541	0.00541	0.00541	0.00541	0.00541	0.00541
21	0.00550	0.00402	0.02000	0.00404	0.00404	0.00404	0.00404	0.00404	0.00404	0.00404
22	0.00550	0.00402	0.02000	0.00404	0.00404	0.00404	0.00404	0.00404	0.00404	0.00404
23	0.00550	0.00402	0.02000	0.00404	0.00404	0.00404	0.00404	0.00404	0.00404	0.00404
24	0.00275	0.00201	0.01000	0.00202	0.00202	0.00202	0.00202	0.00202	0.00202	0.00202

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 51

PINELLAS COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO A

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	3.18790	1.77361	7.59340	1.76043	0.72747	0.73406	0.73406	0.73406	0.73406	0.73406
2	1.14286	0.66190	2.17619	0.64761	0.41904	0.42619	0.42619	0.42619	0.42619	0.42619
3	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
4	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
5	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
6	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
7	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
8	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
9	2.21904	0.99523	3.93809	0.98094	0.52380	0.53809	0.53809	0.53809	0.53809	0.53809
10	1.80357	1.03929	3.89286	1.02500	0.53929	0.53571	0.53571	0.53571	0.53571	0.53571
11	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
12	4.60000	2.57619	12.06666	2.56190	1.00000	1.02857	1.02857	1.02857	1.02857	1.02857
13	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
14	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
15	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
16	2.06786	1.14643	3.92857	1.23571	0.60000	0.64286	0.64286	0.64286	0.64286	0.64286
17	4.09761	2.16547	6.20357	2.32737	0.92857	0.98929	0.98929	0.98929	0.98929	0.98929
18	5.30793	2.84126	9.68253	2.87301	1.09047	1.04920	1.04920	1.04920	1.04920	1.04920
19	3.05000	1.73571	7.35714	1.72143	0.75000	0.74286	0.74286	0.74286	0.74286	0.74286
20	3.83929	2.07857	7.38214	2.16786	0.87143	0.88571	0.88571	0.88571	0.88571	0.88571
21	1.38214	0.78929	2.92143	0.77500	0.43214	0.44286	0.44286	0.44286	0.44286	0.44286
22	1.72857	0.98094	3.92380	0.96666	0.50951	0.52380	0.52380	0.52380	0.52380	0.52380
23	0.55714	0.34286	0.42857	0.32857	0.32857	1.07857	1.07857	1.07857	1.07857	1.07857
24	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
25	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
26	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
27	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
28	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
29	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
30	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
31	1.27143	0.73429	2.53429	0.72000	0.44571	0.45429	0.45429	0.45429	0.45429	0.45429
32	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
33	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
34	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
35	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
36	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
37	0.48571	0.30000	0.25714	0.28571	0.28571	0.28571	0.28571	0.28571	0.28571	0.28571
38	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
39	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857

TABLE 51

PINELLAS COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO A

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
40	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
41	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
42	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
43	0.48571	0.30000	0.25714	0.28571	0.28571	0.28571	0.28571	0.28571	0.28571	0.28571
44	1.41666	0.77380	1.68809	0.80714	0.44761	0.46429	0.46429	0.46429	0.46429	0.46429
45	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
46	0.66947	0.40000	0.58636	0.40454	0.35129	0.35714	0.35714	0.35714	0.35714	0.35714
50	0.53333	0.32857	0.37143	0.31429	0.31429	0.31429	0.31429	0.31429	0.31429	0.31429
51	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
52	0.48571	0.30000	0.25714	0.28571	0.28571	0.28571	0.28571	0.28571	0.28571	0.28571
53	0.53929	0.33214	0.38571	0.31786	0.31786	0.31786	0.31786	0.31786	0.31786	0.31786
54	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
55	0.52143	0.32143	0.34286	0.30714	0.30714	0.30714	0.30714	0.30714	0.30714	0.30714
56	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
57	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
58	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
59	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
60	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
61	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
62	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.48823	0.32857	0.32857
63	0.54693	0.33673	0.40407	0.32244	0.32244	0.32244	0.32244	0.32244	0.32244	0.32244
64	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
65	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
66	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
67	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
68	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
69	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
70	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
71	0.55714	0.34286	0.42857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857	0.32857
72	0.50159	0.30951	0.29523	0.29523	0.29523	0.29523	0.29523	0.29523	0.29523	0.29523

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 51

PINELLAS COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	2.20524	1.19125	4.05385	1.18671	0.44825	0.43251	0.43251	0.43251	0.43251	0.43251
2	2.79318	1.48106	4.54545	1.47651	0.53485	0.50833	0.50833	0.50833	0.50833	0.50833
3	2.83636	1.49675	3.96104	1.49220	0.53896	0.51493	0.51493	0.51493	0.51493	0.51493
4	2.65455	1.42013	4.54545	1.41558	0.55000	0.49805	0.49805	0.49805	0.49805	0.49805
5	1.47575	0.84621	3.68560	0.84166	0.36136	0.35985	0.35985	0.35985	0.35985	0.35985
6	1.63273	0.93091	4.14545	0.92636	0.38727	0.38818	0.38818	0.38818	0.38818	0.38818
7	1.69318	0.96591	4.29545	0.96136	0.39318	0.39205	0.39205	0.39205	0.39205	0.39205
8	2.11818	1.16515	4.54545	1.16060	0.43939	0.42879	0.42879	0.42879	0.42879	0.42879
9	1.88485	1.01818	3.10606	1.01364	0.39697	0.37575	0.37575	0.37575	0.37575	0.37575
10	1.29659	0.72045	2.38636	0.68295	0.29659	0.28977	0.28977	0.28977	0.28977	0.28977
11	1.00000	0.57727	2.38636	0.57273	0.26364	0.26136	0.26136	0.26136	0.26136	0.26136
12	1.86515	1.03333	4.20000	1.02879	0.40151	0.39242	0.39242	0.39242	0.39242	0.39242
13	0.77727	0.44545	1.86818	0.44091	0.22500	0.23182	0.23182	0.23182	0.23182	0.23182
14	0.58939	0.34242	1.32121	0.33788	0.19394	0.19848	0.19848	0.19848	0.19848	0.19848
15	0.49545	0.29091	1.04773	0.28636	0.17841	0.18182	0.18182	0.18182	0.18182	0.18182
16	0.69091	0.38977	1.31818	0.41932	0.21818	0.23182	0.23182	0.23182	0.23182	0.23182
17	1.56894	0.83106	2.29697	0.90492	0.36401	0.38523	0.38523	0.38523	0.38523	0.38523
18	1.71313	0.92525	3.11111	0.93585	0.37374	0.36111	0.36111	0.36111	0.36111	0.36111
19	1.00000	0.57727	2.38636	0.57273	0.26364	0.26136	0.26136	0.26136	0.26136	0.26136
20	0.60682	0.35682	1.30682	0.35227	0.19773	0.19659	0.19659	0.19659	0.19659	0.19659
21	0.85568	0.46705	1.30682	0.46250	0.23068	0.55000	0.55000	0.55000	0.55000	0.55000
22	0.90757	0.48939	1.16364	0.55909	0.26060	0.28485	0.28485	0.28485	0.28485	0.28485
23	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
24	0.99545	0.53182	1.30909	0.66364	0.29091	0.33182	0.33182	0.33182	0.33182	0.33182
25	2.31364	1.21364	3.30000	1.25455	0.48182	0.52273	0.52273	0.52273	0.52273	0.52273
26	0.25000	0.15909	0.38636	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455
27	0.25000	0.15909	0.38636	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455
28	0.25000	0.15909	0.38636	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455
29	0.25000	0.15909	0.38636	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455
30	0.62273	0.36364	1.43939	0.35909	0.21666	0.21970	0.21970	0.21970	0.21970	0.21970
31	0.77545	0.43455	1.13091	0.43091	0.22818	0.22273	0.22273	0.22273	0.22273	0.22273
32	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
33	0.82121	0.44470	1.05606	0.52273	0.24924	0.27500	0.27500	0.27500	0.27500	0.27500
34	1.34091	0.75455	3.50909	0.75000	0.31818	0.33182	0.33182	0.33182	0.33182	0.33182
35	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
36	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
37	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
38	0.38273	0.22455	0.49909	0.24636	0.17273	0.18000	0.18000	0.18000	0.18000	0.18000
39	0.76591	0.42273	1.06250	0.47273	0.25000	0.26818	0.26818	0.26818	0.26818	0.26818

TABLE 51

PINELLAS COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
40	0.25000	0.15909	0.38636	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455
41	0.25000	0.15909	0.38636	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455
42	0.25000	0.15909	0.38636	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455
43	0.60455	0.33409	0.76818	0.39773	0.21136	0.23182	0.23182	0.23182	0.23182	0.23182
44	0.50227	0.28333	0.65909	0.29394	0.18030	0.18560	0.18560	0.18560	0.18560	0.18560
45	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
46	0.24917	0.15434	0.27645	0.15599	0.13905	0.14091	0.14091	0.14091	0.14091	0.14091
50	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
51	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
52	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
53	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
54	0.24091	0.15341	0.34659	0.14886	0.14886	0.14886	0.14886	0.14886	0.14886	0.14886
55	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
56	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
57	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
58	0.25000	0.15909	0.38636	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455
59	0.25000	0.15909	0.38636	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455
60	0.25000	0.15909	0.38636	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455	0.15455
61	0.23277	0.14832	0.31100	0.14378	0.14378	0.14378	0.14378	0.14378	0.14378	0.14378
62	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
63	0.21364	0.13636	0.22727	0.14545	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
64	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
65	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
66	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
67	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
68	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
69	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
70	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
71	0.21364	0.13636	0.22727	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182	0.13182
72	0.25707	0.15833	0.28737	0.16136	0.14065	0.14293	0.14293	0.14293	0.14293	0.14293

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
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STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 51

PINELLAS COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	0.44515	0.26337	0.73266	0.26272	0.10402	0.10006	0.10006	0.10006	0.10006	0.10006
2	0.55320	0.33064	0.76923	0.33026	0.12974	0.12269	0.12269	0.12269	0.12269	0.12269
3	0.56253	0.34308	0.76923	0.34308	0.13472	0.12648	0.12648	0.12648	0.12648	0.12648
4	0.55209	0.32725	0.76923	0.32758	0.13011	0.12341	0.12341	0.12341	0.12341	0.12341
5	0.46718	0.25820	0.74590	0.25795	0.10910	0.10603	0.10603	0.10603	0.10603	0.10603
6	0.50385	0.27600	0.76923	0.27569	0.11446	0.11031	0.11031	0.11031	0.11031	0.11031
7	0.50846	0.27923	0.76923	0.27904	0.11538	0.11135	0.11135	0.11135	0.11135	0.11135
8	0.52000	0.29436	0.76923	0.29385	0.12000	0.11487	0.11487	0.11487	0.11487	0.11487
9	0.47692	0.29436	0.63692	0.29846	0.11923	0.11462	0.11462	0.11462	0.11462	0.11462
10	0.45942	0.26750	0.76923	0.26692	0.10538	0.10000	0.10000	0.10000	0.10000	0.10000
11	0.38923	0.22000	0.69000	0.21923	0.09115	0.09000	0.09000	0.09000	0.09000	0.09000
12	0.53846	0.30872	0.76923	0.30846	0.12436	0.11923	0.11923	0.11923	0.11923	0.11923
13	0.27846	0.15462	0.47692	0.15385	0.07808	0.07577	0.07577	0.07577	0.07577	0.07577
14	0.29385	0.16667	0.57436	0.16590	0.08154	0.08000	0.08000	0.08000	0.08000	0.08000
15	0.31885	0.18192	0.66423	0.18135	0.08635	0.08654	0.08654	0.08654	0.08654	0.08654
16	0.20635	0.11673	0.36731	0.12135	0.06827	0.06865	0.06865	0.06865	0.06865	0.06865
17	0.49673	0.27154	0.68167	0.26135	0.10468	0.11019	0.11019	0.11019	0.11019	0.11019
18	0.45436	0.25350	0.65897	0.25359	0.10137	0.09957	0.09957	0.09957	0.09957	0.09957
19	0.41308	0.23077	0.76923	0.23038	0.09423	0.09192	0.09192	0.09192	0.09192	0.09192
20	0.44019	0.24000	0.67000	0.24308	0.09808	0.09904	0.09904	0.09904	0.09904	0.09904
21	0.18308	0.23538	0.28077	0.09885	0.06096	0.05981	0.05981	0.05981	0.05981	0.05981
22	0.43205	0.23436	0.67179	0.23590	0.10051	0.10308	0.10308	0.10308	0.10308	0.10308
23	0.33673	0.18731	0.57923	0.18827	0.08827	0.08712	0.08712	0.08712	0.08712	0.08712
24	0.53231	0.28462	0.71077	0.26231	0.11077	0.11923	0.11923	0.11923	0.11923	0.11923
25	0.63000	0.33538	0.76923	0.29154	0.11923	0.13000	0.13000	0.13000	0.13000	0.13000
26	0.57385	0.30615	0.76923	0.27692	0.11462	0.12538	0.12538	0.12538	0.12538	0.12538
27	0.07154	0.04615	0.18462	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538
28	0.19808	0.11846	0.47692	0.11769	0.06692	0.06692	0.06692	0.06692	0.06692	0.06692
29	0.07154	0.04615	0.18462	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538
30	0.27000	0.15231	0.52769	0.15154	0.07744	0.07641	0.07641	0.07641	0.07641	0.07641
31	0.28369	0.17200	0.50738	0.17138	0.08338	0.08031	0.08031	0.08031	0.08031	0.08031
32	0.29487	0.16179	0.45744	0.16590	0.08154	0.08564	0.08564	0.08564	0.08564	0.08564
33	0.41795	0.22256	0.58179	0.22320	0.09231	0.09897	0.09897	0.09897	0.09897	0.09897
34	0.51615	0.28462	0.76923	0.28462	0.11692	0.11308	0.11308	0.11308	0.11308	0.11308
35	0.19692	0.11154	0.33077	0.13231	0.07154	0.07769	0.07769	0.07769	0.07769	0.07769
36	0.25731	0.14192	0.38500	0.15750	0.07750	0.08346	0.08346	0.08346	0.08346	0.08346
37	0.34154	0.18308	0.50462	0.19769	0.08462	0.09000	0.09000	0.09000	0.09000	0.09000
38	0.44831	0.24123	0.60554	0.22477	0.09923	0.10631	0.10631	0.10631	0.10631	0.10631
39	0.48327	0.25942	0.64500	0.24077	0.10404	0.11308	0.11308	0.11308	0.11308	0.11308

TABLE 51

PINELLAS COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
40	0.25282	0.14026	0.39897	0.14667	0.07590	0.08000	0.08000	0.08000	0.08000	0.08000
41	0.07154	0.04615	0.18462	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538
42	0.07154	0.04615	0.18462	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538
43	0.25654	0.13962	0.37231	0.13885	0.06692	0.07038	0.07038	0.07038	0.07038	0.07038
44	0.13769	0.07872	0.21974	0.07436	0.04872	0.05013	0.05013	0.05013	0.05013	0.05013
45	0.07154	0.04615	0.18462	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538
46	0.23441	0.13084	0.37594	0.14906	0.07654	0.08266	0.08266	0.08266	0.08266	0.08266
50	0.05692	0.03692	0.10769	0.03615	0.03615	0.03615	0.03615	0.03615	0.03615	0.03615
51	0.07154	0.04615	0.18462	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538
52	0.11154	0.06442	0.17385	0.06731	0.04558	0.04692	0.04692	0.04692	0.04692	0.04692
53	0.09923	0.06019	0.20192	0.06481	0.04962	0.05115	0.05115	0.05115	0.05115	0.05115
54	0.22846	0.12760	0.36731	0.13221	0.07154	0.07567	0.07567	0.07567	0.07567	0.07567
55	0.15904	0.09077	0.26058	0.10615	0.06038	0.06519	0.06519	0.06519	0.06519	0.06519
56	0.07154	0.04615	0.18462	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538
57	0.43462	0.24154	0.76923	0.24077	0.10385	0.09846	0.09846	0.09846	0.09846	0.09846
58	0.07154	0.04615	0.18462	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538
59	0.07154	0.04615	0.18462	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538
60	0.07154	0.04615	0.18462	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538
61	0.07154	0.04615	0.18462	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538
62	0.07154	0.04615	0.18462	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538
63	0.06736	0.04352	0.16264	0.04275	0.04275	0.04275	0.04275	0.04275	0.04275	0.04275
64	0.07154	0.04615	0.18462	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538
65	0.06423	0.04154	0.14615	0.04077	0.04077	0.04077	0.04077	0.04077	0.04077	0.04077
66	0.06667	0.04308	0.15897	0.04231	0.04231	0.04231	0.04231	0.04231	0.04231	0.04231
67	0.13795	0.07974	0.24718	0.08385	0.08051	0.05667	0.05667	0.05667	0.05667	0.05667
68	0.07154	0.04615	0.18462	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538
69	0.08408	0.05269	0.19923	0.05408	0.04800	0.04862	0.04862	0.04862	0.04862	0.04862
70	0.07154	0.04615	0.18462	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538
71	0.07154	0.04615	0.18462	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538	0.04538
72	0.12248	0.07107	0.20393	0.06949	0.04756	0.04889	0.04889	0.04889	0.04889	0.04889

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 51

PINELLAS COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO D

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	0.02730	0.01783	0.04000	0.01782	0.00834	0.00794	0.00794	0.00794	0.00794	0.00794
2	0.03160	0.02149	0.04000	0.02147	0.00949	0.00887	0.00887	0.00887	0.00887	0.00887
3	0.03193	0.02205	0.04000	0.02203	0.00966	0.00899	0.00899	0.00899	0.00899	0.00899
4	0.03182	0.02179	0.04000	0.02178	0.00995	0.00937	0.00937	0.00937	0.00937	0.00937
5	0.02986	0.01896	0.04000	0.01896	0.01005	0.00976	0.00976	0.00976	0.00976	0.00976
6	0.02966	0.01835	0.04000	0.01833	0.00855	0.00822	0.00822	0.00822	0.00822	0.00822
7	0.03003	0.01900	0.04000	0.01896	0.00875	0.00834	0.00834	0.00834	0.00834	0.00834
8	0.03057	0.01983	0.04000	0.01980	0.00900	0.00852	0.00852	0.00852	0.00852	0.00852
9	0.03053	0.02196	0.03913	0.02193	0.00963	0.00884	0.00884	0.00884	0.00884	0.00884
10	0.02933	0.01874	0.04000	0.01870	0.00866	0.00819	0.00819	0.00819	0.00819	0.00819
11	0.02880	0.01792	0.04000	0.01790	0.00842	0.00806	0.00806	0.00806	0.00806	0.00806
12	0.03193	0.02208	0.04000	0.02207	0.00967	0.00899	0.00899	0.00899	0.00899	0.00899
13	0.02112	0.01312	0.03510	0.01362	0.00714	0.00712	0.00712	0.00712	0.00712	0.00712
14	0.02160	0.01355	0.03564	0.01351	0.00711	0.00685	0.00685	0.00685	0.00685	0.00685
15	0.02813	0.01687	0.04000	0.01683	0.00810	0.00781	0.00781	0.00781	0.00781	0.00781
16	0.02423	0.01473	0.03837	0.01478	0.00749	0.00751	0.00751	0.00751	0.00751	0.00751
17	0.03563	0.02093	0.04000	0.01930	0.00885	0.00891	0.00891	0.00891	0.00891	0.00891
18	0.02959	0.01952	0.03855	0.01898	0.00874	0.00840	0.00840	0.00840	0.00840	0.00840
19	0.02980	0.01864	0.04000	0.01862	0.00864	0.00826	0.00826	0.00826	0.00826	0.00826
20	0.03058	0.01845	0.03100	0.01763	0.00838	0.00840	0.00840	0.00840	0.00840	0.00840
21	0.02201	0.01294	0.03673	0.01291	0.00692	0.00677	0.00677	0.00677	0.00677	0.00677
22	0.03409	0.01935	0.04000	0.01827	0.00853	0.00857	0.00857	0.00857	0.00857	0.00857
23	0.02412	0.01410	0.03673	0.01354	0.00711	0.00714	0.00714	0.00714	0.00714	0.00714
24	0.03328	0.01864	0.04000	0.01648	0.00800	0.00852	0.00852	0.00852	0.00852	0.00852
25	0.04000	0.02412	0.04000	0.02312	0.01132	0.01104	0.01104	0.01104	0.01104	0.01104
26	0.03564	0.02076	0.04000	0.01840	0.00988	0.01040	0.01040	0.01040	0.01040	0.01040
27	0.01278	0.00860	0.04000	0.00860	0.00694	0.00700	0.00700	0.00700	0.00700	0.00700
28	0.01686	0.01080	0.04000	0.01080	0.00760	0.00748	0.00748	0.00748	0.00748	0.00748
29	0.00640	0.00440	0.02692	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436
30	0.01828	0.01152	0.03564	0.01148	0.00649	0.00637	0.00637	0.00637	0.00637	0.00637
31	0.02219	0.01466	0.03676	0.01462	0.00743	0.00708	0.00708	0.00708	0.00708	0.00708
32	0.01916	0.01117	0.03389	0.01089	0.00632	0.00657	0.00657	0.00657	0.00657	0.00657
33	0.03181	0.01787	0.03935	0.01612	0.00789	0.00837	0.00837	0.00837	0.00837	0.00837
34	0.03060	0.02008	0.04000	0.02004	0.00908	0.00852	0.00852	0.00852	0.00852	0.00852
35	0.00640	0.00440	0.02692	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436
36	0.02772	0.01571	0.03836	0.01486	0.00751	0.00792	0.00792	0.00792	0.00792	0.00792
37	0.02252	0.01296	0.03608	0.01328	0.00704	0.00736	0.00736	0.00736	0.00736	0.00736
38	0.03458	0.01967	0.04000	0.01811	0.00902	0.00930	0.00930	0.00930	0.00930	0.00930
39	0.03546	0.02068	0.04000	0.01975	0.01011	0.01029	0.01029	0.01029	0.01029	0.01029

TABLE 51

PINELLAS COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO D

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
40	0.02311	0.01401	0.04000	0.01321	0.00833	0.00863	0.00863	0.00863	0.00863	0.00863
41	0.00872	0.00624	0.04000	0.00624	0.00624	0.00624	0.00624	0.00624	0.00624	0.00624
42	0.01244	0.00760	0.03020	0.00864	0.00564	0.00596	0.00596	0.00596	0.00596	0.00596
43	0.01984	0.01152	0.03346	0.01042	0.00618	0.00644	0.00644	0.00644	0.00644	0.00644
44	0.01805	0.01058	0.03237	0.01065	0.00625	0.00637	0.00637	0.00637	0.00637	0.00637
45	0.00640	0.00440	0.02692	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436
46	0.02528	0.01528	0.03736	0.01508	0.00758	0.00780	0.00780	0.00780	0.00780	0.00780
50	0.01312	0.00797	0.03041	0.00839	0.00556	0.00577	0.00577	0.00577	0.00577	0.00577
51	0.00640	0.00440	0.02692	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436
52	0.01261	0.00769	0.03036	0.00792	0.00543	0.00559	0.00559	0.00559	0.00559	0.00559
53	0.01715	0.01010	0.03313	0.01051	0.00621	0.00641	0.00641	0.00641	0.00641	0.00641
54	0.02092	0.01248	0.03641	0.01219	0.00737	0.00764	0.00764	0.00764	0.00764	0.00764
55	0.01194	0.00734	0.02987	0.00801	0.00545	0.00569	0.00569	0.00569	0.00569	0.00569
56	0.00640	0.00440	0.02692	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436
57	0.02900	0.01720	0.04000	0.01720	0.00820	0.00800	0.00800	0.00800	0.00800	0.00800
58	0.00872	0.00624	0.04000	0.00624	0.00624	0.00624	0.00624	0.00624	0.00624	0.00624
59	0.00872	0.00624	0.04000	0.00624	0.00624	0.00624	0.00624	0.00624	0.00624	0.00624
60	0.00640	0.00440	0.02692	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436
61	0.00640	0.00440	0.02692	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436
62	0.00640	0.00440	0.02692	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436
63	0.00640	0.00440	0.02692	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436
64	0.01540	0.00440	0.02692	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436
65	0.00640	0.00440	0.02692	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436
66	0.00640	0.00440	0.02692	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436
67	0.01827	0.01069	0.03340	0.01053	0.00621	0.00644	0.00644	0.00644	0.00644	0.00644
68	0.01009	0.00636	0.02888	0.00614	0.00489	0.00497	0.00497	0.00497	0.00497	0.00497
69	0.00835	0.00543	0.02803	0.00557	0.00472	0.00478	0.00478	0.00478	0.00478	0.00478
70	0.00640	0.00440	0.02692	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436	0.00436
71	0.00841	0.00547	0.02801	0.00579	0.00479	0.00489	0.00489	0.00489	0.00489	0.00489
72	0.01222	0.00749	0.02990	0.00721	0.00522	0.00533	0.00533	0.00533	0.00533	0.00533

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 52

PINELLAS COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO E

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	0.00742	0.00532	0.01000	0.00535	0.00348	0.00340	0.00340	0.00340	0.00340	0.00340
2	0.00839	0.00624	0.01000	0.00626	0.00384	0.00371	0.00371	0.00371	0.00371	0.00371
3	0.00865	0.00676	0.01000	0.00678	0.00442	0.00428	0.00428	0.00428	0.00428	0.00428
4	0.00863	0.00673	0.01000	0.00675	0.00441	0.00427	0.00427	0.00427	0.00427	0.00427
5	0.00839	0.00641	0.01000	0.00643	0.00432	0.00422	0.00422	0.00422	0.00422	0.00422
6	0.00822	0.00597	0.01000	0.00599	0.00418	0.00412	0.00412	0.00412	0.00412	0.00412
7	0.00816	0.00585	0.01000	0.00587	0.00402	0.00396	0.00396	0.00396	0.00396	0.00396
8	0.00774	0.00531	0.01000	0.00534	0.00348	0.00341	0.00341	0.00341	0.00341	0.00341
9	0.00767	0.00565	0.01000	0.00573	0.00360	0.00349	0.00349	0.00349	0.00349	0.00349
10	0.00761	0.00525	0.01000	0.00527	0.00346	0.00339	0.00339	0.00339	0.00339	0.00339
11	0.00691	0.00484	0.01000	0.00488	0.00334	0.00330	0.00330	0.00330	0.00330	0.00330
12	0.00825	0.00597	0.01000	0.00600	0.00368	0.00357	0.00357	0.00357	0.00357	0.00357
13	0.00552	0.00385	0.01000	0.00389	0.00304	0.00302	0.00302	0.00302	0.00302	0.00302
14	0.00604	0.00418	0.01000	0.00422	0.00314	0.00311	0.00311	0.00311	0.00311	0.00311
15	0.00684	0.00465	0.01000	0.00470	0.00328	0.00324	0.00324	0.00324	0.00324	0.00324
16	0.00723	0.00482	0.01000	0.00482	0.00332	0.00334	0.00334	0.00334	0.00334	0.00334
17	0.00821	0.00542	0.01000	0.00519	0.00343	0.00350	0.00350	0.00350	0.00350	0.00350
18	0.00739	0.00517	0.01000	0.00518	0.00343	0.00339	0.00339	0.00339	0.00339	0.00339
19	0.00735	0.00495	0.01000	0.00499	0.00337	0.00332	0.00332	0.00332	0.00332	0.00332
20	0.00738	0.00494	0.01000	0.00499	0.00337	0.00338	0.00338	0.00338	0.00338	0.00338
21	0.00563	0.00407	0.01000	0.00411	0.00311	0.00309	0.00309	0.00309	0.00309	0.00309
22	0.00867	0.00557	0.01000	0.00539	0.00349	0.00350	0.00350	0.00350	0.00350	0.00350
23	0.00712	0.00505	0.01000	0.00497	0.00375	0.00376	0.00376	0.00376	0.00376	0.00376
24	0.00919	0.00623	0.01000	0.00578	0.00412	0.00422	0.00422	0.00422	0.00422	0.00422
25	0.01000	0.00689	0.01000	0.00671	0.00440	0.00435	0.00435	0.00435	0.00435	0.00435
26	0.01000	0.00669	0.01000	0.00651	0.00434	0.00431	0.00431	0.00431	0.00431	0.00431
27	0.00497	0.00385	0.01000	0.00387	0.00355	0.00186	0.00186	0.00186	0.00186	0.00186
28	0.00606	0.00447	0.01000	0.00450	0.00374	0.00372	0.00372	0.00372	0.00372	0.00372
29	0.00421	0.00338	0.01000	0.00341	0.00341	0.00341	0.00341	0.00341	0.00341	0.00341
30	0.00674	0.00501	0.01000	0.00504	0.00390	0.00385	0.00385	0.00385	0.00385	0.00385
31	0.00661	0.00492	0.01000	0.00495	0.00357	0.00350	0.00350	0.00350	0.00350	0.00350
32	0.00570	0.00391	0.01000	0.00397	0.00307	0.00311	0.00311	0.00311	0.00311	0.00311
33	0.00697	0.00462	0.01000	0.00463	0.00328	0.00333	0.00333	0.00333	0.00333	0.00333
34	0.00801	0.00558	0.01000	0.00561	0.00356	0.00349	0.00349	0.00349	0.00349	0.00349
35	0.00710	0.00469	0.01000	0.00473	0.00329	0.00336	0.00336	0.00336	0.00336	0.00336
36	0.00645	0.00433	0.01000	0.00440	0.00320	0.00326	0.00326	0.00326	0.00326	0.00326
37	0.00658	0.00440	0.01000	0.00451	0.00323	0.00329	0.00329	0.00329	0.00329	0.00329
38	0.00953	0.00639	0.01000	0.00619	0.00394	0.00391	0.00391	0.00391	0.00391	0.00391
39	0.00936	0.00638	0.01000	0.00625	0.00426	0.00425	0.00425	0.00425	0.00425	0.00425

TABLE 51

PINELLAS COUNTY

ANNUALIZED HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO E

HURRICANE LOSS ZONE	ANNUALIZED PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
40	0.00699	0.00497	0.01000	0.00482	0.00383	0.00389	0.00389	0.00389	0.00389	0.00389
41	0.00421	0.00338	0.01000	0.00341	0.00341	0.00341	0.00341	0.00341	0.00341	0.00341
42	0.00595	0.00437	0.01000	0.00453	0.00375	0.00380	0.00380	0.00380	0.00380	0.00380
43	0.00559	0.00385	0.01000	0.00378	0.00301	0.00306	0.00306	0.00306	0.00306	0.00306
44	0.00423	0.00320	0.01000	0.00324	0.00285	0.00283	0.00283	0.00283	0.00283	0.00283
45	0.00342	0.00263	0.01000	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268
46	0.00774	0.00505	0.01000	0.00485	0.00334	0.00342	0.00342	0.00342	0.00342	0.00342
50	0.00342	0.00263	0.01000	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268
51	0.00342	0.00263	0.01000	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268
52	0.00408	0.00300	0.01000	0.00308	0.00280	0.00281	0.00281	0.00281	0.00281	0.00281
53	0.00516	0.00361	0.01000	0.00376	0.00301	0.00305	0.00305	0.00305	0.00305	0.00305
54	0.00662	0.00468	0.01000	0.00468	0.00366	0.00372	0.00372	0.00372	0.00372	0.00372
55	0.00431	0.00313	0.01000	0.00334	0.00288	0.00293	0.00293	0.00293	0.00293	0.00293
56	0.00342	0.00263	0.01000	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268
57	0.00825	0.00603	0.01000	0.00605	0.00420	0.00413	0.00413	0.00413	0.00413	0.00413
58	0.00421	0.00338	0.01000	0.00341	0.00341	0.00341	0.00341	0.00341	0.00341	0.00273
59	0.00421	0.00338	0.01000	0.00341	0.00341	0.00341	0.00341	0.00341	0.00341	0.00341
60	0.00421	0.00338	0.01000	0.00341	0.00341	0.00341	0.00341	0.00341	0.00341	0.00341
61	0.00384	0.00302	0.01000	0.00304	0.00304	0.00304	0.00304	0.00304	0.00304	0.00304
62	0.00342	0.00263	0.01000	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268
63	0.00342	0.00263	0.01000	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268
64	0.00342	0.00263	0.01000	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268
65	0.00342	0.00263	0.01000	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268
66	0.00342	0.00263	0.01000	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268	0.00268
67	0.00430	0.00312	0.01000	0.00322	0.00284	0.00286	0.00286	0.00286	0.00286	0.00286
68	0.00414	0.00304	0.01000	0.00305	0.00279	0.00281	0.00281	0.00281	0.00281	0.00281
69	0.00385	0.00287	0.01000	0.00295	0.00276	0.00277	0.00277	0.00277	0.00277	0.00277
70	0.00372	0.00280	0.01000	0.00290	0.00275	0.00276	0.00276	0.00276	0.00276	0.00276
71	0.00381	0.00285	0.01000	0.00297	0.00277	0.00279	0.00279	0.00279	0.00279	0.00279
72	0.00433	0.00314	0.01000	0.00316	0.00282	0.00285	0.00285	0.00285	0.00285	0.00285

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

TABLE 52

TAMPA BAY REGION

Annualized Hurricane Structural Loss
(In $ Thousands)

Regional Scenario

COUNTY	1	2	3	4	5
Pasco Annualized Loss/ Scenario	119/E	367/D	2,964/C	19,963/A	10,444/B
Pinellas Annualized Loss/Scenario	23,725/C	648/E	1,880/D	94,126/A	71,751/B
Hillsborough Annualized Loss/Scenario	26,542/B	933/D	328/E	10,050/C	41,719/A
Manatee Annualized Loss/Scenario	31,836/B	11,138/C	1,714/D	306/E	48,772/A
TOTAL REGIONAL ANNUALIZED LOSS	82,222	25,537	6,886	124,445	172,686

See Table 6 (page 41) for descriptions of hazards representing county damage scenarios.

PHASE II

CONTINGENCY PLANNING

CHAPTER VIII

RECOVERY METHODOLOGY

This phase of the study formulates hurricane recovery strategies, recovery implementation guidance, and hazard mitigation policies to minimize the impact of a hurricane strike on the Tampa Bay Region.

OVERVIEW OF THE RECOVERY PROCESS

The hurricane recovery process can be viewed as consisting of three (3) periods. They are:

- Immediate Emergency Period
- Short-Range Restoration Period
- Long-Range Reconstruction Period

These periods overlap in time, yet are composed of different types of recovery activities.

The Immediate Emergency Period begins immediately after the hurricane has passed through the area (sustained winds dropping back down below gale force) and stretches through the first few days after hurricane landfall. Emergency activities focus on the dead, injured, homeless, and missing. The primary activities are search and rescue, emergency mass feeding and sheltering. The major resource needs are for sustenance supplies such as water, food, medicine, ice, blankets, etc...Debris removal and efforts to restore essential public utilities begin. During this period, normal social and economic activities are disrupted. Emergency management officials begin to survey the affected areas for needed recovery resources.

The Short-Range Restoration Period begins a few days after hurricane landfall, stretching several weeks depending upon the extent of damage. Restoration activities focus on returning the area to a relatively normal social and economic state. More detailed surveys of damage continue, with State and Federal disaster relief resources allocated and provided to victims needing assistance such as temporary housing, loans, grants, food coupons, and legal/crisis counseling. Restoration of all public utilities takes place and reconstruction of damaged or devastated housing, commercial, industrial and public facilities begins.

The Long-Range Reconstruction Period stretches from several weeks after hurricane landfall until all physical property, social, and economic processes return to a stable and acceptable pre-hurricane level. The visible activities are demolition of partially devastated structures and complete major reconstruction projects. Victims return to repaired/rebuilt structures from temporary housing and preventative hurricane hazard mitigation measures are formulated and implemented.

ORGANIZATION OF RECOVERY OPERATIONS

Immediate Emergency Period

Immediate emergency activities are coordinated by the operations group personnel from the local government Emergency Operations Centers (EOCs). Sustenance supplies and other immediate recovery resources coming into the Region from the State and Federal levels, as well as private relief agencies, will be allocated and their distribution coordinated by a State Emergency Response Team to be located at the Hillsborough County EOC. Depending upon the geographic impact area of the hurricane, this Response Team may be headed by the Central Florida Area Coordinator (CEFA) of the Florida Bureau of Disaster Preparedness relocating to the Hillsborough County EOC. (The functions of this interim Response Team at the Hillsborough County EOC will be taken over by the Disaster Field Office, when established).

County requests for State and Federal sustenance supplies and immediate recovery resources will be directed to the State Emergency Response Team at the interim coordination point at the Hillsborough County EOC. Based on these requests, allocated supplies/resources will be sent to a single Resource Staging Area in each county. Municipal and community requests for supplies/resources will be directed to the respective County EOC. The allocated supplies/resources will be sent from the County Resource Staging Area to municipal or community Recovery Centers. The supplies/resources will be distributed to the public from the Recovery Centers by the respective municipal emergency management personnel or fire district personnel manning the Recovery Centers.

Because of the magnitude of damage from a direct strike of a hurricane to a county or counties of the Region (see Phase I), the Preliminary Damage Assessment (made by the County EOC's damage assessment team in conjunction with individual estimates from municipal EOCs, forwarded to the CEFA Area Coordinator and then onto the Bureau of Disaster Preparedness and verified by state and/or federal damage survey teams) will probably serve as the primary basis for a State declaration of emergency and also a Governor's request for a Presidential declaration of emergency and/or major disaster. These declarations release a full range of State and Federal assistance programs to cope with a situation beyond local capabilities. However, a more detailed Damage Assessment Report supplemented by Damage Site Reports, along with a local inspection by a State/FEMA damage survey team will be necessary to determine specific applicant eligibility.

Short-Range Restoration Period

The FEMA Federal Coordinating Officer (FCO), appointed to coordinate Federal assistance, and the State Coordinating Officer (SCO), appointed to coordinate State assistance, establish a Disaster Field Office (DFO) to serve as the coordination center for all Federal and State assistance programs made available to the eligible counties under the declaration. The DFO is established in conjunction with the county emergency management authorities and also takes over the functions of the State Emergency Response Team that was operating as an interim coordination point at the Hillsborough County EOC during the immediate emergency period. If telephone communications are still not functional because of hurricane damage, a State communications van will be

stationed at the DFO to establish communications between the DFO and county EOCs.

Assistance which may be provided and coordinated through the DFO under a Presidential declaration of an emergency is more limited in scope than that which may be made available under a major disaster declaration. It is specialized assistance to meet specific unmet needs and is limited to those actions which are necessary to save lives and protect property, public health and safety or to lessen the threat of a more severe disaster. Examples of emergency assistance are:

- Temporary housing;
- Emergency mass care, such as emergency shelter, emergency provision of food, water, medicine, and emergency medical care;
- Clearance of debris to save lives and protect property and public health and safety;
- Emergency protective measures, including search and rescue; demolition of unsafe structures; warning of further risks and hazards; public information on health and safety measures; and other actions necessary to remove or to reduce immediate threats to public health and safety, to public property, or to private property when in the public interest;
- Emergency communications;
- Emergency transportation, and
- Emergency repairs to essential utilities and facilities as necessary to provide for their continued operation.

(Source: Federal Emergency Management Agency, Program Guide, March 1983.)

A Presidential declaration of a major disaster makes a broader range of assistance available to individual victims coordinated through the DFO. This help may include:

- Temporary housing until alternate housing is available for disaster victims whose homes are uninhabitable. Minimum essential repairs to owner-occupied residences in lieu of other forms of temporary housing, so that families can return quickly to their damaged homes;
- Temporary assistance with mortgage or rental payments for persons faced with loss of their residences because of disaster-created financial hardship;
- Disaster unemployment assistance and job placement assistance for those unemployed as a result of a major disaster;
- Individual and family grants of up to $5,000 to meet disaster-related necessary expenses or serious needs when those affected are unable to meet such expenses or needs through other programs or other means;

- Legal services to low-income families and individuals;

- Crisis counseling and referrals to appropriate mental health agencies to relieve disaster-caused mental health problems;

- Distribution of food coupons to eligible disaster victims;

- Loans to individuals, businesses, and farmers for repair, rehabilitation, or replacement of damaged real and personal property and some production losses not fully covered by insurance;

- Agricultural assistance, including technical assistance; payments of up to 80 percent of the cost to eligible farmers who perform emergency conservation actions on farmland damaged by the disaster; and provision of federally owned feed grain for livestock and herd preservation.

- Social Security assistance for recipients or survivors, such as death or disability benefits or monthly payments;

- Veterans' assistance, such as death benefits, pensions, insurance settlements, and adjustments to home mortgages held by the Veterans Administration, if a VA-insured home has been damaged; and

- Tax relief, including help from the Internal Revenue Service in claiming casualty losses resulting from the disaster and State tax assistance;

- Waiver of penalty for early withdrawal of funds from certain time deposits; and

- Consumer counseling and assistance.

(Source: Federal Emergency Management Agency, Program Guide, March 1983.)

After the DFO is established, Disaster Assistance Centers (DACs) are set up in community activity centers or other buildings such as schools to reach individual disaster victims with the types of assistance described above. Depending on the geographic extent of hurricane damage, several DACs will be set up to allow representatives from all government and relief agency assistance programs to register and accept applications from victims for the type(s) of assistance for which they are eligible. Locations and hours of operation of the DACs will be announced to the public by both electronic and print media.

Long-Range Reconstruction Period

Within 90 days of the Presidential declaration of a major disaster, local governments may apply for public assistance to fund major repair, reconstruction or other projects such as:

- Clearance of debris, when in the public interest, on public or private lands or waters;

- Emergency protective measures for the preservation of life and property;

- Repair or replacement of roads, streets and bridges;

- Repair or replacement of water control facilities (dikes, levees, irrigation works, and drainage facilities);
- Repair or replacement of public buildings and related equipment;
- Repair or replacement of public utilities;
- Repair or restoration of public facilities damaged while under construction;
- Repair or restoration of recreational facilities and parks;
- Repair or replacement of private nonprofit educational, utility, emergency, medical, and custodial care facilities, including those for the aged or disabled, and facilities on Indian reservations.
- Community disaster loans from FEMA to communities that may suffer a substantial loss of tax and other revenues and can demonstrate a need for financial assistance in order to perform their governmental functions;
- Certain forms of hazard mitigation assistance from FEMA;
- Repairs and operating assistance to public elementary and secondary schools by the Department of Education;
- Use of Federal equipment, supplies, facilities, personnel, and other resources (other than the extension of credit) from various Federal agencies; and
- Repairs to Federal-aid system roads.

(Source: Federal Emergency Management Agency, Program Guide, March 1983.)

To release the Federal assistance programs described above under a Presidential declaration of emergency and/or major disaster, the Governor and FEMA execute a Federal-State Disaster Assistance Agreement which prescribes the manner and conditions that Federal aid is to be made available. In most instances, the 75 percent - 25 percent Federal-State/Local cost-sharing requirement is utilized whereby 25 percent of all public assistance recovery costs is to be provided by either the State or local governments.

Types of federal disaster assistance programs described for the Short-Range Restoration and the Long-Range Reconstruction Periods are only available to those communities who participate in the National Flood Insurance Program. If a community does not participate or has been suspended from the program, many types of assistance would not be available. In that case no federal assistance monies could be used for construction-related programs, including grants or loans to citizens for the repair or restoration of their homes or businesses or loans to the local government for the repair or replacement of public buildings, roads, bridges or public facilities. Still available, would be those programs which would provide citizens with emergency sustenance, rental assistance or temporary housing (excluding home repairs).

The State of Florida has been one of the most progressive states in terms of the Flood Insurance Program participation and the adoption of local and state codes enforcing flood plain management strategies. Most communities in the Tampa Bay Region, including the four county governments, participate in the National Flood Insurance Program.

The Federal-State Disaster Assistance Agreement will also include a requirement that, within 180 days after the Presidential declaration, a Hazard Mitigation Plan must be prepared by the State or local governments included under the declaration and submitted to the FEMA Regional Director for review and concurrence. The Plan will include a damage analysis and formulate strategies and recommended measures to mitigate and prevent loss from those hazards in the future. Upon such a future reoccurrence, the implementation of those recommended measures will be evaluated by FEMA. Federal disaster assistance for the recurrence will only become available if, in the judgement of FEMA, local and/or State efforts have been made to implement the mitigation measures recommended in the original Hazard Mitigation Plan.

PROJECTING POTENTIAL DISASTER ASSISTANCE NEEDS

Temporary Housing

A major task of the study is to estimate the potential number of displaced families that would require temporary housing units following a hurricane strike in the Tampa Bay Region. In the recovery process, the temporary housing of displaced families is a priority issue, affecting both the physical and emotional well-being of the families and the community as a whole.

For the purpose of this study, an uninhabitable structure is one which is projected to experience major electrical and/or structural damage resulting in a situation affecting the safety, health or security of the occupants. Past FEMA experience and file claim data indicate that four feet of fresh-water flooding or three feet of storm surge (saline flooding) is an acceptable threshold to determine the uninhabitability of a single-family residential unit. (Source: Paul Hall, Disaster Assistance Programs, Federal Emergency Management Agency) According to the insurance claim file data utilized in Phase I to project potential structural loss, three feet of storm surge in a single-family unit will cause approximately 40-52 percent damage to the structure. (40 percent from three feet of stillwater surge; 52 percent from three feet of velocity surge) The damage ratio of 50 percent was determined to be the point at which some form of temporary housing assistance would be necessary. It should be recognized that the 50 percent damage ratio threshold was used for all hurricane hazards projected (surge, wind, or both) and for all types of residential units (single-family, multi-family, or mobile home). For example, hurricane force winds exceeding 150 mph can cause 50 percent damage to mobile homes several miles inland. Conversely, storm surge levels must exceed seven feet to cause the projected 50 percent damage to multi-family, multi-story structures.

To determine the projected number of structures which would reach the 50 percent of value lost threshold and be rendered uninhabitable, a computer program was written to output a projected structural loss inventory of residential structures greater than 50 percent for each county Scenario. From these totals, a percentage of structures was subtracted representing vacant seasonal homes for which ongoing alternative housing exists. The remainder

represents the potential number of displaced families and consequent temporary housing needs.

Before temporary units for disaster relief are imported from outside the Region (i.e. mobile home program), all other types of available housing units in the Region must be exhausted. The projected number of habitable vacant rental units in the Region was subtracted from the temporary housing need estimates to indicate the potential need, if any, for importing additional housing units into the Region.

It was assumed that hotel and motel units would not be available for temporary housing because of (1) the potential number of pre-storm evacuees who may not be able to return to their homes immediately following the storm, (2) most hotel/motel units are in surge-vulnerable areas and (3) the probable influx of recovery workers, including government employees, utility personnel and construction/clean-up crews. It was further assumed that, even though friends and relatives provide a significant amount of shelter during a storm and may provide housing for several weeks following a storm while minor repairs are made (structures receiving 49 percent damage or less), housing needs which exceed four to six weeks would become a burden to all parties involved. Therefore, housing provided by friends/relatives was not included when the structural damage was greater than the 50 percent damage ratio threshold.

The projected total of uninhabitable structures, number of temporary housing units needed, and the projected need for additional temporary housing units from outside the Region are presented in Chapter IX.

Other Individual and Public Assistance

To determine the magnitude of individual and public recovery assistance that would be necessary in the event of a hurricane strike in the Tampa Bay Region, an estimate of the insured vs. uninsured structural damage is required to discern what portion of the dollar damage would be covered by the National Flood Insurance Program (NFIP), the private insurance carriers, and what portion would fall on the shoulders of the owners of the structures. The insured/uninsured structural loss ratios were calculated based on several analyses and assumptions concerning the distribution of insurance coverage, the hurricane hazards (storm surge height and wind speed) and the property owners' perception of the potential hazards.

Earlier estimates of the potential structural loss were projected based on a detailed vulnerability analysis of the region. These dollar loss estimates now provide a quantitative base for the insured/uninsured structural loss projections and the amount of assistance that would be needed. The insured/uninsured structural loss projections are based on two analyses; (a) Insured/Uninsured Projected Structural Loss due to Storm Surge, and (b) Insured/Uninsured Projected Structural Loss due to Hurricane Winds.

Damage Loss by Hurricane Surge and Wind

Since the insured property owner is not covered for both major hurricane hazards (storm surge and wind) under a single insurance policy, it was first necessary to determine the projected structural loss ($) which could be attributed to each of these hazards individually.

Utilizing the Structural Damage Loss ($) Projections developed in Phase I of this study, a computer program was written to extract the damage loss ratios (%) which were originally input by section, township, and range and applied to the total just value of each structure type within each section under the county scenarios. These damage loss ratios (%) were aggregated into the loss zones and averaged. The Average Percentage Loss by Structure type by loss zone for each County Scenario is listed in Appendix N.

The Average Percentage Loss by Loss zone enabled a determination of a constant wind loss factor for each structure type for each county scenario. The wind loss factors, (the proportion of loss which could be attributed to wind only) appear in Table 53.

The wind loss factors were then substracted from the total damage ratios (%) to determine the percentage of structural loss which could be attributed to storm surge. (NOTE: Analysis does not include damage to contents of structures) These surge loss ratios were then applied the total just value of each structural type of each section, then aggregated by loss zones. The Projected Structural Loss due to Surge is presented by County Scenario in Tables 54, 55, 56, and 57.

The Projected Structural Loss due to Wind is also presented by County Scenario in Tables 58, 59, 60, and 61.

Insured/Uninsured Storm Surge Loss: National Flood Insurance Program

To determine the proportion of insured loss due to storm surge, FEMA provided the number of National Flood Insurance Program (NFIP) policies written in each of the four counties and their municipalities. Table 62 presents the number of structures (content coverage excluded) covered under the flood insurance program in each county.

The specific geographic distribution of the buildings insured under the flood insurance program is not available; therefore, a percentage of insured/uninsured property was calculated and then applied to the projected structural loss ($) due to surge. To determine the percentage of structural loss insured under the program, several assumptions were made. For example, in Hillsborough County, there are 13,769 National Flood Insurance policies. This number represents approximately six percent of all structures in the County. It was assumed that 80 percent of those structures covered under the Program (number of policies) lie within those areas vulnerable to potential storm surge under the five scenario levels, and that 20 percent of those structures are located in those areas along the rivers and numerous lakes in Hillsborough County susceptible to periodic freshwater flooding not addressed in this study.

Assuming 80 percent of the policyholders are located within the surge-vulnerable loss zones, we can further deduct that the closer one lives to the coast, the more flood hazard risk he recognizes, and the more willing he would be to purchase flood insurance.

A similar deduction was made to determine the geographic distribution of flood insurance coverage for each of the four counties in the Region. Assumptions of the geographic distribution of the NFIP policies in relation to the hurricane loss zones were based on (1) the geographic proportion of the county

vulnerable to storm surge, (2) the proportion of the county area vulnerable to inland freshwater flooding only, (3) population distribution, (4) economic factors (income), and (5) FEMA data reflecting the number of policies insuring structures in the incorporated municipalities. Table 63 presents the approximate number of NFIP policies within each County Scenario.

To determine the percentage of structures insured under the NFIP in each of the five scenario levels, the number of policies (number of insured buildings) within the surge-vulnerable areas was divided by the number of structures within those areas. Table 64 presents the structural inventory within the surge vulnerable areas under each County Scenario. Table 65 then presents the estimated percentage (%) of structures insured by the National Flood Insurance Program under each scenario. These percentages were applied to the Projected Structural Loss Due to Surge (Tables 54-57) to indicate potential NFIP liability. These results are presented in Chapter IX.

Insured/Uninsured Wind Loss: Private Insurance Carriers

Private insurance companies insure structures from damage associated with hurricane force winds. The Florida Association of Domestic Insurance Companies (FADIC) analyzed the path of Hurricane Donna which hit Florida in September of 1960 causing $55 million in damages. Considering the population growth and increase in property value, their projected range of insured losses if a hurricane of the same intensity should follow Donna's track today, was estimated at $640 million (45 percent insured ratio in 1960) to $1 billion (72.5 percent estimated current insured ratio). The FADIC was contacted and confirmed that the current insured ratio (72.5 percent) was the best estimate of insured structure coverage.

The Structural Loss ($) attributed to wind, as described previously, was calculated by subtracting the structural loss due to surge from the total projected structural loss presented in Phase I. Utilizing the estimated current insured ratio (72.5 percent), the insured/uninsured structural loss from wind for each county scenario was calculated by applying the percentage to the projected structural loss from wind. The results are presented in Chapter IX to indicate the potential private carrier liability. A total of the projected uninsured losses from both surge and wind is also presented in the Chapter IX to indicate the potential need in recovery assistance.

TABLE 53

PERCENTAGE OF VALUE LOSS (%) DUE TO WIND BY STRUCTURE TYPE

- Wind Loss Factors -

SCENARIO A

SURGE VULNERABLE ZONES	COUNTY	SR	MR	MH	COM/ OTHER
1-17	Hillsborough	3.40	2.10	1.8	2.0
1-9	Manatee	3.90	2.40	3.0	2.3
1-6	Pasco	3.90	2.40	3.0	2.3
1-21	Pinellas	3.90	2.40	3.0	2.3

SCENARIO B

1-25	Hillsborough	4.70	3.0	5.0	2.9
1-11	Manatee	4.70	3.0	5.0	2.9
1-9	Pasco	5.50	3.5	8.5	3.4
1-35	Pinellas	5.50	3.5	8.5	3.4

SCENARIO C

1-37	Hillsborough	7.4	4.8	14.0	4.7
1-18	Manatee	9.3	6.0	24.0	5.9
1-10	Pasco	9.3	6.0	24.0	5.9
1-43	Pinellas	9.3	6.0	24.0	5.9

SCENARIO D

1-44	Hillsborough	12.70	8.5	39.9	8.4
1-21	Manatee	16.0	11.0	67.3	10.9
1-14	Pasco	12.7	8.5	39.9	8.4
1-49	Pinellas	16.0	11.0	67.3	10.9

SCENARIO E

1-50	Hillsborough	21.8	15.6	40.0	15.6
1-24	Manatee	42.1	33.8	70.0	34.1
1-16	Pasco	27.5	20.1	40.0	20.2
1-57	Pinellas	42.1	33.8	70.0	34.1

TABLE 54

HILLSBOROUGH COUNTY

Projected Structural Loss ($$$) Due to Surge by Scenario
Dollar Loss by Structure Type
(In $ Thousands)

SCENARIO	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
A	26,438	2,171	8,298	1,439	1,252	1,623	209	0	0	43	41,473
B	100,139	5,135	17,379	4,492	3,012	2,933	1,211	0	4	3,880	138,185
C	194,721	14,050	26,147	41,269	7,115	4,411	3,341	0	3,779	9,473	304,306
D	583,102	42,834	27,244	113,190	15,734	6,144	4,312	0	5,975	19,497	818,032
E	899,586	78,225	44,042	217,951	35,500	9,675	7,998	0	10,497	38,595	1,342,069

TABLE 55

MANATEE COUNTY

Projected Structural Loss ($$$) Due to Surge by Scenario
Dollar Loss by Structure Type
(In $ Thousands)

SCENARIO	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
A	58,243	72,517	11,222	6,951	44	12	290	97	11	366	149,753
B	117,546	104,075	14,916	11,824	553	21	613	159	14	713	250,434
C	135,293	122,968	12,732	13,692	552	23	737	167	15	798	286,977
D	168,196	147,234	7,290	17,857	1,100	210	1,649	264	22	1,712	345,534
E	160,332	128,304	18,617	15,475	397	101	1,052	148	14	1,937	326,377

TABLE 56

PASCO COUNTY

Projected Structural Loss ($$$) Due to Surge by Scenario
Dollar Loss by Structure Type
(In $ Thousands)

SCENARIO	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
A	62,122	7,942	7,170	3,125	1,196	0	27	0	0	0	81,582
B	115,785	14,083	8,236	7,862	1,481	0	35	0	0	0	147,482
C	179,483	21,343	9,771	19,720	1,924	0	64	0	0	0	232,305
D	511,635	60,930	18,568	49,507	4,871	0	262	0	0	0	645,773
E	518,101	60,777	20,458	52,431	5,569	0	412	0	0	0	657,748

TABLE 57

PINELLAS COUNTY

Projected Structural Loss ($$$) Due to Surge by Scenario
Dollar Loss by Structure Type
(In $ Thousands)

SCENARIO	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
A	172,220	64,230	1,169	9,810	239	593	3	16	302	622	249,204
B	503,429	417,903	1,910	78,958	667	1,449	18	252	2,757	2,774	1,010,117
C	1,027,831	687,877	7,056	146,436	2,535	2,958	57	461	5,263	8,265	1,888,739
D	1,451,858	900,959	10,104	199,953	9,749	4,259	93	656	8,724	16,706	2,603,061
E	950,114	632,337	14,471	135,977	2,839	859	23	295	1,587	4,985	1,743,523

TABLE 58

HILLSBOROUGH COUNTY

Projected Structural Loss ($$$) Due to Wind by Scenario
Dollar Loss by Structure Type
(In $ Thousands)

SCENARIO	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
A	170,072	11,591	3,669	22,251	8,287	1,707	13,940	14	3,927	15,102	250,560
B	209,419	14,723	7,799	46,660	11,115	2,462	17,180	16	7,201	22,993	339,568
C	392,389	26,463	28,258	53,209	19,660	4,031	31,086	32	9,238	35,826	600,192
D	652,298	47,902	76,105	95,320	34,922	7,262	53,454	57	16,514	63,298	1,047,132
E	1,127,667	90,558	166,250	195,762	67,709	13,728	113,401	176	33,169	124,966	1,933,386

TABLE 59

MANATEE COUNTY

Projected Structural Loss ($$$) Due to Wind by Scenario
Dollar Loss by Structure Type
(In $ Thousands)

SCENARIO	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
A	44,630	16,204	4,093	6,205	2,187	1,154	13,570	146	1,187	4,729	94,105
B	63,130	21,276	10,210	7,983	2,760	1,644	16,770	185	1,498	6,139	131,595
C	120,149	42,029	36,305	16,115	5,567	2,723	31,298	373	3,048	12,313	269,920
D	203,363	76,385	97,009	30,789	10,475	4,968	58,875	689	5,636	23,349	511,538
E	470,705	225,077	139,195	91,571	30,300	12,485	145,572	2,150	17,411	68,862	1,203,328

TABLE 60

PASCO COUNTY

Projected Structural Loss ($$$) Due to Wind by Scenario
Dollar Loss by Structure Type
(In $ Thousands)

SCENARIO	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
A	46,110	4,345	2,730	3,575	383	0	1,018	0	0	0	58,161
B	63,248	6,204	6,057	4,943	564	0	1,274	0	0	0	82,290
C	108,553	10,740	21,443	8,924	984	0	2,388	0	0	0	153,030
D	179,657	18,301	54,530	14,218	1,405	0	4,418	0	0	0	272,529
E	305,863	45,139	89,847	33,841	3,382	0	10,929	0	0	0	534,001

TABLE 61

PINELLAS COUNTY

Projected Structural Loss ($$$) Due to Wind by Scenario
Dollar Loss by Structure Type
(In $ Thousands)

SCENARIO	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
A	254,444	94,374	1,924	33,922	6,159	1,348	109	554	4,731	13,106	409,676
B	348,718	134,881	4,192	45,645	8,200	1,902	139	735	6,485	17,498	568,395
C	725,263	273,290	22,371	101,814	19,561	3,477	277	1,470	12,732	35,256	1,195,511
D	1,226,364	516,170	48,993	173,805	32,722	6,628	580	2,696	23,029	66,081	2,097,068
E	2,619,920	1,269,500	54,641	449,145	84,423	18,739	1,391	7,115	65,911	169,764	4,740,549

TABLE 62

NATIONAL FLOOD INSURANCE PROGRAM

Number of Building Policies

COUNTY	SR/MH	MR	COM/IND/OTHER	TOTAL
Hillsborough	12,608	657	504	13,769
Manatee	6,911	2,028	343	9,282
Pasco	9,740	690	166	10,596
Pinellas	39,911	5,052	1,680	46,643

SR/MH - Single-Family Residential Units Including Mobile Homes
MR - Multi-Family Residential Units
COM/IND/OTHER - Commercial, Industrial, Public Buildings

Source: Federal Emergency Management Agency, April 20, 1983

TABLE 63

ESTIMATED NUMBER OF NFIP POLICIES IN SURGE VULNERABLE ZONES

SCENARIO	ZONES	SR/MH	MR	COM/IND/ OTHER	TOTAL	ASSUMED % OF TOTAL NFIP POLICIES LOCATED IN SURGE-VULNERABLE ZONES
Hillsborough County						
A	1-17	7,565	394	302	8,261	60%
B	1-25	8,195	427	328	8,950	65%
C	1-37	8,826	460	353	9,639	70%
D	1-44	9,456	493	378	10,327	75%
E	1-50	10,086	526	403	11,015	80%
Manatee County						
A	1-9	4,147	1,217	206	5,570	60%
B	1-11	4,492	1,318	223	6,033	65%
C	1-18	4,838	1,420	240	6,498	70%
D	1-21	5,183	1,521	257	6,961	75%
E	1-24	5,529	1,622	274	7,425	80%
Pasco County						
A	1-6	5,844	414	100	6,358	60%
B	1-9	6,331	449	108	6,888	65%
C	1-10	6,818	484	116	7,417	70%
D	1-14	7,305	518	125	7,948	75%
E	1-16	7,792	552	133	8,477	80%
Pinellas County						
A	1-21	27,938	3,536	1,176	32,650	70%
B	1-35	29,933	3,789	1,260	34,982	75%
C	1-43	31,929	4,041	1,344	37,314	80%
D	1-49	35,920	4,547	1,512	41,979	90%
E	1-57	37,915	4,800	1,596	44,311	95%

SR/MH - Single-Family Residential Units including Mobile Homes
MR - Multi-Family Residential Units
COM/IND/OTHER - Commercial, Industrial, Public Buildings

TABLE 64

STORM SURGE VULNERABILITY

STRUCTURAL INVENTORY OF SURGE-VULNERABLE ZONES

SCENARIO	ZONES	SR/MH	MR	COM/ IND/OTHER	TOTAL
Hillsborough County					
A	1-17	21,196	1,771	1,324	24,291
B	1-25	25,012	1,897	2,147	29,056
C	1-37	32,160	1,982	3,402	37,544
D	1-44	51,626	2,815	5,436	59,874
E	1-50	61,329	3,067	6,126	70,522
Manatee County					
A	1-9	11,854	5,896	585	18,335
B	1-11	15,095	6,111	775	21,981
C	1-18	23,427	6,345	1,504	31,276
D	1-21	25,388	6,369	1,542	33,299
E	1-24	31,044	7,965	1,729	40,738
Pasco County					
A	1-6	15,858	2,002	536	18,396
B	1-9	22,518	2,870	683	26,071
C	1-10	23,210	2,870	699	26,779
D	1-14	38,920	3,630	886	43,436
E	1-16	42,078	3,826	911	46,815
Pinellas County					
A	1-21	42,037	26,715	2,244	70,996
B	1-35	66,719	34,057	4,027	104,803
C	1-43	90,052	38,703	4,677	133,432
D	1-49	102,777	41,736	5,880	150,393
E	1-57	117,757	46,416	6,474	170,647

SR/MH - Single-Family Residential Units including Mobile Homes
MR - Multi-Family Residential Units
COM/IND/OTHER - Commercial, Industrial, Public Buildings

TABLE 65

ESTIMATED PERCENTAGE (%) OF STRUCTURES INSURED UNDER NFIP

IN SURGE VULNERABLE AREAS

SCENARIO	ZONES	SR	SR/MR	C/I/OTHER	TOTAL
Hillsborough County					
A	1-17	36.	22.	23.	34.
B	1-25	33.	23.	15.	30.
C	1-37	27.	23.	10.	26.
D	1-44	18.	18.	07.	17.
E	1-50	16.	17.	07.	15.
Manatee County					
A	1-9	35.	21.	35.	30.
B	1-11	30.	22.	29.	27.
C	1-18	21.	22.	16.	21.
D	1-21	20.	24.	17.	21.
E	1-24	18.	20.	16.	18.
Pasco County					
A	1-6	37.	21.	19.	35.
B	1-9	28.	16.	16.	26.
C	1-10	29.	17.	17.	28.
D	1-14	19.	14.	14.	18.
E	1-16	19.	14.	14.	18.
Pinellas County					
A	1-21	66.	13.	52.	46.
B	1-35	45.	11.	31.	33.
C	1-43	35.	10.	29.	28.
D	1-49	35.	11.	26.	28.
E	1-57	32.	10.	25.	26.

SR/MH - Single-Family Residential Units including Mobile Homes
MR - Multi-Family Residential Units
COM/IND/OTHER - Commercial, Industrial, Public Buildings

NOTE: Percentages were derived by dividing the estimated number of NFIP policies by the structural inventory within surge-vulnerable zones.

Pre-designation of Disaster Field Offices

The past procedure for the post-disaster designation of a Disaster Field Office (DFO) involved the Federal General Services Administration (GSA). In the Tampa Bay Region, the regional GSA office is located in the 700 Twiggs Street building in Tampa. In the event of a disaster declaration, the Federal Emergency Management Agency (FEMA) contacted the GSA. The GSA, in turn, contacted the Federal Space Management Division in Atlanta for an up-to-date listing of available buildings. This computerized listing reflects the available space for lease where the owners or leasing managers have contacted the federal government and indicated their willingness to lease to a federal government entity. If there are no appropriate/available buildings through the listing, the GSA then searches locally through newspapers and local advertising for the needed space.

The General Services Administration leases approximately 4,000-5,000 square feet of office space for a Disaster Field Office. Once space is leased, the Federal Telephone System (FTS) is established within two to three days. The Disaster Field Office is usually operational within two weeks.

An objective of this study is to pre-designate buildings as potential DFOs to save unnecessary time absorbed by searching for a DFO building after the hurricane strikes as described above.

Consultation with the regional GSA office and on-site inspections of several buildings in the Region were carried out to pre-designate future DFO locations. The basic criteria for the pre-designation included the following:

- 5,000 square feet of office space;
- adequate parking for DFO staff and public;
- location accessibility for quick travel to disaster site(s);
- location accessibility to hotel/motel accommodations for federal and state DFO staff;
- favorable SLOSH storm surge site analysis.

Based on the magnitude of projected damage from a Scenario C, D, or E hurricane event in the four-county Region, possibly requiring two (2) DFOs for the entire declaration area, two sites are pre-designated for potential DFO establishment. (see Chapter IX for pre-designated sites).

Pre-designation of Disaster Assistance Centers

The post-hurricane selection of Disaster Assistance Centers (DACs) also entails a search and agreement for use of buildings that absorb precious time that victims of the storm await federal and state assistance. Traditionally, this process takes place immediately after DFO establishment among federal DFO staff, state DFO staff, and local emergency management authorities.

Consultation with the four county emergency management departments and local Red Cross chapters resulted in the pre-designation of future DAC locations, many of which are also pre-hurricane evacuation shelters. The basic criteria for the DAC pre-designation is similar to that followed for DFOs:

- 5,000 square feet of open-space area;
- adequate parking for public applicants;

- centralized location to major projected damage areas;
- favorable SLOSH storm surge site analysis;
- community-oriented building familiar to local residents.

The differences in magnitude of projected damage under hurricane Damage Scenarios A, B, C, D, and E will require various numbers of DACs for a given disaster declaration. Of the pre-designated DACs, the appropriate number to activate for a given declaration should be geared to the apparent post-storm demand utilizing the general guide of an average capability of 250 applicants processed per DAC per day.

CHAPTER IX

PROJECTED TEMPORARY HOUSING AND OTHER ASSISTANCE NEEDS

A Presidential declaration of an emergency or major disaster makes a broad range of assistance available to disaster victims. Utilizing the methodology described in Chapter VIII, projected recovery needs have been quantified for the temporary housing program, individual and family grant program, individual/business loan program, and community disaster loan program.

PROJECTED TEMPORARY HOUSING NEEDS

One of the most important objectives of the recovery process is to provide temporary housing for families left homeless in the wake of a hurricane. The temporary housing needs quantified in this study represent the amount of alternate housing which would be needed for disaster victims whose homes would be rendered uninhabitable because of storm surge and/or hurricane-force winds. The degree of need is based on the projected structural loss associated with each county scenario. Tables 66, 67, 68, and 69 present the Projected Structural Inventory Loss (greater than 50% damage per unit) by residential structure type (SR, MR, MH) and illustrates the variable vulnerability of each type. These tables also present the number of existing unoccupied rental units which could be used for temporary housing and the projected number of units which would have to be imported from outside the region (i.e. Mobile Home Program). Table 70 presents the projected temporary housing needs for the five (5) regional scenarios.

TABLE 66

HILLSBOROUGH COUNTY

Projected Temporary Housing Needs

LOSS SCENARIO	PROJECTED STRUCTURAL INVENTORY LOSS GREATER THAN 50%					AVAILABLE RENTAL UNITS*	ADDITIONAL HOUSING UNITS REQUIRED	PROJECTED NEED FOR MOBILE HOME PROGRAM INDICATED
	SR	MR	MH	Seasonal Vacancies*	TOTAL			
A	76	None	1,184	19	1,241	7,384	None	No
B	4,040	None	2,925	110	6,855	7,176	None	No
C	9,647	None	4,569	223	13,993	7,916	7,077	Yes
D	29,659	335	7,092	581	36,505	6,092	30,413	Yes
E	47,382	1,987	29,975	1,259	78,085	4,532	73,553	Yes

* The number of vacant seasonal housing units and the number of vacant rental units (Source: 1980 Census) were modified to reflect the loss of a percentage of those units which would be rendered uninhabitable from the hurricane hazards. The projected loss of units is based on the ratio of structures projected to receive structural loss greater than 50% in each county scenario to the total number of structures in the county.

TABLE 67

MANATEE COUNTY

Projected Temporary Housing Needs

LOSS SCENARIO	PROJECTED STRUCTURAL INVENTORY LOSS GREATER THAN 50%					AVAILABLE RENTAL UNITS*	ADDITIONAL HOUSING UNITS REQUIRED	PROJECTED NEED FOR MOBILE HOME PROGRAM INDICATED
	SR	MR	MH	Seasonal Vacancies*	TOTAL			
A	2,287	None	1,599	45	3,841	3,258	583	Yes
B	4,197	2	2,296	81	6,414	3,124	3,290	Yes
C	7,343	706	3,218	136	11,131	2,915	8,216	Yes
D	8,493	4,157	14,306	335	26,621	2,160	24,461	Yes
E	14,086	5,515	20,468	498	39,571	1,543	38,028	Yes

* The number of vacant seasonal housing units and the number of vacant rental units (Source: 1980 Census) were modified to reflect the loss of a percentage of those units which would be rendered uninhabitable from the hurricane hazards. The projected loss of units is based on the ratio of structures projected to receive structural loss greater than 50 % in each county scenario to the total number of structures in the county.

TABLE 68

PASCO COUNTY

Projected Temporary Housing Needs

LOSS SCENARIO	PROJECTED STRUCTURAL INVENTORY LOSS GREATER THAN 50%					AVAILABLE RENTAL UNITS*	ADDITIONAL HOUSING UNITS REQUIRED	PROJECTED NEED FOR MOBILE HOME PROGRAM INDICATED
	SR	MR	MH	Seasonal Vacancies*	TOTAL			
A	1,621	None	1,429	168	2,882	1,947	935	Yes
B	6,214	None	1,685	463	7,486	1,805	5,631	Yes
C	8,829	None	3,148	673	11,304	1,704	9,600	Yes
D	28,735	2,204	10,734	2,356	39,317	892	38,425	Yes
E	33,688	3,297	21,122	3,282	54,825	446	54,379	Yes

* The number of vacant seasonal housing units and the number of vacant rental units (Source: 1980 Census) were modified to reflect the loss of a percentage of those units which would be rendered uninhabitable from the hurricane hazards. The projected loss of units is based on the ratio of structures projected to receive structural loss greater than 50 % in each county scenario to the total number of structures in the county.

TABLE 69

PINELLAS COUNTY

Projected Temporary Housing Needs

LOSS SCENARIO	PROJECTED STRUCTURAL INVENTORY LOSS GREATER THAN 50%					AVAILABLE RENTAL UNITS*	ADDITIONAL HOUSING UNITS REQUIRED	PROJECTED NEED FOR MOBILE HOME PROGRAM INDICATED
	SR	MR	MH	Seasonal Vacancies*	TOTAL			
A	4,116	None	1,367	315	5,168	11,227	None	No
B	14,732	None	2,435	997	16,170	10,781	5,389	Yes
C	41,285	4	12,292	3,112	50,469	9,398	41,071	Yes
D	74,315	19,439	38,274	7,658	124,370	6,425	117,945	Yes
E	79,566	32,519	38,484	8,724	141,845	5,728	136,117	Yes

* The number of vacant seasonal housing units and the number of vacant rental units (Source: 1980 Census) were modified to reflect the loss of a percentage of those units which would be rendered uninhabitable from the hurricane hazards. The projected loss of units is based on the ratio of structures projected to receive structural loss greater than 50% in each county scenario to the total number of structures in the county.

TABLE 70

TAMPA BAY REGION

PROJECTED TEMPORARY HOUSING NEEDS

	REGIONAL SCENARIOS				
COUNTY	1	2	3	4	5
Pasco	56,079/E	39,645/D	9,949/C	1,022/A	5,871/B
Pinellas	41,071/C	136,117/E	117,945/D	None/A	5,389/B
Hillsborough	None/B	29,657/D	71,915/E	6,787/C	None/A
Manatee	3,066/B	7,838/C	23,527/D	36,640/E	457/A
TOTAL REGIONAL TEMPORARY HOUSING NEEDS	100,216	213,257	223,336	44,449	11,717

See Table 6 (page 41) for descriptions of hazards representing county damage scenarios.

INDIVIDUAL ASSISTANCE

Utilizing the methodology described in Chapter VIII, estimates of the potential insured and uninsured structural loss were calculated for each county Scenario. The Insured Structural Loss Projections, shown in Table 71, are presented as a comparison to historical insured losses from previous hurricanes (Table 72). The Uninsured Structural Loss Projections are presented in Table 73 as a guide for recovery assistance planning and indicate the potential recovery costs for disaster assistance.

Insured Loss

The Projected Insured Structural Losses for residential and commercial buildings are presented in Table 71. The insured ratio, the percentage of total structural damage calculated to be covered under the NFIP or private insurance carriers, is also indicated on the table. These ratios seem somewhat high when compared to the estimated insured losses of previous hurricanes in Table 71. This is the result of several factors relating to the hurricane hazards and changes in the NFIP.

First, the inland freshwater flooding hazard, not addressed in this study, is also a hazard not always recognized by the property owner. For example, Hurricane Agnes in 1972 caused severe inland flooding in 19 states and resulted in an unprecedented $3 billion in damages, only 3% of which was insured loss ($98 million). Thus, the effects of inland freshwater flooding may tend

TABLE 71

PROJECTED INSURED STRUCTURAL LOSS
(In $ Thousands)

	Residential			Commercial/Other		
	Total Structural Loss ($$$)	Projected Insured Structural Loss ($$$)	Insured Ratio*	Total Structural Loss ($$$)	Projected Insured Structural Loss ($$$)	Insured Ratio*
Hillsborough County						
A	222,239	147,349	66%	69,794	48,340	69%
B	354,594	208,119	59%	123,159	80,360	65%
C	682,028	387,021	67%	222,470	117,923	53%
D	1,429,485	680,393	48%	435,679	207,890	48%
E	2,406,328	1,168,022	48%	869,127	420,375	48%
Manatee County						
A	206,909	86,614	42%	36,949	23,874	65%
B	331,153	131,233	40%	50,876	30,840	61%
C	433,171	175,717	40%	123,726	80,670	65%
D	699,477	343,584	50%	157,595	101,594	64%
E	1,142,230	663,230	58%	387,475	270,115	70%
Pasco County						
A	130,419	65,865	50%	9,324	4,434	48%
B	213,613	91,723	43%	16,159	6,416	40%
C	351,333	160,546	46%	34,002	12,603	37%
D	843,621	292,323	35%	74,681	22,180	30%
E	1,040,185	436,451	41%	151,564	75,713	50%
Pinellas County						
A	492,063	307,259	62%	71,514	49,473	69%
B	1,411,033	627,020	44%	167,479	85,369	51%
C	2,743,688	1,171,168	43%	340,562	174,709	51%
D	4,154,448	1,909,649	46%	545,681	283,953	52%
E	5,540,903	3,231,345	58%	943,089	614,104	65%

* All structures are vulnerable to structural damage from hurricane-force winds, yet they are also assumed to be insured against this hazard at the current insured ratio of 72.5%. Where there is significant wind damage, the insured ratio rises under the more intense (less probable) scenarios.

TABLE 72

HISTORICAL INSURED LOSS

Year	Hurricane	Areas Affected	Estimated Total Loss ($$$)	Estimated Insured Loss ($$$)	Percentage Loss Insured
1954	Carol	N.Y.,Conn.,R.I.,Me., Mass.,N.H.,N.J.	461,000	129,700	28%
1954	Hazel	S.C.,N.C.Va.,W.Va., D.C.,Md.,Del.,N.J., Pa.,N.Y.	251,600	122,050	49%
1961	Carla	Texas, La.	408,200	100,000	24%
1965	Betsy	Fla.,La.,Miss.	1,420,500	715,000	50%
1969	Camille	La.,Miss.,Ala.,Fla.	1,420,700	225,000	16%
1970	Celia	Southeastern Texas	453,000	309,950	68%
1972	Agnes	Fla.,Ga.,S.C.,N.C., Va.,W.Va.,Ohio,Mich., Pa.,Md.,Del.,D.C.,N.J., N.Y.,Conn.,R.I.,Me.,Mass.	3,000,000	97,853	3%
1975	Eloise	Fla.,Ga.,Ala.,Tenn., W.Va.,Va.,Md.,Del.,D.C., Pa.,N.J.,N.Y.,Mass., Conn.,R.I.,P.R.	650,000	119,189	18%
1979	David	Fla.,Ga.,S.C.,N.C., Va.,Md.,D.C.,Del., Pa.,N.J.,N.Y.,Mass., Ct.,P.R.,V.I.	1,320,000	122,070	9%
1979	Frederic	Miss.,Ala.,Fla.,La., Tenn.,Ky.,W.Va., Ohio,Pa.,N.Y.	2,300,000	752,510	33%

to decrease the insured ratio in the wake of an actual hurricane disaster in the Tampa Bay Region.

The difference in past insured ratios and the projected Tampa Bay Region insured loss ratios may be also the result of changes made by the Flood Disaster Protection Act of 1973, in the wake of Hurricane Agnes, mandating community participation in the program in return for the availability of federally-assisted financing and increasing the volume of technical studies identifying flood hazard boundaries in the flood prone communities. For example, Hurricane Frederic caused $2.3 billion in damages in 1979; yet the proportion of insured property losses, which totaled $753 million, rose to 33% of the total loss.

Many property owners may not be prepared for the impact of a major hurricane. Investigating projected insured loss ratios, it should be recognized that over 60% of flood losses in recent years have resulted from storms exceeding the 100-year (1% chance) storm event. Most of these were coastal storms such as those simulated for this study.

Uninsured Loss

Assistance to individuals and families, by loan and/or grant, is projected based on the potential uninsured structural damage loss to residential units. (NOTE: This does not include damage to contents of structures). This assistance may include loans to make minimal essential repairs to owner-occupied residences in lieu of other forms of temporary housing so that families can return quickly to their damaged homes. Assistance may also include individual or family grants to meet the necessary disaster-related expenses when victims are not able to meet those needs through other programs or other means.

Assistance to small business and industry is similarly projected based on the potential uninsured structural damage to commercial, industrial and other structural types. This assistance may be reflected in loans to businesses and farmers for the repair, restoration or replacement of uninsured property. Potential costs for programs assisting individuals in recovering from losses that are the direct result of structural damage to residential units, (i.e. individual and family grants and loans,) range from $75 million (Scenario A) to approximately $1.2 billion (Scenario E) in Hillsborough County depending on the intensity of the hurricane. In Manatee County, the estimate of recovery assistance costs ranges from $120 million to $479 million; in Pasco County, from $64 million to $609 million; and in Pinellas County from $185 million to $2.3 billion.

Recovery costs for programs assisting small business and industry range from $21 million to $449 million in Hillsborough County, $13 million to $117 million in Manatee County, $5 million to $76 million in Pasco County, and $22 million to $329 million in Pinellas County.

Table 74 presents the projected uninsured structural losses for the five (5) regional scenarios.

COMMUNITY DISASTER ASSISTANCE

Under Section 414 of Public Law 93-288, the Federal government may make a community disaster loan to any local government that suffers a substantial

TABLE 73

PROJECTED DISASTER ASSISTANCE NEEDS

UNINSURED STRUCTURAL LOSS
(In $ Thousands)

	Residential		Commercial/Other	
	Total Structural Loss ($$$)	Uninsured Loss ($$$)	Total Structural Loss ($$$)	Uninsured Loss ($$$)
Hillsborough County				
A	222,239	74,890	69,794	21,454
B	354,594	146,475	123,159	42,799
C	682,028	295,007	222,470	104,547
D	1,429,485	749,092	435,679	227,789
E	2,406,328	1,238,306	869,127	448,752
Manatee County				
A	206,909	120,295	36,949	13,075
B	331,153	199,920	50,876	20,036
C	433,171	257,454	123,726	43,056
D	699,477	355,893	157,595	56,001
E	1,142,230	479,000	387,475	117,360
Pasco County				
A	130,419	64,554	9,324	4,890
B	213,613	121,890	16,159	9,743
C	351,333	190,787	34,002	21,399
D	843,621	551,298	74,681	52,501
E	1,040,185	609,734	151,564	75,851
Pinellas County				
A	492,063	184,804	71,514	22,041
B	1,411,033	784,013	167,479	82,110
C	2,743,688	1,572,520	340,562	165,853
D	4,154,448	2,244,799	545,681	261,728
E	5,540,983	2,309,638	943,089	328,985

TABLE 74

TAMPA BAY REGION

PROJECTED UNINSURED STRUCTURAL LOSS ($$$)
(In $ Thousands)

COUNTY	1	2	3	4	5
Pasco	685,585/E	603,799/D	212,186/C	69,444/A	131,633/B
Pinellas	1,738,373/C	2,638,623/E	2,506,527/D	206,845/A	866,123/B
Hillsborough	189,274/B	976,881/D	1,687,058/E	399,554/C	96,344/A
Manatee	219,956/B	300,510/C	411,894/D	596,360/E	133,370/A
TOTAL REGIONAL UNINSURED STRUCTURAL LOSS	2,838,188	4,519,813	4,817,665	1,272,203	1,227,470

See Table 6 (see page 41) for descriptions of hazards representing county damage scenarios.

loss of property tax base or other revenues as a result of a major disaster, providing that the local government demonstrates a need for such assistance in order to perform its governmental functions.

When making a disaster loan request, the local government must estimate actual and projected revenue losses for the current fiscal year and for three succeeding fiscal years. Much of the hurricane-caused revenue loss to a local government results from the structural loss to taxable property, thus substantially lowering that government's ad valorem tax base.

Tables 40 through 44 in Chapter V provide estimates of structural taxable loss for each county for the five hurricane damage scenarios to be used by local governments as guidance in making community disaster loan requests.

PRE-DESIGNATION OF DISASTER FIELD OFFICE AND DISASTER ASSISTANCE CENTER LOCATIONS

The following section presents the preliminary site identification of potential Disaster Field Office (DFO) and Disaster Assistance Center (DAC) locations within the Tampa Bay Region. These sites were selected based on the criteria described in Chapter VIII.

Tampa Bay Region Pre-Designated Disaster Field Offices

University of South Florida Tampa Campus
4202 East Fowler Avenue
Tampa

Pinellas County Cooperative Extension Service Building
12175 - 125th Street North
Largo

Hillsborough County Pre-Designated Disaster Assistance Centers

Ybor City Boys and Girls Club
2806 - 15th Street
Ybor City

Sun City Center
Sun City
Brandon

Lutz Senior Center
112th - 1st Avenue N.W.
Lutz

Seventh Day Adventist Church
2303 Strawberry Drive
Plant City

Dover Advent Christian Church
Dover-Sydney Road (1 Blk. S. of Hwy. 74)
Dover

First Baptist Church of Mango
Mango

Hillsborough Community Center
Plant City Campus
Park Road and Commerce
Plant City

Postal Carriers Union Hall
Cypress and MacDill
Tampa

Temple Terrace Recreation Center
6610 Whiteway Drive
Temple Terrace

Nativity Catholic Church
205 S. Oakwood
Brandon

Pinecrest Elementary School
Hwy. 39 and Lithia
Pinecrest

West Tampa Boys and Girls Club
1415 N. MacDill
Tampa

Manatee County Pre-Designated
Disaster Assistance Centers

Manatee County Boy's Club
Bradenton Branch
1415 - 9th Street West
Bradenton

Manatee County Boy's Club
DeSoto Branch
5231 - 34th Street West
Bradenton

Bradenton Kiwanis Club
21st Avenue West and 14th Street
Bradenton

Palmetto Boys Club***
1600 - 10th Street West
Palmetto

South Manatee Branch Library*
1506 Bayshore Gardens Pkwy.
Bradenton

Bradenton Library*
1301 Barcarotta Blvd.
Bradenton

Pasco County Pre-Designated
Disaster Assistance Centers

Pasco-Hernando Community College
7025 State Road 587
New Port Richey

Pasco-Hernando Community College
2401 North Highway 41
Dade City

New Port Richey Recreation Center
832 Indiana Avenue East
New Port Richey
(Metal Building for use if not damaged by high winds)

Land O'Lakes Civic Center
U.S. Route 41 North
Land O'Lakes

Zephyrhills Municipal Building
603 - 8th Street
Zephyrhills

Pasco County Fairgrounds Auditorium
Between S.R. 41 and S.R. 52
Dade City
(Not air conditioned)

Hudson Senior High School
1000 Cobra Way
Hudson
(Alternate)

Pinellas County Pre-Designated
Disaster Assistance Centers

Clearwater City Hall Annex
10 South Missouri Avenue
Clearwater

Dunedin Community Center
Michigan Boulevard & Pinehurst Street
Dunedin

Largo Community Center
65 - 4th Street North West
Largo

Pinellas Park City Auditorium**
59th Street North
Pinellas Park

Tarpon Springs Community Center**
400 S. Walton Street
Tarpon Springs

Leisure Services Administration Building
1450 - 16th Street North
St. Petersburg

Childs Park Recreation Center
4301 - 13th Avenue South
St. Petersburg

Roberts Community Center
1246 - 50th Avenue North
St. Petersburg

Wildwood Community Center
2650 - 10th Avenue South
St. Petersburg

YMCA Building
1005 Highland Avenue
Clearwater

St. Petersburg Junior College
6605 - 5th Avenue North
St. Petersburg

Martin L. King Center
1201 - South Douglas Avenue
Clearwater

Seminole VFM
10997 - 72nd Avenue North
Seminole

St. Petersburg Junior College
Clearwater Campus
2465 Drew Street
Clearwater

Countryside High School
S.R. 580 and McMullen-Booth Road
Clearwater

St. Petersburg Junior College
Tarpon Campus
Klosterman Road
Tarpon Springs

Pinellas County Cooperative Extension Service Building
12175 - 125th Street North
Largo
(If not used as a Disaster Field Office)

* Vulnerable to storm surge under County Scenario E
** Vulnerable to storm surge under County Scenario D, E
*** Vulnerable to storm surge under County Scenario C, D, E

REQUESTS FOR STATE AND FEDERAL EMERGENCY/DISASTER DECLARATIONS

The hurricane-caused projected dollar damage figures, estimates of uninsured loss, and projected temporary housing needs are presented by this study, in part, to assist local governments make quick and accurate Preliminary Damage Assessments to save precious time in the recovery process. The sooner a State and Federal declaration of an emergency or disaster is issued to support disaster relief beyond local capabilities, the sooner that assistance can be provided to the victims of the hurricane.

This study provides the mechanism for local emergency management officials to match the future hurricane with one of the five scenarios (or modified scenario) of this study to arrive at general estimates of damages to serve as the Preliminary Damage Assessment submitted for state and federal verification and subsequent declaration of emergency and/or disaster. Given the magnitude ofthe damages that would occur, as documented by Phase I of this study, such a verified Preliminary Damage Assessment (along with the county declaration) will be adequate documentation for an immediate State and Federal declaration. The need for a more time-consuming Damage Survey Report would then be eliminated until after the state and federal declaration has been issued.

HILLSBOROUGH COUNTY HURRICANE RECOVERY IMPLEMENTATION GUIDE

INTRODUCTION

This Guide outlines the concept, direction and control, and operations activities for the recovery by Hillborough County from a hurricane strike. The emergency short-range and long-range recovery strategies are based on Phase I (Chapters 1-7) of the Tampa Bay Region Hurricane Loss and Contingency Planning Study.

CONCEPT

The Hillsborough County Hurricane Evacuation Implementation Guide sets forth the scope and procedure for the pre-hurricane relocation and sheltering of vulnerable residents of the County. This Guide continues through the hurricane scenario, providing the scope and procedure for County post-hurricane recovery.

The following sections provide the basic plan framework for Countywide hurricane recovery operations, their direction and control, and their relationship to the Hillsborough County Hurricane Evacuation Implementation Guide.

The general concept of hurricane recovery in Hillborough County is similar to that for hurricane evacuation: a coordinated effort by personnel and equipment from municipal, County, and other disaster support agencies in the recovery from injuries, damage, and suffering resulting from the hurricane. As documented by Phase I (Hurricane Loss Study), a direct hurricane strike will quickly outstrip the capability of a single municipality, county or even the State to recover without Federal disaster assistance of various types. Therefore, the following hurricane recovery guide has been formulated to coordinate the post-hurricane efforts of all levels of government involved in the recovery process.

HURRICANE RECOVERY OPERATIONS

I. DIRECTION AND CONTROL

In order for continuity of direction and control throughout hurricane emergency operations, the County Emergency Operations Center (EOC) will continue to provide the primary direction and control function for the recovery phase as it did in the hurricane preparedness (evacuation) phase. This primary direction and control function will be supported by the immediate issuance of a County declaration of emergency to provide for legal enforcement of needed direction and control.

A. Immediate Emergency Period

The Immediate Emergency Period begins immediately after the hurricane has passed through the area (sustained winds dropping back down below gale force) and stretches through the first few days after hurricane landfall.

Direction and control during the immediate emergency period focuses on two major types of activities: (1) intra-county recovery operations, such as search and rescue, mass casualty activities, post-hurricane sheltering, preliminary damage assessment, debris removal, and restoration of utilities; and (2) inter-governmental resource distribution, including the request for sustenance supplies from outside the city and/or County, the allocation of supplies to local governments, and the distribution of those supplies by the local government. Such supplies include water, medication, food, ice, clothing, and blankets. This also includes resources imported in order to carry out the intra-county emergency operations; such as personnel, equipment, and rebuilding/repair supplies.

1. Intra-County Recovery Operations

   The direction and control facilities for recovery operations within the county are the County EOC and the municipal EOCs.

   Key representatives from the emergency response departments (E.M.S., Fire, Law Enforcement, Public Works); community disaster agencies (Red Cross); public utilities (electric, gas, telephone companies); and military agencies (Coast Guard, National Guard) will be in the County and city EOCs during the hurricane's passage. Therefore, these representatives will direct the immediate recovery operations such as search and rescue, mass casualty activities, debris removal, emergency restoration of utilities, and preliminary damage assessment. The emergency response department representatives in the EOC will be in constant communication with normal dispatch stations. If normal dispatch stations are rendered inoperative from hurricane damage, the emergency dispatch functions will be assumed by the EOC to the extent possible. A representative from each major municipality will also be part of the County EOC staff to coordinate all city-County immediate recovery operations.

2. Inter-governmental Resource Distribution

   The primary facilities for requesting sustenance supplies from a higher level of government, allocating such supplies, and ultimately distributing the supplies to the victims are the County and city EOCs. However, a State direction and control point located within the region, to monitor and allocate supplies to each of the four counties of the Region, will be established immediately after winds drop back below gale force. This direction and control point, establishing a State Emergency Response Team, will be located at the Hillsborough County EOC and carry out all State coordination and assistance functions until the Disaster Field Office (DFO) is established.

   Requests for outside resources will be made by city EOCs to the County EOC. The County EOC will consolidate all city requests into a County request for the resources. The County request for outside resources will be made to the State Emergency

Response Team. Resources procured by the State Emergency Response Team will be allocated to each county of the Region based on needs and county requests.

B. Short-Range Restoration Period

The Short-Range Restoration Period begins a few days after hurricane landfall, stretching several weeks depending upon the extent of damage. Restoration activities focus on returning the area to a relatively normal social and economic state.

1. Damage Assessment Report

A County request for a State and/or Federal declaration of emergency and/or disaster will require, at some point, a formal written Damage Assessment Report. This Report will be formulated by the damage assessment personnel attached to the County EOC and city EOCs. Municipal damage assessments will be submitted to the County EOC and consolidated with County unincorporated area assessments before official submission to the State Bureau of Emergency Management and Federal Emergency Management Agency (FEMA). Local damage assessment personnel attached to the County EOC and city EOCs will be assigned by the County Office of Disaster Operations and city emergency management director to participate on a State/FEMA damage survey team that may visit the affected areas for on-site verification of local preliminary damage assessments and/or local Damage Survey Reports.

2. Disaster Assistance Programs

Direction and control for the provision of State and/or Federal disaster assistance will rest with the Federal Coordinating Officer (FCO), appointed by the FEMA Disaster Recovery Manager to coordinate all Federal assistance; and the State Coordinating Officer (SCO), appointed by the Governor's Authorized Representative to coordinate all State assistance.

Local direction and control for assisting the FCO and SCO in establishing a Disaster Field Office (DFO) and Disaster Assistance Centers (DACs) will be provided by the County EOC.

C. Long-Range Reconstruction Period

The Long-Range Reconstruction Period stretches from several weeks after hurricane landfall until all physical property, social, and economic processes return to a stable and acceptable pre-hurricane level.

1. Public Disaster Assistance Projects

Direction and control for the implementation of State and/or Federal public disaster assistance projects (such as public facility grants or community disaster loans) will rest with the County and/or city department responsible for the normal

functioning of the facility, as well as the County Office of Disaster Operations. The County and city EOCs will probably be de-activated before all long-range reconstruction or financial assistance projects are completed. Therefore, the local government department administering the assistance will coordinate the specific project with the State and/or FEMA.

2. Post-Hurricane Hazard Mitigation Plan

The formulation of the post-hurricane Hazard Mitigation Plan, required as a condition for any Federal disaster assistance, will be directed and controlled at the Federal level by the FEMA Hazard Mitigation Coordinator (HMC), appointed by the FEMA Regional Director. Similarly, a State Hazard Mitigation Coordinator (HMC) will be appointed by the Governor's Authorized Representative to serve on the State/FEMA survey team with the FEMA HMC. This State/FEMA survey team will, after a declaration of a major disaster or emergency, identify the significant hazards and appropriate mitigation measures to cope with those hazards to be addressed by the Plan.

Local direction and control for the formulation of the Plan will be provided by a local Hazard Mitigation Coordinator (HMC), appointed by the local government applying for the assistance. The local HMC will work with the State/FEMA survey team as required by the State HMC.

II. OPERATIONS ACTIVITIES

The implementation of operations activities for each of the three major recovery periods is outlined below, including a description of specific federal recovery assistance programs available for each activity when beyond local and State capability. The number listed with each program description references the specific requirements for that program as set forth in OMB Circular A-102 entitled "Uniform Requirements for Assistance to State and Local Governments" (OMB, 1981).

A. Immediate Emergency Period

a. Search and Rescue

Implementation of search and rescue procedures after hurricane landfall focuses on locating victims of the storm and removing them from the hazardous situation. Injured victims are administered short-range first aid, then transported to appropriate medical facilities. Deceased victims will be transported to a temporary receiving morgue. Homeless will be transported to evacuation shelters until temporary housing can be provided.

Hurricane hazards may also permanently sever access routes to coastal areas, stranding many residents without electricity, water, and/or telephone communications. This situation will require a large-scale search and rescue operation to relocate such stranded residents or to assure that essential services reach the severed areas.

County-wide coordination of post-hurricane search and rescue operations will be provided by the County Sheriff's Department. However, the actual search and rescue tasks will be mainly carried out by fire service personnel. These tasks include search, injury and visible trauma assessment, and basic life support. Supplementary security tasks to facilitate search and rescue, such as investigations, anti-looting patrol, crowd control, and access restriction will be provided by the County Sheriff's Department and municipal law enforcement personnel.

Mass casualty operations will be coordinated between the command component of the search and rescue operation and the Hillsborough County Mass Casualty Director. The County Medical Examiner will coordinate the establishment of a temporary receiving morgue as well as transportation/disposition of the deceased. Mass casualty situations beyond local and state capabilities may be assisted, upon issuance of a Presidential major disaster declaration, through a Federal emergency program for Health, Medical and Sanitation Services for supervision of temporary cemetaries and spray operations (OMB Cat 83.300).

Local law enforcement and fire personnel engaged in search and rescue operations beyond local capabilities will be assisted by personnel and equipment from the Florida Highway Patrol, U. S. Coast Guard, and the National Guard. After a Presidential major disaster declaration, additional assistance can be provided through an emergency Federal program for Protection, Evacuation Search, and Rescue from Federal agencies as requested by FEMA (OMB Cat. 83.300).

b. Post-Hurricane Sheltering

In addition to the pre-hurricane shelters provided for evacuees of vulnerable areas relocating during the approach of the storm, post-hurricane shelter will also be needed for several types of individuals. First, pre-hurricane evacuees occupying shelters during the storm who cannot return to their homes because of structural damage or severed access routes must be sheltered until temporary housing can be provided. Secondly, those rescued from damaged areas and now homeless must be sheltered until temporary housing can be provided. Thirdly, many recovery workers coming from outside the Region to restore essential public services must be sheltered until alternative private accommodations can be arranged.

Post-hurricane shelter will be provided throughout the immediate emergency period by the County in coordination with the American Red Cross, utilizing those pre-hurricane shelters most suitable for a stay of longer duration. Utilization of specific shelters will depend on the post-hurricane shelter capacity needed. Those local homeless victims should be eligible for Federal disaster temporary housing assistance and may apply for such assistance at the closest Disaster Assis-

tance Center (DAC) (DACs should be activated within two to five days after the hurricane strike).

c. Debris Removal

Priority for post-hurricane debris removal is focused upon major transportation routes to restore services, movement of traffic, and movement of critical recovery sustenance and repair supplies to affected areas.

Debris removal and disposal will be coordinated by the County Public Works Department in conjunction with municipal public works departments. Coordination will be maintained with the respective County and municipal parks departments concerning debris removal within all park areas. In addition, communications will be maintained with the County and municipal environmental management departments to obtain any necessary debris removal and disposal permits and/or clearances from the local department as well as the State Department of Environmental Regulation.

When necessary debris removal is beyond the capabilities of the County and municipalities, request for assistance from the State Department of Transportation (DOT) will be made by the County Office of Disaster Operations through the Central Florida Area Coordinator (CEFA) of the Florida Bureau of Emergency Management. Additional debris removal personnel and/or equipment from the State Department of Military Affiars (National Guard) may be requested by the County Office of Disaster Operations through CEFA.

The County or municipality in which a private land area lies will be responsible for obtaining right-of-entry agreements for any private lands involved in debris removal activities.

After a Presidential major disaster declaration, additional debris removal assistance can be provided through an emergency Federal program for (a) Debris Removal - specialized services and/or grants as requested by FEMA for public roads, beaches, water, other properties, and private property with owner consent (OMB Cat. 83.300), and (b) Timber Removal - project grants from FEMA through the Governor's Authorized Representative for fallen trees from hurricane wind/surge (OMB Cat. 83.300).

d. Emergency Restoration of Public Facilities

Emergency restoration of essential public facilities (electricity, telephone, etc.) will be prioritized as follows: 1 - Emergency direction and control facilities (EOCs); 2 - Medical facilities; 3 - Water and waste water pumping facilities; 4 - County resource staging areas, recovery centers, disaster field office(s), and disaster assistance centers; 5 - General public.

Water and Waste Water Systems

Initial recovery efforts in regard to water and waste water systems will be focused on determining contamination to potable water supplies from hurricane damage. County Office of Disaster Operations will request the County Health Department to make a determination of any critical public health hazard because of such contamination. Such efforts will also be coordinated with the County Public Works and/or Utilities Department towards immediate repair and mitigation of further contamination. Any assistance necessary from the State DER will be requested by the County Office of Disaster Operations through CEFA. When State and local resources are inadequate to restore safe water supplies and/or correct waste water system problems, the State DER will provide the Bureau of Emergency Management with the necessary information needed to request Federal assistance.

Of the County's 28 potable water facilities, none are projected to receive storm surge damage that would disrupt normal operation for more than one day under a minimal (Damage Scenario A) hurricane. This scenario would not necessitate overland transportation of potable water into the County, as undamaged facilities will probably be capable of supplying those affected areas within the County. However, a very intense hurricane (Damage Scenario D) is projected to cause over one day of service disruption to 27 of the County's 28 potable water facilities. Large-scale emergency importation of potable water will be required under this scenario (see Inter-governmental Resource Distribution section of this Guide).

One of the County's six waste water treatment facilities is projected to receive storm surge damage that would disrupt normal operation for more than one day under a minimal (Damage Scenario A) hurricane. This scenario probably would not cause a public health hazard necessitating specialized Federal emergency assistance. However, a very intense hurricane (Damage Scenario D) is projected to cause over one day of service disruption to all of the County's six waste water treatment facilities. Upon a Presidential major disaster declaration, assistance in coping with such a situation can be secured through an emergency Federal program for Health, Medical, and Sanitation Services - providing trained specialists for control, treatment, prevention of disease; protection of food and water supplies; immunization; early care for sick; and aircraft for spray operations (OMB Cat. 83.300).

Electricity/Telephone

In addition to greatly reducing the efficiency of telephone service, electricity disruption will affect water pumping facilities and gasoline pumps; subsequently causing food spoilage, drinking water shortages, and a shortage of fuel for emergency vehicles.

Restoration of electrical power in the immediate emergency period will begin as soon as major roads are cleared of debris and fallen trees to allow passage of vehicles and work crews. The Florida Power Corporation and the Tampa Electric Company maintain emergency restoration plans including safety shutdowns, local restoration manpower, and emergency assistance manpower from areas outside the Region not affected by the hurricane.

All electric substations in the County have the potential for hurricane wind damage. Thirteen of the County's 114 substations are projected to receive storm surge damage that would disrupt normal operation for more than one day under a minimal (Damage Scenario A) hurricane. A very intense hurricane (Damage Scenario D) is projected to cause over one day of service disruption from storm surge to 32 of the County's 114 substations. Under this intense hurricane damage scenario, a full-scale influx of outside electric company emergency restoration crews will be necessary to repair such a widespread system disruption.

Transportation

Those roadways of the County located in the surge-vulnerable areas of Damage Scenario A are expected to receive substantial damage from upheaval and/or erosion of the roadbed from a major hurricane. (See Appendix J. of the Regional Hurricane Loss Study). The repair of these roadway facilities will be coordinated by the County Public Works Department in coordination with the Florida Department of Transportation.

If roadway or other transportation facility damage is great enough that its repair is beyond the capability of existing County and State resources, a Presidential declaration of major disaster will provide local government eligibility for a Federal disaster assistance program for such repair. The program is for Repair or Restoration of Public Facilities, consisting of FEMA grants to repair, replace, reconstruct, or restore publicly-owned facilities including navigation/airport facilities, non-Federal aid streets/roads/highways, or public transportation buildings (OMB Cat. 83.300).

Potential hurricane damage to public vehicles, as well as roads and bridges, may substantially cripple public transportation necessary for recovery. Upon a Presidential declaration of major disaster, a federal assistance program for emergency Public Transportation is available to provide for transportation to and from activity centers critical to the recovery process including ferry or barge service to islands suffering bridge damage and provision of trucks/buses until public vehicles are replaced (OMB Cat. 83.300).

Finally, a federal major disaster declaration will make the County eligible for Flood Fighting and Rescue Operations assistance from the U. S. Army Corps of Engineers, including

specialized emergency help in all phases of flood fighting and rescue operations (OMB Cat. 21.103).

e. Preliminary Damage Assessment

The preliminary damage assessment is the first step in requesting a State and/or Federal declaration of emergency and/or major disaster. The assessment will be completed within 12 hours after passage of the hurricane and transmitted by fastest means of communication to the Bureau of Emergency Management through the Area Coordinator (CEFA). The assessment will be formulated by the County EOC, consolidating initial municipal damage assessments with initial damage assessments in unincorporated areas. The assessment will be based on the Tampa Bay Region Hurricane Loss Study, a windshield survey of affected areas, aerial photographs, overflights, and/or TV tapes.

A Federal/State Disaster Survey Team will verify the preliminary damage assessment to determine whether the damage and/or local impact warrants an emergency and/or major disaster declaration.

2. Inter-governmental Resource Distribution

a. State Emergency Response Team

During the immediate emergency period, the large volume of sustenance and restoration supplies coming into the Region from other areas of the State and country will be allocated to the counties of the Region by a State Emergency Response Team. This Team, composed of representatives from the Bureau of Emergency Management, CEFA and/or other state agencies, will be immediately established at the Hillsborough County EOC. Allocation and dispatch of supplies to individual counties will be carried out between the Team and the County EOCs. Requests for resources will go from municipal EOCs to the County EOC to the State Emergency Response Team at the Hillsborough County EOC.

b. County Staging Area(s)

Based on the allocation of outside resources, the State Emergency Response Team will direct the transportation of the supplies from the source directly to the County emergency access control points that will be setup utilizing County law enforcement personnel at all major roadways entering the County. These access control points will be monitored by the County EOC. As supplies reach these points, control point personnel will receive emergency clearance from the County EOC to direct the supplies to the County Resource Staging Area(s). The Staging Area will then process, unload and/or direct the supplies to the respective city Recovery Center (as designated by the city EOC) or unincorporated County area Recovery Center. The

Recovery Center will then distribute supplies to the public as appropriate.

As directed by the County EOC, the County Resource Staging Area will coordinate with non-governmental relief agencies for provision of mass feeding facilities. The Staging Area will also coordinate with private suppliers of ice and bottled water to ensure optimum and prioritized distribution as well as to prevent price gouging on such emergency supplies.

Upon a Presidential major disaster declaration, a federal assistance program for Food, Water, Shelter may be requested through FEMA for surveying local potable water supplies; supervising storage, transportation, and distribution of food and water, as well as assistance for shelter operations (OMB Cat. 83.300).

Finally, emergency vector control throughout the County will be coordinated at the Staging Area. A major disaster declaration will make available assistance from the U.S. Center for Disease Control and/or Public Health Service under a federal program of Vector Control. This program will assist in determining the best disease control strategies, determine requirements for mass immunization centers, and to obtain chemicals and aircraft as well as vaccine for vector and disease control.

b. Short-Range Restoration Period

1. Damage Assessment Report

After a State and/or Federal declaration of emergency and/or major disaster, a formal damage assessment report is required to determine local eligibility for the various specific assistance programs. This Report is more detailed than the preliminary damage assessment, including Expenditure/Obligation Reports and Damage Site Reports. This Report will require the establishment of an EOC-based County Damage Survey Team, augmented by municipal representatives when on-site inspections, contact with property owners, and overall damage assessment focuses on incorporated areas of the County.

The overall County Damage Assessment Report will be composed by consolidating similar reports from the municipalities affected as well as unincorporated areas. The Report will then be submitted, in written form, to the Bureau of Emergency Management through the Area Coodinator (CEFA).

2. Disaster Field Office (DFO)

Immediately upon a Presidential declaration of major disaster, a FEMA Disaster Recovery Manager is appointed to direct federal assistance to the local disaster areas. The Disaster Recovery Manager, in turn, may appoint a Federal Coordinating Officer (FCO) to control such federal assistance at the local level. (Depending upon the nature of the declaration, the FCO and Disaster Recovery Manager may be a combined role for one individual.) A similar appointment process will take place at the State level involving the Governor's Authorized Representative and a State Coordinating Officer (SCO).

The FCO, with assistance from the SCO and County emergency management officials, will establish a Disaster Field Office (DFO). The DFO, a centrally located facility, will administer all Federal and State disaster assistance programs; it will also take over all inter-governmental resource distribution functions of the interim State Emergency Response Team.

A listing of available federal disaster assistance programs appears in Chapter VIII of the Regional Hurricane Loss and Contingency Planning Study.

3. Disaster Assistance Centers (DAC)

After the DFO becomes fully operational, Disaster Assistance Centers (DACs) are established in the affected areas to reach eligible victims with a range of federal disaster assistance programs. DACs are usually established in schools, community centers, or other public buildings to facilitate a familiar access point for residents to come to apply for disaster assistance.

The Hillsborough County Disaster Assistance Centers will be established in the following buildings, depending upon geographic areas affected by the hurricane (see Figure 31 for mapped locations of the predesignated Centers):

Disaster Field Office:

University of South Florida Tampa Campus
4202 East Fowler Avenue
Tampa

Disaster Assistance Centers:

Ybor City Boys and Girls Club
2806 - 15th Street
Ybor City

Sun City Center
Sun City

Lutz Senior Center
112th - 1st Avenue N.W.
Lutz

Seventh Day Adventist Church
2303 Strawberry Drive
Plant City

Dover Advent Christian Church
Dover-Sydney Road (1 Blk. S. of Hwy. 74)
Dover

First Baptist Church of Mango
Mango

Hillsborough Community Center
Plant City Campus
Park Road and Commerce
Plant City

Postal Carriers Union Hall
Cypress and MacDill
Tampa

Temple Terrace Recreation Center
6610 Whiteway Drive
Temple Terrace

Nativity Catholic Church
205 S. Oakwood
Brandon

Pinecrest Elementary School
Hwy. 39 and Lithia
Pinecrest

West Tampa Boys and Girls Club
1415 N. MacDill
Tampa

4. Coastal Protection Structures Repair

Upon a federal major disaster declaration, emergency hurricane-caused repair and rehabilitation of federal flood control works and federally-authorized coastal protection works in the County and/or constituent municipalities will be conducted by the U. S. Army Corps of Engineers. Also, reimbursement to the County and/or municipalities of funds used for such emergency repair is provided under this federal disaster assistance program (OMB Cat. 12.102).

c. Long-Range Reconstruction Period

1. Public Disaster Assistance Projects

Federally-assisted hurricane reconstruction projects, stretching beyond the period of time of EOC activation, will be administered by the appropriate County department normally responsible for daily maintenance of the damaged facility. Each project will also be monitored by the County Office of Disaster Operations.

County and municipal applications for federal Community Disaster Loans will utilize the projections of hurricane structural taxable loss in Chapter V of the Regional Hurricane Loss Study for post-hurricane estimates and projections of local revenue loss. Such loans may provide up to 25 percent of the annual operating budget (OMB Cat. 83.300).

2. Private Facility Assistance Projects

A federal major disaster declaration may provide grants to repair, replace, reconstruct, or restore private non-profit service facilities to their pre-disaster condition. Such assistance is directly administered to the applicant by FEMA. (OMB Cat. 83.300).

3. Post-Hurricane Hazard Mitigation Plan

As part of the ongoing Federal/State agreement executed between the State of Florida and FEMA for the administering or receiving of Federal grant or loan assistance as a result of a major disaster or emergency; a hazard mitigation clause requires local governments, as applicants for federal disaster assistance, to take certain hazard mitigation measures. As a condition for any federal loan or grant, the state or the local government applicant will evaluate the natural hazards in the area in which the proceeds of the grants or loans are to be used and shall make appropriate recommendations to mitigate such hazards for federally-assisted projects. The State further agrees: (1) to follow-up with applicants, within state capabilities, to assure that, as a condition for any grant or loan under the Disaster Relief Act of 1974, appropriate hazard mitigation actions are taken; (2) to prepare and submit, not later than 180 days after the declaration to the FEMA Regional Director for concurrence, a hazard mitigation plan or plans for the designated areas; and (3) to review and update, as necessary, disaster-mitigation portions of the emergency plans.

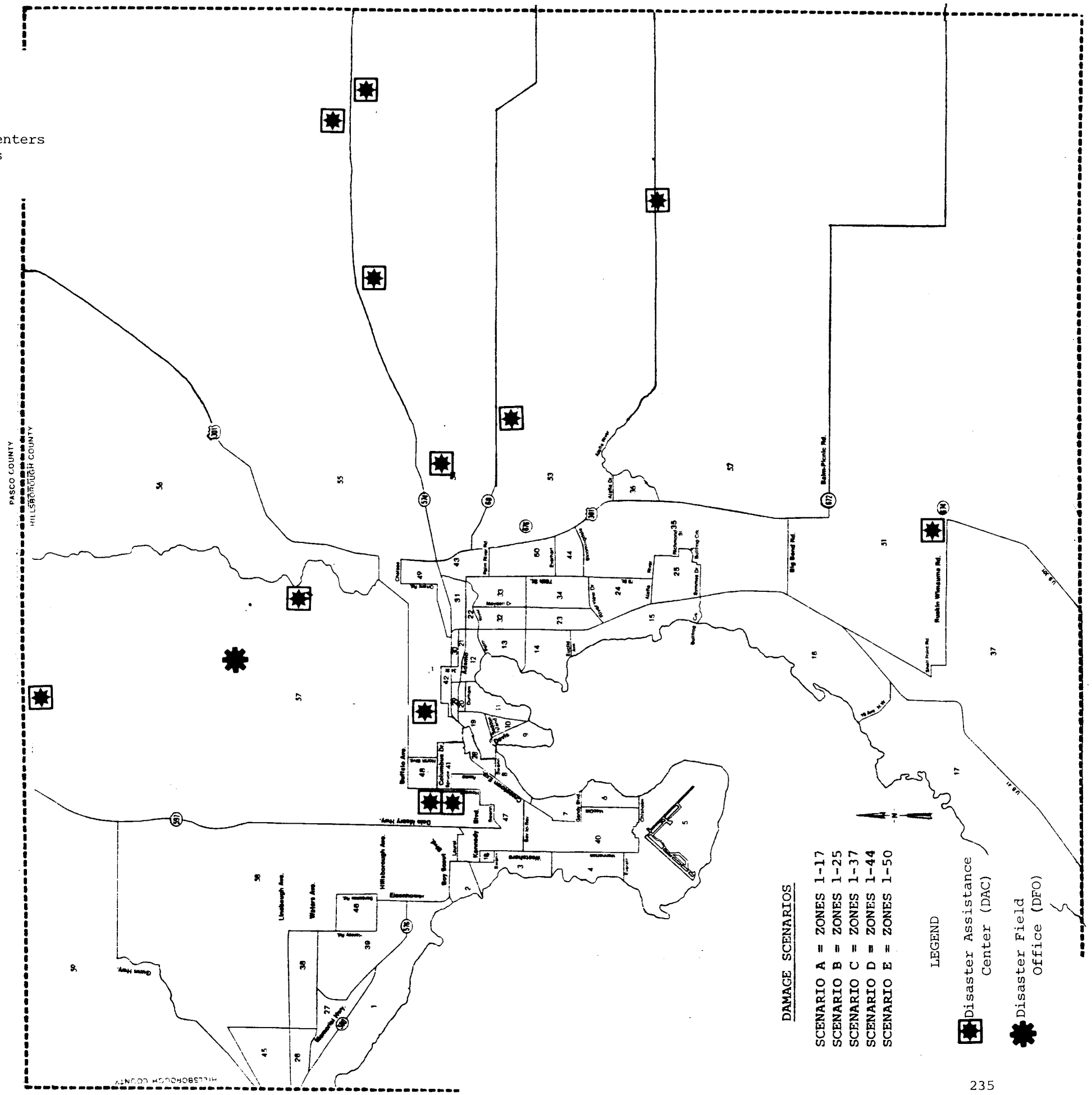
The formulation of the post-hurricane hazard mitigation plan is a key element in the local hazard mitigation

process. The specific mitigation efforts contained in the plan, as formulated by the State and affected County and/or city, must be carried out to ensure future eligibility of that local government for federal assistance in recovering from a similar type of future hurricane hazard. When receiving applications for such future federal disaster assistance, FEMA will review the hazard mitigation plan from the previous event to ascertain whether stated mitigation measures have been undertaken before disaster assistance will be provided. Such assistance will not be provided if measures have not been undertaken. The disaster declaration for that event will provide federal assistance to the State and/or local government applicant to identify and evaluate the hurricane hazards in affected areas and to recommend specific hazard mitigation actions to incorporate into the hazard mitigation plan (OMB Cat. 83.300).

FIGURE 31

HILLSBOROUGH COUNTY

redesignated Disaster Assistance Centers
and Disaster Field Office Sites



CHAPTER XI

MANATEE COUNTY HURRICANE RECOVERY IMPLEMENTATION GUIDE

INTRODUCTION

This Guide outlines the concept, direction and control, and operations activities for the recovery by Manatee County from a hurricane strike. The emergency short-range and long-range recovery strategies are based on Phase I (Chapters 1-7) of the Tampa Bay Region Hurricane Loss and Contingency Planning Study.

CONCEPT

The Manatee County Hurricane Evacuation Implementation Guide sets forth the scope and procedure for the pre-hurricane relocation and sheltering of vulnerable residents of the County. This Guide continues through the hurricane scenario, providing the scope and procedure for County post-hurricane recovery.

The following sections provide the basic plan framework for Countywide hurricane recovery operations, their direction and control, and their relationship to the Manatee County Hurricane Evacuation Implementation Guide.

The general concept of hurricane recovery in Manatee County is similar to that for hurricane evacuation: a coordinated effort by personnel and equipment from municipal, County, and other disaster support agencies in the recovery from injuries, damage, and suffering resulting from the hurricane. As documented by Phase I (Hurricane Loss Study), a direct hurricane strike will quickly outstrip the capability of a single municipality, county or even the State to recover without Federal disaster assistance of various types. Therefore, the following hurricane recovery guide has been formulated to coordinate the post-hurricane efforts of all levels of government involved in the recovery process.

HURRICANE RECOVERY OPERATIONS

I. DIRECTION AND CONTROL

In order for continuity of direction and control throughout hurricane emergency operations, the County Emergency Operations Center (EOC) will continue to provide the primary direction and control function for the recovery phase as it did in the hurricane preparedness (evacuation) phase. This primary direction and control function will be supported by the immediate issuance of a County declaration of emergency to provide for legal enforcement of needed direction and control.

A. Immediate Emergency Period

The Immediate Emergency Period begins immediately after the hurricane has passed through the area (sustained winds dropping

back down below gale force) and stretches through the first few days after hurricane landfall.

Direction and control during the immediate emergency period focuses on two major types of activities: (1) intra-county recovery operations, such as search and rescue, mass casualty activities, post-hurricane sheltering, preliminary damage assessment, debris removal, and restoration of utilities; and (2) inter-governmental resource distribution, including the request for sustenance supplies from outside the city and/or County, the allocation of supplies to local governments, and the distribution of those supplies by the local government. Such supplies include water, medication, food, ice, clothing, and blankets. This also includes resources imported in order to carry out the intra-county emergency operations; such as personnel, equipment, and rebuilding/repair supplies.

1. Intra-County Recovery Operations

   The direction and control facilities for recovery operations within the county are the County EOC and the municipal EOCs.

   Key representatives from the emergency response departments (E.M.S., Fire, Law Enforcement, Public Works); community disaster agencies (Red Cross); public utilities (electric, gas, telephone companies); and military agencies (Coast Guard, National Guard) will be in the County and city EOCs during the hurricane's passage. Therefore, these representatives will direct the immediate recovery operations such as search and rescue, mass casualty activities, debris removal, emergency restoration of utilities, and preliminary damage assessment. The emergency response department representatives in the EOC will be in constant communication with normal dispatch stations. If normal dispatch stations are rendered inoperative from hurricane damage, the emergency dispatch functions will be assumed by the EOC to the extent possible. A representative from each major municipality will also be part of the County EOC staff to coordinate all city-County immediate recovery operations.

2. Inter-governmental Resource Distribution

   The primary facilities for requesting sustenance supplies from a higher level of government, allocating such supplies, and ultimately distributing the supplies to the victims are the County and city EOCs. However, a State direction and control point located within the region, to monitor and allocate supplies to each of the four counties of the Region, will be established immediately after winds drop back below gale force. This direction and control point, establishing a State Emergency Response Team, will be located at the Hillsborough County EOC and carry out all State coordination and assistance functions until the Disaster Field Office (DFO) is established.

Requests for outside resources will be made by city EOCs to the County EOC. The County EOC will consolidate all city requests into a County request for the resources. The County request for outside resources will be made to the State Emergency Response Team. Resources procured by the State Emergency Response Team will be allocated to each county of the Region based on needs and county requests.

B. Short-Range Restoration Period

The Short-Range Restoration Period begins a few days after hurricane landfall, stretching several weeks depending upon the extent of damage. Restoration activities focus on returning the area to a relatively normal social and economic state.

1. Damage Assessment Report

A County request for a State and/or Federal declaration of emergency and/or disaster will require, at some point, a formal written Damage Assessment Report. This Report will be formulated by the damage assessment personnel attached to the County EOC and city EOCs. Municipal damage assessments will be submitted to the County EOC and consolidated with County unincorporated area assessments before official submission to the State Bureau of Emergency Management and Federal Emergency Management Agency (FEMA). Local damage assessment personnel attached to the County EOC and city EOCs will be assigned by the County Emergency Management Division and city emergency management director to participate on a State/FEMA damage survey team that may visit the affected areas for on-site verification of local preliminary damage assessments and/or local Damage Survey Reports.

2. Disaster Assistance Programs

Direction and control for the provision of State and/or Federal disaster assistance will rest with the Federal Coordinating Officer (FCO), appointed by the FEMA Disaster Recovery Manager to coordinate all Federal assistance; and the State Coordinating Officer (SCO), appointed by the Governor's Authorized Representative to coordinate all State assistance.

Local direction and control for assisting the FCO and SCO in establishing a Disaster Field Office (DFO) and Disaster Assistance Centers (DACs) will be provided by the County EOC.

C. Long-Range Reconstruction Period

The Long-Range Reconstruction Period stretches from several weeks after hurricane landfall until all physical property, social, and economic processes return to a stable and acceptable pre-hurricane level.

1. Public Disaster Assistance Projects

Direction and control for the implementation of State and/or Federal public disaster assistance projects (such as public facility grants or community disaster loans) will rest with the County and/or city department responsible for the normal functioning of the facility, as well as the County Emergency Management Division. The County and city EOCs will probably be de-activated before all long-range reconstruction or financial assistance projects are completed. Therefore, the local government department administering the assistance will coordinate the specific project with the State and/or FEMA.

2. Post-Hurricane Hazard Mitigation Plan

The formulation of the post-hurricane Hazard Mitigation Plan, required as a condition for any Federal disaster assistance, will be directed and controlled at the Federal level by the FEMA Hazard Mitigation Coordinator (HMC), appointed by the FEMA Regional Director. Similarly, a State Hazard Mitigation Coordinator (HMC) will be appointed by the Governor's Authorized Representative to serve on the State/FEMA survey team with the FEMA HMC. This State/FEMA survey team will, after a declaration of a major disaster or emergency, identify the significant hazards and appropriate mitigation measures to cope with those hazards to be addressed by the Plan.

Local direction and control for the formulation of the Plan will be provided by a local Hazard Mitigation Coordinator (HMC), appointed by the local government applying for the assistance. The local HMC will work with the State/FEMA survey team as required by the State HMC.

II. OPERATIONS ACTIVITIES

The implementation of operations activities for each of the three major recovery periods is outlined below, including a description of specific federal recovery assistance programs available for each activity when beyond local and State capability. The number listed with each program description references the specific requirements for that program as set forth in OMB Circular A-102 entitled "Uniform Requirements for Assistance to State and Local Governments" (OMB, 1981).

A. Immediate Emergency Period

a. Search and Rescue

Implementation of search and rescue procedures after hurricane landfall focuses on locating victims of the storm and removing them from the hazardous situation. Injured victims are administered short-range first aid, then transported to appropriate medical facilities. Deceased victims will be transported to a temporary receiving morgue. Homeless will be transported to evacuation shelters until temporary housing can be provided.

Hurricane hazards may also permanently sever access routes to coastal areas, stranding many residents without electricity, water, and/or telephone communications. This situation will require a large-scale search and rescue operation to relocate such stranded residents or to assure that essential services reach the severed areas.

County-wide coordination of post-hurricane search and rescue operations will be provided by the County Sheriff's Department. However, the actual search and rescue tasks will be mainly carried out by fire service personnel. These tasks include search, injury and visible trauma assessment, and basic life support. Supplementary security tasks to facilitate search and rescue, such as investigations, anti-looting patrol, crowd control, and access restriction will be provided by the County Sheriff's Department and municipal law enforcement personnel.

Mass casualty operations will be coordinated between the command component of the search and rescue operation and the Manatee County regional hospitals (or) Manatee County Mass Casualty Director. The County Medical Examiner will coordinate the establishment of a temporary receiving morgue as well as transportation/disposition of the deceased. Mass casualty situations beyond local and state capabilities may be assisted, upon issuance of a Presidential major disaster declaration, through a Federal emergency program for Health, Medical and Sanitation Services for supervision of temporary cemetaries and spray operations (OMB Cat 83.300).

Local law enforcement and fire personnel engaged in search and rescue operations beyond local capabilities will be assisted by personnel and equipment from the Florida Highway Patrol, U. S. Coast Guard, and the National Guard. After a Presidential major disaster declaration, additional assistance can be provided through an emergency Federal program for Protection, Evacuation Search, and Rescue from Federal agencies as requested by FEMA (OMB Cat. 83.300).

b. Post-Hurricane Sheltering

In addition to the pre-hurricane shelters provided for evacuees of vulnerable areas relocating during the approach of the storm, post-hurricane shelter will also be needed for several types of individuals. First, pre-hurricane evacuees occupying shelters during the storm who cannot return to their homes because of structural damage or severed access routes must be sheltered until temporary housing can be provided. Secondly, those rescued from damaged areas and now homeless must be sheltered until temporary housing can be provided. Thirdly, many recovery workers coming from outside the Region to restore essential public services must be sheltered until alternative private accommodations can be arranged.

Post-hurricane shelter will be provided throughout the immediate emergency period by the County in coordination with the

American Red Cross, utilizing those pre-hurricane shelters most suitable for a stay of longer duration. Utilization of specific shelters will depend on the post-hurricane shelter capacity needed. Those local homeless victims should be eligible for Federal disaster temporary housing assistance and may apply for such assistance at the closest Disaster Assistance Center (DAC) (DACs should be activated within two to five days after the hurricane strike).

c. Debris Removal

Priority for post-hurricane debris removal is focused upon major transportation routes to restore services, movement of traffic, and movement of critical recovery sustenance and repair supplies to affected areas.

Debris removal and disposal will be coordinated by the County Public Works Department in conjunction with municipal public works departments. Coordination will be maintained with the respective County and municipal parks departments concerning debris removal within all park areas. In addition, communications will be maintained with the County and municipal environmental management departments to obtain any necessary debris removal and disposal permits and/or clearances from the local department as well as the State Department of Environmental Regulation.

When necessary debris removal is beyond the capabilities of the County and municipalities, request for assistance from the State Department of Transportation (DOT) will be made by the County Emergency Management Division through the Central Florida Area Coordinator (CEFA) of the Florida Bureau of Emergency Management. Additional debris removal personnel and/or equipment from the State Department of Military Affiars (National Guard) may be requested by the County Emergency Management Division through CEFA.

The County or municipality in which a private land area lies will be responsible for obtaining right-of-entry agreements for any private lands involved in debris removal activities.

After a Presidential major disaster declaration, additional debris removal assistance can be provided through an emergency Federal program for (a) Debris Removal - specialized services and/or grants as requested by FEMA for public roads, beaches, water, other properties, and private property with owner consent (OMB Cat. 83.300), and (b) Timber Removal - project grants from FEMA through the Governor's Authorized Representative for fallen trees from hurricane wind/surge (OMB Cat. 83.300).

d. Emergency Restoration of Public Facilities

Emergency restoration of essential public facilities (electricity, telephone, etc.) will be prioritized as follows:

1 - Emergency direction and control facilities (EOCs); 2 - Medical facilities; 3 - Water and waste water pumping facilities; 4 - County resource staging areas, recovery centers, disaster field office(s), and disaster assistance centers; 5 - General public.

Water and Waste Water Systems

Initial recovery efforts in regard to water and waste water systems will be focused on determining contamination to potable water supplies from hurricane damage. County Emergency Management Division will request the County Health Department to make a determination of any critical public health hazard because of such contamination. Such efforts will also be coordinated with the County Public Works and/or Utilities Department towards immediate repair and mitigation of further contamination. Any assistance necessary from the State DER will be requested by the County Emergency Management Division through CEFA. When State and local resources are inadequate to restore safe water supplies and/or correct waste water system problems, the State DER will provide the Bureau of Emergency Management with the necessary information needed to request Federal assistance.

Of the County's 20 potable water facilities, one is projected to receive storm surge damage that would disrupt normal operation for more than one day under a minimal (Damage Scenario A) hurricane. This scenario would not necessitate overland transportation of potable water into the County, as undamaged facilities will probably be capable of supplying those affected areas within the County. However, a very intense hurricane (Damage Scenario D) is projected to cause over one day of service disruption to all of the County's 20 potable water facilities. Large-scale emergency importation of potable water will be required under this scenario (see Inter-governmental Resource Distribution section of this Guide).

None of the County's three waste water treatment facilities are projected to receive storm surge damage that would disrupt normal operation for more than one day under a minimal (Damage Scenario A) hurricane. This scenario probably would not cause a public health hazard necessitating specialized Federal emergency assistance. However, a very intense hurricane (Damage Scenario D) is projected to cause over one day of service disruption to all of the County's three waste water treatment facilities. Upon a Presidential major disaster declaration, assistance in coping with such a situation can be secured through an emergency Federal program for Health, Medical, and Sanitation Services - providing trained specialists for control, treatment, prevention of disease; protection of food and water supplies; immunization; early care for sick; and aircraft for spray operations (OMB Cat. 83.300).

Electricity/Telephone

In addition to greatly reducing the efficiency of telephone service, electricity disruption will affect water pumping facilities and gasoline pumps; subsequently causing food spoilage, drinking water shortages, and a shortage of fuel for emergency vehicles.

Restoration of electrical power in the immediate emergency period will begin as soon as major roads are cleared of debris and fallen trees to allow passage of vehicles and work crews. The Florida Power Corporation and the Tampa Electric Company maintain emergency restoration plans including safety shutdowns, local restoration manpower, and emergency assistance manpower from areas outside the Region not affected by the hurricane.

All electric substations in the County have the potential for hurricane wind damage. None of the County's eight substations are projected to receive storm surge damage that would disrupt normal operation for more than one day under a minimal (Damage Scenario A) hurricane. A very intense hurricane (Damage Scenario D) is projected to cause over one day of service disruption from storm surge to two of the County's eight substations. Under this intense hurricane damage scenario, a full-scale influx of outside electric company emergency restoration crews will be necessary to repair such a widespread system disruption.

Transportation

Those roadways of the County located in the surge-vulnerable areas of Damage Scenario A are expected to receive substantial damage from upheaval and/or erosion of the roadbed from a major hurricane. (See Appendix J. of the Regional Hurricane Loss Study). The repair of these roadway facilities will be coordinated by the County Public Works Department in coordination with the Florida Department of Transportation.

If roadway or other transportation facility damage is great enough that its repair is beyond the capability of existing County and State resources, a Presidential declaration of major disaster will provide local government eligibility for a Federal disaster assistance program for such repair. The program is for Repair or Restoration of Public Facilities, consisting of FEMA grants to repair, replace, reconstruct, or restore publicly-owned facilities including navigation/airport facilities, non-Federal aid streets/roads/highways, or public transportation buildings (OMB Cat. 83.300).

Potential hurricane damage to public vehicles, as well as roads and bridges, may substantially cripple public transportation necessary for recovery. Upon a Presidential declaration of major disaster, a federal assistance program for emergency Public Transportation is available to provide for transporta-

tion to and from activity centers critical to the recovery process including ferry or barge service to islands suffering bridge damage and provision of trucks/buses until public vehicles are replaced (OMB Cat. 83.300).

Finally, a federal major disaster declaration will make the County eligible for Flood Fighting and Rescue Operations assistance from the U. S. Army Corps of Engineers, including specialized emergency help in all phases of flood fighting and rescue operations (OMB Cat. 21.103).

e. Preliminary Damage Assessment

The preliminary damage assessment is the first step in requesting a State and/or Federal declaration of emergency and/or major disaster. The assessment will be completed within 12 hours after passage of the hurricane and transmitted by fastest means of communication to the Bureau of Emergency Management through the Area Coordinator (CEFA). The assessment will be formulated by the County EOC, consolidating initial municipal damage assessments with initial damage assessments in unincorporated areas. The assessment will be based on the Tampa Bay Region Hurricane Loss Study, a windshield survey of affected areas, aerial photographs, overflights, and/or TV tapes.

A Federal/State Disaster Survey Team will verify the preliminary damage assessment to determine whether the damage and/or local impact warrants an emergency and/or major disaster declaration.

2. Inter-governmental Resource Distribution

a. State Emergency Response Team

During the immediate emergency period, the large volume of sustenance and restoration supplies coming into the Region from other areas of the State and country will be allocated to the counties of the Region by a State Emergency Response Team. This Team, composed of representatives from the Bureau of Emergency Management, CEFA and/or other state agencies, will be immediately established at the Hillsborough County EOC. Allocation and dispatch of supplies to individual counties will be carried out between the Team and the County EOCs. Requests for resources will go from municipal EOCs to the County EOC to the State Emergency Response Team at the Hillsborough County EOC.

b. County Staging Area(s)

Based on the allocation of outside resources, the State Emergency Response Team will direct the transportation of the supplies from the source directly to the County emergency access control points that will be setup utilizing County law enforcement personnel at all major

roadways entering the County. These access control points will be monitored by the County EOC. As supplies reach these points, control point personnel will receive emergency clearance from the County EOC to direct the supplies to the County Resource Staging Area(s). The Staging Area will then process, unload and/or direct the supplies to the respective city Recovery Center (as designated by the city EOC) or unincorporated County area Recovery Center. The Recovery Center will then distribute supplies to the public as appropriate.

As directed by the County EOC, the County Resource Staging Area will coordinate with non-governmental relief agencies for provision of mass feeding facilities. The Staging Area will also coordinate with private suppliers of ice and bottled water to ensure optimum and prioritized distribution as well as to prevent price gouging on such emergency supplies.

Upon a Presidential major disaster declaration, a federal assistance program for Food, Water, Shelter may be requested through FEMA for surveying local potable water supplies; supervising storage, transportation, and distribution of food and water, as well as assistance for shelter operations (OMB Cat. 83.300).

Finally, emergency vector control throughout the County will be coordinated at the Staging Area. A major disaster declaration will make available assistance from the U.S. Center for Disease Control and/or Public Health Service under a federal program of Vector Control. This program will assist in determining the best disease control strategies, determine requirements for mass immunization centers, and to obtain chemicals and aircraft as well as vaccine for vector and disease control.

b. Short-Range Restoration Period

1. Damage Assessment Report

After a State and/or Federal declaration of emergency and/or major disaster, a formal damage assessment report is required to determine local eligibility for the various specific assistance programs. This Report is more detailed than the preliminary damage assessment, including Expenditure/Obligation Reports and Damage Site Reports. This Report will require the establishment of an EOC-based County Damage Survey Team, augmented by municipal representatives when on-site inspections, contact with property owners, and overall damage assessment focuses on incorporated areas of the County.

The overall County Damage Assessment Report will be composed by consolidating similar reports from the

municipalities affected as well as unincorporated areas. The Report will then be submitted, in written form, to the Bureau of Emergency Management through the Area Coodinator (CEFA).

2. Disaster Field Office (DFO)

Immediately upon a Presidential declaration of major disaster, a FEMA Disaster Recovery Manager is appointed to direct federal assistance to the local disaster areas. The Disaster Recovery Manager, in turn, may appoint a Federal Coordinating Officer (FCO) to control such federal assistance at the local level. (Depending upon the nature of the declaration, the FCO and Disaster Recovery Manager may be a combined role for one individual.) A similar appointment process will take place at the State level involving the Governor's Authorized Representative and a State Coordinating Officer (SCO).

The FCO, with assistance from the SCO and County emergency management officials, will establish a Disaster Field Office (DFO). The DFO, a centrally located facility, will administer all Federal and State disaster assistance programs; it will also take over all inter-governmental resource distribution functions of the interim State Emergency Response Team.

A listing of available federal disaster assistance programs appears in Chapter VIII of the Regional Hurricane Loss and Contingency Planning Study.

3. Disaster Assistance Centers (DAC)

After the DFO becomes fully operational, Disaster Assistance Centers (DACs) are established in the affected areas to reach eligible victims with a range of federal disaster assistance programs. DACs are usually established in schools, community centers, or other public buildings to facilitate a familiar access point for residents to come to apply for disaster assistance.

The Manatee County Disaster Assistance Centers will be established in the following buildings, depending upon geographic areas affected by the hurricane (see Figure 32 for mapped locations of the pre-designated Centers):

Manatee County Boy's Club
Bradenton Branch
1415 - 9th Street West
Bradenton

Manatee County Boy's Club
DeSoto Branch
5231 - 34th Street West
Bradenton

Bradenton Kiwanis Club
21st Avenue West and 14th Street
Bradenton

Palmetto Boy's Club***
1600 - 10th Street West
Palmetto

South Manatee Branch Library*
1506 Bayshore Gardens Pkwy.
Bradenton

Bradenton Library*
1301 Barcarotta Blvd.
Bradenton

* Vulnerable to storm surge under County Scenario E

** Vulnerable to storm surge under County Scenario D, E

*** Vulnerable to storm surge under County Scenario C, D, E

4. Coastal Protection Structures Repair

Upon a federal major disaster declaration, emergency hurricane-caused repair and rehabilitation of federal flood control works and federally-authorized coastal protection works in the County and/or constituent municipalities will be conducted by the U. S. Army Corps of Engineers. Also, reimbursement to the County and/or municipalities of funds used for such emergency repair is provided under this federal disaster assistance program (OMB Cat. 12.102).

c. Long-Range Reconstruction Period

1. Public Disaster Assistance Projects

Federally-assisted hurricane reconstruction projects, stretching beyond the period of time of EOC activation, will be administered by the appropriate County department normally responsible for daily maintenance of the damaged facility. Each project will also be monitored by the County Emergency Management Division.

County and municipal applications for federal Community Disaster Loans will utilize the projections of hurri-

cane structural taxable loss in Chapter V of the Regional Hurricane Loss Study for post-hurricane estimates and projections of local revenue loss. Such loans may provide up to 25 percent of the annual operating budget (OMB Cat. 83.300).

2. Private Facility Assistance Projects

A federal major disaster declaration may provide grants to repair, replace, reconstruct, or restore private non-profit service facilities to their pre-disaster condition. Such assistance is directly administered to the applicant by FEMA. (OMB Cat. 83.300).

3. Post-Hurricane Hazard Mitigation Plan

As part of the ongoing Federal/State agreement executed between the State of Florida and FEMA for the administering or receiving of Federal grant or loan assistance as a result of a major disaster or emergency; a hazard mitigation clause requires local governments, as applicants for federal disaster assistance, to take certain hazard mitigation measures. As a condition for any federal loan or grant, the state or the local government applicant will evaluate the natural hazards in the area in which the proceeds of the grants or loans are to be used and shall make appropriate recommendations to mitigate such hazards for federally-assisted projects. The State further agrees: (1) to follow-up with applicants, within state capabilities, to assure that, as a condition for any grant or loan under the Disaster Relief Act of 1974, appropriate hazard mitigation actions are taken; (2) to prepare and submit, not later than 180 days after the declaration to the FEMA Regional Director for concurrence, a hazard mitigation plan or plans for the designated areas; and (3) to review and update, as necessary, disaster-mitigation portions of the emergency plans.

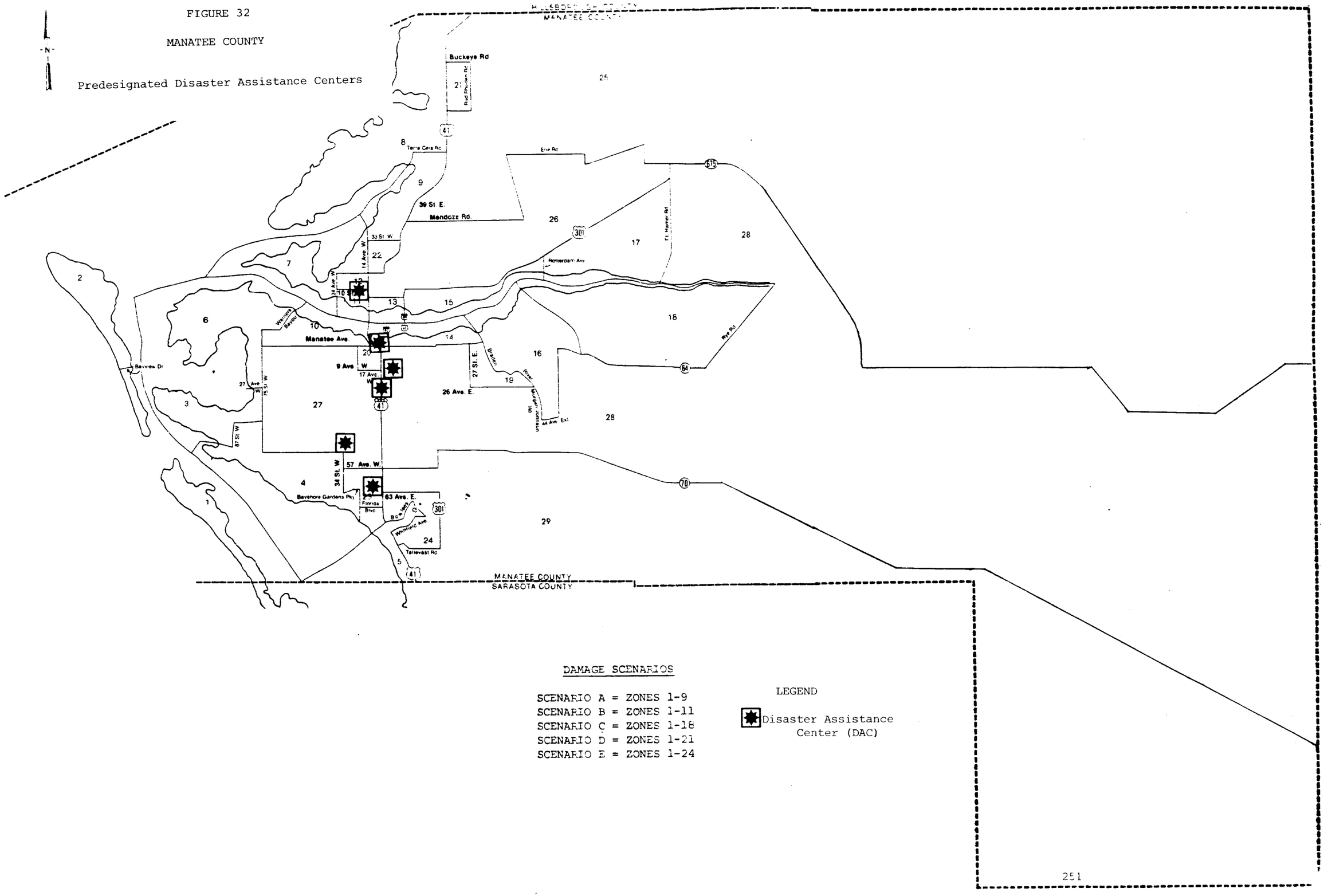
The formulation of the post-hurricane hazard mitigation plan is a key element in the local hazard mitigation process. The specific mitigation efforts contained in the plan, as formulated by the State and affected County and/or city, must be carried out to ensure future eligibility of that local government for federal assistance in recovering from a similar type of future hurricane hazard. When receiving applications for such future federal disaster assistance, FEMA will review the hazard mitigation plan from the previous event to ascertain whether stated mitigation measures have been undertaken before disaster assistance will be provided. Such assistance will not be provided if measures have not been undertaken. The disaster declaration for that event will provide federal assistance to the State and/or local government applicant to identify and

evaluate the hurricane hazards in affected areas and to recommend specific hazard mitigation actions to incorporate into the hazard mitigation plan (OMB Cat. 83.300).

FIGURE 32

MANATEE COUNTY

Predesignated Disaster Assistance Centers



DAMAGE SCENARIOS

SCENARIO A = ZONES 1-9
SCENARIO B = ZONES 1-11
SCENARIO C = ZONES 1-18
SCENARIO D = ZONES 1-21
SCENARIO E = ZONES 1-24

LEGEND

Disaster Assistance Center (DAC)

CHAPTER XII

PASCO COUNTY HURRICANE RECOVERY IMPLEMENTATION GUIDE

INTRODUCTION

This Guide outlines the concept, direction and control, and operations activities for the recovery by Pasco County from a hurricane strike. The emergency short-range and long-range recovery strategies are based on Phase I (Chapters 1-7) of the Tampa Bay Region Hurricane Loss and Contingency Planning Study.

CONCEPT

The Pasco County Hurricane Evacuation Implementation Guide sets forth the scope and procedure for the pre-hurricane relocation and sheltering of vulnerable residents of the County. This Guide continues through the hurricane scenario, providing the scope and procedure for County post-hurricane recovery.

The following sections provide the basic plan framework for Countywide hurricane recovery operations, their direction and control, and their relationship to the Pasco County Hurricane Evacuation Implementation Guide.

The general concept of hurricane recovery in Pasco County is similar to that for hurricane evacuation: a coordinated effort by personnel and equipment from municipal, County, and other disaster support agencies in the recovery from injuries, damage, and suffering resulting from the hurricane. As documented by Phase I (Hurricane Loss Study), a direct hurricane strike will quickly outstrip the capability of a single municipality, county or even the State to recover without Federal disaster assistance of various types. Therefore, the following hurricane recovery guide has been formulated to coordinate the post-hurricane efforts of all levels of government involved in the recovery process.

HURRICANE RECOVERY OPERATIONS

I. DIRECTION AND CONTROL

In order for continuity of direction and control throughout hurricane emergency operations, the County Emergency Operations Center (EOC) will continue to provide the primary direction and control function for the recovery phase as it did in the hurricane preparedness (evacuation) phase. This primary direction and control function will be supported by the immediate issuance of a County declaration of emergency to provide for legal enforcement of needed direction and control.

A. Immediate Emergency Period

The Immediate Emergency Period begins immediately after the hurricane has passed through the area (sustained winds dropping

back down below gale force) and stretches through the first few days after hurricane landfall.

Direction and control during the immediate emergency period focuses on two major types of activities: (1) intra-county recovery operations, such as search and rescue, mass casualty activities, post-hurricane sheltering, preliminary damage assessment, debris removal, and restoration of utilities; and (2) inter-governmental resource distribution, including the request for sustenance supplies from outside the city and/or County, the allocation of supplies to local governments, and the distribution of those supplies by the local government. Such supplies include water, medication, food, ice, clothing, and blankets. This also includes resources imported in order to carry out the intra-county emergency operations; such as personnel, equipment, and rebuilding/repair supplies.

1. Intra-County Recovery Operations

   The direction and control facilities for recovery operations within the county are the County EOC and the municipal EOCs.

   Key representatives from the emergency response departments (E.M.S., Fire, Law Enforcement, Public Works); community disaster agencies (Red Cross); public utilities (electric, gas, telephone companies); and military agencies (Coast Guard, National Guard) will be in the County and city EOCs during the hurricane's passage. Therefore, these representatives will direct the immediate recovery operations such as search and rescue, mass casualty activities, debris removal, emergency restoration of utilities, and preliminary damage assessment. The emergency response department representatives in the EOC will be in constant communication with normal dispatch stations. If normal dispatch stations are rendered inoperative from hurricane damage, the emergency dispatch functions will be assumed by the EOC to the extent possible. A representative from each major municipality will also be part of the County EOC staff to coordinate all city-County immediate recovery operations.

2. Inter-governmental Resource Distribution

   The primary facilities for requesting sustenance supplies from a higher level of government, allocating such supplies, and ultimately distributing the supplies to the victims are the County and city EOCs. However, a State direction and control point located within the region, to monitor and allocate supplies to each of the four counties of the Region, will be established immediately after winds drop back below gale force. This direction and control point, establishing a State Emergency Response Team, will be located at the Hillsborough County EOC and carry out all State coordination and assistance functions until the Disaster Field Office (DFO) is established.

Requests for outside resources will be made by city EOCs to the County EOC. The County EOC will consolidate all city requests into a County request for the resources. The County request for outside resources will be made to the State Emergency Response Team. Resources procured by the State Emergency Response Team will be allocated to each county of the Region based on needs and county requests.

B. Short-Range Restoration Period

The Short-Range Restoration Period begins a few days after hurricane landfall, stretching several weeks depending upon the extent of damage. Restoration activities focus on returning the area to a relatively normal social and economic state.

1. Damage Assessment Report

A County request for a State and/or Federal declaration of emergency and/or disaster will require, at some point, a formal written Damage Assessment Report. This Report will be formulated by the damage assessment personnel attached to the County EOC and city EOCs. Municipal damage assessments will be submitted to the County EOC and consolidated with County unincorporated area assessments before official submission to the State Bureau of Emergency Management and Federal Emergency Management Agency (FEMA). Local damage assessment personnel attached to the County EOC and city EOCs will be assigned by the County Office of Disaster Preparedness and city emergency management director to participate on a State/FEMA damage survey team that may visit the affected areas for on-site verification of local preliminary damage assessments and/or local Damage Survey Reports.

2. Disaster Assistance Programs

Direction and control for the provision of State and/or Federal disaster assistance will rest with the Federal Coordinating Officer (FCO), appointed by the FEMA Disaster Recovery Manager to coordinate all Federal assistance; and the State Coordinating Officer (SCO), appointed by the Governor's Authorized Representative to coordinate all State assistance.

Local direction and control for assisting the FCO and SCO in establishing a Disaster Field Office (DFO) and Disaster Assistance Centers (DACs) will be provided by the County EOC.

C. Long-Range Reconstruction Period

The Long-Range Reconstruction Period stretches from several weeks after hurricane landfall until all physical property, social, and economic processes return to a stable and acceptable pre-hurricane level.

1. Public Disaster Assistance Projects

Direction and control for the implementation of State and/or Federal public disaster assistance projects (such as public facility grants or community disaster loans) will rest with the County and/or city department responsible for the normal functioning of the facility, as well as the County Office of Disaster Preparedness. The County and city EOCs will probably be de-activated before all long-range reconstruction or financial assistance projects are completed. Therefore, the local government department administering the assistance will coordinate the specific project with the State and/or FEMA.

2. Post-Hurricane Hazard Mitigation Plan

The formulation of the post-hurricane Hazard Mitigation Plan, required as a condition for any Federal disaster assistance, will be directed and controlled at the Federal level by the FEMA Hazard Mitigation Coordinator (HMC), appointed by the FEMA Regional Director. Similarly, a State Hazard Mitigation Coordinator (HMC) will be appointed by the Governor's Authorized Representative to serve on the State/FEMA survey team with the FEMA HMC. This State/FEMA survey team will, after a declaration of a major disaster or emergency, identify the significant hazards and appropriate mitigation measures to cope with those hazards to be addressed by the Plan.

Local direction and control for the formulation of the Plan will be provided by a local Hazard Mitigation Coordinator (HMC), appointed by the local government applying for the assistance. The local HMC will work with the State/FEMA survey team as required by the State HMC.

II. OPERATIONS ACTIVITIES

The implementation of operations activities for each of the three major recovery periods is outlined below, including a description of specific federal recovery assistance programs available for each activity when beyond local and State capability. The number listed with each program description references the specific requirements for that program as set forth in OMB Circular A-102 entitled "Uniform Requirements for Assistance to State and Local Governments" (OMB, 1981).

A. Immediate Emergency Period

a. Search and Rescue

Implementation of search and rescue procedures after hurricane landfall focuses on locating victims of the storm and removing them from the hazardous situation. Injured victims are administered short-range first aid, then transported to appropriate medical facilities. Deceased victims will be transported to a temporary receiving morgue. Homeless will be transported to evacuation shelters until temporary housing can be provided.

Hurricane hazards may also permanently sever access routes to coastal areas, stranding many residents without electricity, water, and/or telephone communications. This situation will require a large-scale search and rescue operation to relocate such stranded residents or to assure that essential services reach the severed areas.

County-wide coordination of post-hurricane search and rescue operations will be provided by the County Sheriff's Department. However, the actual search and rescue tasks will be mainly carried out by fire service personnel. These tasks include search, injury and visible trauma assessment, and basic life support. Supplementary security tasks to facilitate search and rescue, such as investigations, anti-looting patrol, crowd control, and access restriction will be provided by the County Sheriff's Department and municipal law enforcement personnel.

Mass casualty operations will be coordinated between the command component of the search and rescue operation and the Health Department, Medical Executive Director. The County Medical Examiner will coordinate the establishment of a temporary receiving morgue as well as transportation/disposition of the deceased. Mass casualty situations beyond local and state capabilities may be assisted, upon issuance of a Presidential major disaster declaration, through a Federal emergency program for Health, Medical and Sanitation Services for supervision of temporary cemetaries and spray operations (OMB Cat 83.300).

Local law enforcement and fire personnel engaged in search and rescue operations beyond local capabilities will be assisted by personnel and equipment from the Florida Highway Patrol, U. S. Coast Guard, and the National Guard. After a Presidential major disaster declaration, additional assistance can be provided through an emergency Federal program for Protection, Evacuation Search, and Rescue from Federal agencies as requested by FEMA (OMB Cat. 83.300).

b. Post-Hurricane Sheltering

In addition to the pre-hurricane shelters provided for evacuees of vulnerable areas relocating during the approach of the storm, post-hurricane shelter will also be needed for several types of individuals. First, pre-hurricane evacuees occupying shelters during the storm who cannot return to their homes because of structural damage or severed access routes must be sheltered until temporary housing can be provided. Secondly, those rescued from damaged areas and now homeless must be sheltered until temporary housing can be provided. Thirdly, many recovery workers coming from outside the Region to restore essential public services must be sheltered until alternative private accommodations can be arranged.

Post-hurricane shelter will be provided throughout the immediate emergency period by the County in coordination with the American Red Cross, utilizing those pre-hurricane shelters most

suitable for a stay of longer duration. Utilization of specific shelters will depend on the post-hurricane shelter capacity needed. Those local homeless victims should be eligible for Federal disaster temporary housing assistance and may apply for such assistance at the closest Disaster Assistance Center (DAC) (DACs should be activated within two to five days after the hurricane strike).

c. Debris Removal

Priority for post-hurricane debris removal is focused upon major transportation routes to restore services, movement of traffic, and movement of critical recovery sustenance and repair supplies to affected areas.

Debris removal and disposal will be coordinated by the County Public Works Department in conjunction with municipal public works departments. Coordination will be maintained with the respective County and municipal parks departments concerning debris removal within all park areas. In addition, communications will be maintained with the County and municipal environmental management departments to obtain any necessary debris removal and disposal permits and/or clearances from the local department as well as the State Department of Environmental Regulation.

When necessary debris removal is beyond the capabilities of the County and municipalities, request for assistance from the State Department of Transportation (DOT) will be made by the County Office of Disaster Preparedness through the Central Florida Area Coordinator (CEFA) of the Florida Bureau of Emergency Management. Additional debris removal personnel and/or equipment from the State Department of Military Affiars (National Guard) may be requested by the County Office of Disaster Preparedness through CEFA.

The County or municipality in which a private land area lies will be responsible for obtaining right-of-entry agreements for any private lands involved in debris removal activities.

After a Presidential major disaster declaration, additional debris removal assistance can be provided through an emergency Federal program for (a) Debris Removal - specialized services and/or grants as requested by FEMA for public roads, beaches, water, other properties, and private property with owner consent (OMB Cat. 83.300), and (b) Timber Removal - project grants from FEMA through the Governor's Authorized Representative for fallen trees from hurricane wind/surge (OMB Cat. 83.300).

d. Emergency Restoration of Public Facilities

Emergency restoration of essential public facilities (electricity, telephone, etc.) will be prioritized as follows: 1 - Emergency direction and control facilities (EOCs); 2 -

Medical facilities; 3 - Water and waste water pumping facilities; 4 - County resource staging areas, recovery centers, disaster field office(s), and disaster assistance centers; 5 - General public.

Water and Waste Water Systems

Initial recovery efforts in regard to water and waste water systems will be focused on determining contamination to potable water supplies from hurricane damage. County Office of Disaster Preparedness will request the County Health Department to make a determination of any critical public health hazard because of such contamination. Such efforts will also be coordinated with the County Public Works/Utilities Department towards immediate repair and mitigation of further contamination. Any assistance necessary from the State DER will be requested by the County Office of Disaster Preparedness through CEFA. When State and local resources are inadequate to restore safe water supplies and/or correct waste water system problems, the State DER will provide the Bureau of Emergency Management with the necessary information needed to request Federal assistance.

Of the County's 11 potable water facilities, one is projected to receive storm surge damage that would disrupt normal operation for more than one day under a minimal (Damage Scenario A) hurricane. This scenario would not necessitate overland transportation of potable water into the County, as undamaged facilities will probably be capable of supplying those affected areas within the County. However, a very intense hurricane (Damage Scenario D) is projected to cause over one day of service disruption to all 11 of the County's potable water facilities. Large-scale emergency importation of potable water will be required under this scenario (see Inter-governmental Resource Distribution section of this Guide).

None of the County's eight waste water treatment facilities (is/are) projected to receive storm surge damage that would disrupt normal operation for more than one day under a minimal (Damage Scenario A) hurricane. This scenario probably would not cause a public health hazard necessitating specialized Federal emergency assistance. However, a very intense hurricane (Damage Scenario D) is projected to cause over one day of service disruption to all eight of the County's waste water treatment facilities. Upon a Presidential major disaster declaration, assistance in coping with such a situation can be secured through an emergency Federal program for Health, Medical, and Sanitation Services - providing trained specialists for control, treatment, prevention of disease; protection of food and water supplies; immunization; early care for sick; and aircraft for spray operations (OMB Cat. 83.300).

Electricity/Telephone

In addition to greatly reducing the efficiency of telephone service, electricity disruption will affect water pumping facilities and gasoline pumps; subsequently causing food spoilage, drinking water shortages, and a shortage of fuel for emergency vehicles.

Restoration of electrical power in the immediate emergency period will begin as soon as major roads are cleared of debris and fallen trees to allow passage of vehicles and work crews. The Florida Power Corporation, the Tampa Electric Company, and the Withlacoochee River Electric Cooperative maintain emergency restoration plans including safety shutdowns, local restoration manpower, and emergency assistance manpower from areas outside the Region not affected by the hurricane.

All electric substations in the County have the potential for hurricane wind damage. Four of the County's 23 substations are projected to receive storm surge damage that would disrupt normal operation for more than one day under a minimal (Damage Scenario A) hurricane. A very intense hurricane (Damage Scenario D) is projected to cause over one day of service disruption from storm surge to five of the County's 23 substations. Under this intense hurricane damage scenario, a full-scale influx of outside electric company emergency restoration crews will be necessary to repair such a widespread system disruption.

Transportation

Those roadways of the County located in the surge-vulnerable areas of Damage Scenario A are expected to receive substantial damage from upheaval and/or erosion of the roadbed from a major hurricane. (See Appendix J. of the Regional Hurricane Loss Study). The repair of these roadway facilities will be coordinated by the County Public Works Department in coordination with the Florida Department of Transportation.

If roadway or other transportation facility damage is great enough that its repair is beyond the capability of existing County and State resources, a Presidential declaration of major disaster will provide local government eligibility for a Federal disaster assistance program for such repair. The program is for Repair or Restoration of Public Facilities, consisting of FEMA grants to repair, replace, reconstruct, or restore publicly-owned facilities including navigation/airport facilities, non-Federal aid streets/roads/highways, or public transportation buildings (OMB Cat. 83.300).

Potential hurricane damage to public vehicles, as well as roads and bridges, may substantially cripple public transportation necessary for recovery. Upon a Presidential declaration of major disaster, a federal assistance program for emergency Public Transportation is available to provide for transporta-

tion to and from activity centers critical to the recovery process including ferry or barge service to islands suffering bridge damage and provision of trucks/buses until public vehicles are replaced (OMB Cat. 83.300).

Finally, a federal major disaster declaration will make the County eligible for Flood Fighting and Rescue Operations assistance from the U. S. Army Corps of Engineers, including specialized emergency help in all phases of flood fighting and rescue operations (OMB Cat. 21.103).

e. Preliminary Damage Assessment

The preliminary damage assessment is the first step in requesting a State and/or Federal declaration of emergency and/or major disaster. The assessment will be completed within 12 hours after passage of the hurricane and transmitted by fastest means of communication to the Bureau of Emergency Management through the Area Coordinator (CEFA). The assessment will be formulated by the County EOC, consolidating initial municipal damage assessments with initial damage assessments in unincorporated areas. The assessment will be based on the Tampa Bay Region Hurricane Loss Study, a windshield survey of affected areas, aerial photographs, overflights, and/or TV tapes.

A Federal/State Disaster Survey Team will verify the preliminary damage assessment to determine whether the damage and/or local impact warrants an emergency and/or major disaster declaration.

2. Inter-governmental Resource Distribution

a. State Emergency Response Team

During the immediate emergency period, the large volume of sustenance and restoration supplies coming into the Region from other areas of the State and country will be allocated to the counties of the Region by a State Emergency Response Team. This Team, composed of representatives from the Bureau of Emergency Management, CEFA and/or other state agencies, will be immediately established at the Hillsborough County EOC. Allocation and dispatch of supplies to individual counties will be carried out between the Team and the County EOCs. Requests for resources will go from municipal EOCs to the County EOC to the State Emergency Response Team at the Hillsborough County EOC.

b. County Staging Area(s)

Based on the allocation of outside resources, the State Emergency Response Team will direct the transportation of the supplies from the source directly to the County emergency access control points that will be setup utilizing County law enforcement personnel at all major

roadways entering the County. These access control points will be monitored by the County EOC. As supplies reach these points, control point personnel will receive emergency clearance from the County EOC to direct the supplies to the County Resource Staging Area(s). The Staging Area will then process, unload and/or direct the supplies to the respective city Recovery Center (as designated by the city EOC) or unincorporated County area Recovery Center. The Recovery Center will then distribute supplies to the public as appropriate.

As directed by the County EOC, the County Resource Staging Area will coordinate with non-governmental relief agencies for provision of mass feeding facilities. The Staging Area will also coordinate with private suppliers of ice and bottled water to ensure optimum and prioritized distribution as well as to prevent price gouging on such emergency supplies.

Upon a Presidential major disaster declaration, a federal assistance program for Food, Water, Shelter may be requested through FEMA for surveying local potable water supplies; supervising storage, transportation, and distribution of food and water, as well as assistance for shelter operations (OMB Cat. 83.300).

Finally, emergency vector control throughout the County will be coordinated at the Staging Area. A major disaster declaration will make available assistance from the U.S. Center for Disease Control and/or Public Health Service under a federal program of Vector Control. This program will assist in determining the best disease control strategies, determine requirements for mass immunization centers, and to obtain chemicals and aircraft as well as vaccine for vector and disease control.

b. Short-Range Restoration Period

1. Damage Assessment Report

After a State and/or Federal declaration of emergency and/or major disaster, a formal damage assessment report is required to determine local eligibility for the various specific assistance programs. This Report is more detailed than the preliminary damage assessment, including Expenditure/Obligation Reports and Damage Site Reports. This Report will require the establishment of an EOC-based County Damage Survey Team, augmented by municipal representatives when on-site inspections, contact with property owners, and overall damage assessment focuses on incorporated areas of the County.

The overall County Damage Assessment Report will be composed by consolidating similar reports from the

municipalities affected as well as unincorporated areas. The Report will then be submitted, in written form, to the Bureau of Emergency Management through the Area Coodinator (CEFA).

2. Disaster Field Office (DFO)

Immediately upon a Presidential declaration of major disaster, a FEMA Disaster Recovery Manager is appointed to direct federal assistance to the local disaster areas. The Disaster Recovery Manager, in turn, may appoint a Federal Coordinating Officer (FCO) to control such federal assistance at the local level. (Depending upon the nature of the declaration, the FCO and Disaster Recovery Manager may be a combined role for one individual.) A similar appointment process will take place at the State level involving the Governor's Authorized Representative and a State Coordinating Officer (SCO).

The FCO, with assistance from the SCO and County emergency management officials, will establish a Disaster Field Office (DFO). The DFO, a centrally located facility, will administer all Federal and State disaster assistance programs; it will also take over all inter-governmental resource distribution functions of the interim State Emergency Response Team.

A listing of available federal disaster assistance programs appears in Chapter VIII of the Regional Hurricane Loss and Contingency Planning Study.

3. Disaster Assistance Centers (DAC)

After the DFO becomes fully operational, Disaster Assistance Centers (DACs) are established in the affected areas to reach eligible victims with a range of federal disaster assistance programs. DACs are usually established in schools, community centers, or other public buildings to facilitate a familiar access point for residents to come to apply for disaster assistance.

The Pasco County Disaster Assistance Centers will be established in the following buildings, depending upon geographic areas affected by the hurricane (see Figure 33 for mapped locations of the pre-designated Centers):

Pasco-Hernando Community College
7025 State Road 587
New Port Richey

Pasco-Hernando Community College
2401 North Highway 41
Dade City

New Port Richey Recreation Center
832 Indian Avenue East
New Port Richey

Land O'Lakes Civic Center
U.S. Route 41 North
Land O'Lakes

Zephyrhills Municipal Building
603 - 8th Street
Zephyrhills

Pasco County Fairgrounds Auditorium
Between S.R. 41 and S.R. 52
Dade City

Hudson Senior High School
1000 Cobra Way
Hudson

4. Coastal Protection Structures Repair

Upon a federal major disaster declaration, emergency hurricane-caused repair and rehabilitation of federal flood control works and federally-authorized coastal protection works in the County and/or constituent municipalities will be conducted by the U. S. Army Corps of Engineers. Also, reimbursement to the County and/or municipalities of funds used for such emergency repair is provided under this federal disaster assistance program (OMB Cat. 12.102).

c. Long-Range Reconstruction Period

1. Public Disaster Assistance Projects

Federally-assisted hurricane reconstruction projects, stretching beyond the period of time of EOC activation, will be administered by the appropriate County department normally responsible for daily maintenance of the damaged facility. Each project will also be monitored by the County Office of Disaster Preparedness.

County and municipal applications for federal Community Disaster Loans will utilize the projections of hurricane structural taxable loss in Chapter V of the Regional Hurricane Loss Study for post-hurricane estimates and projections of local revenue loss. Such loans may provide up to 25 percent of the annual operating budget (OMB Cat. 83.300).

2. Private Facility Assistance Projects

A federal major disaster declaration may provide grants to repair, replace, reconstruct, or restore private non-profit service facilities to their pre-disaster condition. Such assistance is directly administered to the applicant by FEMA. (OMB Cat. 83.300).

3. Post-Hurricane Hazard Mitigation Plan

As part of the ongoing Federal/State agreement executed between the State of Florida and FEMA for the administering or receiving of Federal grant or loan assistance as a result of a major disaster or emergency; a hazard mitigation clause requires local governments, as applicants for federal disaster assistance, to take certain hazard mitigation measures. As a condition for any federal loan or grant, the state or the local government applicant will evaluate the natural hazards in the area in which the proceeds of the grants or loans are to be used and shall make appropriate recommendations to mitigate such hazards for federally-assisted projects. The State further agrees: (1) to follow-up with applicants, within state capabilities, to assure that, as a condition for any grant or loan under the Disaster Relief Act of 1974, appropriate hazard mitigation actions are taken; (2) to prepare and submit, not later than 180 days after the declaration to the FEMA Regional Director for concurrence, a hazard mitigation plan or plans for the designated areas; and (3) to review and update, as necessary, disaster-mitigation portions of the emergency plans.

The formulation of the post-hurricane hazard mitigation plan is a key element in the local hazard mitigation process. The specific mitigation efforts contained in the plan, as formulated by the State and affected County and/or city, must be carried out to ensure future eligibility of that local government for federal assistance in recovering from a similar type of future hurricane hazard. When receiving applications for such future federal disaster assistance, FEMA will review the hazard mitigation plan from the previous event to ascertain whether stated mitigation measures have been undertaken before disaster assistance will be provided. Such assistance will not be provided if measures have not been undertaken. The disaster declaration for that event will provide federal assistance to the State and/or local government applicant to identify and evaluate the hurricane hazards in affected areas and to recommend specific hazard mitigation actions to incorporate into the hazard mitigation plan (OMB Cat. 83.300).

FIGURE 33

PASCO COUNTY

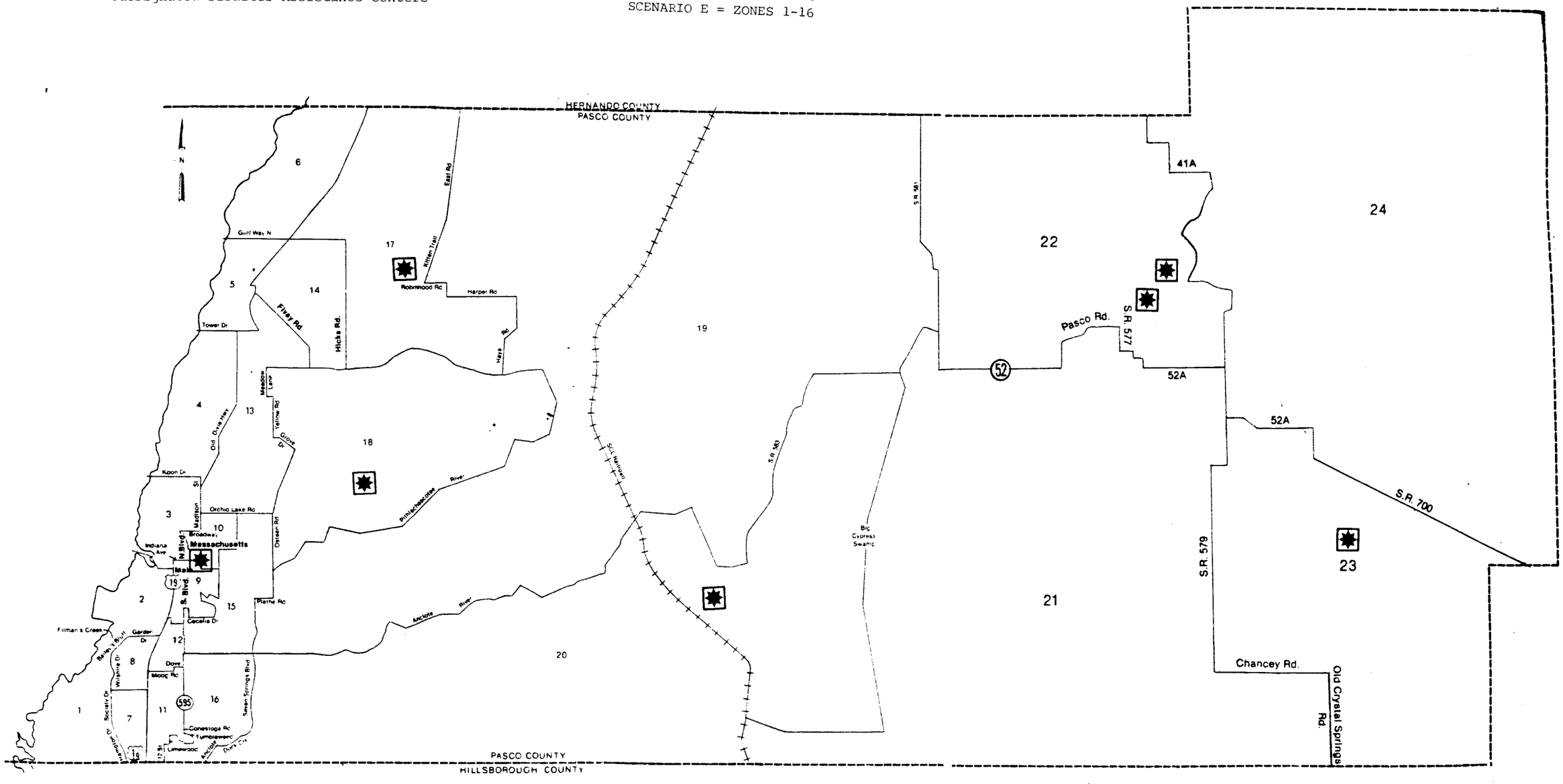
Predesignated Disaster Assistance Centers

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-6
SCENARIO B = ZONES 1-9
SCENARIO C = ZONES 1-10
SCENARIO D = ZONES 1-14
SCENARIO E = ZONES 1-16

LEGEND

Disaster Assistance Center (DAC)



PINELLAS COUNTY HURRICANE RECOVERY IMPLEMENTATION GUIDE

INTRODUCTION

This Guide outlines the concept, direction and control, and operations activities for the recovery by Pinellas County from a hurricane strike. The emergency short-range and long-range recovery strategies are based on Phase I (Chapters 1-7) of the Tampa Bay Region Hurricane Loss and Contingency Planning Study.

CONCEPT

The Pinellas County Hurricane Evacuation Implementation Guide sets forth the scope and procedure for the pre-hurricane relocation and sheltering of vulnerable residents of the County. This Guide continues through the hurricane scenario, providing the scope and procedure for County post-hurricane recovery.

The following sections provide the basic plan framework for Countywide hurricane recovery operations, their direction and control, and their relationship to the Pinellas County Hurricane Evacuation Implementation Guide.

The general concept of hurricane recovery in Pinellas County is similar to that for hurricane evacuation: a coordinated effort by personnel and equipment from municipal, County, and other disaster support agencies in the recovery from injuries, damage, and suffering resulting from the hurricane. As documented by Phase I (Hurricane Loss Study), a direct hurricane strike will quickly outstrip the capability of a single municipality, county or even the State to recover without Federal disaster assistance of various types. Therefore, the following hurricane recovery guide has been formulated to coordinate the post-hurricane efforts of all levels of government involved in the recovery process.

HURRICANE RECOVERY OPERATIONS

I. DIRECTION AND CONTROL

In order for continuity of direction and control throughout hurricane emergency operations, the County Emergency Operations Center (EOC) will continue to provide the primary direction and control function for the recovery phase as it did in the hurricane preparedness (evacuation) phase. This primary direction and control function will be supported by the immediate issuance of a County declaration of emergency to provide for legal enforcement of needed direction and control.

A. Immediate Emergency Period

The Immediate Emergency Period begins immediately after the hurricane has passed through the area (sustained winds dropping back down below gale force) and stretches through the first few days after hurricane landfall.

Direction and control during the immediate emergency period focuses on two major types of activities: (1) intra-county recovery operations, such as search and rescue, mass casualty activities, post-hurricane sheltering, preliminary damage assessment, debris removal, and restoration of utilities; and (2) inter-governmental resource distribution, including the request for sustenance supplies from outside the city and/or County, the allocation of supplies to local governments, and the distribution of those supplies by the local government. Such supplies include water, medication, food, ice, clothing, and blankets. This also includes resources imported in order to carry out the intra-county emergency operations; such as personnel, equipment, and rebuilding/repair supplies.

1. Intra-County Recovery Operations

   The direction and control facilities for recovery operations within the county are the County EOC and the municipal EOCs.

   Key representatives from the emergency response departments (E.M.S., Fire, Law Enforcement, Public Works); community disaster agencies (Red Cross); public utilities (electric, gas, telephone companies); and military agencies (Coast Guard, National Guard) will be in the County and city EOCs during the hurricane's passage. Therefore, these representatives will direct the immediate recovery operations such as search and rescue, mass casualty activities, debris removal, emergency restoration of utilities, and preliminary damage assessment. The emergency response department representatives in the EOC will be in constant communication with normal dispatch stations. If normal dispatch stations are rendered inoperative from hurricane damage, the emergency dispatch functions will be assumed by the EOC to the extent possible. A representative from each major municipality will also be part of the County EOC staff to coordinate all city-County immediate recovery operations.

2. Inter-governmental Resource Distribution

   The primary facilities for requesting sustenance supplies from a higher level of government, allocating such supplies, and ultimately distributing the supplies to the victims are the County and city EOCs. However, a State direction and control point located within the region, to monitor and allocate supplies to each of the four counties of the Region, will be established immediately after winds drop back below gale force. This direction and control point, establishing a State Emergency Response Team, will be located at the Hillsborough County EOC and carry out all State coordination and assistance functions until the Disaster Field Office (DFO) is established.

   Requests for outside resources will be made by city EOCs to the County EOC. The County EOC will consolidate all city requests into a County request for the resources. The County request for outside resources will be made to the State Emergency

Response Team. Resources procured by the State Emergency Response Team will be allocated to each county of the Region based on needs and county requests.

B. Short-Range Restoration Period

The Short-Range Restoration Period begins a few days after hurricane landfall, stretching several weeks depending upon the extent of damage. Restoration activities focus on returning the area to a relatively normal social and economic state.

1. Damage Assessment Report

A County request for a State and/or Federal declaration of emergency and/or disaster will require, at some point, a formal written Damage Assessment Report. This Report will be formulated by the damage assessment personnel attached to the County EOC and city EOCs. Municipal damage assessments will be submitted to the County EOC and consolidated with County unincorporated area assessments before official submission to the State Bureau of Emergency Management and Federal Emergency Management Agency (FEMA). Local damage assessment personnel attached to the County EOC and city EOCs will be assigned by the County Department of Civil Emergency Services and city emergency management director to participate on a State/FEMA damage survey team that may visit the affected areas for on-site verification of local preliminary damage assessments and/or local Damage Survey Reports.

2. Disaster Assistance Programs

Direction and control for the provision of State and/or Federal disaster assistance will rest with the Federal Coordinating Officer (FCO), appointed by the FEMA Disaster Recovery Manager to coordinate all Federal assistance; and the State Coordinating Officer (SCO), appointed by the Governor's Authorized Representative to coordinate all State assistance.

Local direction and control for assisting the FCO and SCO in establishing a Disaster Field Office (DFO) and Disaster Assistance Centers (DACs) will be provided by the County EOC.

C. Long-Range Reconstruction Period

The Long-Range Reconstruction Period stretches from several weeks after hurricane landfall until all physical property, social, and economic processes return to a stable and acceptable pre-hurricane level.

1. Public Disaster Assistance Projects

Direction and control for the implementation of State and/or Federal public disaster assistance projects (such as public facility grants or community disaster loans) will rest with the County and/or city department responsible for the normal

functioning of the facility, as well as the County Department of Civil Emergency Services. The County and city EOCs will probably be de-activated before all long-range reconstruction or financial assistance projects are completed. Therefore, the local government department administering the assistance will coordinate the specific project with the State and/or FEMA.

2. Post-Hurricane Hazard Mitigation Plan

The formulation of the post-hurricane Hazard Mitigation Plan, required as a condition for any Federal disaster assistance, will be directed and controlled at the Federal level by the FEMA Hazard Mitigation Coordinator (HMC), appointed by the FEMA Regional Director. Similarly, a State Hazard Mitigation Coordinator (HMC) will be appointed by the Governor's Authorized Representative to serve on the State/FEMA survey team with the FEMA HMC. This State/FEMA survey team will, after a declaration of a major disaster or emergency, identify the significant hazards and appropriate mitigation measures to cope with those hazards to be addressed by the Plan.

Local direction and control for the formulation of the Plan will be provided by a local Hazard Mitigation Coordinator (HMC), appointed by the local government applying for the assistance. The local HMC will work with the State/FEMA survey team as required by the State HMC.

II. OPERATIONS ACTIVITIES

The implementation of operations activities for each of the three major recovery periods is outlined below, including a description of specific federal recovery assistance programs available for each activity when beyond local and State capability. The number listed with each program description references the specific requirements for that program as set forth in OMB Circular A-102 entitled "Uniform Requirements for Assistance to State and Local Governments" (OMB, 1981).

A. Immediate Emergency Period

a. Search and Rescue

Implementation of search and rescue procedures after hurricane landfall focuses on locating victims of the storm and removing them from the hazardous situation. Injured victims are administered short-range first aid, then transported to appropriate medical facilities. Deceased victims will be transported to a temporary receiving morgue. Homeless will be transported to evacuation shelters until temporary housing can be provided.

Hurricane hazards may also permanently sever access routes to coastal areas, stranding many residents without electricity, water, and/or telephone communications. This situation will require a large-scale search and rescue operation to relocate such stranded residents or to assure that essential services reach the severed areas.

County-wide coordination of post-hurricane search and rescue operations will be provided by the County Sheriff's Department. However, the actual search and rescue tasks will be mainly carried out by fire service personnel. These tasks include search, injury and visible trauma assessment, and basic life support. Supplementary security tasks to facilitate search and rescue, such as investigations, anti-looting patrol, crowd control, and access restriction will be provided by the County Sheriff's Department and municipal law enforcement personnel.

Mass casualty operations will be coordinated between the command component of the search and rescue operation and the Pinellas County regional hospitals (or) County Mass Casualty Director. The County Medical Examiner will coordinate the establishment of a temporary receiving morgue as well as transportation/disposition of the deceased. Mass casualty situations beyond local and state capabilities may be assisted, upon issuance of a Presidential major disaster declaration, through a Federal emergency program for Health, Medical and Sanitation Services for supervision of temporary cemetaries and spray operations (OMB Cat 83.300).

Local law enforcement and fire personnel engaged in search and rescue operations beyond local capabilities will be assisted by personnel and equipment from the Florida Highway Patrol, U. S. Coast Guard, and the National Guard. After a Presidential major disaster declaration, additional assistance can be provided through an emergency Federal program for Protection, Evacuation Search, and Rescue from Federal agencies as requested by FEMA (OMB Cat. 83.300).

b. Post-Hurricane Sheltering

In addition to the pre-hurricane shelters provided for evacuees of vulnerable areas relocating during the approach of the storm, post-hurricane shelter will also be needed for several types of individuals. First, pre-hurricane evacuees occupying shelters during the storm who cannot return to their homes because of structural damage or severed access routes must be sheltered until temporary housing can be provided. Secondly, those rescued from damaged areas and now homeless must be sheltered until temporary housing can be provided. Thirdly, many recovery workers coming from outside the Region to restore essential public services must be sheltered until alternative private accommodations can be arranged.

Post-hurricane shelter will be provided throughout the immediate emergency period by the County in coordination with the American Red Cross, utilizing those pre-hurricane shelters most suitable for a stay of longer duration. Utilization of specific shelters will depend on the post-hurricane shelter capacity needed. Those local homeless victims should be eligible for Federal disaster temporary housing assistance and may apply for such assistance at the closest Disaster Assistance Center (DAC)

(DACs should be activated within two to five days after the hurricane strike).

c. Debris Removal

Priority for post-hurricane debris removal is focused upon major transportation routes to restore services, movement of traffic, and movement of critical recovery sustenance and repair supplies to affected areas.

Debris removal and disposal will be coordinated by the County Public Works Department in conjunction with municipal public works departments. Coordination will be maintained with the respective County and municipal parks departments concerning debris removal within all park areas. In addition, communications will be maintained with the County and municipal environmental management departments to obtain any necessary debris removal and disposal permits and/or clearances from the local department as well as the State Department of Environmental Regulation.

When necessary debris removal is beyond the capabilities of the County and municipalities, request for assistance from the State Department of Transportation (DOT) will be made by the County Department of Civil Emergency Services through the Central Florida Area Coordinator (CEFA) of the Florida Bureau of Emergency Management. Additional debris removal personnel and/or equipment from the State Department of Military Affiars (National Guard) may be requested by the County Department of Civil Emergency Services through CEFA.

The County or municipality in which a private land area lies will be responsible for obtaining right-of-entry agreements for any private lands involved in debris removal activities.

After a Presidential major disaster declaration, additional debris removal assistance can be provided through an emergency Federal program for (a) Debris Removal - specialized services and/or grants as requested by FEMA for public roads, beaches, water, other properties, and private property with owner consent (OMB Cat. 83.300), and (b) Timber Removal - project grants from FEMA through the Governor's Authorized Representative for fallen trees from hurricane wind/surge (OMB Cat. 83.300).

d. Emergency Restoration of Public Facilities

Emergency restoration of essential public facilities (electricity, telephone, etc.) will be prioritized as follows: 1 - Emergency direction and control facilities (EOCs); 2 - Medical facilities; 3 - Water and waste water pumping facilities; 4 - County resource staging areas, recovery centers, disaster field office(s), and disaster assistance centers; 5 - General public.

Water and Waste Water Systems

Initial recovery efforts in regard to water and waste water systems will be focused on determining contamination to potable water supplies from hurricane damage. County Department of Civil Emergency Services will request the County Health Department to make a determination of any critical public health hazard because of such contamination. Such efforts will also be coordinated with the County Public Works and/or Utilities Department towards immediate repair and mitigation of further contamination. Any assistance necessary from the State DER will be requested by the County Department of Civil Emergency Services through CEFA. When State and local resources are inadequate to restore safe water supplies and/or correct waste water system problems, the State DER will provide the Bureau of Emergency Management with the necessary information needed to request Federal assistance.

Of the County's 27 potable water facilities, none are projected to receive storm surge damage that would disrupt normal operation for more than one day under a minimal (Damage Scenario A) hurricane. This scenario would not necessitate overland transportation of potable water into the County, as undamaged facilities will probably be capable of supplying those affected areas within the County. However, a very intense hurricane (Damage Scenario D) is projected to cause over one day of service disruption to all of the County's 27 potable water facilities. Large-scale emergency importation of potable water will be required under this scenario (see Inter-governmental Resource Distribution section of this Guide).

One of the County's 19 waste water treatment facilities is projected to receive storm surge damage that would disrupt normal operation for more than one day under a minimal (Damage Scenario A) hurricane. This scenario probably would not cause a public health hazard necessitating specialized Federal emergency assistance. However, a very intense hurricane (Damage Scenario D) is projected to cause over one day of service disruption to all of the County's 19 waste water treatment facilities. Upon a Presidential major disaster declaration, assistance in coping with such a situation can be secured through an emergency Federal program for Health, Medical, and Sanitation Services - providing trained specialists for control, treatment, prevention of disease; protection of food and water supplies; immunization; early care for sick; and aircraft for spray operations (OMB Cat. 83.300).

Electricity/Telephone

In addition to greatly reducing the efficiency of telephone service, electricity disruption will affect water pumping facilities and gasoline pumps; subsequently causing food spoilage, drinking water shortages, and a shortage of fuel for emergency vehicles.

Restoration of electrical power in the immediate emergency period will begin as soon as major roads are cleared of debris and fallen trees to allow passage of vehicles and work crews. The Florida Power Corporation and the Tampa Electric Company maintain emergency restoration plans including safety shutdowns, local restoration manpower, and emergency assistance manpower from areas outside the Region not affected by the hurricane.

All electric substations in the County have the potential for hurricane wind damage. Eleven of the County's 55 substations are projected to receive storm surge damage that would disrupt normal operation for more than one day under a minimal (Damage Scenario A) hurricane. A very intense hurricane (Damage Scenario D) is projected to cause over one day of service disruption from storm surge to 23 of the County's 55 substations. Under this intense hurricane damage scenario, a full-scale influx of outside electric company emergency restoration crews will be necessary to repair such a widespread system disruption.

Transportation

Those roadways of the County located in the surge-vulnerable areas of Damage Scenario A are expected to receive substantial damage from upheaval and/or erosion of the roadbed from a major hurricane. (See Appendix J. of the Regional Hurricane Loss Study). The repair of these roadway facilities will be coordinated by the County Public Works Department in coordination with the Florida Department of Transportation.

If roadway or other transportation facility damage is great enough that its repair is beyond the capability of existing County and State resources, a Presidential declaration of major disaster will provide local government eligibility for a Federal disaster assistance program for such repair. The program is for Repair or Restoration of Public Facilities, consisting of FEMA grants to repair, replace, reconstruct, or restore publicly-owned facilities including navigation/airport facilities, non-Federal aid streets/roads/highways, or public transportation buildings (OMB Cat. 83.300).

Potential hurricane damage to public vehicles, as well as roads and bridges, may substantially cripple public transportation necessary for recovery. Upon a Presidential declaration of major disaster, a federal assistance program for emergency Public Transportation is available to provide for transportation to and from activity centers critical to the recovery process including ferry or barge service to islands suffering bridge damage and provision of trucks/buses until public vehicles are replaced (OMB Cat. 83.300).

Finally, a federal major disaster declaration will make the County eligible for Flood Fighting and Rescue Operations assistance from the U. S. Army Corps of Engineers, including

specialized emergency help in all phases of flood fighting and rescue operations (OMB Cat. 21.103).

e. Preliminary Damage Assessment

The preliminary damage assessment is the first step in requesting a State and/or Federal declaration of emergency and/or major disaster. The assessment will be completed within 12 hours after passage of the hurricane and transmitted by fastest means of communication to the Bureau of Emergency Management through the Area Coordinator (CEFA). The assessment will be formulated by the County EOC, consolidating initial municipal damage assessments with initial damage assessments in unincorporated areas. The assessment will be based on the Tampa Bay Region Hurricane Loss Study, a windshield survey of affected areas, aerial photographs, overflights, and/or TV tapes.

A Federal/State Disaster Survey Team will verify the preliminary damage assessment to determine whether the damage and/or local impact warrants an emergency and/or major disaster declaration.

2. Inter-governmental Resource Distribution

a. State Emergency Response Team

During the immediate emergency period, the large volume of sustenance and restoration supplies coming into the Region from other areas of the State and country will be allocated to the counties of the Region by a State Emergency Response Team. This Team, composed of representatives from the Bureau of Emergency Management, CEFA and/or other state agencies, will be immediately established at the Hillsborough County EOC. Allocation and dispatch of supplies to individual counties will be carried out between the Team and the County EOCs. Requests for resources will go from municipal EOCs to the County EOC to the State Emergency Response Team at the Hillsborough County EOC.

b. County Staging Area(s)

Based on the allocation of outside resources, the State Emergency Response Team will direct the transportation of the supplies from the source directly to the County emergency access control points that will be setup utilizing County law enforcement personnel at all major roadways entering the County. These access control points will be monitored by the County EOC. As supplies reach these points, control point personnel will receive emergency clearance from the County EOC to direct the supplies to the County Resource Staging Area(s). The Staging Area will then process, unload and/or direct the supplies to the respective city Recovery Center (as designated by the city EOC) or unincorporated County area Recovery Center. The

Recovery Center will then distribute supplies to the public as appropriate.

As directed by the County EOC, the County Resource Staging Area will coordinate with non-governmental relief agencies for provision of mass feeding facilities. The Staging Area will also coordinate with private suppliers of ice and bottled water to ensure optimum and prioritized distribution as well as to prevent price gouging on such emergency supplies.

Upon a Presidential major disaster declaration, a federal assistance program for Food, Water, Shelter may be requested through FEMA for surveying local potable water supplies; supervising storage, transportation, and distribution of food and water, as well as assistance for shelter operations (OMB Cat. 83.300).

Finally, emergency vector control throughout the County will be coordinated at the Staging Area. A major disaster declaration will make available assistance from the U.S. Center for Disease Control and/or Public Health Service under a federal program of Vector Control. This program will assist in determining the best disease control strategies, determine requirements for mass immunization centers, and to obtain chemicals and aircraft as well as vaccine for vector and disease control.

b. Short-Range Restoration Period

1. Damage Assessment Report

After a State and/or Federal declaration of emergency and/or major disaster, a formal damage assessment report is required to determine local eligibility for the various specific assistance programs. This Report is more detailed than the preliminary damage assessment, including Expenditure/Obligation Reports and Damage Site Reports. This Report will require the establishment of an EOC-based County Damage Survey Team, augmented by municipal representatives when on-site inspections, contact with property owners, and overall damage assessment focuses on incorporated areas of the County.

The overall County Damage Assessment Report will be composed by consolidating similar reports from the municipalities affected as well as unincorporated areas. The Report will then be submitted, in written form, to the Bureau of Emergency Management through the Area Coodinator (CEFA).

2. Disaster Field Office (DFO)

Immediately upon a Presidential declaration of major disaster, a FEMA Disaster Recovery Manager is appointed to direct federal assistance to the local disaster areas. The Disaster Recovery Manager, in turn, may appoint a Federal Coordinating Officer (FCO) to control such federal assistance at the local level. (Depending upon the nature of the declaration, the FCO and Disaster Recovery Manager may be a combined role for one individual.) A similar appointment process will take place at the State level involving the Governor's Authorized Representative and a State Coordinating Officer (SCO).

The FCO, with assistance from the SCO and County emergency management officials, will establish a Disaster Field Office (DFO). The DFO, a centrally located facility, will administer all Federal and State disaster assistance programs; it will also take over all inter-governmental resource distribution functions of the interim State Emergency Response Team.

A listing of available federal disaster assistance programs appears in Chapter VIII of the Regional Hurricane Loss and Contingency Planning Study.

3. Disaster Assistance Centers (DAC)

After the DFO becomes fully operational, Disaster Assistance Centers (DACs) are established in the affected areas to reach eligible victims with a range of federal disaster assistance programs. DACs are usually established in schools, community centers, or other public buildings to facilitate a familiar access point for residents to come to apply for disaster assistance.

The Pinellas County Disaster Assistance Centers will be established in the following buildings, depending upon geographic areas affected by the hurricane (see Figure 34 for mapped locations of the pre-designated Centers):

Disaster Field Office: Pinellas County Cooperative Extension Service Building
12175 - 125th Street North
Largo

Disaster Assistance Centers:

Clearwater City Hall Annex
10 South Missouri Avenue
Clearwater

Dunedin Community Center
Michigan Boulevard & Pinehurst Street
Dunedin

Largo Community Center
65 - 4th Street N. W.
Largo

Pinellas Park City Auditorium**
59th Street North
Pinellas Park

Tarpon Springs Community Center**
400 S. Walton Street
Tarpon Springs

Leisure Services Administration Building
1450 - 16th Street North
St. Petersburg

Childs Park Recreation Center
4301 - 13th Avenue South
St. Petersburg

Roberts Community Center
1246 - 50th Avenue North
St. Petersburg

Wildwood Community Center
2650 - 10th Avenue South
St. Petersburg

YMCA Building
1005 Highland Avenue
Clearwater

St. Petersburg Junior College
6605 - 5th Avenue North
St. Petersburg

Martin L. King Center
1201 - South Douglas Avenue
Clearwater

Seminole VFM
10997 - 72nd Avenue North
Seminole

St. Petersburg Junior College
Clearwater Campus
2465 Drew Street
Clearwater

Countryside High School
S.R. 580 and McMullen-Booth Road
Clearwater

St. Petersburg Junior College
Tarpon Campus
Klosterman Road
Tarpon Springs

Pinellas County Cooperative Extension Service Building
12175 - 125th Street North
Largo
(If not used as DFO)

* Vulnerable to storm surge under County Scenario E

** Vulnerable to storm surge under County Scenario D, E

*** Vulnerable to storm surge under County Scenario C, D, E

4. Coastal Protection Structures Repair

Upon a federal major disaster declaration, emergency hurricane-caused repair and rehabilitation of federal flood control works and federally-authorized coastal protection works in the County and/or constituent municipalities will be conducted by the U. S. Army Corps of Engineers. Also, reimbursement to the County and/or municipalities of funds used for such emergency repair is provided under this federal disaster assistance program (OMB Cat. 12.102).

c. Long-Range Reconstruction Period

1. Public Disaster Assistance Projects

Federally-assisted hurricane reconstruction projects, stretching beyond the period of time of EOC activation, will be administered by the appropriate County department normally responsible for daily maintenance of the damaged facility. Each project will also be monitored by the County Department of Civil Emergency Services.

County and municipal applications for federal Community Disaster Loans will utilize the projections of hurricane structural taxable loss in Chapter V of the Regional Hurricane Loss Study for post-hurricane estimates and projections of local revenue loss. Such loans may provide up to 25 percent of the annual operating budget (OMB Cat. 83.300).

2. Private Facility Assistance Projects

A federal major disaster declaration may provide grants to repair, replace, reconstruct, or restore private non-profit service facilities to their pre-disaster condition. Such assistance is directly administered to the applicant by FEMA. (OMB Cat. 83.300).

3. Post-Hurricane Hazard Mitigation Plan

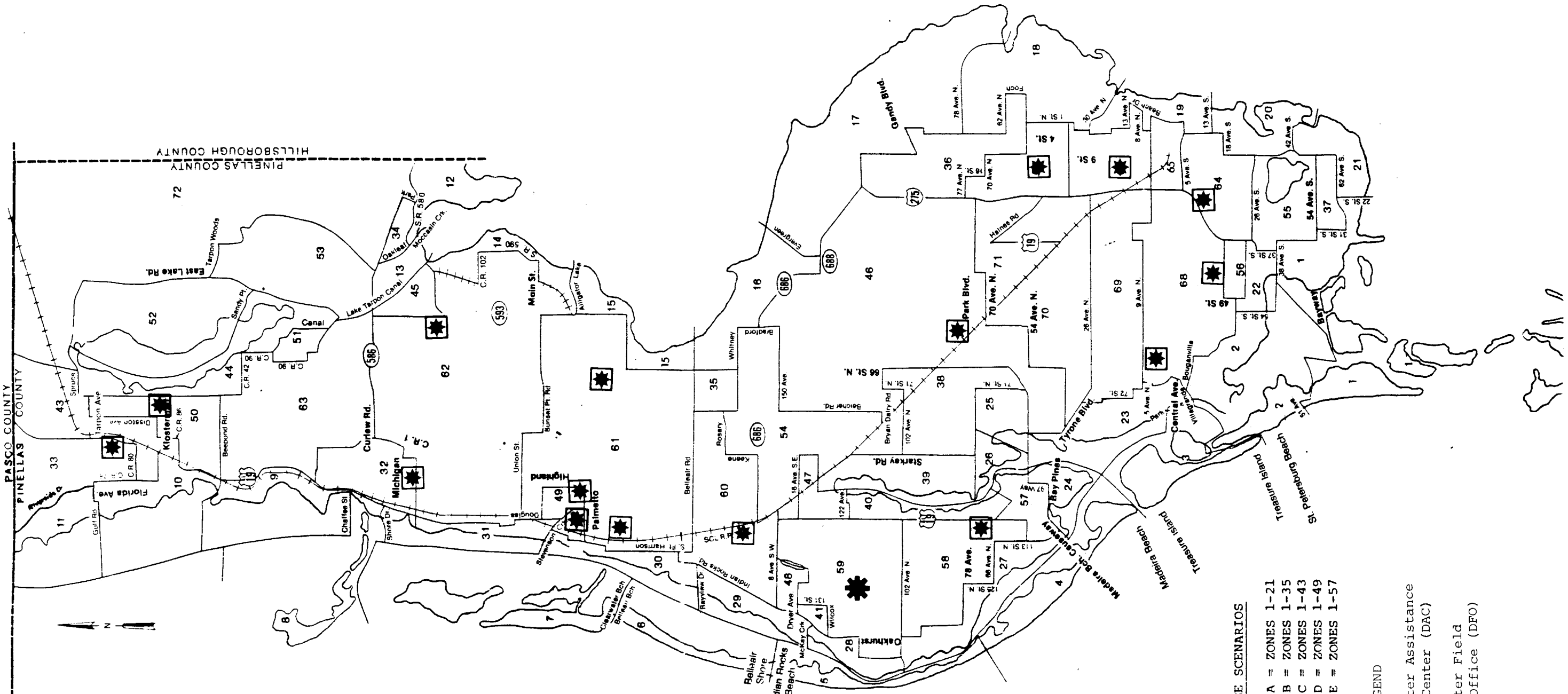
As part of the ongoing Federal/State agreement executed between the State of Florida and FEMA for the administering or receiving of Federal grant or loan assistance as a result of a major disaster or emergency; a hazard mitigation clause requires local governments, as applicants for federal disaster assistance, to take certain hazard mitigation measures. As a condition for any federal loan or grant, the state or the local government applicant will evaluate the natural hazards in the area in which the proceeds of the grants or loans are to be used and shall make appropriate recommendations to mitigate such hazards for federally-assisted projects. The State further agrees: (1) to follow-up with applicants, within state capabilities, to assure that, as a condition for any grant or loan under the Disaster Relief Act of 1974, appropriate hazard mitigation actions are taken; (2) to prepare and submit, not later than 180 days after the declaration to the FEMA Regional Director for concurrence, a hazard mitigation plan or plans for the designated areas; and (3) to review and update, as necessary, disaster-mitigation portions of the emergency plans.

The formulation of the post-hurricane hazard mitigation plan is a key element in the local hazard mitigation process. The specific mitigation efforts contained in the plan, as formulated by the State and affected County and/or city, must be carried out to ensure future eligibility of that local government for federal assistance in recovering from a similar type of future hurricane hazard. When receiving applications for such future federal disaster assistance, FEMA will review the hazard mitigation plan from the previous event to ascertain whether stated mitigation measures have been undertaken before disaster assistance will be provided. Such assistance will not be provided if measures have not been undertaken. The disaster declaration for that event will provide federal assistance to the State and/or local government applicant to identify and evaluate the hurricane hazards in affected areas and to recommend specific hazard mitigation actions to incorporate into the hazard mitigation plan (OMB Cat. 83.300).

FIGURE 34

PINELLAS COUNTY

Predesignated Disaster Assistance Centers
and Disaster Field Office Sites



DAMAGE SCENARIOS

SCENARIO A = ZONES 1-21
SCENARIO B = ZONES 1-35
SCENARIO C = ZONES 1-43
SCENARIO D = ZONES 1-49
SCENARIO E = ZONES 1-57

LEGEND

Disaster Assistance Center (DAC)

Disaster Field Office (DFO)

CHAPTER XIV

HURRICANE HAZARD MITIGATION POLICIES

The hurricane loss estimates and recovery strategies presented in earlier chapters apply to the existing population, structures, and property in the Tampa Bay Region. As development continues in geographic areas vulnerable to the hurricane hazards, loss estimates will increase and the ability to recover from such catastrophic losses will decrease. In short, the Region's hurricane vulnerability will worsen unless policies are implemented that (1) encourage hurricane-conscious building practices and (2) discourage intensive development of remaining vulnerable geographic areas.

Hurricane hazard mitigation policies are basically aimed toward the efficient use of local, state, and federal monies for disaster relief by preventing development of vulnerable areas that would repeatedly be subject to hurricane damage. They also encourage hurricane-resistant building practices.

Most of the mitigation policies presented below can be implemented within already existing local land use planning mechanisms. These policies should also be used as guidelines, where applicable, in the development of future post-disaster hazard mitigation plans formulated by the State and local governments of the Region.

Several of the policies presented below address areas of the Region projected to receive major hurricane damage from coastline storm surge of a certain range of height. These areas are defined as follows and are graphically delineated in Figures 9, 10, 11, and 12:

Scenario A = Areas of the Region projected to receive major hurricane damage from coastline storm surge heights of four to five feet.

Scenario B = Areas of the Region projected to receive major hurricane damage from coastline storm surge heights of six to eight feet.

Scenario C = Areas of the Region projected to receive major hurricane damage from coastline storm surge heights of nine to 12 feet.

Scenario D = Areas of the Region projected to receive major hurricane damage from coastline storm surge heights of 13 to 18 feet.

Scenario E = Areas of the Region projected to receive major hurricane damage from coastline storm surge heights of 18 + feet.

HURRICANE HAZARD MITIGATION POLICIES

Hurricane Hazard Mitigation Policies for Future Development

Recommendations:

- New public facility infrastructure (including water, waste water, and transportation facilities) which will encourage growth into areas of the Region projected to receive major hurricane damage from coastline storm surge heights of four to five feet, should not be supported except to assure essential services for existing development in those areas.

- Subdivision regulations should require that the deeds for sale of land and/or structures in areas of the Region projected to receive major hurricane damage from coastline storm surge heights of four to 12 feet be accompanied by a hazard disclosure statement generally describing the property's relative probability of damage from hurricane surge.

- A high priority for public land acquisition by the State of Florida and local governments for low intensity use of that land should be given to property within areas of the Region projected to receive major hurricane damage from coastline storm surge heights of four to five feet.

- The siting of hospital and nursing home facilities in areas of the Region projected to receive major hurricane damage from coastline storm surge heights of four to five feet is discouraged.

- Local governments are encouraged to re-examine periodically their existing building code and, where feasible, modify code provisions to increase the hurricane resistance of structures governed by the code.

- The selection of future sites for hazardous waste facilities, such as transfer stations or storage sites, should remain outside of areas of the Region projected to receive major hurricane damage from coastline storm surge heights of four to 12 feet.

- The intensive development of areas of the Region projected to receive major hurricane damage from coastline storm surge heights of four to five feet is discouraged.

- Coastal building setback requirements equal to or landward of the State Coastal Construction Control Line through ordinances, code enforcement, and/or restrictive covenants should be strictly enforced.

- The Tampa Bay Regional Planning Council will recommend, through its review responsibilities under the Development of Regional Impact (DRI) process, Local Government Comprehensive Planning Act, and Clearinghouse Review process;

    - that applicable development projects, as a condition for local approval, be required to include hazard disclosure statements in deeds for sale of land and/or structures in areas of the Region projected to receive major hurricane damage from coastline storm surge heights of four to five feet;

- that development projects, as a condition for local approval, meet any local building requirements under the National Flood Insurance Program;

- that local governments should encourage development in "regional activity centers" in areas not projected to receive major hurricane damage from coastline storm surge heights of four to five feet.

Hazard Mitigation Policies for Post-Hurricane Redevelopment

Recommendations:

- New temporary housing units, brought into the Region as post-hurricane disaster relief to displaced residents of uninhabitable structures, should not be located in areas of the Region projected to receive major hurricane damage from coastline storm surge heights of four to 12 feet.

- The rebuilding of major public facility infrastructure (including water, waste water, and transportation facilities) which will encourage redevelopment of areas of the Region projected to receive major hurricane damage from coastline storm surge of four to five feet, that have been completely devastated by hurricane hazards, should not be encouraged except to assure essential services for any existing development remaining in those areas.

- Property in areas of the Region projected to receive major hurricane damage from coastline storm surge heights of four to five feet, where development has been completely devastated from a hurricane, should be publicly acquired to prevent redevelopment of the property to its pre-hurricane land use.

- General post-hurricane redevelopment plans should be formulated that discourage rebuilding of devastated structures in areas of the Region projected to receive major hurricane damage from coastline storm surge heights of four to five feet to their pre-hurricane characteristics and location.

- Post-hurricane redevelopment in "regional activity centers" in areas not projected to receive major hurricane damage from coastline storm surge heights of four to 12 feet should be encouraged.

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APPENDIX A

SAFFIR/SIMPSON HURRICANE DAMAGE POTENTIAL SCALE

APPENDIX A

THE SAFFIR/SIMPSON HURRICANE SCALE

The Saffir/Simpson Hurricane Scale is used by the National Weather Service to give public safety officials a continuing assessment of the potential for wind and storm-surge damage from a hurricane in progress. Scale numbers are made available to public-safety officials when a hurricane is within 72 hours of landfall. Scale assessments are revised regularly as new observations are made, and public-safety organizations are kept informed of new estimates of the hurricane's disaster potential.

Scale numbers range from 1 to 5. Scale No. 1 begins with hurricanes in which the maximum sustained winds are at least 74 miles per hour, or which will produce a storm surge four to five feet above normal water level, while Scale No. 5 applies to those in which the maximum sustained winds are 155 miles per hour or more, or which have the potential of producing a storm surge more than 18 feet above normal.

The scale was developed by Herbert Saffir, Dade County, Florida, consulting engineer, and Dr. Robert H. Simpson, former National Hurricane Center director, and projects scale assessment categories as follows:

Category No. 1 - Winds of 74 to 95 miles per hour. Damage primarily to shrubbery, trees, foilage, and unanchored mobile homes. No real damage to other structures. Some damage to poorly constructed signs. Storm surge four to five feet above normal. Low-lying coastal roads inundated, minor pier damage, some small craft in exposed anchorage torn from moorings.

Category No. 2 - Winds of 96 to 110 miles per hour. Considerable damage to shrubbery and tree foilage; some trees blown down. Major damage to exposed mobile homes. Extensive damage to poorly constructed signs. Some damage to roofing materials of buildings; some window and door damage. No major damage to buildings. Storm surge six to eight feet above normal. Coastal roads and low-lying escape routes inland cut by rising water two to four hours before arrival of hurricane center. Considerable damage to piers. Marinas flooded. Small craft in unprotected anchorages torn from moorings. Evacuation of some shoreline residences and low-lying island areas required.

Category No. 3 - Winds of 111 to 130 miles per hour. Foilage torn from trees; large trees blown down. Practically all poorly constructed signs blown down. Some damage to roofing materials of buildings; some window and door damage. Some structural damage to small buildings. Mobile homes destroyed. Storm surge nine to 12 feet above normal. Serious flooding at coast and many smaller structures near coast destroyed; large structures near coast damaged by battering waves and floating debris. Low-lying escape routes inland cut by rising water three to five hours before hurricane center arrives. Flat terrain five feet or less above sea level flooded inland eight miles or more. Evacuation of low-lying residences within several blocks of shoreline possibly required.

Category No. 4 - Winds of 131 to 155 miles per hour. Shrubs and trees blown down; all signs down. Extensive damage to roofing materials, windows and doors. Complete failure of roofs on many small residences. Complete destruction of mobile homes. Storm surge 13 to 18 feet above normal. Flat terrain 10 feet or less above sea level flooded inland as far as six miles. Major damage to lower floors of structures near shore due to flooding and battering by waves and floating debris. Low-lying escape routes inland cut by rising water three to five hours before hurricane center arrives. Major erosion of beaches. Massive evacuation of all residences within 500 yards of shore possibly required, and of single-story residences on low ground within two miles of shore.

Category No. 5 - Winds greater than 155 miles per hour. Shrubs and trees blown down; considerable damage to roofs of buildings; all signs down. Very severe and extensive damage to windows and doors. Complete failure of roofs on many residences and industrial buildings. Extensive shattering of glass in windows and doors. Some complete building failures. Small buildings overturned or blown away. Complete destruction of mobile homes. Storm surge greater than 18 feet above normal. Major damage to lower floors of all structures less than 15 feet above sea level within 500 yards of shore. Low-lying escape routes inland cut by rising water three to five hours before hurricane center arrives. Massive evacuation of residential areas on low ground within five to 10 miles of shore possibly required.

Dr. Neil Frank, present National Hurricane Center director, has adapted atmospheric pressure ranges to the Saffir/Simpson Scale. These pressure ranges, along with a numerical break-down of wind and storm surge ranges, are listed below:

SCALE NUMBER	CENTRAL PRESSURE MILLIBARS	CENTRAL PRESSURE INCHES	WINDS (MPH)	SURGE (FT)	DAMAGE
1	>980	>28.94	74-95	4-5	Minimal
2	965-979	28.5-28.91	96-110	6-8	Moderate
3	945-964	27.91-28.47	111-130	9-12	Extensive
4	920-944	27.17-27.88	131-155	13-18	Extreme
5	<920	<27.17	155+	18+	Catastrophic

APPENDIX B

TAMPA BAY SLODH MODEL DESCRIPTION

THE TAMPA BAY SLOSH MODEL

SLOSH, so called because it projects Sea, Lake, and Overland Surges from Hurricanes, was developed for the Tampa Bay region of Florida in 1978. It is a computer model designed to project (output), from given information (input data), the flow of storm surges over seas, lakes, and land (taking into consideration the geographic configuration of land and water bodies, water depths, land elevation, and man-made constraints such as roads and levees).

The input to the model consists of:

- Initial meteorological conditions that define a hurricane in terms of time, storm location (latitude and longitude), storm intensity in millibars (ambient less central pressure of storm), and storm radius in statute miles (distance from storm center to maximum winds).

- Future storm conditions (at six-hour intervals out to 72 hours[1]) that provide information on location and angle of track, intensity, and size. Implicit in the storm track is the storm location for landfall, and the speed and direction of storm movement.[2]

- Initial water heights (tidal anomaly) for Tampa Bay and the Gulf of Mexico. These levels are relative to mean sea level. An initial height of one foot above mean sea level was used for the simulated hurricane runs.

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[1] A 36-hour mode is also possible.

[2] Additional technical details of the storm model are contained in Jelesnianski and Taylor, 1973: A Preliminary View of Storm Surges Before and After Storm Modifications. NOAA Technical Memorandum, ERL WMPO-3, Washington, D.C.

Based on this input, the SLOSH model numerically solves certain equations of motion to compute surge.[3] This surge is calculated on a computational polar grid. Strategic placement of this grid over the Tampa Bay region allows for fine spacing of grid points inside the bay region and coarse spacing over the Gulf of Mexico (see attached geographic grid configuration). The grid consists of 60 squares at the top and 60 at the side. The model contains 3,600 (60 x 60) grid squares or data points. Due to the "telescoping" grid system, the initial size of the grid square is .6 miles in the back bay areas and 1.6 miles at the extremities. This gives a more detailed level of resolution in the more critical back bay areas and less accuracy in the Gulf of Mexico. Each grid point can be identified by coordinate numbers. Using X and Y coordinates, 50 grid or data points were identified as critical areas requiring more detailed time history data on storm surge and wind speed.

Based on the input data, SLOSH produces the following output:

- A forward projection in time of the surge envelope[4] (penetration and height) at three-hour intervals before time of landfall and in two-hour intervals after landfall during the critical period (12 hours before landfall and 9 hours after).

- A composite of these surge envelopes which shows the maximum surge penetrations and heights for the entire time period or duration of the hurricane throughout the region.

- For each of the 50 selected data points, SLOSH projects the surge height, the wind speed, and the wind direction in 10-minute intervals for 24 hours before landfall and 12 hours after landfall.

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[3]The model numerically solves a set of partial differential equations of motion. Except for the additional inclusion of the finite amplitude effect and horizontal viscosity, the equations are given by Jelesnianski, 1967: Numerical Computations of Storm Surges With Bottom Stress. Monthly Weather Review, 95, 740-756. Coefficients for surface drag, eddy viscosity, and bottom slip are exactly the same as used in the SPLASH (Special Program to List the Amplitudes of Surges From Hurricanes) model by Jelesnianski, 1972: I. Landfall Storms. NOAA Technical Memorandum, NWS TLD-46, Washington, D.C. There is no calibration or tuning to force agreement between observed and computed surges; that is, the coefficients are universally set as constants, once and for all, and not varied locally for a particular geographical region. The model is used in a forecast mode; there is no requirement for input boundary values during surge activity (e.g., tide gage readings or computed boundary surge values from an alternate surge model).

[4]The surge envelope is produced on six pages of computer printouts which, when taped together, shows the surge height for each of the 3,600 usable data points. The land elevation for each point is then subtracted from the output surge height to give surge penetration and height.

Interpretation of the model output must be considered in view of the following characteristics:

- Given accurate input data for the storm's track and meteorological parameters, the computed surges are estimated to be within plus or minus 15 percent of the observed water levels.

- Terrain features of the Tampa Bay region were taken from storm evacuation maps prepared by the National Ocean Survey and topographical charts of the U.S. Geological Survey. The land elevations determined by the U.S. Geological Survey are based on survey data.

- The forecast water height for each grid point represents an average condition over a grid square. Water depths above ground level for specific areas of each grid must be determined from a knowledge of the terrain heights in each specific grid square.

- The model does not consider:

  - wave set-up

  - rainfall generated by the storm

  - astronomical tidal effects

- The wind speeds indicated in the ten-minute intervals are ten-minute sustained winds. These sustained winds can have gusts according to the following multiplier factors: over water - 1.43; over flat grass - 1.31; over woodlands and suburbs - 1.11.

APPENDIX C

LOSS VALUATION SOFTWARE APPLICATION NARRATIVE

APPENDIX C

HURRICANE DAMAGE PROJECTION SYSTEM NARRATIVE

SYSTEM OVERVIEW

The Hurricane Damage Projection System is an application software system designed to run on Data General Corp. hardware under Data General Corp. Real Time Disc Operating System (RDOS) in Business Basic. The system compiles data from two primary sources into one data base from which selected report/table output is generated. All user application software is selected from Master Menu Format and requires no formal data processing education and minimal operator training.

HARDWARE OUTLINE

Computer hardware used in development and processing consists of a Data General NOVA 3 with 64 kb of memory, a ten megabyte cartridge disc subsystem, 800 bpi tape drive, console terminal, and printer.

SOFTWARE OUTLINE

The data base for the Hurricane Damage Projection System is constructed from two primary sources, in two phases. Phase I involves reading Florida Department of Revenue data files from tape. A conversion of data record format from EBCDIC TO ASCII is made as each record is read. These data files are parcel by parcel records of land values, land use types, and location in section/township/range format from the four County Property Appraisers. Structure just values and structure taxable values are calculated, land use codes are compressed from 100 to 10, a land use structure count is made and the values added to a unique data record indexed by county number, section, township and range.

Phase II of building the data base involves data entry of hurricane structure vulnerability coefficients for each storm scenario, for each of ten structure types, in each section. Loss zones, unique within each county, are assigned to each section and an index by loss zone is added. Entry is accomplished via the system video display terminal, entering the damage percentage matrix and loss zone assignment for each section at one time. Data base maintenance for updating/changing the damage percentage matrix and loss zones is accomplished via the same software module.

Report/table-form output is available in several formats, sorted by county and loss zone or county and section. Formats include but are not limited to; (a) Structural Inventory of Hurricane Loss Zones, (b) Projected Hurricane Structural Loss ($) By Hurricane Loss Zone, (c) Projected Hurricane Structural Taxable Loss ($) By Hurricane Loss Zone, (d) Temporary Employment and Income Loss By Hurricane Loss Zone, and (e) Annualized Hurricane Structural Loss ($) By Hurricane Loss Zone.

The latter table is generated using matrix tables for average number of employees and daily income for each employment related structure type and lost time correlation to damage percentages.

The system is expandable from five storm scenarios to ten and allows for the inclusion of additional counties without further software modifications.

APPENDIX D

EPA HAZARDOUS WASTE NUMBERS

EPA HAZARDOUS WASTE NUMBERS

NON-LISTED TOXIC WASTE ON NOTIFICATION	
D000	ANY COMBINATION OF WASTE D004 THROUGH D007

NON-LISTED CHARACTERISTICS OF HAZARDOUS WASTES	
D001	NON-LISTED IGNITABLE WASTES
D002	NON-LISTED CORROSIVE WASTES
D003	NON-LISTED REACTIVE WASTES

CONTAMINANTS CHARACTERISTIC OF EP TOXICITY	
D004	ARSENIC
D005	BARIUM
D006	CADMIUM
D007	CHROMIUM
D008	LEAD
D009	MERCURY
D010	SELENIUM
D011	SILVER
D012	ENDRIN
D013	LINDANE
D014	METHOXYCHLOR
D015	TOXAPHENE
D016	2, 4-DICHLOROPHENOXYACETIC ACID
D017	2, 4, 5-TP SILVEX ACID

LISTS OF HAZARDOUS WASTES

A solid waste is a hazardous waste if it is listed below:

HAZARDOUS WASTES FROM NONSPECIFIC SOURCES

EPA HAZARDOUS WASTE NO.	HAZARDOUS WASTE
	HAZARDOUS WASTES FROM NONSPECIFIC SOURCES
F001	SPENT HALO CHLORIDES & SLUDGE FM GRAY IRON FOUNDRIES
F002	HALO SOLV AND REC STILL BOTTOMS
F003	NON-HALOGENATED SOLV AND SOLV REC STILL BOTTOMS
F004	NON-HALOGENATED SOLV AND SOLV REC STILL BOTTOMS
F005	NON-HALOGENATED SOLV AND SOLV REC STILL BOTTOMS
F006	ELECTROPLATING TREAT SLUDGE
F007	SPENT BATH SOLU FM ELECTROPLATING OPER
F008	SLUDGES FM BOTTOM OF BATH FM ELECTRPLTNG OPER
F009	SPENT STRIP & CLEAN BATH SOLU FM ELECTRPLTNG OPER
F010	QUENCH OIL BATH SLUDGE FM METAL HEAT TREATNG OPER
F011	SALT BATH POT CLEANING SOLU FM METAL HEAT TREAT OPER
F012	WASTEWATR TREATMENT SLUDGE FM METAL HEAT TREAT OPER
F013	FLOTATION TAILINGS FM MIN MET REC OPER
F014	WASTEWATR TREAT TAILING POND SED FM MIN MET REC OPER
F015	SPENT CYANIDE BATH SOLU FM MIN MET REC OPER
F016	COKE OVEN & FURN AIR POLUTN CONTRL SCRUBR SLUDGE
F017	PAINT RESIDUES GENERATED FROM INDUSTRIAL PAINTING
F018	WASTEWATR TREATMNT SLUDGE FM INDUSTRL PAINTING
K001	BOTTOM SED SLUDGE FM WOOD-TREATING PROC
K002	TREAT SLUDGE FM MANU CHROME YEL & OR PIGMENT
K003	TREAT SLUDGE FM MANU MOLYBDATE OR PIGMENT
K004	TREAT SLUDGE FM MANU ZINC YEL PIGMENT
K005	TREAT SLUDGE FM MANU CHROME GREEN PIGMENT
K006	TREAT SLUDGE FM MANU CHROME OXIDE GREEN PIGMENT
K007	TREAT SLUDGE FM MANU IRON BLUE PIGMENTS
K008	OVEN RESI FM MANU CHROME OXIDE GREEN PIGMENTS
K009	BOTTOMS FM PROD ACETALDEHYDE FM ENTHYLENE
K010	DIST SIDE CUTS FM PROD OF ACETALDEHYDE FM ETHYLENE
K011	BOTTOMS FM STRIPPER PROD ACRYLONITRILE
K012	STILL BOTTOM PURI ACRYLONITRILE
K013	BOTTOMS FM QUENCH COLUMN ACRYLONITRILE PROD
K014	STREAM FM ACETRONITRILE PURI PROD ACRYLONITRILE
K015	STILL BOTTOMS FM DIST OF BENZYL CHLORIDE
K016	ENDS OR RESI FM CARBON TETRACHLORIDE FRAC TOWER
K017	BOTTOMS FM FRAC PROD EPICHLOROHYDRIN
K018	ENDS FM FRAC ETHYL CHLORIDE PROD
K019	ENDS FM DIST ETHYLENE DICHLORIDEIN PROD
K020	DIST ENDS VINYL CHLORIDE MONO PROD VINYL CHLORIDE
K021	SPENT CATA FM FLUO REA PROD FLOURIMETHANES
K022	TARS FM PROD PHENOL/ACETONE FM CUMENE
K023	DIST ENDS PROD PHTHALIC ANHYDRIDE FM NAPHTHALENE
K024	RESI FM PROD PHTHALIC ANHYDRIDE FM NAPHTHALENE
K025	DIST BOTTOM FM PROD NITROBENZENE

LISTS OF HAZARDOUS WASTES

A solid waste is a hazardous waste if it is listed below:

HAZARDOUS WASTES FROM NONSPECIFIC SOURCES

EPA HAZARDOUS WASTE NO.	HAZARDOUS WASTE
K026	STILL TAILS FM PROD METHYL ETHYL PYRIDINES
K027	CENT RESI FM TOLUENE DIISICYANATE PROD
K028	SPENT CAT FM REA PROD 1,1,1-TRICHLOROETHANE
K029	WASTE FM PROD OF 1,1,1-TRICHLOROETHANE
K030	BOTTOMS/ENDS COMB PROD TRICH & PERCH
K031	BY-PRODUCTS SALTS PROD CACODYLIC ACID
K032	TREAT SLUDGES FM PROD CHLORDANE
K033	FM CHLORINATION OF CYCLOPENTADIENE PROD CHLORDANE
K034	FILTER SOLIDS FM FILT HEXACHLOROCYCLOPENTADIENE
K035	TREAT SLUDGES FM PROD CREOSOTE
K036	BOTTOMS FM TOLUENE RECL DIST PROD DISULFOTON
K037	TREAT SLUDGES FM PROD DISULFOTON
K038	WASTE FM WASH, STRIP & FILTER PHORATE IN PROD
K039	FM FILT DIETHYLPHOSPHORODITHORIC ACID PROD PHORATE
K040	TREAT SLUDGES FM PROD PHORATE
K041	TREAT SLUDGE FM PROD TOXAPHENE
K042	ENDS DIST RESI FM TETRACHLOROBENZENE PROD 2,4,5-T
K043	2,6-D BY-PRODUCTS FM PROD 2,4-D
K044	TREAT SLUDGES FM MANY EXPL & PROPELLANT COMPOUND
K045	CARBON COLUMNS USE TREAT LAP OPER
K046	TREAT SLUDGE PROD LAP INITIATING COMPOUND
K047	RED & PINK WATER SLUDGES FM TNT PROD LAP OPER
K048	DAF FM OILY WATER SEWER PETRO REFIN
K049	SLOP OIL FM OILY WATER SEWER PETRO REFIN
K050	PETRO REFIN EXE BUNDLE CLEANING SOLV
K051	API SLUDGE FM API OILY SEWER PETRO REFIN
K052	BOTTOMS (LEADED) FM PETRO REFIN INDUSTRY
K053	CHROME TRIM FM LEATHER TANNING & FINISHING OPER
K054	CHROME SHAVE FM LEATHER TANNING & FINISHING OPER
K055	DUST FM LEATHER TANNING & FINISHING OPER
K056	SEWER SCREENING FM LEATHER TANNING & FINISHING
K057	WASTEWATR TREAT SLUDGE FM LEATHER TANNING/FINISHING
K058	WASTEWATR TREAT SLUDGE FM LEATHER TANNING/FINISHING
K059	WASTEWATR TREAT SLUDGE FM LEATHER TANNING/FINISHING
K060	COKING: AMONIA STILL LIME SLUDGE
K061	EMISSION CONTROL DUST FM ELEC FURN PROD STEEL
K062	STEEL FINISHING: WASTE PICKLE LIQUOR
K063	STEEL FINISHING: WASTE PICKLE LIQUOR TRFAT SLUDGE
K064	PLANT BLOWDOWN SOLID FM PRI COPPER PROD
K065	SURFACE IMPOUND LEAD SMELTERS FM PRI LEAD PROD
K066	PLANT BLOWDOWN FM PRI ZINC PROD
K067	ELECTROLYLIC ANODE FM PRI ZINC PROD
K068	CODMIUM PLANT LEACHATE RESI FM PRI ZINC PROD
K069	CONTROL DUST/SLUDGE FM SEC LEAD SMELTING
K071	MERCURY SLUDGES & PURI MUDS IN CHLORINE PROD

LISTS OF HAZARDOUS WASTES

A solid waste is a hazardous waste if it is listed below:

HAZARDOUS WASTES FROM NONSPECIFIC SOURCES

EPA HAZARDOUS WASTE NO.	HAZARDOUS WASTE
K073	HYDROCARBN WST USNG GRAPHITE ANODES PROD CHLORINE
K074	TREATMNT SLUDGES FM PROD TI02 BY CHLORIDE PROCESS
K078	SOLVENT CLEANING WASTES FM PAINT MANUFACTURING
K079	WATER CLEANING WASTES FM PAINT MANUFACTURING
K081	WSTWTR TREATMNT SLUDGE FM PAINT MANUFACTURING
K082	AIR POLLUTN CONTRL SLUDGES FM PAINT MANUFACTURING
K083	STILL BOTTOMS FM ANILINE PRODUCTION
K084	ARSNIC/ORGANO-ARSNIC SLUDGE FM PROD VET PHARMAS
K085	DIST RESI FM SEP CHLOROBENZENES PROD CHLOROBENZENE
K086	SLUDGES/WASTES FM TUB WASHERS (INK FORMULATION)
K087	COKING: DECANTER TANK TAR/PITCH/SLUDGE
K088	SPENT POTLINERS(CATHODES) FM PRI ALUMINUM PROD
K089	LEAD BEARNG TREATMNT SLUDGE FM GRAY IRON FOUNDRIES
K090	CONTRL DUST/SLUDGE FM FERRO-CHROMIUM-SILICON PROD
K091	CONTRL DUST/SLUDGE FM FERRO-CHROME PRODUCTION
K092	CONTRL DUST/SLUDGE FM FERRO-MANGANESE PRODUCTION

CHEMICALS MANUFACTURED/FORMULATED FOR COMMERCIAL OR MANU. USE

P001	3-(ALPHA-A CETONYLBENLY)-4-HYDROXYCOUMAR & SALT *	
	ANTHROMBIN	RAT-GUARD
	COUMADIN	RAT-KILL
	COUMAFEN	RAT-MIX
	D-CON	RAT-NO-MORE
	DETHMOR	RAT-OLA
	DETHNEL	RATOREX
	EASTERN STATES DUOCIDE	RATTUNAL
	FASCO FASCRAT POWER	RAT-TROL
	KUMADER	RO-DETH
	KYPFARIN	ROSEX
	MAREVAN	ROUGH & READY MOUSE MIX
	MAR-FRIN	SPRAY-TROL BRAND RODEN-TROL
	MARTIN'D MAR-FRIN	SODIUM COUMADIN
	MARVERAN	SODIUM WARFARIN
	PANIVARFIN	SOLFARIN
	PANWARFIN	TWIN LIGHT RAT AWAY
	PROTHROMADIN	WARCOUMIN
	RAT & MICE BAIT	WARFARIN SODIUM
	RAT-B-GON	ZOOCOUMARIN
P002	1-ACETYL-2-THIOUREA OR USAF EK-4890	
P003	ACROLEIN	
P004	ALDRIN	
P005	ALLYL ALCOHOL OR MEGATOX	

LISTS OF HAZARDOUS WASTES

A solid waste is a hazardous waste if it is listed below:

HAZARDOUS WASTES FROM NONSPECIFIC SOURCES

EPA HAZARDOUS WASTE NO.	HAZARDOUS WASTE
P006	ALUMINUM PHOSPHIDE
P007	5-(AMINOMETHYL)-3-ISOXAZOLOL*
	AGARIN
	MUSCIMOL
	PANTHERINE
P008	4-AMINOPYRIDINE OR AVITROL, PHILIPS 1861
P009	AMONIUM PICRATE
P010	ARSENIC ACID
P011	ARSENIC PENTOXIDE
P012	ARSENIC TRIOXIDE
P013	BARIUM CYANIDE
P014	BENZENETHIOL OR PHENYL MERCAPTAN
P015	BERYLLIUM DUST
P016	BIS (CHLOROMETHYL) ETHER OR BCME
P017	BROMOACETONE
P018	BRUCINE
P019	2-BUTANONE PEROXIDE
P020	2-SEC-BUTYL-4,6-DINITROPHENOL*
	ARETIT
	BASENITE
	BUTAPHENE
	CALDON
	CHEMOX GENERAL
	CHEMOX P.E.
	DINOSEB
	DINOSEBE
	DNBP
	DOW GENERAL
	DOW GENERAL WEED KILLER
	DOW SELECTIVE WEED KILLER
	ELGETOL
	GERUTOX
	KILOSEB
	PHENOTAN
	PREMERGE
	SPARIC
	SPURGE
	SUBTEX
P021	CALCIUM CYANIDE
P022	CARBON DISULFIDE
P023	CHLOROACETALDEHYDE
P024	P-CHLOROANILINE
P025	1-(P-DHLOROBENZOYL)-5-METHOXY-2-METHYLINDOLE-3-ACETIC-ACID
P026	1-(O-CHLOROPHENYL) THIOUREA
P027	3-CHLOROPROPIONITRILE
P028	ALPHA-CHLOROTOLUENE
P029	COPPER CYANIDE
P030	CYANIDES
P031	CYANOGEN OR DICYANOGEN
P032	CYANOGEN BROMIDE
P033	CYANOGEN CHLORIDE
P034	2-CYCLOHEXYL-4,6-DINITROPHENOL*
	DINITROCYCLOHEXYLPHENOL
P035	2,4-DICHLOROPHENOXYACETIC ACID (2,4-D)
P036	DICHLOROPHENYLARSINE

LISTS OF HAZARDOUS WASTES

A solid waste is a hazardous waste if it is listed below:

HAZARDOUS WASTES FROM NONSPECIFIC SOURCES

EPA HAZARDOUS WASTE NO.	HAZARDOUS WASTE
P037	DIELDRIN*
	ALVIT — ILLOXOL
	DIELDREX — PANORAM
	OCTALOX — QUINTOX
P038	DIETHYLARSINE
P039	0,0-DIETHYL-S-ESTER OF PHOSPHOROTHIOIC ACID*
	DISULFOTON
P040	0,0-DIETHYL-0-(2-PYRAZINYL)PHOSPHOROTHIOATE
P041	0,0-DIETHYL PHOSPHORIC ACID, O-P-NITROPHENYL ESTER
P042	3,4-DIHYDROXY-ALPHA-METHYL BENZYL ALCOHOL*
	EPINEPHRINE
	METHYL NIRON
P043	DI-ISOPROPYLFLUOROPHOSPHATE OR DEP
P044	DIMETHOATE OR DIMETATE
P045	3,3-DIMETHYL-(METHYLTHIO)-2-BUTANONE-01(METHYLAMINO)CARBONYL-OXIME
P046	ALPHA, ALPHA-DIMETHYLPHENETHYLAMINE
P047	4,6-DINITRO-0-CRESOL AND SALTS
P048	2,4-DINTROPHENOL*
	ALDIFEN — SOLFOBLACK SB
	PENOXYL CARBON N — TETROSULFUR BLACK PB
	SOLFOBLACK BB — TETROSULPHAR PBR
P049	2,4-DITHIOBIURET
P050	ENDOSULFAN*
	BENZOEPIN
	CYCLODAN
	1,4,5,6,7,7-HEXACHLORO-CYCLIC-5-NORBORNENE-2,3-DIMETHANOL SULFITE
	INSECTOPHENE
	KOP-THIODAN
	MALIK
	THIODAN
	THIOFOR
	THIOMUL
	THIONEX
	THIOSULFAN TIONEL
	TIOVEL
P051	ENRIN
P052	ETHYLCYANIDE
P053	ETHYLENEDIAMINE
P054	ETHYLENEIMINE OR AMINOETHYLENE, AZIRIDENE
P055	FERRIC CYANIDE
P056	FLUORINE OR SODIRM FLUOROACETATE
P057	2-FLUOROACETAMIDE OR 1081, FUSSOF, YANOCK
P058	FLUOROACETIC ACID, SODIUM SALT OR 1080, YASOKNOCK, FRATOL
P059	HEPATACHLOR

LISTS OF HAZARDOUS WASTES

A solid waste is a hazardous waste if it is listed below:

HAZARDOUS WASTES FROM NONSPECIFIC SOURCES

EPA HAZARDOUS WASTE NO.	HAZARDOUS WASTE
P060	ENDO-DIMETHANONAPH* 1,4,5,8-DIMETHANONAPHTHALENE 1,2,3,4,10,10-HEXACHLORO-1,4,4A, 8,8AHEXAHYDRO, ENDO ISODRIN
P061	HEXACHLOROPROPENE OR AZOFOS, AZOPHOS
P062	HEXAETHYL TETRAPHOSPHATE* TETRAPHOSPHORIC ACID, HEXAETHYL ESTER
P063	HYDROCYANIC ACID
P064	ISOCYANIC ACID, METHYL ESTER OR METHYL ISOCYANATE
P065	MERCURY FULMINATE
P066	METHOMYL
P067	2-METHYLAZIRIDINE
P068	METHYL HYDRAZINE OR HYDRAZOMETHANE
P069	2-METHYLLACTONITRILE* ACETONE CYANOHYDRIN USAF RH-8
P070	2-METHYL-2-PROPIONALDEHYDE-O-OXIME OR TEMIC, TEMIK
P071	METHYL PARATHION* BLADAN=M FOLODOL-80 FLOLDOL M FOSFERNO M50 GEARPHOS METACID 50 METAFOS METAPHOR VOFATOX METAPHOS METHYL-E 605 METRON PENNCAP-M PHOSPHORIC ACID 0,0-DIMETHYL-O-(P-NITROPHENYL)ESTER TEKWAISA THIOPHENIT
P072	1-NAPHTHYL-2-THIOUREA OR BANTU, WOFOTOX
P073	NICKEL CARBONYL OR ANTURAT
P074	NICKEL CYANIDE
P075	NICOTINE AND SALTS
P076	NITRIC OXIDE
P077	P-NITROANILINE
P078	NITROGEN DIOXIDE
P079	NITROGEN PEROXIDE
P080	NITROGEN TETROXIDE
P081	NITROGLYCERINE (R)
P082	N-NITROSODIMETHYLAMINE
P083	N-NITROSODIPHENYLAMINE
P084	N-NITROSOMETHYLVINYLAMINE
P085	OCTAMETHYLPYROPHOSPHORAMIDE* OMPA OMPACIDE OMPAX PESTOX III SCHRADAN SYSTAM
P086	OLEYL ALCOHOL CONDENSED W/2 MOLES ETHYLENE OXIDE
P087	OSMIUM TETROXIDE

LISTS OF HAZARDOUS WASTES

A solid waste is a hazardous waste if it is listed below:

HAZARDOUS WASTES FROM NONSPECIFIC SOURCES

EPA HAZARDOUS WASTE NO.	HAZARDOUS WASTE	
P088	7-OXABICYCLOHEPTANE-2,3-DICARBOXYLIC ACID*	
	AQUATHOL	
P089	PARATHION	
P090	PENTACHLOROPHENOL*	
	CHEM-TOL	PERMATOX
	DOWICIDE G	PERMITE
	PCP	PERTOX
	PENTACHLORPHENATE	SANTOBRITE
	PENTA-KILL	SANTOPHEN
	PENTASOL	SANTOPHEN-20
	PENWAR	TERM-I-TROL
	PERMICIDE	THOMPSON'S WOOD FIX
	PERMAGUARD	
P091	PHENYLDICHLOROARSINE OR FEMMA	
P092	PHENYLMERCURY ACETATE*	
	AGROSAN GN 5	LIQUIPHENE
	ALGIMYCIN	MERSOLITE
	ANTIMUCIN WDR	METASOL 30
	BUFEN	NYLMERATE
	CERESAN	OCTAN
	CERSAN	PHENMAD
	DYANACIDE	PHIX
	FUNGITOX OR	SPOR-KILL
	GALLOTOX	TAG FUNGICIDE
	HOSTAQUICK	THIFOR
	HOSTAQUIK	THIMUL
	KWIKSAN	ZIARMIK
	LEYTOSAN	
P093	N-PHENYLTHIOUREA	
P094	PHORATE	
P095	PHOSGENE	
P096	PHOSPHINE	
P097	PHOS ACID W/N,N-DIMETHYL BENZENE SULFONAMIDE	
P098	POTASSIUM CYANIDE	
P099	POTASSIUM SILVER CYANIDE	
P100	1,2-PROPANEDIOL	
P101	PROPIONITRILE	
P102	2-PROPYN-1-01 OR PROPARGYL ALCOHOL	
P103	SELENOUREA	
P104	SILVER CYANIDE	
P105	SODIUM AZIDE OR SMITE	
P106	SODIUM CYANIDE	
P107	STRONTIUM SULFIDE	

LISTS OF HAZARDOUS WASTES

A solid waste is a hazardous waste if it is listed below:

HAZARDOUS WASTES FROM NONSPECIFIC SOURCES

EPA HAZARDOUS WASTE NO.	HAZARDOUS WASTE
P108	STRYCHNINE & SALTS*
	CRETOX
	DOLCO MOUSE CEREAL
	KWIK-KIL
	MOLE DEATH
	MOUSE-NOTS
	MOUSE-RID
	MOUSE-TOX
	PIED PIPER MOUSE SEED
	SANASEED
P109	TETRAETHYLDITHIOPYROPHOSPHATE
P110	TETRAETHYL LEAD
P111	TETRAETHYLPYROPHOSPHATE
P112	TETRANITROMETHANE
P113	THALLIC OXIDE OR THALLIUM PEROXIDE
P114	THALLIUM SELENITE
P115	THALLIUM (I) SULFATE
P116	THIOSEMICARBAZIDE
P117	THIURAM
P118	TRICHLOROMETHANETHIOL
P119	VANADIC ACID, AMMONIUM SALT/AMMONIUM METAVANADATE
P120	VANADIUM PENTOXIDE OR WANADU
P121	ZINC CYANIDE
P122	ZINCE PHOSPHIDE (R,T)
U001	ACETALDEHYDE
U002	ACETONE (I)
U003	ACETONITRILE (I,T) OR CYANOMETHANE
U004	ACETOPHENONE
U005	2-ACETYLAMINOFLOURENE
U006	ACETYL CHLORIDE
U007	ACRYLAMIDE
U008	ACRYLIC ACID (I)
U009	ACRYLONITRILE
U010	AMINO-HYDROXYMETHYL-METHYLCARBAMATE-AZIRINO...*
	MITROMYCIN C
U011	AMITROLE OR 3-AMINO-5-1H-1,2,4-TRIAZOLE,HYDRATE
U012	ANILINE (I)
U013	ASBESTOS
U014	AURAMINE*
	4-4-(IMIDOCARBONYL)BIS(N,N-DIMETHYL)ANILINE

LISTS OF HAZARDOUS WASTES

A solid waste is a hazardous waste if it is listed below:

HAZARDOUS WASTES FROM NONSPECIFIC SOURCES

EPA HAZARDOUS WASTE NO.	HAZARDOUS WASTE
U015	AZASERINE
U016	BENZ[A]ACRIDINE
U017	BENZAL CHLORIDE OR DICHLOROMETHYLBENZENE
U018	BENZ[A]ANTHRACENE
U019	BENZENE
U020	BENZENESULFONYL CHLORIDE
U021	BENZIDINE
U022	BENZO[A]PYRENE
U023	BENZOTRICHLORIDE OR ALPHA-TRICHLOROTOLUENE
U024	BIS(2-CHLOROETHOXY)METHANE
U025	BIS(2-CHLOROETHYL)ETHER
U026	N,N-BIS(2-CHLOROETHYL)-2-NAPHTHYLAMINE
U027	BIS(20CHLOROISOPROPYL)ETHER
U028	BIS(2-ETHYLHEXYL)PHTHALATE
U029	BROMOMETHANE
U030	4-BROMOPHENYL PHENYL ETHER
U031	N-BUTYL ALCOHOL
U032	CALCIUM CHROMATE
U033	CARBONYL FLUORIDE
U034	CHLORAL
U035	CHLORAMBUCIL
U036	CHLORDANE
U037	CHLOROBENZENE
U038	CHLOROBENZILATE
U039	P-CHLORO-M-CRESOL
U040	CHLORODIBROMOMETHANE
U041	1-CHLORO-2,3-EPOXYPROPANE
U042	CHLOROETHYL VINYL ETHER
U043	CHLOROETHENE OR VINYL CHLORIDE
U044	CHLOROFORM (I,T)
U045	CHLOROMETHANE (I,T)
U046	CHLOROMETHYL METHYL ETHER
U047	2-CHLORONAPHTHALENE
U048	2-CHLOROPHENOL
U049	4-CHLORO-O-TOLUIDINE HYDROCHLORIDE
U050	CHRYSENE
U051	CRESOTE
U052	CRESOLS
U053	CROTONALDEHYDE
U054	CRESYLIC ACID
U055	CUMENE
U056	CYCLOHEXANE (I)
U057	CYCLOHEXANONE (I)
U058	CYCLOPHOSPHAMIDE

LISTS OF HAZARDOUS WASTES

A solid waste is a hazardous waste if it is listed below:

HAZARDOUS WASTES FROM NONSPECIFIC SOURCES

EPA HAZARDOUS WASTE NO.	HAZARDOUS WASTE
U059	DAUNOMYCIN
U060	DDD
U061	DDT
U062	DIALLATE
U063	DIBENZ(O)[A,H]ANTHRACENE
U064	DIBENZO[A,I]PYRENE
U065	DIBROMOCHLOROMETHANE
U066	1,2-DIBROMO-3-CHLOROPROPANE
U067	1,2-DIBROMOETHANE
U068	DIBROMOMETHANE
U069	DI-N-BUTYL PHTHALATE
U070	1,2-DICHLOROBENZENE
U071	1,3-DICHLOROBENZENE
U072	1,4-DICHLOROBENZENE
U073	3,3'-DICHLOROBENZIDINE OR C.I. 23060* 3,3'-DICHLORO-4-4'-DIAMINOBIPHENYL
U074	1,4-DICHLORO-2-BUTENE
U075	DICHLORODIFLUOROMETHANE
U076	1,1-DICHLOROETHANE
U077	1,2-DICHLOROETHANE
U078	1,1-DICHLOROETHYLENE OR VINYLIDENE CHLORIDE
U079	1,2-TRANS-DICHLOROETHYLENE
U080	DICHLOROMETHANE
U081	2,4-DICHLOROPHENOL
U082	2,6-DICHLOROPHENOL
U083	1,2-DICHLOROPROPANE
U084	1,3-DICHLOROPROPENE
U085	DIEPOXYBUTANE (I,T)
U086	1,2-DIETHYLHYDRAZINE
U087	0,0-D-S-M ESTER OF PHOSPHORODITHIOIC ACID
U088	DIETHYL PHTHALATE
U089	DIETHYLSTILBESTROL
U090	DIHYDROSAFROLE
U091	3,3'-DIMETHOXYBENZIDINE
U092	DIMETHYLAMINE
U093	P-DIMETHYLAMINOAZOBENZENE
U094	7,12-DIMETHYLBENZ[A]ANTHRACENE
U095	3,3'-DIMETHYLBENZIDINE
U096	ALPHA, ALPHA-DIMETHYLBENZYLHYDROPEROXIDE
U097	DIMETHYLCARBAMOYL CHLORIDE
U098	1,1-DIMETHYLHYDRAZINE
U099	1,2-DIMETHYLHYDRAZINE
U100	DIMETHYLNITROSOAMINE
U101	2,4-DIMETHYLPHENOL
U102	DIMETHYL PHTHALATE
U103	DIMETHYL SULFATE

LISTS OF HAZARDOUS WASTES

A solid waste is a hazardous waste if it is listed below:

HAZARDOUS WASTES FROM NONSPECIFIC SOURCES

EPA HAZARDOUS WASTE NO.	HAZARDOUS WASTE
U104	2,4-DINITROPHENOL
U105	2,4-DINITROTOLUENE
U106	2,6-DINITROTOLUNE
U107	DI-N-OCTYL PHTHALATE
U108	1,4-DIOXANE
U109	1,2-DIPHENYLHYDRAZINE
U110	DIPROPYLAMINE
U111	DI-N-PROPYLNITROSAMINE
U112	ETHYL ACETATE (I)
U113	ETHYL ACRAYLATE (I)
U114	ETHYLENEBISDITHIOCARBAMATE* 4,4'-(IMIDOCARBONYL)BIS(N,N-DIMETHYL)ANILINE
U115	ETHYLENE OXIDE (I,T)
U116	ETHYLENE THIOUREA
U117	ETHYL ETHER (I,T)
U118	ETHYLMETHACRYLATE
U119	ETHYL METHANE SULFONATE
U120	FLUORANTHENE
U121	FLUOROTRICHLOROMETHANE
U122	FORMALDEHYDE
U123	FORMIC ACID (C,T)
U124	FURAN (I)
U125	FURFURAL (I)
U126	GLYCIDYLALDEHYDE
U127	HEXACHLOROBENZENE
U128	HEXACHLOROBUTADIENE
U129	HEXACHLOROCYCLOHEXANE
U130	HEXACHLOROCYCLOPENTADIENE
U131	HEXACHLOROETHANE
U132	HEXACHLOROPHENE
U133	HYDRAZINE (R,T)
U134	HYDROFLUORIC ACID (C,T)
U135	HYDROGEN SULFIDE
U136	HYDROXYDIMETHYL ARSINE OXIDE
U137	INDENO (1,2,3-CD)PYRENE
U138	IODOMETHANE OR METHYL IODIDE
U139	IRON DEXTRAN
U140	ISOBUTYL ALCOHOL
U141	ISOSAFROLE
U142	KEPONE
U143	LASIOCARPINE
U144	LEAD ACETATE
U145	LEAD PHOSPHATE
U146	LEAD SUBACETATE
U147	MALEIC ANHYDRIDE

LISTS OF HAZARDOUS WASTES

A solid waste is a hazardous waste if it is listed below:

HAZARDOUS WASTES FROM NONSPECIFIC SOURCES

EPA HAZARDOUS WASTE NO.	HAZARDOUS WASTE
U148	MALEIC HYDRAZIDE
U149	MALONONITRILE
U150	MELPHALAN
U151	MERCURY
U152	METHACRYLONITRILE
U153	METHANETHIOL
U154	METHANOL OR METHYL ALCOHOL
U155	METHAPYRILENE
U156	METHYL CHLOROCARBONATE OR METHYL CHLOROFORMATE
U157	3-METHYLCHOLANTHRENE
U158	4,4'-METHYLENE-BIS-(2-CHLOROANILINE)
U159	METHYL ETHYL KETONE
U160	METHYL ETHYL KETONE PEROXIDE
U161	METHYL ISOBUTYL KETORE
U162	METHYL METHACRYLATE
U163	N-METHYL-N'-NITRO-N-NITROSOGUANIDINE
U164	METHYLTHIOURACIL
U165	NAPHTHALENE
U166	1,4-NAPHTHOQUINONE
U167	1-NAPHTHYLAMINE
U168	2-NAPHTHYLAMINE
U169	NITROBENZENE (I,T) OR NITROBENZOL
U170	4-NITROPHENOL
U171	2-NITROPROPANE
U172	N-NITROSODI-N-BUTYLAMINE
U173	N-NITROSODIETHANOLAMINE
U174	N-NITROSODIETHYLAMINE
U175	N-NITROSODI-N-PROPYLAMINE
U176	N-NITROSO-N-ETHYLUREA
U177	N-NITROSO-N-METHYLUREA
U178	N-NITROSO-N-METHYLURETHANE
U179	N-NITROSOPIPERIDINE
U180	N-NITROSOPYRROLIDINE
U181	5-NITRO-O-TOLUIDINE
U182	PARALDEHYDE
U183	PENTACHLOROBENZENE
U184	PENTACHLOROETHENE
U185	PENTACHLORONITROBENZENE OR PENB
U186	1,3-PENTADIENE (I)
U187	PHENACETIN
U188	PHENOL OR CARBOLIC ACID, HYDROXYBENZENE
U189	PHOSPHOROUS SULFIDE (R)
U190	PHTHALIC ANHYDRIDE
U191	2-PICOLINE
U192	PRONAMIDE

LISTS OF HAZARDOUS WASTES

A solid waste is a hazardous waste if it is listed below:

HAZARDOUS WASTES FROM NONSPECIFIC SOURCES

EPA HAZARDOUS WASTE NO.	HAZARDOUS WASTE
U193	1,3-PROPANE SULTONE
U194	N-PROPYLAMINE
U196	PYRIDINE
U197	QUINONES
U200	RESERPINE
U201	RESORCINOL
U202	SACCHARIN/1,2-BENZISOTHIAZOLIN-3-1,1,1-DIOXIDE
U203	SAFROLE
U204	SELENIOUS ACID
U205	SELENIUM SULFIDE (R,T)
U206	STREPTOZOTOCIN
U207	1,2,4,5-TETRACHLOROBENZENE
U208	1,1,1,2-TETRACHLOROETHANE
U209	1,12,2-TETRACHLOROETHANE/ACETYLENE TETRACHLORIDE
U210	TETRACHLOROETHANE*
	PERC
	PERCHLORETHYLENE
	TETRACHLOROETHYLENE
U211	TETRACHLOROMETHANE OR CARBON TETRACHLORIDE
U212	2,3,4,6-TETRACHLOROPHENOL
U213	TETRAHYDROFURAN (I) OR 1,4-EPOXYBUTANE
U214	THALLIUM (I) ACETATE
U215	THALLIUM (I) CARBONATE
U216	THALLIUM (I) CHLORIDE
U217	THALLIUM (I) NITRATE
U218	THIOACETAMIDE
U219	THIOUREA
U220	TOLUENE
U221	TOLUENEDIAMINE
U222	O-TOLUIDINE HYDROCHLORIDE
U223	TOLUENE DIISOCYANATE
U224	TOXAPHENE
U225	TRIBROMOMETHANE
U226	1,1,1-TRICHLOROMETHANE*
	AEROTHENE TT
	CHLOROETHENE NU
U227	1,1,2-TRICHLOROETHENE
U228	TRICHLOROETHENE*
	ACETYLENE TRICHLORIDE
	TRICHLOROETHYLENE
	TRI-CLENE
U229	TRICHLOROFLUOROMETHANE
U230	2,4,5-TRICHLOROPHENOL
U231	2,4,6-TRICHLOROPHENOL
U232	2,4,5-TRICHLOROPHENOXYACETIC ACID (2,4,5-T)
U233	2,4,5-TRICHLOROPHENOXYPROPIONIC ACID/SILVEX
U234	TRINITROBENZENE
U235	TRIS(2,3-DIBROMOPROPROPLY)PHOSPHATE/FIREMASTER T23P
U236	TRYPAN BLUE
U237	URACIL MUSTARD
U238	URETHANE
U239	XYLENE

APPENDIX E

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

APPENDIX E

HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO A

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	2,304	1,161	609	923	6	0	7	0	0	190	5,200
2	125	191	0	506	39	1	0	0	6	6	874
3	5,115	0	153	24	0	0	4	0	0	7	5,303
4	2,604	153	69	460	63	15	0	0	65	100	3,528
5	216	0	436	7	2	145	0	0	0	22	828
6	1,784	166	15	54	2	0	0	0	1	38	2,060
7	1,526	321	6	15	1	7	0	0	0	21	1,897
8	2,198	551	0	140	29	0	0	0	202	143	3,263
9	12,994	40	0	33	0	0	0	0	0	45	13,112
11	387	0	128	193	465	431	0	0	0	333	1,937
12	233	0	8	3	10	0	0	0	0	110	364
13	107	1	19	19	4	0	5	0	0	0	155
14	273	0	268	95	1,052	739	0	0	0	3	2,430
15	41	0	2,510	0	383	0	0	0	0	0	2,934
16	15,494	915	2,438	219	264	1,100	220	0	0	19	20,669
17	2,779	842	2,088	427	0	0	338	0	0	43	6,517
18	1,155	146	64	1,277	10	0	0	0	0	2	2,654
20	196	2	0	218	110	29	0	0	97	307	959
21	72	0	0	151	441	10	0	0	0	28	702
22	275	0	1	9	3	2	5	0	0	18	313
23	73	0	4	38	151	0	38	0	0	3	307
24	28	0	17	2	3	0	5	0	0	3	58
25	495	1	95	57	10	2	36	0	0	37	733
26	44	0	16	6	0	1	84	0	0	0	151
27	4	0	68	0	0	2	8	0	0	26	108
28	230	28	0	2,058	363	52	0	0	706	1,200	4,637
31	81	0	2	141	142	7	0	0	0	6	379
32	116	0	8	10	58	6	13	0	0	2	213
33	1,214	1	25	64	16	1	5	0	0	44	1,370
34	141	0	12	7	0	0	41	0	0	6	207
35	381	0	35	33	4	0	185	0	0	58	696
36	623	0	45	44	0	0	29	0	0	50	791
37	542	1	110	102	11	6	431	0	0	42	1,245
38	1,028	0	204	36	0	0	12	0	0	57	1,337
39	6,997	292	55	335	8	8	21	0	31	113	7,860
40	4,186	319	68	662	277	7	1	0	31	226	5,777
41	1,941	92	0	1,987	177	188	1	0	244	1,898	6,528
42	210	0	0	122	243	4	0	0	0	28	607
43	33	0	5	247	458	14	28	0	0	22	807

HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO A

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
44	492	0	5	0	0	0	38	0	0	10	545
45	69	0	0	56	25	0	62	0	0	0	212
46	1,608	119	10	130	1	0	0	0	0	41	1,909
47	5,245	458	0	608	12	75	0	0	0	270	6,668
48	1,349	73	0	80	6	0	1	0	2	12	1,523
49	298	0	29	39	64	2	0	0	0	20	452
50	921	0	10	10	0	20	23	0	0	10	994
51	4,347	1,270	142	192	28	14	2,786	0	101	155	9,035
52	5,396	9	178	78	3	1	1,492	0	0	120	7,277
53	11,178	266	232	997	290	22	1,401	0	74	527	14,987
54	9,466	19	254	617	471	37	879	0	192	523	12,458
55	7,451	7	507	572	348	72	1,473	11	47	947	11,435
56	1,141	42	276	46	12	1	1,324	0	0	58	2,900
57	25,771	3,693	570	3,122	1,957	158	1,186	0	1,190	3,597	41,244
58	43,038	2,570	141	6,132	1,505	128	540	3	938	3,395	58,390
59	10,495	13	33	287	12	23	1,427	0	0	204	12,494
TOTALS:	196,510	13,762	11,967	23,690	9,539	3,330	14,149	14	3,927	15,145	292,033

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO B

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	3,141	1,498	763	1,387	6	0	11	0	0	332	7,138
2	172	273	0	734	57	2	0	0	8	10	1,256
3	7,069	0	216	35	0	0	6	0	0	9	7,335
4	3,610	220	872	668	91	21	0	0	94	144	5,720
5	320	0	1,118	24	3	623	0	0	0	32	2,120
6	4,209	1,488	201	315	3	0	0	0	6	64	6,286
7	2,109	458	17	22	1	10	0	0	0	30	2,647
8	3,038	786	0	202	41	0	0	0	294	208	4,569
9	49,198	552	0	474	0	6	0	0	0	2,268	52,498
11	2,924	0	389	477	1,038	525	0	0	0	1,458	6,811
12	2,239	0	193	30	37	0	0	0	0	447	2,946
13	1,469	9	619	245	20	0	26	0	0	0	2,388
14	465	0	338	151	1,656	1,128	0	0	0	4	3,742
15	67	0	2,562	0	783	0	0	0	0	0	3,412
16	31,592	1,567	3,586	383	364	1,760	650	0	0	31	39,933
17	10,036	1,248	4,827	775	1	1	790	0	0	103	17,781
18	1,596	208	179	1,851	14	0	0	0	0	2	3,850
20	225	2	0	250	126	34	0	0	112	354	1,103
21	83	0	0	174	507	12	0	0	0	32	808
22	2,645	0	20	82	11	7	19	0	0	75	2,859
23	520	0	83	304	552	1	186	0	0	8	1,654
24	180	0	159	12	5	0	9	0	0	12	377
25	5,969	6	2,991	710	41	9	159	0	0	190	10,075
26	238	0	119	40	1	4	264	0	0	0	666
27	5	0	112	0	0	2	10	0	0	30	159
28	2,257	232	0	19,967	1,435	225	0	0	3,035	5,161	32,312
31	93	0	3	162	163	9	0	0	0	7	437
32	134	0	13	11	66	7	15	0	0	2	248
33	1,393	1	42	73	19	1	6	0	0	49	1,584
34	164	0	36	8	0	0	53	0	0	7	268
35	645	0	124	162	7	0	297	0	0	90	1,325
36	714	0	75	51	0	0	32	0	0	57	929
37	1,311	1	468	547	16	16	775	0	0	94	3,228
38	1,179	0	339	42	0	0	13	0	0	66	1,639
39	8,027	334	91	384	10	9	24	0	35	130	9,044
40	5,786	456	192	961	400	11	1	0	45	328	8,180
41	2,682	131	0	2,882	257	272	1	0	354	2,751	9,330
42	241	0	0	141	279	5	0	0	1	32	699
43	38	0	9	284	526	16	32	0	0	25	930

HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO B

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
44	679	0	9	0	0	0	48	0	0	15	751
45	78	0	0	64	29	0	71	0	0	0	242
46	1,844	136	17	149	1	0	0	0	0	48	2,195
47	7,250	655	0	882	18	108	0	0	0	391	9,304
48	1,865	104	0	116	9	0	1	0	2	18	2,115
49	342	0	49	44	73	3	0	0	0	23	534
50	1,056	0	17	11	0	22	26	0	0	12	1,144
51	5,892	1,815	417	279	40	17	3,580	0	147	219	12,406
52	6,204	10	370	90	3	2	1,752	0	0	141	8,572
53	12,819	305	407	1,146	330	25	1,610	0	85	605	17,332
54	10,861	23	432	710	542	43	1,013	0	220	603	14,447
55	8,737	9	857	683	398	82	1,691	12	54	1,140	13,663
56	1,315	48	559	55	13	1	1,600	0	0	69	3,660
57	29,558	4,219	968	3,592	2,252	182	1,357	0	1,370	4,140	47,638
58	51,238	3,050	266	7,979	1,870	167	622	4	1,343	4,574	71,113
59	12,037	14	54	332	13	27	1,641	0	0	233	14,351
TOTALS:	309,558	19,858	25,178	51,152	14,127	5,395	18,391	16	7,205	26,873	477,753

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO C

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	10,624	5,352	929	2,501	11	0	15	0	0	904	20,336
2	1,449	2,169	0	5,912	92	3	0	0	13	30	9,668
3	21,272	0	471	193	0	0	10	0	0	24	21,970
4	11,839	958	2,360	1,526	218	52	0	0	293	579	17,825
5	1,530	0	1,201	75	9	920	0	0	0	100	3,835
6	11,773	2,198	697	534	6	1	0	0	9	113	15,331
7	3,321	733	47	35	2	17	0	0	0	48	4,203
8	21,433	2,751	0	1,424	169	0	0	0	1,286	793	27,856
9	63,151	739	0	635	0	1	0	0	0	327	64,853
11	5,537	0	550	1,963	2,839	1,097	0	0	0	2,560	14,546
12	4,691	0	422	53	67	0	0	0	0	795	6,028
13	2,558	23	1,083	358	30	1	44	0	0	0	4,097
14	667	0	372	200	2,370	1,555	0	0	0	6	5,170
15	79	0	2,772	0	1,122	0	0	0	0	0	3,973
16	34,642	2,070	4,152	500	509	2,401	953	0	0	37	45,264
17	15,421	1,698	6,724	1,074	0	2	1,509	0	0	148	26,576
18	2,513	333	500	3,000	23	0	0	0	0	4	6,373
20	427	4	0	511	258	69	0	0	229	723	2,221
21	157	0	0	355	1,035	24	1	0	0	66	1,638
22	5,993	0	47	202	26	14	37	0	0	146	6,465
23	1,322	0	158	609	1,000	1	285	0	0	14	3,389
24	486	0	639	28	17	0	20	0	0	23	1,213
25	11,739	11	5,189	1,069	73	15	265	0	0	306	18,667
26	660	0	385	90	3	9	535	0	0	0	1,682
27	15	0	1,170	0	0	8	44	0	0	131	1,368
28	3,511	364	0	29,332	2,144	332	0	0	4,482	7,622	47,787
31	176	0	13	330	334	18	0	0	0	15	886
32	825	0	156	80	234	28	60	0	0	10	1,393
33	8,773	10	609	763	96	2	18	0	0	172	10,443
34	1,101	0	640	58	0	0	243	0	0	27	2,069
35	1,370	0	405	344	11	0	523	0	0	146	2,799
36	1,354	0	352	103	0	0	66	0	0	116	1,991
37	3,953	2	1,389	1,263	32	41	1,576	0	0	234	8,490
38	2,237	0	1,580	85	0	1	28	0	0	134	4,065
39	25,473	672	492	1,542	27	18	48	0	72	375	28,719
40	9,109	728	1,362	1,723	845	18	5	0	73	921	14,784
41	4,223	210	0	4,672	417	440	2	0	574	4,459	14,997
42	456	0	0	287	571	10	0	0	1	66	1,391
43	72	0	43	581	1,076	33	66	0	0	51	1,922

HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
44	9,833	0	115	7	0	0	154	0	0	60	10,169
45	149	0	0	131	60	1	146	0	0	0	487
46	3,499	271	78	304	3	0	0	0	0	97	4,252
47	11,415	1,048	0	1,429	29	176	0	0	0	635	14,732
48	2,936	166	0	187	15	0	2	0	4	29	3,339
49	649	0	229	91	150	5	0	0	0	46	1,170
50	2,005	0	77	23	0	46	54	0	0	24	2,229
51	15,168	2,905	1,262	452	60	28	6,273	0	238	345	26,731
52	11,738	19	1,416	186	8	4	3,504	0	0	284	17,159
53	23,879	609	1,613	2,339	677	51	2,919	0	175	1,138	33,400
54	20,407	44	1,846	1,440	1,104	89	2,003	1	451	1,212	28,597
55	16,209	15	3,966	1,351	814	169	3,445	25	112	2,222	28,328
56	2,212	71	1,817	106	26	2	2,584	0	0	123	6,941
57	54,560	8,436	3,715	7,326	4,596	373	2,374	0	2,798	8,404	92,582
58	93,674	5,876	1,108	14,412	3,540	309	1,265	6	2,207	7,971	130,368
59	22,845	28	254	684	27	58	3,351	0	0	484	27,731
TOTALS:	587,110	40,513	54,405	94,478	26,775	8,442	34,427	32	13,017	45,299	904,498

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
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AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
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HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO D

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	36,698	11,869	1,111	4,086	17	0	23	0	0	1,675	55,479
2	2,627	4,110	0	11,383	379	12	0	0	51	60	18,622
3	112,997	0	756	451	0	0	39	0	0	61	114,304
4	56,977	3,029	3,730	8,663	535	135	0	0	602	903	74,574
5	3,846	0	1,361	149	19	1,384	0	0	0	196	6,955
6	37,793	3,974	843	1,186	19	2	0	0	12	343	44,172
7	28,947	5,497	336	271	7	57	0	0	0	165	35,280
8	41,696	9,431	0	2,504	238	1	0	0	1,630	1,153	56,653
9	74,750	1,198	0	1,033	0	1	0	0	0	485	77,467
11	8,298	0	628	3,384	4,574	1,772	0	0	0	3,612	22,268
12	6,848	0	462	86	110	0	0	0	0	1,182	8,688
13	3,139	34	1,083	603	52	1	62	0	0	0	4,974
14	764	0	372	365	4,150	2,152	0	0	0	9	7,812
15	88	0	2,772	0	1,660	0	0	0	0	0	4,520
16	39,561	2,562	4,332	600	677	3,025	1,253	0	0	52	52,062
17	16,202	2,019	7,070	1,267	0	2	2,017	0	0	194	28,771
18	20,917	2,367	3,144	21,703	79	1	0	0	0	14	48,225
20	733	8	0	914	461	123	0	0	409	1,291	3,939
21	824	0	1	1,812	2,886	70	2	0	0	193	5,788
22	8,088	0	47	270	37	21	53	0	0	209	8,725
23	2,051	0	172	896	1,556	2	403	0	0	22	5,102
24	677	0	960	37	31	0	31	0	0	32	1,768
25	14,233	14	5,304	1,394	93	20	360	0	0	395	21,813
26	1,053	0	758	122	4	13	810	0	0	0	2,760
27	76	0	3,295	0	0	13	68	0	0	208	3,660
28	5,951	630	0	42,609	3,324	515	0	0	6,952	11,822	71,803
31	1,675	0	86	2,524	1,179	66	0	0	0	57	5,587
32	2,824	0	439	197	510	59	128	0	0	20	4,177
33	25,764	20	1,271	1,580	179	5	47	0	0	395	29,261
34	2,640	0	711	119	0	0	383	0	0	51	3,904
35	2,164	0	887	431	21	0	942	0	0	315	4,760
36	2,324	0	1,002	185	0	0	119	0	0	207	3,837
37	5,007	3	3,163	1,426	58	51	2,483	0	0	311	12,502
38	3,839	0	4,505	152	0	2	50	0	0	240	8,788
39	106,801	4,967	2,500	5,521	63	65	128	0	247	943	121,235
40	32,111	2,537	2,253	6,791	1,717	52	5	0	195	1,480	47,141
41	16,159	911	0	22,013	857	1,240	6	0	1,685	12,681	55,552
42	3,368	0	0	1,914	1,857	34	0	0	4	225	7,402
43	465	0	232	3,535	3,296	107	211	0	0	164	8,010

HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO D

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
44	10,098	0	108	7	0	0	222	0	0	78	10,513
45	776	0	0	661	106	1	262	0	0	0	1,806
46	6,006	480	222	544	5	0	0	0	0	174	7,431
47	19,592	1,856	0	2,553	53	315	0	0	0	1,133	25,502
48	27,892	1,338	0	1,431	54	0	6	0	14	109	30,844
49	1,115	0	653	162	268	9	0	0	0	83	2,290
50	4,753	0	263	46	0	123	118	0	0	54	5,357
51	15,838	5,145	3,506	812	110	53	11,160	0	425	622	37,671
52	19,196	35	3,590	318	13	5	5,319	0	0	467	28,943
53	38,789	1,079	3,734	4,108	1,157	90	4,643	0	312	1,890	55,802
54	34,685	78	4,811	2,550	1,879	160	3,292	1	805	2,093	50,354
55	28,012	28	11,372	2,841	1,741	327	6,162	45	199	4,034	54,761
56	3,778	121	5,076	191	43	3	4,523	0	0	219	13,954
57	93,531	14,944	10,543	13,094	8,210	667	4,185	0	5,001	15,013	165,188
58	161,165	10,402	3,155	25,795	6,325	548	2,264	11	3,946	14,598	228,209
59	39,199	50	730	1,221	47	102	5,987	0	0	863	48,199
TOTALS:	1,235,400	90,736	103,349	208,510	50,656	13,406	57,766	57	22,489	82,795	1,865,164

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
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AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
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HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO E

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	50,094	18,478	1,123	5,631	27	0	31	0	0	2,849	78,233
2	3,051	6,196	0	17,228	675	21	0	0	88	102	27,361
3	149,435	0	756	691	0	0	67	0	0	103	151,052
4	61,981	7,214	3,407	12,508	978	229	0	0	1,026	1,547	88,890
5	5,952	0	1,377	217	35	2,282	0	0	0	338	10,201
6	49,852	6,653	854	1,972	37	4	0	0	20	599	59,991
7	36,442	8,689	336	430	13	105	0	0	0	308	46,323
8	52,972	15,411	0	4,044	449	2	0	0	3,037	2,157	78,072
9	82,089	1,890	0	1,629	0	2	0	0	0	785	86,395
11	9,351	0	628	6,098	8,716	2,650	0	0	0	5,246	32,689
12	6,848	0	462	160	218	0	0	0	0	1,729	9,417
13	3,139	48	1,083	966	102	1	92	0	0	0	5,431
14	786	0	372	498	7,800	3,489	0	0	0	13	12,958
15	103	0	2,772	0	3,464	0	0	0	0	0	6,339
16	55,496	4,648	4,590	1,087	1,346	4,702	2,050	0	0	107	74,026
17	20,468	2,911	7,314	1,876	0	5	3,606	0	0	311	36,491
18	32,496	4,004	3,573	33,767	147	2	0	0	0	25	74,014
20	1,258	15	0	1,697	856	229	0	0	759	2,398	7,212
21	2,119	0	1	4,682	6,499	142	4	0	0	394	13,841
22	8,088	0	47	433	80	31	80	0	0	315	9,074
23	2,150	0	172	1,890	3,249	3	654	0	0	33	8,151
24	820	0	960	78	68	0	55	0	0	56	2,037
25	14,557	21	5,304	2,700	194	34	599	0	0	650	24,059
26	1,122	0	877	137	5	17	1,086	0	0	0	3,244
27	108	0	3,745	0	0	20	105	0	0	321	4,299
28	6,778	971	0	86,454	7,157	878	0	0	11,857	20,164	134,259
31	2,382	0	91	5,189	2,350	109	0	0	0	95	10,216
32	3,423	0	439	415	1,035	91	200	0	0	32	5,635
33	35,705	30	1,400	2,950	394	9	80	0	0	652	41,220
34	4,168	0	714	344	0	1	705	0	0	104	6,036
35	3,838	0	1,835	791	63	0	2,053	0	0	687	9,267
36	3,990	0	2,511	343	0	0	222	0	0	384	7,450
37	7,653	7	5,472	2,102	135	82	5,282	0	0	511	21,244
38	10,853	0	11,291	477	0	4	116	0	0	554	23,295
39	158,934	6,854	3,013	7,576	114	117	233	0	382	1,622	178,845
40	88,386	7,058	3,843	14,723	3,824	110	9	0	442	3,241	121,636
41	46,874	2,253	0	47,967	2,455	2,791	13	0	3,663	28,267	134,283
42	6,168	0	0	4,000	3,702	62	0	0	7	403	14,342
43	977	0	305	7,143	6,478	195	385	0	0	301	15,784

HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO E

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
44	14,368	0	248	14	0	0	407	0	0	141	15,178
45	1,311	0	0	1,080	198	2	511	0	0	0	3,102
46	25,110	1,836	557	2,215	12	0	0	0	0	452	30,182
47	90,282	8,445	0	9,646	131	757	0	0	0	3,519	112,780
48	39,675	2,078	0	2,299	102	0	11	0	24	191	44,380
49	8,776	0	1,637	1,197	940	31	0	0	0	277	12,858
50	21,157	0	551	211	0	245	290	0	0	129	22,583
51	35,074	12,165	10,424	1,961	307	128	24,753	0	1,023	1,514	87,349
52	34,686	63	10,108	625	31	13	11,907	0	0	958	58,391
53	78,593	2,854	13,427	15,546	2,993	224	11,525	0	844	4,221	130,227
54	61,105	142	14,154	4,868	4,002	299	6,941	2	1,496	4,081	97,090
55	55,109	52	28,340	6,167	3,530	641	11,628	148	370	8,088	114,073
56	7,359	315	18,149	369	84	10	10,874	0	0	462	37,622
57	166,458	27,425	32,315	24,784	15,297	1,255	9,489	0	9,284	28,077	314,384
58	289,998	19,966	7,889	59,571	12,830	1,190	4,206	26	9,344	32,446	437,466
59	67,286	91	1,826	2,267	87	189	11,130	0	0	1,602	84,478
TOTALS:	2,027,253	168,783	210,292	413,713	103,209	23,403	121,399	176	43,666	163,561	3,275,455

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

MANATEE COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO A

HURRICANE LOSS ZONE	DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	26,598	54,753	1,925	4,529	20	0	0	0	14	206	88,045
2	18,158	6,304	0	1,051	9	16	0	20	0	242	25,800
3	7,875	2,991	6,999	1,079	14	0	218	99	0	28	19,303
4	3,584	14,873	1,535	221	18	2	271	0	0	34	20,538
5	6,235	87	1	951	8	0	0	0	0	83	7,365
6	6,721	2,206	308	241	3	29	97	20	1	202	9,828
7	864	1	903	37	1	0	27	3	0	6	1,842
8	1,401	5	112	5	226	0	46	0	0	5	1,800
9	727	7	36	31	37	5	19	0	0	29	891
10	3,937	161	8	473	0	0	1	0	2	242	4,824
11	45	0	0	0	0	0	0	0	0	0	45
12	888	4	0	3	0	0	6	0	0	37	938
13	59	4	82	16	1	0	0	1	0	13	176
14	1,162	445	0	680	81	15	0	17	506	699	3,605
15	537	24	280	125	123	0	11	1	3	102	1,206
16	926	191	0	17	0	0	126	0	0	7	1,267
17	222	0	437	26	0	0	66	0	0	11	762
18	493	15	1	36	0	0	352	0	0	104	1,001
20	1,750	13	0	2	0	0	0	0	0	173	1,938
21	26	0	0	2	2	45	28	0	0	0	103
22	132	1	96	13	1	0	24	0	0	100	367
23	2,027	1,052	228	59	0	10	0	0	41	712	4,129
24	2,417	154	82	272	119	0	7	0	197	352	3,600
25	347	118	135	27	45	964	1,063	0	0	8	2,707
26	1,333	55	197	291	75	3	3,944	0	5	391	6,294
27	6,709	3,293	514	444	55	16	2	0	325	587	11,945
28	6,038	1,197	1,188	2,291	845	59	3,748	0	104	641	16,111
29	1,662	767	248	234	548	2	3,804	82	0	81	7,428
TOTALS:	102,873	88,721	15,315	13,156	2,231	1,166	13,860	243	1,198	5,095	243,858

STRUCTURE CODES

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MANATEE COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO B

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	30,558	65,704	1,723	5,344	24	0	0	0	19	255	103,627
2	46,307	16,107	0	2,498	17	19	0	46	0	353	65,347
3	12,241	5,391	8,411	1,700	18	0	333	131	0	56	28,281
4	11,261	23,502	1,739	565	23	8	401	0	0	64	37,563
5	13,705	634	7	2,509	12	0	0	0	0	243	17,110
6	10,840	3,589	466	415	12	36	220	32	1	260	15,871
7	2,620	9	3,024	198	3	1	46	8	0	19	5,928
8	2,011	6	168	12	752	0	78	0	0	11	3,038
9	4,782	14	361	89	61	6	23	0	0	53	5,389
10	4,742	201	13	596	0	0	1	0	3	304	5,860
11	55	0	0	0	0	0	0	0	0	0	55
12	1,070	5	0	4	0	0	8	0	0	47	1,134
13	71	5	137	20	1	0	0	1	0	16	251
14	1,399	557	0	857	103	19	0	22	638	882	4,477
15	647	30	468	159	155	0	13	1	4	128	1,605
16	1,115	239	1	20	0	0	158	0	0	9	1,542
17	268	0	837	33	0	0	86	0	0	14	1,238
18	628	21	3	45	0	0	495	0	0	149	1,341
20	2,109	17	0	3	0	0	0	0	0	218	2,347
21	33	0	0	2	2	57	35	0	0	0	129
22	159	1	159	17	1	0	31	0	0	126	494
23	11,688	2,341	3,272	235	0	13	0	0	52	1,047	18,648
24	2,913	192	137	342	150	0	9	0	249	444	4,436
25	425	147	332	34	57	1,397	1,355	0	0	10	3,757
26	1,626	68	291	369	95	5	4,927	0	6	493	7,880
27	8,087	4,117	856	561	69	21	2	0	409	740	14,862
28	7,308	1,495	2,207	2,891	1,065	79	4,671	0	131	810	20,657
29	2,008	959	514	289	693	4	4,491	103	0	101	9,162
TOTALS:	180,676	125,351	25,126	19,807	3,313	1,665	17,383	344	1,512	6,852	382,029

STRUCTURE CODES

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MANATEE COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	33,976	80,924	1,925	6,480	30	0	0	0	25	338	123,698
2	58,514	19,799	0	3,205	23	25	0	63	0	463	82,092
3	14,026	7,021	8,956	2,036	24	0	438	164	0	75	32,740
4	15,507	31,079	1,836	746	40	11	709	0	0	114	50,042
5	16,751	894	12	3,197	15	0	0	0	0	352	21,221
6	16,100	4,961	540	644	15	73	285	44	2	523	23,187
7	3,882	18	3,377	268	6	1	81	11	0	26	7,670
8	2,352	8	185	16	1,010	0	115	0	0	19	3,705
9	6,538	30	590	147	117	13	44	0	0	99	7,578
10	9,385	401	56	1,212	0	0	2	0	5	620	11,681
11	383	0	0	0	0	0	0	0	0	0	383
12	2,118	11	0	8	0	0	16	0	0	95	2,248
13	141	11	655	41	2	0	0	1	0	32	883
14	2,769	1,114	0	1,743	210	38	0	45	1,299	1,794	9,012
15	1,280	61	2,240	322	314	0	27	2	8	263	4,517
16	2,511	478	4	49	0	1	339	0	0	19	3,401
17	531	0	3,466	67	0	0	168	0	0	28	4,260
18	1,408	34	7	91	0	0	895	0	0	243	2,678
20	4,174	33	0	6	0	0	0	0	0	443	4,656
21	51	0	1	4	4	92	57	0	0	0	209
22	315	2	765	34	2	0	63	0	0	257	1,438
23	18,895	4,218	5,874	381	0	27	0	0	106	2,033	31,534
24	5,764	386	661	696	303	0	18	0	506	903	9,237
25	669	237	937	57	93	2,265	2,267	0	0	17	6,542
26	3,135	135	1,231	749	191	8	8,624	0	13	995	15,081
27	15,998	8,232	4,112	1,142	142	43	5	0	833	1,507	32,014
28	14,345	2,991	9,191	5,875	2,168	142	8,886	0	266	1,646	45,510
29	3,924	1,919	2,416	591	1,410	7	8,996	210	0	207	19,680
TOTALS:	255,442	164,997	49,037	29,807	6,119	2,746	32,035	540	3,063	13,111	556,897

STRUCTURE CODES

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MANATEE COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO D

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	37,670	98,617	1,925	7,984	51	0	0	0	40	507	146,794
2	70,397	26,839	0	4,382	40	41	0	111	0	797	102,607
3	15,964	9,281	9,320	2,758	37	0	699	269	0	115	38,443
4	19,445	41,181	1,994	1,096	67	18	1,398	0	0	266	65,465
5	22,968	1,456	16	4,219	20	0	0	0	0	540	29,219
6	26,508	8,109	708	1,596	27	154	483	76	5	1,180	38,846
7	6,004	24	4,053	453	9	1	177	20	0	48	10,789
8	2,694	11	213	27	1,884	0	165	0	0	27	5,021
9	12,148	98	1,189	415	294	33	131	0	0	209	14,517
10	16,144	736	161	2,239	0	0	5	0	10	1,145	20,440
11	696	0	0	0	0	0	0	0	0	0	696
12	9,383	43	0	35	0	0	45	0	0	260	9,766
13	705	50	2,731	199	5	0	0	4	0	88	3,782
14	4,764	2,043	0	3,221	388	70	0	82	2,399	3,314	16,281
15	2,509	151	6,478	893	631	0	52	3	14	616	11,347
16	7,528	2,295	11	200	0	1	767	0	0	48	10,850
17	913	0	11,279	124	0	0	326	0	0	52	12,694
18	2,720	78	33	173	0	0	1,955	0	0	562	5,521
20	7,181	61	0	11	0	0	0	0	0	819	8,072
21	288	0	6	22	12	361	215	0	0	0	904
22	1,052	5	2,408	124	6	0	158	0	0	648	4,401
23	26,224	6,888	7,358	541	1	49	0	0	196	3,614	44,871
24	9,916	706	1,854	1,285	560	0	33	0	936	1,669	16,959
25	1,410	539	3,423	129	215	4,048	4,722	0	0	36	14,522
26	7,284	311	4,146	2,466	456	13	16,740	0	28	2,297	33,741
27	27,524	15,095	11,529	2,110	262	79	8	0	1,539	2,782	60,928
28	24,764	5,485	26,638	10,852	4,003	298	16,324	0	491	3,041	91,896
29	6,756	3,517	6,826	1,092	2,607	12	16,121	388	0	381	37,700
TOTALS:	371,559	223,619	104,299	48,646	11,575	5,178	60,524	953	5,658	25,061	857,072

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MANATEE COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO E

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	40,936	120,362	1,925	10,039	85	0	0	0	65	890	174,302
2	78,597	34,496	0	5,651	68	67	0	194	0	1,351	120,424
3	18,336	12,127	9,320	3,471	61	0	1,159	445	0	212	45,131
4	23,418	62,249	2,058	1,741	198	29	3,754	0	0	610	94,057
5	27,520	2,173	17	6,134	40	0	0	0	0	1,118	37,002
6	64,443	16,776	783	3,437	49	482	834	127	16	3,400	90,347
7	7,047	34	4,053	683	19	3	380	45	0	106	12,370
8	3,242	13	218	41	3,565	1	295	0	0	49	7,424
9	14,686	142	1,037	683	593	72	285	0	0	427	17,925
10	50,188	2,415	238	7,583	0	0	14	0	31	3,795	64,264
11	890	0	0	0	0	0	0	0	0	0	890
12	14,872	83	0	65	0	0	107	0	0	625	15,752
13	1,095	92	2,731	361	11	0	0	9	0	212	4,511
14	11,058	6,275	0	9,997	1,209	220	0	258	7,320	10,152	46,489
15	5,072	332	9,336	1,885	1,581	0	129	7	35	1,526	19,903
16	10,936	2,981	16	280	0	3	1,618	0	0	98	15,932
17	1,954	0	16,759	306	0	0	801	0	0	129	19,949
18	5,166	187	48	521	0	0	4,553	0	0	1,379	11,854
20	18,894	187	0	35	0	0	0	0	0	2,563	21,679
21	493	0	8	39	25	695	423	0	0	0	1,683
22	1,777	10	3,189	242	14	0	394	0	0	1,613	7,239
23	37,979	16,823	7,609	1,115	1	154	0	0	614	10,771	75,066
24	26,094	2,170	2,755	4,022	1,754	0	104	0	2,927	5,220	45,046
25	3,082	1,294	6,942	321	528	9,734	12,158	0	0	101	34,160
26	15,050	794	9,238	5,070	1,183	38	40,985	0	76	5,938	78,372
27	72,422	46,381	17,132	6,599	819	247	26	0	4,815	8,701	157,142
28	61,306	16,570	47,557	33,763	12,482	811	39,739	0	1,526	8,871	222,625
29	14,484	8,415	14,843	2,962	6,412	30	38,866	1,213	0	942	88,167
TOTALS:	631,037	353,381	157,812	107,046	30,697	12,586	146,624	2,298	17,425	70,799	1,529,705

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PASCO COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO A

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	17,960	129	349	38	1,544	0	0	0	0	0	20,020
2	28,993	8,555	707	1,661	11	0	5	0	0	0	39,932
3	10,075	405	146	1,004	0	0	33	0	0	0	11,663
4	7,126	143	1,437	977	0	0	1	0	0	0	9,684
5	12,071	213	4,867	854	0	0	0	0	0	0	18,005
6	160	0	23	8	0	0	6	0	0	0	197
7	1,837	233	123	405	1	0	0	0	0	0	2,599
8	1,529	206	3	94	0	0	0	0	0	0	1,832
9	1,403	63	49	49	0	0	0	0	0	0	1,564
10	581	0	18	13	0	0	0	0	0	0	612
11	2,368	12	76	29	0	0	2	0	0	0	2,487
12	3,454	217	48	77	0	0	3	0	0	0	3,799
13	8,149	342	109	259	16	0	16	0	0	0	8,891
14	311	15	194	27	0	0	2	0	0	0	549
15	1,567	136	34	10	0	0	4	0	0	0	1,751
16	726	2	13	10	0	0	1	0	0	0	752
17	411	46	216	32	0	0	16	0	0	0	721
18	1,473	531	179	23	0	0	5	0	0	0	2,211
19	723	48	332	22	0	0	166	0	0	0	1,291
20	2,323	450	208	141	7	0	131	0	0	0	3,260
21	306	366	128	13	0	0	112	0	0	0	925
22	179	11	16	19	0	0	160	0	0	0	385
23	2,427	87	538	273	0	0	132	0	0	0	3,457
24	2,080	77	87	662	0	0	250	0	0	0	3,156
TOTALS:	108,232	12,287	9,900	6,700	1,579	0	1,045	0	0	0	139,743

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PASCO COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS) SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	31,441	194	490	66	1,968	0	0	0	0	0	34,159
2	47,580	14,214	1,225	4,839	44	0	8	0	0	0	67,910
3	17,874	535	650	1,812	0	0	42	0	0	0	20,913
4	19,546	991	1,669	1,754	0	0	1	0	0	0	23,961
5	18,941	340	5,173	1,448	0	0	0	0	0	0	25,902
6	521	1	43	39	0	0	9	0	0	0	613
7	2,590	339	348	600	2	0	0	0	0	0	3,879
8	2,156	300	9	139	0	0	0	0	0	0	2,604
9	1,980	93	136	71	0	0	0	0	0	0	2,280
10	819	0	50	19	0	0	0	0	0	0	888
11	3,341	17	213	44	0	0	3	0	0	0	3,618
12	4,871	316	137	114	0	0	4	0	0	0	5,442
13	11,494	499	304	382	23	0	25	0	0	0	12,727
14	440	19	553	42	0	0	3	0	0	0	1,057
15	2,211	198	97	15	0	0	5	0	0	0	2,526
16	1,024	3	40	15	0	0	1	0	0	0	1,083
17	498	59	382	41	0	0	24	0	0	0	1,004
18	1,988	728	433	33	0	0	8	0	0	0	3,190
19	901	66	551	27	0	0	214	0	0	0	1,759
20	3,012	648	418	185	8	0	177	0	0	0	4,448
21	405	524	301	17	0	0	147	0	0	0	1,394
22	231	13	34	24	0	0	203	0	0	0	505
23	2,781	100	889	314	0	0	150	0	0	0	4,234
24	2,388	90	148	765	0	0	285	0	0	0	3,676
TOTALS:	179,033	20,287	14,293	12,805	2,045	0	1,309	0	0	0	229,772

STRUCTURE CODES

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PASCO COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO C

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	42,357	321	500	97	2,770	0	1	0	0	0	46,046
2	66,127	19,217	1,797	12,197	72	0	11	0	0	0	99,421
3	27,312	813	1,228	2,848	0	0	58	0	0	0	32,259
4	28,835	1,593	1,669	2,476	0	0	1	0	0	0	34,574
5	23,852	578	5,971	2,180	0	0	0	0	0	0	32,581
6	1,547	4	183	84	0	0	33	0	0	0	1,851
7	17,190	1,949	2,227	3,865	6	0	0	0	0	0	25,237
8	14,307	1,723	56	894	0	0	0	0	0	0	16,980
9	3,347	159	386	124	0	0	0	0	0	0	4,016
10	1,385	0	140	33	0	0	0	0	0	0	1,558
11	5,649	29	602	76	0	0	6	0	0	0	6,362
12	8,235	541	385	197	0	0	7	0	0	0	9,365
13	19,434	855	862	664	41	0	42	0	0	0	21,898
14	743	34	1,560	72	0	0	5	0	0	0	2,414
15	3,737	338	278	25	0	0	9	0	0	0	4,387
16	2,148	14	145	26	0	0	3	0	0	0	2,336
17	976	116	1,736	82	0	0	45	0	0	0	2,955
18	3,507	1,331	1,492	59	0	0	16	0	0	0	6,405
19	1,720	119	2,669	54	0	0	425	0	0	0	4,987
20	4,823	1,111	1,329	315	17	0	295	0	0	0	7,890
21	667	839	1,034	27	0	0	251	0	0	0	2,818
22	387	23	124	44	0	0	380	0	0	0	958
23	5,235	201	4,113	642	0	0	295	0	0	0	10,486
24	4,516	175	728	1,563	0	0	569	0	0	0	7,551
TOTALS:	288,036	32,083	31,214	28,644	2,906	0	2,452	0	0	0	385,335

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
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HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

PASCO COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO D

HURRICANE LOSS ZONE	DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS) SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	114,900	2,003	553	386	5,934	0	1	0	0	0	123,777
2	84,341	44,328	1,797	25,516	136	0	17	0	0	0	156,135
3	38,690	1,782	1,372	6,046	0	0	104	0	0	0	47,994
4	35,792	3,083	1,669	4,219	0	0	2	0	0	0	44,765
5	30,266	1,323	6,169	4,873	0	0	0	0	0	0	42,631
6	3,011	8	325	183	0	0	59	0	0	0	3,586
7	41,537	4,779	4,093	7,588	12	0	0	0	0	0	58,009
8	37,237	4,527	104	1,934	0	0	0	0	0	0	43,802
9	27,531	1,141	1,605	827	0	0	0	0	0	0	31,104
10	11,634	0	584	240	0	0	0	0	0	0	12,458
11	53,785	253	2,470	536	0	0	19	0	0	0	57,063
12	28,366	2,837	1,437	909	0	0	21	0	0	0	33,570
13	110,871	3,920	3,594	4,586	163	0	166	0	0	0	123,300
14	4,066	113	5,756	328	0	0	16	0	0	0	10,279
15	13,574	1,033	954	134	0	0	22	0	0	0	15,717
16	10,961	42	417	137	0	0	9	0	0	0	11,566
17	2,643	230	5,296	215	0	0	93	0	0	0	8,477
18	11,069	3,046	5,333	214	0	0	34	0	0	0	19,696
19	3,261	522	7,482	129	0	0	780	0	0	0	12,174
20	9,125	2,064	4,767	651	31	0	606	0	0	0	17,244
21	1,143	1,486	2,950	49	0	0	453	0	0	0	6,081
22	659	40	376	79	0	0	675	0	0	0	1,829
23	9,056	356	11,909	1,147	0	0	563	0	0	0	23,031
24	7,774	315	2,086	2,799	0	0	1,040	0	0	0	14,014
TOTALS:	691,292	79,231	73,098	63,725	6,276	0	4,680	0	0	0	918,302

STRUCTURE CODES

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PASCO COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO E

HURRICANE LOSS ZONE	DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS) SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	127,218	2,711	553	499	8,341	0	2	0	0	0	139,324
2	89,145	45,925	1,797	30,311	224	0	30	0	0	0	167,432
3	40,635	1,863	1,372	6,419	0	0	159	0	0	0	50,448
4	37,487	3,337	1,669	5,484	0	0	4	0	0	0	47,981
5	31,855	1,455	6,169	5,210	0	0	0	0	0	0	44,689
6	3,053	11	325	239	0	0	113	0	0	0	3,741
7	47,094	6,484	4,093	11,487	25	0	0	0	0	0	69,183
8	37,825	5,564	104	2,494	0	0	0	0	0	0	45,987
9	33,072	1,653	1,605	1,212	0	0	0	0	0	0	37,542
10	13,690	0	584	325	0	0	0	0	0	0	14,599
11	58,814	330	2,508	783	0	0	40	0	0	0	62,475
12	48,750	4,644	1,604	1,593	0	0	47	0	0	0	56,638
13	157,713	6,725	3,594	6,359	284	0	289	0	0	0	174,964
14	5,666	232	6,499	571	0	0	34	0	0	0	13,002
15	26,736	2,614	1,153	227	0	0	60	0	0	0	30,790
16	14,545	53	478	225	1	0	19	0	0	0	15,321
17	5,264	656	7,246	525	0	0	231	0	0	0	13,922
18	21,143	9,300	6,084	462	0	0	96	0	0	0	37,085
19	6,901	923	11,161	278	0	0	2,018	0	0	0	21,281
20	21,997	6,241	8,336	1,774	76	0	1,648	0	0	0	40,072
21	2,475	3,511	7,410	116	0	0	1,087	0	0	0	14,599
22	1,433	95	936	189	0	0	1,626	0	0	0	4,279
23	19,620	844	29,852	2,762	0	0	1,342	0	0	0	54,420
24	16,833	745	5,173	6,728	0	0	2,496	0	0	0	31,975
TOTALS:	868,964	105,916	110,305	86,272	8,951	0	11,341	0	0	0	1,191,749

STRUCTURE CODES

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APPENDIX E

PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO A

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	39,092	44,243	164	3,635	6	2	0	5	0	183	87,330
2	7,647	14,007	23	7,666	17	0	0	46	318	80	29,804
3	6,208	4,680	0	925	5	9	0	11	2	64	11,904
4	4,002	6,112	7	621	0	1	0	5	0	36	10,784
5	4,286	3,955	1	297	1	17	0	0	0	40	8,597
6	1,564	4,393	0	585	0	0	0	1	0	6	6,549
7	2,578	2,985	0	1,469	0	0	0	0	0	54	7,086
8	585	1,330	0	133	0	0	0	0	0	10	2,058
9	3,244	27	37	59	25	1	2	0	0	7	3,402
10	1,625	2,394	8	21	1	0	2	0	0	8	4,059
11	623	100	0	4	0	0	0	0	60	4	791
12	1,508	0	0	0	0	301	0	0	0	0	1,809
13	295	43	25	14	3	0	0	0	0	0	380
14	1,359	33	0	191	22	17	0	0	0	45	1,667
15	332	1,053	54	243	0	0	0	1	0	239	1,922
16	2,252	1,342	59	164	91	0	3	1	0	91	4,003
17	17,490	10,751	290	1,343	289	573	0	3	178	330	31,247
18	110,576	9,223	360	423	4	0	0	0	73	422	121,081
19	1,231	345	0	33	0	0	0	0	94	358	2,061
20	15,413	2,472	319	503	45	21	0	3	456	121	19,353
21	8,387	605	0	101	0	0	0	0	249	219	9,561
22	2,159	1,106	0	122	0	371	0	11	0	83	3,852
23	4,001	472	52	285	157	0	0	13	0	321	5,301
24	491	127	3	27	54	0	0	2	0	4	708
25	106	1,229	4	9	0	0	2	0	0	48	1,398
26	384	352	6	4	0	0	0	0	0	2	748
27	3,299	455	0	50	0	0	2	0	0	39	3,845
28	3,145	1,485	21	180	3	0	3	9	0	53	4,899
29	3,119	944	3	222	2	0	0	0	0	5	4,295
30	1,706	1,953	0	1,193	59	6	0	30	886	412	6,245
31	5,465	1,168	1	443	45	11	0	8	277	313	7,731
32	3,045	528	21	113	0	1	3	0	0	134	3,845
33	2,662	264	15	508	119	27	5	0	15	257	3,872
34	354	2	0	27	104	0	0	1	0	23	511
35	906	213	9	19	8	0	1	0	0	46	1,202
36	4,661	1,164	32	174	3	29	0	0	13	119	6,195
37	1,157	492	0	104	0	11	0	0	5	12	1,781
38	5,887	1,391	35	340	45	0	1	0	122	120	7,941
39	2,737	759	13	47	65	6	1	0	0	191	3,819

PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO A

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
40	3,274	1,164	113	681	2	24	1	2	134	60	5,455
41	2,835	180	1	29	0	0	0	1	154	18	3,218
42	1,229	57	0	49	24	0	0	3	0	137	1,499
43	266	0	30	44	29	0	0	0	0	31	400
44	1,607	213	174	101	7	0	2	0	0	19	2,123
45	447	209	15	17	0	0	0	0	0	11	699
46	9,557	2,382	472	1,924	1,710	9	2	22	206	959	17,243
50	564	2,619	1	250	6	0	0	0	0	17	3,457
51	533	336	2	1	0	0	0	0	0	22	894
52	479	92	0	14	0	0	4	0	0	2	591
53	1,801	1,386	2	5	53	0	0	0	0	0	3,247
54	4,344	2,522	79	780	651	34	3	0	0	269	8,682
55	2,695	112	0	403	0	0	0	4	0	156	3,370
56	1,191	0	0	28	63	0	0	1	7	19	1,309
57	746	476	27	160	0	0	0	7	0	49	1,465
58	8,944	624	25	231	17	0	6	17	0	462	10,326
59	7,043	1,179	82	310	31	10	3	5	14	482	9,159
60	9,107	1,591	65	987	95	0	7	6	264	393	12,515
61	25,832	5,765	91	4,227	709	91	3	28	267	1,565	38,578
62	16,541	6,796	161	2,026	83	3	13	5	37	313	25,978
63	5,137	620	5	181	15	7	13	0	0	355	6,333
64	1,980	37	2	110	5	5	0	6	30	270	2,445
65	1,021	1,296	0	2,471	144	218	0	94	281	1,504	7,029
66	5,889	313	3	447	51	0	0	31	404	176	7,314
67	4,205	1,480	21	383	3	17	1	14	3	245	6,372
68	8,485	616	26	1,362	139	38	0	114	121	448	11,349
69	17,662	1,499	13	2,309	678	58	0	25	310	699	23,253
70	5,027	662	41	574	386	20	0	24	19	337	7,090
71	2,054	91	83	310	312	2	20	11	34	194	3,111
72	588	90	2	21	12	1	9	0	0	17	740
TOTALS:	426,664	158,604	3,098	42,732	6,398	1,941	112	570	5,033	13,728	658,880

STRUCTURE CODES

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PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO B

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	85,379	95,883	249	8,123	17	3	0	7	0	659	190,320
2	47,879	99,064	147	27,618	66	2	0	171	1,476	386	176,809
3	98,644	63,326	8	13,404	29	46	0	53	9	314	175,833
4	61,438	77,447	324	8,355	0	5	0	23	0	173	147,765
5	31,489	27,129	51	2,257	4	57	0	0	0	147	61,134
6	13,744	35,585	0	5,612	0	0	0	3	0	19	54,963
7	22,108	25,996	20	14,112	0	0	0	0	0	203	62,439
8	9,165	15,087	0	1,855	0	0	0	0	0	47	26,154
9	7,419	271	91	154	57	1	3	0	0	21	8,017
10	2,980	4,222	16	27	1	0	2	0	0	12	7,260
11	2,380	126	0	35	0	0	0	1	223	5	2,770
12	1,605	0	0	0	0	387	0	0	0	0	1,992
13	1,812	68	42	101	9	0	0	0	0	0	2,032
14	1,639	41	8	240	27	22	0	0	0	58	2,035
15	406	2,120	194	306	0	0	0	1	0	301	3,328
16	2,360	1,678	62	193	109	0	3	2	0	114	4,521
17	24,738	8,621	354	4,385	279	736	0	4	173	466	39,756
18	112,199	9,389	363	485	6	0	0	0	78	476	122,996
19	1,484	432	0	42	0	0	0	0	119	409	2,486
20	8,258	580	173	182	57	26	0	4	411	120	9,811
21	14,933	863	0	147	0	0	0	0	1,825	485	18,253
22	13,844	3,224	0	876	0	1,177	0	42	0	210	19,373
23	4,823	591	85	360	198	0	0	16	0	190	6,263
24	2,758	619	26	168	150	0	0	5	0	11	3,737
25	1,381	13,673	90	107	0	0	8	0	0	241	15,500
26	542	513	18	6	0	0	0	0	0	4	1,083
27	4,653	664	0	72	0	0	2	0	0	57	5,448
28	4,435	2,165	60	267	5	0	4	14	0	79	7,029
29	4,397	1,377	8	328	4	0	0	0	0	7	6,121
30	6,064	3,935	0	2,308	110	8	0	84	1,310	791	14,610
31	7,529	1,636	1	648	57	13	0	10	350	410	10,654
32	3,670	660	36	142	0	2	3	0	0	169	4,682
33	13,070	582	134	2,775	299	87	15	1	55	552	17,570
34	2,678	11	5	192	318	0	0	4	0	74	3,282
35	1,091	266	16	24	10	0	1	0	0	58	1,466
36	5,617	1,454	56	218	4	37	0	0	16	150	7,552
37	1,600	702	0	151	0	16	0	0	7	17	2,493
38	13,769	2,708	104	1,027	58	0	1	0	153	155	17,975
39	13,889	4,602	98	275	97	22	2	0	0	407	19,392

PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO B

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
40	4,616	1,699	319	1,008	4	35	1	2	197	90	7,971
41	3,998	263	2	42	0	0	0	2	228	27	4,562
42	1,733	84	0	73	35	0	0	4	0	203	2,132
43	491	0	89	166	42	0	0	0	0	46	834
44	1,976	305	484	145	10	0	2	0	0	26	2,948
45	539	261	26	21	0	0	0	0	0	14	861
46	11,518	2,977	789	2,406	2,155	11	2	28	260	1,209	21,355
50	699	3,274	2	324	7	0	0	0	0	24	4,330
51	643	420	3	1	0	0	0	0	0	28	1,095
52	662	132	1	21	0	0	6	0	0	3	825
53	2,298	1,753	4	6	67	0	0	0	0	0	4,128
54	5,791	3,576	203	1,076	956	47	5	0	0	373	12,027
55	3,510	161	0	516	0	0	0	7	0	209	4,403
56	1,435	0	0	35	79	0	0	2	9	24	1,584
57	899	594	45	201	0	0	0	9	0	61	1,809
58	12,613	910	71	342	25	0	9	26	0	682	14,678
59	9,934	1,717	236	459	45	15	4	7	22	713	13,152
60	12,841	2,320	187	1,461	142	0	10	8	391	581	17,941
61	34,797	7,721	207	5,845	1,026	132	4	41	368	2,200	52,341
62	19,934	8,495	268	2,552	105	3	17	6	48	398	31,826
63	6,387	815	8	230	18	9	15	0	0	448	7,930
64	2,386	47	4	139	7	6	0	9	38	340	2,976
65	1,232	1,621	0	3,115	182	275	0	118	354	1,896	8,793
66	7,096	391	3	564	64	0	0	38	509	222	8,887
67	5,068	1,850	37	483	4	21	2	18	3	310	7,796
68	10,225	768	46	1,716	174	47	0	142	151	564	13,833
69	21,288	1,875	16	2,910	855	73	0	30	390	881	28,318
70	6,058	827	70	723	486	27	0	31	25	424	8,671
71	2,475	113	136	391	393	2	24	14	44	244	3,836
72	1,136	505	7	55	15	1	12	0	0	35	1,766
TOTALS:	852,147	552,784	6,102	124,603	8,967	3,351	157	987	9,242	20,272	1,578,512

STRUCTURE CODES

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PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	99,284	123,040	258	10,783	24	4	0	9	0	1,002	234,404
2	55,607	131,954	147	34,964	95	2	0	245	2,161	566	225,741
3	116,774	86,451	9	18,136	44	66	0	77	13	459	222,029
4	74,266	106,589	324	11,548	0	7	0	34	0	253	193,021
5	61,857	52,542	62	4,367	6	110	0	0	0	251	119,195
6	26,232	66,820	0	9,411	0	0	0	5	0	30	102,498
7	42,631	44,876	21	23,436	0	0	0	0	0	342	111,306
8	10,883	21,686	0	2,522	0	0	0	0	0	69	35,160
9	14,280	404	119	445	90	1	4	0	0	43	15,386
10	17,436	8,162	82	279	3	0	9	0	0	39	26,010
11	6,827	756	0	60	0	0	0	2	373	16	8,034
12	3,422	0	0	0	0	697	0	0	0	0	4,119
13	3,862	137	200	208	18	0	0	0	0	0	4,425
14	8,104	337	21	2,029	105	86	0	0	0	226	10,908
15	2,809	9,476	1,505	2,012	0	0	0	3	0	1,050	16,855
16	3,213	3,355	100	330	197	0	6	3	0	233	7,437
17	63,328	25,018	698	11,474	505	1,153	0	13	393	913	103,495
18	167,685	12,911	456	753	9	0	0	0	112	753	182,679
19	12,944	3,423	0	345	0	0	0	0	422	1,000	18,134
20	41,691	5,578	574	1,785	231	114	0	18	1,802	526	52,319
21	22,514	1,382	0	239	0	0	0	0	807	541	25,483
22	27,243	8,355	0	1,624	0	2,225	0	72	0	402	39,921
23	40,761	4,205	1,315	2,134	870	1	0	73	0	586	49,945
24	8,713	1,956	82	393	338	0	0	12	0	24	11,518
25	2,223	22,327	124	147	0	0	12	0	0	354	25,187
26	7,354	5,837	215	67	0	0	0	0	0	17	13,490
27	7,867	1,136	0	126	0	0	4	0	0	99	9,232
28	14,241	13,029	685	1,423	8	1	8	46	0	199	29,640
29	7,436	2,360	24	569	6	0	0	0	0	12	10,407
30	14,335	10,513	0	9,231	214	14	0	160	2,795	1,962	39,224
31	28,974	7,151	25	3,890	256	59	0	25	1,533	1,031	42,944
32	20,450	3,689	437	1,400	0	8	16	0	0	480	26,480
33	37,223	2,843	377	6,696	639	162	29	2	92	1,367	49,430
34	6,092	24	6	430	690	0	0	8	0	150	7,400
35	5,945	1,285	133	142	30	0	3	0	0	203	7,741
36	36,379	8,002	542	1,566	12	145	0	0	58	537	47,241
37	15,115	5,570	0	1,338	0	65	0	0	30	69	22,187
38	73,303	11,543	949	5,298	276	2	5	2	844	723	92,945
39	48,264	13,246	357	615	264	42	9	0	0	1,016	63,813

PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO C

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
40	22,009	11,784	1,231	7,567	11	142	3	5	456	293	43,501
41	6,760	451	5	74	0	0	0	3	395	47	7,735
42	2,930	144	0	126	61	0	0	7	0	352	3,620
43	949	0	248	338	68	0	0	0	0	75	1,678
44	3,140	487	1,354	237	16	0	4	0	0	45	5,283
45	1,067	522	123	43	0	0	0	0	0	29	1,784
46	84,500	15,371	9,238	14,929	7,033	43	5	107	983	4,440	136,649
50	1,099	5,240	6	525	12	0	0	0	0	38	6,920
51	1,272	839	14	2	0	0	0	0	0	57	2,184
52	4,513	842	3	78	0	0	9	0	0	10	5,455
53	7,139	3,975	31	34	214	0	0	0	0	0	11,393
54	29,587	23,659	1,321	5,404	2,692	186	15	1	0	863	63,728
55	14,777	719	0	2,791	0	0	0	18	0	569	18,874
56	2,840	0	0	72	160	0	0	3	18	48	3,141
57	10,809	6,221	903	2,174	0	0	0	38	0	271	20,416
58	21,327	1,561	202	594	43	2	16	44	0	1,183	24,972
59	16,796	2,946	669	798	80	26	6	12	38	1,237	22,608
60	21,715	3,978	525	2,534	245	1	16	15	678	1,009	30,716
61	61,600	14,413	749	10,847	1,822	232	9	71	685	4,013	94,441
62	39,447	16,989	1,296	5,193	212	8	37	12	96	805	64,095
63	11,217	1,502	35	467	37	18	31	0	0	909	14,216
64	4,722	94	20	284	14	12	0	17	78	692	5,933
65	2,139	2,705	0	5,239	357	449	0	217	601	3,255	14,962
66	12,868	684	11	1,067	130	0	0	76	1,029	435	16,300
67	17,205	9,121	270	2,501	23	44	5	35	6	715	29,925
68	20,234	1,537	217	3,492	354	99	0	291	310	1,147	27,681
69	53,141	4,180	99	6,150	1,740	148	0	60	1,047	2,020	68,585
70	11,986	1,653	337	1,471	990	53	0	62	51	863	17,466
71	4,897	225	655	793	798	5	48	28	89	496	8,034
72	2,842	1,357	18	211	54	3	25	0	0	62	4,572
TOTALS:	1,753,094	961,167	29,427	248,250	22,096	6,435	334	1,931	17,995	43,521	3,084,250

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO D

HURRICANE LOSS ZONE	DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	109,439	159,656	267	13,426	34	6	0	13	0	1,447	284,288
2	60,585	163,522	147	44,972	131	3	0	342	2,985	768	273,455
3	127,268	106,532	9	22,594	59	92	0	104	18	628	257,304
4	81,677	138,087	324	14,594	0	9	0	46	0	352	235,089
5	80,631	77,937	64	6,124	10	182	0	1	0	429	165,378
6	29,757	81,472	0	11,729	0	0	0	7	0	46	123,011
7	49,405	57,955	21	29,693	0	0	0	0	0	494	137,568
8	11,724	27,474	0	3,009	0	0	0	0	0	92	42,299
9	19,791	637	147	706	123	2	6	0	0	70	21,482
10	22,495	10,354	82	373	6	0	16	0	0	71	33,397
11	11,084	1,573	0	80	0	0	0	3	567	33	13,340
12	3,975	0	0	0	0	1,011	0	0	0	0	4,986
13	4,907	369	626	284	26	0	0	0	0	0	6,212
14	13,485	550	27	3,310	181	143	0	0	0	376	18,072
15	5,738	18,099	1,807	4,191	0	0	0	6	0	1,973	31,814
16	8,459	16,106	218	1,493	504	0	9	9	0	687	27,485
17	95,474	41,838	780	17,094	850	1,774	0	21	676	1,469	159,976
18	206,567	18,693	513	1,479	21	0	0	0	176	1,372	228,821
19	22,889	6,185	0	623	0	0	0	0	820	1,805	32,322
20	57,879	8,586	540	2,468	382	185	0	29	2,937	858	73,864
21	67,374	3,251	0	1,358	0	0	0	0	1,843	1,328	75,154
22	40,957	15,335	0	2,573	0	3,708	0	104	0	630	63,307
23	54,672	6,899	1,699	3,096	1,344	1	0	110	0	965	68,786
24	10,476	2,464	89	475	470	0	0	16	0	32	14,022
25	2,714	30,879	124	224	0	0	19	0	0	578	34,538
26	8,783	7,612	215	86	0	0	0	0	0	27	16,723
27	25,428	3,460	0	362	0	0	14	0	0	321	29,585
28	25,918	20,951	705	2,389	22	2	20	88	0	431	50,526
29	12,793	4,327	66	1,052	11	0	0	0	0	23	18,272
30	18,641	16,349	0	13,877	359	26	0	246	4,857	3,086	57,441
31	55,999	11,383	25	6,105	411	95	0	44	2,484	1,968	78,514
32	27,102	5,115	621	1,698	0	11	22	0	0	777	35,346
33	53,669	4,627	465	8,953	1,022	255	45	3	140	2,278	71,457
34	6,945	33	6	583	1,031	0	0	12	0	217	8,827
35	3,716	975	209	90	36	0	3	0	0	219	5,248
36	80,187	18,235	1,038	2,816	23	253	0	0	114	1,025	103,691
37	19,166	7,583	0	1,728	0	102	0	0	48	108	28,735
38	123,938	26,125	1,140	7,387	411	3	8	3	1,198	1,148	161,361
39	65,496	18,106	431	985	622	67	15	0	0	2,001	87,723

PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO D

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
40	42,587	21,032	3,750	11,746	22	256	6	11	1,078	573	81,061
41	15,846	1,173	20	195	1	0	0	7	1,045	124	18,411
42	9,797	455	0	461	146	1	0	17	0	890	11,767
43	1,731	0	1,138	505	158	0	1	0	0	170	3,703
44	10,499	1,770	7,597	1,168	37	0	11	0	0	133	21,215
45	1,835	958	344	80	0	0	0	0	0	54	3,271
46	141,325	29,510	14,712	24,042	14,149	78	10	180	1,853	8,271	234,130
50	5,371	26,633	36	2,530	36	0	0	0	0	100	34,706
51	2,188	1,539	39	4	0	0	0	0	0	105	3,875
52	8,275	1,583	14	145	0	0	29	0	0	19	10,065
53	18,339	16,091	64	65	405	0	0	0	0	0	34,964
54	51,225	37,459	2,422	8,650	6,051	316	25	3	0	2,010	108,161
55	22,035	1,296	0	3,614	0	1	0	29	0	959	27,934
56	4,885	0	0	132	296	0	0	6	33	90	5,442
57	13,870	8,519	903	2,987	0	0	0	60	0	424	26,763
58	49,994	4,059	841	1,570	115	4	42	117	0	3,129	59,871
59	39,373	7,659	2,779	2,107	209	69	17	31	99	3,272	55,615
60	37,360	7,292	1,475	4,681	453	1	31	27	1,254	1,863	54,437
61	105,981	26,425	2,103	20,038	3,366	432	15	130	1,265	7,417	167,172
62	67,865	31,148	3,627	9,597	392	14	66	22	177	1,489	114,397
63	21,741	2,989	102	862	69	33	57	0	0	1,682	27,535
64	18,096	171	57	524	26	22	0	32	144	1,278	20,350
65	4,191	5,944	0	11,708	681	1,034	0	443	1,332	7,129	32,462
66	24,161	1,434	36	2,119	242	0	0	143	1,911	838	30,884
67	38,502	22,482	642	5,622	27	128	10	67	12	1,779	69,271
68	55,159	6,684	761	6,645	655	182	0	540	571	2,320	73,517
69	99,478	7,934	255	13,043	3,213	273	0	113	1,860	3,839	130,008
70	20,620	3,032	946	2,719	1,829	98	0	113	93	1,595	31,045
71	11,470	515	1,938	1,786	1,709	9	120	54	163	963	18,727
72	7,220	2,009	91	334	95	6	56	0	0	140	9,951
TOTALS:	2,678,222	1,417,129	59,097	373,758	42,471	10,887	673	3,352	31,753	82,787	4,700,129

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
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PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO E

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	115,089	185,489	267	15,365	55	9	0	22	0	2,385	318,681
2	64,531	189,432	147	52,236	226	6	0	552	4,842	1,393	313,365
3	137,508	130,432	9	26,465	111	175	0	202	35	1,187	296,124
4	88,740	170,827	324	18,192	0	18	0	89	0	666	278,856
5	91,919	100,505	64	7,977	17	314	0	1	0	740	201,537
6	32,984	107,499	0	15,310	0	0	0	14	0	89	155,896
7	53,808	73,894	21	38,455	0	0	0	0	0	958	167,136
8	12,426	30,189	0	3,508	0	0	0	0	0	151	46,274
9	19,579	606	151	798	178	3	9	0	0	110	21,434
10	23,565	11,401	82	448	10	0	27	0	0	123	35,656
11	10,308	1,710	0	87	0	0	0	5	903	57	13,070
12	4,199	0	0	0	0	1,591	0	0	0	0	5,790
13	5,049	496	828	311	42	0	0	0	0	0	6,726
14	16,977	629	31	3,838	302	239	0	0	0	630	22,646
15	5,325	20,247	1,807	4,804	0	0	0	10	0	3,308	35,501
16	9,423	25,837	229	2,254	965	0	15	17	0	1,329	40,069
17	86,911	45,799	780	19,661	1,411	2,777	0	35	1,092	2,327	160,793
18	214,432	20,245	532	3,028	52	0	0	0	276	2,642	241,207
19	21,595	6,645	0	676	0	0	0	0	1,316	2,901	33,133
20	54,912	9,071	672	2,963	644	301	0	47	4,767	1,393	74,770
21	68,456	7,606	0	1,669	0	0	0	0	3,609	3,005	84,345
22	42,165	17,500	0	3,064	0	5,932	0	173	0	1,029	69,863
23	67,495	9,703	1,706	5,071	2,751	4	0	225	0	2,164	89,119
24	11,572	3,294	89	666	968	0	0	31	0	64	16,684
25	2,714	35,283	124	261	0	0	30	0	0	911	39,323
26	9,858	9,812	215	121	0	0	0	0	0	45	20,051
27	40,812	6,802	0	751	0	0	27	0	0	576	48,968
28	41,510	31,717	705	3,787	47	4	44	162	0	862	78,838
29	33,661	13,295	97	3,290	35	0	0	0	0	71	50,449
30	27,907	34,912	0	26,401	939	79	0	531	13,823	7,178	111,770
31	72,515	16,865	25	8,012	688	161	0	98	4,208	4,245	106,817
32	37,942	8,014	733	2,239	0	18	38	0	0	1,667	50,651
33	47,381	4,685	471	10,275	1,686	402	71	5	220	3,661	68,857
34	7,272	37	6	653	1,616	0	0	19	0	356	9,959
35	16,488	4,155	310	389	108	0	10	0	0	677	22,137
36	69,015	19,150	1,082	3,247	38	417	0	0	182	1,660	94,791
37	22,400	10,298	0	2,347	0	182	0	0	85	194	35,506
38	139,543	35,148	1,140	9,845	719	5	13	6	1,977	1,933	190,329
39	67,701	21,200	431	1,230	1,125	106	25	0	0	3,422	95,240

PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL LOSS ($$$) BY LOSS ZONE

SCENARIO E

DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
40	54,580	27,271	3,750	15,756	41	425	10	21	2,122	1,022	104,998
41	30,602	2,541	20	426	2	0	0	15	2,284	272	36,162
42	18,743	1,046	0	966	388	3	0	44	0	2,269	23,459
43	2,990	0	1,681	780	388	0	1	0	0	412	6,252
44	10,767	2,670	9,669	1,348	90	0	20	0	0	245	24,809
45	3,922	2,290	511	197	0	0	1	0	0	132	7,053
46	190,243	44,861	15,777	35,241	25,329	138	17	311	3,173	14,546	329,636
50	5,080	28,707	47	2,992	65	0	0	0	0	221	37,112
51	4,676	3,679	59	9	0	0	0	0	0	259	8,682
52	8,027	1,810	19	234	0	0	52	0	0	32	10,174
53	23,622	19,806	71	89	750	0	0	0	0	0	44,338
54	68,236	53,619	2,639	14,234	10,936	547	54	5	0	4,103	154,373
55	31,743	1,766	0	6,149	0	3	0	61	0	2,071	41,793
56	10,443	1	0	325	729	0	0	14	80	220	11,812
57	15,783	11,947	903	4,202	0	0	0	124	0	875	33,834
58	96,546	8,794	841	3,431	251	8	91	255	0	3,317	113,534
59	76,036	16,594	2,779	4,607	458	152	36	70	216	7,150	108,098
60	98,301	22,405	2,192	14,645	1,415	4	95	85	3,921	5,829	148,892
61	262,718	70,868	3,131	56,373	10,178	1,308	39	409	3,536	21,422	429,982
62	145,059	74,472	5,389	23,592	965	33	162	56	436	3,663	253,827
63	46,470	7,147	153	2,123	168	81	142	0	0	4,134	60,418
64	17,365	408	85	1,289	65	55	0	80	353	3,142	22,842
65	8,958	14,211	0	28,787	1,674	2,543	0	1,090	3,275	17,529	78,067
66	51,644	3,430	54	5,210	595	0	0	351	4,700	2,059	68,043
67	44,163	22,301	737	6,095	44	197	17	160	29	2,962	76,705
68	90,349	9,932	899	16,021	1,611	446	0	1,324	1,404	5,377	127,363
69	179,616	17,465	364	28,664	7,900	671	0	276	3,977	8,619	247,552
70	49,055	8,109	1,406	7,345	4,501	242	0	286	255	4,211	75,410
71	20,389	1,071	2,730	3,868	3,818	21	246	129	402	2,289	34,963
72	8,221	2,187	128	430	168	14	122	0	0	258	11,528
TOTALS:	3,570,034	1,901,837	69,112	585,122	87,262	19,634	1,414	7,410	67,498	174,749	6,484,072

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
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APPENDIX F

PUBLIC FACILITIES VULNERABILITY INVENTORY:

HILLSBOROUGH COUNTY

APPENDIX F

PUBLIC FACILITIES VULNERABILITY INVENTORY:
HILLSBOROUGH COUNTY

POTABLE WATER FACILITIES

SCENARIO	LOSS ZONE	FACILITY	CAPACITY PUMPING/TREATMENT	STORAGE CAPACITY
A	16	Apollo Beach Repump Station		247,000 g
	16	Apollo Beach Elevated Storage		100,000 g
	16	Gibsonton Elevated Storage		500,000 g
B				
C	37	Ruskin Water Treatment Plant	1.2 MGD	
	37	Ruskin Storage Reservoir		200,000 g
D	38	River Oaks Water Treatment Plant	3.6 MGD	600,000 g
	40	Interbay Repump Station & Reservoir (TWS)	12 MGD	5 MG
E	47	Palma Ceia Elevated Tanks (TWS)		1.5 MG
WIND LOSS	51	Apollo Beach Water Treatment Plant		247,000 g
	51	Sun City Storage Reservoir		800,000 g
	52	Riverview Water Treatment	3 MGD	
	52	Riverview Storage Tanks		600,000 g
	53	Bloomingdale/Brandon Boaster Plant and Storage		500,000 g
	55	Claypit Rd. Repump and Storage (Brandon)		500,000 g
	56	Tampa By-pass RWSP (TWS)		
	57	Morris Bridge Water Treatment Plant (TWS)	48 MGD	10 MG
	57	Hillsborough River Water Treatment Plant (TWS)	100 MGD	15 MG
	57	Sulphur Springs RWPS	20 MGD	
	57	West Tampa Elevated Storage Tank		1.5 MG
	57	Sun City Water Treatment Plant	4.8 MGD	
	58	N.W. Repump Station (TWS)	8. MGD	3 MG
	58	Plantation Water Treatment Plant	.3 MGD	
	58	Dale Mabry Water Treatment Plant (Carrollwood Village)	2.4 MGD	
	59	Cosme Water Treatment Plant (SPWS)	41.3 MGD	

g - gallons
MG - Million Gallons
MGD - Million Gallons a Day

TWS - Tampa Water System
RWPS - Raw Water Pumping Station
SPWS - St. Petersburg Water System

APPENDIX F (cont.)

PUBLIC FACILITIES VULNERABILITY INVENTORY:
HILLSBOROUGH COUNTY

WASTE-WATER TREATMENT FACILITIES

SCENARIO	Loss Zone	Regional Treatment Plants	Design Capacity MGD	Level of Treatment	Effluent Disposal Method
Scenario A		Hooker's Point	60.0	AWT	Surface Waters Discharge to Hillsborough Bay
Scenario B					
Scenario C					
Scenario D	38	River Oaks	4.67	Secondary	Spray Irrigation
Scenario E					
Wind Loss	51	South Hillsborough County	1.5	Secondary	Spray Irrigation, Reuse
	53	Brandon	1.0	Secondary	Spray Irrigation
	55	Plant City	8.0	AWT	Surface Waters
	58	Dale Mabry	2.0	Secondary	Spray Irrigation

PUBLIC FACILITIES VULNERABILITY INVENTORY:
HILLSBOROUGH COUNTY

ELECTRIC UTILITY FACILITIES

SCENARIO	Loss Zone	Facility	1983 Replacement Value ($)
Scenario A			
	1	Skyway Substation (TECO)	**
	2	Cypress Substation (TECO)	**
	4	Westinghouse Substation (TECO)	**
	5	MacDill Substation (TECO)	**
	7	Baycourt Substation (TECO)	**
	11	Hookers Point Plant (TECO)	
	11	Maritime Substation (TECO)	**
	13	12th Avenue Substation (TECO)	**
	14	Gannon Plant (TECO)	
	14	Port Sutton (TECO)	**
	14	Madison Substation (TECO)	**
	15	Gardinier Substation (TECO)	**
	15	Mill Point Substation (TECO)	**
	16	Agrico Terminal (TECO)	**
	16	Big Bend Plant (TECO)	
	17	1st Avenue Substation (TECO)	**
Scenario B			
	19	Washington Substation (TECO)	**
	23	Nitram Substation (TECO)	**
	25	Gibsonton Substation (TECO)	**
	25	South Gibsonton Substation (TECO)	**
Scenario C			
	28	Plant Substation (TECO)	**
	29	3nd Avenue Substation (TECO)	**
	29	2nd Avenue Substation (TECO)	**
	31	Joseph Substation (TECO)	**
	31	Florida Steel Substation (TECO)	**
	33	78th Street Substation (TECO)	**
	34	S.R. 676A Substation (TECO)	**
	35	East Bay Substation (TECO)	**
Scenario D			
	39	Rocky Creek Substation (TECO)	**
	39	Jackson Road Substation (TECO)	**
	39	George Road Substation (TECO)	**
	40	Prado Substation (TECO)	**
	40	Manhattan Substation (TECO)	**
	40	Himes Substation (TECO)	**
	42	11th Avenue Substation (TECO)	**

PUBLIC FACILITIES VULNERABILITY INVENTORY: HILLSBOROUGH COUNTY

ELECTRIC UTILITY FACILITIES (cont.)

SCENARIO	Loss Zone	Facility	1983 Replacement Value ($)
Scenario E			
	47	Gray Substation (TECO)	**
	47	Lois Substation (TECO)	**
	47	Hyde Park Substation (TECO)	**
	47	Rome Substation (TECO)	**
	49	Orient Park Substation (TECO)	**
Wind Loss			
	51	Ruskin Substation (TECO)	**
	51	Del Webb Substation (TECO)	**
	51	Sun City Substation (TECO)	**
	51	Mines Substation (TECO)	**
	51	Four Corners No. 1 Substation (TECO)	**
	51	Four Corners No. 2 Substation (TECO)	**
	51	Four Corners No. 3 Substation (TECO)	**
	51	Four Corners No. 4 Substation (TECO)	**
	51	Four Corners (temporary) Cap. Substation (TECO)	**
	51	Four Corners (temporary) No. 1 Substation (TECO)	**
	51	Four Corners (temporary) No. 2 Substation (TECO)	**
	51	Four Corners (temporary) A Substation (TECO)	**
	51	Four Corners (temporary) B Substation (TECO)	**
	52	Rhodine Road Substation (TECO)	**
	52	Ft. Lonesome Plant Substation (TECO)	**
	52	Ft. Lonesome Cap. Substation (TECO)	**
	52	Ft. Lonesome No. 1 Substation (TECO)	**
	52	Ft. Lonesome No. 3 Substation (TECO)	**
	52	Ft. Lonesome No. 5 Substation (TECO)	**
	52	Ft. Lonesome No. 2 Substation (TECO)	**
	52	Ft. Lonesome No. 4 Substation (TECO)	**
	52	AMAX Plant Substation (TECO)	**
	52	AMAX River Mine Substation (TECO)	**
	52	AMAX Temporary Substation (TECO)	**
	53	S.R. 60 Substation (TECO)	**
	53	Brandon Substation (TECO)	**
	53	Buckhorn Substation (TECO)	**
	53	Bloomingdale Substation (TECO)	**
	53	Phearson Substation (TECO)	**
	53	Hopewell Substation (TECO)	**
	53	Florida Agglite Substation (TECO)	**
	54	South Seffner Substation (TECO)	**
	54	Lakewood Substation (TECO)	**
	54	Hampton Substation (TECO)	**
	55	Plymouth Substation (TECO)	**
	55	Marion Street Substation (TECO)	**
	55	14th Street Substation (TECO)	**

PUBLIC FACILITIES VULNERABILITY INVENTORY:
HILLSBOROUGH COUNTY

ELECTRIC UTILITY FACILITIES (cont.)

SCENARIO	Loss Zone	Facility	1983 Replacement Value ($)
Wind Loss (Continued)			
	55	S.R. 574 Substation (TECO)	**
	55	Peach Avenue Substation (TECO)	**
	55	Kirland Substation (TECO)	**
	55	Wilson Substation (TECO)	**
	55	Alexander Substation (TECO)	**
	55	Plant City Substation (TECO)	**
	56	River Substation (TECO)	**
	56	Clark-Wild Substation (TECO)	**
	57	Clearview Substation (TECO)	**
	57	Mantanzas Substation (TECO)	**
	57	Ohio Substation (TECO)	**
	57	Ivy Substation (TECO)	**
	57	Habana Substation (TECO)	**
	57	Juneau Substation (TECO)	**
	57	Fern Substation (TECO)	**
	57	Yukon Substation (TECO)	**
	57	30th Street Substation (TECO)	**
	57	Belmont Substation (TECO)	**
	57	Industrial Park Substation (TECO)	**
	57	Temple Terrace Substation (TECO)	**
	57	56th Street Substation (TECO)	**
	57	Sunset Lane Substation (TECO)	**
	57	Florida Avenue Substation (TECO)	**
	57	Pine Lake Substation (TECO)	**
	57	McFarland Substation (TECO)	**
	57	Seneca Substation (TECO)	**
	57	27th Street Substation (TECO)	**
	57	USF Substation (TECO)	**
	57	Thatcher Glass Substation (TECO)	**
	57	46th Street Substation (TECO)	**
	57	Fowler Substation (TECO)	**
	58	Sheldon Road Substation (TECO)	**
	58	Keystone Substation (TECO)	**
	58	Ehrlich Road Substation (TECO)	**
	58	Carrollwood Village Substation (TECO)	**
	58	Van Dyke Road Substation (TECO)	**
	58	Patterson Road Substation (TECO)	**
	58	Waters Substation (TECO)	**
	58	Coolidge Substation (TECO)	**
	58	Tampa Bay Substation (TECO)	**

** Tampa Electric Company (TECO) estimates the average 1983 replacement cost per substation at $2,000,000.

APPENDIX F (cont.)

PUBLIC FACILITIES VULNERABILITY INVENTORY:
HILLSBOROUGH COUNTY

HOSPITALS

SCENARIO	Map No.	Loss Zone	Facility Name/Address	No. of Beds
Scenario A				
	7	4	Interbay Community Hospital 4555 South Manhattan Avenue Tampa, Florida 33611	73
	13	5	USAF Regional Hospital, MacDill MacDill Air Force Base Tampa, Florida 33608	75
	11	9	Tampa General Hospital Davis Islands Tampa, Florida 33606	611
Scenario B				
Scenario C				
Scenario D	17	39	Town & Country Hospital 6001 Webb Road Tampa, Florida 33615	201
	3	42	Centro Asturiano Hospital 1302 21st Avenue Tampa, Florida 33605	144
Scenario E	8	47	Memorial Hospital of Tampa 2901 Swann Avenue Tampa, Florida 33609	140
Wind Loss	2	53	Brandon Community Hospital 119 Oakfield Drive Brandon, Florida 33511	164
	10	55	South Florida Baptist Hospital 301 North Alexander Street Plant City, Florida 33566	132
	9	57	St. Joseph's Hospital, Inc. 3001 West Buffalo Avenue Tampa, Florida 33677	577

PUBLIC FACILITIES VULNERABILITY INVENTORY: HILLSBOROUGH COUNTY

HOSPITALS (cont.)

SCENARIO	Map No.	Loss Zone	Facility Name/Address	No. of Beds
Wind (Continued)				
	12	57	Tampa Heights Hospital 4004 North Riverside Drive Tampa, Florida 33603	146
	14	57	University Community Hospital 3100 East Fletcher Avenue Tampa, Florida 33612	404
	15	57	James A. Haley V.A. Medical Ctr. 13000 North 30th Street Tampa, Florida 33612	697
	16	57	Women's Hospital 3030 West Buffalo Avenue Tampa, Florida 33607	124
	4	57	Centro Espanol Memorial Hospital 4801 North Howard Avenue Tampa, Florida 33603	102
	1	57	Northside Comm. Mental HC 13301 North 30th Street Tampa, Florida 33612	32
	5	57	Good Samaritan Hospital of Tampa 7171 North Dale Mabry Highway Tampa, Florida 33614	120
	6	57	Hillsborough County Hospital 5906 North 30th Street Tampa, Florida 33680	157

PUBLIC FACILITIES VULNERABILITY INVENTORY:
HILLSBOROUGH COUNTY

NURSING HOMES

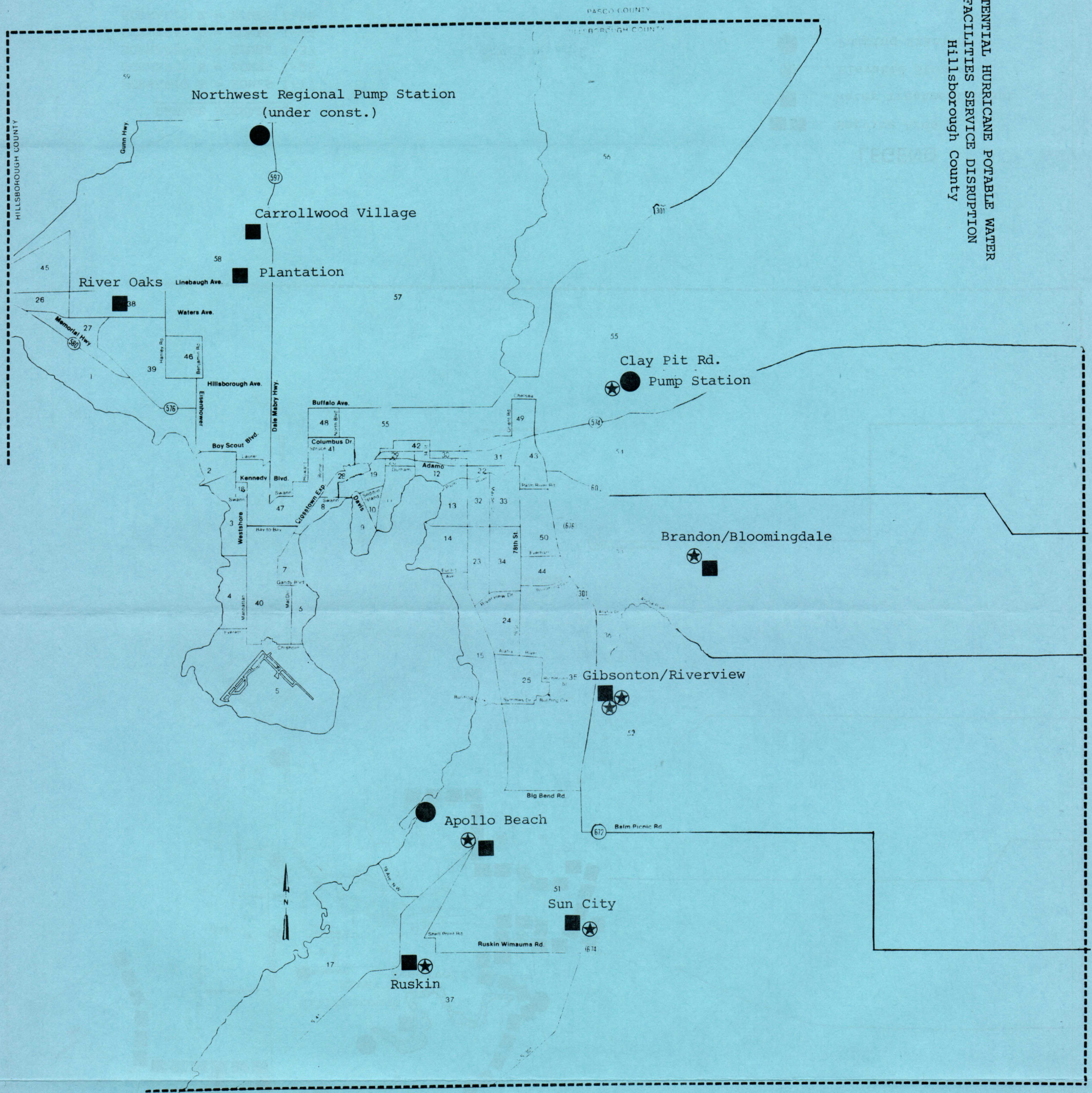
SCENARIO	Map No.	Loss Zone	Facility Name/Address	No. of Beds
Scenario A				
	14	4	Manhattan Convalescent Ctr. 4610 S. Manhattan Avenue Tampa, Florida 33611	179
	2	7	Bay to Bay Nursing Center 3405 Bay to Bay Boulevard Tampa, Florida 33609	75
	4	8	Canterbury Tower 3501 Bayshore Boulevard Tampa, Florida 33609	40
Scenario B				
Scenario C				
Scenario D				
Scenario E				
	17	48	River Heights N.H. 2730 Ridgewood Avenue Tampa, Florida 33602	42
Wind Loss				
	19	51	Trinity Lakes Health Center 101 Trinity Lakes Drive Sun City Center, Florida 33570	60
	5	54	Community Convalescent Center 2202 W. Oak Avenue Plant City, Florida 33566	120
	7	54	Forest Park Nursing Center 1702 W. Oak Avenue Plant City, Florida 33566	97
	10	55	Home Association 1203 22nd Avenue Tampa, Florida 33605	96
	18	55	St. Francis Residence 301 E. Seventh Avenue Tampa, Florida 33602	19

PUBLIC FACILITIES VULNERABILITY INVENTORY: HILLSBOROUGH COUNTY

NURSING HOMES (cont.)

SCENARIO	Map No.	Loss Zone	Facility	No. of Beds
Wind Loss (Continued)				
	13	56	Lowe's Nursing & Conv. Center Rt. 1, Box 187 Thonotosassa, Florida 33592	120
	1	57	Ambrosia Home 1709 Taliaferro Avenue Tampa, FL 33602	80
	3	57	Cambridge Convalescent Center 9709 N. Nebraska Avenue Tampa, Florida 33612	70
	11	57	John Knox Village Medical Center 4100 E. Fletcher Avenue Tampa, Florida 33612	60
	15	57	Medicenter of Tampa 4411 N. Habana Tampa, Florida 33614	174
	12	57	Oakwood Park Su Casa 1514 E. Chelsea Tampa, Florida 33610	240
	16	57	Padgett's N.H. 5010 N. 40th Street Tampa, Florida 33610	100
	9	57	Tampa Health Care Center 2916 Habana Way Tampa, Florida 33614	150
	20	57	University Park Conv. Center 1818 E. Fletcher Avenue Tampa, Florida 33612	266
	8	57	Wellington Manor 10049 N. Florida Avenue Tampa, Florida 33612	180
	21	57	Woodlands Convalescent Center 13806 N. 46th St. Lutz, Florida 33549	120

POTENTIAL HURRICANE POTABLE WATER FACILITIES SERVICE DISRUPTION
Hillsborough County



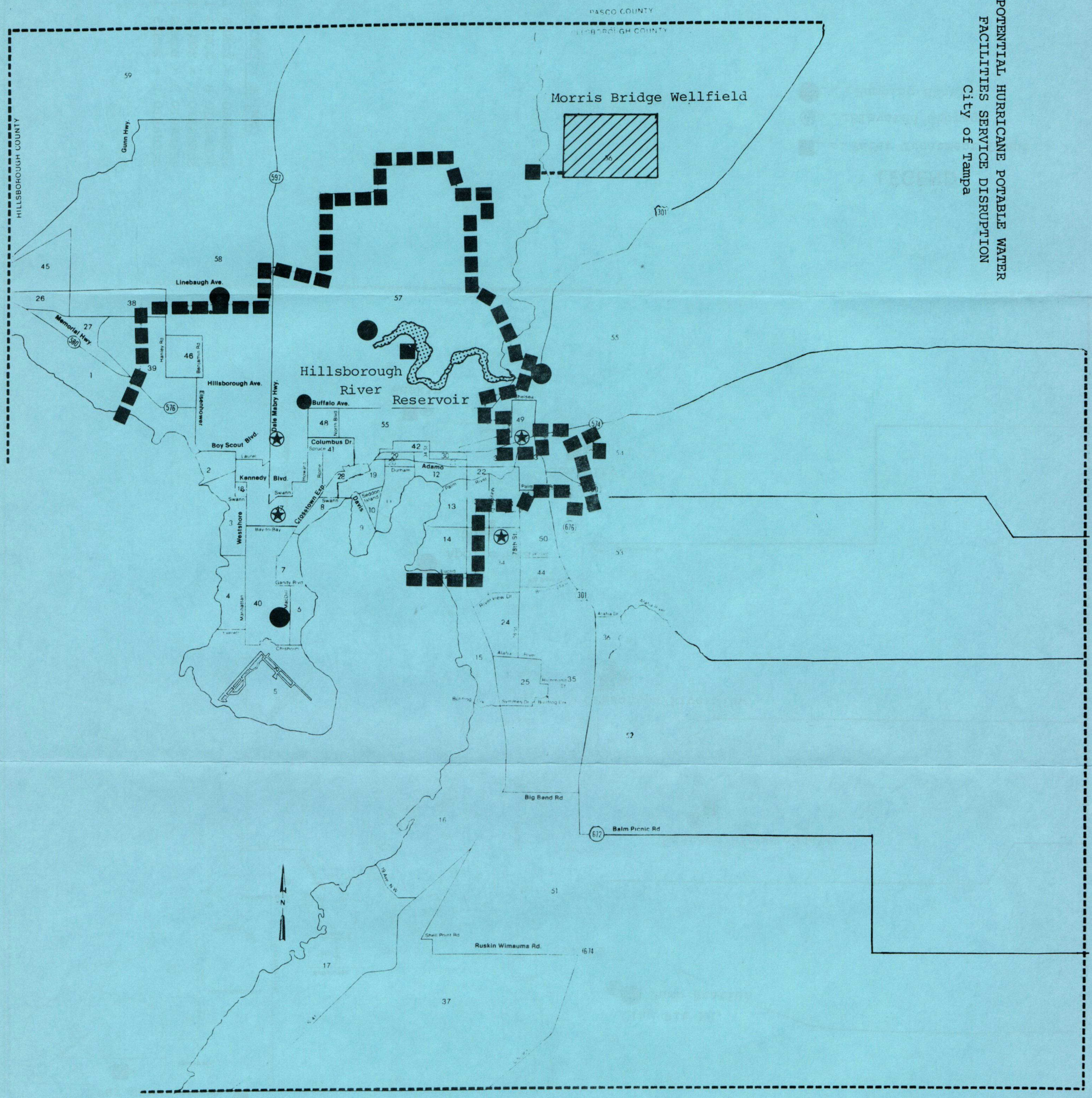
LEGEND

- ■ ___ Water Treatment Plant
- ✪ ___ Elevated Storage
- ● ___ Pumping Station

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-17
SCENARIO B = ZONES 1-25
SCENARIO C = ZONES 1-37
SCENARIO D = ZONES 1-44
SCENARIO E = ZONES 1-50

POTENTIAL HURRICANE POTABLE WATER FACILITIES SERVICE DISRUPTION
City of Tampa



DAMAGE SCENARIOS

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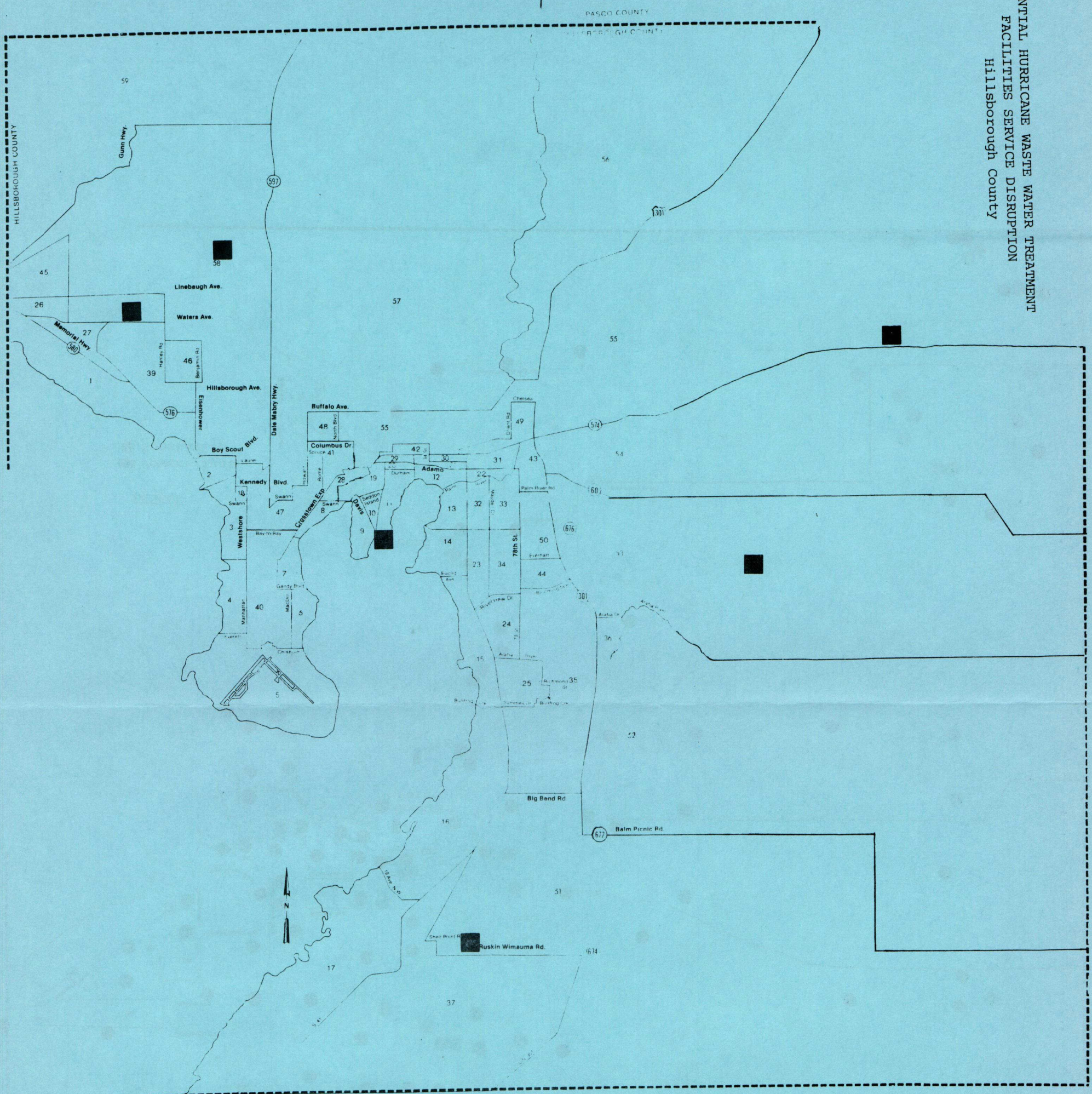
SCENARIO B = ZONES 1-25
SCENARIO C = ZONES 1-37
SCENARIO D = ZONES 1-44
SCENARIO E = ZONES 1-50

LEGEND

- Service Area
- Water Treatment Plant
- Elevated Storage
- Pumping Station

POTENTIAL HURRICANE WASTE WATER TREATMENT FACILITIES SERVICE DISRUPTION
Hillsborough County



LEGEND

■ ___Regional WWTP

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-17
SCENARIO B = ZONES 1-25
SCENARIO C = ZONES 1-37
SCENARIO D = ZONES 1-44
SCENARIO E = ZONES 1-50

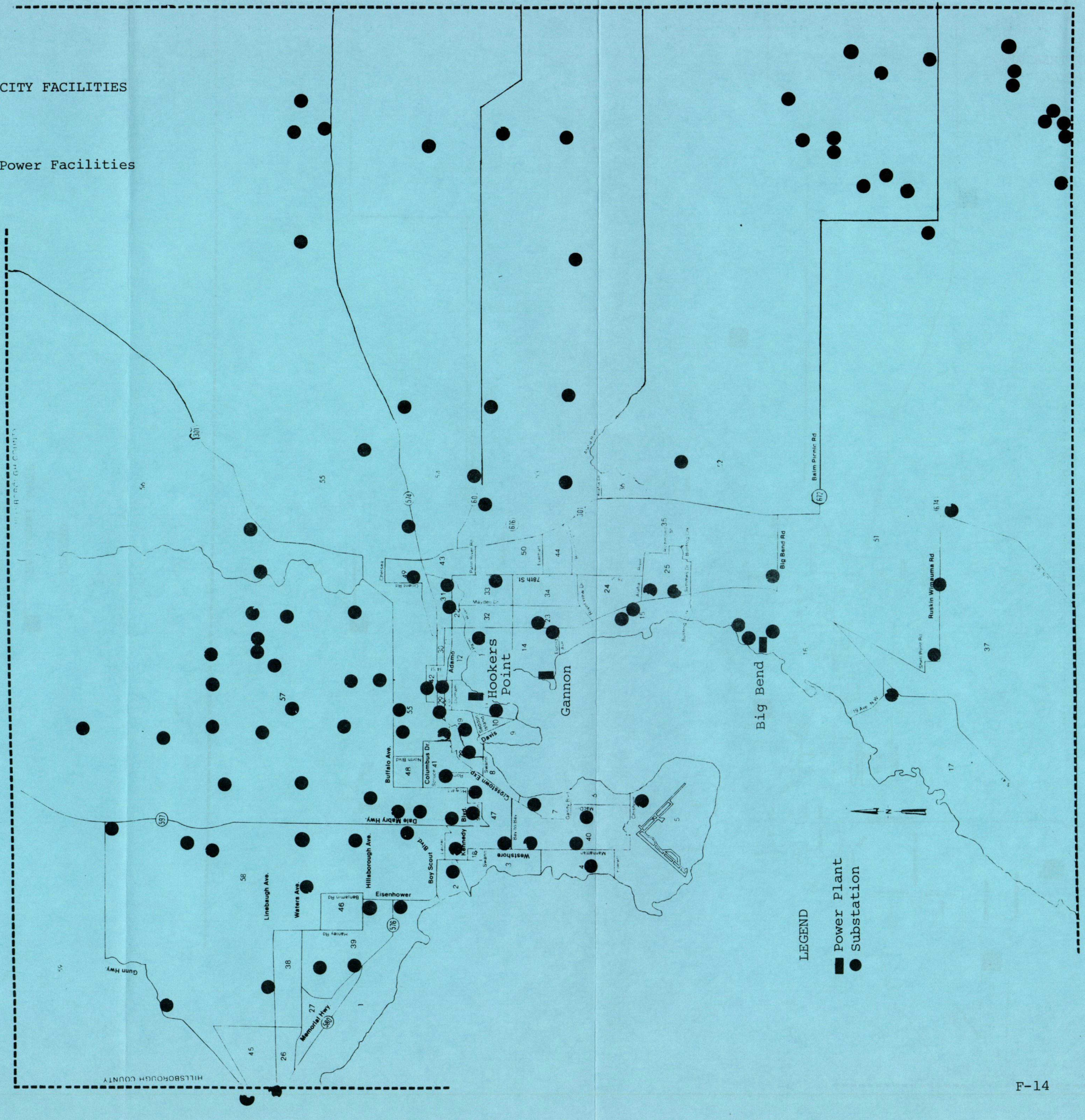
Source: TBRPC, 1982

POTENTIAL HURRICANE ELECTRICITY FACILITIES
SERVICE DISRUPTION

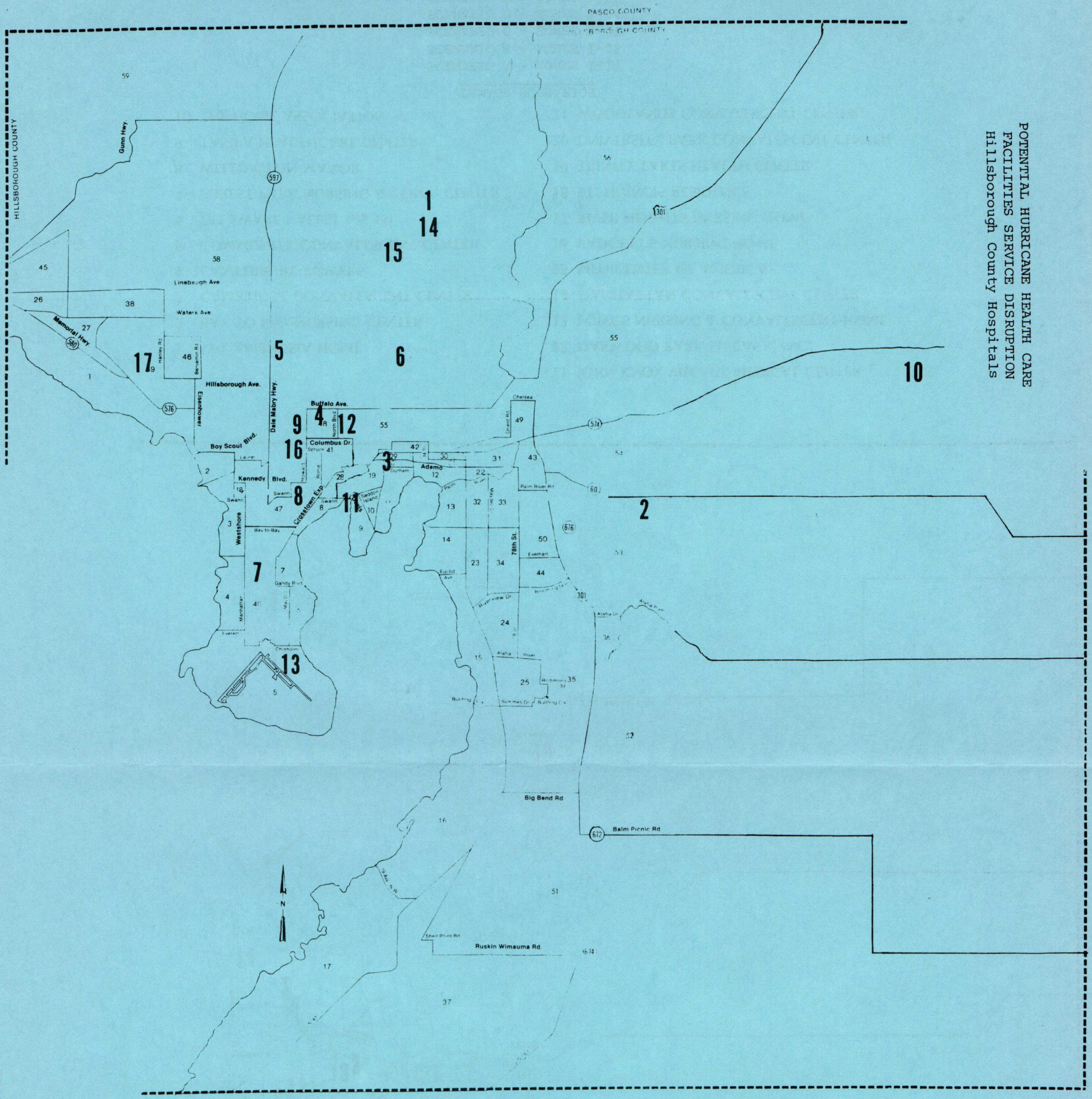
Hillsborough County Electric Power Facilities

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-17
SCENARIO B = ZONES 1-25
SCENARIO C = ZONES 1-37
SCENARIO D = ZONES 1-44
SCENARIO E = ZONES 1-50



POTENTIAL HURRICANE HEALTH CARE FACILITIES SERVICE DISRUPTION
Hillsborough County Hospitals

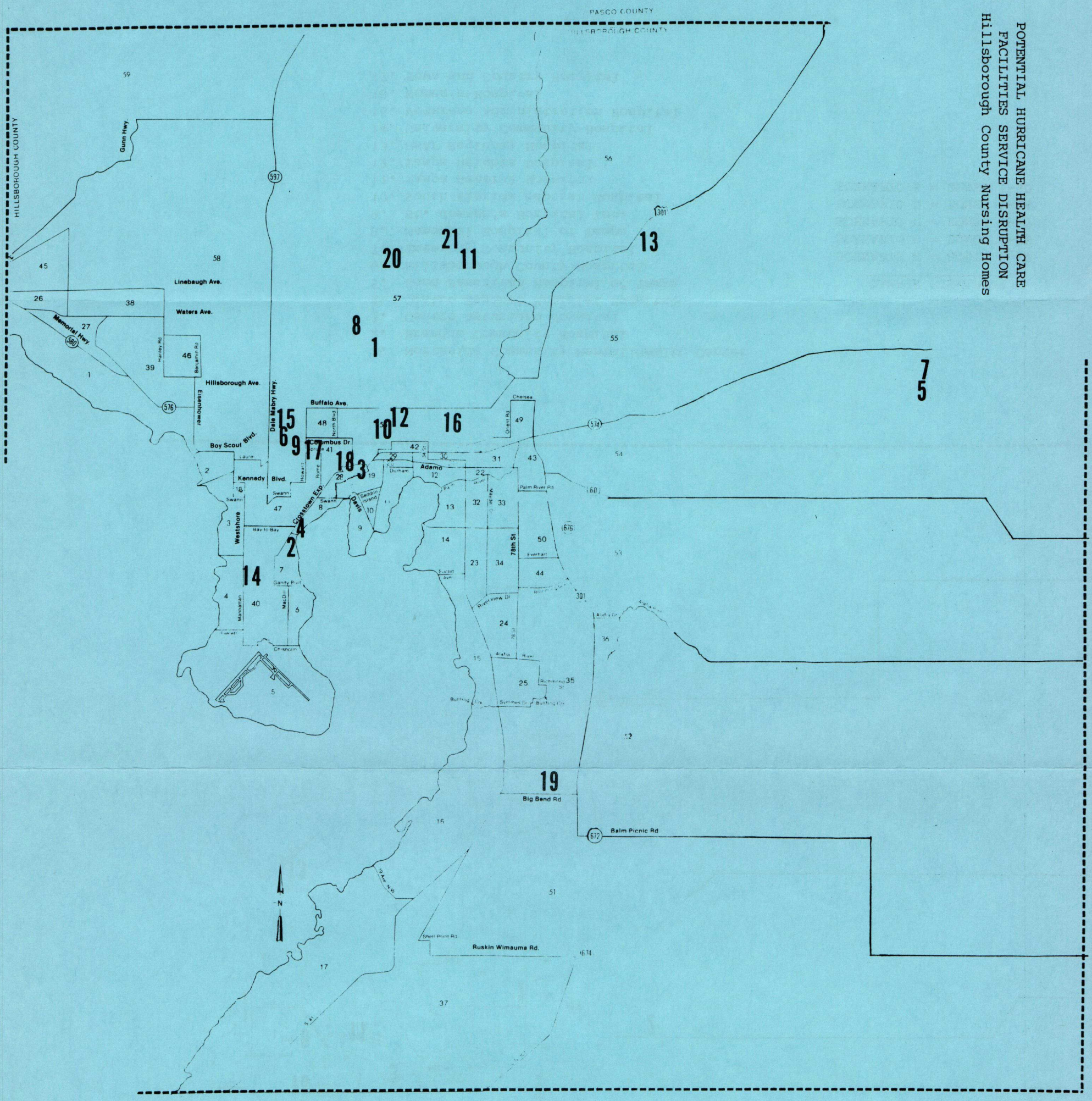


1. Northside Community Mental Health Center
2. Brandon Community Hospital
3. Centro Asturiano Hospital
4. Centro Espanol Memorial Hospital
5. Good Samaritan Hospital of Tampa
6. Hillsborough County Hospital
7. Interbay Community Hospital
8. Memorial Hospital of Tampa
9. St. Joseph's Hospital Inc.
10. South Florida Baptist Hospital
11. Tampa General Hospital
12. Tampa Heights Hospital
13. USAF Regional Hospital
14. University Community Hospital
15. Veterans Administration Hospital
16. Women's Hospital
17. Town and Country Hospital

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-17
SCENARIO B = ZONES 1-25
SCENARIO C = ZONES 1-37
SCENARIO D = ZONES 1-44
SCENARIO E = ZONES 1-50

POTENTIAL HURRICANE HEALTH CARE FACILITIES SERVICE DISRUPTION
Hillsborough County Nursing Homes



1 THE AMBROSIA HOME
2 BAY TO BAY NURSING CENTER
3 CAMBRIDGE CONVALESCENT CENTER
4 CANTERBURY TOWERS
5 COMMUNITY CONVALESCENT CENTER
6 DELAWARE VALLEY (see 15)
7 FOREST PARK NURSING & CONV. CENTER
8 WELLINGTON MANOR
9 TAMPA HEALTHCARE CENTER
10 THE HOME ASSOCIATION
11 JOHN KNOX VILLAGE MEDICAL CENTER
12 OAKWOOD PARK SU CASA, INC.
13 LOWE'S NURSING & CONVALESCENT HOME
14 MANHATTAN CONVALESCENT CENTER
15 MEDICENTER OF AMERICA
16 PADGETT'S NURSING HOME
17 RIVER HEIGHTS NURSING HOME
18 ST. FRANCIS RESIDENCE
19 TRINITY LAKES HEALTH CENTER
20 UNIVERSITY PARK CONVALESCENT CENTER
21 WOODLANDS CONVALESCENT CENTER

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-17
SCENARIO B = ZONES 1-25
SCENARIO C = ZONES 1-37
SCENARIO D = ZONES 1-44
SCENARIO E = ZONES 1-50

APPENDIX G

PUBLIC FACILITIES VULNERABILITY INVENTORY:

MANATEE COUNTY

APPENDIX G

PUBLIC FACILITIES VULNERABILITY INVENTORY:
MANATEE COUNTY

POTABLE WATER FACILITIES

SCENARIO	LOSS ZONE	FACILITY	CAPACITY PUMPING/TREATMENT	STORAGE CAPACITY
A	3	Cortez Pump & Booster Station (MCUD)		1 MG
	7	Palmetto Elevated Storage (MCUD)		1 MG
	8	Port Manatee Pump Station (MCUD)	5,600 GPM	150,000 g
	8	Raw Water Pump Station (MCUD)	14,700 GPM	
B	10	Northwest Elevated Storage (MCUD)		1 MG
C	14	Hospital Booster Station (MCUD)	2,000 GPM	
D				
E				
WIND LOSS	27	Cortez Elevated Storage (MCUD)		1 MG
	27	Bradenton Elevated Tank (No. 1)		500,000 g
	27	Bradenton Elevated Tank (No. 2)		1.25 MG
	27	Bradenton Elevated Tank (No. 3)		Continued Capacity
	28	Bradenton Elevated Tank (No. 4)		
	28	Bradenton Elevated Tank (No. 5)		
	28	Bradenton WTP	7 MGD	
	28	Bradenton WTP Elwood I (MCUD)	51 MGD	4.5 MG
	28	Elwood II (MCUD)	30.2 MGD	
	28	MCUD Water Treatment Plant	30. MGD	1.5 MG
	28	Raw Water Pump Station (MCUD)	14,700 GPM	
	28	Elevated Storage (MCUD)		1 MG

MG - Million Gallons
MGD - Million Gallons a Day
GPM - Gallons Per Minute
MCUD - Manatee County Utility Department

APPENDIX G (cont.)

PUBLIC FACILITIES VULNERABILITY INVENTORY:
MANATEE COUNTY

WASTE-WATER TREATMENT FACILITIES

SCENARIO	Loss Zone	Regional Treatment Plants	Design Capacity MGD	Level of Treatment	Effluent Disposal Method
Scenario A					
	4	Manatee County Southwest Regional WWTP	12.0	Secondary	Spray Irrigation
Scenario B					
Scenario C					
	12	Palmetto WWTP	1.2	AWT	Surface Waters
Wind Loss					
	28	Bradenton	6.0	Secondary	Manatee River

ELECTRIC UTILITY FACILITIES

SCENARIO	Loss Zone	Facility	1983 Replacement Value ($)
Scenario A			
Scenario B			
	10	Palma Sola Substation (FPL)	$3,000,000
Scenario C			
	16	Castle Substation (FPL)	$2,200,000
Scenario D			
Scenario E			
Wind Loss			
	25	Manatee County Generating Plant (FPL)	$950,000,000
	25	Duette Substation (PREC)	$500,000
	25	Regulator Station (PREC)	$300,000
	25	Borden Substation (FPL)	$2,200,000
	27	West Bradenton Substation (FPL)	$3,500,000
	27	Cortez Substation (FPL)	$3,500,000
	28	Fruit Industries Substation (FPL)	$2,200,000
	29	Whitfield Substation (FPL)	$2,200,000
	29	Oneco Substation (FPL)	$3,500,000

APPENDIX G (cont.)

PUBLIC FACILITIES VULNERABILITY INVENTORY:
MANATEE COUNTY

HOSPITIALS

SCENARIO	Map No.	Loss Zone	Facility Name/Address	No. of Bed
Scenario A				
Scenario B				
Scenario C				
	46	14	Manatee Memorial Hospital 206 Second Street, East Bradenton, Florida 33505	512
Scenario D				
Scenario E				
Wind Loss				
	45	27	L. W. Blake Memorial Hospital 2020 59th Street, West Bradenton, Florida 33505	298

NURSING HOMES

SCENARIO	Map No.	Loss Zone	Facility Name/Address	No. of Beds
Scenario A				
Scenario B				
Scenario C				
	1	14	Asbury Towers 1533 Fourth Avenue W. Bradenton, Florida 33505	34
	2	14	Bradenton Convalescent Center 105 15th St. E. Bradenton, Florida 33508	110
	8	14	Shores Health Care Center 1700 Third Avenue W. Bradenton, Florida 33505	21

PUBLIC FACILITIES VULNERABILITY INVENTORY:
MANATEE COUNTY

NURSING HOMES (cont.)

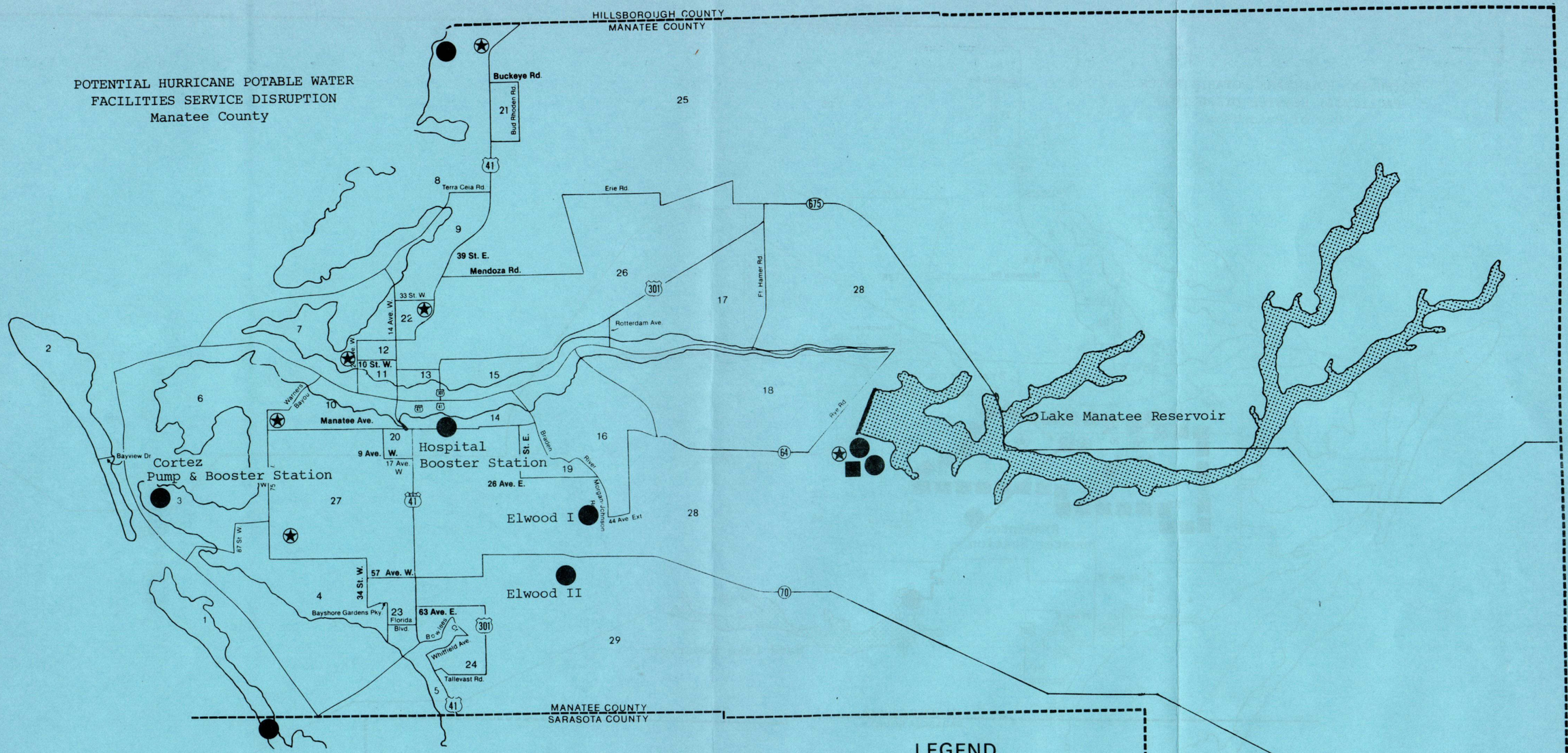
Scenario D

Scenario E

Wind Loss

3	27	Bradenton Manor 1700 21st Avenue W. Bradenton, Florida 33505	42
4	27	Carol Lou Mora Care Center 1902 59th Street W. Bradenton, Florida 33529	120
5	28	AMNC/Bradenton 210 21st Avenue W. Bradenton, Florida 33505	60
6	28	Manatee Convalescent Center 302 Manatee Avenue E. Bradenton, Florida 33508	147
7	28	Suncoast Manor N. H. 2010 Manatee Avenue E. Bradenton, Florida 33508	208

POTENTIAL HURRICANE POTABLE WATER FACILITIES SERVICE DISRUPTION
Manatee County



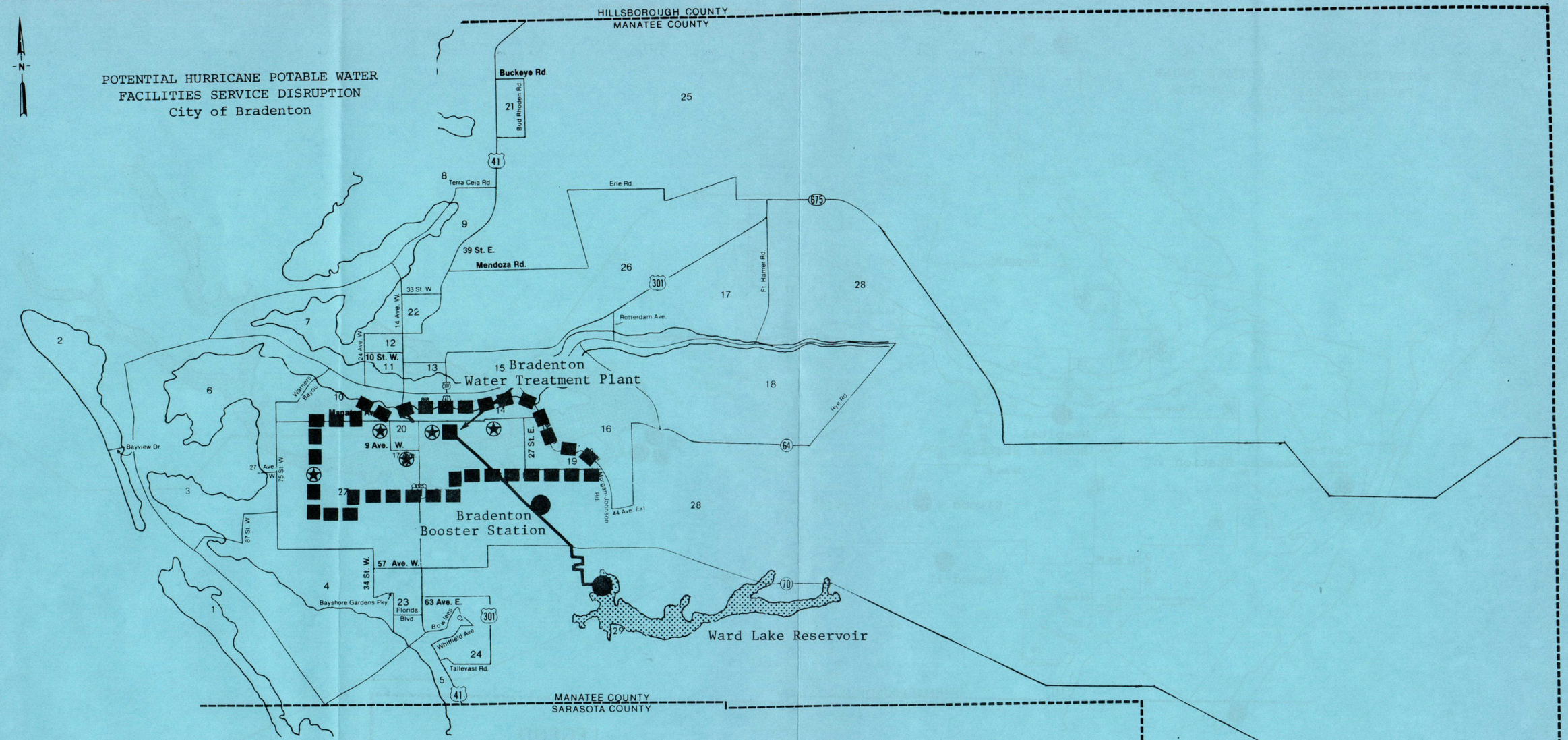
LEGEND

- ■ Water Treatment Plant
- ★ Elevated Storage
- ● Pumping Station

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-9
SCENARIO B = ZONES 1-11
SCENARIO C = ZONES 1-18
SCENARIO D = ZONES 1-21
SCENARIO E = ZONES 1-24

POTENTIAL HURRICANE POTABLE WATER FACILITIES SERVICE DISRUPTION
City of Bradenton



LEGEND

- ■■.....Service Area
- ■.....Water Treatment Plant
- ★.....Elevated Storage
- ●.....Pumping Station

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-9
SCENARIO B = ZONES 1-11
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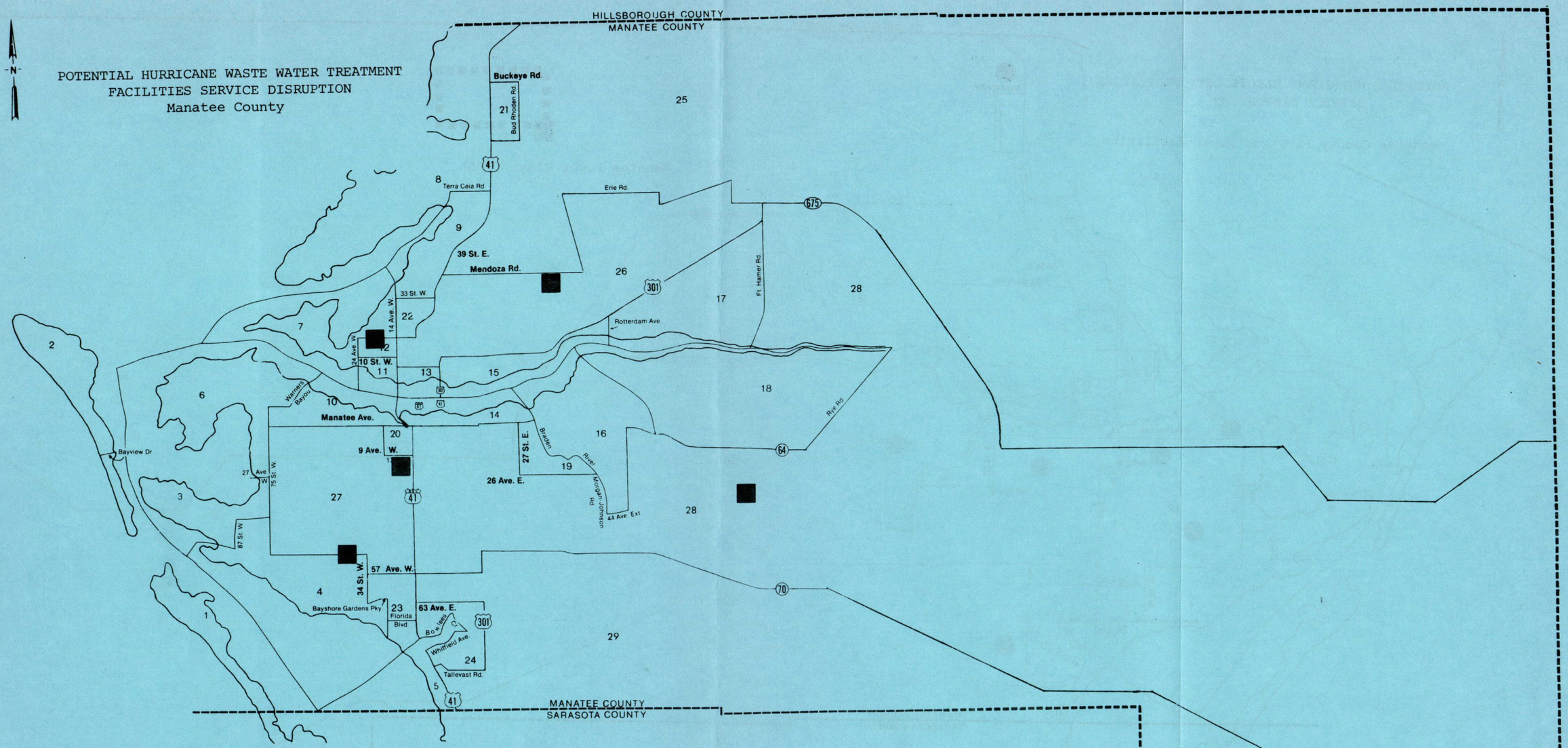
POTENTIAL HURRICANE WASTE WATER TREATMENT FACILITIES SERVICE DISRUPTION
Manatee County



LEGEND

■ ___ Regional WWTP

Source: TBRPC, 1982

DAMAGE SCENARIOS

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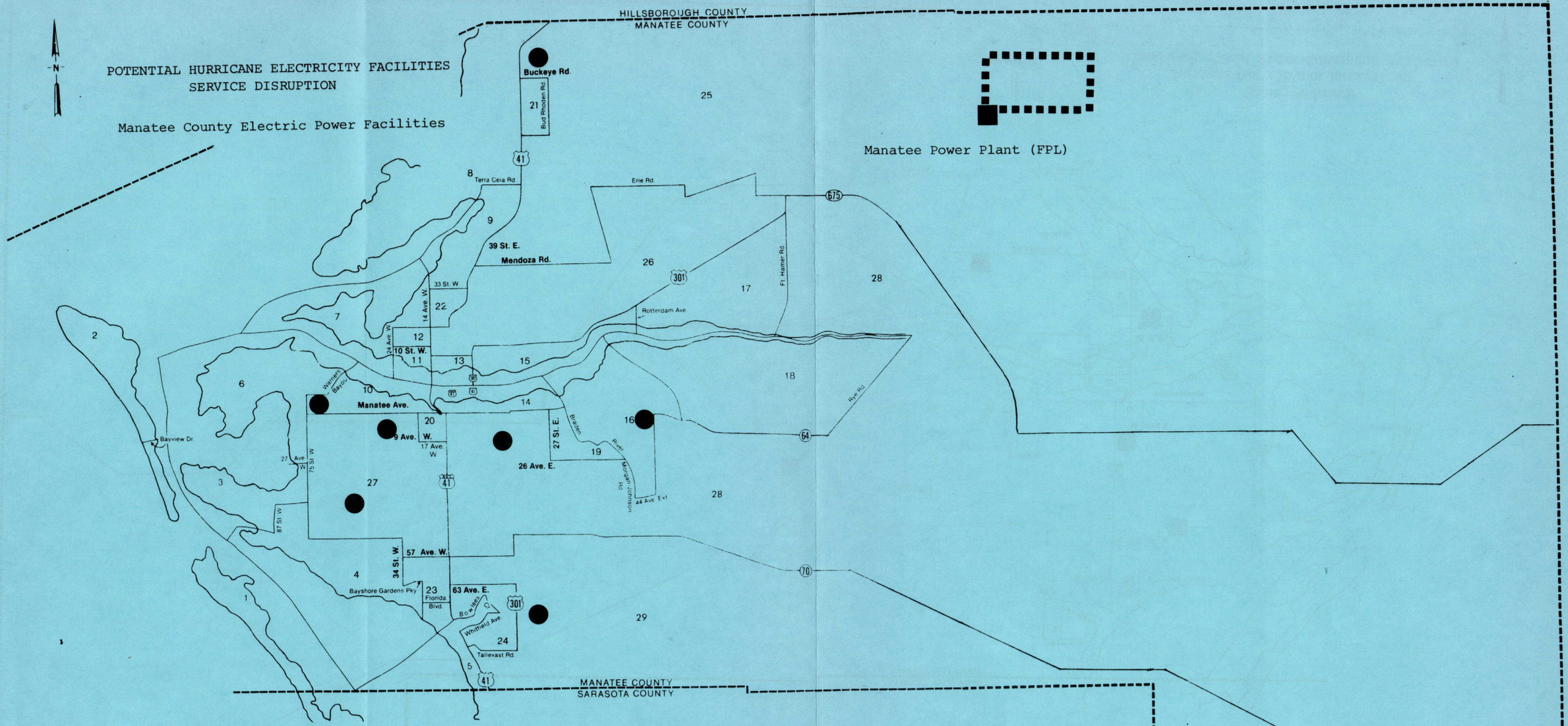
POTENTIAL HURRICANE ELECTRICITY FACILITIES
SERVICE DISRUPTION

Manatee County Electric Power Facilities



Manatee Power Plant (FPL)

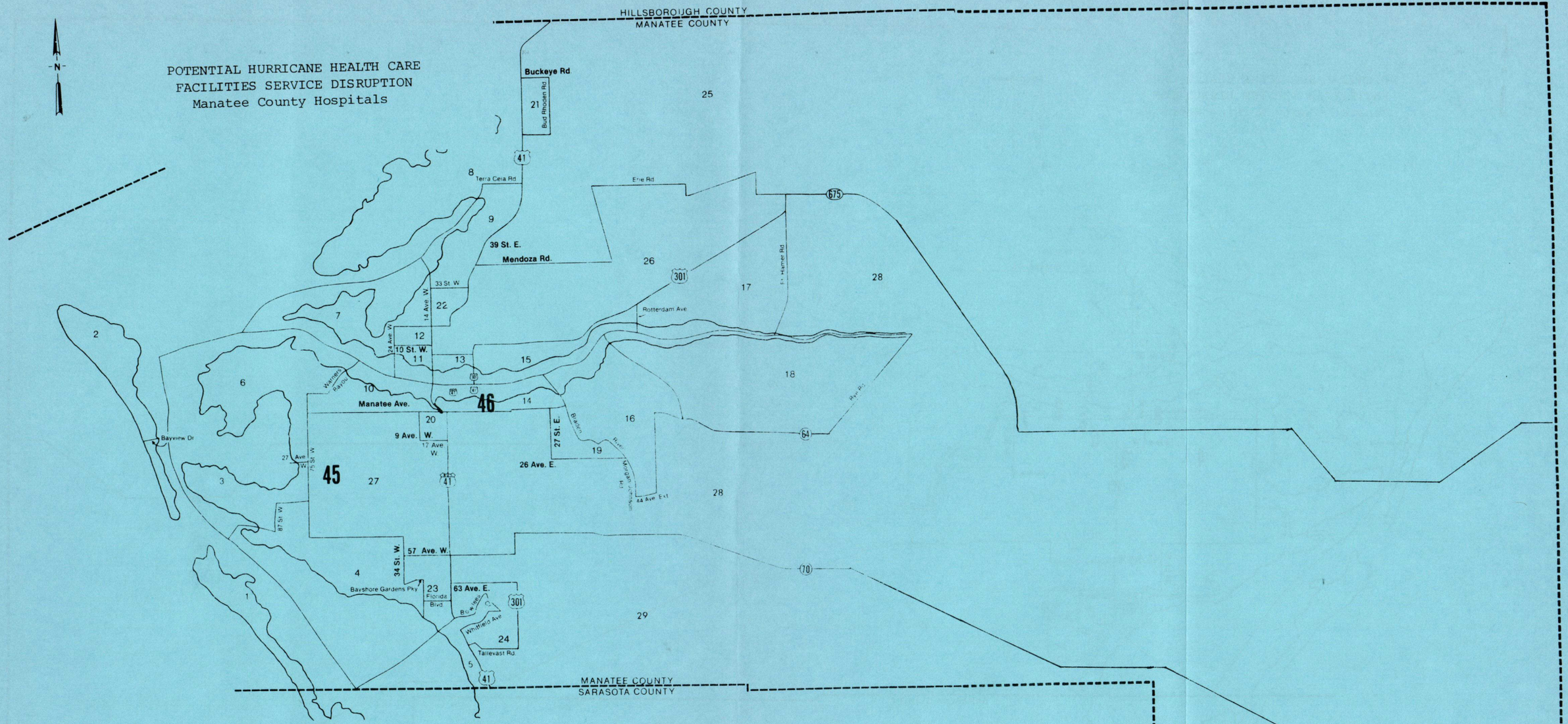
DAMAGE SCENARIOS

SCENARIO A = ZONES 1-9
SCENARIO B = ZONES 1-11
SCENARIO C = ZONES 1-18
SCENARIO D = ZONES 1-21
SCENARIO E = ZONES 1-24

LEGEND

Power Plant
Substation

POTENTIAL HURRICANE HEALTH CARE FACILITIES SERVICE DISRUPTION
Manatee County Hospitals

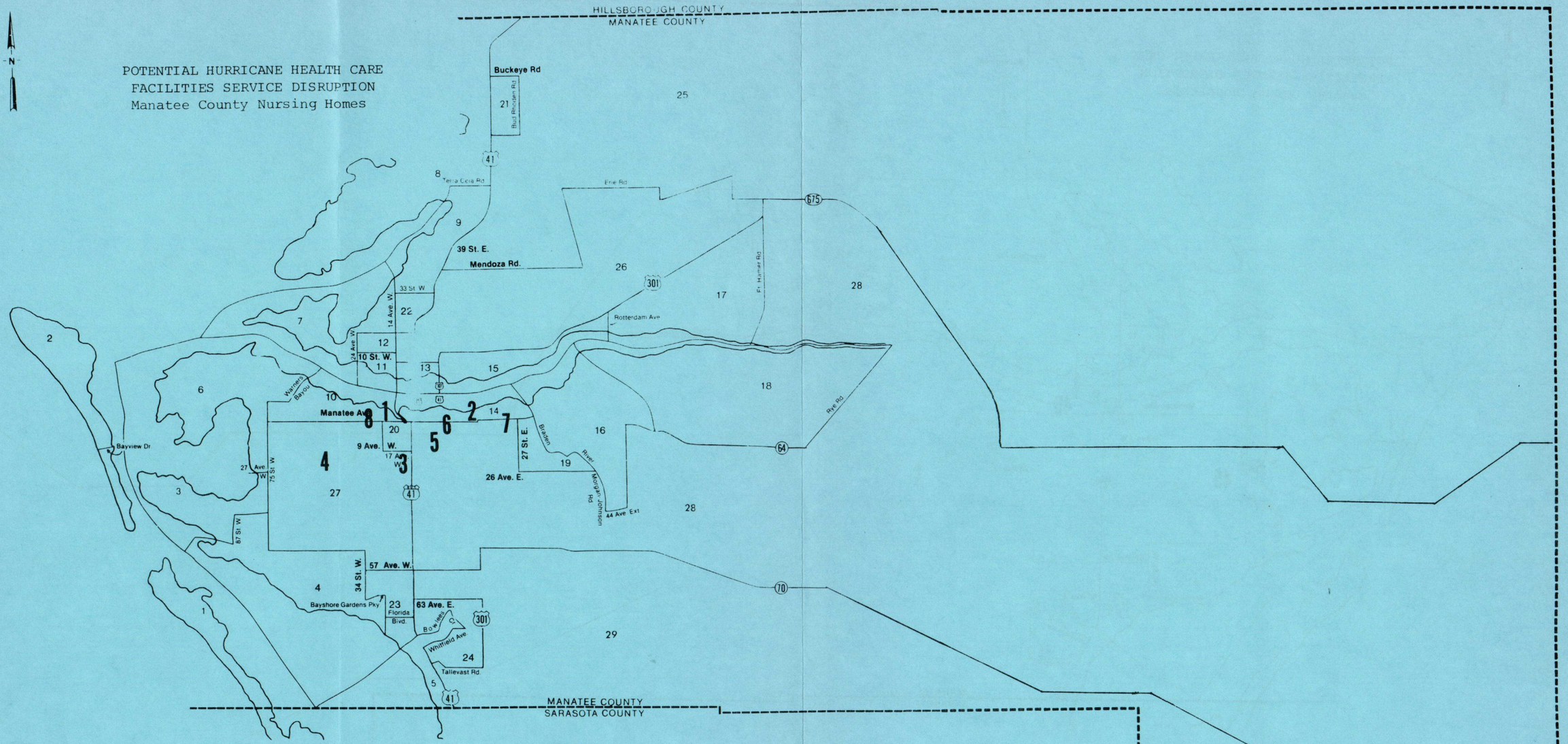


45. L. W. Blake Hospital
46. Manatee Memorial Hospital

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-9
SCENARIO B = ZONES 1-11
SCENARIO C = ZONES 1-18
SCENARIO D = ZONES 1-21
SCENARIO E = ZONES 1-24

POTENTIAL HURRICANE HEALTH CARE FACILITIES SERVICE DISRUPTION
Manatee County Nursing Homes



1 ASBURY TOWERS
2 BRADENTON CONVALESCENT CENTER
3 BRADENTON MANOR
4 CAROL LOU MORA CARE CENTER
5 AMNC-BRADENTON
6 MANATEE CONVALESCENT CENTER
7 SUNCOAST MANOR NURSING HOME
8 THE SHORES

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-9
SCENARIO B = ZONES 1-11
SCENARIO C = ZONES 1-18
SCENARIO D = ZONES 1-21
SCENARIO E = ZONES 1-24

APPENDIX H

PUBLIC FACILITIES VULNERABILITY INVENTORY:

PASCO COUNTY

APPENDIX H

PUBLIC FACILITIES VULNERABILITY INVENTORY:
PASCO COUNTY

POTABLE WATER FACILITIES

SCENARIO	LOSS ZONE	FACILITY	CAPACITY PUMPING/TREATMENT	STORAGE CAPACITY
A	3	Port Richey Elevated Tank		500,000 g
B				
C				
D	13	High Service Pump Station (PCUD)	5 MGD	1 MG
	13	Storage Reservoir (PCUD)		1.5 MG
	13	Port Richey Water Treatment Plant and Pump Station	420,000 GPD	300,000 g
	14	Hudson Elevated Storage		750,000 g
E				
WIND LOSS	19	New Port Richey Pump Station	8 MGD	
	19	New Port Richey Storage Reservoir		2.5 MG
	21	St. Leo Elevated Storage		15,000 g
	21	San Antonio Elevated Storage		60,000 g
	23	Zephyrhills Elevated Storage		75,000 g
	24	Dade City Elevated Storage		420,000 g

g - gallons
MG - Million Gallons
MGD - Million Gallons a Day
PCUD - Pasco county Utility Department

PUBLIC FACILITIES VULNERABILITY INVENTORY
PASCO COUNTY

WASTE-WATER TREATMENT FACILITIES

SCENARIO	Loss Zone	Regional Treatment Plants	Design Capacity MGD	Level of Treatment	Effluent Disposal Method
Scenario A					
	2	New Port Richey (South) Regional WWTP	1.5	Secondary	Cross Bayou
	4	Embassy Hill WWTP	2.4	Secondary	Evaporation/ Percolation
Scenario B					
Scenario C					
Scenario D					
	13	Beacon Woods WWTP	1.2	Secondary	Spray Irrigation
Scenario E Wind Loss					
	18	Veterans Village Plant	0.6	Secondary	Surface Waters
	19	Deer Park Plant	0.25	Secondary	Surface Waters
	20	Lake Padgett Pines WWTP	.4	Secondary	Surface Waters
	23	Zephyrhills WWTP	1.5	Secondary	Spray Irrigation
	24	Dade City WWTP	1.0	Contact Stabili-zation	Larkin Canal Withlacooche River

APPENDIX H

PUBLIC FACILITIES VULNERABILITY INVENTORY:
PASCO COUNTY

ELECTRIC UTILITY FACILITIES

SCENARIO	LOSS ZONE	FACILITY	1983 REPLACEMENT VALUE
A	1	Anclote Substation (FP)	*
	1	Anclote Generating Plant (FP)	*
	3	Port Richey W. Substation (FP)	*
	4	Bayonet Point No. 31 Substation (WREC)	***
	6	Sea Pines No. 26 Substation (WREC)	***
B			
C			
D	13	A No. 13, B No. 32 Substation (WREC)	***
E	15	Flora-Mar Substation (FP)	*
	16	Elfers Substation (FP)	*
	16	Seven Springs Substation (FP)	*
WIND LOSS	17	Hudson A No. 12 Substation (WREC)	***
	18	Golden Acres No. 11 Substation (WREC)	***
	19	Pasco Trails No. 25 Substation (WREC)	***
	20	Seven Springs No. 18 Substation (WREC)	***
	20	Odessa No. 14 Substation (WREC)	***
	20	Pasco Wellfields No. 15 Substation (WREC)	***
	20	Dunham Station (FP)	*
	21	San Antonio Substation (TECO)	**
	21	Tampa Downs No. 17 Substation (WREC)	***
	23	Zephyrhills No. 8 Substation (WREC)	***
	24	Trilby No. 6 Substation (WREC)	***
	24	Richland No. 19 Substation (WREC)	***
	24	Pasco Packing Substation (TECO)	**
	24	Dade City Substation (TECO)	**
	24	Fort King Substation (TECO)	**

(FP) - Florida Power Corporation
(TECO) - Tampa Electric Corporation
(WREC) - Withlacoochee River Electric Cooperative

*Florida Power Corporation estimates the average 1983 replacement cost per substation at $74,578,000. The average replacement cost per power plant is estimated at $211,296,667.

**Tampa Electric Company estimates the average 1983 replacement cost per substation at $2,000,000.

***Withlacoochee River Electric Cooperative estimates the average 1983 replacement cost per substation at $500,000.

APPENDIX H (cont.)

PUBLIC FACILITIES VULNERABILITY INVENTORY
PASCO COUNTY

HOSPITALS

SCENARIO	Map No.	Loss Zone	Facility Name/Address	No. of Beds
Scenario A				
Scenario B				
	20	9	Community Hospital of New Port Richey 205 High Street New Port Richey, Florida 33552	390
Scenario C				
	22	10	West Pasco Hospital 500 Indiana Avenue New Port Richey, Florida 33552	102
Scenario D				
	18	14	Bayonet Point Medical Center 2700 Fivay Road Hudson, Florida 33568	200
Scenario E				
Wind Loss				
	21	24	Jackson Memorial Hospital 608 West Howard Avenue Dade City, Florida 33525	53
	19	24	Community General Hospital 1550 Fort King Road Dade City, Florida 33525	65

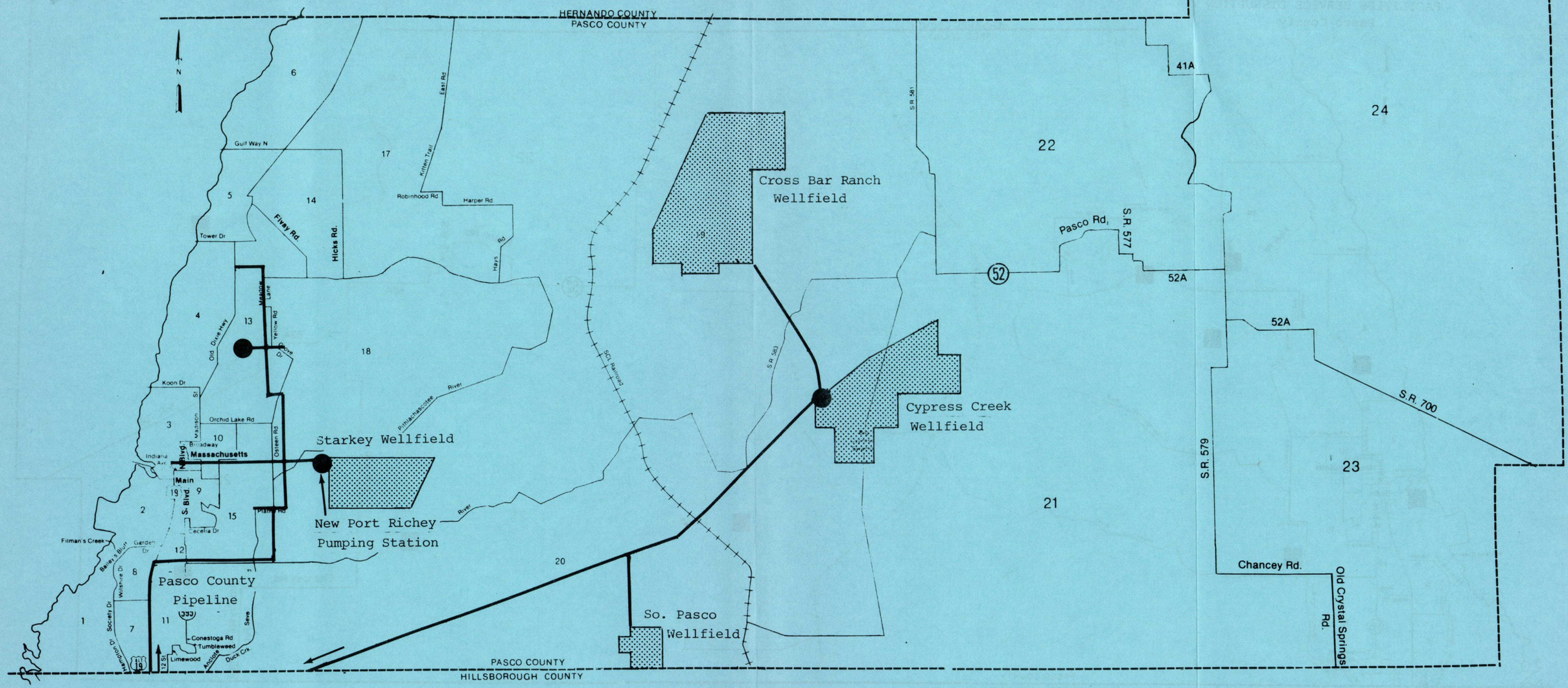
APPENDIX H (cont.)

PUBLIC FACILITIES VULNERABILITY INVENTORY
PASCO COUNTY

NURSING HOMES

SCENARIO	Map No.	Loss Zone	Facility Name/Address	No. of Beds
Scenario A				
Scenario B				
Scenario C				
	4	10	Richey Manor Nursing Home 505 Indiana Avenue New Port Richey, Florida 33552	119
Scenario D				
	8	14	Bear Creek Nursing Home 8041 S.R. 52 Hudson,. Florida	120
Scenario E				
	6	15	Heather Hill Nursing Home 1151 E. Kentucky Avenue New Port Richey, Florida 33552	120
	7	15	Southern Pines Nursing Center 312 S. Congress New Port Richey, Florida 33552	
Wind Loss				
	1	18	Whispering Pines 25 Peggy Mac Lane New Port Richey, Florida 33552	56
	5	23	Zephyr Haven Nursing Home 310 Avenue A Zephyrhills, Florida 33599	60
	3	24	Dade City Geriatric Center 805 W. Coleman Avenue Dade City, Florida 33525	120
	2	24	Pasco Nursing Center 447 N. Fifth Street Dade City, Florida 33525	40
	9	24	Royal Oaks Nursing Home 700 Royal Oak Lane Dade City, Florida 33525	120

POTENTIAL HURRICANE POTABLE WATER FACILITIES SERVICE DISRUPTION
Pasco County



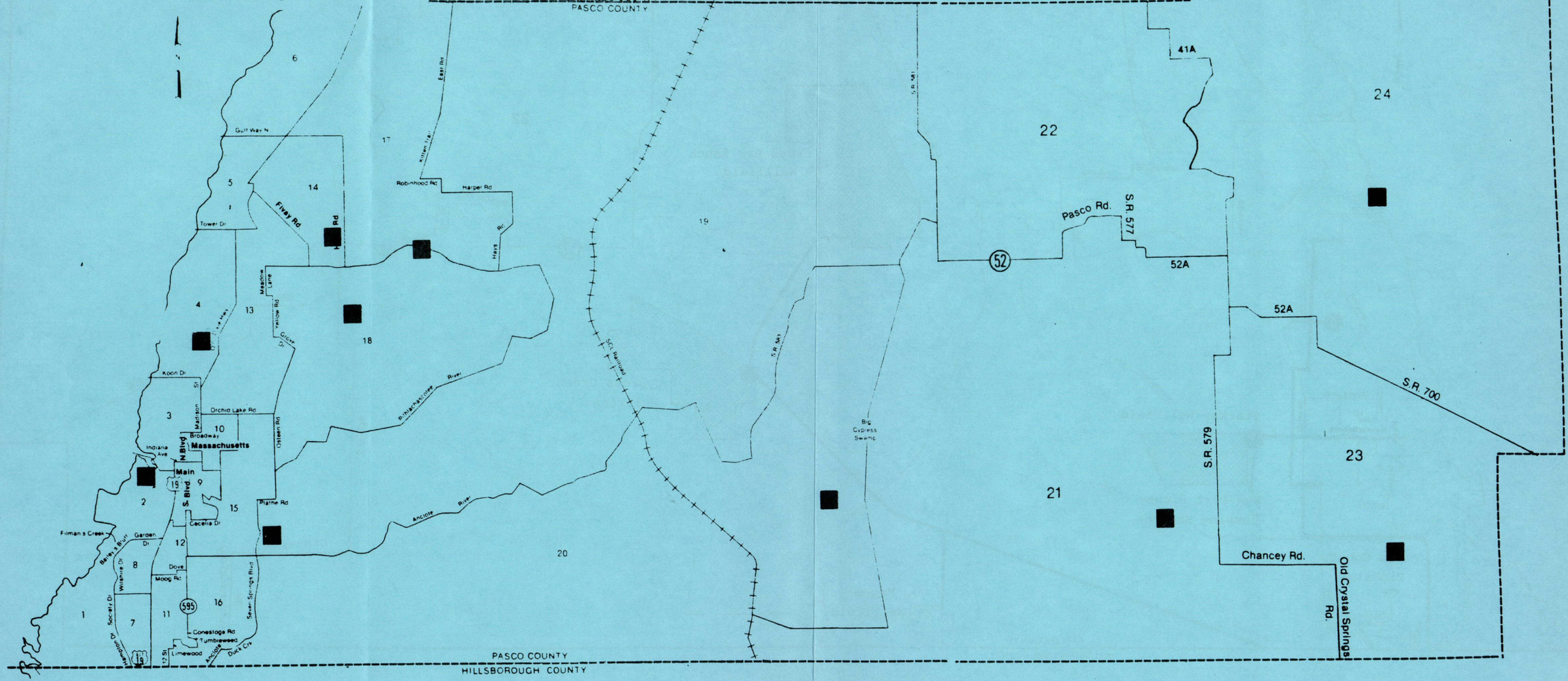
LEGEND

- Transmission line
- Wellfield
- Pumping Station

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-6
SCENARIO B = ZONES 1-9
SCENARIO C = ZONES 1-10
SCENARIO D = ZONES 1-14
SCENARIO E = ZONES 1-16

POTENTIAL HURRICANE WASTE WATER TREATMENT
FACILITIES SERVICE DISRUPTION
Pasco County



LEGEND

■ - - - - Regional WWTP

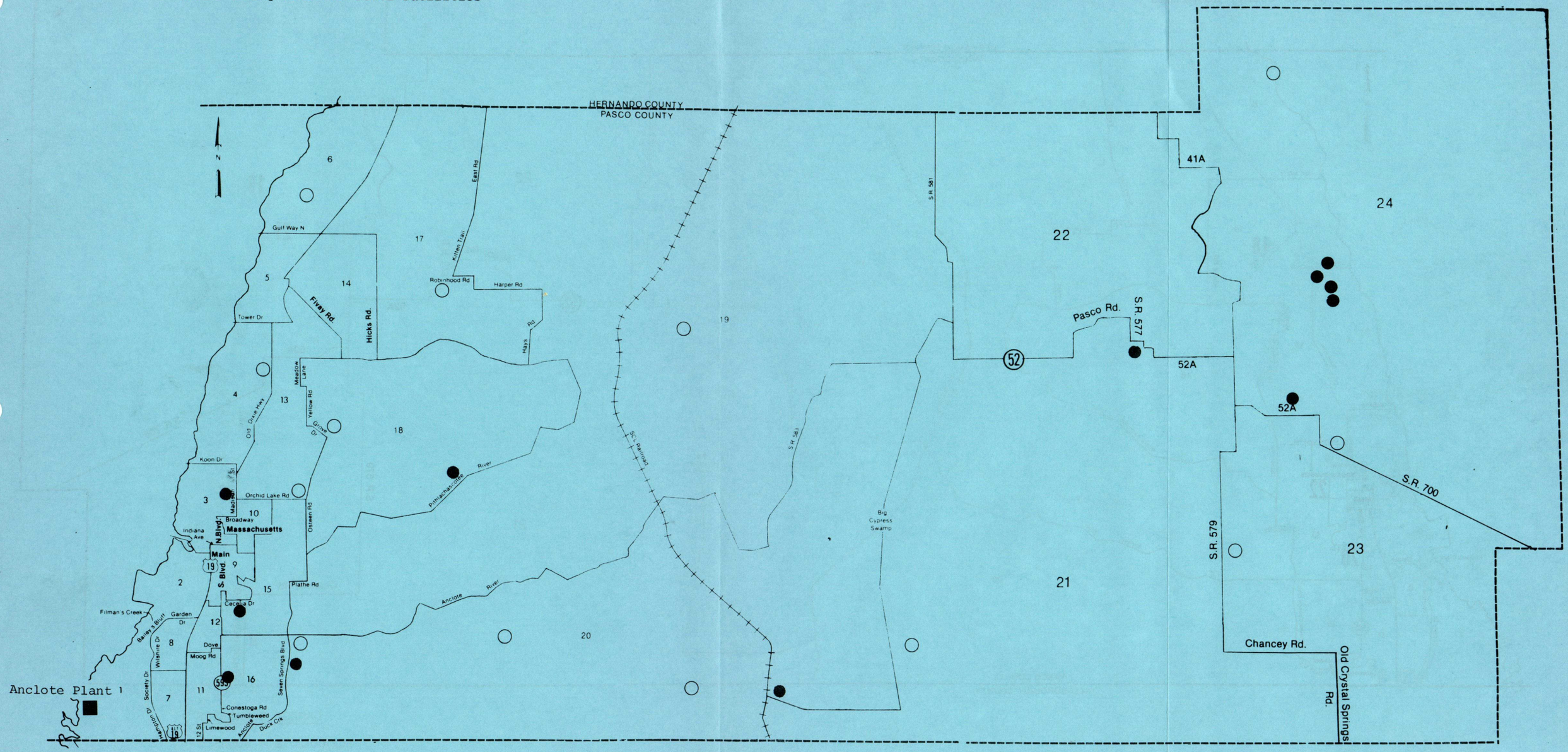
Source: TBRPC, 1982

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-6
SCENARIO B = ZONES 1-9
SCENARIO C = ZONES 1-10
SCENARIO D = ZONES 1-14
SCENARIO E = ZONES 1-16

POTENTIAL HURRICANE ELECTRICITY FACILITIES
SERVICE DISRUPTION

Pasco County Electric Power Facilities



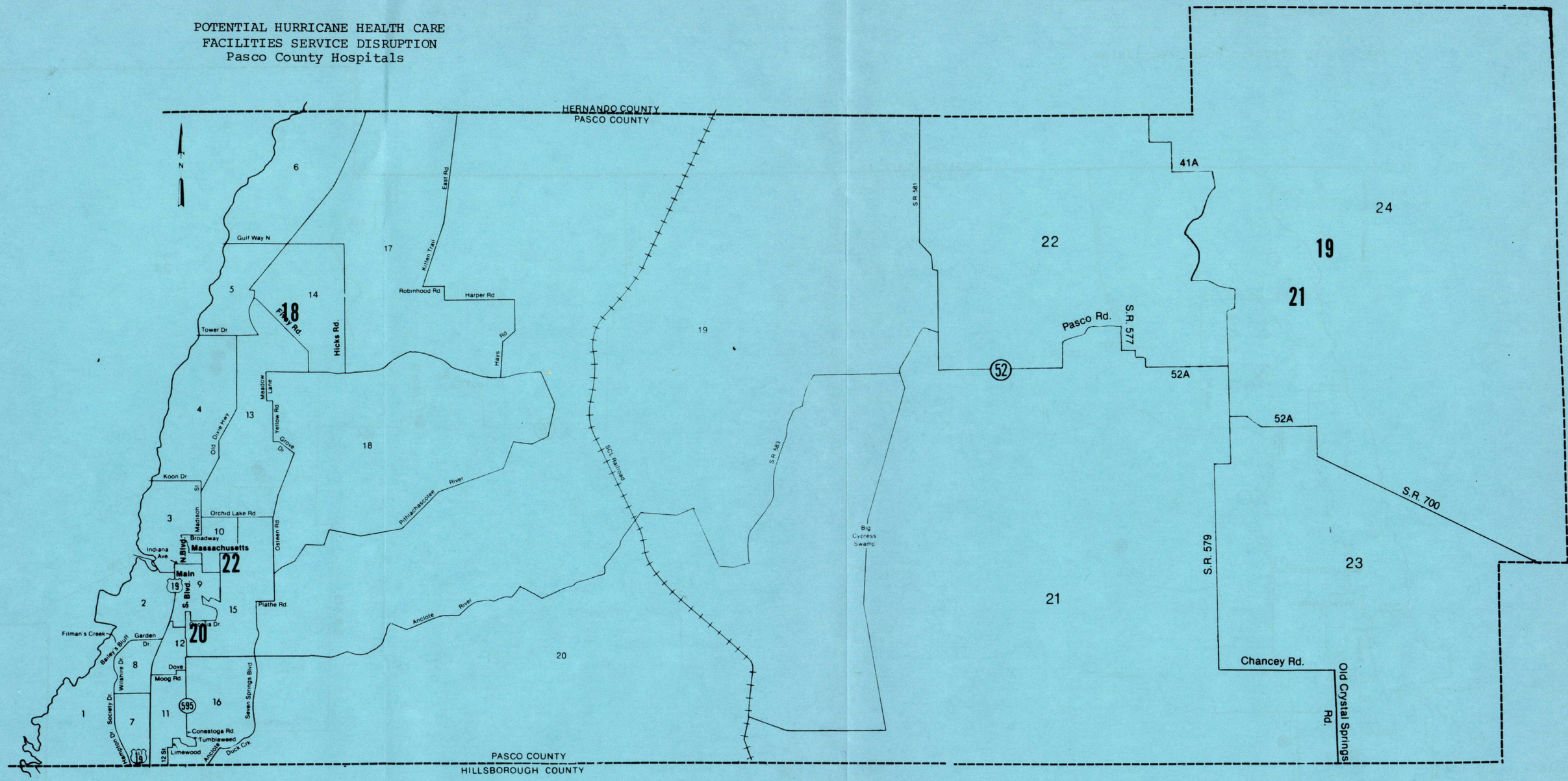
LEGEND

- Power Plant
- Substation (FP)
- Substation (Withlacooche Electric)

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-6
SCENARIO B = ZONES 1-9
SCENARIO C = ZONES 1-10
SCENARIO D = ZONES 1-14
SCENARIO E = ZONES 1-16

POTENTIAL HURRICANE HEALTH CARE FACILITIES SERVICE DISRUPTION
Pasco County Hospitals



18. Bayonet Point Medical Center
19. Community General Hospital
20. Community Hospital of New Port Richey
21. Jackson Memorial Hospital
22. West Pasco Hospital

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-6
SCENARIO B = ZONES 1-9
SCENARIO C = ZONES 1-10
SCENARIO D = ZONES 1-14
SCENARIO E = ZONES 1-16

APPENDIX I

PUBLIC FACILITIES VULNERABILITY INVENTORY

PINELLAS COUNTY

APPENDIX I

PUBLIC FACILITIES VULNERABILITY INVENTORY:
PINELLAS COUNTY

POTABLE WATER FACILITIES

SCENARIO	LOSS ZONE	FACILITY	CAPACITY PUMPING/TREATMENT	STORAGE CAPACITY
A	1	Gulf Beach Pumping Station (PCWS)	2 MGD	2 MG
	3	Capri Isle Pumping Station (PCWS)	8 MGD	5 MG
	15	Gulf to BayBooster Station (SPWS)	(64 MGD)	
	15	(No. 2) Elevated Storage (CWS)		1 MG
B	32	(No. 1) Dunedin Elevated Storage		1 MG
C	38	Oberly Pumping Station (SPWS)	48 MGD	24 MG
D				
E				
WIND LOSS	58	Oakhurst Pumping Station (PCWS)	5.7 MGD	3 MG
	59	Logan Pumping Station (PCWS)	13.4 MGD	70 MG
	60	Belleair Water Treatment Plant	3 MGD	
	60	Belleair Elevated Storage		350,000 g
	60	Belleair Ground Storage		300,000 g
	61	(No. 3) Clearwater Ground Storage		
	61	(No. 4) Clearwater Ground Storage		5 MG
	61	(No. 1) Clearwater Elevated Storage		1 MG
	62	North Booster Station (PCWS)	70 MGD	20 MG
	62	(No. 1) Clearwater Ground Storage		5 MG
	62	(No. 2) Clearwater Ground Storage		5 MG
	62	(No. 3) Clearwater Elevated Storage		1 M
	62	Dunedin (No. 1) Water Treatment Plant	3,500 GPM	
	62	Dunedin (No. 2) Water Treatment Plant	3,350 GPM	2 MG
	62	Dunedin (No. 2) Elevated Storage		.5 MG
	64	(No. 3) Elevated Tank (SPWS)		500,000 g
	66	(No. 1) Elevated Tank (SPWS)		500,000 g
	66	(No. 2) Elevated Tank (SPWS)		500,000 g
	71	Washington Terrace Pumping Station (SPWS)	44 MGD	13.75 MG
	72	S.K. Keller Water Treatment Plant (PCWS)	75 MGD	

MG - Million Gallons
MGD - Million Gallons a day
GPM - Gallons Per Minute

(CWS) - Clearwater Water System
(PCWS)- Pinellas County Water System
(SPWS)- St. Petersburg Water System

APPENDIX I (cont.)

PUBLIC FACILITIES VULNERABILITY INVENTORY
PINELLAS COUNTY

WASTE-WATER TREATMENT FACILITIES

SCENARIO	Loss Zone	Regional Treatment Plants	Design Capacity MGD	Level of Treatment	Effluent Disposal Method
Scenario A	1	St. Petersburg Southwest	20.0	Secondary	Deep Wells, Spray Irrigation
	12	Oldsmar	1.0	Advanced/ Secondary	Evaporation, Percolation
	15	Clearwater East	5.0	Secondary	Tampa Bay
	18	St. Petersburg N.E.	16.0	Secondary	Spray Irrigation, Deep Wells
	20	Albert Whitted	20.0	Secondary	Surface Water Tampa Bay
Scenario B	33	Tarpon Springs	1.25	Secondary	Anclote River
Scenario C	42	Clearwater-Marshall Street	10.0	AWT for 8 MGD	Stevenson Creek
Scenario D	45	Clearwater-Northeast	8.0	Secondary	Possum Branch Creek
	46	South Cross Bayou	28.5	Secondary	Joe's Creek
	46	Largo	9.0	AWT	Spray Irrigation
Scenario E	50	North Pinellas	3.0	Secondary	Spray Irrigation
Wind Loss	59	McKay Creek	1.5	Secondary	Narrows
	60	Belleair	0.9	AWT	Clearwater Harbor
	62	Dunedin	4.0	Secondary	St. Joseph's Sound
	69	St. Petersburg Northwest	9.0	Secondary	Boca Ciega Bay

PUBLIC FACILITIES VULNERABILITY INVENTORY
PINELLAS COUNTY

ELECTRIC UTILITY FACILITIES

SCENARIO	Loss Zone	Facility	1983 Replacement Value ($)
Scenario A			
	1	Bayway Substation (FP)	*
	1	Pass-a-Grille Substation (FP)	*
	2	St. Petersburg Beach Substation (FP)	*
	3	Treasure Island Substation (FP)	*
	5	Madeira Substation (FP)	*
	5	Indian Rocks Substation (FP)	*
	12	Higgins Plant (FP)	*
	12	Higgins Substation (FP)	*
	16	Tri City Substation (FP)	*
	17	Bartow Plant (FP)	*
	17	Bartow 240 kv Substation (FP)	*
	17	Bartow 120 kv Substation (FP)	*
	18	Pilsbury Substation (FP)	*
	19	Bayboro Substation (FP)	*
Scenario B			
	23	Pasadena Substation (FP)	*
	24	Bay Pines Substation (FP)	*
	32	Palm Harbor Substation (FP)	*
Scenario C			
	36	Northeast Substation (FP)	*
	38	Cross Bayou Substation (FP)	*
	38	Starkey Road Substation (FP)	*
Scenario D			
	44	Tarpon Springs Substation (FP)	*
	46	Honeywell Reg. Substation (FP)	*
	46	Minneapolis Honeywell Substation (FP)	*
	46	Minneapolis Honeywell #4 Substation (FP)	*
	46	Ulmerton 120 kv Station (FP)	*
	46	Ulmerton 240 kv Station (FP)	*
Scenario E			
	54	G.E. Pinellas Substation (FP)	*
	54	Largo 69 kv Substation (FP)	*
	54	Largo 240 kv Substation (FP)	*
Wind Loss			
	58	Seminole Substation (FP)	*
	58	Oakhurst Substation (FP)	*
	59	Walsingham Substation (FP)	*
	60	Taylor Avenue Substation (FP)	*
	60	Belleair Substation (FP)	*
	61	Bayview Substation (FP)	*

PUBLIC FACILITIES VULNERABILITY INVENTORY
PINELLAS COUNTY

ELECTRIC UTILITY FACILITIES (cont.)

SCENARIO	Loss Zone	Facility	1983 Replacement Value ($)
Wind Loss (Continued)			
	61	Clearwater Substation (FP)	*
	62	Safety Harbor Substation (FP)	*
	62	Dunedin Substation (FP)	*
	62	Dunedin Citrus Substation (FP)	*
	62	East Clearwater Substation (FP)	*
	62	Highlands Substation (FP)	*
	63	Curlew Substation (FP)	*
	63	Alderman Substation (FP)	*
	64	Maximo Substation (FP)	*
	65	Sixteenth Street Substation (FP)	*
	65	Vinoy Substation (FP)	*
	68	Central Plaza Substation (FP)	*
	68	Fifty-first Street Substation (FP)	*
	69	Crossroads Substation (FP)	*
	69	Fortieth Street Substation (FP)	*
	70	Disston Substation (FP)	*
	72	Lake Tarpon Substation (FP)	*
	72	Pinellas Wellfield Substation (FP)	*
	72	Sperry Rand Substation (FP)	*
	72	Oldsmar Substation (FP)	*
	72	Race Track Substation (TECO)	**
	72	Double Branch Substation (TECO)	**

(FP) Florida Power Corporation
(TECO) Tampa Electric Corporation

*Florida Power Corporation estimates the average 1983 replacement cost per substation at $74,578,000. The average replacement cost per power plant is estimated at $211,296,667.

**Tampa Electric Company estimates the average 1983 replacement cost per substation at $2,000,000.

APPENDIX I (cont.)

PUBLIC FACILITIES VULNERABILITY INVENTORY
PINELLAS COUNTY

HOSPITALS

SCENARIO	Map No.	Loss Zone	Facility Name/Address	No. of Beds
Scenario A				
	37	2	Palms of Pasadena Hospital 1501 Pasadena Avenue South St. Petersburg, Florida 33707	310
	24	11	Anclote Manor Hospital 1527 Riverside Drive Tarpon Springs, Florida 33589	99
	25	20	Sun Bay Community Hospital 3030 Sixth Street South St. Petersburg, Florida 33705	200
Scenario B				
	44	24	V.A. Medical Center Bay Pines Boulevard Bay Pines, Florida 33504	673
	36	30	Morton F. Plant Hospital 323 Jeffords Street Clearwater, Florida 33516	745
Scenario C				
	35	38	Metropolitan General Hospital 7950 66th Street North Pinellas Park, Florida 33565	154
	31	40	Lake Seminole Hospital 9675 Seminole Boulevard Seminole, Florida 33542	99
	41	41	Sun Coast Hospital 2025 Indian Rocks Road Largo, Florida 33540	314
	42	43	Tarpon Springs General Hospital 1395 South Pinellas Avenue Tarpon Springs, Florida 33589	126
Scenario D				
	29	46	Horizon Hospital 11300 U.S. 19 North Clearwater, Florida 33518	200

APPENDIX I (cont.)

PUBLIC FACILITIES VULNERABILITY INVENTORY
PINELLAS COUNTY

HOSPITALS (cont.)

SCENARIO	Map No.	Loss Zone	Facility Name/Address	No. of Beds
Wind Loss				
	43	59	University General Hospital of Seminole 10200 Seminole Boulevard Seminole, Florida 33542	140
	33	59	Medfield Center 12891 Seminole Boulevard Largo, Florida 33540	32
	34	60	Medical Center Hospital 201 14th Street S.W. Largo, Florida 33540	246
	27	61	Clearwater Community Hospital 1521 East Druid Road Clearwater, Florida 33516	120
	32	62	Mease Hospital and Clinic 833 Milwaukee Avenue Dunedin, Florida 33528	310
	26	64	Bayfront Medical Center 701 Sixth Street South St. Petersburg, Florida 33701	518
	23	64	All Children's Hospital 801 Sixth Street, South St. Petersburg, Florida	113
	40	65	St. Petersburg Osteopathic Hosp. 401 15th Street North St. Petersburg, Florida 33705	145
	38	66	St. Anthony's Hospital 601 12th Street North St. Petersburg, Florida 33705	434
	28	69	Edward H. White Memorial Hosp. 2323 9th Avenue North St. Petersburg, Florida 33713	167
	39	70	St. Petersburg General Hospital 6500 38th Avenue North St. Petersburg, Florida 33710	219
	30	70	Gateway Community Hospital 5115 58th Avneue North St. Petersburg, Florida 33709	301

PUBLIC FACILITIES VULNERABILITY INVENTORY:
PINELLAS COUNTY

NURSING HOMES

SCENARIO	Map No.	Loss Zone	Facility Name/Address	No. of Beds
Scenario A				
	58	1	Whitehall of St. Petersburg, Inc. 5601 31st Street S. St. Petersburg, FL 33712	52
	5	2	Beach Convalescent Hotel 8008 Blind Pass Road St. Petersburg Beach, FL 33706	38
	15	2	Crown Nursing Home 5351 Gulf Boulevard St. Petersburg Beach, FL 33706	50
	16	2	Deluxe Care Inn 1820 Shore Drive S. Pasadena, Florida 33707	58
	30	2	Majestic Towers 1255 Pasadena Avenue S. South Pasadena, Florida 337	59
	40	2	Palm Shores Retirement Center 830 N. Shore Drive St. Petersburg, Florida 33701	36
	31	17	Maria Manor Health Care 10300 Fourth Street N. St. Petersburg, Florida 33702	274
	32	18	Masonic Home of Florida 125 32nd Avenue N.E. St. Petersburg, Florida 33704	85
	43	18	Pasadena Manor 248 Catalan Boulevard N.E. St. Petersburg, Florida 33704	126
	47	18	Shore Acres Nursing & Convalescent Home 4500 Indianapolis Street N.E. St. Petersburg, Florida 33703	109

PUBLIC FACILITIES VULNERABILITY INVENTORY:
PINELLAS COUNTY

NURSING HOMES (cont.)

SCENARIO	Map No.	Loss Zone	Facility	No. of Beds
Scenario A (Continued)	48	20	AMNC/South Heritage 718 Lakeview Avenue S. St. Petersburg, Florida 33705	75
	4	20	Bayou Manor 435 42nd Avenue S. St. Petersburg, Florida 33705	159
	50	21	Suncoast Manor Health Center 6909 Ninth Street S. St. Petersburg, Florida 33705	161
	24	21	Sunny Shores Villas (Methodist Home, Inc.) 125 56th Avenue S. St. Petersburg, Florida 33705	108
Scenario B	57	30	Morton Plant Rehab. & Nursing Center 1251 Sheridan Avenue Clearwater, Florida 33516	126
	36	30	Oak Bluffs Retirement Center 420 Bay Avenue Clearwater, Florida 33516	60
	37	30	Oak Cove Retirement Center 210 S. Osceola Avenue Clearwater, Florida 33516	56
	39	30	Osceola Inn 221 N. Osceola Clearwater, Florida 33515	13
	53	33	Tarpon Springs Convalescent Center 515 Chesapeake Drive Tarpon Springs, Florida 33589	120
Scenario C	1	36	The Abbey 855 71st Avenue N. St. Petersburg, Florida 33702	152
	26	36	The Huber Restorium 521 69th Avenue N. St. Petersburg, Florida 33702	96

PUBLIC FACILITIES VULNERABILITY INVENTORY:
PINELLAS COUNTY

NURSING HOMES (cont.)

SCENARIO	Map No.	Loss Zone	Facility	No. of Beds
Scenario C (Continued)				
	27	36	Jaylene Manor Nursing Home 896 73rd Avenue N. St. Petersburg, Florida 33702	63
	33	38	Morningside Sanitorium (Christian Science) 6770 102nd Avenue N. Pinellas Park, Florida 33565	67
	42	38	Parkway Nursing Home 7575 65th Way N. Pinellas Park, Florida	55
	52	43	Tarpon Health Care Center 501 S. Walton Avenue Tarpon Springs, Florida 33589	120
Scenario D				
	8	44	Baytree Nursing Center 2600 Highlands Boulevard N. Palm Harbor, Florida	120
	19	46	Geri-Care Nursing Center 4250 66th St. N. St. Petersburg, Florida 33709	299
	54	46	Tierra Pines Convalescent Center 7265 Ulmerton Road Largo, Florida 33541	120
Scenario E				
	3	56	AMNC/Alpine 3456 21st Avenue S. St. Petersburg, Florida 33711	56
Wind Loss				
	60	59	Wright's Nursing Home 11300 110th Avenue N. Largo, Florida 33540	56
	9	60	Belleaire East Health Center 1150 Ponce De Leon Boulevard Clearwater, Florida 33516	120
	38	60	Oak Manor Nursing Center 3500 Oak Manor Lane Largo, Florida 33540	180

PUBLIC FACILITIES VULNERABILITY INVENTORY:
PINELLAS COUNTY

NURSING HOMES (cont.)

SCENARIO	Map No.	Loss Zone	Facility	No. of Beds
Wind Loss (Continued)	7	61	Bruce Manor Nursing Home 1100 Pine Street Clearwater, Florida	76
	10	61	Clearwater Convalescent Center 1270 Turner Street Clearwater, Florida 33516	120
	17	61	Druid Hills Nursing Home 905 S. Highland Clearwater, Florida	94
	25	61	Highland Pines Nursing Manor 111 S. Highland Avenue Clearwater, Florida 33516	120
	46	61	Sunset Point Nursing Center 1980 Sunset Pt. Rd. Clearwater, Florida 33515	120
	18	62	Dunedin Care Center, Inc. 1351 San Christopher Drive Dunedin, Florida 33528	103
	49	62	Spanish Gardens Nursing Home 1061 Virginia Street Dunedin, Florida	93
	45	63	St. Mark Village 2655 Nebraska Avenue S.R. 584A Palm Harbor, Florida 33563	60
	6	64	Beverly Manor 550 Ninth Avenue S. St. Petersburg, Florida 33701	262
	12	64	Colonial Manor Nursing Home 1735 Ninth Street S. St. Petersburg, Florida 33705	272
	28	64	Lakeview Manor Nursing Home 815 Seventh Avenue S. St. Petersburg, Florida 33701	39
	41	64	Palms Nursing Center 2000 17th Avenue S. St. Petersburg, Florida 33712	59

PUBLIC FACILITIES VULNERABILITY INVENTORY:
PINELLAS COUNTY

NURSING HOMES (cont.)

SCENARIO	Map No.	Loss Zone	Facility	No. of Beds
Wind Loss (Continued)	29	65	Leisure Manor 336 Fourth Avenue N. St. Petersburg, Florida 33701	24
	59	65	William & Mary Nursing Home 811 Jackson Street N. St. Petersburg, Florida 33705	66
	35	66	AMNC/North Horizon 1301 16th Street N. St. Petersburg, Florida 33705	50
	13	66	Concordia Manor 321 13th Avenue N. St. Petersburg, Florida 33701	30
	34	66	New Fern Restorium 859 Tenth Avenue N. St. Petersburg, Florida 33701	116
	14	68	Convalescent Care Center 550 62nd Street S. St. Petersburg, Florida 33707	120
	23	68	Gulfport Convalescent Center 1414 59th Street S. Gulfport, Florida 33707	120
	51	68	Swanholm Nursing Hotel 6200 Central Avenue St. Petersburg, Florida 33707	273
	56	68	Victoria Martin Nursing Home 555 31st Street S. St. Petersburg, Florida 33712	38
	22	69	AMNC/Greenbrook 1000 24th Street N. St. Petersburg, Florida 33713	120
	20	69	Golfview Nursing Home 3636 Tenth Avenue N. St. Petersburg, Florida 33713	56
	55	69	Tyrone Medical Inn 1100 66th Street N. St. Petersburg, Florida 33710	59
	2	70	Alhambra, Inc. 7501 38th Avenue N. St. Petersburg, Florida 33710	60

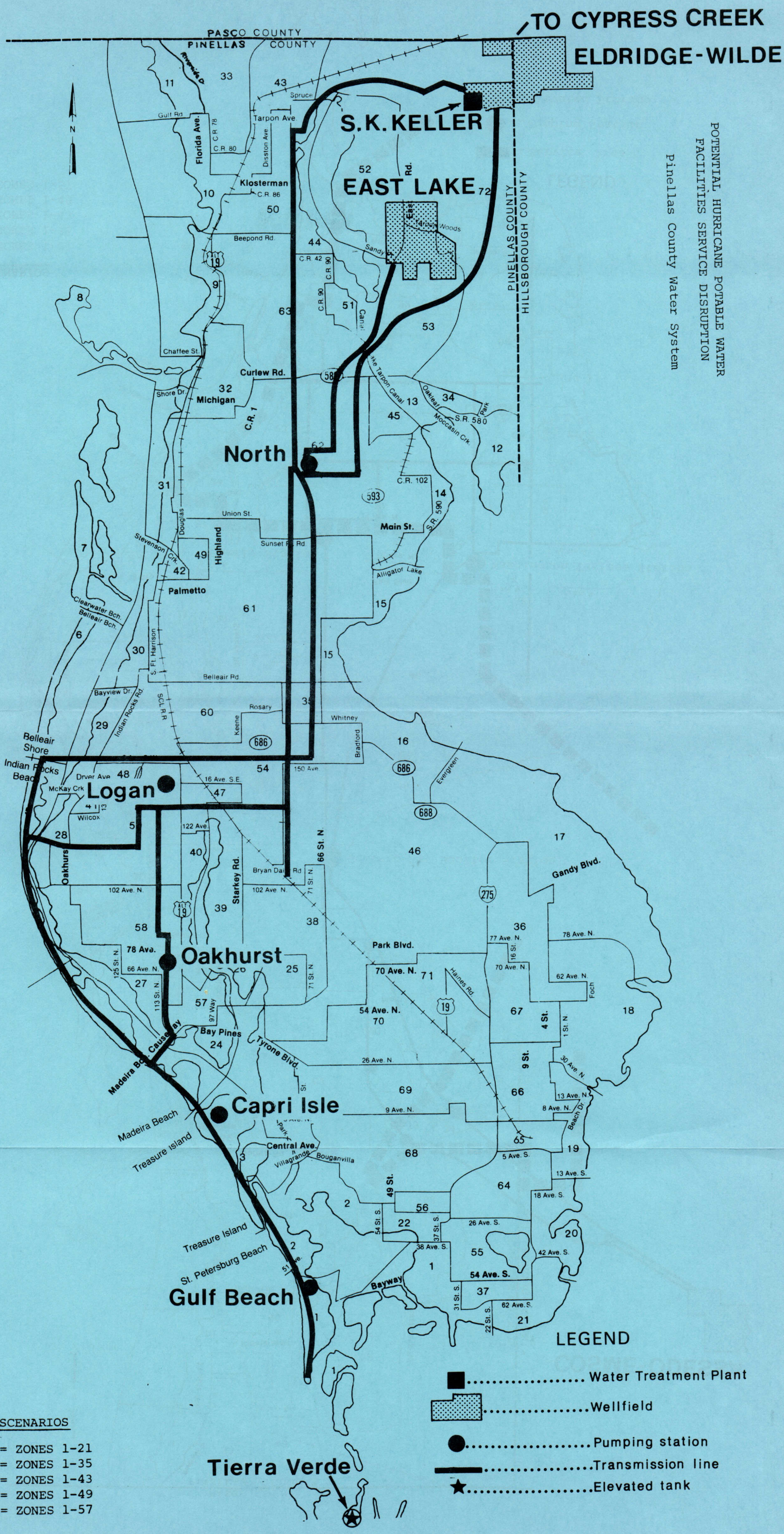
PUBLIC FACILITIES VULNERABILITY INVENTORY
PINELLAS COUNTY

NURSING HOMES (cont.)

SCENARIO	Map No.	Loss Zone	Facility	No. of Beds
Wind Loss (Continued)	11	70	AMNC/Colonial 6300 46th Avenue N. St. Petersburg, Florida 33714	102
	21	70	Good Samaritan Nursing Home 3127 57th Avnue N. St. Petersburg, Florida 33714	60
	44	71	Rosedale Manor 3479 54th Avenue N. St. Petersburg, Florida 33714	192

POTENTIAL HURRICANE POTABLE WATER FACILITIES SERVICE DISRUPTION

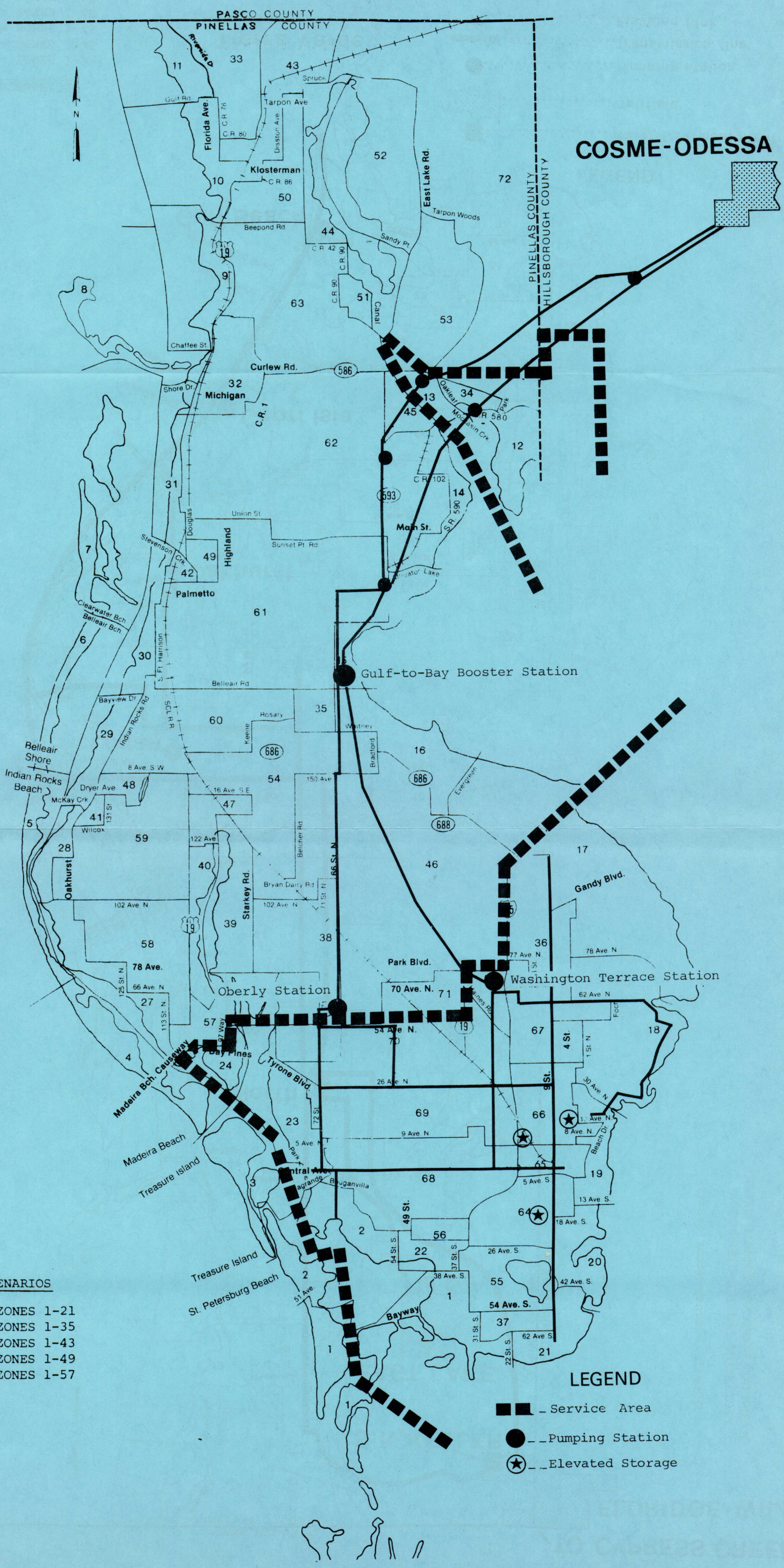
Pinellas County Water System



DAMAGE SCENARIOS

SCENARIO A = ZONES 1-21
SCENARIO B = ZONES 1-35
SCENARIO C = ZONES 1-43
SCENARIO D = ZONES 1-49
SCENARIO E = ZONES 1-57

POTENTIAL HURRICANE POTABLE WATER
FACILITIES SERVICE DISRUPTION
City of St. Petersburg



DAMAGE SCENARIOS

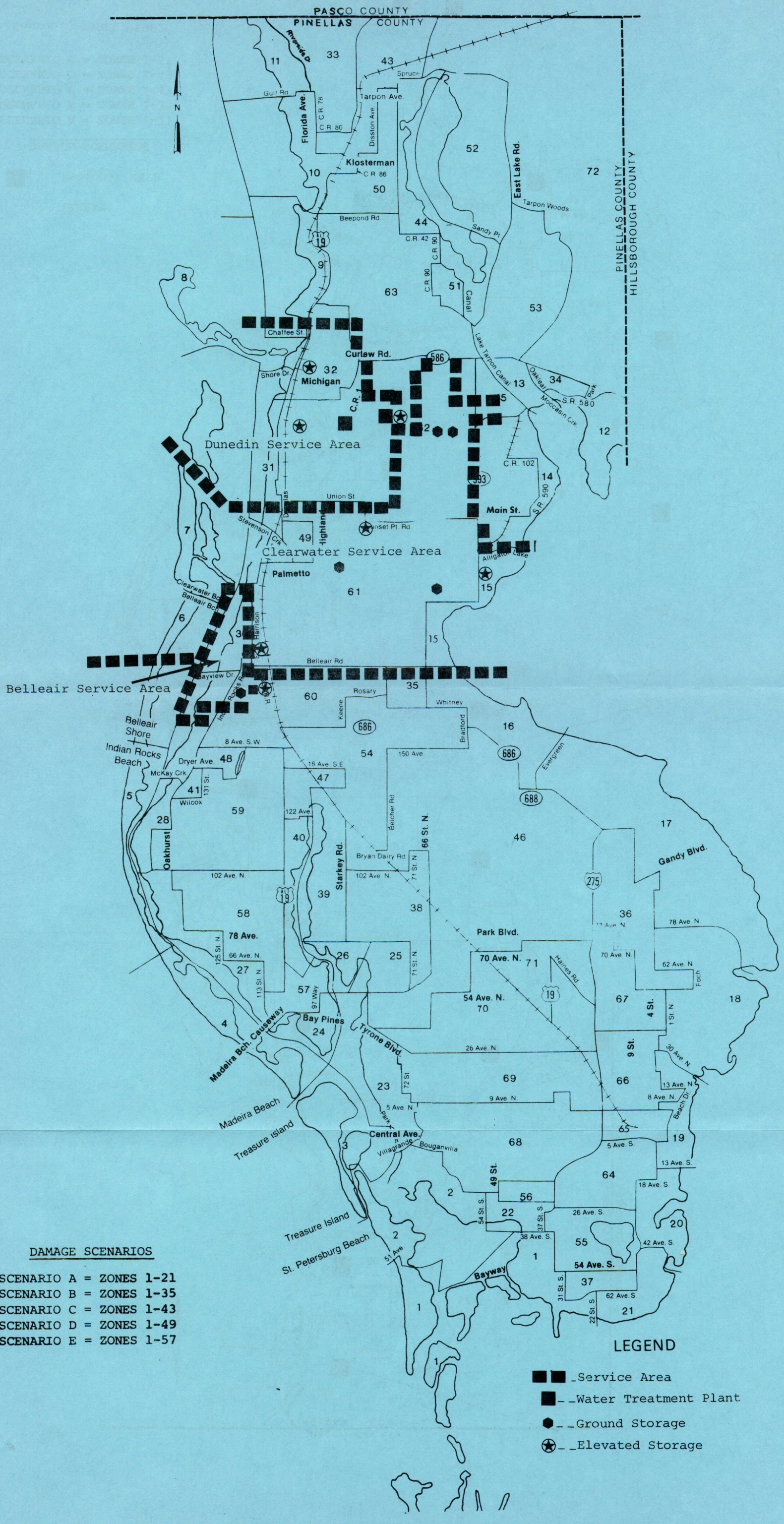
SCENARIO A = ZONES 1-21
SCENARIO B = ZONES 1-35
SCENARIO C = ZONES 1-43
SCENARIO D = ZONES 1-49
SCENARIO E = ZONES 1-57

LEGEND

- Service Area
- Pumping Station
- Elevated Storage

POTENTIAL HURRICANE POTABLE WATER FACILITIES SERVICE DISRUPTION

Pinellas County Municipalities



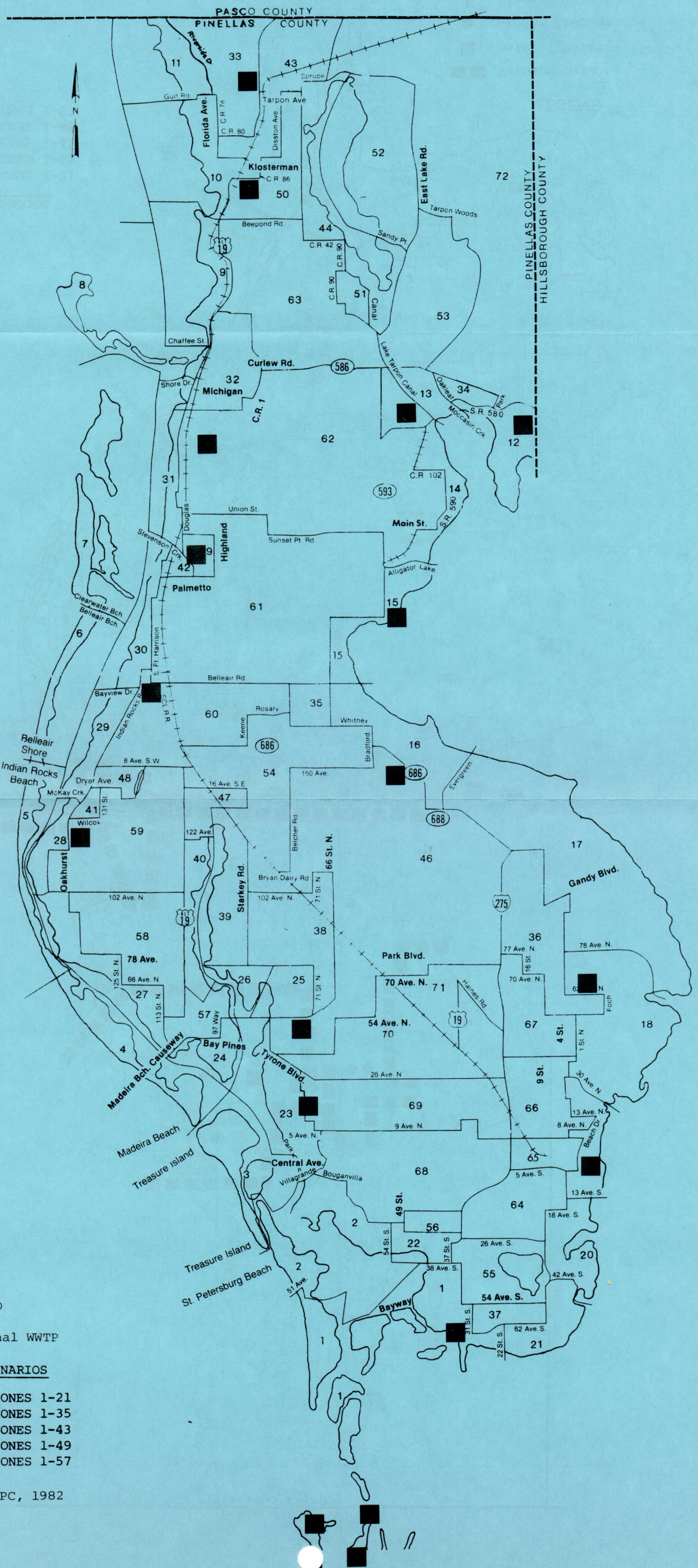
DAMAGE SCENARIOS

SCENARIO A = ZONES 1-21
SCENARIO B = ZONES 1-35
SCENARIO C = ZONES 1-43
SCENARIO D = ZONES 1-49
SCENARIO E = ZONES 1-57

LEGEND

- Service Area
- Water Treatment Plant
- Ground Storage
- Elevated Storage

POTENTIAL HURRICANE WASTE WATER TREATMENT
FACILITIES SERVICE DISRUPTION
Pinellas County



LEGEND

■ _ _ _Regional WWTP

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-21
SCENARIO B = ZONES 1-35
SCENARIO C = ZONES 1-43
SCENARIO D = ZONES 1-49
SCENARIO E = ZONES 1-57

Source: TBRPC, 1982

POTENTIAL HURRICANE ELECTRICITY FACILITIES
SERVICE DISRUPTION

Pinellas County Electric Power Facilities

PASCO COUNTY
PINELLAS COUNTY
HILLSBOROUGH COUNTY
PINELLAS COUNTY

Higgins Plant
Bartow Plant

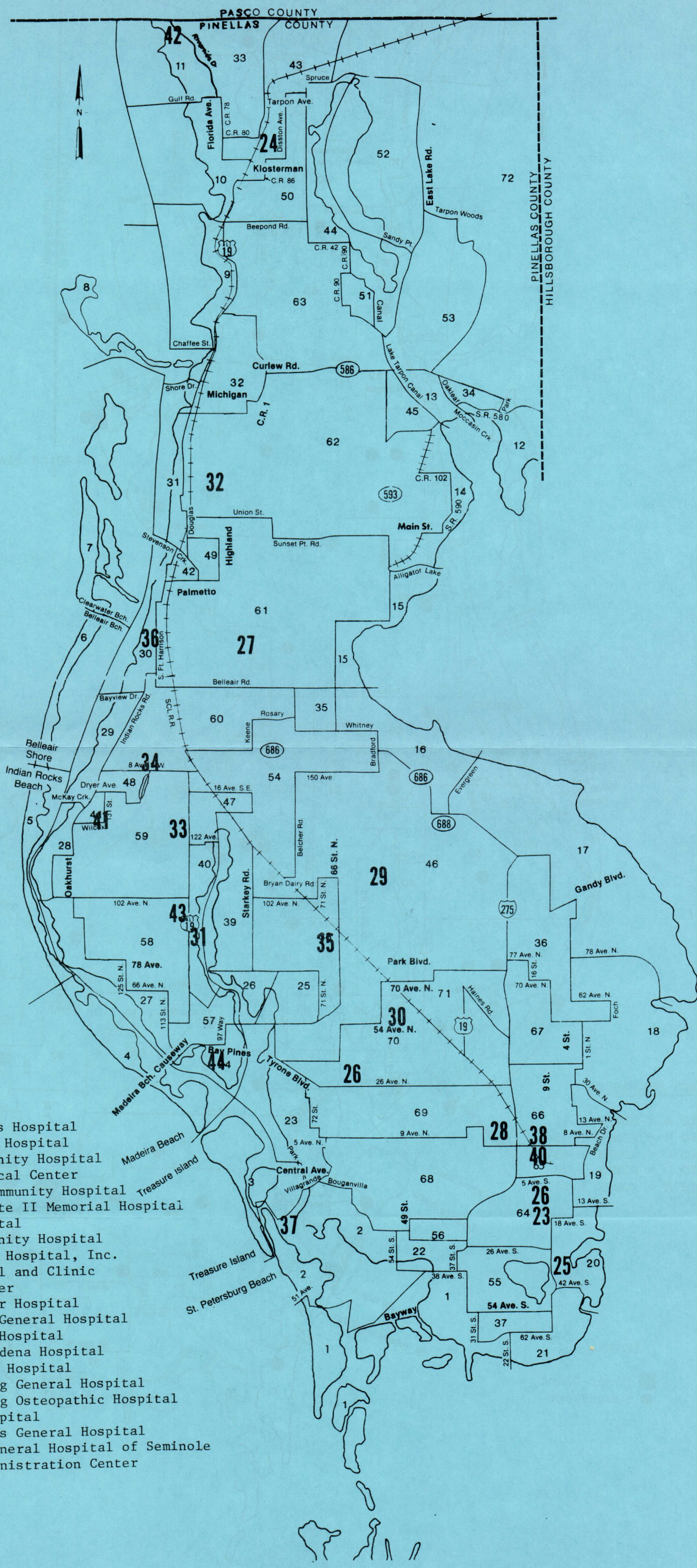
DAMAGE SCENARIOS

SCENARIO A = ZONES 1-21
SCENARIO B = ZONES 1-35
SCENARIO C = ZONES 1-43
SCENARIO D = ZONES 1-49
SCENARIO E = ZONES 1-57

LEGEND

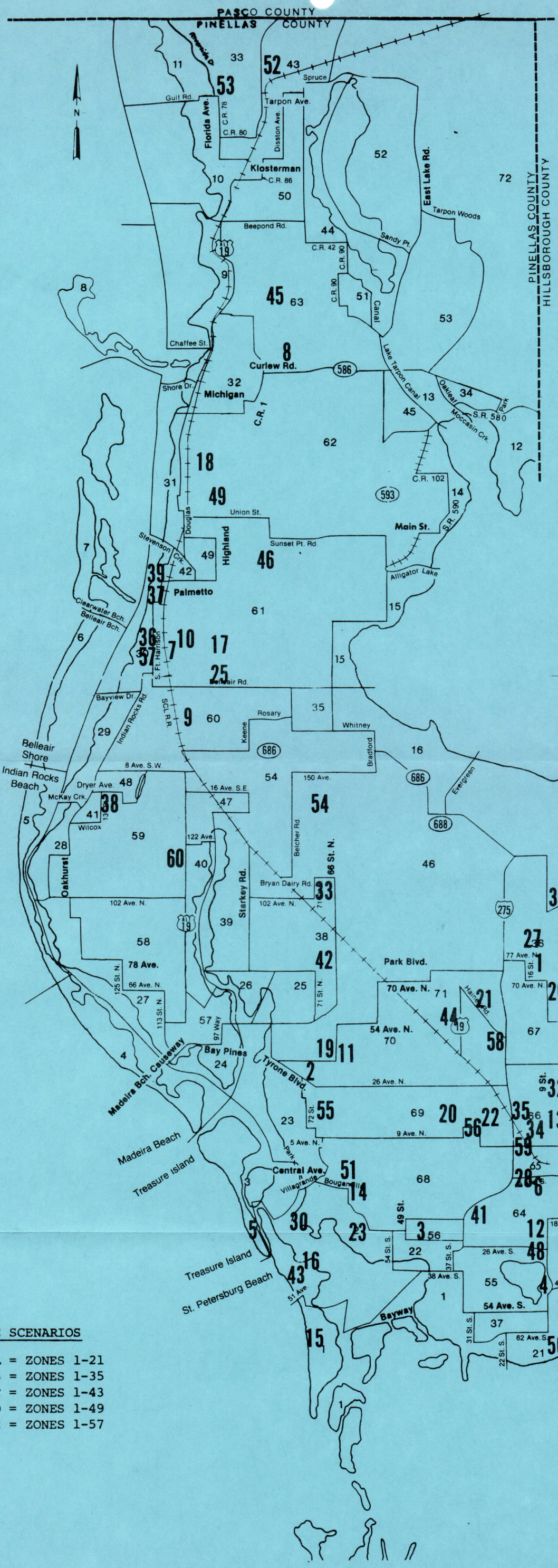
Power Plant
Substation

POTENTIAL HURRICANE HEALTH CARE
FACILITIES SERVICE DISRUPTION
Pinellas County Hospitals



23. All Children's Hospital
24. Anclote Manor Hospital
25. Sun Bay Community Hospital
26. Bayfront Medical Center
27. Clearwater Community Hospital
28. Edward H. White II Memorial Hospital
29. Horizon Hospital
30. Gateway Community Hospital
31. Lake Seminole Hospital, Inc.
32. Mease Hospital and Clinic
33. Medfield Center
34. Medical Center Hospital
35. Metropolitan General Hospital
36. Morton Plant Hospital
37. Palms of Pasadena Hospital
38. St. Anthony's Hospital
39. St. Petersburg General Hospital
40. St. Petersburg Osteopathic Hospital
41. Sun Coast Hospital
42. Tarpon Springs General Hospital
43. University General Hospital of Seminole
44. Veterans Administration Center

POTENTIAL HURRICANE HEALTH CARE
FACILITIES SERVICE DISRUPTION
Pinellas County Nursing Homes



1. THE ABBEY
2. THE ALHAMBRA NURSING CENTER
3. AMNC-ALPINE
4. BAYOU MANOR, INC.
5. BEACH CONVALESCENT HOTEL
6. BEVERLY MANOR CONVALESCENT CENTER
7. BRUCE MANOR
8. BAYTREE NURSING CENTER
9. BELLEAIR NURSING CENTER
10. CLEARWATER CONVALESCENT CENTER
11. AMNC-COLONIAL
12. COLONIAL MANOR
13. CONCORDIA MANOR
14. CONVALESCENT CARE CENTER
15. CROWN NURSING CENTER
16. DELUXE CARE INN
17. DRUID HILLS NURSING HOME
18. DUNEDIN CARE CENTER
19. GERI-CARE NURSING CENTER
20. GOLFVIEW NURSING CENTER
21. GOOD SAMARITAN NURSING HOME
22. GREENBROOK NURSING CENTER
23. GULFPORT CONVALESCENT CENTER
24. SUNNY SHORES VILLAS
25. HIGHLAND PINES NURSING MANOR
26. HUBER RESTORIUM
27. JAYLENE MANOR NURSING HOME
28. LAKEVIEW MANOR NURSING HOME
29. LEISURE MANOR
30. MAJESTIC TOWERS HEALTH CENTER
31. MARIA MANOR HEALTH CARE
32. MASONIC HOME OF FLORIDA
33. MORNINGSIDE, INC.
34. NEW FERN RESTORIUM
35. NORTH HORIZON CONVALARIUM
36. OAK BLUFFS NURSING CENTER
37. OAK COVE RETIREMENT HOTEL
38. OAK MANOR NURSING CENTER
39. OSCEOLA INN
40. PALM SHORES RETIREMENT HOTEL
41. PALMS NURSING HOME
42. PARKWAY NURSING HOME
43. PASADENA MANOR
44. ROSEDALE RESTORIUM
45. ST. MARK VILLAGE
46. SUNSET POINT NURSING CENTER
47. SHORE ACRES NURSING & CONV. HOME
48. SOUTH HERITAGE CONVALARIUM
49. SPANISH GARDENS NURSING HOME
50. SUNCOAST MANOR
51. SWANHOLM NURSING HOTEL
52. TARPON HEALTH CARE CENTER
53. TARPON SPRINGS CONV. CENTER
54. TIERRA PINES NURSING CENTER
55. TYRONE MEDICAL INN
56. VICTORIA MARTIN NURSING HOME
57. MORTON PLANT REHAB. & NURSING CENTER
58. WHITEHALL OF ST. PETERSBURG
59. WILLIAM AND MARY NURSING HOTEL
60. WRIGHT'S NURSING HOME

DAMAGE SCENARIOS

SCENARIO A = ZONES 1-21
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SCENARIO C = ZONES 1-43
SCENARIO D = ZONES 1-49
SCENARIO E = ZONES 1-57

APPENDIX J

TRANSPORTATION NETWORK HURRICANE VULNERABILITY INVENTORY:

ROADWAY/BRIDGE POTENTIAL LOSS

APPENDIX J

ROADWAY/BRIDGE VULNERABILITY

Hurricane Loss Zone	Arterial/Expressway Major Collector	Approximate Distance (Miles)	Lane Arrangement	Approximate Reconstruction Cost ($ per system mile)	Potential Loss ($)
HILLSBOROUGH COUNTY					
1	SR 580	7.0	2 Lane	436,000	3,052,000
	CR 576	2.5	4 Lane Divided	1,258,000	3,145,000
	SR 589	1.0	6 Lane	2,909,000	2,909,000
	SR 60	.5	4 Lane Divided	1,258,000	629,000
	Courtney Campbell Approach	3.75	4 Lane Undivided	872,000	3,270,000
2	I-275-Howard Frankland Bridge Approach	2.0	4 Lane	1,258,000	2,516,000
	SR 60	1.0	6 Lane	2,909,000	2,909,000
3	CR 587 (Westshore Blvd.)	.75	4 Lane Divided	1,258,000	943,500
		1.0	2 Lane	436,000	436,000
4	CR 587 (Westshore Blvd.)	4.25	2 Lane	436,000	1,853,000
	US 92/Gandy Blvd.	1.0	4 Lane Undivided	872,000	872,000
	Gandy Bridge Approach	.75	4 Lane Divided	1,258,000	943,500
6	Bayshore Blvd.	2.0	2 Lane	436,000	872,000
7	Bayshore Blvd.	1.4	4 Lane Divided	1,258,000	1,761,200
	SR 449-Crosstown Expressway	1.5	4 Lane Express	1,258,000	1,887,000
8	SR 449-Crosstown Expressway	1.0	4 Lane Express	1,258,000	1,258,000
	Bayshore Blvd.	.5	4 Lane Divided	1,258,000	629,000
	Bayshore Blvd.	1.25	6 Lane	2,908,000	3,635,000
9	Davis Island Bridges	.75	3 Lane-1 Way	$33 sq. ft.	8,886,240
	Davis Island Blvd.	1.5	4 Lane	872,000	1,308,000

APPENDIX J (Continued)

Hurricane Loss Zone	Arterial/Expressway Major Collector	Approximate Distance (Miles)	Lane Arrangement	Approximate Reconstruction Cost ($ per system mile)	Potential Loss ($)
HILLSBOROUGH COUNTY (Continued)					
11	SR 45/22nd St.	1.0	2 Lane	436,000	436,000
	22nd St. Causeway	.5	4 Lane Divided	$33.sq. ft.	7,318,080
	Maritime Blvd.	2.0	2 Lane	436,000	872,000
12	SR 60 (Adamo Dr.)	1.5	4 Lane Divided	1,258,000	1,887,000
	SR 45/US 41	.15	4 Lane Divided	1,258,000	188,700
	Palm River Bridge	.2	4 Lane Divided	$33. sq.ft.	2,927,232
13	SR 45/US 41	1.5	6 Lane	2,909,000	4,363,500
	SR 45 (22nd St.)	1.0	2 Lane	436,000	436,000
14	SR 45/US 41	1.0	6 Lane	2,909,000	2,909,000
15	SR 45/US 41	5.0	4 Lane Divided	1,258,000	6,290,000
16	SR 45/US 41	8.0	4 Lane Divided	1,258,000	10,064,000
	SR 672 (Big Bend)	1.5	2 Lane	436,000	654,000
	Apollo Beach Blvd.	2.5	2 Lane	436,000	1,090,000
17	SR 45/US 41	9.0	4 Lane Divided	1,258,000	101,898,000
	19th Ave. N.W.	2.0	2 Lane	436,000	872,000
	Shell Point Rd.	2.25	2 Lane	436,000	981,000
19	Platt St. Bridge	.20	4 Lane	$33.sq. ft.	2,927,232
	Crosstown Expressway	.20	4 Lane Overpass	$47.sq. ft.	4,169,088
	Brorein Bridge	.20	4 Lane	$33.sq. ft.	2,927,232
	Kennedy Bridge	.25	4 Lane Divided	$33.sq. ft.	3,659,040
28	Cass St. Bridge	.25	4 Lane Undivided	$33.sq. ft.	3,659,040
41	Constant St. Bridge	.25	4 Lane Undivided	$33.sq. ft.	3,659,040
	I-275 Overpass	.25	8 Lane Overpass	$47.sq. ft.	10,422,720

APPENDIX J (Continued)

Hurricane Loss Zone	Arterial/Expressway Major Collector	Approximate Distance (Miles)	Lane Arrangement	Approximate Reconstruction Cost ($ per system mile)	Potential Loss ($)
MANATEE COUNTY					
1	SR 789	7.5	2 Lane	436,000	3,270,000
	SR 684-Cortez Bridge	.5	2 Lane	$33.sq. ft.	3,659,040
	SR 789-Longboat Pass	.5	2 Lane	$33.sq. ft.	3,659,040
2	SR 789	4.5	2 Lane	436,000	1,962,000
	SR 64-Sarasota Pass	.75	2 Lane	$33.sq. ft.	5,488,560
3	SR 684	2.5	2 Lane	436,000	1,090,000
	SR 684	1.0	4 Lane Divided	1,258,000	1,258,000
4	SR 45/US 41	.5	6 Lane	2,493,000	1,246,500
5	US 41	2.0	6 Lane	2,493,000	4,986,000
6	SR 64	2.5	2 Lane	436,000	1,090,000
	SR 64	.5	4 Lane Divided	1,258,000	629,000
	SR 64-Palma Sola Bridge	.25	2 Lane	$33.sq. ft.	1,829,520
	75th St. W.	2.0	2 Lane	436,000	872,000
7	SR 43	1.5	2 Lane	436,000	654,000
8	US 19	4.0	4 Lane Divided	1,258,000	5,032,000
	Skyway (Approach)	2.0	4 Lane Divided	1,258,000	2,516,000
	SR 683	1.5	2 Lane	436,000	654,000
PASCO COUNTY					
1	SR 595A	4.0	2 Lane	436,000	1,744,000
	Darlington Ave.	.5	2 Lane	436,000	218,000
	Moog Rd.	.5	2 Lane	436,000	218,000
2	US 19	2.25	4 Lane Divided	1,258,000	2,830,500
	SR 518	1.0	2 Lane	436,000	436,000
	SR 595A/Bluff Rd.	1.0	2 Lane	436,000	436,000

Hurricane Loss Zone	Arterial/Expressway Major Collector	Approximate Distance (Miles)	Lane Arrangement	Approximate Reconstruction Cost ($ per system mile)	Potential Loss ($)
PASCO COUNTY (Continued)					
3	Madison Ave.	1.25	2 Lane	436,000	545,000
	US 19	2.25	4 Lane Divided	1,258,000	2,830,500
	Green Key Blvd.	2.5	2 Lane	436,000	1,090,000
	North Blvd.	1.25	2 Lane	436,000	545,000
	Massachusetts Ave.	.25	2 Lane	436,000	109,000
4	US 19	3.25	4 Lane Divided	1,258,000	4,088,500
	Old Dixie Hwy.	1.5	2 Lane	436,000	654,000
5	Gulf Way	1.5	2 Lane	436,000	654,000
	US 19	3.0	4 Lane Divided	1,258,000	3,774,000
	CR 595A/Hudson Ave.	.75	2 Lane	436,000	327,000
6	US 19	3.75	4 Lane Divided	1,258,000	4,717,500
	SR 595	1.75	2 Lane	436,000	763,000
	Old Dixie Hwy.	3.	2 Lane	436,000	1,308,000
PINELLAS COUNTY					
1	SR 699	1.0	4 Lane Divided	1,258,000	1,258,000
		10.5	2 Lane	436,000	4,578,000
	SR 693	.75	4 Lane Divided	1,258,000	943,500
		1.25	6 Lane	2,909,000	3,636,250
		1.5	2 Lane	436,000	654,000
	SR 55/US 19 (Skyway Approach)	1.5	4 Lane Divided	1,258,000	1,887,000
	SR 682 (Bayway)	1.25	6 Lane	2,909,000	3,636,250
	SR 682 (Bayway)	1.0	4 Lane Divided	1,258,000	1,258,000
	(3) Bridges	1.0	2 Lane	$33.sq. ft.	1,258,000
	SR 55/US 19	1.5	6 Lane	2,909,000	4,363,500
	Pinellas Point Dr.	1.0	2 Lane	436,000	436,000
2	SR 699	.75	4 Lane Divided	1,258,000	943,500
		1.5	2 Lane	436,000	654,000
	Blind Pass Bridge	.25	2 Lane	$33.sq. ft.	1,829,520
	SR 693 (Pasadena Ave.)	1.0	6 Lane	2,909,000	2,909,000
	Cory Causeway	1.0	4 Lane	$33.sq. ft.	14,636,160

Hurricane Loss Zone	Arterial/Expressway Major Collector	Approximate Distance (Miles)	Lane Arrangement	Approximate Reconstruction Cost ($ per system mile)	Potential Loss ($)
PINELLAS COUNTY (Continued)					
3	SR 699	2.	4 Lane Undivided	872,000	1,744,000
	Treasure Island Causeway Approaches	1.75	4 Lane Divided	1,258,000	2,201,500
	Treasure Island Bridge	.4	4 Lane Undivided	$33.sq. ft.	5,854,464
4	John's Pass Bridge	.2	4 Lane Divided	$33.sq. ft.	2,927,232
	SR 699	2.25	4 Lane Divided	1,258,000	2,830,500
		1.2	2 Lane	436,000	523,200
	Madeira Bch.Causeway	.4	4 Lane Divided	$33.sq. ft.	5,854,464
	Approach	.4	4 Lane Divided	1,258,000	503,200
5	SR 699	4.75	2 Lane	436,000	2,071,000
	SR 688 (Bridge)	.2	2 Lane	$33.sq. ft.	1,463,616
	Approach	.2	2 Lane Divided	872,000	174,000
6	Gulf Blvd.	4.0	2 Lane	436,000	1,744,000
	Little Pass Bridge	.5	2 Lane	$33.sq. ft.	3,659,040
	Belleair Causeway	1.25	2 Lane	$33.sq. ft.	9,147,600
7	Gulf Blvd.	1.0	2 Lane	436,000	436,000
		1.5	2 Lane Divided	872,000	1,308,000
	Memorial Causeway	1.5	4 Lane Divided	$33.sq. ft.	21,954,240
	Island Way	1.5	4 Lane Divided	1,259,000	1,888,500
8	SR 586 Bridge	2.0	2 Lane	436,000	14,636,160
	Approach	1.2	4 Lane Divided	1,258,000	1,509,600
	Alternate 19	1.0	2 Lane	436,000	436,000
9	Alternate 19	3.5	2 Lane	436,000	1,526,000
10	Alternate 19	1.5	2 Lane	436,000	654,000
	Klosterman	.75	2 Lane	436,000	327,000
	Florida Ave.	2.25	2 Lane	436,000	981,000
11	Riverside Dr.	1.0	2 Lane	436,000	436,000
	Florida Ave.	.80	2 Lane	436,000	348,800
	CR 80	.75	2 Lane	436,000	327,000

Hurricane Loss Zone	Arterial/Expressway Major Collector	Approximate Distance (Miles)	Lane Arrangement	Approximate Reconstruction Cost ($ per system mile)	Potential Loss ($)
PINELLAS COUNTY (Continued)					
12	SR 580	2.25	2 Lane	436,000	981,000
13	SR 580	.5	2 Lane	436,000	218,000
	Oldsmar Bridge	.5	2 Lane	$33.sq. ft.	3,659,040
	Lake Tarpon Canal Bridge	.12	2 Lane	$33.sq. ft.	878,170
	Little Oldsmar Bridge	.15	2 Lane	$33.sq. ft.	1,097,712
	SR 586	.75	2 Lane	436,000	327,000
14	SR 590	2.5	2 Lane	436,000	1,090,000
	CR 588	.5	2 Lane	436,000	218,000
15	CR 593	1.5	2 Lane	436,000	654,000
	Courtney Campbell Causeway Approach	4.75	4 Lane Divided	1,258,000	5,975,500
	SR 60	1.25	4 Lane Undivided	872,000	1,090,000
	SR 60	.25	6 Lane	2,909,000	725,250
	US 19	1.75	4 Lane Divided	1,258,000	2,201,500
16	US 19	1.0	4 Lane Divided	1,258,000	1,258,000
	SR 686	2.5	4 Lane Divided	1,258,000	3,145,000
17	I-275 Expressway	2	4 Lane Divided	1,258,000	2,516,000
	Howard Frankland Bridge Approach	3.5	4 Lane Divided	1,258,000	4,403,000
	SR 688	5.5	4 Lane Divided	1,258,000	6,919,000
	Gandy Bridge Approach	2.0	4 Lane Divided	1,258,000	3,145,000
	SR 687 (4th St.)	2.5	4 Lane Divided	1,258,000	3,145,000
		1.	6 Lane	2,909,000	2,909,000
	SR 688 (9th St.)	1.75	4 Lane Divided	1,258,000	2,201,500
18	SR 687 (4th St.)	3.0	6 Lane	2,909,000	8,727,000
19	SR 687 (4th St.)	3.0	4 Lane Undivided	872,000	2,616,000
20	SR 687 (4th St.)	2.0	2 Lane	436,000	872,000
	SR 688 (9th St.)	2.0	4 Lane Divided	1,258,000	2,516,000

Hurricane Loss Zone	Arterial/Expressway Major Collector	Approximate Distance (Miles)	Lane Arrangement	Approximate Reconstruction Cost ($ per system mile)	Potential Loss ($)
PINELLAS COUNTY (Continued)					
21	SR 687 (4th St.)	2.0	2 Lane	436,000	872,000
	SR 688 (9th St.)	2.0	4 Lane Undivided	872,000	1,744,000
	62nd Ave. So.	.75	2 Lane	436,000	327,000
24	Seminole Bridge	.5	6 Lane	$33.sq.ft.	10,628,640
MAJOR CAUSEWAYS					
Howard Frankland	(15,872' x 58')			$47.sq. ft.	43,267,072
	(15,872' x 82')			$47.sq. ft.	61,170,688
Gandy Bridge -	north span (13,771' x 28')			$47.sq. ft.	18,122,636
	south span (14,779' x 40')			$47.sq. ft.	27,784,520
Courtney Campbell Causeway	(3,256' x 58')			$47.sq. ft.	8,875,856
Skyway Bridge -	Main Span				250,000,000
	3 smaller bridges				
	(1) Bascule (1,224' x 32')			$33.sq. ft.	1,292,544
	(1) Regular (1,522' x 32')			$33.sq. ft.	1,607,232
	N. bound Manatee County (336' x 35')			$33.sq. ft.	388,080
	S. bound Manatee County (336' x 32')			$33.sq. ft.	354,816
				Grand Total	913,827,636

APPENDIX K

HURRICANE TAXABLE STRUCTURAL LOSS ($) PROJECTIONS BY HURRICANE LOSS ZONE AND STRUCTURE TYPE

HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO A

TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	1,555	1,069	1	923	6	0	2	0	0	0	3,556
2	76	157	0	506	39	1	0	0	6	5	790
3	3,144	0	0	22	0	0	0	0	0	0	3,166
4	1,049	153	0	458	62	15	0	0	20	0	1,757
5	75	0	4	6	2	145	0	0	0	0	232
6	698	147	0	51	2	0	0	0	1	9	908
7	599	274	0	14	1	7	0	0	0	0	895
8	1,138	454	0	138	28	0	0	0	48	10	1,816
9	7,946	39	0	33	0	0	0	0	0	3	8,021
11	154	0	0	193	465	431	0	0	0	0	1,243
12	54	0	0	3	10	0	0	0	0	0	67
13	27	1	1	17	4	0	0	0	0	0	50
14	37	0	18	91	1,050	739	0	0	0	0	1,985
15	7	0	0	0	383	0	0	0	0	0	390
16	10,115	839	44	218	264	1,100	41	0	0	8	12,629
17	1,387	839	25	402	0	0	38	0	0	0	2,691
18	594	136	64	1,276	10	0	0	0	0	0	2,080
20	102	2	0	214	109	29	0	0	58	9	523
21	28	0	0	146	441	10	0	0	0	4	629
22	58	0	0	8	3	2	0	0	0	0	71
23	24	0	0	38	151	0	2	0	0	0	215
24	11	0	1	2	3	0	0	0	0	0	17
25	169	0	9	50	8	1	5	0	0	0	242
26	26	0	2	5	0	1	1	0	0	0	35
27	0	0	0	0	0	2	0	0	0	7	9
28	179	26	0	2,058	363	52	0	0	0	33	2,711
31	31	0	0	130	142	7	0	0	0	0	310
32	43	0	0	8	58	6	0	0	0	0	115
33	384	0	0	64	16	1	0	0	0	2	467
34	37	0	4	6	0	0	3	0	0	0	50
35	148	0	7	32	4	0	4	0	0	0	195
36	238	0	2	43	0	0	3	0	0	3	289
37	272	1	12	97	11	6	65	0	0	2	466
38	523	0	0	36	0	0	0	0	0	0	559
39	3,561	272	7	334	8	8	0	0	31	11	4,232
40	1,291	260	0	657	277	7	0	0	31	9	2,532
41	899	92	0	1,969	177	188	0	0	2	24	3,351
42	107	0	0	120	243	4	0	0	0	1	475
43	15	0	0	247	457	14	9	0	0	4	746

HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO A

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
44	87	0	0	0	0	0	1	0	0	2	90
45	45	0	0	56	25	0	3	0	0	0	129
46	640	119	0	129	1	0	0	0	0	3	892
47	2,480	400	0	604	12	75	0	0	0	6	3,577
48	348	73	0	78	6	0	0	0	2	0	507
49	105	0	1	38	64	2	0	0	0	0	210
50	300	0	0	10	0	20	2	0	0	1	333
51	2,386	972	34	187	27	14	132	0	35	1	3,788
52	3,040	9	60	73	2	1	102	0	0	5	3,292
53	6,012	261	12	987	290	22	111	0	74	15	7,784
54	4,408	18	15	594	470	36	97	0	19	18	5,675
55	2,563	6	38	537	347	71	187	10	14	49	3,822
56	601	38	19	41	12	1	46	0	0	10	768
57	12,462	3,285	10	3,107	1,956	158	308	0	133	66	21,485
58	21,842	2,248	27	6,080	1,497	128	44	3	188	352	32,409
59	6,536	13	7	281	12	23	125	0	0	11	7,008
TOTALS:	100,706	12,203	424	23,417	9,518	3,327	1,331	13	662	683	152,284

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	2,032	1,391	2	1,384	6	0	3	0	0	0	4,818
2	104	225	0	734	57	2	0	0	8	7	1,137
3	4,345	0	0	33	0	0	0	0	0	0	4,378
4	1,455	220	0	665	90	21	0	0	29	0	2,480
5	106	0	5	22	3	623	0	0	0	0	759
6	1,985	1,216	0	312	3	0	0	0	6	13	3,535
7	828	391	0	20	1	10	0	0	0	0	1,250
8	1,572	650	0	200	40	0	0	0	70	14	2,546
9	31,320	545	0	474	0	6	0	0	0	158	32,503
11	1,416	0	0	476	1,038	525	0	0	0	0	3,455
12	524	0	0	25	37	0	0	0	0	0	586
13	366	5	42	221	20	0	0	0	0	0	654
14	145	0	35	144	1,653	1,128	0	0	0	0	3,105
15	12	0	0	0	783	0	0	0	0	0	795
16	20,315	1,419	116	369	364	1,760	135	0	0	14	24,492
17	4,811	1,242	85	704	1	1	101	0	0	0	6,945
18	822	194	179	1,850	14	0	0	0	0	0	3,059
20	117	2	0	247	126	34	0	0	67	10	603
21	32	0	0	168	507	12	0	0	0	5	724
22	559	0	11	73	11	7	1	0	0	0	662
23	175	0	15	304	552	1	12	0	0	1	1,060
24	69	0	9	12	5	0	1	0	0	0	96
25	2,043	0	288	627	37	8	27	0	0	1	3,031
26	142	0	10	34	1	4	4	0	0	0	195
27	0	0	0	0	0	2	0	0	0	8	10
28	1,755	220	0	19,965	1,435	225	0	0	0	142	23,742
31	35	0	0	149	163	9	0	0	0	0	356
32	49	0	0	10	66	7	0	0	0	0	132
33	441	0	1	73	19	1	0	0	0	2	537
34	44	0	10	7	0	0	3	0	0	0	64
35	242	0	23	150	6	0	10	0	0	0	431
36	272	0	2	49	0	0	3	0	0	3	329
37	672	1	38	537	15	16	125	0	0	5	1,409
38	600	0	0	42	0	0	0	0	0	0	642
39	4,086	311	12	383	10	9	0	0	35	13	4,859
40	1,784	372	0	953	400	11	0	0	45	12	3,577
41	1,244	130	0	2,855	257	271	0	0	3	34	4,794
42	122	0	0	138	279	5	0	0	1	1	546
43	17	0	0	284	526	16	10	0	0	4	857

HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
44	120	0	0	0	0	0	1	0	0	3	124
45	52	0	0	64	29	0	4	0	0	0	149
46	734	136	0	148	1	0	0	0	0	3	1,022
47	3,429	570	0	876	18	108	0	0	0	8	5,009
48	481	104	0	113	9	0	0	0	2	0	709
49	120	0	1	44	73	3	0	0	0	0	241
50	344	0	0	11	0	22	2	0	0	1	380
51	3,273	1,388	73	271	39	17	168	0	51	2	5,282
52	3,498	10	126	85	3	2	120	0	0	6	3,850
53	6,904	300	25	1,133	330	25	132	0	85	19	8,953
54	5,055	22	26	683	541	42	116	0	22	21	6,528
55	3,015	8	61	636	398	82	213	12	16	55	4,496
56	693	44	38	50	13	1	55	0	0	13	907
57	14,299	3,753	15	3,571	2,250	182	356	0	153	76	24,655
58	25,654	2,672	43	7,913	1,857	167	50	4	264	494	39,118
59	7,497	14	13	327	13	27	148	0	0	12	8,051
TOTALS:	161,826	17,555	1,304	50,618	14,099	5,392	1,800	16	857	1,160	254,627

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
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AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	7,627	4,500	4	2,496	11	0	5	0	0	0	14,643
2	902	1,781	0	5,912	92	3	0	0	13	24	8,727
3	11,829	0	0	181	0	0	0	0	0	0	12,010
4	5,330	958	0	1,521	217	52	0	0	91	0	8,169
5	511	0	5	62	9	920	0	0	0	0	1,507
6	5,295	1,799	0	521	6	1	0	0	9	25	7,656
7	1,304	625	0	33	2	17	0	0	0	1	1,982
8	10,171	2,255	0	1,395	168	0	0	0	307	26	14,322
9	40,204	729	0	635	0	1	0	0	0	23	41,592
11	2,475	0	2	1,955	2,838	1,097	0	0	0	1	8,368
12	1,097	0	0	44	67	0	0	0	0	0	1,208
13	649	12	61	325	30	1	0	0	0	0	1,078
14	209	0	44	191	2,367	1,555	0	0	0	0	4,366
15	14	0	0	0	1,122	0	0	0	0	0	1,136
16	22,391	1,891	123	481	509	2,401	186	0	0	15	27,997
17	7,325	1,689	124	977	0	2	179	0	0	0	10,296
18	1,294	311	500	2,999	23	0	0	0	0	0	5,127
20	221	4	0	504	257	69	0	0	137	21	1,213
21	61	0	0	343	1,035	24	0	0	0	10	1,473
22	1,266	0	27	179	26	14	2	0	0	0	1,514
23	435	0	31	609	1,000	1	19	0	0	1	2,096
24	187	0	31	28	17	0	2	0	0	0	265
25	4,012	1	486	939	59	13	44	0	0	3	5,557
26	395	0	33	76	3	9	10	0	0	0	526
27	1	0	0	0	0	8	0	0	0	35	44
28	2,730	345	0	29,330	2,144	332	0	0	0	209	35,090
31	67	0	0	304	333	18	0	0	0	1	723
32	306	0	4	67	234	28	1	0	0	0	640
33	2,953	3	15	763	96	2	1	0	0	9	3,842
34	285	0	193	50	0	0	14	0	0	0	542
35	511	0	77	319	10	0	17	0	0	0	934
36	516	0	11	99	0	0	7	0	0	8	641
37	2,041	2	116	1,224	31	41	239	0	0	12	3,706
38	1,138	0	0	85	0	1	1	0	0	0	1,225
39	13,248	623	57	1,541	27	18	0	0	72	34	15,620
40	2,808	594	0	1,687	845	18	0	0	73	19	6,044
41	1,958	209	0	4,627	417	439	1	0	5	56	7,712
42	232	0	0	282	571	10	0	0	1	2	1,098
43	33	0	1	580	1,075	33	21	0	0	9	1,752

HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO C

TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
44	1,724	0	6	7	0	0	2	0	0	14	1,753
45	98	0	0	131	60	1	7	0	0	0	297
46	1,393	271	1	302	3	0	0	0	0	6	1,976
47	5,398	913	0	1,419	29	176	0	0	0	13	7,948
48	757	166	0	183	14	0	0	0	4	1	1,125
49	228	0	6	90	150	5	0	0	0	0	479
50	652	0	2	23	0	46	4	0	0	3	730
51	6,890	2,219	233	439	59	28	290	0	83	4	10,245
52	6,620	19	462	173	7	4	246	0	0	12	7,543
53	12,898	599	112	2,316	676	51	245	0	175	35	17,107
54	9,546	40	129	1,387	1,102	87	221	1	45	43	12,601
55	5,580	14	300	1,262	810	168	435	24	34	113	8,740
56	1,130	64	137	97	26	2	95	0	0	22	1,573
57	26,233	7,509	74	7,280	4,594	373	710	0	312	156	47,241
58	47,537	5,137	206	14,295	3,524	309	101	6	442	833	72,390
59	14,220	28	79	673	27	58	306	0	0	26	15,417
TOTALS:	294,935	35,310	3,692	93,441	26,722	8,436	3,411	31	1,803	1,825	469,606

STRUCTURE CODES

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HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO D

TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	26,500	9,986	19	4,077	17	0	7	0	0	0	40,606
2	1,630	3,376	0	11,383	379	12	0	0	51	43	16,874
3	69,592	0	0	423	0	0	0	0	0	0	70,015
4	22,977	3,029	0	8,628	531	135	0	0	186	0	35,486
5	1,287	0	5	124	19	1,384	0	0	0	1	2,820
6	14,886	3,432	0	1,144	19	2	0	0	12	82	19,577
7	11,368	4,691	0	253	7	57	0	0	0	2	16,378
8	21,578	7,791	0	2,469	233	1	0	0	389	77	32,538
9	47,587	1,182	0	1,033	0	1	0	0	0	34	49,837
11	3,497	0	5	3,369	4,572	1,772	0	0	0	2	13,217
12	1,601	0	0	72	110	0	0	0	0	0	1,783
13	796	18	61	547	52	1	0	0	0	0	1,475
14	239	0	44	347	4,143	2,152	0	0	0	0	6,925
15	15	0	0	0	1,660	0	0	0	0	0	1,675
16	25,502	2,342	144	577	677	3,025	240	0	0	21	32,528
17	7,676	2,009	130	1,155	0	2	237	0	0	0	11,209
18	10,768	2,211	3,144	21,694	79	1	0	0	0	0	37,897
20	379	8	0	900	458	123	0	0	244	37	2,149
21	318	0	1	1,751	2,886	70	0	0	0	28	5,054
22	1,708	0	27	240	37	21	3	0	0	0	2,036
23	668	0	34	896	1,556	2	27	0	0	2	3,185
24	261	0	40	37	31	0	3	0	0	0	372
25	4,863	2	497	1,226	81	18	59	0	0	4	6,750
26	624	0	81	103	4	13	16	0	0	0	841
27	6	0	0	0	0	13	0	0	0	54	73
28	4,628	598	0	42,605	3,324	515	0	0	0	325	51,995
31	640	0	0	2,325	1,175	66	0	0	0	4	4,210
32	1,046	0	10	165	510	59	2	0	0	0	1,792
33	8,332	6	33	1,580	179	5	3	0	0	20	10,158
34	696	0	217	106	0	0	23	0	0	0	1,042
35	795	0	170	399	18	0	30	0	0	0	1,412
36	885	0	33	178	0	0	13	0	0	14	1,123
37	2,585	3	321	1,383	55	51	373	0	0	14	4,785
38	1,953	0	0	152	0	2	1	0	0	0	2,108
39	54,141	4,602	373	5,511	63	65	0	0	247	92	65,094
40	10,385	2,070	0	6,743	1,717	52	0	0	195	56	21,218
41	7,080	909	0	21,793	857	1,238	2	0	14	150	32,043
42	1,712	0	0	1,877	1,857	34	0	0	4	8	5,492
43	216	0	8	3,532	3,293	107	67	0	0	28	7,251

HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO D

TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
44	1,772	0	4	7	0	0	4	0	0	17	1,804
45	507	0	0	661	106	1	14	0	0	0	1,289
46	2,390	480	2	540	5	0	0	0	0	11	3,428
47	9,265	1,616	0	2,535	53	315	0	0	0	24	13,808
48	7,193	1,338	0	1,397	49	0	1	0	14	3	9,995
49	391	0	16	160	268	9	0	0	0	0	844
50	1,617	0	7	45	0	123	9	0	0	7	1,808
51	8,807	3,931	661	789	108	53	523	0	148	7	15,027
52	10,898	35	1,186	295	11	5	387	0	0	22	12,839
53	20,944	1,058	238	4,070	1,156	90	384	0	312	64	28,316
54	16,266	73	333	2,452	1,875	156	354	1	80	77	21,667
55	9,667	26	853	2,679	1,735	325	788	43	60	206	16,382
56	1,927	109	392	172	43	3	166	0	0	39	2,851
57	44,955	13,296	212	13,011	8,206	667	1,264	0	558	280	82,449
58	81,860	9,095	586	25,573	6,296	548	181	11	793	1,488	126,431
59	24,407	49	225	1,200	47	102	544	0	0	46	26,620
TOTALS:	614,286	79,371	10,112	206,383	50,557	13,396	5,725	55	3,307	3,389	986,581

STRUCTURE CODES

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MH -- MOBILE HOME RESIDENTIAL
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PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
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HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO E

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	36,269	15,583	20	5,617	27	0	10	0	0	0	57,526
2	1,893	5,090	0	17,228	675	21	0	0	88	73	25,068
3	92,040	0	0	647	0	0	0	0	0	0	92,687
4	23,732	7,214	0	12,454	970	229	0	0	317	0	44,916
5	1,991	0	5	181	35	2,282	0	0	0	2	4,496
6	19,342	5,718	0	1,903	37	4	0	0	20	144	27,168
7	14,312	7,414	0	401	13	105	0	0	0	5	22,250
8	27,436	12,731	0	3,989	441	2	0	0	726	145	45,470
9	52,259	1,865	0	1,629	0	2	0	0	0	55	55,810
11	3,899	0	5	6,070	8,713	2,650	0	0	0	3	21,340
12	1,601	0	0	133	218	0	0	0	0	0	1,952
13	796	26	61	876	102	1	0	0	0	0	1,862
14	246	0	44	473	7,787	3,489	0	0	0	0	12,039
15	18	0	0	0	3,464	0	0	0	0	0	3,482
16	35,354	4,228	164	1,045	1,346	4,702	397	0	0	40	47,276
17	9,653	2,897	130	1,705	0	5	421	0	0	0	14,811
18	16,728	3,741	3,573	33,754	147	2	0	0	0	0	57,945
20	651	15	0	1,672	851	229	0	0	454	69	3,941
21	818	0	1	4,524	6,499	142	0	0	0	58	12,042
22	1,708	0	27	385	80	31	4	0	0	0	2,235
23	699	0	34	1,890	3,249	3	43	0	0	3	5,921
24	316	0	40	78	68	0	5	0	0	0	507
25	4,972	2	497	2,384	170	30	98	0	0	6	8,159
26	661	0	98	115	5	17	21	0	0	0	917
27	9	0	0	0	0	20	0	0	0	84	113
28	5,271	921	0	86,445	7,157	878	0	0	0	554	101,226
31	910	0	0	4,780	2,342	109	0	0	0	6	8,147
32	1,268	0	10	347	1,035	91	4	0	0	0	2,755
33	11,296	9	37	2,950	394	9	5	0	0	32	14,732
34	1,108	0	218	311	0	1	44	0	0	0	1,682
35	1,381	0	373	732	57	0	58	0	0	0	2,601
36	1,521	0	81	329	0	0	24	0	0	25	1,980
37	3,995	7	662	2,050	128	82	814	0	0	30	7,768
38	5,520	0	0	477	0	4	3	0	0	0	6,004
39	80,463	6,387	399	7,563	114	117	0	0	382	156	95,581
40	27,601	5,756	0	14,613	3,824	110	0	0	442	120	52,466
41	21,672	2,245	0	47,519	2,455	2,784	4	0	31	352	77,062
42	3,135	0	0	3,923	3,702	62	0	0	7	14	10,843
43	453	0	10	7,137	6,471	195	122	0	0	52	14,440

HILLSBOROUGH COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO E

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
44	2,522	0	10	13	0	0	8	0	0	31	2,584
45	858	0	0	1,080	198	2	25	0	0	0	2,163
46	9,994	1,836	4	2,198	12	0	0	0	0	28	14,072
47	45,644	7,201	0	9,559	131	757	0	0	0	70	63,362
48	10,232	2,078	0	2,245	94	0	1	0	24	5	14,679
49	3,078	0	41	1,182	940	31	0	0	0	0	5,272
50	6,887	0	12	209	0	245	25	0	0	14	7,392
51	19,235	9,291	1,933	1,907	302	128	1,185	0	355	18	34,354
52	19,549	63	3,302	583	27	13	836	0	0	41	24,414
53	41,953	2,814	922	15,442	2,991	224	925	0	844	133	66,248
54	28,466	132	1,025	4,678	3,995	292	778	2	148	148	39,664
55	19,057	46	2,148	5,808	3,516	635	1,490	141	112	392	33,345
56	3,870	284	1,224	335	84	10	389	0	0	86	6,282
57	80,578	24,403	610	24,621	15,289	1,255	2,430	0	1,034	521	150,741
58	144,799	17,498	1,473	59,123	12,768	1,190	334	26	1,837	3,429	242,477
59	41,895	90	560	2,228	87	189	1,008	0	0	85	46,142
TOTALS:	991,614	147,585	19,753	409,540	103,010	23,379	11,511	169	6,821	7,029	1,720,411

STRUCTURE CODES

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APPENDIX K

MANATEE COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO A

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	19,796	50,830	2	4,491	20	0	0	0	0	14	75,153
2	12,902	5,746	0	1,030	9	16	0	8	0	8	19,719
3	4,401	2,444	946	1,007	14	0	65	99	0	0	8,976
4	2,835	14,038	485	221	18	2	1	0	0	29	17,629
5	3,612	65	1	932	8	0	0	0	0	28	4,646
6	4,375	2,067	0	240	3	29	7	20	0	3	6,744
7	495	1	21	34	1	0	9	3	0	6	570
8	713	5	0	1	215	0	9	0	0	0	943
9	362	7	0	30	37	5	6	0	0	2	449
10	1,950	132	0	469	0	0	1	0	2	8	2,562
11	19	0	0	0	0	0	0	0	0	0	19
12	346	4	0	2	0	0	0	0	0	0	352
13	35	4	1	14	1	0	0	1	0	0	56
14	553	403	0	676	81	12	0	17	128	7	1,877
15	242	24	89	124	123	0	1	1	0	5	609
16	463	191	0	16	0	0	3	0	0	0	673
17	98	0	0	26	0	0	2	0	0	0	126
18	225	14	0	24	0	0	33	0	0	37	333
20	605	7	0	1	0	0	0	0	0	0	613
21	10	0	0	1	2	45	2	0	0	0	60
22	41	0	0	13	1	0	6	0	0	0	61
23	824	626	105	59	0	10	0	0	41	3	1,668
24	1,517	127	40	267	119	0	0	0	0	1	2,071
25	145	79	1	25	45	957	42	0	0	0	1,294
26	604	55	1	282	75	3	85	0	3	12	1,120
27	3,705	2,643	7	441	55	1	2	0	325	33	7,212
28	3,132	949	314	2,237	845	7	65	0	12	14	7,575
29	1,032	704	2	228	548	2	63	15	0	2	2,596
TOTALS:	65,037	81,165	2,015	12,891	2,220	1,089	402	164	511	212	165,706

STRUCTURE CODES

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MANATEE COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	22,745	60,988	2	5,301	24	0	0	0	0	18	89,078
2	31,949	14,999	0	2,472	17	19	0	31	0	18	49,505
3	7,184	4,593	1,294	1,607	18	0	99	131	0	1	14,927
4	8,176	21,891	485	565	23	8	3	0	0	38	31,189
5	8,257	477	7	2,479	12	0	0	0	0	71	11,303
6	7,054	3,400	4	401	12	36	21	32	0	4	10,964
7	1,460	9	550	182	3	1	24	8	0	19	2,256
8	1,040	6	0	4	718	0	17	0	0	0	1,785
9	2,421	14	1	84	61	6	8	0	0	3	2,598
10	2,350	164	0	591	0	0	1	0	3	11	3,120
11	23	0	0	0	0	0	0	0	0	0	23
12	417	5	0	2	0	0	0	0	0	0	424
13	43	5	2	18	1	0	0	1	0	0	70
14	666	504	0	853	103	15	0	22	162	8	2,333
15	292	30	148	157	155	0	1	1	0	6	790
16	557	239	1	19	0	0	5	0	0	0	821
17	119	0	0	32	0	0	2	0	0	0	153
18	294	20	1	29	0	0	49	0	0	54	447
20	730	9	0	2	0	0	0	0	0	0	741
21	14	0	0	2	2	57	3	0	0	0	78
22	49	0	0	17	1	0	7	0	0	0	74
23	4,436	1,328	1,500	233	0	13	0	0	52	4	7,566
24	1,828	159	67	335	150	0	0	0	0	1	2,540
25	176	99	3	32	57	1,387	53	0	0	0	1,807
26	734	68	4	356	95	5	107	0	3	16	1,388
27	4,464	3,303	11	555	69	2	2	0	409	41	8,856
28	3,792	1,185	525	2,818	1,065	8	84	0	16	18	9,511
29	1,256	880	4	283	692	4	80	18	0	2	3,219
TOTALS:	112,526	114,375	4,609	19,429	3,278	1,561	566	244	645	333	257,566

STRUCTURE CODES

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MANATEE COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	25,278	75,135	2	6,427	30	0	0	0	0	24	106,896
2	40,239	18,469	0	3,174	23	25	0	43	0	24	61,997
3	8,341	6,013	1,428	1,928	24	0	131	164	0	1	18,030
4	11,206	28,879	485	746	40	11	6	0	0	77	41,450
5	10,155	672	12	3,162	15	0	0	0	0	101	14,117
6	10,533	4,628	5	626	15	73	29	44	0	8	15,961
7	2,169	18	582	246	6	1	41	11	0	26	3,100
8	1,219	8	0	7	964	0	25	0	0	0	2,223
9	3,263	30	3	139	117	12	16	0	0	5	3,585
10	4,650	327	0	1,200	0	0	2	0	5	21	6,205
11	161	0	0	0	0	0	0	0	0	0	161
12	825	10	0	4	0	0	1	0	0	0	840
13	84	11	8	37	2	0	0	1	0	0	143
14	1,318	1,008	0	1,737	210	30	0	45	330	16	4,694
15	579	59	712	319	314	0	2	2	0	13	2,000
16	1,223	478	3	41	0	1	11	0	0	0	1,757
17	236	0	2	66	0	0	5	0	0	0	309
18	620	32	2	60	0	0	84	0	0	87	885
20	1,444	19	0	3	0	0	0	0	0	0	1,466
21	21	0	1	3	4	92	5	0	0	0	126
22	98	0	1	34	2	0	15	0	0	0	150
23	7,201	2,409	2,693	377	0	27	0	0	106	9	12,822
24	3,616	318	322	683	303	0	0	0	0	2	5,244
25	277	159	8	53	93	2,248	90	0	0	0	2,928
26	1,421	135	17	721	191	8	204	0	7	30	2,734
27	8,832	6,607	57	1,128	142	5	5	0	833	84	17,693
28	7,438	2,369	2,510	5,730	2,168	17	164	0	31	36	20,463
29	2,449	1,759	25	577	1,408	7	167	37	0	5	6,434
TOTALS:	154,896	149,552	8,878	29,228	6,071	2,557	1,003	347	1,312	569	354,413

STRUCTURE CODES

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MANATEE COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO D

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	28,036	91,561	2	7,919	51	0	0	0	0	40	127,609
2	48,335	25,046	0	4,339	40	41	0	77	0	42	77,920
3	9,572	8,025	1,518	2,618	37	0	209	269	0	2	22,250
4	14,184	38,174	485	1,096	67	18	11	0	0	207	54,242
5	14,040	1,094	16	4,177	20	0	0	0	0	154	19,501
6	17,209	7,433	6	1,572	27	154	55	76	0	21	26,553
7	3,329	24	712	414	8	1	64	20	0	48	4,620
8	1,395	11	0	16	1,795	0	36	0	0	0	3,253
9	6,079	98	4	391	294	32	46	0	0	14	6,958
10	8,000	601	0	2,220	0	0	5	0	10	40	10,876
11	291	0	0	0	0	0	0	0	0	0	291
12	3,653	42	0	18	0	0	1	0	0	0	3,714
13	422	50	34	179	5	0	0	4	0	0	694
14	2,268	1,848	0	3,208	388	56	0	82	609	31	8,490
15	1,125	148	1,995	884	631	0	5	3	0	24	4,815
16	3,764	2,295	11	185	0	1	27	0	0	0	6,283
17	406	0	5	121	0	0	9	0	0	0	541
18	1,242	74	10	114	0	0	186	0	0	202	1,828
20	2,484	34	0	6	0	0	0	0	0	1	2,525
21	117	0	6	15	12	361	18	0	0	0	529
22	327	0	3	123	6	0	37	0	0	0	496
23	10,050	3,969	3,373	536	1	49	0	0	196	16	18,190
24	6,222	583	903	1,263	560	0	1	0	0	4	9,536
25	582	362	34	122	215	4,019	202	0	0	0	5,536
26	3,428	311	54	2,393	455	13	378	0	17	74	7,123
27	15,193	12,113	159	2,087	262	8	8	0	1,539	155	31,524
28	12,841	4,346	7,050	10,586	4,003	32	311	0	58	67	39,294
29	4,216	3,224	72	1,065	2,603	12	301	69	0	9	11,571
TOTALS:	218,810	201,466	16,452	47,667	11,480	4,797	1,910	600	2,429	1,151	506,762

STRUCTURE CODES

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MANATEE COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO E

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	30,469	111,768	2	9,959	85	0	0	0	0	66	152,349
2	53,936	32,221	0	5,600	68	67	0	136	0	74	92,102
3	11,117	10,498	1,518	3,297	61	0	346	445	0	3	27,285
4	17,368	57,772	485	1,741	198	29	30	0	0	513	78,136
5	16,858	1,633	17	6,075	40	0	0	0	0	319	24,942
6	42,574	14,667	6	3,392	49	482	107	127	0	57	61,461
7	3,902	34	712	623	18	3	133	45	0	106	5,576
8	1,697	13	0	25	3,394	1	66	0	0	0	5,196
9	7,277	142	4	646	593	70	102	0	0	31	8,865
10	24,635	2,001	0	7,512	0	0	14	0	31	124	34,317
11	373	0	0	0	0	0	0	0	0	0	373
12	5,790	81	0	33	0	0	4	0	0	0	5,908
13	655	92	34	324	11	0	0	9	0	0	1,125
14	5,317	5,679	0	9,961	1,209	176	0	258	1,720	95	24,415
15	2,282	325	2,965	1,868	1,581	0	12	7	0	59	9,099
16	5,460	2,981	15	259	0	2	56	0	0	0	8,773
17	869	0	8	299	0	0	21	0	0	0	1,197
18	2,362	177	15	350	0	0	465	0	0	497	3,866
20	6,535	104	0	18	0	0	0	0	0	2	6,659
21	199	0	8	27	25	695	37	0	0	0	991
22	553	0	4	240	14	0	91	0	0	0	902
23	14,893	9,890	3,488	1,105	1	154	0	0	614	51	30,196
24	16,371	1,791	1,343	3,949	1,754	0	3	0	0	12	25,223
25	1,276	871	51	300	528	9,664	506	0	0	0	13,196
26	6,922	794	89	4,901	1,181	38	1,013	0	41	189	15,168
27	39,979	37,219	237	6,529	819	26	26	0	4,815	485	90,135
28	32,076	13,075	10,525	32,949	12,482	94	796	0	175	209	102,381
29	9,037	7,712	141	2,895	6,402	29	726	216	0	24	27,182
TOTALS:	360,782	311,540	21,667	104,877	30,513	11,530	4,554	1,243	7,396	2,916	857,018

STRUCTURE CODES

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PASCO COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO A

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	7,053	81	132	37	1,544	0	0	0	0	0	8,847
2	16,470	5,337	344	1,650	11	0	5	0	0	0	23,817
3	5,386	393	28	930	0	0	32	0	0	0	6,769
4	3,527	138	679	971	0	0	1	0	0	0	5,316
5	6,181	210	2,354	839	0	0	0	0	0	0	9,584
6	75	0	5	7	0	0	4	0	0	0	91
7	645	150	59	405	1	0	0	0	0	0	1,260
8	473	145	1	94	0	0	0	0	0	0	713
9	629	59	9	48	0	0	0	0	0	0	745
10	266	0	9	13	0	0	0	0	0	0	288
11	930	11	27	27	0	0	2	0	0	0	997
12	1,252	127	21	75	0	0	3	0	0	0	1,478
13	3,799	283	43	246	16	0	15	0	0	0	4,402
14	162	13	87	26	0	0	1	0	0	0	289
15	681	106	12	5	0	0	2	0	0	0	806
16	476	1	3	10	0	0	1	0	0	0	491
17	228	23	97	31	0	0	9	0	0	0	388
18	764	358	77	21	0	0	3	0	0	0	1,223
19	364	37	125	18	0	0	87	0	0	0	631
20	1,196	393	79	132	7	0	82	0	0	0	1,889
21	139	362	43	12	0	0	64	0	0	0	620
22	76	8	4	17	0	0	59	0	0	0	164
23	1,009	63	209	250	0	0	69	0	0	0	1,600
24	839	63	31	652	0	0	127	0	0	0	1,712
TOTALS:	52,620	8,361	4,478	6,516	1,579	0	566	0	0	0	74,120

STRUCTURE CODES

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PASCO COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	12,236	119	165	64	1,968	0	0	0	0	0	14,552
2	26,151	8,888	578	4,803	44	0	8	0	0	0	40,472
3	9,231	512	390	1,696	0	0	41	0	0	0	11,870
4	8,943	947	846	1,740	0	0	1	0	0	0	12,477
5	9,682	335	2,520	1,420	0	0	0	0	0	0	13,957
6	250	0	12	38	0	0	5	0	0	0	305
7	910	220	168	599	2	0	0	0	0	0	1,899
8	666	211	3	139	0	0	0	0	0	0	1,019
9	888	86	27	70	0	0	0	0	0	0	1,071
10	376	0	25	19	0	0	0	0	0	0	420
11	1,313	17	77	40	0	0	3	0	0	0	1,450
12	1,764	186	59	112	0	0	4	0	0	0	2,125
13	5,358	413	120	363	23	0	23	0	0	0	6,300
14	229	17	248	42	0	0	2	0	0	0	538
15	960	154	34	8	0	0	2	0	0	0	1,158
16	672	2	11	14	0	0	1	0	0	0	700
17	276	29	171	38	0	0	13	0	0	0	527
18	1,046	492	184	32	0	0	5	0	0	0	1,759
19	466	52	208	22	0	0	116	0	0	0	864
20	1,563	566	148	173	8	0	112	0	0	0	2,570
21	188	517	102	15	0	0	84	0	0	0	906
22	99	10	13	22	0	0	75	0	0	0	219
23	1,156	71	350	290	0	0	78	0	0	0	1,945
24	962	71	56	756	0	0	149	0	0	0	1,994
TOTALS:	85,385	13,915	6,515	12,515	2,045	0	722	0	0	0	121,097

STRUCTURE CODES

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PASCO COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	16,450	198	168	94	2,770	0	0	0	0	0	19,680
2	35,847	12,353	906	12,134	72	0	11	0	0	0	61,323
3	13,990	776	831	2,679	0	0	57	0	0	0	18,333
4	12,987	1,522	846	2,455	0	0	1	0	0	0	17,811
5	12,466	565	2,933	2,123	0	0	0	0	0	0	18,087
6	722	0	82	80	0	0	18	0	0	0	902
7	6,035	1,262	1,072	3,857	6	0	0	0	0	0	12,232
8	4,423	1,211	18	893	0	0	0	0	0	0	6,545
9	1,501	148	75	121	0	0	0	0	0	0	1,845
10	635	0	69	33	0	0	0	0	0	0	737
11	2,219	28	217	70	0	0	5	0	0	0	2,539
12	2,983	319	167	194	0	0	7	0	0	0	3,670
13	9,057	707	338	631	41	0	40	0	0	0	10,814
14	388	30	702	71	0	0	3	0	0	0	1,194
15	1,623	264	95	14	0	0	4	0	0	0	2,000
16	1,396	9	31	25	0	0	3	0	0	0	1,464
17	541	57	762	76	0	0	24	0	0	0	1,460
18	1,829	895	625	56	0	0	10	0	0	0	3,415
19	875	91	994	46	0	0	229	0	0	0	2,235
20	2,497	970	488	296	17	0	182	0	0	0	4,450
21	305	828	339	24	0	0	150	0	0	0	1,646
22	169	17	47	41	0	0	135	0	0	0	409
23	2,176	147	1,617	591	0	0	156	0	0	0	4,687
24	1,824	143	273	1,544	0	0	298	0	0	0	4,082
TOTALS:	132,938	22,540	13,695	28,148	2,906	0	1,333	0	0	0	201,560

STRUCTURE CODES

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PASCO COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO D

TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	44,602	1,319	184	368	5,934	0	0	0	0	0	52,407
2	45,503	28,464	906	25,388	136	0	17	0	0	0	100,414
3	19,855	1,701	940	5,693	0	0	100	0	0	0	28,289
4	16,074	2,945	846	4,191	0	0	2	0	0	0	24,058
5	16,197	1,289	3,036	4,739	0	0	0	0	0	0	25,261
6	1,427	0	149	163	0	0	34	0	0	0	1,773
7	14,583	3,094	1,971	7,573	12	0	0	0	0	0	27,233
8	11,511	3,182	33	1,932	0	0	0	0	0	0	16,658
9	12,349	1,059	313	811	0	0	0	0	0	0	14,532
10	5,335	0	289	240	0	0	0	0	0	0	5,864
11	21,187	251	894	494	0	0	17	0	0	0	22,843
12	10,234	1,657	627	898	0	0	21	0	0	0	13,437
13	50,020	3,200	1,413	4,419	163	0	159	0	0	0	59,374
14	2,121	97	2,568	320	0	0	10	0	0	0	5,116
15	5,991	811	321	72	0	0	11	0	0	0	7,206
16	7,094	27	107	136	0	0	9	0	0	0	7,373
17	1,427	118	2,335	205	0	0	49	0	0	0	4,134
18	5,891	2,074	2,250	203	0	0	21	0	0	0	10,439
19	1,741	411	2,792	112	0	0	424	0	0	0	5,480
20	4,691	1,805	1,759	608	31	0	388	0	0	0	9,282
21	523	1,466	965	44	0	0	270	0	0	0	3,268
22	289	32	136	72	0	0	243	0	0	0	772
23	3,761	258	4,649	1,058	0	0	297	0	0	0	10,023
24	3,137	251	777	2,763	0	0	551	0	0	0	7,479
TOTALS:	305,543	55,511	30,260	62,502	6,276	0	2,623	0	0	0	462,715

STRUCTURE CODES

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PASCO COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO E

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	49,370	1,838	184	472	8,341	0	0	0	0	0	60,205
2	48,060	29,704	906	30,168	224	0	30	0	0	0	109,092
3	20,853	1,775	940	6,054	0	0	151	0	0	0	29,773
4	16,833	3,188	846	5,439	0	0	4	0	0	0	26,310
5	17,074	1,414	3,036	5,057	0	0	0	0	0	0	26,581
6	1,452	0	149	211	0	0	65	0	0	0	1,877
7	16,534	4,198	1,971	11,465	25	0	0	0	0	0	34,193
8	11,693	3,912	33	2,491	0	0	0	0	0	0	18,129
9	14,835	1,535	313	1,189	0	0	0	0	0	0	17,872
10	6,277	0	289	325	0	0	0	0	0	0	6,891
11	23,132	327	905	723	0	0	36	0	0	0	25,123
12	17,627	2,722	697	1,571	0	0	47	0	0	0	22,664
13	72,424	5,514	1,413	6,070	284	0	277	0	0	0	85,982
14	2,940	205	2,926	557	0	0	20	0	0	0	6,648
15	11,673	2,037	397	124	0	0	29	0	0	0	14,260
16	9,460	34	129	222	1	0	19	0	0	0	9,865
17	2,874	331	3,182	496	0	0	121	0	0	0	7,004
18	11,216	6,292	2,546	435	0	0	64	0	0	0	20,553
19	3,639	721	4,168	241	0	0	1,091	0	0	0	9,860
20	11,408	5,454	3,036	1,668	76	0	1,044	0	0	0	22,686
21	1,131	3,466	2,422	103	0	0	650	0	0	0	7,772
22	625	75	337	174	0	0	589	0	0	0	1,800
23	8,151	613	11,655	2,550	0	0	713	0	0	0	23,682
24	6,791	595	1,946	6,642	0	0	1,323	0	0	0	17,297
TOTALS:	386,072	75,950	44,426	84,447	8,951	0	6,273	0	0	0	606,119

STRUCTURE CODES

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PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO A

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	26,413	41,529	75	3,585	6	2	0	5	0	9	71,624
2	5,068	11,825	0	7,660	17	0	0	45	244	1	24,860
3	4,138	4,433	0	905	5	9	0	10	2	4	9,506
4	2,277	5,664	0	612	0	1	0	5	0	1	8,560
5	2,825	3,808	0	290	1	17	0	0	0	7	6,948
6	1,085	4,204	0	585	0	0	0	0	0	1	5,875
7	1,748	2,739	0	1,431	0	0	0	0	0	7	5,925
8	356	1,133	0	133	0	0	0	0	0	4	1,626
9	1,718	21	0	49	25	1	0	0	0	0	1,814
10	944	2,283	0	21	1	0	0	0	0	0	3,249
11	404	94	0	3	0	0	0	0	0	0	501
12	678	0	0	0	0	301	0	0	0	0	979
13	171	36	11	14	3	0	0	0	0	0	235
14	803	31	0	188	21	14	0	0	0	0	1,057
15	229	867	2	241	0	0	0	0	0	4	1,343
16	1,436	1,113	14	163	90	0	0	1	0	1	2,818
17	12,503	9,495	95	1,314	284	573	0	3	32	114	24,413
18	64,896	6,902	0	420	4	0	0	0	73	20	72,315
19	800	269	0	32	0	0	0	0	1	0	1,102
20	7,914	2,469	16	458	45	21	0	3	240	5	11,171
21	4,540	575	0	101	0	0	0	0	27	2	5,245
22	1,050	949	0	114	0	371	0	9	0	4	2,497
23	1,915	243	8	284	157	0	0	12	0	5	2,624
24	182	74	0	25	54	0	0	2	0	1	338
25	72	777	0	9	0	0	1	0	0	0	859
26	211	241	0	4	0	0	0	0	0	0	456
27	1,633	360	0	50	0	0	0	0	0	3	2,046
28	1,711	1,177	6	179	3	0	0	9	0	3	3,088
29	1,884	709	2	221	2	0	0	0	0	1	2,819
30	1,170	1,755	0	1,182	59	6	0	24	35	19	4,250
31	2,611	871	1	431	44	11	0	8	5	5	3,987
32	1,885	385	0	111	0	1	1	0	0	1	2,384
33	1,410	232	4	503	114	27	2	0	15	9	2,316
34	126	1	0	26	103	0	0	1	0	0	257
35	615	180	0	17	8	0	0	0	0	0	820
36	1,696	800	0	168	3	29	0	0	13	5	2,714
37	663	491	0	104	0	11	0	0	5	3	1,277
38	2,881	1,018	7	253	45	0	0	0	0	13	4,217
39	1,503	564	1	45	65	6	0	0	0	0	2,184

PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO A

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
40	1,230	654	2	677	2	24	0	1	134	4	2,728
41	1,542	178	0	28	0	0	0	1	31	0	1,780
42	515	46	0	47	22	0	0	2	0	3	635
43	108	0	16	44	29	0	0	0	0	4	201
44	860	187	71	100	6	0	0	0	0	8	1,232
45	323	132	10	16	0	0	0	0	0	0	481
46	3,904	1,320	140	1,902	1,707	9	0	19	69	59	9,129
50	407	2,588	0	249	5	0	0	0	0	0	3,249
51	385	267	1	1	0	0	0	0	0	22	676
52	310	91	0	14	0	0	0	0	0	0	415
53	1,351	1,303	1	5	53	0	0	0	0	0	2,713
54	2,236	2,129	15	762	651	34	0	0	0	0	5,827
55	1,002	79	0	395	0	0	0	4	0	1	1,481
56	471	0	0	27	59	0	0	1	7	1	566
57	272	367	0	159	0	0	0	6	0	2	806
58	4,769	503	3	228	17	0	2	16	0	11	5,549
59	3,560	1,054	21	306	31	10	0	3	14	0	4,999
60	4,811	1,242	7	977	95	0	0	5	262	3	7,402
61	13,242	4,294	6	4,213	708	91	0	18	164	37	22,773
62	10,647	5,103	27	2,024	82	3	0	5	37	18	17,946
63	3,660	465	3	179	14	7	0	0	0	111	4,439
64	808	36	0	108	5	5	0	6	25	5	998
65	669	942	0	2,202	144	216	0	88	52	16	4,329
66	2,821	261	0	425	51	0	0	30	39	10	3,637
67	1,522	746	5	381	3	17	0	14	3	30	2,721
68	3,122	541	13	1,351	138	38	0	108	43	24	5,378
69	6,039	1,095	1	2,300	678	58	0	23	310	28	10,532
70	1,842	376	0	565	385	20	0	20	19	6	3,233
71	718	82	23	302	312	2	16	7	34	1	1,497
72	377	70	1	21	12	1	0	0	0	0	482
TOTALS:	237,687	136,468	608	41,939	6,368	1,936	22	514	1,935	656	428,133

STRUCTURE CODES

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PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	56,924	88,507	98	8,044	17	3	0	7	0	12	153,612
2	30,054	81,302	0	27,575	66	2	0	168	1,118	3	140,288
3	65,717	59,986	1	13,124	29	46	0	50	9	19	138,981
4	34,950	71,365	0	8,259	0	5	0	23	0	6	114,608
5	21,046	25,966	21	2,209	4	57	0	0	0	23	49,326
6	9,508	34,055	0	5,612	0	0	0	1	0	4	49,180
7	15,054	23,869	0	13,776	0	0	0	0	0	27	52,726
8	5,580	12,959	0	1,847	0	0	0	0	0	19	20,405
9	3,891	193	0	133	57	1	0	0	0	0	4,275
10	1,739	4,040	1	27	1	0	1	0	0	1	5,810
11	1,466	118	0	29	0	0	0	1	0	0	1,614
12	738	0	0	0	0	387	0	0	0	0	1,125
13	1,012	48	19	98	9	0	0	0	0	0	1,186
14	968	39	0	237	26	18	0	0	0	0	1,288
15	275	1,738	3	304	0	0	0	0	0	5	2,325
16	1,503	1,391	15	192	108	0	0	2	0	1	3,212
17	16,256	7,688	121	4,335	272	736	0	4	41	104	29,557
18	65,761	7,027	0	482	5	0	0	0	78	25	73,378
19	964	336	0	41	0	0	0	0	1	0	1,342
20	4,343	579	4	171	56	26	0	4	139	6	5,328
21	8,375	822	0	147	0	0	0	0	55	4	9,403
22	6,400	2,822	0	814	0	1,177	0	34	0	15	11,262
23	2,309	304	14	359	198	0	0	14	0	6	3,204
24	1,020	359	0	158	150	0	0	5	0	3	1,695
25	936	8,642	0	107	0	0	5	0	0	0	9,690
26	298	352	0	6	0	0	0	0	0	0	656
27	2,302	525	0	72	0	0	0	0	0	4	2,903
28	2,412	1,716	17	265	5	0	0	14	0	4	4,433
29	2,656	1,034	5	327	4	0	0	0	0	1	4,027
30	4,187	3,469	0	2,270	110	8	0	66	52	47	10,209
31	3,628	1,255	1	627	56	13	0	10	7	6	5,603
32	2,271	483	0	140	0	2	1	0	0	1	2,898
33	6,771	539	56	2,745	289	87	8	1	55	28	10,579
34	954	10	5	187	314	0	0	4	0	0	1,474
35	741	225	0	21	10	0	0	0	0	0	997
36	2,044	1,000	0	210	4	37	0	0	16	7	3,318
37	917	701	0	151	0	16	0	0	7	4	1,796
38	6,442	2,105	15	917	58	0	0	0	0	18	9,555
39	7,967	3,383	1	268	97	22	0	0	0	0	11,738

PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
40	1,736	954	7	999	4	35	0	1	197	5	3,938
41	2,174	260	1	42	0	0	0	2	46	0	2,525
42	726	67	0	70	33	0	0	3	0	4	903
43	221	0	44	166	42	0	0	0	0	8	481
44	1,075	266	198	145	9	0	0	0	0	11	1,704
45	389	165	17	21	0	0	0	0	0	0	592
46	4,705	1,648	235	2,376	2,148	11	0	24	88	78	11,313
50	504	3,235	0	322	7	0	0	0	0	0	4,068
51	464	334	2	1	0	0	0	0	0	28	829
52	428	130	0	21	0	0	0	0	0	0	579
53	1,725	1,648	1	6	67	0	0	0	0	0	3,447
54	2,974	3,009	38	1,052	956	47	0	0	0	0	8,076
55	1,326	112	0	504	0	0	0	6	0	2	1,950
56	568	0	0	34	75	0	0	1	9	1	688
57	328	459	0	200	0	0	0	7	0	3	997
58	6,725	734	10	337	25	0	3	25	0	15	7,874
59	5,019	1,537	59	453	45	15	0	5	22	0	7,155
60	6,784	1,811	22	1,444	141	0	0	7	387	4	10,600
61	17,820	5,777	9	5,824	1,024	132	1	27	238	54	30,906
62	12,835	6,380	44	2,549	103	3	0	6	48	21	21,989
63	4,552	615	4	228	17	9	1	0	0	140	5,566
64	973	46	0	136	7	6	0	9	31	7	1,215
65	806	1,176	0	2,777	182	272	0	111	66	20	5,410
66	3,399	326	0	535	63	0	0	38	49	12	4,422
67	1,834	933	9	481	4	21	0	17	3	39	3,341
68	3,763	678	21	1,703	173	47	0	136	55	30	6,606
69	7,280	1,370	3	2,897	854	73	0	29	390	36	12,932
70	2,220	471	1	712	485	27	0	26	25	8	3,975
71	865	101	38	380	393	2	19	9	44	1	1,852
72	718	391	6	53	15	1	0	0	0	0	1,184
TOTALS:	495,315	485,585	1,166	122,754	8,817	3,344	39	897	3,276	930	1,122,123

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
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PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	66,052	113,688	98	10,679	24	4	0	9	0	17	190,571
2	34,869	108,180	0	34,908	95	2	0	241	1,635	4	179,934
3	77,791	81,833	1	17,762	44	66	0	73	13	29	177,612
4	42,275	98,663	0	11,409	0	7	0	34	0	9	152,397
5	41,128	50,437	28	4,270	6	110	0	0	0	43	96,022
6	18,223	63,948	0	9,411	0	0	0	1	0	7	91,590
7	28,945	41,181	0	22,851	0	0	0	0	0	47	93,024
8	6,630	18,561	0	2,511	0	0	0	0	0	28	27,730
9	7,678	288	0	397	90	1	0	0	0	1	8,455
10	9,769	7,890	12	279	3	0	2	0	0	2	17,957
11	4,342	709	0	51	0	0	0	2	0	0	5,104
12	1,520	0	0	0	0	697	0	0	0	0	2,217
13	2,156	95	89	202	18	0	0	0	0	0	2,560
14	3,957	325	0	2,009	102	72	0	0	0	1	6,466
15	1,927	7,795	46	2,002	0	0	0	0	0	16	11,786
16	1,975	2,782	25	328	195	0	0	3	0	2	5,310
17	37,957	22,577	257	11,363	494	1,153	0	13	164	188	74,166
18	96,828	9,731	0	747	8	0	0	0	112	40	107,466
19	8,409	2,668	0	333	0	0	0	0	4	0	11,414
20	22,348	5,564	61	1,677	229	114	0	16	608	27	30,644
21	11,837	1,315	0	237	0	0	0	0	67	6	13,462
22	12,474	7,306	0	1,516	0	2,225	0	57	0	26	23,604
23	19,906	2,012	213	2,127	870	1	0	66	0	14	25,209
24	3,224	1,134	0	369	338	0	0	12	0	5	5,082
25	1,506	14,111	0	147	0	0	7	0	0	0	15,771
26	4,041	4,003	0	66	0	0	0	0	0	0	8,110
27	3,893	900	0	126	0	0	0	0	0	7	4,926
28	7,297	10,511	202	1,420	8	1	0	46	0	14	19,499
29	4,491	1,774	14	568	6	0	0	0	0	2	6,855
30	9,963	9,198	0	9,140	214	14	0	127	155	98	28,909
31	13,755	4,274	25	3,781	253	59	0	25	21	11	22,204
32	12,733	2,862	0	1,375	0	8	6	0	0	1	16,985
33	19,429	2,519	125	6,627	615	162	15	2	92	54	29,640
34	2,169	23	6	419	682	0	0	8	0	0	3,307
35	4,036	1,085	0	127	30	0	0	0	0	0	5,278
36	13,637	5,650	0	1,508	12	145	0	0	58	24	21,034
37	8,663	5,565	0	1,338	0	65	0	0	30	16	15,677
38	34,847	7,129	201	3,940	276	2	0	2	0	64	46,461
39	26,259	9,815	11	598	264	42	0	0	0	0	36,989

PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
40	8,511	6,384	19	7,518	11	142	0	2	456	9	23,052
41	3,677	445	3	72	0	0	0	3	80	0	4,280
42	1,228	115	0	121	57	0	0	5	0	7	1,533
43	449	0	124	338	68	0	0	0	0	13	992
44	1,708	426	555	236	15	0	0	0	0	20	2,960
45	770	330	81	42	0	0	0	0	0	0	1,223
46	35,185	8,847	2,844	14,727	7,015	43	0	88	382	290	69,421
50	794	5,176	1	521	11	0	0	0	0	0	6,503
51	918	667	9	2	0	0	0	0	0	57	1,653
52	2,967	830	0	78	0	0	0	0	0	0	3,875
53	5,166	3,691	9	34	214	0	0	0	0	0	9,114
54	14,510	19,540	291	5,304	2,691	186	2	1	0	0	42,525
55	5,180	502	0	2,762	0	0	0	17	0	6	8,467
56	1,124	0	0	69	152	0	0	2	18	2	1,367
57	3,937	4,806	0	2,160	0	0	0	33	0	13	10,949
58	11,372	1,258	28	585	43	2	5	42	0	27	13,362
59	8,487	2,637	167	788	80	26	0	8	38	0	12,231
60	11,469	3,105	60	2,506	244	1	0	12	672	7	18,076
61	31,578	10,740	41	10,804	1,818	232	1	46	422	94	55,776
62	25,389	12,759	218	5,187	209	7	0	12	96	44	43,921
63	7,894	1,122	23	459	36	18	1	0	0	285	9,838
64	1,925	92	0	277	14	12	0	16	64	12	2,412
65	1,369	1,886	0	4,692	357	444	0	203	133	35	9,119
66	6,052	578	0	1,010	128	0	0	75	93	24	7,960
67	5,965	5,145	86	2,483	23	44	0	33	6	110	13,895
68	7,445	1,353	103	3,466	353	99	0	277	111	61	13,268
69	19,089	2,917	19	6,122	1,740	148	0	57	1,047	74	31,213
70	4,390	941	5	1,447	985	53	0	51	51	17	7,940
71	1,712	201	181	773	797	5	39	17	89	2	3,816
72	1,627	1,052	15	207	54	3	0	0	0	0	2,958
TOTALS:	960,826	825,646	6,296	243,408	21,991	6,415	78	1,737	6,717	2,012	2,075,126

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
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PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO D

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	72,865	148,005	98	13,298	34	6	0	13	0	24	234,343
2	37,987	133,871	0	44,903	131	3	0	336	2,260	6	219,497
3	84,810	100,870	1	22,126	59	92	0	98	18	39	208,113
4	46,467	127,475	0	14,415	0	9	0	46	0	12	188,424
5	53,221	74,967	28	5,984	10	182	0	1	0	71	134,464
6	20,640	77,990	0	11,729	0	0	0	2	0	9	110,370
7	33,524	53,171	0	28,939	0	0	0	0	0	68	115,702
8	7,142	23,439	0	2,996	0	0	0	0	0	37	33,614
9	10,744	452	0	640	123	2	0	0	0	2	11,963
10	12,704	10,018	12	373	6	0	4	0	0	4	23,121
11	7,161	1,474	0	67	0	0	0	3	0	0	8,705
12	1,761	0	0	0	0	1,011	0	0	0	0	2,772
13	2,774	290	277	275	26	0	0	0	0	0	3,642
14	6,616	529	0	3,279	176	121	0	0	0	1	10,722
15	3,988	14,885	57	4,170	0	0	0	0	0	29	23,129
16	5,285	13,352	65	1,485	499	0	0	9	0	4	20,699
17	55,504	37,831	293	16,933	832	1,774	0	21	291	266	113,745
18	117,681	14,076	0	1,465	18	0	0	0	176	92	133,508
19	14,869	4,820	0	602	0	0	0	0	8	0	20,299
20	31,104	8,564	82	2,318	379	185	0	27	991	44	43,694
21	31,335	3,093	0	1,349	0	0	0	0	252	18	36,047
22	18,246	13,478	0	2,424	0	3,708	0	83	0	40	37,979
23	26,655	3,304	276	3,086	1,344	1	0	99	0	26	34,791
24	3,876	1,428	0	446	470	0	0	16	0	7	6,243
25	1,839	19,516	0	224	0	0	11	0	0	0	21,590
26	4,827	5,221	0	85	0	0	0	0	0	0	10,133
27	12,579	2,644	0	362	0	0	0	0	0	20	15,605
28	13,542	16,829	202	2,381	22	2	0	88	0	27	33,093
29	7,726	3,251	38	1,049	11	0	0	0	0	3	12,078
30	12,945	14,368	0	13,745	359	26	0	193	248	150	42,034
31	26,168	7,021	25	5,936	406	95	0	44	40	22	39,757
32	16,863	3,928	0	1,668	0	11	8	0	0	3	22,481
33	28,178	4,079	141	8,861	983	255	23	3	140	83	42,746
34	2,473	31	6	567	1,018	0	0	12	0	0	4,107
35	2,522	823	0	81	36	0	0	0	0	0	3,462
36	29,488	12,654	0	2,713	23	253	0	0	114	46	45,291
37	10,985	7,575	0	1,728	0	102	0	0	48	25	20,463
38	60,161	18,517	225	5,398	411	3	0	3	0	135	84,853
39	35,698	13,450	21	954	622	67	0	0	0	0	50,812

PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO D

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS) SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
40	16,314	11,678	78	11,666	22	256	0	5	1,078	24	41,121
41	8,619	1,157	12	191	1	0	0	7	212	0	10,199
42	4,105	365	0	445	137	1	0	13	0	18	5,084
43	785	0	588	505	158	0	0	0	0	26	2,062
44	5,807	1,480	3,113	1,163	34	0	0	0	0	50	11,647
45	1,325	606	228	77	0	0	0	0	0	0	2,236
46	59,134	16,861	4,471	23,696	14,119	78	0	150	622	516	119,647
50	3,851	26,308	6	2,510	34	0	0	0	0	0	32,709
51	1,580	1,223	25	4	0	0	0	0	0	105	2,937
52	5,410	1,560	0	145	0	0	0	0	0	0	7,115
53	13,610	15,069	19	65	405	0	0	0	0	0	29,168
54	25,582	31,021	453	8,496	6,050	316	3	3	0	0	71,924
55	8,097	913	0	3,562	0	1	0	26	0	9	12,608
56	1,933	0	0	128	282	0	0	4	33	3	2,383
57	5,052	6,582	0	2,967	0	0	0	51	0	20	14,672
58	26,654	3,273	114	1,546	115	4	13	112	0	72	31,903
59	19,897	6,857	696	2,084	209	69	0	22	99	0	29,933
60	19,734	5,693	169	4,626	450	1	0	22	1,242	12	31,949
61	54,330	19,685	114	19,962	3,358	432	2	87	779	175	98,924
62	43,682	23,390	613	9,585	386	12	0	22	177	80	77,947
63	15,496	2,252	66	849	66	33	2	0	0	526	19,290
64	6,610	167	0	511	26	22	0	30	118	23	7,507
65	2,745	4,314	0	10,439	681	1,024	0	417	249	75	19,944
66	11,572	1,196	0	2,011	238	0	0	141	183	45	15,386
67	13,045	11,841	170	5,589	27	128	0	64	12	237	31,113
68	20,964	5,890	414	6,590	652	182	0	513	206	111	35,522
69	35,825	5,545	42	12,995	3,211	273	0	108	1,860	143	60,002
70	7,555	1,725	13	2,674	1,821	98	0	93	93	31	14,103
71	3,832	473	527	1,738	1,707	9	97	35	163	4	8,585
72	4,526	1,557	68	328	95	6	0	0	0	0	6,580
TOTALS:	1,420,624	1,205,970	13,846	366,201	42,282	10,853	163	3,022	11,712	3,618	3,078,291

STRUCTURE CODES

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PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO E

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
1	76,670	172,076	98	15,216	55	9	0	22	0	39	264,185
2	40,479	155,653	0	52,152	226	6	0	543	3,672	11	252,742
3	91,657	123,471	1	25,899	111	175	0	191	35	75	241,615
4	50,516	158,091	0	17,967	0	18	0	89	0	22	226,703
5	60,644	96,697	28	7,796	17	314	0	1	0	123	165,620
6	22,884	102,907	0	15,310	0	0	0	3	0	18	141,122
7	36,503	67,805	0	37,486	0	0	0	0	0	111	141,905
8	7,569	25,833	0	3,493	0	0	0	0	0	61	36,956
9	10,615	431	0	721	178	3	0	0	0	4	11,952
10	13,298	11,042	12	448	10	0	7	0	0	7	24,824
11	6,636	1,603	0	73	0	0	0	5	0	0	8,317
12	1,856	0	0	0	0	1,591	0	0	0	0	3,447
13	2,859	399	366	302	42	0	0	0	0	0	3,968
14	9,165	605	0	3,797	294	202	0	0	0	2	14,065
15	3,777	16,644	57	4,781	0	0	0	1	0	49	25,309
16	5,810	21,418	68	2,242	958	0	0	17	0	8	30,521
17	50,830	41,345	293	19,483	1,383	2,777	0	35	462	430	117,038
18	121,488	15,151	0	2,994	45	0	0	0	276	224	140,178
19	14,028	5,178	0	652	0	0	0	0	12	0	19,870
20	29,481	9,047	82	2,783	640	301	0	44	1,608	71	44,057
21	32,621	7,238	0	1,660	0	0	0	0	412	35	41,966
22	18,849	15,374	0	2,881	0	5,932	0	138	0	65	43,239
23	32,672	4,762	276	5,055	2,751	4	0	204	0	63	45,787
24	4,282	1,910	0	625	968	0	0	31	0	15	7,831
25	1,839	22,300	0	261	0	0	18	0	0	0	24,418
26	5,417	6,729	0	120	0	0	0	0	0	0	12,266
27	20,193	5,309	0	751	0	0	0	0	0	0	26,253
28	22,072	25,351	202	3,770	47	4	0	162	0	49	51,657
29	20,328	9,990	57	3,282	35	0	0	0	0	11	33,703
30	19,294	31,064	0	26,173	939	79	0	414	607	326	78,896
31	33,926	11,191	25	7,790	678	161	0	98	85	51	54,005
32	23,588	6,016	0	2,201	0	18	14	0	0	7	31,844
33	25,010	4,130	141	10,171	1,621	402	36	5	220	131	41,867
34	2,590	34	6	635	1,597	0	0	19	0	0	4,881
35	11,193	3,510	0	350	108	0	0	0	0	0	15,161
36	25,569	13,338	0	3,129	38	417	0	0	182	74	42,747
37	12,838	10,287	0	2,347	0	182	0	0	85	45	25,784
38	68,200	25,298	225	7,313	719	5	0	6	0	228	101,994
39	36,951	15,762	21	1,189	1,125	106	0	0	0	0	55,154

PINELLAS COUNTY

PROJECTED HURRICANE STRUCTURAL TAXABLE LOSS ($$$) BY LOSS ZONE

SCENARIO E

HURRICANE LOSS ZONE	TAXABLE DOLLAR LOSS BY STRUCTURE TYPE (IN THOUSANDS)										
	SR	MR	MH	C	I	PU	AG	PT	HC	GI	TOTAL
40	20,743	15,253	78	15,640	41	425	0	11	2,122	52	54,365
41	16,644	2,508	12	417	2	0	0	15	464	0	20,062
42	7,854	840	0	933	365	3	0	34	0	45	10,074
43	1,268	0	872	780	388	0	0	0	0	58	3,366
44	6,175	2,336	3,966	1,344	84	0	0	0	0	107	14,012
45	2,832	1,448	339	190	0	0	0	0	0	0	4,809
46	78,326	25,291	4,674	34,762	25,270	138	0	260	1,067	914	170,702
50	3,668	28,357	9	2,972	61	0	0	0	0	0	35,067
51	3,377	2,924	37	9	0	0	0	0	0	259	6,606
52	5,240	1,784	0	234	0	0	0	0	0	0	7,258
53	17,475	18,549	21	89	750	0	0	0	0	0	36,884
54	34,582	44,805	475	13,919	10,934	547	6	5	0	0	105,273
55	11,740	1,234	0	6,032	0	3	0	55	0	17	19,081
56	4,133	1	0	314	692	0	0	9	80	7	5,236
57	5,749	9,230	0	4,174	0	0	0	106	0	42	19,301
58	51,476	7,091	114	3,379	251	8	28	245	0	156	62,748
59	38,426	14,855	696	4,553	458	152	0	49	216	0	59,405
60	51,924	17,491	250	14,474	1,407	4	0	68	3,885	38	89,541
61	134,493	53,193	172	56,155	10,153	1,307	5	269	2,362	512	258,621
62	93,373	55,927	911	23,563	948	29	0	56	436	200	175,443
63	33,121	5,385	99	2,090	162	81	5	0	0	1,293	42,236
64	7,082	400	0	1,256	65	55	0	75	289	58	9,280
65	5,867	10,315	0	25,666	1,674	2,519	0	1,025	612	183	47,861
66	24,734	2,860	0	4,943	586	0	0	347	450	111	34,031
67	15,718	11,864	177	6,058	44	197	0	153	29	394	34,634
68	33,767	8,750	428	15,896	1,604	446	0	1,260	505	275	62,931
69	63,132	12,500	50	28,547	7,896	671	0	265	3,977	338	117,376
70	17,872	4,739	20	7,237	4,480	242	0	236	255	77	35,158
71	6,987	969	752	3,765	3,811	20	197	81	402	11	16,995
72	5,121	1,696	96	424	168	14	0	0	0	0	7,519
TOTALS:	1,877,096	1,607,584	16,206	573,113	86,879	19,567	316	6,652	24,807	7,502	4,219,722

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

APPENDIX L

HURRICANE TEMPORARY UNEMPLOYMENT/INCOME LOSS BY HURRICANE LOSS ZONE

APPENDIX L

HILLSBOROUGH COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO A

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	1,950	104	160	10	0	0	440	37	0	0	0	0	270	14
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	975	52	0	0	235	19	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	6,500	349	3,680	223	235	19	0	0	0	0	0	0	135	7
15	0	0	320	20	0	0	0	0	0	0	0	0	0	0
16	2,405	128	480	30	940	76	1,760	149	0	0	0	0	945	46
17	2,990	161	0	0	0	0	2,090	176	0	0	0	0	135	7
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0

HILLSBOROUGH COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO A

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS:														
DAYS:	14,820		4,640		1,410		4,290		0		0		1,485	
$$$:		794		283		114		362		0		0		74

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

HILLSBOROUGH COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO B

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	2,925	157	160	10	0	0	440	37	0	0	0	0	405	21
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	1,300	70	0	0	1,645	133	0	0	0	0	0	0	0	0
6	2,925	157	0	0	0	0	0	0	0	0	135	7	405	20
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	16,965	910	0	0	17,155	1,388	0	0	0	0	0	0	137,970	6,726
11	2,405	129	480	29	235	19	0	0	0	0	0	0	1,080	53
12	4,225	227	1,120	68	0	0	0	0	0	0	0	0	675	33
13	13,650	733	640	39	235	19	330	28	0	0	0	0	0	0
14	11,700	627	3,680	223	235	19	0	0	0	0	0	0	135	7
15	0	0	320	20	0	0	0	0	0	0	0	0	0	0
16	7,163	384	480	30	1,175	95	4,400	372	0	0	0	0	945	46
17	16,380	879	7,360	444	470	38	6,710	568	0	0	0	0	945	46
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	3,900	209	320	19	235	19	770	65	0	0	0	0	945	46
23	4,485	241	4,320	261	705	57	3,960	336	0	0	0	0	540	26
24	195	11	0	0	0	0	550	47	0	0	0	0	135	7
25	28,925	1,551	1,760	107	1,175	95	2,420	205	0	0	0	0	2,430	119
26	585	31	160	10	235	19	2,640	224	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	66,625	3,573	8,160	492	1,175	95	0	0	0	0	2,160	104	9,720	474
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	1,170	63	320	19	0	0	1,210	103	0	0	0	0	270	13
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	4,225	227	160	10	470	38	2,970	252	0	0	0	0	1,080	53
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0

HILLSBOROUGH COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO B

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS:														
DAYS:	189,748		29,440		25,145		26,400		0		2,295		157,680	
$$$:		10,179		1,781		2,034		2,237		0		111		7,690

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

HILLSBOROUGH COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO C

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	9,750	523	160	10	0	0	440	37	0	0	0	0	1,080	54
2	8,450	453	0	0	0	0	0	0	0	0	0	0	405	20
3	11,050	593	0	0	0	0	0	0	0	0	0	0	810	40
4	11,674	626	1,760	107	235	19	0	0	0	0	405	20	6,615	322
5	8,840	475	1,120	68	1,645	133	0	0	0	0	0	0	2,025	99
6	8,840	474	160	10	0	0	0	0	0	0	675	33	2,835	139
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	36,855	1,977	1,280	77	0	0	0	0	0	0	17,955	868	2,160	105
9	21,112	1,132	0	0	235	19	0	0	0	0	0	0	1,890	92
11	31,876	1,709	18,240	1,101	3,525	285	0	0	0	0	0	0	8,100	395
12	7,605	408	1,120	68	0	0	0	0	0	0	0	0	675	33
13	18,928	1,015	640	39	1,175	95	1,650	140	0	0	0	0	0	0
14	15,418	827	18,400	1,111	1,175	95	0	0	0	0	0	0	675	33
15	0	0	1,600	96	0	0	0	0	0	0	0	0	0	0
16	9,451	508	1,760	106	5,875	475	18,920	1,603	0	0	0	0	945	46
17	26,975	1,446	160	10	1,410	114	22,330	1,896	0	0	0	0	3,645	178
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	10,452	561	1,600	97	1,175	95	3,850	326	0	0	0	0	4,725	230
23	15,626	838	4,320	261	2,585	209	18,040	1,529	0	0	0	0	1,620	79
24	2,080	111	480	29	0	0	990	84	0	0	0	0	135	7
25	52,286	2,803	5,952	359	3,055	247	8,140	691	0	0	0	0	10,530	514
26	5,265	282	160	10	235	19	2,640	224	0	0	0	0	0	0
27	0	0	0	0	235	19	110	9	0	0	0	0	405	20
28	119,925	6,432	8,160	492	1,175	95	0	0	0	0	2,160	104	9,720	474
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	6,175	331	800	48	235	19	660	56	0	0	0	0	270	13
33	9,945	533	1,280	77	0	0	440	37	0	0	0	0	945	46
34	2,535	136	0	0	470	38	4,950	420	0	0	0	0	405	20
35	10,530	565	320	19	0	0	1,210	103	0	0	0	0	270	13
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	41,990	2,253	1,120	69	705	57	9,680	822	0	0	0	0	3,105	153
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	10,725	575	480	29	0	0	0	0	0	0	0	0	3,105	151
40	10,192	547	7,200	434	0	0	550	47	0	0	0	0	5,400	263
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0

HILLSBOROUGH COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO C

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
44	585	31	0	0	0	0	550	47	0	0	0	0	1,215	59
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS:														
DAYS:	525,135		78,272		25,145		95,150		0		21,195		73,710	
$$$:		28,164		4,727		2,033		8,071		0		1,025		3,598

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

HILLSBOROUGH COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO D

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	17,446	936	800	48	0	0	2,200	187	0	0	0	0	6,750	330
2	27,001	1,449	4,800	290	1,175	95	0	0	0	0	675	33	4,050	198
3	24,752	1,327	0	0	1,175	95	550	47	0	0	0	0	8,775	427
4	55,328	2,967	11,200	676	2,350	190	0	0	0	0	2,025	98	12,825	625
5	18,044	968	5,600	338	8,225	665	0	0	0	0	0	0	10,125	494
6	58,383	3,130	1,600	96	2,350	190	0	0	0	0	675	33	16,200	790
7	18,928	1,015	800	48	2,350	190	0	0	0	0	0	0	4,050	197
8	83,720	4,490	12,000	724	1,175	95	0	0	0	0	89,775	4,340	21,600	1,054
9	29,783	1,597	0	0	1,175	95	0	0	0	0	0	0	9,450	461
11	71,682	3,845	81,600	4,924	12,925	1,046	0	0	0	0	0	0	18,900	921
12	11,323	607	5,600	338	0	0	0	0	0	0	0	0	3,375	165
13	26,702	1,433	3,200	193	1,175	95	1,650	140	0	0	0	0	0	0
14	35,880	1,924	33,120	1,999	1,175	95	0	0	0	0	0	0	675	33
15	0	0	2,240	135	0	0	0	0	0	0	0	0	0	0
16	10,972	588	2,400	144	6,110	494	22,770	1,929	0	0	0	0	4,860	237
17	29,835	1,599	800	48	2,350	190	45,210	3,836	0	0	0	0	4,725	231
18	60,255	3,232	3,200	193	2,350	190	0	0	0	0	0	0	2,025	99
20	11,180	600	12,000	724	1,645	133	0	0	0	0	1,485	72	8,775	428
21	19,175	1,028	6,400	386	1,175	95	110	9	0	0	0	0	810	40
22	12,324	661	1,600	97	1,175	95	3,850	326	0	0	0	0	4,725	230
23	21,775	1,168	21,600	1,303	3,525	285	19,800	1,679	0	0	0	0	2,700	132
24	2,912	156	2,400	145	0	0	4,950	420	0	0	0	0	675	33
25	65,143	3,494	8,800	531	5,875	475	12,100	1,027	0	0	0	0	12,150	593
26	8,307	445	800	48	1,175	95	16,500	1,399	0	0	0	0	0	0
27	0	0	0	0	1,175	95	550	47	0	0	0	0	2,700	132
28	149,240	8,004	40,800	2,462	5,875	475	0	0	0	0	10,800	522	48,600	2,369
31	34,944	1,874	21,600	1,303	3,525	285	0	0	0	0	0	0	2,700	132
32	13,832	742	4,000	241	1,175	95	3,300	280	0	0	0	0	1,350	66
33	21,242	1,139	6,400	386	2,350	190	4,400	374	0	0	0	0	10,800	526
34	4,381	235	0	0	2,350	190	24,750	2,099	0	0	0	0	2,025	99
35	14,274	767	2,240	136	0	0	18,920	1,604	0	0	0	0	3,375	166
36	2,405	129	0	0	0	0	2,750	233	0	0	0	0	2,565	126
37	44,772	2,401	2,240	137	3,760	304	44,880	3,804	0	0	0	0	15,255	746
38	520	28	0	0	235	19	880	75	0	0	0	0	405	20
39	76,427	4,099	4,320	262	2,585	209	550	47	0	0	675	33	33,615	1,639
40	48,360	2,594	5,760	349	1,175	95	550	47	0	0	135	7	12,825	626
41	157,820	8,464	22,720	1,371	3,995	323	440	37	0	0	3,105	150	25,380	1,238
42	92,430	4,957	63,200	3,814	8,225	665	0	0	0	0	675	33	7,425	362
43	23,400	1,255	4,960	300	1,175	95	10,450	886	0	0	0	0	5,400	263

HILLSBOROUGH COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE

($$$ IN THOUSANDS)

SCENARIO D

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
44	858	46	0	0	0	0	4,400	373	0	0	0	0	6,615	322
45	715	39	320	19	235	19	880	75	0	0	0	0	0	0
46	2,600	139	320	19	0	0	0	0	0	0	0	0	1,215	59
47	25,480	1,366	2,240	136	1,410	114	0	0	0	0	0	0	6,210	303
48	48,048	2,577	3,200	193	0	0	550	47	0	0	675	33	6,750	329
49	1,430	77	1,920	116	470	38	0	0	0	0	0	0	810	40
50	2,860	153	0	0	705	57	1,870	158	0	0	0	0	675	33
51	8,125	446	1,120	69	1,645	133	130,680	11,084	0	0	21,060	1,018	42,120	2,060
52	6,890	379	960	60	1,175	95	81,290	6,896	0	0	0	0	12,690	625
53	25,935	1,399	10,560	639	2,820	228	99,220	8,412	0	0	135	7	21,195	1,038
54	39,260	2,111	13,440	814	6,110	494	81,070	6,876	235	19	675	34	30,375	1,482
55	52,715	2,835	19,680	1,191	6,580	532	146,740	12,448	940	76	1,080	54	39,690	1,941
56	5,265	288	1,120	70	470	38	58,190	4,928	0	0	0	0	6,615	326
57	76,050	4,085	32,960	1,993	6,815	551	33,110	2,808	0	0	83,565	4,041	57,240	2,794
58	150,605	8,077	85,280	5,149	15,510	1,254	18,920	1,605	235	19	3,780	186	66,420	3,245
59	10,920	595	1,920	117	1,645	133	69,630	5,909	0	0	0	0	8,910	443
TOTALS:														
DAYS:	1,862,653		575,840		143,820		968,660		1,410		220,995		640,170	
$$$:		99,959		34,774		11,629		82,151		114		10,694		31,268

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

HILLSBOROUGH COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO E

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	24,609	1,320	1,440	87	0	0	3,960	336	0	0	0	0	12,150	592
2	48,360	2,593	8,640	521	2,115	171	0	0	0	0	1,215	59	7,290	356
3	34,918	1,873	0	0	2,115	171	990	84	0	0	0	0	15,795	770
4	68,848	3,693	20,160	1,217	4,230	342	0	0	0	0	3,645	176	23,085	1,125
5	23,660	1,269	10,080	608	14,805	1,198	0	0	0	0	0	0	18,225	889
6	104,143	5,585	3,232	195	4,230	342	0	0	0	0	1,215	59	29,160	1,422
7	26,702	1,432	1,440	87	4,230	342	0	0	0	0	0	0	7,290	355
8	118,105	6,334	21,600	1,303	2,115	171	0	0	0	0	161,595	7,812	38,880	1,896
9	137,605	7,380	0	0	2,115	171	0	0	0	0	0	0	17,010	829
11	157,885	8,467	148,992	8,990	23,265	1,882	0	0	0	0	0	0	34,020	1,659
12	61,685	3,308	12,544	757	0	0	0	0	0	0	0	0	6,075	296
13	123,370	6,617	8,576	517	2,115	171	2,970	252	0	0	0	0	0	0
14	94,900	5,090	53,152	3,207	2,632	213	0	0	0	0	0	0	1,215	59
15	0	0	4,672	282	0	0	0	0	0	0	0	0	0	0
16	44,915	2,411	5,728	345	10,810	874	40,612	3,443	0	0	0	0	9,180	448
17	51,753	2,776	1,440	87	5,264	426	91,366	7,742	0	0	0	0	8,505	415
18	89,713	4,811	5,760	348	4,230	342	0	0	0	0	0	0	3,645	178
20	55,900	2,998	60,000	3,620	8,225	665	0	0	0	0	7,425	359	43,875	2,139
21	60,593	3,250	57,600	3,476	10,575	856	990	84	0	0	0	0	7,290	355
22	56,940	3,054	4,288	259	2,115	171	6,930	588	0	0	0	0	8,505	415
23	118,625	6,362	49,792	3,004	7,379	597	43,384	3,679	0	0	0	0	5,454	266
24	9,360	503	5,376	324	0	0	8,910	756	0	0	0	0	1,215	59
25	277,550	14,885	21,472	1,296	11,609	939	22,748	1,927	0	0	0	0	26,028	1,269
26	10,023	537	800	48	2,115	171	27,060	2,294	0	0	0	0	0	0
27	0	0	0	0	1,175	95	550	47	0	0	0	0	3,240	158
28	479,700	25,726	91,392	5,515	10,575	856	0	0	0	0	19,440	940	87,480	4,265
31	74,880	4,016	38,880	2,346	6,345	513	0	0	0	0	0	0	4,860	237
32	44,460	2,384	8,960	541	2,115	171	5,940	504	0	0	0	0	2,430	119
33	91,962	4,932	17,152	1,035	4,230	342	7,920	672	0	0	0	0	19,440	948
34	33,215	1,782	0	0	4,230	342	44,550	3,776	0	0	0	0	3,645	178
35	35,139	1,885	8,640	522	0	0	63,800	5,408	0	0	0	0	10,935	534
36	12,025	645	0	0	0	0	13,750	1,166	0	0	0	0	12,825	626
37	70,551	3,784	13,120	792	6,580	532	142,120	12,052	0	0	0	0	26,055	1,271
38	4,680	251	0	0	1,175	95	4,400	373	0	0	0	0	2,025	99
39	96,681	5,185	8,800	531	4,465	361	2,750	233	0	0	675	33	56,295	2,744
40	171,795	9,214	51,840	3,128	10,575	855	990	84	0	0	1,215	59	76,545	3,732
41	590,759	31,683	204,480	12,339	35,955	2,909	3,960	336	0	0	27,945	1,351	228,420	11,135
42	246,480	13,219	113,760	6,864	14,805	1,198	0	0	0	0	1,215	59	13,365	652
43	41,080	2,203	44,640	2,694	2,115	171	18,810	1,595	0	0	0	0	9,720	474

HILLSBOROUGH COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO E

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
44	1,677	90	0	0	0	0	13,200	1,119	0	0	0	0	13,635	665
45	1,781	95	1,600	97	1,175	95	4,400	373	0	0	0	0	0	0
46	23,400	1,255	1,600	97	0	0	0	0	0	0	0	0	6,075	296
47	224,523	12,041	13,760	831	7,990	646	0	0	0	0	0	0	46,710	2,277
48	67,782	3,635	5,760	348	0	0	990	84	0	0	1,215	59	12,150	592
49	22,594	1,212	17,280	1,043	4,230	342	0	0	0	0	0	0	7,290	355
50	11,648	624	0	0	3,525	285	9,350	792	0	0	0	0	3,375	165
51	41,028	2,195	5,600	337	8,225	665	667,920	56,642	0	0	105,300	5,090	211,140	10,296
52	34,450	1,841	4,800	288	5,875	475	406,450	34,462	0	0	0	0	63,450	3,096
53	185,549	9,948	52,800	3,185	14,100	1,140	496,100	42,057	0	0	675	33	105,975	5,172
54	198,029	10,619	67,200	4,055	30,550	2,471	405,350	34,362	1,175	95	3,375	164	151,875	7,407
55	268,138	14,378	117,600	7,097	35,720	2,889	740,740	62,802	8,460	684	5,400	262	203,310	9,916
56	26,325	1,408	5,600	336	2,350	190	290,950	24,679	0	0	0	0	33,075	1,615
57	390,000	20,919	167,360	10,098	35,015	2,832	169,070	14,338	0	0	417,825	20,199	286,200	13,954
58	761,566	40,843	426,400	25,727	78,490	6,348	94,600	8,022	1,175	95	18,900	915	333,180	16,248
59	54,600	2,923	9,600	579	8,225	665	348,150	29,518	0	0	0	0	44,550	2,175
TOTALS:														
DAYS:	6,106,659		2,005,408		466,099		4,206,730		10,810		778,275		2,403,162	
$$$:		327,483		121,003		37,698		356,681		874		37,629		117,193

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

MANATEE COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO A

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	45,045	2,159	320	19	0	0	0	0	0	0	210	10	1,890	75
2	13,255	635	160	9	125	10	0	0	250	20	0	0	1,890	75
3	24,475	1,172	320	19	0	0	1,575	134	250	19	0	0	525	21
4	990	47	160	9	0	0	315	27	0	0	0	0	0	0
5	13,365	641	320	19	0	0	0	0	0	0	0	0	210	8
6	550	26	0	0	0	0	2,520	215	125	10	0	0	0	0
7	275	13	0	0	125	10	315	27	0	0	0	0	0	0
8	110	5	0	0	0	0	3,465	296	0	0	0	0	210	8
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS:														
DAYS:	98,065		1,280		250		8,190		625		210		4,725	
$$$:		4,698		75		20		699		49		10		187

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

MANATEE COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO B

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	49,159	2,358	320	19	0	0	0	0	0	0	210	10	1,890	75
2	26,279	1,258	480	28	250	20	0	0	625	49	0	0	2,520	100
3	34,573	1,657	320	19	0	0	1,575	134	250	19	0	0	735	29
4	5,687	273	160	9	125	10	630	54	0	0	0	0	105	4
5	24,882	1,192	480	28	0	0	0	0	0	0	0	0	735	29
6	1,936	94	160	9	0	0	5,985	510	250	20	0	0	105	4
7	4,345	209	320	18	125	10	945	81	125	10	0	0	105	4
8	605	29	1,440	85	125	10	6,615	565	0	0	0	0	315	12
9	1,760	84	800	47	0	0	0	0	0	0	0	0	945	37
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	630	54	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	2,750	132	160	9	0	0	0	0	0	0	0	0	630	25
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS:														
DAYS:	151,976		4,640		625		16,380		1,250		210		8,085	
$$$:		7,286		271		50		1,398		98		10		319

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
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MANATEE COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)

HURRICANE SCENARIO C

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	59,807	2,868	1,600	94	0	0	0	0	0	0	630	30	5,670	226
2	35,849	1,717	480	28	750	58	0	0	625	49	0	0	3,360	134
3	38,170	1,829	1,600	94	0	0	7,875	671	1,250	95	0	0	2,835	112
4	7,183	345	1,120	66	625	48	3,150	269	0	0	0	0	735	29
5	34,749	1,666	1,760	103	0	0	0	0	0	0	0	0	1,575	63
6	3,828	184	160	9	375	29	15,435	1,315	250	20	105	5	945	38
7	5,346	257	320	18	625	48	2,835	242	125	10	0	0	105	4
8	1,485	71	1,440	85	125	10	9,135	779	0	0	0	0	735	29
9	9,152	439	1,440	84	375	29	2,205	188	0	0	0	0	1,365	54
10	8,855	425	0	0	0	0	315	27	0	0	105	5	2,940	117
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	330	16	0	0	0	0	1,260	107	0	0	0	0	945	38
13	715	34	160	9	0	0	0	0	125	10	0	0	315	13
14	14,465	693	7,680	451	500	39	0	0	125	10	1,050	50	7,665	305
15	2,915	139	5,280	309	0	0	1,890	162	125	10	105	5	2,310	92
16	825	40	0	0	250	20	6,300	538	0	0	0	0	420	16
17	770	37	0	0	0	0	3,780	322	0	0	0	0	630	25
18	825	39	0	0	0	0	5,040	432	0	0	0	0	315	12
20	165	8	0	0	0	0	0	0	0	0	0	0	1,365	54
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	605	29	160	9	0	0	945	81	0	0	0	0	420	17
23	5,665	271	160	9	125	10	0	0	0	0	105	5	1,890	75
24	4,290	206	4,320	254	0	0	1,260	108	0	0	105	5	1,470	58
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	11,715	562	5,600	328	0	0	35,280	3,005	0	0	210	10	5,460	217
27	7,095	340	2,400	140	625	49	630	54	0	0	210	10	4,410	176
28	35,255	1,690	13,440	789	1,375	107	27,720	2,365	0	0	1,050	50	12,390	489
29	5,390	256	25,440	1,492	375	29	28,035	2,390	625	48	0	0	2,415	95
TOTALS:														
DAYS:	295,449		74,560		6,125		153,090		3,250		3,675		62,685	
$$$:		14,161		4,371		476		13,055		252		175		2,488

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

MANATEE COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)

HURRICANE SCENARIO D

LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	69,751	3,344	2,880	169	0	0	0	0	0	0	1,890	90	15,750	627
2	44,924	2,153	2,400	141	1,750	133	0	0	3,125	239	0	0	13,440	534
3	46,464	2,227	2,880	169	0	0	14,175	1,207	2,250	171	0	0	5,775	230
4	8,976	430	1,760	104	1,125	85	8,190	697	0	0	0	0	1,575	63
5	38,379	1,840	2,400	141	0	0	0	0	0	0	0	0	3,675	146
6	7,084	340	800	47	375	29	39,375	3,354	1,250	96	105	5	1,365	55
7	9,361	448	1,600	94	625	48	7,875	670	625	48	0	0	525	21
8	2,343	113	10,400	610	625	48	33,075	2,816	0	0	0	0	1,575	63
9	18,326	878	8,960	526	1,375	105	6,300	536	0	0	0	0	5,145	205
10	8,855	425	0	0	0	0	315	27	0	0	105	5	2,940	117
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	2,970	142	0	0	0	0	6,300	537	0	0	0	0	4,725	188
13	6,435	308	800	47	0	0	0	0	625	48	0	0	1,575	63
14	14,465	693	7,680	451	500	39	0	0	125	10	1,050	50	7,665	305
15	6,435	308	5,280	309	0	0	1,890	162	125	10	105	5	2,310	92
16	3,245	155	0	0	750	58	11,340	966	0	0	0	0	840	33
17	770	37	0	0	0	0	6,615	564	0	0	0	0	630	25
18	1,430	69	0	0	0	0	41,265	3,517	0	0	0	0	1,050	41
20	165	8	0	0	0	0	0	0	0	0	0	0	1,365	54
21	990	47	800	47	1,250	95	26,775	2,281	0	0	0	0	0	0
22	3,025	145	160	9	0	0	945	81	0	0	0	0	420	17
23	6,875	329	800	47	125	10	0	0	0	0	105	5	4,410	175
24	4,290	206	4,320	254	0	0	1,260	108	0	0	105	5	1,470	58
25	1,155	56	160	9	375	30	102,060	8,709	0	0	0	0	945	37
26	48,235	2,312	5,600	328	375	30	179,550	15,328	0	0	210	10	6,825	270
27	7,095	340	2,400	140	625	49	630	54	0	0	210	10	4,410	176
28	35,695	1,712	13,600	798	1,625	127	177,345	15,133	0	0	1,050	50	12,705	501
29	5,720	273	25,440	1,492	500	39	148,680	12,694	625	48	0	0	3,150	124
TOTALS:														
DAYS:	403,458		101,120		12,000		813,960		8,750		4,935		106,260	
$$$:		19,338		5,932		925		69,441		670		235		4,220

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
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PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

MANATEE COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO E

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	89,001	4,267	3,584	210	0	0	0	0	0	0	2,352	112	21,168	841
2	59,169	2,835	5,376	315	2,800	212	0	0	7,000	531	0	0	28,224	1,121
3	67,925	3,255	4,288	252	0	0	17,640	1,502	2,800	213	0	0	8,232	327
4	21,879	1,048	5,728	336	1,400	106	21,168	1,805	0	0	0	0	3,528	141
5	61,710	2,957	6,080	357	0	0	0	0	0	0	0	0	8,232	327
6	18,359	881	1,792	105	4,200	319	74,088	6,310	2,800	212	1,176	56	10,584	421
7	13,035	625	3,584	210	1,400	106	17,640	1,503	1,400	106	0	0	1,176	47
8	3,080	148	21,888	1,284	1,400	106	74,088	6,311	0	0	0	0	3,528	141
9	28,644	1,373	20,096	1,179	3,925	298	24,759	2,109	0	0	0	0	14,364	571
10	91,311	4,376	0	0	0	0	2,835	242	0	0	945	45	30,387	1,207
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	4,422	212	0	0	0	0	14,112	1,202	0	0	0	0	10,584	420
13	9,581	459	1,792	105	0	0	0	0	1,400	106	0	0	3,528	140
14	130,185	6,238	69,120	4,055	4,500	341	0	0	1,125	85	9,450	450	68,985	2,740
15	28,171	1,350	52,448	3,076	0	0	19,089	1,625	1,125	85	945	45	22,176	881
16	4,554	219	0	0	2,250	170	56,700	4,829	0	0	0	0	3,780	152
17	6,930	332	0	0	0	0	59,535	5,072	0	0	0	0	5,670	226
18	5,797	279	0	0	0	0	246,645	21,008	0	0	0	0	5,670	226
20	1,485	71	0	0	0	0	0	0	0	0	0	0	12,285	488
21	1,474	71	1,440	85	2,800	213	52,353	4,459	0	0	0	0	0	0
22	6,776	325	1,792	105	0	0	10,584	901	0	0	0	0	4,704	187
23	15,125	724	1,792	105	1,125	85	0	0	0	0	945	45	18,396	730
24	38,610	1,850	38,880	2,280	0	0	11,340	966	0	0	945	45	13,230	526
25	10,395	498	1,440	85	2,375	181	764,820	65,134	0	0	0	0	8,085	322
26	131,098	6,284	61,312	3,597	2,875	218	*02,670	102,410	0	0	2,121	101	66,948	2,662
27	63,855	3,060	21,600	1,267	5,625	426	5,670	484	0	0	1,890	90	39,690	1,578
28	320,595	15,362	121,760	7,142	14,125	1,071	*94,165	101,696	0	0	9,450	450	113,085	4,492
29	50,160	2,402	228,960	13,431	4,000	304	855,540	72,850	5,625	427	0	0	25,410	1,012
TOTALS:														
DAYS:	1,283,326		674,752		54,800		4,725,441		23,275		30,219		551,649	
$$$:		61,501		39,581		4,156		402,418		1,765		1,439		21,926

STRUCTURE CODES

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PASCO COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO A

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	675	39	125	6	0	0	0	0	0	0	0	0	0	0
2	10,305	450	0	0	0	0	130	15	0	0	0	0	0	0
3	14,580	636	0	0	0	0	260	30	0	0	0	0	0	0
4	11,970	523	0	0	0	0	130	15	0	0	0	0	0	0
5	13,545	592	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS:														
DAYS:	51,075		125		0		520		0		0		0	
$$$:		2,231		6		0		60		0		0		0

STRUCTURE CODES

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PASCO COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)

HURRICANE SCENARIO B

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	1,215	53	125	6	0	0	130	15	0	0	0	0	0	0
2	38,574	1,685	125	6	0	0	130	15	0	0	0	0	0	0
3	30,969	1,352	0	0	0	0	260	30	0	0	0	0	0	0
4	24,246	1,059	0	0	0	0	130	15	0	0	0	0	0	0
5	23,481	1,025	0	0	0	0	0	0	0	0	0	0	0	0
6	900	39	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS:														
DAYS:	119,385		250		0		650		0		0		0	
$$$:		5,213		12		0		75		0		0		0

STRUCTURE CODES

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PASCO COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO C

HURRICANE LOSS ZONE	------C------		------I------		------PU-----		------AG-----		------PT-----		------HC-----		------GI-----	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	2,277	100	625	32	0	0	130	15	0	0	0	0	0	0
2	85,464	3,730	625	32	0	0	650	74	0	0	0	0	0	0
3	58,986	2,575	0	0	0	0	1,560	178	0	0	0	0	0	0
4	34,659	1,513	0	0	0	0	650	74	0	0	0	0	0	0
5	33,849	1,477	0	0	0	0	130	15	0	0	0	0	0	0
6	2,970	130	0	0	0	0	1,040	119	0	0	0	0	0	0
7	23,400	1,022	125	6	0	0	0	0	0	0	0	0	0	0
8	6,750	295	0	0	0	0	0	0	0	0	0	0	0	0
9	495	22	0	0	0	0	130	15	0	0	0	0	0	0
10	675	30	0	0	0	0	130	15	0	0	0	0	0	0
11	1,305	58	125	6	0	0	390	45	0	0	0	0	0	0
12	2,250	98	0	0	0	0	260	30	0	0	0	0	0	0
13	2,880	126	125	6	0	0	910	105	0	0	0	0	0	0
14	1,260	55	0	0	0	0	260	30	0	0	0	0	0	0
15	360	16	0	0	0	0	910	105	0	0	0	0	0	0
16	225	10	125	6	0	0	520	60	0	0	0	0	0	0
17	1,080	48	0	0	0	0	4,030	462	0	0	0	0	0	0
18	1,080	48	0	0	0	0	1,820	209	0	0	0	0	0	0
19	1,305	58	0	0	0	0	37,570	4,291	0	0	0	0	0	0
20	540	24	125	6	0	0	3,120	357	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS: DAYS:	261,810		1,875		0		54,210		0		0		0	
$$$:		11,435		94		0		6,199		0		0		0

STRUCTURE CODES

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PASCO COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO D

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	13,428	587	1,400	71	0	0	650	74	0	0	0	0	0	0
2	226,521	9,889	1,125	57	0	0	1,170	133	0	0	0	0	0	0
3	202,734	8,851	0	0	0	0	4,680	533	0	0	0	0	0	0
4	118,170	5,159	0	0	0	0	1,170	133	0	0	0	0	0	0
5	138,303	6,039	0	0	0	0	650	74	0	0	0	0	0	0
6	6,165	269	0	0	0	0	5,200	593	0	0	0	0	0	0
7	52,416	2,288	625	32	0	0	0	0	0	0	0	0	0	0
8	18,090	790	0	0	0	0	0	0	0	0	0	0	0	0
9	5,544	242	0	0	0	0	650	74	0	0	0	0	0	0
10	7,560	330	0	0	0	0	650	74	0	0	0	0	0	0
11	16,002	699	625	32	0	0	1,950	222	0	0	0	0	0	0
12	13,770	601	0	0	0	0	1,300	148	0	0	0	0	0	0
13	30,762	1,343	625	32	0	0	4,550	518	0	0	0	0	0	0
14	11,223	490	0	0	0	0	1,300	148	0	0	0	0	0	0
15	2,979	130	0	0	0	0	2,990	341	0	0	0	0	0	0
16	1,143	50	625	32	0	0	2,080	237	0	0	0	0	0	0
17	4,599	201	0	0	0	0	7,150	818	0	0	0	0	0	0
18	6,120	268	0	0	0	0	3,900	446	0	0	0	0	0	0
19	1,665	74	0	0	0	0	46,800	5,347	0	0	0	0	0	0
20	4,140	182	125	6	0	0	30,160	3,449	0	0	0	0	0	0
21	765	34	0	0	0	0	32,890	3,756	0	0	0	0	0	0
22	1,215	53	0	0	0	0	34,970	3,993	0	0	0	0	0	0
23	12,105	530	0	0	0	0	39,780	4,539	0	0	0	0	0	0
24	12,690	558	0	0	0	0	68,510	7,821	0	0	0	0	0	0
TOTALS:														
DAYS:	908,109		5,150		0		293,150		0		0		0	
$$$:		39,657		262		0		33,471		0		0		0

STRUCTURE CODES

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PASCO COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO E

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	18,297	799	1,975	101	0	0	1,456	166	0	0	0	0	0	0
2	329,400	14,382	1,675	85	0	0	1,456	166	0	0	0	0	0	0
3	251,640	10,987	0	0	0	0	6,396	730	0	0	0	0	0	0
4	185,130	8,083	0	0	0	0	1,456	166	0	0	0	0	0	0
5	157,221	6,865	0	0	0	0	1,456	166	0	0	0	0	0	0
6	9,693	424	0	0	0	0	11,648	1,328	0	0	0	0	0	0
7	112,320	4,904	1,400	71	0	0	0	0	0	0	0	0	0	0
8	21,330	931	0	0	0	0	0	0	0	0	0	0	0	0
9	7,821	341	0	0	0	0	1,456	166	0	0	0	0	0	0
10	10,665	466	0	0	0	0	1,456	166	0	0	0	0	0	0
11	25,785	1,126	1,400	71	0	0	4,368	498	0	0	0	0	0	0
12	26,586	1,161	0	0	0	0	2,912	332	0	0	0	0	0	0
13	44,658	1,950	1,400	71	0	0	9,048	1,032	0	0	0	0	0	0
14	17,730	775	0	0	0	0	2,912	332	0	0	0	0	0	0
15	4,932	215	0	0	0	0	10,192	1,162	0	0	0	0	0	0
16	2,637	115	1,400	71	0	0	5,538	631	0	0	0	0	0	0
17	12,096	529	0	0	0	0	38,558	4,395	0	0	0	0	0	0
18	13,383	585	0	0	0	0	18,096	2,060	0	0	0	0	0	0
19	11,943	521	0	0	0	0	419,120	47,765	0	0	0	0	0	0
20	35,838	1,566	1,125	57	0	0	272,584	31,058	0	0	0	0	0	0
21	3,825	169	0	0	0	0	164,450	18,740	0	0	0	0	0	0
22	6,075	267	0	0	0	0	174,850	19,928	0	0	0	0	0	0
23	60,525	2,649	0	0	0	0	198,900	22,668	0	0	0	0	0	0
24	63,450	2,775	0	0	0	0	342,550	39,040	0	0	0	0	0	0
TOTALS:														
DAYS:	1,432,980		10,375		0		1,690,858		0		0		0	
$$$:		62,585		527		0		192,695		0		0		0

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO A

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	17,520	847	135	8	165	13	0	0	330	25	0	0	1,300	64
2	9,300	449	135	8	0	0	0	0	825	63	100	5	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1,500	72	270	16	165	13	10	1	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	165	13	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	540	26	675	40	0	0	20	2	0	0	0	0	0	0
17	7,620	367	2,160	128	825	63	0	0	330	26	100	5	500	25
18	1,980	96	0	0	0	0	0	0	0	0	100	5	2,100	105
19	0	0	0	0	0	0	0	0	0	0	0	0	100	5
20	1,920	93	0	0	0	0	0	0	0	0	200	10	800	39
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	200	10
23	0	0	0	0	0	0	0	0	0	0	0	0	2,500	123
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	1,500	72	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO A

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	60	3	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS:														
DAYS:	41,940		3,375		1,320		30		1,485		500		7,500	
$$$:		2,025		200		102		3		114		25		371

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
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PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO B

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	40,620	1,961	270	16	165	13	0	0	330	25	0	0	1,700	84
2	93,420	4,511	945	56	165	13	0	0	1,815	139	700	34	1,900	94
3	188,460	9,101	270	16	495	38	0	0	660	50	100	5	2,900	143
4	75,180	3,631	0	0	495	38	0	0	330	25	0	0	1,900	95
5	36,900	1,782	135	8	495	38	0	0	165	13	0	0	1,700	83
6	4,200	203	0	0	0	0	0	0	165	13	0	0	1,200	59
7	77,700	3,753	0	0	0	0	0	0	0	0	0	0	1,400	69
8	14,040	678	0	0	0	0	0	0	0	0	0	0	300	15
9	4,860	234	405	24	165	13	10	1	0	0	0	0	200	10
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	900	44	0	0	0	0	0	0	165	13	100	5	0	0
12	0	0	0	0	165	13	0	0	0	0	0	0	0	0
13	3,300	159	135	8	0	0	0	0	0	0	0	0	100	5
14	0	0	0	0	0	0	0	0	0	0	0	0	100	5
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	540	26	675	40	0	0	20	2	0	0	0	0	0	0
17	15,540	752	2,565	152	1,155	89	0	0	825	64	100	5	1,400	70
18	1,980	96	0	0	0	0	0	0	0	0	100	5	2,100	105
19	0	0	0	0	0	0	0	0	0	0	0	0	100	5
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	4,500	217	7,200	355
22	10,620	513	0	0	330	25	0	0	2,145	165	0	0	1,500	74
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	900	44	5,265	314	0	0	0	0	330	25	0	0	300	15
25	1,620	78	0	0	0	0	10	1	0	0	0	0	300	15
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	20,400	985	1,755	105	0	0	0	0	4,455	342	0	0	2,100	104
31	3,360	162	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	11,580	559	8,370	499	660	51	30	2	165	13	100	5	4,400	217
34	5,700	275	3,240	193	165	13	0	0	165	13	0	0	1,100	54
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	5,400	261	270	16	165	13	0	0	0	0	0	0	200	10
39	3,900	189	0	0	330	25	0	0	0	0	0	0	400	20

PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO B

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	180	9	0	0	0	0	10	1	0	0	0	0	100	5
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	60	3	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72	360	17	0	0	0	0	0	0	0	0	0	0	200	10
TOTALS:														
DAYS:	621,720		24,300		4,950		80		11,715		5,700		34,800	
$$$:		30,026		1,447		382		7		900		276		1,721

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
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PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO C

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	49,992	2,413	1,350	80	165	13	0	0	1,650	127	0	0	8,200	405
2	116,256	5,614	4,725	282	825	63	0	0	9,075	697	3,500	168	9,500	468
3	250,500	12,097	1,350	80	2,475	190	0	0	3,300	254	500	24	14,500	715
4	105,504	5,095	0	0	2,475	190	0	0	1,650	127	0	0	8,300	409
5	86,556	4,179	675	40	660	51	0	0	165	13	0	0	2,000	98
6	9,408	454	0	0	0	0	0	0	165	13	0	0	1,200	59
7	164,676	7,952	0	0	0	0	0	0	0	0	0	0	1,400	69
8	17,472	844	0	0	0	0	0	0	0	0	0	0	1,500	74
9	13,608	657	2,025	121	825	63	50	4	0	0	0	0	1,200	59
10	840	41	135	8	0	0	20	2	0	0	0	0	300	15
11	2,016	97	0	0	0	0	0	0	165	13	100	5	300	15
12	0	0	0	0	825	63	0	0	0	0	0	0	0	0
13	5,940	287	135	8	0	0	0	0	0	0	0	0	100	5
14	12,720	615	945	56	495	38	0	0	0	0	0	0	1,700	84
15	8,100	391	0	0	0	0	0	0	330	25	0	0	2,000	99
16	3,900	188	2,430	144	0	0	20	2	165	13	0	0	400	20
17	85,572	4,132	3,105	184	1,815	139	0	0	1,650	127	300	15	3,500	174
18	3,096	150	0	0	0	0	0	0	0	0	100	5	2,300	115
19	1,500	72	0	0	0	0	0	0	0	0	100	5	900	44
20	59,940	2,895	4,725	282	495	38	0	0	330	25	800	39	3,400	167
21	0	0	0	0	0	0	0	0	0	0	500	24	800	39
22	26,460	1,278	0	0	330	25	0	0	2,145	165	0	0	1,700	84
23	30,360	1,466	2,160	129	165	13	0	0	2,475	190	0	0	2,900	144
24	8,100	391	5,265	314	0	0	0	0	1,650	127	0	0	1,500	74
25	2,016	97	0	0	0	0	50	4	0	0	0	0	1,500	74
26	1,344	65	0	0	0	0	0	0	0	0	0	0	1,000	49
27	420	20	0	0	0	0	10	1	0	0	0	0	600	30
28	13,500	652	405	24	165	13	30	2	165	13	0	0	800	40
29	3,660	177	270	16	0	0	0	0	0	0	0	0	500	25
30	93,960	4,537	5,670	339	495	38	0	0	6,930	532	1,100	53	7,200	355
31	62,700	3,029	1,890	113	165	13	0	0	495	38	1,000	49	5,000	247
32	17,340	838	0	0	330	25	30	3	0	0	0	0	1,600	79
33	132,120	6,381	10,800	644	660	51	30	2	165	13	100	5	6,600	326
34	12,768	617	16,200	967	165	13	0	0	165	13	0	0	1,100	54
35	3,900	188	270	16	0	0	10	1	0	0	0	0	200	10
36	25,200	1,217	135	8	495	38	0	0	0	0	100	5	2,000	99
37	5,400	261	0	0	165	13	0	0	0	0	100	5	300	15
38	58,788	2,840	4,185	250	990	76	10	1	165	13	600	29	4,100	203
39	11,976	578	1,620	97	1,650	127	50	4	0	0	0	0	5,200	257

PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO C

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
40	45,660	2,205	675	40	165	13	20	2	330	26	400	20	1,700	83
41	1,020	49	135	8	0	0	0	0	165	13	800	39	400	20
42	3,120	151	2,700	161	165	13	0	0	660	51	0	0	3,300	163
43	1,620	78	0	0	0	0	10	1	0	0	0	0	100	5
44	60	3	0	0	0	0	10	1	0	0	0	0	300	15
45	240	12	0	0	0	0	10	1	0	0	0	0	200	10
46	214,560	10,359	46,035	2,745	825	65	40	4	3,630	279	600	30	15,000	742
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	60	3	0	0	0	0	0	0	0	0	0	0	100	5
52	300	15	0	0	0	0	0	0	0	0	0	0	200	10
53	1,200	58	135	8	0	0	0	0	0	0	0	0	0	0
54	50,880	2,458	12,555	749	1,320	102	130	9	165	13	0	0	3,100	154
55	6,600	319	0	0	0	0	0	0	495	38	0	0	3,100	153
56	1,620	78	5,400	322	0	0	0	0	495	38	100	5	2,200	108
57	19,440	939	0	0	0	0	0	0	825	63	0	0	700	35
58	4,980	241	1,215	72	330	26	40	3	660	51	0	0	3,400	168
59	7,800	378	1,890	112	990	76	40	4	990	77	200	10	4,800	238
60	22,980	1,110	6,210	371	165	13	30	3	1,155	89	200	10	6,400	317
61	60,900	2,942	29,295	1,747	2,310	179	30	3	7,425	571	900	45	18,900	934
62	13,200	639	5,400	321	825	65	200	17	825	64	200	10	5,900	292
63	2,940	142	1,080	64	330	25	140	10	0	0	0	0	1,900	94
64	8,700	421	945	56	1,320	101	0	0	4,290	330	300	15	7,700	380
65	13,500	652	6,075	363	825	63	0	0	10,230	786	200	10	4,800	237
66	8,820	426	3,240	193	0	0	0	0	4,290	330	1,000	48	3,200	158
67	23,520	1,136	1,485	89	330	26	10	1	2,475	191	100	5	3,100	153
68	35,580	1,718	12,015	716	1,320	101	0	0	13,695	1,053	800	40	8,700	428
69	25,680	1,241	20,925	1,249	660	51	0	0	3,465	266	500	25	8,600	423
70	11,700	565	13,500	805	330	26	0	0	6,930	533	200	10	3,700	182
71	10,800	522	11,610	693	495	38	50	5	4,125	317	200	10	4,000	198
72	4,260	207	135	8	330	26	100	7	0	0	0	0	300	15
TOTALS:														
DAYS:	2,109,348		253,125		29,865		1,170		100,320		15,600		223,100	
$$$:		101,872		15,094		2,302		97		7,717		763		11,018

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO D

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	62,124	3,000	1,350	80	825	63	0	0	1,650	127	0	0	8,600	425
2	139,092	6,717	4,725	282	825	63	0	0	9,075	697	3,500	168	9,500	468
3	297,732	14,379	1,350	80	2,475	190	0	0	3,300	254	500	24	14,500	715
4	126,516	6,110	0	0	2,475	190	0	0	1,650	127	0	0	9,900	487
5	107,628	5,198	1,215	73	3,300	253	0	0	1,485	114	0	0	10,000	493
6	10,596	511	0	0	0	0	0	0	825	63	0	0	6,000	296
7	208,236	10,057	0	0	0	0	0	0	0	0	0	0	7,000	345
8	20,904	1,010	0	0	0	0	0	0	0	0	0	0	1,500	74
9	25,956	1,253	3,645	218	825	63	50	4	0	0	0	0	2,000	98
10	1,344	66	675	40	0	0	100	7	0	0	0	0	1,500	74
11	2,412	117	0	0	0	0	0	0	825	63	500	24	1,500	74
12	0	0	0	0	825	63	0	0	0	0	0	0	0	0
13	8,844	427	675	40	0	0	0	0	0	0	0	0	500	25
14	28,344	1,369	4,185	250	2,475	190	0	0	0	0	0	0	8,100	400
15	18,144	877	0	0	0	0	0	0	1,650	127	0	0	10,000	493
16	16,848	814	12,150	725	0	0	100	7	825	63	0	0	2,000	99
17	110,712	5,347	13,365	798	5,775	443	0	0	4,950	379	1,500	72	9,500	468
18	9,528	461	675	40	0	0	0	0	0	0	500	24	13,000	640
19	3,360	162	0	0	0	0	0	0	0	0	500	24	4,500	222
20	74,592	3,602	23,625	1,410	2,475	190	0	0	1,650	127	4,000	193	17,000	838
21	9,216	445	0	0	0	0	0	0	0	0	3,100	150	9,500	468
22	35,172	1,698	0	0	1,650	127	0	0	10,725	824	0	0	8,500	419
23	36,696	1,772	8,100	483	165	13	0	0	12,375	951	0	0	8,100	399
24	10,080	487	26,325	1,571	0	0	0	0	1,650	127	0	0	1,500	74
25	2,844	137	0	0	0	0	90	7	0	0	0	0	2,700	133
26	1,608	78	0	0	0	0	0	0	0	0	0	0	1,800	89
27	2,340	113	0	0	0	0	50	4	0	0	0	0	3,000	148
28	35,208	1,701	2,025	121	825	63	150	11	825	63	0	0	4,000	198
29	3,660	177	270	16	0	0	0	0	0	0	0	0	500	25
30	153,432	7,409	18,090	1,080	1,155	88	0	0	30,690	2,358	2,700	130	35,200	1,734
31	98,964	4,779	7,830	468	825	63	0	0	1,155	88	4,600	222	14,200	701
32	20,508	991	0	0	1,650	127	110	8	0	0	0	0	4,400	216
33	165,312	7,983	54,000	3,222	3,300	253	150	11	825	63	500	24	33,000	1,626
34	15,276	738	16,200	967	825	63	0	0	825	63	0	0	5,500	271
35	780	38	270	16	0	0	10	1	0	0	0	0	200	10
36	56,448	2,725	675	40	2,475	190	0	0	0	0	500	24	10,000	493
37	5,400	261	0	0	825	63	0	0	0	0	500	24	1,500	74
38	73,644	3,557	16,605	991	2,310	177	50	4	825	63	1,000	48	9,300	460
39	19,176	926	8,100	483	2,970	228	90	7	0	0	0	0	10,000	492

PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO D

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
40	74,496	3,598	3,375	202	825	63	100	7	1,650	126	2,000	96	8,500	419
41	5,100	246	675	40	0	0	0	0	825	63	4,000	193	2,000	99
42	15,600	753	2,700	161	165	13	0	0	660	51	0	0	3,300	163
43	2,616	126	1,080	64	0	0	50	4	0	0	0	0	900	45
44	11,160	539	270	16	0	0	60	5	0	0	0	0	4,600	227
45	240	12	0	0	0	0	10	1	0	0	0	0	200	10
46	350,520	16,928	226,935	13,542	4,785	366	200	14	14,850	1,140	3,000	144	68,600	3,380
50	13,980	675	2,160	129	0	0	0	0	0	0	0	0	700	35
51	60	3	0	0	0	0	0	0	0	0	0	0	100	5
52	732	36	0	0	0	0	20	2	0	0	0	0	1,000	49
53	2,160	104	675	40	0	0	0	0	0	0	0	0	0	0
54	85,296	4,119	55,755	3,327	2,640	203	210	15	825	63	0	0	7,100	352
55	7,380	356	0	0	165	13	0	0	660	51	0	0	4,200	208
56	1,620	78	5,400	322	0	0	0	0	495	38	100	5	2,200	108
57	24,192	1,168	0	0	0	0	0	0	4,125	317	0	0	3,500	172
58	24,900	1,203	6,075	362	1,650	126	200	15	3,300	253	0	0	17,000	837
59	39,000	1,883	9,450	564	4,950	380	200	14	4,950	379	1,000	48	24,000	1,183
60	22,980	1,110	6,210	371	165	13	30	3	1,155	89	200	10	6,400	317
61	60,900	2,942	29,295	1,747	2,310	179	30	3	7,425	571	900	45	18,900	934
62	13,200	639	5,400	321	825	65	200	17	825	64	200	10	5,900	292
63	3,000	145	1,080	64	495	38	170	12	0	0	0	0	1,900	94
64	8,700	421	945	56	1,320	101	0	0	4,290	330	300	15	7,700	380
65	37,140	1,794	7,695	460	1,155	88	0	0	14,520	1,116	700	34	12,300	607
66	15,780	762	3,780	225	0	0	0	0	4,455	343	1,400	67	4,800	237
67	62,628	3,024	2,025	121	1,650	126	50	4	3,135	241	100	5	9,900	488
68	39,252	1,896	12,015	716	1,320	101	0	0	14,355	1,103	800	40	11,900	586
69	35,280	1,705	20,925	1,249	660	51	0	0	3,465	266	900	44	11,800	581
70	11,700	565	13,500	805	330	26	0	0	6,930	533	200	10	3,700	182
71	18,240	881	11,610	693	495	38	50	5	4,125	317	200	10	4,000	198
72	6,708	324	675	40	330	26	340	26	0	0	0	0	1,700	84
TOTALS:														
DAYS:	3,013,236		655,830		67,485		2,870		184,800		39,900		548,300	
$$$:		145,527		39,131		5,179		218		14,195		1,927		27,036

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL	PU -- PUBLIC UTILITIES
MR -- MULTI-UNIT RESIDENTIAL	AG -- AGRICULTURAL
MH -- MOBILE HOME RESIDENTIAL	PT -- PUBLIC TRANSPORTATION
C -- COMMERCIAL	HC -- HEALTH CARE
I -- INDUSTRIAL	GI -- GOVERNMENT AND INSTITUTIONAL

PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)

HURRICANE SCENARIO E

LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
1	73,200	3,534	3,024	180	1,848	142	0	0	3,696	284	0	0	19,720	971
2	164,004	7,920	10,584	631	1,848	142	0	0	20,328	1,562	7,840	378	21,280	1,048
3	426,300	20,586	3,024	180	5,544	426	0	0	7,392	568	1,120	54	32,480	1,601
4	205,908	9,943	0	0	5,544	426	0	0	3,696	284	0	0	21,280	1,049
5	128,928	6,227	1,512	90	7,392	568	0	0	1,848	142	0	0	22,400	1,105
6	13,272	641	0	0	0	0	0	0	1,848	142	0	0	13,440	663
7	245,532	11,857	0	0	0	0	0	0	0	0	0	0	15,460	762
8	24,648	1,190	0	0	0	0	0	0	0	0	0	0	3,360	166
9	25,956	1,253	4,536	270	1,848	142	112	8	0	0	0	0	4,040	199
10	1,608	78	1,215	73	0	0	180	13	0	0	0	0	2,700	133
11	2,844	137	0	0	0	0	0	0	1,485	114	900	43	2,700	133
12	0	0	0	0	1,848	142	0	0	0	0	0	0	0	0
13	8,844	427	1,215	73	0	0	0	0	0	0	0	0	900	44
14	34,848	1,683	8,505	508	4,455	342	0	0	0	0	0	0	15,300	753
15	19,464	940	0	0	0	0	0	0	2,970	228	0	0	18,000	887
16	22,128	1,069	21,870	1,306	0	0	180	13	1,485	114	0	0	3,600	177
17	126,948	6,132	23,382	1,396	10,758	826	0	0	9,273	712	2,700	130	17,980	886
18	55,212	2,667	6,075	363	0	0	0	0	0	0	1,120	54	36,840	1,815
19	4,020	194	0	0	0	0	0	0	0	0	900	43	8,100	399
20	89,244	4,309	42,525	2,538	4,455	342	0	0	2,970	228	7,200	347	30,600	1,508
21	13,056	631	0	0	0	0	0	0	0	0	6,300	303	24,300	1,197
22	41,844	2,020	0	0	3,696	284	0	0	24,024	1,846	0	0	18,600	917
23	85,464	4,128	22,707	1,355	1,485	114	0	0	27,720	2,130	0	0	28,960	1,427
24	14,220	687	58,968	3,519	0	0	0	0	3,696	284	0	0	3,360	166
25	4,320	209	0	0	0	0	112	8	0	0	0	0	3,360	166
26	2,880	139	0	0	0	0	0	0	0	0	0	0	2,240	110
27	3,912	190	0	0	0	0	112	8	0	0	0	0	5,600	276
28	53,172	2,567	3,942	235	1,848	142	270	20	1,848	142	0	0	8,080	398
29	32,940	1,591	2,430	145	0	0	0	0	0	0	0	0	4,500	221
30	251,616	12,151	57,861	3,453	4,818	370	0	0	75,438	5,797	10,780	520	80,200	3,952
31	143,364	6,923	20,277	1,210	1,485	114	0	0	4,455	342	9,220	444	46,760	2,304
32	26,268	1,269	0	0	2,970	228	270	20	0	0	0	0	14,400	710
33	190,788	9,213	97,200	5,801	5,940	456	270	20	1,485	114	900	43	59,400	2,927
34	18,012	870	36,288	2,165	1,485	114	0	0	1,485	114	0	0	9,900	488
35	10,452	505	2,430	145	0	0	90	7	0	0	0	0	1,800	89
36	56,844	2,745	1,215	73	4,455	342	0	0	0	0	900	43	18,000	887
37	8,040	388	0	0	1,485	114	0	0	0	0	900	43	2,700	133
38	121,356	5,861	35,370	2,111	3,696	284	112	8	1,848	142	2,240	108	19,040	939
39	27,396	1,324	18,144	1,083	3,696	284	112	8	0	0	0	0	13,440	662

PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE

($$$ IN THOUSANDS)

SCENARIO E

HURRICANE LOSS ZONE	C		I		PU		AG		PT		HC		GI	
	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$	DAYS	$$$
40	109,764	5,301	6,966	415	1,848	142	224	17	3,333	256	4,260	205	17,280	852
41	9,180	443	1,215	73	0	0	0	0	1,485	114	7,200	347	3,600	177
42	41,808	2,019	30,240	1,804	1,848	142	0	0	7,392	568	0	0	36,960	1,821
43	7,812	378	9,720	580	0	0	90	7	0	0	0	0	4,500	221
44	18,360	886	2,430	145	0	0	180	14	0	0	0	0	9,000	443
45	2,160	104	0	0	0	0	90	7	0	0	0	0	1,800	89
46	483,300	23,339	427,086	25,488	8,514	654	404	30	37,752	2,901	6,500	313	150,620	7,419
50	17,820	861	4,860	291	0	0	0	0	0	0	0	0	2,700	133
51	540	26	0	0	0	0	0	0	0	0	0	0	900	44
52	1,212	59	0	0	0	0	180	13	0	0	0	0	1,800	89
53	3,216	155	1,215	73	0	0	0	0	0	0	0	0	0	0
54	150,204	7,254	136,755	8,160	6,666	512	494	37	1,848	142	0	0	22,900	1,127
55	19,644	950	0	0	1,485	114	0	0	5,940	456	0	0	34,200	1,685
56	14,580	704	48,600	2,900	0	0	0	0	4,455	342	900	43	19,800	976
57	34,128	1,648	0	0	0	0	0	0	9,240	710	0	0	7,840	386
58	44,820	2,165	10,935	653	2,970	228	360	27	5,940	456	0	0	24,300	1,198
59	70,200	3,389	17,010	1,017	8,910	684	360	26	8,910	684	1,800	86	43,200	2,128
60	206,820	9,988	55,890	3,336	1,485	114	270	20	10,395	799	1,800	86	57,600	2,838
61	548,100	26,469	263,655	15,736	20,790	1,596	270	21	66,825	5,134	8,100	389	170,100	8,380
62	118,800	5,737	48,600	2,901	7,425	570	1,800	135	7,425	570	1,800	86	53,100	2,617
63	27,000	1,304	9,720	580	4,455	342	1,530	114	0	0	0	0	17,100	843
64	78,300	3,781	8,505	508	11,880	913	0	0	38,610	2,966	2,700	130	69,300	3,414
65	334,260	16,141	69,255	4,133	10,395	799	0	0	130,680	10,040	6,300	304	110,700	5,455
66	142,020	6,858	34,020	2,030	0	0	0	0	40,095	3,080	12,600	608	43,200	2,129
67	71,748	3,465	3,645	218	2,970	228	90	7	22,275	1,711	900	43	27,900	1,375
68	321,804	15,541	108,135	6,454	11,880	912	0	0	123,255	9,470	7,200	348	78,300	3,858
69	210,036	10,143	188,325	11,238	5,940	456	0	0	31,185	2,395	4,500	216	77,400	3,814
70	109,656	5,295	121,500	7,250	2,970	228	0	0	62,370	4,793	1,800	86	33,300	1,640
71	101,292	4,891	104,490	6,236	4,455	342	450	33	37,125	2,853	1,800	86	36,000	1,773
72	8,988	435	1,215	73	2,970	228	944	71	0	0	0	0	4,500	221
TOTALS:														
DAYS:	6,086,424		2,198,286		202,455		9,556		855,525		123,180		1,814,720	
$$$:		293,927		131,195		15,548		712		65,729		5,929		89,413

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

APPENDIX L

HILLSBOROUGH COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO A

HURRICANE LOSS ZONE	DAYS	$$$
1	2,820	165
11	1,210	71
14	10,550	598
15	320	20
16	6,530	429
17	5,215	344
TOTALS:	26,645	1,627

SCENARIO B

HURRICANE LOSS ZONE	DAYS	$$$
1	3,930	225
5	2,945	203
6	3,465	184
9	172,090	9,024
11	4,200	230
12	6,020	328
13	14,855	819
14	15,750	876
15	320	20
16	14,163	927
17	31,865	1,975
22	6,170	358
23	14,010	921
24	880	65
25	36,710	2,077
26	3,620	284
28	87,840	4,738
35	2,970	198
37	8,905	580
TOTALS:	430,708	24,032

HILLSBOROUGH COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO C

HURRICANE LOSS ZONE	DAYS	$$$
1	11,430	624
2	8,855	473
3	11,860	633
4	20,689	1,094
5	13,630	775
6	12,510	656
8	58,250	3,027
9	23,237	1,243
11	61,741	3,490
12	9,400	509
13	22,393	1,289
14	35,668	2,066
15	1,600	96
16	36,951	2,738
17	54,520	3,644
22	21,802	1,309
23	42,191	2,916
24	3,685	231
25	79,963	4,614
26	8,300	535
27	750	48
28	141,140	7,597
32	8,140	467
33	12,610	693
34	8,360	614
35	12,330	700
37	56,600	3,354
39	14,310	755
40	23,342	1,291
44	2,350	137
TOTALS:	818,607	47,618

HILLSBOROUGH COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO D

HURRICANE LOSS ZONE	DAYS	$$$
1	27,196	1,501
2	37,701	2,065
3	35,252	1,896
4	83,728	4,556
5	41,994	2,465
6	79,208	4,239
7	26,128	1,450
8	208,270	10,703
9	40,408	2,153
11	185,107	10,736
12	20,298	1,110
13	32,727	1,861
14	70,850	4,051
15	2,240	135
16	47,112	3,392
17	82,920	5,904
18	67,830	3,714
20	35,085	1,957
21	27,670	1,558
22	23,674	1,409
23	69,400	4,567
24	10,937	754
25	104,068	6,120
26	26,782	1,987
27	4,425	274
28	255,315	13,832
31	62,769	3,594
32	23,657	1,424
33	45,192	2,615
34	33,506	2,623
35	38,809	2,673
36	7,720	488
37	110,907	7,392
38	2,040	142
39	118,172	6,289
40	68,805	3,718

HILLSBOROUGH COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO D

HURRICANE LOSS ZONE	DAYS	$$$
41	213,460	11,583
42	171,955	9,831
43	45,385	2,799
44	11,873	741
45	2,150	152
46	4,135	217
47	35,340	1,919
48	59,223	3,179
49	4,630	271
50	6,110	401
51	204,750	14,810
52	103,005	8,055
53	159,865	11,723
54	171,165	11,830
55	267,425	19,077
56	71,660	5,650
57	289,740	16,272
58	340,750	19,535
59	93,025	7,197
TOTALS:	4,413,548	270,589

HILLSBOROUGH COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO E

HURRICANE LOSS ZONE	DAYS	$$$
1	42,159	2,335
2	67,620	3,700
3	53,818	2,898
4	119,968	6,553
5	66,770	3,964
6	141,980	7,603
7	39,662	2,216
8	342,295	17,516
9	156,730	8,380
11	364,162	20,998
12	80,304	4,361
13	137,031	7,557
14	151,899	8,569
15	4,672	282
16	111,245	7,521
17	158,328	11,446
18	103,348	5,679
20	175,425	9,781
21	137,048	8,021
22	78,778	4,487
23	224,634	13,908
24	24,861	1,642
25	359,407	20,316
26	39,998	3,050
27	4,965	300
28	688,587	37,302
31	124,965	7,112
32	63,905	3,719
33	140,704	7,929
34	85,640	6,078
35	118,514	8,349
36	38,600	2,437
37	258,426	18,431
38	12,280	818
39	169,666	9,087
40	312,960	17,072

HILLSBOROUGH COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO E

HURRICANE LOSS ZONE	DAYS	$$$
41	1,091,519	59,753
42	389,625	21,992
43	116,365	7,137
44	28,512	1,874
45	8,956	660
46	31,075	1,648
47	292,983	15,795
48	87,897	4,718
49	51,394	2,952
50	27,898	1,866
51	1,039,213	75,225
52	515,025	40,162
53	855,199	61,535
54	857,554	59,173
55	1,379,368	98,028
56	358,300	28,228
57	1,465,470	82,340
58	1,714,311	98,198
59	465,125	35,860
TOTALS:	15,977,143	998,561

MANATEE COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO A

HURRICANE LOSS ZONE	DAYS	$$$
1	47,465	2,263
2	15,680	749
3	27,145	1,365
4	1,465	83
5	13,895	668
6	3,195	251
7	715	50
8	3,785	309
TOTALS:	113,345	5,738

SCENARIO B

HURRICANE LOSS ZONE	DAYS	$$$
1	51,579	2,462
2	30,154	1,455
3	37,453	1,858
4	6,707	350
5	26,097	1,249
6	8,436	637
7	5,965	332
8	9,100	701
9	3,505	168
18	630	54
23	3,540	166
TOTALS:	183,166	9,432

MANATEE COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO C

HURRICANE LOSS ZONE	DAYS	$$$
1	67,707	3,218
2	41,064	1,986
3	51,730	2,801
4	12,813	757
5	38,084	1,832
6	21,098	1,600
7	9,356	579
8	12,920	974
9	14,537	794
10	12,215	574
12	2,535	161
13	1,315	66
14	31,485	1,548
15	12,625	717
16	7,795	614
17	5,180	384
18	6,180	483
20	1,530	62
22	2,130	136
23	7,945	370
24	11,445	631
26	58,265	4,122
27	15,370	769
28	91,230	5,490
29	62,280	4,310
TOTALS:	598,834	34,978

MANATEE COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO D

HURRICANE LOSS ZONE	DAYS	$$$
1	90,271	4,230
2	65,639	3,200
3	71,544	4,004
4	21,626	1,379
5	44,454	2,127
6	50,354	3,926
7	20,611	1,329
8	48,018	3,650
9	40,106	2,250
10	12,215	574
12	13,995	867
13	9,435	466
14	31,485	1,548
15	16,145	886
16	16,175	1,212
17	8,015	626
18	43,745	3,627
20	1,530	62
21	29,815	2,470
22	4,550	252
23	12,315	566
24	11,445	631
25	104,695	8,841
26	240,795	18,278
27	15,370	769
28	242,020	18,321
29	184,115	14,670
TOTALS:	1,450,483	100,761

MANATEE COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO E

HURRICANE LOSS ZONE	DAYS	$$$
1	116,105	5,430
2	102,569	5,014
3	100,885	5,549
4	53,703	3,436
5	76,022	3,641
6	112,999	8,304
7	38,235	2,597
8	103,984	7,990
9	91,788	5,530
10	125,478	5,870
12	29,118	1,834
13	16,301	810
14	283,365	13,909
15	123,954	7,062
16	67,284	5,370
17	72,135	5,630
18	258,112	21,513
20	13,770	559
21	58,067	4,828
22	23,856	1,518
23	37,383	1,689
24	103,005	5,667
25	787,115	66,220
26	1,467,024	115,272
27	138,330	6,905
28	1,773,180	130,213
29	1,169,695	90,426
TOTALS:	7,343,462	532,786

PASCO COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)

SCENARIO A

HURRICANE LOSS ZONE	DAYS	$$$
1	800	36
2	10,435	465
3	14,840	666
4	12,100	538
5	13,545	592
TOTALS:	51,720	2,297

SCENARIO B

HURRICANE LOSS ZONE	DAYS	$$$
1	1,470	74
2	38,829	1,706
3	31,229	1,382
4	24,376	1,074
5	23,481	1,025
6	900	39
TOTALS:	120,285	5,300

SCENARIO C

HURRICANE LOSS ZONE	DAYS	$$$
1	3,032	147
2	86,739	3,936
3	60,546	2,753
4	35,309	1,587
5	33,979	1,492
6	4,010	249
7	23,525	1,028
8	6,750	295
9	625	37
10	805	45
11	1,820	109
12	2,510	128
13	3,915	237
14	1,520	85
15	1,270	121
16	870	75
17	5,110	510
18	2,900	257
19	38,875	4,349
20	3,785	387
TOTALS:	317,895	17,728

PASCO COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO D

HURRICANE LOSS ZONE	DAYS	$$$
1	15,478	732
2	228,816	10,079
3	207,414	9,384
4	119,340	5,292
5	138,953	6,113
6	11,365	862
7	53,041	2,320
8	18,090	790
9	6,194	316
10	8,210	404
11	18,577	953
12	15,070	749
13	35,937	1,893
14	12,523	638
15	5,969	471
16	3,848	319
17	11,749	1,019
18	10,020	714
19	48,465	5,421
20	34,425	3,637
21	33,655	3,790
22	36,185	4,046
23	51,885	5,069
24	81,200	8,379
TOTALS:	1,206,409	73,390

PASCO COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO E

HURRICANE LOSS ZONE	DAYS	$$$
1	21,728	1,066
2	332,531	14,633
3	258,036	11,717
4	186,586	8,249
5	158,677	7,031
6	21,341	1,752
7	113,720	4,975
8	21,330	931
9	9,277	507
10	12,121	632
11	31,553	1,695
12	29,498	1,493
13	55,106	3,053
14	20,642	1,107
15	15,124	1,377
16	9,575	817
17	50,654	4,924
18	31,479	2,645
19	431,063	48,286
20	309,547	32,681
21	168,275	18,909
22	180,925	20,195
23	259,425	25,317
24	406,000	41,815
TOTALS:	3,134,213	255,807

PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO A

HURRICANE LOSS ZONE	DAYS	$$$
1	19,450	957
2	10,360	525
9	1,945	102
12	165	13
16	1,235	68
17	11,535	614
18	4,180	206
19	100	5
20	2,920	142
22	200	10
23	2,500	123
31	1,500	72
46	60	3
TOTALS:	56,150	2,840

PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO B

HURRICANE LOSS ZONE	DAYS	$$$
1	43,085	2,099
2	98,945	4,847
3	192,885	9,353
4	77,905	3,789
5	39,395	1,924
6	5,565	275
7	79,100	3,822
8	14,340	693
9	5,640	282
11	1,165	62
12	165	13
13	3,535	172
14	100	5
16	1,235	68
17	21,585	1,132
18	4,180	206
19	100	5
21	11,700	572
22	14,595	777
24	6,795	398
25	1,930	94
30	28,710	1,536
31	3,360	162
33	25,305	1,346
34	10,370	548
38	6,035	300
39	4,630	234
43	290	15
46	60	3
72	560	27
TOTALS:	703,265	34,759

PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO C

HURRICANE LOSS ZONE	DAYS	$$$
1	61,357	3,038
2	143,881	7,292
3	272,625	13,360
4	117,929	5,821
5	90,056	4,381
6	10,773	526
7	166,076	8,021
8	18,972	918
9	17,708	904
10	1,295	66
11	2,581	130
12	825	63
13	6,175	300
14	15,860	793
15	10,430	515
16	6,915	367
17	95,942	4,771
18	5,496	270
19	2,500	121
20	69,690	3,446
21	1,300	63
22	30,635	1,552
23	38,060	1,942
24	16,515	906
25	3,566	175
26	2,344	114
27	1,030	51
28	15,065	744
29	4,430	218
30	115,355	5,854
31	71,250	3,489
32	19,300	945
33	150,475	7,422
34	30,398	1,664
35	4,380	215
36	27,930	1,367
37	5,965	294
38	68,838	3,412
39	20,496	1,063
40	48,950	2,389

PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO C

HURRICANE LOSS ZONE	DAYS	$$$
41	2,520	129
42	9,945	539
43	1,730	84
44	370	19
45	450	23
46	280,690	14,224
51	160	8
52	500	25
53	1,335	66
54	68,150	3,485
55	10,195	510
56	9,815	551
57	20,965	1,037
58	10,625	561
59	16,710	895
60	37,140	1,913
61	119,760	6,421
62	26,550	1,408
63	6,390	335
64	23,255	1,303
65	35,630	2,111
66	20,550	1,155
67	31,020	1,601
68	72,110	4,056
69	59,830	3,255
70	36,360	2,121
71	31,280	1,783
72	5,125	263
TOTALS:	2,732,528	138,863

PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO D

HURRICANE LOSS ZONE	DAYS	$$$
1	74,549	3,695
2	166,717	8,395
3	319,857	15,642
4	140,541	6,914
5	123,628	6,131
6	17,421	870
7	215,236	10,402
8	22,404	1,084
9	32,476	1,636
10	3,619	187
11	5,237	278
12	825	63
13	10,019	492
14	43,104	2,209
15	29,794	1,497
16	31,923	1,708
17	145,802	7,507
18	23,703	1,165
19	8,360	408
20	123,342	6,360
21	21,816	1,063
22	56,047	3,068
23	65,436	3,618
24	39,555	2,259
25	5,634	277
26	3,408	167
27	5,390	265
28	43,033	2,157
29	4,430	218
30	241,267	12,799
31	127,574	6,321
32	26,668	1,342
33	257,087	13,182
34	38,626	2,102
35	1,260	65
36	70,098	3,472
37	8,225	422
38	103,734	5,300
39	40,336	2,136
40	90,946	4,511

PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO D

HURRICANE LOSS ZONE	DAYS	$$$
41	12,600	641
42	22,425	1,141
43	4,646	239
44	16,090	787
45	450	23
46	668,890	35,514
50	16,840	839
51	160	8
52	1,752	87
53	2,835	144
54	151,826	8,079
55	12,405	628
56	9,815	551
57	31,817	1,657
58	53,125	2,796
59	83,550	4,451
60	37,140	1,913
61	119,760	6,421
62	26,550	1,408
63	6,645	353
64	23,255	1,303
65	73,510	4,099
66	30,215	1,634
67	79,488	4,009
68	79,642	4,442
69	73,030	3,896
70	36,360	2,121
71	38,720	2,142
72	9,753	500
TOTALS:	4,512,421	233,213

PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO E

HURRICANE LOSS ZONE	DAYS	$$$
1	101,488	5,111
2	225,884	11,681
3	475,860	23,415
4	236,428	11,702
5	162,080	8,132
6	28,560	1,446
7	260,992	12,619
8	28,008	1,356
9	36,492	1,872
10	5,703	297
11	7,929	427
12	1,848	142
13	10,959	544
14	63,108	3,286
15	40,434	2,055
16	49,263	2,679
17	191,041	10,082
18	99,247	4,899
19	13,020	636
20	176,994	9,272
21	43,656	2,131
22	88,164	5,067
23	166,336	9,154
24	80,244	4,656
25	7,792	383
26	5,120	249
27	9,624	474
28	69,160	3,504
29	39,870	1,957
30	480,713	26,243
31	225,561	11,337
32	43,908	2,227
33	355,983	18,574
34	67,170	3,751
35	14,772	746
36	81,414	4,090
37	13,125	678
38	183,662	9,453
39	62,788	3,361
40	143,675	7,188

PINELLAS COUNTY

PROJECTED HURRICANE TEMPORARY EMPLOYMENT & INCOME LOSS ($$$) BY LOSS ZONE
($$$ IN THOUSANDS)
SCENARIO E

HURRICANE LOSS ZONE	DAYS	$$$
41	22,680	1,154
42	118,248	6,354
43	22,122	1,186
44	29,970	1,488
45	4,050	200
46	1,114,176	60,144
50	25,380	1,285
51	1,440	70
52	3,192	161
53	4,431	228
54	318,867	17,232
55	61,269	3,205
56	88,335	4,965
57	51,208	2,744
58	89,325	4,727
59	150,390	8,014
60	334,260	17,181
61	1,077,840	57,725
62	238,950	12,616
63	59,805	3,183
64	209,295	11,712
65	661,590	36,872
66	271,935	14,705
67	129,528	7,047
68	650,574	36,583
69	517,386	28,262
70	331,596	19,292
71	285,612	16,214
72	18,617	1,028
TOTALS:	11,290,146	602,453

APPENDIX M

RETURN PERIODS OF SURGE HEIGHTS IN THE TAMPA BAY AREA

APPENDIX M

RETURN PERIODS OF SURGE HEIGHTS IN THE TAMPA BAY AREA

By

William R. Brownlie

BACKGROUND

In the conduct of a regional hurricane loss study, the Tampa Bay Regional Planning Council has established ranges of hurricane surge elevations which are to be used to establish estimates of damage, and for planning and evacuation purposes. Tetra Tech has been requested to provide approximate return periods for these surge elevations, based on preliminary Flood Insurance Studies performed by Tetra Tech. The areas affected are Hillsborough, Manatee, Pasco, and Pinellas Counties.

METHODOLOGY

Flood frequency curves (Figures 1-4) were drawn for each county. Within each county, one curve was drawn for the location with the highest surge values in the county, and a second curve was drawn for the location with the lowest values. The locations are indicated on the figures. The curves are based on calculated stillwater surge heights (no wave crests) with return periods of 10, 50, 100, and 500 years, as given in the "Summary of Elevations" tables in the preliminary reports of the Flood Insurance Studies. Return periods lower than 10 years and higher than 500 years are based on extrapolations.

In identifying approximate return periods for the ranges of surge elevations identified by the Tampa Bay Regional Planning Council, one basic assumption has been made. It has been assumed that the distribution of surge elevations for a given event will be approximately the same as the

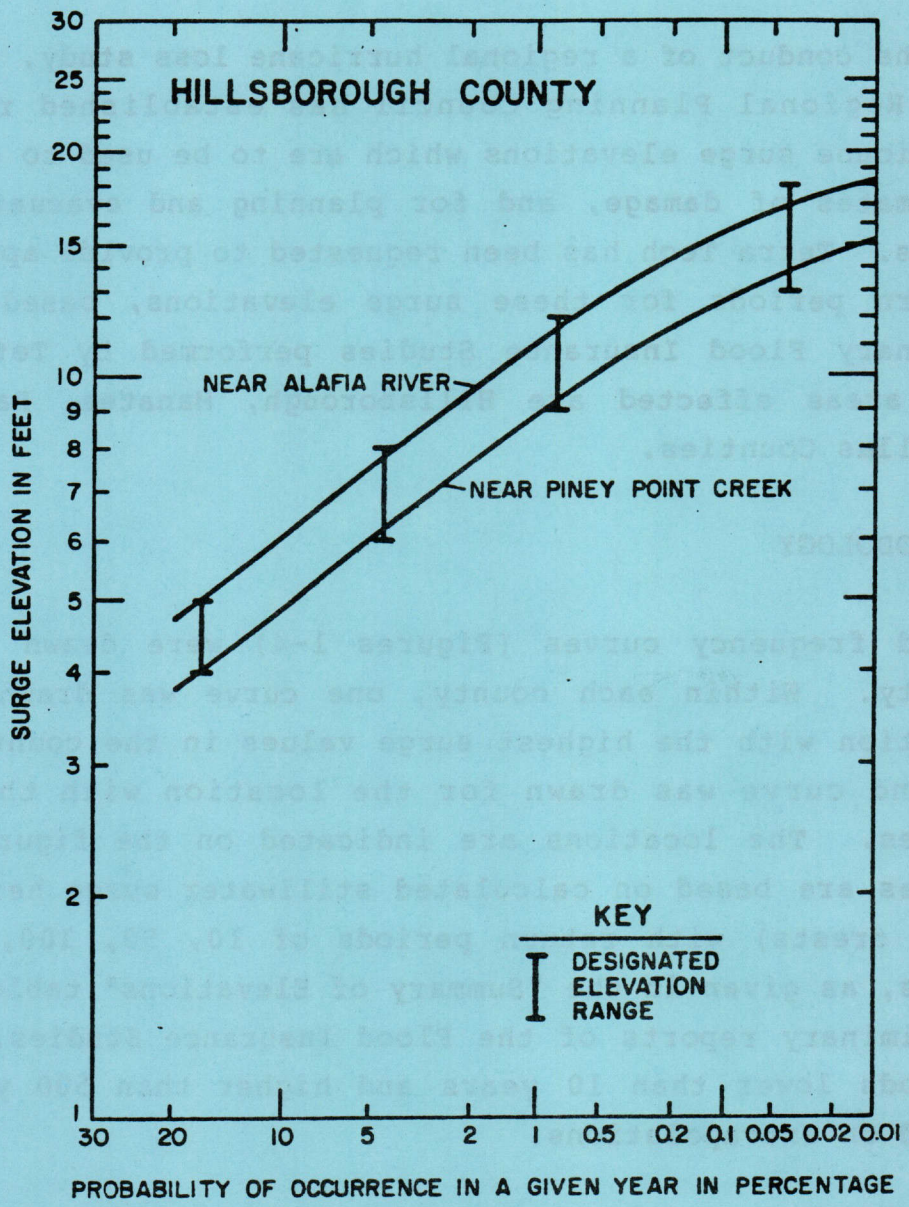

Figure 1. Surge Elevations for Hillsborough County.

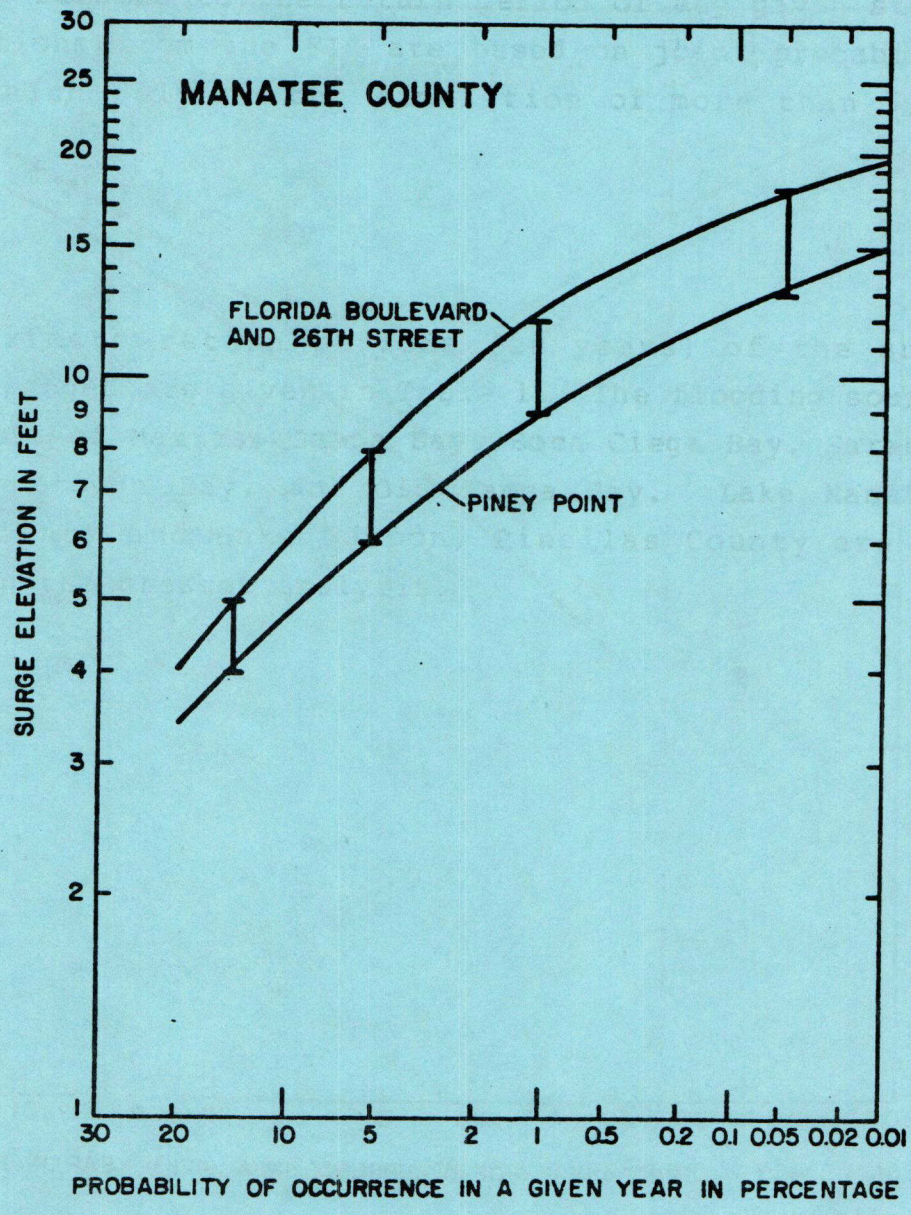

Figure 2. Surge Elevations for Manatee County.

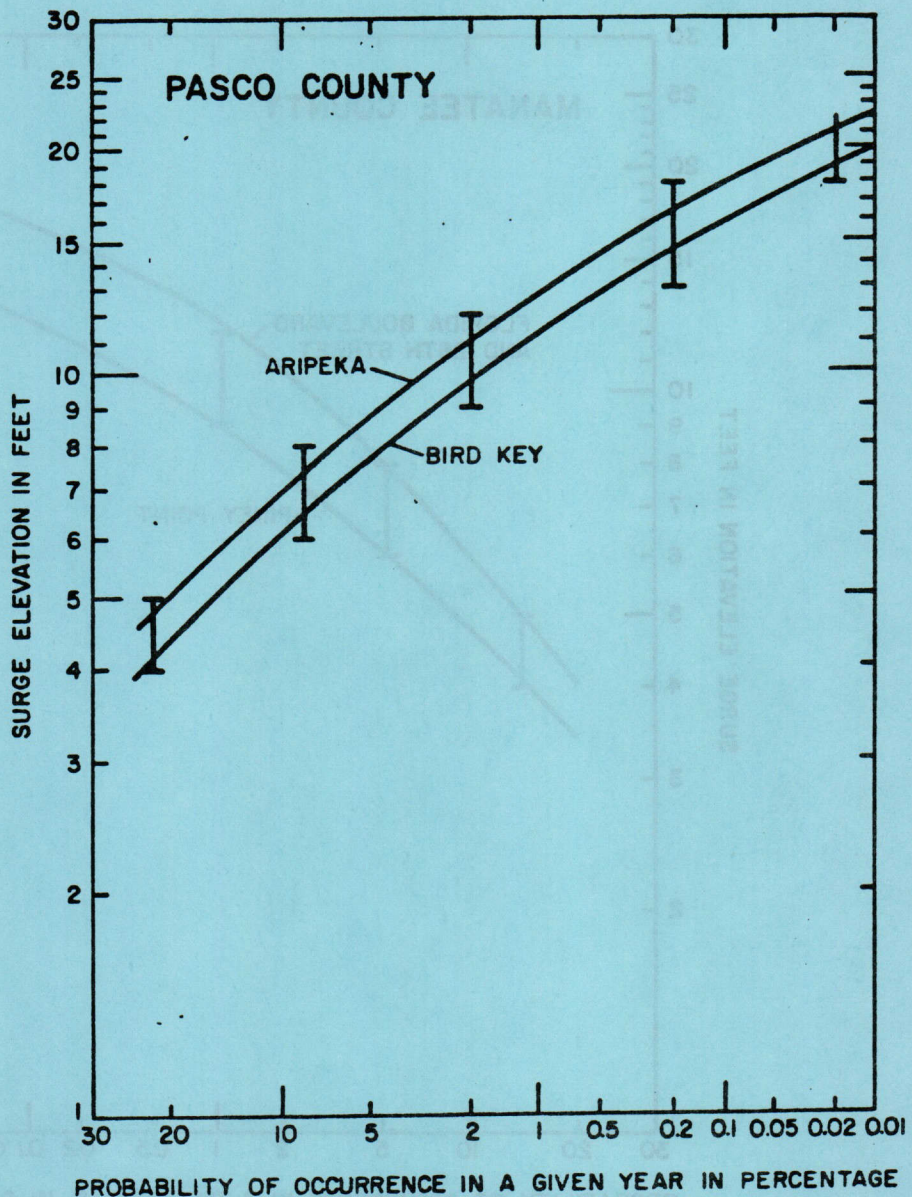

Figure 3. Surge Elevations for Pasco County.

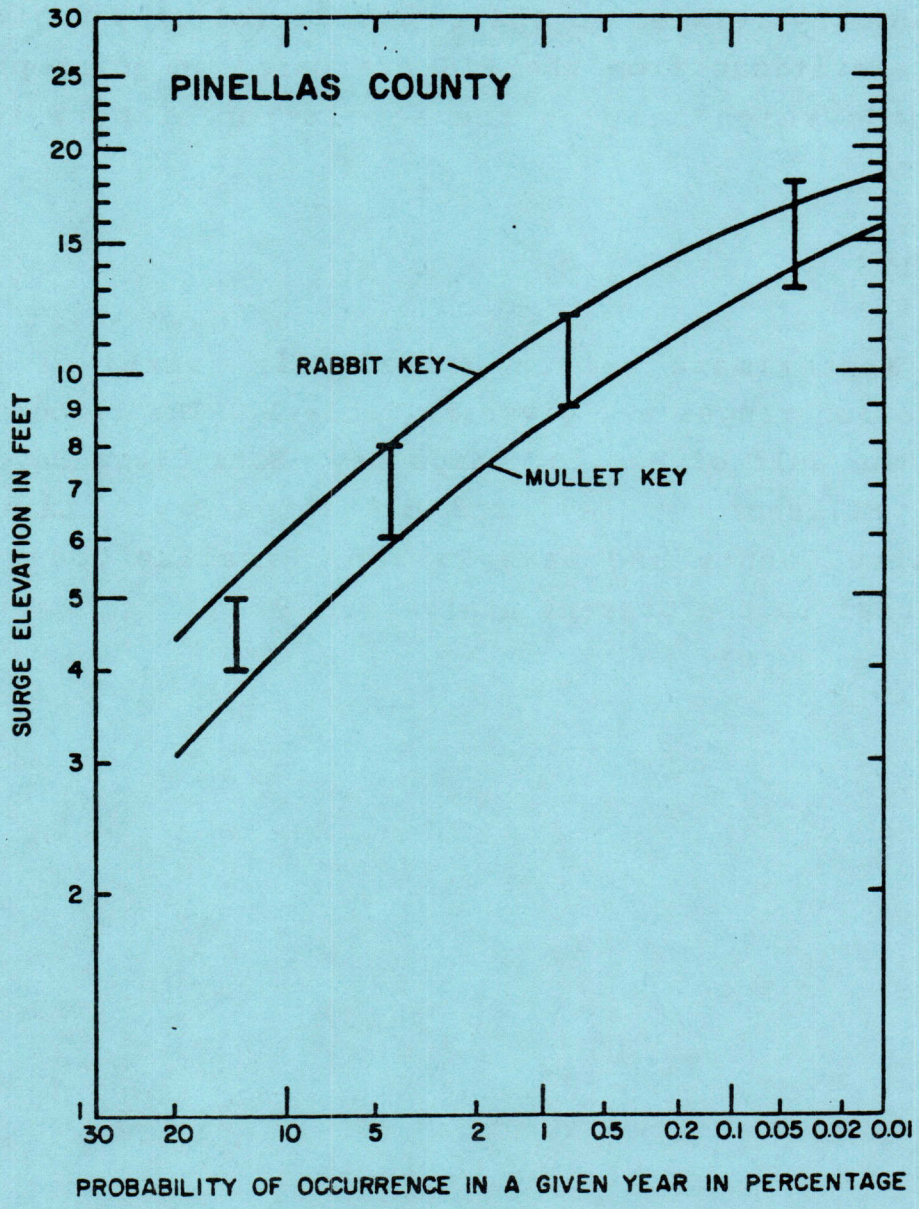

Figure 4. Surge Elevations for Pinellas County.

distribution identified in the Flood Insurance Study. In other words, both the highest and lowest surge elevations identified in the FIS are assumed to occur in nearly the same locations as in the loss study.

Finally, it should be noted that the return periods are not in any way related to the return period of any given storm. The elevations from the FIS are based on joint probability methods which rely on the simulation of more than 1,000 storms.

RESULTS

The approximate return periods (in years) of the surge elevation ranges are given in Table 1. The flooding sources are the Gulf of Mexico, Tampa Bay, Boca Ciega Bay, Sarasota Bay, Hillsborough Bay, and Old Tampa Bay. Lake Manatee, Manatee County and Lake Tarpon, Pinellas County are not included in the present analysis.

TABLE 1

Approximate Return Periods (in years) for Given Surge Elevations in Hillsborough, Manatee, Pasco, and Pinellas Counties

Surge Elevations (ft)	COUNTY			
	Hillsborough	Manatee	Pasco	Pinellas
4-5	6	7	5	7
6-8	22	18	12	22
9-12	125	90	50	130
13-18	2,500	2,000	500	2,500
18+	Greater than 10,000	Greater than 10,000	5,000	Greater than 10,000

APPENDIX N

Average Percentage Structural Loss by Loss Zone

HILLSBOROUGH COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO 4
AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PL	AG	PT	MC	SI
1	21.92	12.35	54.97	12.25	5.08	5.14	5.14	5.14	5.14	5.14
2	11.77	6.67	26.67	6.57	3.37	3.47	3.47	3.47	3.47	3.47
3	9.66	5.53	20.45	5.43	3.03	3.10	3.10	3.10	3.10	3.10
4	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
5	13.44	7.56	31.64	7.46	3.64	3.76	3.76	3.76	3.76	3.76
6	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
7	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
8	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
9	15.95	9.95	39.10	8.85	4.05	4.20	4.20	4.20	4.20	4.20
11	16.92	8.96	21.44	9.66	4.30	4.60	4.60	4.60	4.60	4.60
12	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
13	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
14	41.50	22.33	90.37	22.93	8.27	8.27	8.27	8.27	8.27	8.27
15	34.50	19.34	90.56	19.24	7.18	7.24	7.24	7.24	7.24	7.24
16	25.67	14.15	53.93	14.68	5.80	5.91	5.91	5.91	5.91	5.91
17	15.85	9.73	27.74	8.98	4.26	4.32	4.32	4.32	4.32	4.32
18	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
20	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
21	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
22	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
23	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
24	3.40	2.10	1.80	2.00	2.00	3.35	3.35	3.35	3.35	3.35
25	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
26	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
27	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
28	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
31	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
32	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
33	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
34	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
35	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
36	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
37	2.78	1.72	1.72	1.64	1.64	1.64	1.64	1.64	1.64	1.64
38	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
39	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
40	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
41	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
42	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
43	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00

HILLSBOROUGH COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO A

AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI
44	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
45	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
46	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
47	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
48	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
49	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
50	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
51	3.06	1.89	1.62	1.80	1.80	1.80	1.80	1.80	1.80	1.80
52	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
53	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
54	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
55	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
56	3.25	2.01	1.59	1.91	1.91	1.91	1.91	1.91	1.91	1.91
57	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
58	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
59	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

HILLSBOROUGH COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO B

AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	29.03	16.22	68.44	16.34	6.53	6.54	6.54	6.54	6.54	6.54
2	16.07	9.30	36.67	9.20	4.67	4.63	4.63	4.63	4.63	4.63
3	13.35	7.85	28.75	7.75	4.35	4.33	4.33	4.33	4.33	4.33
4	10.90	6.40	23.05	6.30	3.93	4.00	4.00	4.00	4.00	4.00
5	32.38	18.52	81.00	18.42	7.54	7.46	7.46	7.46	7.46	7.46
6	14.62	8.24	24.00	12.14	4.48	4.32	4.32	4.32	4.32	4.32
7	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
8	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
9	54.30	29.20	100.00	29.10	10.80	100.00	100.00	100.00	100.00	100.00
11	43.10	22.50	65.08	22.84	8.44	8.78	8.78	8.78	8.78	8.78
12	32.70	17.00	41.80	18.90	7.30	8.10	8.10	8.10	8.10	8.10
13	41.35	21.40	56.35	22.80	8.45	9.30	9.30	9.30	9.30	9.30
14	62.83	33.23	93.53	33.17	11.83	11.73	11.73	11.73	11.73	11.73
15	60.04	31.90	92.40	32.20	11.68	11.36	11.36	11.36	11.36	11.36
16	53.44	28.45	78.08	28.67	10.63	10.77	10.77	10.77	10.77	10.77
17	41.36	22.10	65.24	22.70	12.65	8.97	8.97	8.97	8.97	8.97
18	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
20	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
21	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
22	32.70	17.00	41.80	18.90	7.30	8.10	8.10	8.10	8.10	8.10
23	38.13	19.97	53.60	21.83	8.43	9.27	9.27	9.27	9.27	9.27
24	12.45	8.35	15.85	9.75	4.65	5.10	5.10	5.10	5.10	5.10
25	39.48	20.70	56.08	22.60	8.80	9.60	9.60	9.60	9.60	9.60
26	12.55	6.80	15.15	8.15	4.05	4.50	4.50	4.50	4.50	4.50
27	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
28	33.30	17.60	43.00	19.40	7.90	8.60	8.60	8.60	8.60	8.60
31	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
32	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
33	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
34	4.30	2.70	4.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60
35	5.72	3.44	6.06	3.57	2.94	3.01	3.01	3.01	3.01	3.01
36	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
37	5.64	3.34	6.58	3.51	2.64	2.72	2.72	2.72	2.72	2.72
38	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
39	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
40	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
41	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
42	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
43	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30

HILLSBOROUGH COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
44	4.30	2.70	4.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60
45	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
46	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
47	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
48	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
49	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
50	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
51	3.80	2.38	3.43	2.29	2.29	2.29	2.29	2.29	2.29	2.29
52	3.99	2.47	3.24	2.37	2.37	2.37	2.37	2.37	2.37	2.37
53	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
54	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
55	3.91	2.41	3.02	2.31	2.31	2.31	2.31	2.31	2.31	2.31
56	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
57	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
58	4.07	2.53	3.43	2.43	2.43	2.43	2.43	2.43	2.43	2.43
59	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

HILLSBOROUGH COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO C

AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	51.51	27.89	84.45	28.15	11.75	11.38	11.38	11.38	11.38	11.38
2	36.90	20.67	71.33	20.60	9.47	9.23	9.23	9.23	9.23	9.23
3	37.35	20.53	62.38	21.13	9.63	9.53	9.53	9.53	9.53	9.53
4	23.63	13.38	62.38	23.53	10.30	10.15	10.15	10.15	10.15	10.15
5	56.30	30.52	87.10	30.98	12.58	12.32	12.32	12.32	12.32	12.32
6	40.48	23.82	82.80	23.80	10.38	10.16	10.16	10.16	10.16	10.16
7	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
8	34.85	19.10	57.00	19.00	9.00	8.70	8.70	8.70	8.70	8.70
9	69.70	39.10	100.00	39.00	15.00	14.40	14.40	14.40	14.40	14.40
11	72.54	40.78	89.68	38.60	14.88	14.98	14.98	14.98	14.98	14.98
12	68.50	36.20	91.40	33.30	13.30	14.40	14.40	14.40	14.40	14.40
13	81.50	42.90	100.00	37.10	14.40	15.90	15.90	15.90	15.90	15.90
14	79.60	47.63	100.00	45.33	16.93	16.40	16.40	16.40	16.40	16.40
15	74.76	47.08	100.00	46.98	17.42	16.06	16.06	16.06	16.06	16.06
16	69.94	41.12	90.74	39.44	15.12	14.96	14.96	14.96	14.96	14.96
17	66.15	37.49	91.57	36.72	14.96	15.15	15.15	15.15	15.15	15.15
18	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
20	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
21	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
22	74.10	46.70	100.00	46.60	17.30	15.90	15.90	15.90	15.90	15.90
23	71.63	37.83	94.27	34.57	13.63	14.77	14.77	14.77	14.77	14.77
24	47.25	25.30	65.60	26.15	11.15	11.95	11.95	11.95	11.95	11.95
25	79.63	41.93	97.85	37.35	21.15	15.65	15.65	15.65	15.65	15.65
26	33.35	18.15	48.40	18.05	8.70	9.15	9.15	9.15	9.15	9.15
27	21.30	11.95	31.20	12.80	7.15	7.50	7.50	7.50	7.50	7.50
28	51.80	27.60	74.20	28.50	11.80	12.70	12.70	12.70	12.70	12.70
31	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
32	24.10	13.40	35.50	16.10	8.10	9.00	9.00	9.00	9.00	9.00
33	29.60	16.20	44.10	16.60	8.25	8.70	8.70	8.70	8.70	8.70
34	46.30	24.80	63.45	24.70	10.70	11.70	11.70	11.70	11.70	11.70
35	11.39	6.85	19.29	6.75	5.32	5.38	5.38	5.38	5.38	5.38
36	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
37	14.53	8.30	20.77	8.47	5.32	5.51	5.51	5.51	5.51	5.51
38	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
39	10.18	6.23	17.58	6.60	5.27	5.42	5.42	5.42	5.42	5.42
40	7.40	4.80	35.50	14.25	7.53	7.33	7.33	7.33	7.33	7.33
41	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
42	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
43	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70

HILLSBOROUGH COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO C

AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI
44	37.95	20.50	52.70	19.00	9.00	9.55	9.55	9.55	9.55	9.55
45	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
46	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
47	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
48	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
49	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
50	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
51	14.20	4.12	11.74	4.03	4.03	4.03	4.03	4.03	4.03	4.03
52	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
53	6.68	4.31	11.92	4.21	4.21	4.21	4.21	4.21	4.21	4.21
54	7.09	4.59	13.10	4.49	4.49	4.49	4.49	4.49	4.49	4.49
55	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
56	5.82	3.41	9.42	3.62	3.62	3.62	3.62	3.62	3.62	3.62
57	6.54	4.21	11.51	4.11	4.11	4.11	4.11	4.11	4.11	4.11
58	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
59	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

HILLSBOROUGH COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO D

AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	76.23	47.93	99.08	46.99	19.95	19.21	19.21	19.21	19.21	19.21
2	74.83	46.93	100.00	46.83	19.93	18.90	18.90	18.90	18.90	18.90
3	76.45	46.00	100.00	44.10	19.10	19.10	19.10	19.10	19.10	19.10
4	75.13	43.70	98.50	41.15	18.23	18.75	18.75	18.75	18.75	18.75
5	74.16	48.58	98.80	47.98	20.28	19.30	19.30	19.30	19.30	19.30
6	74.38	46.38	98.80	45.76	19.60	18.82	18.82	18.82	18.82	18.82
7	64.50	36.00	100.00	35.90	16.60	16.10	16.10	16.10	16.10	16.10
8	64.50	36.00	100.00	35.90	16.60	16.10	16.10	16.10	16.10	16.10
9	82.50	63.40	100.00	63.40	24.90	21.40	21.40	21.40	21.40	21.40
11	93.00	61.02	100.00	63.00	24.78	21.90	21.90	21.90	21.90	21.90
12	100.00	57.00	100.00	54.00	22.00	21.40	21.40	21.40	21.40	21.40
13	100.00	63.40	100.00	62.40	24.60	22.70	22.70	22.70	22.70	22.70
14	90.13	78.30	100.00	80.13	29.93	22.87	22.87	22.87	22.87	22.87
15	82.94	65.60	100.00	65.60	25.52	21.66	21.66	21.66	21.66	21.66
16	78.24	49.95	94.45	48.37	20.38	19.42	19.42	19.42	19.42	19.42
17	71.62	43.61	96.39	42.38	20.02	20.05	20.05	20.05	20.05	20.05
18	61.60	34.10	88.00	34.00	16.10	16.90	16.90	16.90	16.90	16.90
20	12.70	8.50	39.90	8.40	8.40	8.40	8.40	8.40	8.40	8.40
21	38.90	22.20	63.90	24.00	13.10	13.80	13.80	13.80	13.80	13.80
22	100.00	63.40	100.00	62.40	24.60	22.70	22.70	22.70	22.70	22.70
23	98.27	55.17	100.00	51.47	21.30	21.03	21.03	21.03	21.03	21.03
24	85.15	46.45	100.00	40.45	18.00	19.40	19.40	19.40	19.40	19.40
25	97.40	55.18	100.00	51.25	21.25	21.00	21.00	21.00	21.00	21.00
26	67.70	37.30	88.00	35.00	16.35	17.40	17.40	17.40	17.40	17.40
27	62.45	34.60	88.00	33.60	15.95	16.90	16.90	16.90	16.90	16.90
28	87.80	47.80	100.00	41.40	18.30	19.70	19.70	19.70	19.70	19.70
31	70.30	38.70	94.00	35.90	16.60	17.70	17.70	17.70	17.70	17.70
32	82.50	45.10	100.00	39.50	17.70	19.10	19.10	19.10	19.10	19.10
33	77.30	43.75	91.00	42.65	18.65	18.75	18.75	18.75	18.75	18.75
34	78.20	42.80	94.00	40.00	17.90	18.60	18.60	18.60	18.60	18.60
35	21.97	13.35	48.68	12.77	9.71	9.89	9.89	9.89	9.89	9.89
36	12.70	8.50	39.90	8.40	8.40	8.40	8.40	8.40	8.40	8.40
37	20.79	12.52	47.88	12.60	8.81	9.02	9.02	9.02	9.02	9.02
38	12.70	8.50	39.90	8.40	8.40	8.40	8.40	8.40	8.40	8.40
39	51.10	28.63	76.97	28.87	14.53	15.43	15.43	15.43	15.43	15.43
40	31.90	18.55	58.68	20.10	11.90	12.45	12.45	12.45	12.45	12.45
41	30.17	17.63	55.90	18.80	11.53	12.00	12.00	12.00	12.00	12.00
42	54.60	30.50	82.00	31.30	15.30	16.10	16.10	16.10	16.10	16.10
43	47.60	26.80	75.95	28.60	14.40	15.10	15.10	15.10	15.10	15.10

HILLSBOROUGH COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO D

AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI
44	41.50	23.60	44.45	22.15	12.55	13.05	13.05	13.05	13.05	13.05
45	19.25	11.93	45.90	12.30	9.58	9.75	9.75	9.75	9.75	9.75
46	12.70	8.50	39.90	8.40	8.40	8.40	8.40	8.40	8.40	8.40
47	12.70	8.50	39.90	8.40	8.40	8.40	8.40	8.40	8.40	8.40
48	70.30	38.70	94.00	35.90	16.60	17.70	17.70	17.70	17.70	17.70
49	12.70	8.50	39.90	8.40	8.40	8.40	8.40	8.40	8.40	8.40
50	20.55	12.60	47.40	13.90	10.05	10.45	10.45	10.45	10.45	10.45
51	10.90	7.26	33.41	7.17	7.17	7.17	7.17	7.17	7.17	7.17
52	11.26	7.44	33.17	7.34	7.34	7.34	7.34	7.34	7.34	7.34
53	10.26	6.71	28.51	6.61	6.61	6.61	6.61	6.61	6.61	6.61
54	11.52	7.63	34.38	7.53	7.53	7.53	7.53	7.53	7.53	7.53
55	13.02	8.67	40.20	8.59	8.46	8.47	8.47	8.47	8.47	8.47
56	9.87	6.42	26.65	6.32	6.32	6.32	6.32	6.32	6.32	6.32
57	11.16	7.37	32.69	7.27	7.27	7.27	7.27	7.27	7.27	7.27
58	13.10	8.71	40.27	8.64	8.47	8.48	8.48	8.48	8.48	8.48
59	12.70	8.50	39.90	8.40	8.40	8.40	8.40	8.40	8.40	8.40

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
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PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

HILLSBOROUGH COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO E

AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	88.08	66.77	100.00	68.10	33.84	30.75	30.75	30.75	30.75	30.75
2	85.50	68.00	100.00	68.10	34.60	31.50	31.50	31.50	31.50	31.50
3	93.30	67.03	100.00	65.85	33.93	31.65	31.65	31.65	31.65	31.65
4	86.18	72.65	90.03	53.93	32.25	31.30	31.30	31.30	31.30	31.30
5	98.70	78.72	100.00	77.82	37.48	31.96	31.96	31.96	31.96	31.96
6	89.94	75.66	100.00	75.28	37.38	32.24	32.24	32.24	32.24	32.24
7	81.20	56.90	100.00	56.90	31.20	30.00	30.00	30.00	30.00	30.00
8	81.90	58.10	100.00	58.10	31.55	30.30	30.30	30.30	30.30	30.30
9	90.60	100.00	100.00	100.00	49.50	34.60	34.60	34.60	34.60	34.60
11	100.00	83.04	100.00	94.76	45.94	32.16	32.16	32.16	32.16	32.16
12	100.00	80.60	100.00	100.00	43.50	31.30	31.30	31.30	31.30	31.30
13	100.00	87.35	100.00	100.00	49.75	33.45	33.45	33.45	33.45	33.45
14	100.00	96.33	100.00	100.00	56.13	35.77	35.77	35.77	35.77	35.77
15	96.68	100.00	100.00	100.00	53.52	34.82	34.82	34.82	34.82	34.82
16	95.95	77.31	100.00	80.05	39.82	31.92	31.92	31.92	31.92	31.92
17	86.00	64.65	100.00	63.66	36.88	35.08	35.08	35.08	35.08	35.08
18	95.70	57.70	100.00	52.90	30.00	30.60	30.60	30.60	30.60	30.60
20	21.80	15.60	100.00	15.60	15.60	15.60	15.60	15.60	15.60	15.60
21	100.00	63.70	100.00	62.00	29.50	28.10	28.10	28.10	28.10	28.10
22	100.00	91.60	100.00	100.00	53.60	34.20	34.20	34.20	34.20	34.20
23	100.00	80.13	100.00	100.00	44.63	33.60	33.60	33.60	33.60	33.60
24	100.00	73.60	100.00	84.00	39.40	33.60	33.60	33.60	33.60	33.60
25	100.00	78.80	100.00	94.00	44.13	34.55	34.55	34.55	34.55	34.55
26	81.25	47.70	100.00	43.45	23.95	25.10	25.10	25.10	25.10	25.10
27	89.05	51.90	100.00	48.95	25.60	26.00	26.00	26.00	26.00	26.00
28	100.00	73.60	10.00	84.00	39.40	33.60	33.60	33.60	33.60	33.60
31	100.00	68.80	100.00	73.80	33.10	29.30	29.30	29.30	29.30	29.30
32	100.00	72.10	100.00	83.10	35.90	29.80	29.80	29.80	29.80	29.80
33	100.00	74.70	100.00	81.00	39.00	30.65	30.65	30.65	30.65	30.65
34	100.00	85.00	100.00	100.00	48.85	34.40	34.40	34.40	34.40	34.40
35	43.27	29.06	100.00	28.68	21.51	21.45	21.45	21.45	21.45	21.45
36	21.80	15.60	100.00	15.60	15.60	15.60	15.60	15.60	15.60	15.60
37	36.71	24.80	78.13	24.36	19.52	19.65	19.65	19.65	19.65	19.65
38	44.77	28.00	100.00	29.93	19.90	20.60	20.60	20.60	20.60	20.60
39	76.08	45.63	100.00	42.75	24.80	25.88	25.88	25.88	25.88	25.88
40	75.73	46.70	100.00	44.33	27.45	28.43	28.43	28.43	28.43	28.43
41	83.60	51.03	100.00	46.77	28.17	29.27	29.27	29.27	29.27	29.27
42	100.00	66.20	100.00	65.40	30.50	28.80	28.80	28.80	28.80	28.80
43	100.00	60.30	100.00	57.80	28.30	27.60	27.60	27.60	27.60	27.60

HILLSBOROUGH COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO E

AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI
44	60.90	40.60	100.00	39.85	24.50	23.80	23.80	23.80	23.80	23.80
45	36.28	23.40	100.00	24.03	18.13	18.50	18.50	18.50	18.50	18.50
46	53.10	32.50	100.00	34.20	21.20	21.80	21.80	21.80	21.80	21.80
47	53.13	34.23	100.00	34.03	24.37	24.83	24.83	24.83	24.83	24.83
48	100.00	60.10	100.00	57.70	31.50	31.10	31.10	31.10	31.10	31.10
49	100.00	63.70	100.00	62.00	29.50	28.10	28.10	28.10	28.10	28.10
50	78.10	46.00	100.00	42.60	23.70	24.90	24.90	24.90	24.90	24.90
51	21.95	15.82	90.05	15.86	15.76	15.76	15.76	15.76	15.76	15.76
52	22.47	16.13	100.00	16.14	16.14	16.14	16.14	16.14	16.14	16.14
53	26.54	18.16	100.00	18.30	16.41	16.52	16.52	16.52	16.52	16.52
54	23.17	16.34	100.00	16.37	15.83	15.86	15.86	15.86	15.86	15.86
55	25.21	17.52	100.00	17.45	16.20	16.21	16.21	16.21	16.21	16.21
56	21.80	15.60	100.00	15.60	15.60	15.60	15.60	15.60	15.60	15.60
57	23.74	16.73	100.00	16.62	15.92	15.91	15.91	15.91	15.91	15.91
58	23.99	17.10	100.00	17.14	16.76	16.78	16.78	16.78	16.78	16.78
59	21.80	15.60	100.00	15.60	15.60	15.60	15.60	15.60	15.60	15.60

STRUCTURE CODES

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C -- COMMERCIAL
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PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

MANATEE COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XX%) BY LOSS ZONE

SCENARIO A

AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	54.17	28.59	92.31	28.50	10.04	8.79	8.79	8.79	8.79	8.79
2	27.42	15.09	56.89	14.99	6.11	5.94	5.94	5.94	5.94	5.94
3	42.28	22.72	80.60	22.62	8.40	7.94	7.94	7.94	7.94	7.94
4	34.36	18.51	51.50	18.24	7.15	6.85	6.85	6.85	6.85	6.85
5	32.40	17.05	51.50	16.95	6.70	6.40	6.40	6.40	6.40	6.40
6	22.01	11.94	39.76	12.39	5.33	5.48	5.48	5.48	5.48	5.48
7	18.05	10.05	35.33	9.95	4.60	4.45	4.45	4.45	4.45	4.45
8	24.34	13.44	51.70	13.92	5.79	5.93	5.93	5.93	5.93	5.93
9	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
10	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
11	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
12	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
13	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
14	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
15	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
16	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
17	3.73	2.30	2.60	2.20	2.20	2.20	2.20	2.20	2.20	2.20
18	3.61	2.23	2.31	2.13	2.13	2.13	2.13	2.13	2.13	2.13
20	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
21	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
22	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
23	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
24	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
25	3.55	2.19	2.15	2.09	2.09	2.09	2.09	2.09	2.09	2.09
26	3.45	2.13	1.91	2.03	2.03	2.03	2.03	2.03	2.03	2.03
27	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
28	3.47	2.14	1.96	2.04	2.04	2.04	2.04	2.04	2.04	2.04
29	3.47	2.14	1.97	2.04	2.04	2.04	2.04	2.04	2.04	2.04

STRUCTURE CODES

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GI -- GOVERNMENT AND INSTITUTIONAL

MANATEE COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO C

AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	66.99	40.68	92.31	40.64	16.00	15.03	15.03	15.03	15.03	15.03
2	62.14	34.20	100.00	34.12	14.38	13.76	13.76	13.76	13.76	13.76
3	70.04	41.34	96.96	41.26	16.52	15.94	15.94	15.94	15.94	15.94
4	55.00	35.33	77.20	34.88	14.58	13.73	13.73	13.73	13.73	13.73
5	60.10	36.10	84.80	36.95	15.20	14.85	14.85	14.85	14.85	14.85
6	46.33	26.69	68.76	26.49	12.09	12.08	12.08	12.08	12.08	12.08
7	49.30	27.93	84.30	27.87	12.50	12.10	12.10	12.10	12.10	12.10
8	54.60	30.13	85.32	30.24	13.13	13.10	13.10	13.10	13.10	13.10
9	27.74	15.72	46.32	16.02	8.76	8.80	8.80	8.80	8.80	8.80
10	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
11	32.90	19.20	81.80	19.10	9.90	10.10	10.10	10.10	10.10	10.10
12	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
13	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
14	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
15	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
16	11.34	7.06	26.38	7.31	6.33	6.43	6.43	6.43	6.43	6.43
17	8.67	5.60	20.67	5.50	5.50	5.50	5.50	5.50	5.50	5.50
18	11.86	7.20	22.57	7.60	5.93	6.09	6.09	6.09	6.09	6.09
20	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
21	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
22	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
23	31.05	17.30	50.60	17.65	9.45	9.85	9.85	9.85	9.85	9.85
24	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
25	7.13	4.62	13.22	4.52	4.52	4.52	4.52	4.52	4.52	4.52
26	7.00	4.52	13.13	4.42	4.42	4.42	4.42	4.42	4.42	4.42
27	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
28	7.65	4.96	15.33	4.86	4.86	4.86	4.86	4.86	4.86	4.86
29	7.66	4.97	15.38	4.87	4.87	4.87	4.87	4.87	4.87	4.87

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
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HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

MANATEE COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO D

HURRICANE LOSS ZONE	AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	73.65	50.97	92.31	50.35	25.01	23.80	23.80	23.80	23.80	23.80
2	73.10	45.44	100.00	46.37	24.56	26.18	26.18	26.18	26.18	26.18
3	79.04	53.74	100.00	53.72	26.36	25.08	25.08	25.08	25.08	25.08
4	68.06	47.85	93.46	47.55	22.20	20.75	20.75	20.75	20.75	20.75
5	75.60	47.50	98.35	46.10	21.45	21.25	21.25	21.25	21.25	21.25
6	59.59	37.86	90.01	36.89	20.88	20.98	20.98	20.98	20.98	20.98
7	71.57	43.32	100.00	43.27	20.60	20.07	20.07	20.07	20.07	20.07
8	72.15	43.40	96.04	42.43	20.40	20.24	20.24	20.24	20.24	20.24
9	62.66	36.80	94.44	36.02	18.44	18.74	18.74	18.74	18.74	18.74
10	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
11	59.70	35.00	100.00	35.00	18.10	17.40	17.40	17.40	17.40	17.40
12	41.20	24.40	80.40	26.00	15.40	16.20	16.20	16.20	16.20	16.20
13	46.50	28.20	100.00	28.70	16.20	16.20	16.20	16.20	16.20	16.20
14	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
15	26.08	16.35	72.63	17.35	12.83	13.23	13.23	13.23	13.23	13.23
16	33.21	20.13	76.91	21.70	14.14	14.69	14.69	14.69	14.69	14.69
17	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
18	25.04	15.80	72.29	16.11	12.46	12.68	12.68	12.68	12.68	12.68
20	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
21	48.75	28.40	85.30	29.60	16.50	17.30	17.30	17.30	17.30	17.30
22	31.10	19.00	75.50	21.60	14.10	14.90	14.90	14.90	14.90	14.90
23	43.70	25.70	82.00	24.25	14.90	15.45	15.45	15.45	15.45	15.45
24	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
25	13.67	9.23	47.94	9.13	9.13	9.13	9.13	9.13	9.13	9.13
26	13.10	8.79	42.59	8.70	8.66	8.66	8.66	8.66	8.66	8.66
27	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
28	13.55	9.15	47.00	9.05	9.05	9.05	9.05	9.05	9.05	9.05
29	13.16	8.84	43.68	8.74	8.74	8.74	8.74	8.74	8.74	8.74

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MANATEE COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO E

AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	79.56	62.26	92.31	62.39	40.77	39.40	39.40	39.40	39.40	39.40
2	80.88	58.21	100.00	58.41	39.38	40.84	40.84	40.84	40.84	40.84
3	89.58	68.74	100.00	68.50	44.44	43.00	43.00	43.00	43.00	43.00
4	83.67	72.99	100.00	73.53	45.76	42.46	42.46	42.46	42.46	42.46
5	88.40	66.90	100.00	65.05	43.40	42.65	42.65	42.65	42.65	42.65
6	79.26	58.29	100.00	57.46	41.10	41.03	41.03	41.03	41.03	41.03
7	83.27	61.80	100.00	62.00	42.47	41.62	41.62	41.62	41.62	41.62
8	85.38	59.01	100.00	57.78	36.11	35.73	35.73	35.73	35.73	35.73
9	81.02	54.96	82.00	53.64	35.88	35.96	35.96	35.96	35.96	35.96
10	53.15	40.40	100.00	41.03	36.18	36.28	36.28	36.28	36.28	36.28
11	76.40	53.70	100.00	53.90	40.00	39.60	39.60	39.60	39.60	39.60
12	65.30	47.00	100.00	48.60	38.40	38.90	38.90	38.90	38.90	38.90
13	72.20	51.70	100.00	51.90	39.40	38.90	38.90	38.90	38.90	38.90
14	39.47	31.30	100.00	31.67	31.67	31.67	31.67	31.67	31.67	31.67
15	45.10	34.00	100.00	35.23	31.90	32.18	32.18	32.18	32.18	32.18
16	48.33	34.21	100.00	35.95	29.53	30.00	30.00	30.00	30.00	30.00
17	34.20	26.30	100.00	26.80	26.80	26.80	26.80	26.80	26.80	26.80
18	40.71	29.94	100.00	30.99	28.05	28.23	28.26	28.26	28.26	28.26
20	42.10	33.80	100.00	34.10	34.10	34.10	34.10	34.10	34.10	34.10
21	78.90	51.35	100.00	49.50	33.60	34.50	34.50	34.50	34.50	34.50
22	52.50	39.70	100.00	42.00	36.50	37.10	37.10	37.10	37.10	37.10
23	67.00	48.05	100.00	45.95	37.65	38.15	38.15	38.15	38.15	38.15
24	42.10	33.80	100.00	34.10	34.10	34.10	34.10	34.10	34.10	34.10
25	31.00	23.33	100.00	23.64	23.64	23.64	23.64	23.64	23.64	23.64
26	28.80	21.28	100.00	21.46	21.43	21.43	21.43	21.43	21.43	21.43
27	42.10	33.80	100.00	34.10	34.10	34.10	34.10	34.10	34.10	34.10
28	29.74	22.18	100.00	22.38	22.38	22.38	22.38	22.38	22.38	22.38
29	28.47	21.00	100.00	21.15	21.15	21.15	21.15	21.15	21.15	21.15

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PASCO COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO A

AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	23.32	12.83	49.12	12.73	5.42	5.34	5.34	5.34	5.34	5.34
2	28.02	15.58	63.78	15.48	6.27	6.15	6.15	6.15	6.15	6.15
3	35.30	18.82	61.20	18.72	7.22	6.78	6.78	6.78	6.78	6.78
4	37.86	20.76	80.60	20.66	7.82	7.46	7.46	7.46	7.46	7.46
5	30.88	17.06	71.28	16.96	6.70	6.64	6.64	6.64	6.64	6.64
6	12.63	7.28	27.25	7.18	3.78	3.75	3.75	3.75	3.75	3.75
7	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
8	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
9	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
10	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
11	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
12	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
13	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
14	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
15	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
16	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
17	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
18	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
19	3.78	2.33	2.71	2.23	2.23	2.23	2.23	2.23	2.23	2.23
20	3.66	2.25	2.42	2.15	2.15	2.15	2.15	2.15	2.15	2.15
21	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
22	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
23	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
24	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00

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PASCO COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	42.87	23.51	79.67	23.48	9.42	9.03	9.03	9.03	9.03	9.03
2	48.10	26.03	84.75	25.95	10.17	9.73	9.73	9.73	9.73	9.73
3	49.16	27.02	81.70	26.98	10.48	10.12	10.12	10.12	10.12	10.12
4	58.84	31.68	100.00	31.62	11.88	11.38	11.38	11.38	11.38	11.38
5	48.38	26.10	81.70	26.02	10.18	9.66	9.66	9.66	9.66	9.66
6	23.75	12.93	37.10	13.55	6.45	6.50	6.50	6.50	6.50	6.50
7	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
8	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
9	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
10	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
11	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
12	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
13	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
14	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
15	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
16	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
17	4.74	3.02	5.17	2.92	2.92	2.92	2.92	2.92	2.92	2.92
18	4.96	3.16	6.13	3.06	3.06	3.06	3.06	3.06	3.06	3.06
19	4.72	3.01	5.09	2.91	2.91	2.91	2.91	2.91	2.91	2.91
20	4.72	3.01	5.09	2.91	2.91	2.91	2.91	2.91	2.91	2.91
21	4.58	2.91	4.70	2.81	2.81	2.81	2.81	2.81	2.81	2.81
22	4.02	2.49	3.30	2.39	2.39	2.39	2.39	2.39	2.39	2.39
23	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
24	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30

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PASCO COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	56.99	33.36	83.11	33.31	14.12	13.50	13.50	13.50	13.50	13.50
2	67.23	39.10	100.00	36.80	15.15	15.20	15.20	15.20	15.20	15.20
3	65.12	40.04	96.36	39.98	16.12	15.22	15.22	15.22	15.22	15.22
4	72.30	43.80	100.00	43.72	17.24	16.22	16.22	16.22	16.22	16.22
5	64.14	37.96	96.36	37.90	15.52	14.86	14.86	14.86	14.86	14.86
6	46.88	26.70	69.60	27.05	12.28	12.45	12.45	12.45	12.45	12.45
7	36.50	20.10	54.40	21.90	10.70	11.50	11.50	11.50	11.50	11.50
8	36.50	20.10	54.40	21.90	10.70	11.50	11.50	11.50	11.50	11.50
9	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
10	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
11	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
12	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
13	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
14	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
15	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
16	20.18	11.64	36.16	12.30	7.82	8.14	8.14	8.14	8.14	8.14
17	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
18	9.30	6.00	24.36	5.90	5.90	5.90	5.90	5.90	5.90	5.90
19	8.84	5.71	21.55	5.61	5.61	5.61	5.61	5.61	5.61	5.61
20	7.73	5.01	15.71	4.91	4.91	4.91	4.91	4.91	4.91	4.91
21	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
22	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
23	6.98	4.51	12.79	4.41	4.41	4.41	4.41	4.41	4.41	4.41
24	7.05	4.56	12.99	4.46	4.46	4.46	4.46	4.46	4.46	4.46

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PASCO COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO I

HURRICANE LOSS ZONE	AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	84.53	75.97	100.00	74.97	32.69	24.04	24.04	24.04	24.04	24.04
2	85.10	84.87	100.00	84.87	33.33	24.65	24.65	24.65	24.65	24.65
3	86.18	85.14	100.00	85.14	37.74	28.80	28.80	28.80	28.80	28.80
4	84.24	82.96	100.00	82.56	36.40	28.08	28.08	28.08	28.08	28.08
5	84.72	84.34	100.00	84.34	33.24	24.54	24.54	24.54	24.54	24.54
6	90.78	64.18	100.00	61.93	26.23	23.15	23.15	23.15	23.15	23.15
7	88.20	49.30	100.00	43.00	20.50	21.90	21.90	21.90	21.90	21.90
8	95.00	52.80	100.00	47.40	21.90	22.50	22.50	22.50	22.50	22.50
9	76.50	43.00	100.00	39.40	19.50	20.70	20.70	20.70	20.70	20.70
10	78.10	46.00	100.00	42.60	23.70	24.90	24.90	24.90	24.90	24.90
11	83.20	46.60	98.35	42.50	20.40	21.25	21.25	21.25	21.25	21.25
12	36.15	21.70	78.75	22.05	14.25	14.65	14.65	14.65	14.65	14.65
13	40.74	25.82	100.00	25.34	18.52	18.96	18.96	18.96	18.96	18.96
14	41.30	24.67	82.71	23.91	15.27	15.83	15.83	15.83	15.83	15.83
15	47.38	28.00	87.58	28.04	16.70	17.38	17.38	17.38	17.38	17.38
16	70.08	41.44	91.50	39.94	19.62	19.56	19.56	19.56	19.56	19.56
17	23.36	14.90	71.12	14.76	12.06	12.23	12.23	12.23	12.23	12.23
18	22.63	14.93	76.65	15.50	13.10	13.32	13.32	13.32	13.32	13.32
19	15.71	10.66	60.89	10.61	10.39	10.40	10.40	10.40	10.40	10.40
20	14.59	9.89	54.07	9.82	9.73	9.74	9.74	9.74	9.74	9.74
21	12.70	8.50	39.90	8.40	8.40	8.40	8.40	8.40	8.40	8.40
22	12.70	8.50	39.90	8.40	8.40	8.40	8.40	8.40	8.40	8.40
23	12.70	8.50	39.90	8.40	8.40	8.40	8.40	8.40	8.40	8.40
24	12.70	8.50	39.90	8.40	8.40	8.40	8.40	8.40	8.40	8.40

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PASCO COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (%%%) BY LOSS ZONE

SCENARIO E

AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE

HURRICANE LOSS ZONE	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	90.23	82.63	100.00	81.77	48.66	43.93	43.93	43.93	43.93	43.93
2	89.92	89.28	100.00	89.35	50.88	44.37	44.37	44.37	44.37	44.37
3	89.98	88.74	100.00	88.80	51.42	44.52	44.52	44.52	44.52	44.52
4	90.66	95.50	100.00	95.52	53.02	44.78	44.78	44.78	44.78	44.78
5	89.46	88.34	100.00	88.40	50.64	44.20	44.20	44.20	44.20	44.20
6	95.65	76.33	100.00	74.60	46.29	43.70	43.70	43.70	43.70	43.70
7	100.00	66.90	100.00	65.10	43.40	43.10	43.10	43.10	43.10	43.10
8	96.50	64.90	100.00	61.10	42.20	42.70	42.70	42.70	42.70	42.70
9	91.90	62.30	100.00	57.80	41.20	42.20	42.20	42.20	42.20	42.20
10	91.90	62.30	100.00	57.80	41.20	42.20	42.20	42.20	42.20	42.20
11	94.20	64.60	100.00	61.80	42.40	42.65	42.65	42.65	42.65	42.65
12	58.35	43.05	100.00	43.35	36.85	37.15	37.15	37.15	37.15	37.15
13	65.40	46.81	100.00	46.69	37.88	38.44	38.44	38.44	38.44	38.44
14	63.11	45.81	100.00	45.21	37.41	37.87	37.87	37.87	37.87	37.87
15	74.26	52.20	100.00	51.64	39.34	40.08	40.08	40.08	40.08	40.08
16	81.96	59.20	100.00	58.10	41.30	41.14	41.14	41.14	41.14	41.14
17	46.25	33.81	100.00	34.17	30.22	30.44	30.44	30.44	30.44	30.44
18	49.55	38.05	100.00	38.86	35.53	35.74	35.74	35.74	35.74	35.74
19	34.95	26.83	100.00	27.34	27.13	27.14	27.14	27.14	27.14	27.14
20	34.64	26.63	100.00	27.14	27.04	27.04	27.04	27.04	27.04	27.04
21	27.50	20.10	100.00	20.20	20.20	20.20	20.20	20.20	20.20	20.20
22	27.50	20.10	100.00	20.20	20.20	20.20	20.20	20.20	20.20	20.20
23	27.50	20.10	100.00	20.20	20.20	20.20	20.20	20.20	20.20	20.20
24	27.50	20.10	100.00	20.20	20.20	20.20	20.20	20.20	20.20	20.20

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

PINELLAS COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO A

HURRICANE LOSS ZONE	AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	SI
1	22.32	12.42	53.15	12.32	5.09	5.14	5.14	5.14	5.14	5.14
2	6.00	4.63	15.23	4.53	2.93	2.98	2.98	2.98	2.98	2.98
3	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
4	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
5	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
6	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
7	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
8	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
9	15.53	6.97	27.57	6.87	3.67	3.77	3.77	3.77	3.77	3.77
10	12.63	7.28	27.25	7.18	3.78	3.75	3.75	3.75	3.75	3.75
11	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
12	32.20	18.03	84.47	17.93	7.00	7.20	7.20	7.20	7.20	7.20
13	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
14	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
15	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
16	14.48	8.03	27.50	8.65	4.20	4.50	4.50	4.50	4.50	4.50
17	28.68	15.16	43.43	16.29	6.50	6.93	6.93	6.93	6.93	6.93
18	37.16	19.89	67.78	20.11	7.63	7.34	7.34	7.34	7.34	7.34
19	21.35	12.15	51.50	12.05	5.25	5.20	5.20	5.20	5.20	5.20
20	26.88	14.55	51.68	15.18	6.10	6.20	6.20	6.20	6.20	6.20
21	9.68	5.53	20.45	5.43	3.03	3.10	3.10	3.10	3.10	3.10
22	12.10	6.87	27.47	6.77	3.57	3.67	3.67	3.67	3.67	3.67
23	3.90	2.40	3.00	2.30	2.30	7.55	7.55	7.55	7.55	7.55
24	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
25	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
26	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
27	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
28	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
29	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
30	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
31	8.90	5.14	17.74	5.04	3.12	3.18	3.18	3.18	3.18	3.18
32	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
33	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
34	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
35	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
36	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
37	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
38	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
39	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30

PINELLAS COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO A

HURRICANE LOSS ZONE	AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
40	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
41	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
42	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
43	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
44	9.92	5.42	11.82	5.65	3.13	3.25	3.25	3.25	3.25	3.25
45	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
46	4.69	2.80	4.10	2.83	2.46	2.50	2.50	2.50	2.50	2.50
50	3.73	2.30	2.60	2.20	2.20	2.20	2.20	2.20	2.20	2.20
51	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
52	3.40	2.10	1.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
53	3.78	2.33	2.70	2.23	2.23	2.23	2.23	2.23	2.23	2.23
54	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
55	3.65	2.25	2.40	2.15	2.15	2.15	2.15	2.15	2.15	2.15
56	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
57	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
58	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
59	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
60	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
61	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
62	3.90	2.40	3.00	2.30	2.30	2.30	2.30	3.42	2.30	2.30
63	3.83	2.36	2.83	2.26	2.26	2.26	2.26	2.26	2.26	2.26
64	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
65	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
66	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
67	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
68	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
69	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
70	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
71	3.90	2.40	3.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30
72	3.51	2.17	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
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PINELLAS COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PO	AG	PT	HC	GI
1	48.52	26.21	89.18	26.11	9.86	9.52	9.52	9.52	9.52	9.52
2	61.45	32.58	100.00	32.48	11.77	11.18	11.18	11.18	11.18	11.18
3	62.40	32.93	87.14	32.83	11.94	11.33	11.33	11.33	11.33	11.33
4	58.40	31.24	100.00	31.14	12.10	10.96	10.96	10.96	10.96	10.96
5	32.47	18.62	81.08	18.52	7.95	7.92	7.92	7.92	7.92	7.92
6	35.92	20.48	91.20	20.38	8.52	8.54	8.54	8.54	8.54	8.54
7	37.25	21.25	94.50	21.15	8.65	8.63	8.63	8.63	8.63	8.63
8	46.60	25.63	100.00	25.53	9.67	9.43	9.43	9.43	9.43	9.43
9	41.47	22.40	68.33	22.30	8.73	8.27	8.27	8.27	8.27	8.27
10	28.53	15.85	52.50	15.03	6.53	6.38	6.38	6.38	6.38	6.38
11	22.00	12.70	52.50	12.60	5.80	5.75	5.75	5.75	5.75	5.75
12	41.03	22.73	92.40	22.63	8.83	8.63	8.63	8.63	8.63	8.63
13	17.10	9.80	41.10	9.70	4.95	5.10	5.10	5.10	5.10	5.10
14	12.97	7.53	29.07	7.43	4.27	4.37	4.37	4.37	4.37	4.37
15	10.90	6.40	23.05	6.30	3.93	4.00	4.00	4.00	4.00	4.00
16	15.20	8.58	29.00	9.23	4.80	5.10	5.10	5.10	5.10	5.10
17	34.52	18.28	50.53	19.91	8.01	8.48	8.48	8.48	8.48	8.48
18	37.69	20.36	68.44	20.59	8.22	7.94	7.94	7.94	7.94	7.94
19	22.00	12.70	52.50	12.60	5.85	5.75	5.75	5.75	5.75	5.75
20	13.35	7.85	28.75	7.75	4.35	4.33	4.33	4.33	4.33	4.33
21	18.83	10.28	28.75	10.18	5.08	12.10	12.10	12.10	12.10	12.10
22	19.97	10.77	25.60	12.30	5.73	6.27	6.27	6.27	6.27	6.27
23	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
24	21.90	11.70	26.80	14.60	6.40	7.30	7.30	7.30	7.30	7.30
25	50.90	26.70	72.60	27.60	10.60	11.50	11.50	11.50	11.50	11.50
26	5.50	3.50	8.30	3.40	3.40	3.40	3.40	3.40	3.40	3.40
27	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
28	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
29	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
30	13.70	8.00	31.67	7.90	4.77	4.83	4.83	4.83	4.83	4.83
31	17.06	9.58	24.88	9.48	5.02	4.90	4.90	4.90	4.90	4.90
32	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
33	18.07	9.78	23.23	11.50	5.48	6.05	6.05	6.05	6.05	6.05
34	29.50	16.60	77.20	16.50	7.00	7.30	7.30	7.30	7.30	7.30
35	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
36	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
37	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
38	8.42	4.94	10.98	5.42	3.80	3.96	3.96	3.96	3.96	3.96
39	16.95	9.30	23.38	10.40	5.50	5.90	5.90	5.90	5.90	5.90

PINELLAS COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XX%) BY LOSS ZONE

SCENARIO B

HURRICANE LOSS ZONE	AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
40	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
41	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
42	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
43	13.30	7.35	16.90	5.75	4.65	5.10	5.10	5.10	5.10	5.10
44	11.05	6.23	14.50	6.47	3.97	4.08	4.08	4.08	4.08	4.08
45	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
46	5.48	3.40	6.08	3.43	3.06	3.10	3.10	3.10	3.10	3.10
50	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
51	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
52	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
53	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
54	5.30	3.35	7.63	3.28	3.28	3.28	3.28	3.28	3.28	3.28
55	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
56	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
57	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
58	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
59	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
60	5.50	3.50	8.50	3.40	3.40	3.40	3.40	3.40	3.40	3.40
61	5.12	3.26	6.84	3.16	3.16	3.16	3.16	3.16	3.16	3.16
62	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
63	4.70	3.00	5.00	3.20	2.90	2.90	2.90	2.90	2.90	2.90
64	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
65	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
66	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
67	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
68	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
69	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
70	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
71	4.70	3.00	5.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90
72	5.66	3.48	6.32	3.55	3.09	3.14	3.14	3.14	3.14	3.14

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

PINELLAS COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	57.87	34.24	95.25	34.15	13.52	13.01	13.01	13.01	13.01	13.01
2	71.92	42.98	100.00	42.93	16.87	15.95	15.95	15.95	15.95	15.95
3	73.13	44.60	100.00	44.60	17.51	16.44	16.44	16.44	16.44	16.44
4	71.77	42.54	100.00	42.59	16.91	16.04	16.04	16.04	16.04	16.04
5	60.73	33.57	96.97	33.53	14.18	13.78	13.78	13.78	13.78	13.78
6	65.50	35.88	100.00	35.84	14.88	14.34	14.34	14.34	14.34	14.34
7	66.10	36.30	100.00	36.28	15.00	14.48	14.48	14.48	14.48	14.48
8	67.60	38.27	100.00	38.20	15.60	14.93	14.93	14.93	14.93	14.93
9	62.00	38.27	82.80	38.80	15.50	14.90	14.90	14.90	14.90	14.90
10	59.73	34.78	100.00	34.70	13.70	13.00	13.00	13.00	13.00	13.00
11	50.60	28.60	69.70	28.50	11.85	11.70	11.70	11.70	11.70	11.70
12	70.00	40.13	100.00	40.10	16.17	15.50	15.50	15.50	15.50	15.50
13	36.20	20.10	62.00	20.00	10.15	9.85	9.85	9.85	9.85	9.85
14	38.20	21.67	74.67	21.57	10.60	10.40	10.40	10.40	10.40	10.40
15	41.45	23.65	86.35	23.58	11.23	11.25	11.25	11.25	11.25	11.25
16	26.83	15.18	47.75	15.78	8.86	8.93	8.93	8.93	8.93	8.93
17	64.56	35.30	88.62	33.98	13.61	14.33	14.33	14.33	14.33	14.33
18	59.07	32.96	85.67	32.97	13.18	12.94	12.94	12.94	12.94	12.94
19	53.70	30.00	100.00	29.95	12.25	11.95	11.95	11.95	11.95	11.95
20	57.23	31.20	87.10	31.60	12.75	12.88	12.88	12.88	12.88	12.88
21	23.80	30.60	36.50	12.85	7.93	7.78	7.78	7.78	7.78	7.78
22	56.17	30.47	87.33	30.67	13.07	13.40	13.40	13.40	13.40	13.40
23	43.78	24.35	75.30	24.48	11.48	11.33	11.33	11.33	11.33	11.33
24	69.20	37.00	92.40	34.10	14.40	15.50	15.50	15.50	15.50	15.50
25	81.90	43.60	100.00	37.90	15.50	16.90	16.90	16.90	16.90	16.90
26	74.60	39.80	100.00	36.00	14.90	16.30	16.30	16.30	16.30	16.30
27	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
28	25.75	15.40	62.00	15.30	8.70	8.70	8.70	8.70	8.70	8.70
29	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
30	35.10	19.80	68.60	19.70	10.07	9.93	9.93	9.93	9.93	9.93
31	36.88	22.36	65.96	22.28	10.84	10.44	10.44	10.44	10.44	10.44
32	38.33	21.03	59.47	21.57	10.60	11.13	11.13	11.13	11.13	11.13
33	54.33	28.93	75.63	29.02	12.00	12.87	12.87	12.87	12.87	12.87
34	67.10	37.00	100.00	37.00	15.20	14.70	14.70	14.70	14.70	14.70
35	25.60	14.50	43.00	17.20	9.30	10.10	10.10	10.10	10.10	10.10
36	33.45	18.45	50.05	20.48	10.08	10.85	10.85	10.85	10.85	10.85
37	44.40	23.80	65.60	25.70	11.00	11.70	11.70	11.70	11.70	11.70
38	58.28	31.36	78.72	29.22	12.90	13.82	13.82	13.82	13.82	13.82
39	62.83	33.73	83.95	31.30	13.53	14.70	14.70	14.70	14.70	14.70

PINELLAS COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO C

HURRICANE LOSS ZONE	AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
40	32.87	18.23	51.87	19.07	9.87	10.40	10.40	10.40	10.40	10.40
41	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
42	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
43	33.35	18.15	48.40	18.05	8.70	9.15	9.15	9.15	9.15	9.15
44	17.90	10.23	28.57	9.67	6.33	6.52	6.52	6.52	6.52	6.52
45	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
46	30.47	17.01	48.87	19.38	9.95	10.75	10.75	10.75	10.75	10.75
50	7.40	4.80	14.00	4.70	4.70	4.70	4.70	4.70	4.70	4.70
51	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
52	14.50	8.38	22.60	8.75	5.93	6.10	6.10	6.10	6.10	6.10
53	12.90	7.83	26.25	8.43	6.45	6.65	6.65	6.65	6.65	6.65
54	29.70	16.59	47.75	17.19	9.30	9.54	9.84	9.84	9.84	9.84
55	20.68	11.80	33.88	13.80	7.85	8.48	8.48	8.48	8.48	8.48
56	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
57	56.50	31.40	100.00	31.30	13.50	12.80	12.80	12.80	12.80	12.80
58	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
59	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
60	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
61	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
62	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
63	8.76	5.66	21.14	5.56	5.56	5.56	5.56	5.56	5.56	5.56
64	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
65	8.35	5.40	19.00	5.30	5.30	5.30	5.30	5.30	5.30	5.30
66	8.67	5.60	20.67	5.50	5.50	5.50	5.50	5.50	5.50	5.50
67	17.93	10.37	32.13	10.90	10.47	7.37	7.37	7.37	7.37	7.37
68	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
69	10.93	6.85	25.90	7.03	6.24	6.32	6.32	6.32	6.32	6.32
70	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
71	9.30	6.00	24.00	5.90	5.90	5.90	5.90	5.90	5.90	5.90
72	15.92	9.24	26.51	9.03	6.18	6.36	6.36	6.36	6.36	6.36

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

PINELLAS COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO D

HURRICANE LOSS ZONE	AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	68.25	44.58	100.00	44.55	20.85	19.84	19.84	19.84	19.84	19.84
2	79.00	53.72	100.00	53.68	23.73	22.18	22.18	22.18	22.18	22.18
3	79.83	55.11	100.00	55.09	24.14	22.47	22.47	22.47	22.47	22.47
4	79.54	54.47	100.00	54.46	24.89	23.41	23.41	23.41	23.41	23.41
5	74.65	47.40	100.00	47.40	25.12	24.40	24.40	24.40	24.40	24.40
6	74.14	45.88	100.00	45.82	21.38	20.54	20.54	20.54	20.54	20.54
7	75.08	47.50	100.00	47.40	21.88	20.85	20.85	20.85	20.85	20.85
8	76.43	49.57	100.00	49.50	22.50	21.30	21.30	21.30	21.30	21.30
9	76.33	54.90	97.83	54.83	24.07	22.10	22.10	22.10	22.10	22.10
10	73.33	46.85	100.00	46.75	21.65	20.48	20.48	20.48	20.48	20.48
11	72.00	44.80	100.00	44.75	21.05	20.15	20.15	20.15	20.15	20.15
12	79.83	55.20	100.00	55.17	24.17	22.47	22.47	22.47	22.47	22.47
13	52.80	32.80	87.75	34.05	17.85	17.80	17.80	17.80	17.80	17.80
14	54.00	33.67	89.10	33.77	17.77	17.13	17.13	17.13	17.13	17.13
15	70.33	42.18	100.00	42.08	20.25	19.53	19.53	19.53	19.53	19.53
16	60.58	36.83	95.93	36.95	18.73	18.78	18.78	18.78	18.78	18.78
17	89.08	52.33	100.00	48.25	22.12	22.27	22.27	22.27	22.27	22.27
18	73.98	46.79	96.37	47.44	21.86	20.99	20.99	20.99	20.99	20.99
19	74.50	46.60	100.00	46.55	21.60	20.65	20.65	20.65	20.65	20.65
20	76.45	46.13	77.50	44.08	20.95	21.00	21.00	21.00	21.00	21.00
21	55.03	32.35	91.83	32.28	17.30	16.93	16.93	16.93	16.93	16.93
22	65.23	48.37	100.00	45.67	21.33	21.43	21.43	21.43	21.43	21.43
23	60.30	35.25	91.83	33.85	17.78	17.85	17.85	17.85	17.85	17.85
24	83.20	46.60	100.00	41.20	20.00	21.30	21.30	21.30	21.30	21.30
25	100.00	60.30	100.00	57.80	28.30	27.60	27.60	27.60	27.60	27.60
26	89.10	51.90	100.00	46.00	24.70	26.00	26.00	26.00	26.00	26.00
27	31.95	21.50	100.00	21.50	17.35	17.50	17.50	17.50	17.50	17.50
28	42.15	27.00	100.00	27.00	19.00	18.70	18.70	18.70	18.70	18.70
29	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
30	45.70	28.80	89.10	28.70	16.23	15.93	15.93	15.93	15.93	15.93
31	55.48	36.64	91.90	36.56	18.58	17.70	17.70	17.70	17.70	17.70
32	47.90	27.93	84.73	27.23	15.80	16.43	16.43	16.43	16.43	16.43
33	79.53	44.68	98.37	40.30	19.72	20.93	20.93	20.93	20.93	20.93
34	76.50	50.20	100.00	50.10	22.70	21.30	21.30	21.30	21.30	21.30
35	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
36	69.30	39.28	95.90	37.15	18.78	19.80	19.80	19.80	19.80	19.80
37	56.30	32.40	90.20	33.20	17.60	18.40	18.40	18.40	18.40	18.40
38	86.46	49.15	100.00	45.28	22.54	23.24	23.24	23.24	23.24	23.24
39	88.65	51.70	100.00	49.38	25.28	25.73	25.73	25.73	25.73	25.73

PINELLAS COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XX%) BY LOSS ZONE

SCENARIO D

HURRICANE LOSS ZONE	AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
40	57.77	35.03	100.00	33.03	20.83	21.57	21.57	21.57	21.57	21.57
41	21.80	15.60	100.00	15.60	15.60	15.60	15.60	15.60	15.60	15.60
42	31.10	19.00	75.50	21.60	14.10	14.90	14.90	14.90	14.90	14.90
43	49.60	28.80	83.65	26.05	15.45	16.10	16.10	16.10	16.10	16.10
44	45.12	26.45	80.93	26.63	15.62	15.93	15.93	15.93	15.93	15.93
45	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
46	63.20	38.20	93.39	37.70	19.95	19.51	19.51	19.51	19.51	19.51
50	32.60	19.93	76.03	20.97	13.90	14.43	14.43	14.43	14.43	14.43
51	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
52	31.53	19.23	75.90	19.80	13.58	13.98	13.98	13.98	13.98	13.98
53	42.88	25.25	82.83	26.28	15.53	16.03	16.03	16.03	16.03	16.03
54	52.29	31.19	91.01	30.48	18.43	19.10	19.10	19.10	19.10	19.10
55	29.85	18.35	74.68	20.03	13.63	14.23	14.23	14.23	14.23	14.23
56	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
57	72.50	43.00	100.00	43.00	20.50	20.00	20.00	20.00	20.00	20.00
58	21.80	15.60	100.00	15.60	15.60	15.60	15.60	15.60	15.60	15.60
59	21.80	15.60	100.00	15.60	15.60	15.60	15.60	15.60	15.60	15.60
60	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
61	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
62	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
63	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
64	38.50	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
65	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
66	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
67	45.67	26.73	83.50	26.33	15.53	16.10	16.10	16.10	16.10	16.10
68	25.23	15.90	72.20	15.35	12.23	12.42	12.42	12.42	12.42	12.42
69	20.87	13.58	70.09	13.93	11.81	11.95	11.95	11.95	11.95	11.95
70	16.00	11.00	67.30	10.90	10.90	10.90	10.90	10.90	10.90	10.90
71	21.03	13.67	70.03	14.47	11.97	12.23	12.23	12.23	12.23	12.23
72	30.56	18.72	74.74	18.02	13.04	13.32	13.32	13.32	13.32	13.32

STRUCTURE CODES

SR -- SINGLE UNIT RESIDENTIAL
MR -- MULTI-UNIT RESIDENTIAL
MH -- MOBILE HOME RESIDENTIAL
C -- COMMERCIAL
I -- INDUSTRIAL
PU -- PUBLIC UTILITIES
AG -- AGRICULTURAL
PT -- PUBLIC TRANSPORTATION
HC -- HEALTH CARE
GI -- GOVERNMENT AND INSTITUTIONAL

PINELLAS COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO E

HURRICANE LOSS ZONE	AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
1	74.22	53.15	100.00	53.49	34.82	34.02	34.02	34.02	34.02	34.02
2	63.90	62.35	100.00	62.60	38.42	37.13	37.13	37.13	37.13	37.13
3	86.46	67.64	100.00	67.80	44.23	42.79	42.79	42.79	42.79	42.79
4	86.29	67.34	100.00	67.53	44.14	42.73	42.73	42.73	42.73	42.73
5	83.92	64.12	100.00	64.30	43.15	42.17	42.17	42.17	42.17	42.17
6	92.20	59.74	100.00	59.92	41.84	41.20	41.20	41.20	41.20	41.20
7	81.55	58.50	100.00	58.73	40.20	39.58	39.58	39.58	39.58	39.58
8	77.40	53.07	100.00	53.43	34.77	34.10	34.10	34.10	34.10	34.10
9	76.73	56.50	100.00	57.30	35.97	34.90	34.90	34.90	34.90	34.90
10	76.08	52.45	100.00	52.73	34.60	33.90	33.90	33.90	33.90	33.90
11	69.10	48.40	100.00	48.75	33.40	33.00	33.00	33.00	33.00	33.00
12	82.47	59.70	100.00	60.00	36.77	35.67	35.67	35.67	35.67	35.67
13	55.15	38.45	100.00	38.90	30.40	30.20	30.20	30.20	30.20	30.20
14	60.37	41.77	100.00	42.20	31.40	31.07	31.07	31.07	31.07	31.07
15	68.35	46.48	100.00	46.95	32.83	32.40	32.40	32.40	32.40	32.40
16	72.25	48.20	100.00	48.23	33.20	33.35	33.35	33.35	33.35	33.35
17	82.13	54.18	100.00	51.88	34.33	34.98	34.98	34.98	34.98	34.98
18	73.93	51.67	100.00	51.78	34.30	33.87	33.87	33.87	33.87	33.87
19	73.45	49.50	100.00	49.90	33.70	33.20	33.20	33.20	33.20	33.20
20	73.83	49.43	100.00	49.86	33.70	33.75	33.75	33.75	33.75	33.75
21	56.30	40.65	100.00	41.05	31.10	30.85	30.85	30.85	30.85	30.85
22	86.67	55.70	100.00	53.90	34.93	35.03	35.03	35.03	35.03	35.03
23	71.20	50.45	100.00	49.73	37.50	37.55	37.55	37.55	37.55	37.55
24	91.90	62.30	100.00	57.80	41.20	42.20	42.20	42.20	42.20	42.20
25	100.00	68.90	100.00	67.10	44.00	43.50	43.50	43.50	43.50	43.50
26	100.00	66.90	100.00	65.10	43.40	43.10	43.10	43.10	43.10	43.10
27	49.65	38.45	100.00	38.70	35.50	18.55	18.55	18.55	18.55	18.55
28	60.53	44.70	100.00	44.95	37.35	37.15	37.15	37.15	37.15	37.15
29	42.10	33.80	100.00	34.10	34.10	34.10	34.10	34.10	34.10	34.10
30	67.43	50.13	100.00	50.37	38.97	38.50	38.50	38.50	38.50	38.50
31	66.08	49.18	100.00	49.48	35.66	34.98	34.98	34.98	34.98	34.98
32	57.00	39.07	100.00	39.73	30.87	31.10	31.10	31.10	31.10	31.10
33	69.70	46.17	100.00	46.33	32.78	33.33	33.33	33.33	33.33	33.33
34	90.10	55.60	100.00	56.10	35.60	34.90	34.90	34.90	34.90	34.90
35	71.00	46.90	100.00	47.30	32.90	33.60	33.60	33.60	33.60	33.60
36	64.45	43.25	100.00	44.00	31.95	32.60	32.60	32.60	32.60	32.60
37	65.80	44.00	100.00	45.10	32.30	32.90	32.90	32.90	32.90	32.90
38	95.28	63.90	100.00	61.86	39.36	39.08	39.08	39.08	39.08	39.08
39	93.63	63.75	100.00	62.48	42.60	42.48	42.48	42.48	42.48	42.48

PINELLAS COUNTY

AVERAGE HURRICANE STRUCTURAL LOSS (XXX) BY LOSS ZONE

SCENARIO E

HURRICANE LOSS ZONE	AVERAGE PERCENTAGE LOSS BY STRUCTURE TYPE									
	SR	MR	MH	C	I	PU	AG	PT	HC	GI
40	69.90	49.67	100.00	48.17	38.30	38.90	38.90	38.90	38.90	38.90
41	42.10	33.80	100.00	34.10	34.10	34.10	34.10	34.10	34.10	34.10
42	59.50	43.70	100.00	45.30	37.50	38.00	38.00	38.00	38.00	38.00
43	55.90	38.45	100.00	37.80	30.10	30.55	30.55	30.55	30.55	30.55
44	42.32	31.95	100.00	32.42	28.48	28.30	28.30	28.30	28.30	28.30
45	34.20	26.30	100.00	26.80	26.80	26.80	26.80	26.80	26.80	26.80
46	77.38	50.47	100.00	48.52	33.36	34.22	34.22	34.22	34.22	34.22
50	34.20	26.30	100.00	26.80	26.80	26.80	26.80	26.80	26.80	26.80
51	34.20	26.30	100.00	26.80	26.80	26.80	26.80	26.80	26.80	26.80
52	40.78	29.98	100.00	30.83	28.00	28.13	28.13	28.13	28.13	28.13
53	51.63	36.05	100.00	37.60	30.10	30.48	30.48	30.48	30.48	30.48
54	66.21	46.81	100.00	46.75	36.55	37.16	37.16	37.16	37.16	37.16
55	43.05	31.25	100.00	33.40	28.75	29.28	29.28	29.28	29.28	29.28
56	34.20	26.30	100.00	26.80	26.80	26.80	26.80	26.80	26.80	26.80
57	82.50	60.30	100.00	60.50	42.00	41.30	41.30	41.30	41.30	41.30
58	42.10	33.80	100.00	34.10	34.10	34.10	34.10	34.10	34.10	27.28
59	42.10	33.80	100.00	34.10	34.10	34.10	34.10	34.10	34.10	34.10
60	42.10	33.80	100.00	34.10	34.10	34.10	34.10	34.10	34.10	34.10
61	38.36	30.25	100.00	30.41	30.41	30.41	30.41	30.41	30.41	30.41
62	34.20	26.30	100.00	26.80	26.80	26.80	26.80	26.80	26.80	26.80
63	34.20	26.30	100.00	26.80	26.80	26.80	26.80	26.80	26.80	26.80
64	34.20	26.30	100.00	26.80	26.80	26.80	26.80	26.80	26.80	26.80
65	34.20	26.30	100.00	26.80	26.80	26.80	26.80	26.80	26.80	26.80
66	34.20	26.30	100.00	26.80	26.80	26.80	26.80	26.80	26.80	26.80
67	42.97	31.20	100.00	32.17	28.40	28.57	28.57	28.57	28.57	28.57
68	41.43	30.35	100.00	30.47	27.90	28.05	28.05	28.05	28.05	28.05
69	38.54	28.73	100.00	29.51	27.61	27.74	27.74	27.74	27.74	27.74
70	37.15	27.95	100.00	29.00	27.45	27.63	27.63	27.63	27.63	27.63
71	38.13	28.50	100.00	29.73	27.67	27.90	27.90	27.90	27.90	27.90
72	43.26	31.37	100.00	31.61	28.24	28.48	28.48	28.48	28.48	28.48

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