

## **Executive Summary**

The experiences of the 2004 Hurricane Season epitomize the importance of better integrating hazard mitigation activities into local comprehensive planning. Last fall, residents from all over the state experienced significant damages from Hurricanes Charley, Frances, Jeanne, and Ivan by either winds, tornadoes, surge, or flooding. But this was not the only time that we have experienced natural disaster, nor will it be the last. In 1992, Hurricane Andrew devastated South Florida. In 1998 and 1999, most counties in Florida experienced wildfires. In some cases, despite fire fighters' best efforts, the fires advanced through neighborhoods and homes were lost. Every year in Central Florida, new sinkholes emerge swallowing homes and damaging infrastructure. The cost of recovery for these various disasters ranges from hundreds of thousands to billions of dollars, significantly taxing local, state, and federal financial sources. Losses covered through federal funding as a result of the 2004 hurricanes alone could reach as high as \$7 billion. Worst of all, however, are the many lives that, directly or indirectly, are lost due to natural disasters. It is imperative that we reduce the human and financial costs of natural disasters. Through better integration of natural hazard considerations into local comprehensive planning, we can build safer communities.

This profile of Collier County has been prepared as part of a statewide effort by the Florida Department of Community Affairs (DCA) to guide local governments on integrating hazard mitigation principles into local comprehensive plans. Through the process outlined in this profile, planners will be able to (1) convey Collier County's existing and potential risk to identified hazards; (2) assess how well local hazard mitigation principles have been incorporated into the County's Comprehensive Plan; (3) provide recommendations on how hazard mitigation can better be integrated into the Comprehensive Plan; and (4) determine if any enhancements could be made to the LMS to better support comprehensive planning. Best available statewide level data is provided to convey exposure and risk as well as to illustrate the vulnerability assessment component of the integration process.

### **Summary of Preliminary Recommendations**

Collier County's Comprehensive Plan has a good integration of hazard mitigation principles and its LMS has adequate data and goals to support comprehensive planning. However, there are always ways to strengthen such plans, and the following is a summary of options for the County to do so.

### **Comprehensive Plan Preliminary Recommendations**

The following recommendations include hazard mitigation measures in which Collier County can continue to reduce or eliminate risks to storm surge, flood, and wildfire. These recommendations pertain to the use of vacant lands and/or redevelopment practices. Based on the land use tabulations, most of the vacant acreage is susceptible to flood, tropical cyclone generated storm surge, and wildfire. No acres were determined to be in sinkhole susceptible areas. For more information about the methodology and data used for the land use tabulations, please refer to Section 2. Hazard Vulnerability in this hazards profile.

Of the vacant lands, 20,078 acres are susceptible to Category 1 storm surge (CHZ), 61,541 acres are susceptible to Category 1 – 3 storm surge (HVZ), 77,772 are susceptible to 100-year flood, and 33,603 acres are susceptible to wildfire.

#### *Storm Surge*

Nearly 50% of the 20,078 vacant acres in the Coastal Hazard Zone and 65% of the 61,541 vacant acres in the Hurricane Vulnerability Zone are to be developed for residential, commercial, industrial uses or public facilities, indicating that these risk reduction strategies should be considered prior to development of this vacant land.

- The Comprehensive Plan should continue to use the Urban Coastal Fringe District to reduce density in the HVZ, transfer of development rights, dune protection and restoration, on-site shelter requirements, and other existing measures to minimize risk. The County should also continue to maintain low density residential development in the CHHA.
- The County should consider maintaining population densities within the CHHA.
- The County should consider prohibiting new schools in the CHHA and retrofitting new schools as shelters outside the HVZ, where possible.
- The community should consider only allowing new on-site shelters outside the HVZ, where possible.
- The County should consider prohibiting septic tanks in the CHHA except in cases of excessive hardship where (1) no reasonable alternative exists, (2) a discharge from a septic tank will not adversely affect public health and will not degrade surface or ground water and (3) where the Health Department determines that soil conditions, water table elevation and setback provisions are adequate to meet state requirements.
- The Comprehensive Plan should consider prohibiting the development of nursing homes, adult congregate living facilities, and hospitals inside the Coastal High Hazard Area and other high-risk developments, similar to how mobile homes and most county funded facilities have been regulated. Building these facilities out of harm's way reduces evacuation needs of the special needs population. In addition, the number of evacuees is reduced who are under medical supervision or need medical staff chaperones, potentially reducing hurricane evacuation clearance times.

### *Flood*

About 65% of the 77,772 vacant acres in the 100-year floodplain are to be developed for residential, commercial, industrial uses or public facilities, indicating that these risk reduction strategies should be considered prior to development of this vacant land.

- The Comprehensive Plan should continue the implementation of policies for stormwater management, evacuation route enhancement, at risk property acquisition, transfers of development right, and other measures to reduce the risk from flood.
- The County should consider creating incentives and disincentives to reduce the desirability of septic installation within the 100-year floodplain.
- The County should consider requiring that all structures built in the 100-year floodplain include at least 1 foot freeboard. Many post-disaster building performance/damage assessments have shown that it is advisable to include freeboard to reduce future flood damages. Okaloosa and Brevard Counties, City of Jacksonville and the Santa Rosa Island Authority are example communities that have adopted freeboard requirements.
- The County should consider requiring areas that have not established base flood elevations to be studied prior to development.
- The County should consider calling for compensating storage calculations in all non coastal flood hazard areas.

### *Wildfire*

About 79% of the 33,603 vacant acres that are susceptible to wildfire are to be developed for residential, commercial, industrial uses or public facilities, indicating that these risk reduction strategies should be considered prior to development of this vacant land.

- The County should continue to use Wildfire Prevention and Mitigation Plans, where appropriate, to reduce the threat from wildfires.
- The County should consider participating in the Firewise Medal Community program to reduce risks within the wildland urban interface.

- The County should consider being involved in the review of proposals for subdivisions, lot splits, and other developments for fire protection needs during site plan review process. Coordinate with fire protection service or agencies to determine guidelines for use and development in wildfire-prone areas.
- The County should consider requirement for all new development to include & implement a wildfire mitigation plan specific to that development, subject to review & approval by the County Fire Rescue Department.
- The County should consider increasing public awareness of prescribed burning and require management plans for conservation easements that address reduction in wildfire fuels.

#### *Sinkhole*

No areas were determined to be susceptible to sinkholes according to the data used for the hazards analysis in this profile. Sinkhole hazard was considered to be a very low risk in the latest version of the Collier County LMS.

#### *General*

- Include each hazard layer on the existing and future land use maps to determine where risks are possible to target hazard mitigation strategies.
- Continue educating the public, especially those at high risk from hurricanes, floods, and wildfires, and inform them of proactive steps they can take to mitigate damage.

### **Local Mitigation Strategy Preliminary Recommendations**

The following data and information could be included in an update of the LMS. This information could help convey how and where disasters impact the population and the built environment to support comprehensive planning.

- Develop Guiding Principles.
- Provide a quantitative risk assessment for future development (i.e., loss estimates) or specific critical facilities.
- Provide hazard maps that include data layers to illustrate population (i.e., density) and/or property (i.e., value) exposure.
- Provide future land use maps that include hazard data layers to illustrate which future land use categories are susceptible to each hazard.
- Provide loss estimates by land use in relation to the hazard.
- Provide a map of repetitive losses.
- Use consistent data in plans such as the LMS, CEMP, and Comprehensive Plan.

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## 1. County Overview

### Geography and Jurisdictions

Collier County is located along the Gulf of Mexico in Southwest Florida. It covers a total of 2,304.9 square miles, of which 2,025.3 square miles are land and 279.6 square miles are water. There are three incorporated municipalities within Collier County, as shown in **Table 1.1**. The City of East Naples serves as the county seat.



### Population and Demographics

According to the April 1, 2004 population estimate by the University of Florida's Bureau of Economic and Business Research (BEBR), population estimates for all jurisdictions within Collier County and the percent change from the 2000 U.S. Census are presented in **Table 1.1**. While some residents live in incorporated jurisdictions, over 87% live in unincorporated areas. Collier County has experienced rapid population growth in recent years, a trend that is expected to continue. Between 1990 and 2000, Collier County had a growth rate of 65.3%, which was more than double the statewide average of 23.5% for the same time period.

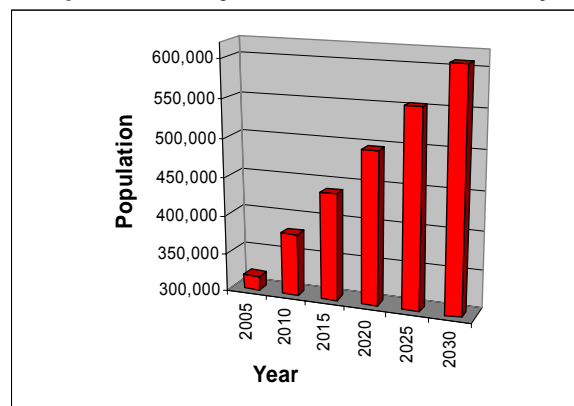
**Table 1.1 Population Estimates by Jurisdiction**

Jurisdiction	Population (Census 2000)	Population (Estimate 2004)	Percent Change 2000-2004	Percent of Total Population (2004)
Unincorporated	215,043	267,640	24.46%	87.41%
Everglades	479	527	10.02%	0.17%
Marco Island	14,879	15,576	4.68%	5.09%
Naples	20,976	22,443	6.99%	7.33%
<b>Total</b>	<b>251,377</b>	<b>306,186</b>	<b>21.80%</b>	<b>100.00%</b>

Source: University of Florida, Bureau of Economic and Business Research, 2004

According to BEBR (2004), Collier County's population is projected to grow steadily and reach an estimated 607,200 by the year 2030, increasing the average population density of 151 to 300 persons per square mile. **Figure 1.1** illustrates medium growth population projections for Collier County based on 2004 calculations.

**Figure 1.1 Population Projections for Collier County, 2005–2030**



Source: University of Florida, Bureau of Economic and Business Research, 2004

Of particular concern within Collier County’s population are those persons with special needs or perhaps limited resources such as the elderly, disabled, low-income or language isolated residents. According to the 2000 Census, of the 251,377 persons residing in Collier County 24.5% are listed as 65 years old or over, 20.8% are listed as having a disability, 10.3% are listed as below poverty, and 25.1% live in a home where the primary language is other than English.

**2. Hazard Vulnerability**

**Hazards Identification**

The highest risk hazards for Collier County as identified in the County’s Local Mitigation Strategy (LMS) are tropical cyclone generated storm surge and high winds, severe storms, coastal/riverine erosion, tornadoes, and wildfire. Sinkholes were discussed in the LMS, but the risk was considered to be very low for the entire county.

**Hazards Analysis**

The following analysis examines four hazard types: surge from tropical cyclones, flood, wildfire and sinkholes. All of the information in this section was obtained through the online Mapping for Emergency Management, Parallel Hazard Information System (MEMPHIS). MEMPHIS was designed to provide a variety of hazard related data in support of the Florida Local Mitigation Strategy DMA 2K project, and was created by Kinetic Analysis Corporation (KAC) under contract with the Florida Department of Community Affairs (DCA). Estimated exposure values were determined using the Category 3 Maxima Scenario for storm surge; FEMA’s designated 100-year flood zones (i.e., A, AE, V, VE, AO, 100 IC, IN, AH) for flood; all medium-to-high risk zones from MEMPHIS for wildfire (Level 5 through Level 9); and the combined high, very high, extreme and adjacent zones for sinkhole based on the KAC analysis. Storm surge exposure data is a subset of flood exposure; therefore, the storm surge results are also included in the flood results. No population or structures were determined to be exposed to sinkholes. For more details on a particular hazard or an explanation of the MEMPHIS methodology, consult the MEMPHIS Web site (<http://lmsmaps.methaz.org/lmsmaps/index.html>).

*Existing Population Exposure*

**Table 2.1** presents the population currently exposed to each hazard throughout Collier County. Of the 251,377 (U.S. Census 2000) people that reside in Collier County, xx% are exposed to storm surge, xx% are exposed to 100-year flooding, and xx% are exposed to wildfire. Of the 111,196 people exposed to flood, xx% are over age 65 and xx% are disabled.

**Table 2.1 Estimated Number of Persons Exposed to Selected Hazards**

Segment of Population	Storm Surge	Flood	Wildfire
<b>Total (all persons)*</b>	<b>169,864</b>	<b>111,196</b>	<b>182,161</b>
Minority	14,655	9,978	28,971
Over 65	54,074	37,802	42,642
Disabled	54,338	36,397	58,857
Poverty	12,722	9,004	19,081
Language-Isolated	571	516	224
Single Parent	6,916	4,381	8,674

Source: Mapping for Emergency Management, Parallel Hazard Information System

Note: checking on whether the storm surge and flood numbers are accurate, as the surge numbers should be less than flood.

\*Note: The “Total” amount does not equal the sum of all segments of the population, but indicates the total population at risk to the selected hazards.

\*\* Note: Storm surge related flooding population exposure results are a subset of the flood results.

*Evacuation and Shelters*

As discussed in the previous sections, population growth in Collier County has been steady, and the trend is projected to continue. Additionally, storm events requiring evacuation typically impact large areas, often forcing multiple counties to issue evacuation orders simultaneously and placing a greater cumulative number of evacuees on the roadways which may slow evacuation time further. Thus, it is important to not only consider evacuation times for Sarasota County, but also for other counties in the region as shown in **Table 2.2**. Also, population that will reside in new housing stock might not be required to evacuate as new construction will be built to higher codes and standards.

**Table 2.2 County Clearance Times per Hurricane Category (Hours)  
(High Tourist Occupancy, Medium Response)**

<b>County</b>	<b>Category 1 Hurricane</b>	<b>Category 2 Hurricane</b>	<b>Category 3 Hurricane</b>	<b>Category 4 Hurricane</b>	<b>Category 5 Hurricane</b>
Charlotte	11	14	17	22	22
Collier	6.6	16.4	27.1	40.2	50.9
Lee	9.5	16.5	24.5	27	27
Sarasota	10.5	10.5	11.5	15	15

Source: DCA, DEM Hurricane Evacuation Study Database, 2005

As the population increases in the future, the demand for shelter space and the length of time to evacuate will increase, unless measures are taken now. Currently, it is expected to take between 6.6 and 50.9 hours to safely evacuate Collier County depending on the corresponding magnitude of the storm, as shown in **Table 2.2**. This data was derived from eleven regional Hurricane Evacuation Studies that have been produced by FEMA, the United States Army Corps of Engineers and Regional Planning Councils in Florida. The study dates range from 1995 to 2004. These regional studies are updated on a rotating.

Similar to most of Florida’s coastal counties, Collier County currently has a significant shelter deficit. According to Florida’s Statewide Emergency Shelter Plan, Collier County has an existing shelter capacity of 14,600 people. The 2004 shelter demand for a Category 4 or Category 5 hurricane is 41,863 people, leaving an existing shelter deficit of 27,263. In 2009, the projected shelter demand is 52,697, leaving an anticipated shelter deficit of 38,097. The opportunity exists to construct new facilities to standards that will allow them to serve as shelters, and to construct future public facilities outside of floodplain areas.

Per an objective in the Coastal Element (9J-5.012(3)(b)7.), counties must maintain or reduce hurricane evacuation times. This could be accomplished by using better topographical data to determine the surge risk to populations to evaluate which areas to evacuate, and increasing the ability to shelter in place to decrease the number of evacuees. Collier County could encourage new homes to be built with saferooms, community centers in mobile home parks or developments to be built to shelter standards (outside of the hurricane vulnerability zones), or require that new schools be built or existing schools be retrofitted to shelter standards; which would be based on FEMA saferoom and American Red Cross shelter standards. Additionally, the county could establish level of service (LOS) standards that are tied to development.

*Existing Built Environment Exposure*

While the concern for human life is always highest in preparing for a natural disaster, there are also substantial economic impacts to local communities, regions, and even the state when property damages are incurred. To be truly sustainable in the face of natural hazards, we must work to protect the residents and also to limit, as much as possible, property losses that slow down a community’s ability to bounce back from a disaster. **Table 2.3** presents estimates of the

number of structures in Collier County by occupancy type that are exposed to each of the hazards being analyzed. Exposure refers to the number of people or structures that are susceptible to loss of life, property damage and economic impact due to a particular hazard. The estimated exposure of Collier County’s existing structures to the storm surge, flood, and wildfire hazards was determined through MEMPHIS.

**Table 2.3 Estimated Number of Structures Exposed to Selected Hazards**

Occupancy Type	Storm Surge	Flood	Wildfire
Single Family	84,269	116,594	84,917
Mobile Home	8,104	90,441	16,280
Multi-Family	60,926	62,879	52,322
Commercial	7,632	23,755	7,389
Agriculture	1,732	6,421	2,810
Gov. / Institutional	2,572	2,408	2,092
<b>Total</b>	<b>165,235</b>	<b>302,498</b>	<b>165,810</b>

Source: Mapping for Emergency Management, Parallel Hazard Information System

\* Note: Storm surge related flooding building exposure results are a subset of the flood results.

There are 468,308 structures exposed to at least one of the three hazards, of which most are single-family homes in subdivisions. Of these structures, 64.6% are exposed to flood. Over 302,000 structures are located within the 100-year floodplain, of which 26% are exposed to storm surge induced flooding. Nearly 51% of the structures exposed to surge are single-family homes, and 36.9% are multi-family homes. Typically, structures exposed to surge are high-value real estate due to their proximity to the ocean or tidally influenced water bodies such as the Cocohatchee River and basins of the Everglades System. According to the latest National Flood Insurance Program Repetitive Loss Properties list, as of March 2005, there are 45 repetitive loss properties in Collier County. Under the National Flood Insurance Program (NFIP), repetitive loss properties are defined as “any NFIP-insured property that, since 1978 and regardless of any change(s) of ownership during that period, has experienced: a) four or more paid flood losses; or b) two paid flood losses within a 10-year period that equal or exceed the current value of the insured property; or c) three or more paid losses that equal or exceed the current value of the insured property.”

Slightly over 35%, or 165,810 structures exposed to wildfire, of which 51.2% are single-family homes. Because large land areas in the county are owned by public entities, the western portion of the county contains concentrated population pockets. Population centers abutting these public lands have direct interface contact with wildland fire fuels which increases the vulnerability of the population to wildfire occurrence (Collier County LMS, 2004).

In addition to understanding exposure, risk assessment results must also be considered for prioritizing and implementing hazard mitigation measures. The risk assessment takes into account the probability (how often) and severity (e.g., flood depth, storm surge velocity, wildfire duration) of the hazard as it impacts people and property. Risk can be described qualitatively, using terms like high, medium or low; or quantitatively by estimating the losses to be expected from a specific hazard event expressed in dollars of future expected losses. Although people and property are exposed to hazards, losses can be greatly reduced through building practices, land use, and structural hazard mitigation measures. The next section of this report examines the existing and future land use acreage in hazard areas. This information can be useful to consider where to implement risk reducing comprehensive planning measures.

**Analysis of Current and Future Vulnerability Based on Land Use**

The previous hazards analysis section discussed population and existing structures exposed to surge, flood, sinkholes, and wildfire according to MEMPHIS estimates. This section is used to demonstrate the County’s vulnerabilities to these hazards in both tabular format and spatially, in



relation to existing and future land uses. DCA tabulated the total amount of acres and percentage of land in identified hazard exposure areas, sorted by existing land use category for the unincorporated areas. Existing land use data was acquired from County Property Appraisers and the Florida Department of Revenue in 2004 for tabulation of the total amount of acres and percentage of land in identified hazard areas, sorted by existing land use category for the unincorporated areas. The total amount of acres and percentage of land in the identified hazards areas was tabulated and sorted by future land use category according to the local Future Land Use Map (FLUM), as well as the amount of these lands listed as vacant according to existing land use. Sarasota County future land use data was acquired in May 2002 from Collier County and might not reflect changes per recent future land use amendments. Maps of existing land use within hazard areas are based on the 2004 County Property Appraiser geographic information system (GIS) shapefiles. Maps of future land uses in hazard areas were developed using the Collier County future land use map dated May 2002. A series of maps were created as part of the analysis and are available as attachments to the county profile. All maps are for general planning purposes only.

For the purposes of this profile, the identified hazard areas include the coastal hazards zone in relation to storm surge, hurricane vulnerability zones in relation to evacuation clearance times, flood zones in relation to the 100-year flood, wildfire susceptible areas, and sinkhole susceptible areas.

In **Attachment A**, two maps present the existing and future land uses within the Coastal Hazards Zone (CHZ), which represents the Category 1 Hurricane Evacuation Zone joined with the Category 1 Storm Surge Zone. The areas that are most susceptible to storm surge are located in the coastal communities of Naples, Marco Island, and Everglades, and in the Southeast part of the County. The total amount of land in the CHZ is 187,603.7 acres. As shown in **Table 2.4**, 74.5% are parks, conservation areas and golf courses; 10.7% are currently undeveloped; 6.1% are used for transportation, communication, and rights-of-way; and 2.5% are used for agriculture. **Table 2.5** shows that of the 20,077.7 undeveloped acres, 26% are designated for urban coastal fringe subdistrict.

In **Attachment B**, two maps present the existing and future land uses within the Hurricane Vulnerability Zone (HVZ), which represents Category 1 to 3 Hurricane Evacuation Zones. The areas that are most susceptible to storm surge are located in the coastal communities of Naples, Marco Island, and Everglades, and in the central, eastern and southeastern parts of the County. The total amount of land in the HVZ is 466,742.3 acres. As shown in **Table 2.4**, 68.1% are parks, conservation areas and golf courses; 13.2% are currently undeveloped; 5.2% are residential single-family homes and 5.2% are in agricultural use. **Table 2.5** shows that of the 61,540.5 undeveloped acres, 22.1% are designated for urban residential subdistrict.

In **Attachment C**, two maps present the existing and future land uses within a 100-year flood zone. There are flood-prone areas scattered across the County, especially along the Gulf Coast and in the northern and western portions of the County; on Marco Island and Naples. The total amount of land in the special flood hazard area is 1,101,562.2 acres. As shown in **Table 2.4**, 65% are parks, conservation areas and golf courses; 19% are in agricultural use; 7.1% are currently undeveloped; and 4.9% are used for transportation, communication, and rights-of-way. **Table 2.5** shows that of the 77,771.8 undeveloped acres, 44.8% are designated for estates.

In **Attachment D**, two maps present the existing and future land uses within wildfire susceptible areas. These areas are scattered across the County. The total amount of land in the wildfire susceptible areas is 247,836.6 acres. As shown in **Table 2.4**, 65.1% are parks, conservation areas and golf courses; 13.6% are currently undeveloped; 9.5% are in agricultural use; and 7.9% are residential single-family homes. **Table 2.5** shows that of the 33,602.7 undeveloped acres, 54.3% are designated for estates. The County should continue to take measures to reduce wildfire risk within the urban/rural interface.

In the analysis, no risk was detected for sinkhole susceptibility.

**Table 2.4 Total Unincorporated Acres in Hazard Areas by Existing Land Use Category**

Existing Land Use Category		Coastal Hazard Zone	Hurricane Vulnerability Zone	Flood Zones	Wildfire Susceptible Areas
Agriculture	Acres	4,719.4	24,116.6	208,968.6	23,496.4
	%	2.5	5.2	19.0	9.5
Attractions, Stadiums, Lodging	Acres	1,006.1	1,394.0	1,084.1	135.8
	%	0.5	0.3	0.1	0.1
Places of Worship	Acres	139.8	550.9	225.4	159.6
	%	0.1	0.1	0.0	0.1
Commercial	Acres	774.0	2,116.1	1,204.0	109.5
	%	0.4	0.5	0.1	0.0
Government, Institutional, Hospitals, Education	Acres	2,768.6	7,304.3	11,458.8	3,215.1
	%	1.5	1.6	1.0	1.3
Industrial	Acres	123.9	1,716.3	902.4	123.9
	%	0.1	0.4	0.1	0.0
Parks, Conservation Areas, Golf Courses	Acres	139,740.1	317,720.3	715,987.0	161,243.0
	%	74.5	68.1	65.0	65.1
Residential Group Quarters, Nursing Homes	Acres	66.4	577.4	431.6	216.5
	%	0.0	0.1	0.0	0.1
Residential Multi-Family	Acres	908.7	4,097.5	2,861.8	1,029.0
	%	0.5	0.9	0.3	0.4
Residential Mobile Home, or Commercial Parking Lot	Acres	809.0	1,796.1	2,712.6	944.8
	%	0.4	0.4	0.2	0.4
Residential Single-Family	Acres	4,481.1	24,367.6	22,050.5	19,659.8
	%	2.4	5.2	2.0	7.9
Submerged Land (Water Bodies)	Acres	194.6	1,181.8	451.9	137.5
	%	0.1	0.3	0.0	0.1
Transportation, Communication, Rights-Of-Way	Acres	11,463.7	16,066.6	54,383.6	2,553.4
	%	6.1	3.4	4.9	1.0
Utility Plants and Lines, Solid Waste Disposal	Acres	330.6	2,196.3	1,068.1	1,209.6
	%	0.2	0.5	0.1	0.5
Vacant	Acres	20,077.7	61,540.5	77,771.8	33,602.7
	%	10.7	13.2	7.1	13.6
<b>Total Acres</b>	<b>Acres</b>	<b>187,603.7</b>	<b>466,742.3</b>	<b>1,101,562.2</b>	<b>247,836.6</b>
	<b>%</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Department of Community Affairs

**INTEGRATION OF THE LOCAL MITIGATION STRATEGY INTO THE LOCAL COMPREHENSIVE PLAN  
COLLIER COUNTY PROFILE**

**Table 2.5 Total Unincorporated Acres in Hazard Areas by Future Land Use Category**

Future Land Use Category		Coastal Hazard Zone		Hurricane Vulnerability Zone		Flood Zones		Wildfire Susceptible Areas	
		Total	Vacant	Total	Vacant	Total	Vacant	Total	Vacant
Agriculture Rural Mixed Use	Acres	9,684.3	4,958.0	58,942.2	13,217.1	224,916.3	18,299.4	35,712.5	5,327.8
	%	5.2	24.7	12.6	21.5	20.4	23.5	14.4	15.9
Bayshore/Gateway Triangle Redevelopment	Acres	1,111.5	298.1	1,195.4	312.1	1,220.5	301.0	305.9	105.7
	%	0.6	1.5	0.3	0.5	0.1	0.4	0.1	0.3
Conservation Designation	Acres	142,719.8	5,154.4	253,720.4	6,635.3	745,802.3	6,763.7	131,925.5	863.2
	%	76.1	25.7	54.4	10.8	67.7	8.7	53.2	2.6
Estates Designation	Acres	2,300.4	0.0	63,556.9	13,072.8	56,844.0	34,845.7	50,044.7	18,247.5
	%	1.2	0.0	13.6	21.2	5.2	44.8	20.2	54.3
Goodlette/Pine Ridge Commercial Infill District	Acres	0.0	0.0	87.2	40.8	0.0	0.0	9.8	2.7
	%	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Henderson Creek Mixed Use Subdistrict	Acres	90.3	90.3	93.2	88.9	94.5	94.5	40.1	40.1
	%	0.0	0.4	0.0	0.1	0.0	0.1	0.0	0.1
Incorporated Area	Acres	6,546.3	1,658.4	7,604.8	1,812.9	8,117.1	2,071.0	509.4	128.0
	%	3.5	8.3	1.6	2.9	0.7	2.7	0.2	0.4
Industrial District	Acres	112.8	31.4	1,888.9	641.4	149.4	45.3	169.0	138.4
	%	0.1	0.2	0.4	1.0	0.0	0.1	0.1	0.4
Interchange Activity Center Subdistrict	Acres	0.0	0.0	326.4	180.1	0.0	0.0	88.7	70.2
	%	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.2
Livingston Road / Eatonwood Lane Commercial Infill	Acres	0.0	0.0	15.6	11.8	0.0	0.0	0.0	0.0
	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Livingston Road Commercial Infill Subdistrict	Acres	0.0	0.0	16.1	12.5	0.0	0.0	0.0	0.0
	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Livingston/Pine Ridge Commercial Infill Subdistrict	Acres	0.0	0.0	137.5	29.0	0.0	0.0	17.4	4.5
	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mixed Use Activity Center Subdistrict	Acres	407.3	183.9	2,228.2	796.3	697.3	251.2	354.2	183.2
	%	0.2	0.9	0.5	1.3	0.1	0.3	0.1	0.5
Orange Blossom Mixed Use District	Acres	0.0	0.0	62.6	26.5	0.0	0.0	5.3	2.5
	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Density Bands	Acres	2.2	0.0	9,005.7	2,628.6	3,234.3	471.9	4,331.8	1,307.7
	%	0.0	0.0	1.9	4.3	0.3	0.6	1.7	3.9
Rural Industrial District	Acres	0.0	0.0	0.0	0.0	2,692.8	619.7	482.6	215.8
	%	0.0	0.0	0.0	0.0	0.2	0.8	0.2	0.6
Rural Settlement Area Subdistrict	Acres	0.0	0.0	0.0	0.0	2,718.2	241.7	328.8	36.8
	%	0.0	0.0	0.0	0.0	0.2	0.3	0.1	0.1
Study Area	Acres	0.0	0.0	6,105.8	1,593.3	5,902.7	1,608.2	2,365.1	708.2
	%	0.0	0.0	1.3	2.6	0.5	2.1	1.0	2.1
Urban Coastal Fringe Subdistrict	Acres	16,290.2	5,222.4	16,351.9	5,302.6	17,287.1	5,304.2	2,192.1	831.5
	%	8.7	26.0	3.5	8.6	1.6	6.8	0.9	2.5
Urban Residential Fringe Subdistrict	Acres	953.2	99.0	5,416.5	1,515.9	1,961.1	102.3	2,370.9	749.0
	%	0.5	0.5	1.2	2.5	0.2	0.1	1.0	2.2
Urban Residential Subdistrict	Acres	7,385.4	2,382.0	39,986.7	13,622.6	28,426.7	6,513.3	16,561.2	4,629.6
	%	3.9	11.9	8.6	22.1	2.6	8.4	6.7	13.8
Vanderbilt Beach/Collier Blvd Commercial Subdistrict	Acres	0.0	0.0	0.0	0.0	0.0	0.0	21.6	10.3
	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water	Acres	0.0	0.0	0.0	0.0	1,497.6	238.5	0.0	0.0
	%	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0
<b>Total Acres</b>	<b>%</b>	<b>187,603.8</b>	<b>20,077.7</b>	<b>466,742.1</b>	<b>61,540.5</b>	<b>1,101,562.0</b>	<b>77,771.8</b>	<b>247,836.6</b>	<b>33,602.7</b>

Source: Department of Community Affairs

The amount of total land and existing vacant land in identified hazard areas was also tabulated for each of Collier County’s three incorporated municipalities. These amounts are listed in **Table 2.6**. The intent of this table is to show the vacant acreage in hazard zones in each municipality, and to show the percentage of vacant acreage in each hazard zone for each municipality. In the total column for each hazard, the percentage for each municipality is the hazard zone acreage as a percent of total hazard acreage for all municipalities. In the vacant column for each hazard, the percentage for each municipality is the percent of area in the hazard zone for the respective municipality. The total municipal percent of vacant acreage is the percent of acreage in the hazard zones for all municipalities.

The City of Marco Island has the most vacant acres in the Coastal Hazards Zone, but Naples has the largest proportion of surge prone acres out of its vacant land area. The City of Naples has the most acres in the HVZ and has the largest proportion of HVZ acres out of its vacant land area. The City of Marco Island has the most acres in the flood zone but Naples has the largest proportion of flood zone acres out of its vacant land area. The City of Naples has the most acres in the wildfire susceptible areas and has the largest proportion of wildfire susceptible acres out of its vacant land area. No sinkhole susceptible areas were detected in any municipality in Collier County.

Vacant land is often destined to be developed. It is prudent to conduct further analyses of what the vacant lands will be used for, to determine whether they will be populated, and at what level of intensity/density, to ensure that hazard risks are minimized or eliminated. Each of the municipalities in Collier County has vacant lands that are in hazard areas. Since hazards cross jurisdictional boundaries, it is important to consider all hazard areas to collaboratively formulate hazard mitigation strategies and policies throughout the county.

**Table 2.6 Total Land and Existing Vacant Land in Hazard Areas by Municipal Jurisdiction**

Jurisdiction		Coastal Hazard Zone		Hurricane Vulnerability Zone		Flood Zones		Wildfire Susceptible Areas	
		Total	Vacant	Total	Vacant	Total	Vacant	Total	Vacant
Everglades	Acres	572.5	192.2	572.5	192.2	754.8	254.1	20.5	12.5
	%	100.0	33.6	100.0	33.6	100.0	33.7	100.0	60.9
Marco Island	Acres	6,823.0	1,289.4	6,823.0	1,289.4	9,401.9	1,380.2	118.2	29.2
	%	100.0	18.9	100.0	18.9	100.0	14.7	100.0	24.7
Naples	Acres	6,332.8	1,546.5	7,556.2	1,680.9	7,626.2	1,893.8	808.6	121.7
	%	100.0	24.4	100.0	22.2	100.0	24.8	100.0	15.1
<b>Total Municipal Acres</b>	<b>Acres</b>	<b>13,728.3</b>	<b>3,028.1</b>	<b>14,951.7</b>	<b>3,162.5</b>	<b>17,782.9</b>	<b>3,528.1</b>	<b>947.2</b>	<b>163.4</b>
	<b>%</b>	<b>100.0</b>	<b>22.1</b>	<b>100.0</b>	<b>21.2</b>	<b>100.0</b>	<b>19.8</b>	<b>100.0</b>	<b>17.3</b>

Source: Department of Community Affairs

### 3. Existing Mitigation Measures

#### Local Mitigation Strategy (LMS) Assessment

The Local Mitigation Strategy is suited to be a repository for all hazard mitigation analyses (i.e., vulnerability and risk assessment), programs, policies and projects for the county and municipalities. The LMS identifies hazard mitigation needs in a community and alternative structural and nonstructural initiatives that can be employed to reduce community vulnerability to natural hazards. The LMS is multi-jurisdictional and intergovernmental in nature. Communities can reduce their vulnerability to natural hazards by integrating the LMS analyses and mitigation priorities into the local government comprehensive plan.

As noted in DCA’s *Protecting Florida’s Communities* Guide, one significant strategy for reducing community vulnerability is to manage the development and redevelopment of land exposed to

natural hazards. Where vacant land is exposed to hazard forces, local government decisions about allowable land uses, and the provision of public facilities and infrastructure to support those uses, can have major impacts on the extent to which the community makes itself vulnerable to natural hazards. Where communities are already established and land is predominately “built out,” local governments can take initiatives to reduce existing levels of vulnerability by altering current land uses both in the aftermath of disasters, when opportunities for redevelopment may arise, and under “blue sky” conditions as part of planned redevelopment initiatives.

Per the *DCA’s Protecting Florida’s Communities* Guide, LMSes prepared pursuant to the state’s guidelines (Florida Department of Community Affairs, 1998) have three substantive components:

Hazard Identification and Vulnerability Assessment. This section identifies a community’s vulnerability to natural hazards. Under Florida rules, the HIVA is required to include, at a minimum, an evaluation of the vulnerability of structures, infrastructure, special risk populations, environmental resources, and the economy to any hazard to which the community is susceptible. According to FEMA, LMSes revised pursuant to the Disaster Mitigation Act of 2000 (DMA 2000) criteria must include maps and descriptions of the areas that would be affected by each hazard to which the jurisdiction is exposed, information on previous events, and estimates of future probabilities. Vulnerability should be assessed for the types and numbers of exposed buildings, infrastructure, and critical facilities with estimates of potential dollar losses. Plan updates will be required to assess the vulnerability of future growth and development.

Guiding Principles. This section lists and assesses the community’s existing hazard mitigation policies and programs and their impacts on community vulnerability. This section typically contains a list of existing policies from the community’s Comprehensive Plan and local ordinances that govern or are related to hazard mitigation. Coastal counties frequently include policies from their PDRPs.

Mitigation Initiatives. This component identifies and prioritizes structural and non-structural initiatives that can reduce hazards vulnerability. Proposals for amendments to Comprehensive Plans, land development regulations, and building codes are often included. Structural projects typically address public facilities and infrastructure, and buy-outs of private structures that are repetitively damaged by flood. Many of these qualify as capital improvement projects based on the magnitude of their costs and may also be included in the capital improvements elements of the counties’ and cities’ Comprehensive Plans.

The Collier County LMS (adopted in 2004) was assessed to determine if the hazard analysis and vulnerability assessment (i.e., surge, flood, wildfire, and sinkhole) data can support comprehensive planning, whether the guiding principles include a comprehensive list of policies for the county and municipalities, and whether the LMS goals and objectives support comprehensive planning goals, objectives, and policies (GOP).

*Hazard Analysis and Vulnerability Assessment (LMS, Section 2, and Annexes A-C)*

The strengths and weaknesses of the Hazard Analysis and Vulnerability Assessment are as follows:

Strengths:

- Provides information about demographic, income, and special needs population.
- Provides a hazards analysis and a qualitative vulnerability assessment.
- Provides a clear description of geographic areas exposed to the flood hazard.
- Includes maps for each of the hazards.
- Includes maps of critical facilities exposed to hurricane and flood hazards.
- Includes existing and future land use maps.

Weaknesses:

- Hazard maps do not include data layers to illustrate population (i.e., density) or property (i.e., value) exposure.
- Does not include future land use maps that include hazard data layers to illustrate which future land use categories are susceptible to each hazard.
- Does not include loss estimates by land use in relation to the hazard.
- Does not include a list or map of repetitive losses.
- Does not include a quantitative risk assessment for future development (i.e., loss estimates) or specific critical facilities.

Incorporating land use and population data into the risk assessment of the LMS provides a better source of data for planners to use in policy making and policy evaluation of the local comprehensive plan. The LMS also sets a standard for the quality of data that should be used in determining risk and thereby used to determine mitigation policies.

*Guiding Principles*

The Collier County LMS does not include a Guiding Principles section for the county nor each municipality. The Guiding Principles contain a list of regulations, policies, and documents pertaining to local hazard mitigation measures that are being implemented by the county and municipalities within the county. The Guiding Principles section is found in most counties' LMSes and is useful in providing the different jurisdictions ideas for enhancing their own plans or providing the LMS committee an analysis of where there may be weaknesses in implementing mitigation strategies. It is recommended that Collier County's next LMS update include a Guiding Principles section.

*LMS Goals and Objectives*

The Collier County LMS has goals and objectives that support mitigation principles that are found in the comprehensive plan. A list of the LMS goals and objectives pertaining to comprehensive planning can be found in **Attachment E**. The following is a summary of the LMS goals and objectives that support comprehensive plan GOPs.

Goal 1 states that Collier County shall make every reasonable effort to reduce the vulnerability and exposure of its residents and guests by protecting lives and property from the effects of disasters. Objectives protect lives, property and natural resources from damages and loss caused by disasters. Objectives include efforts to reduce the number of repetitive loss properties within its boundary through funds for property acquisition and elevation. Objectives ensure that Collier County's Land Development Code and Ordinances are sufficient to protect public safety and property, and encourage the development and maintenance of evacuation plans for the safe evacuation of residents. Objectives protect dune systems and coastal/marine resources from the adverse effects of coastal development, and ensure that mitigation measures are adequately addressed in the comprehensive system of coordinated planning, management and land acquisition. Objectives encourage land and water uses which are compatible with the protection of environmentally sensitive lands and coastal resources, and prohibit development and other activities which disturb coastal dune systems; and promote the restoration of dune systems that have been damaged.

Goal 2 states that the Collier County Emergency Management Department will take a pro-active role in ensuring intra-governmental coordination within Collier County Government and inter-governmental coordination with other government agencies in order to enhance hazard mitigation planning activities. Objectives encourage cooperation and participation of all public and private agencies in mitigation planning, and ensure that the Collier County Hazard Mitigation Annex to the Comprehensive Emergency Management Plan incorporates appropriate mitigation measures as reflected in each agency's Emergency Support Function Annex or Standard Operating Procedures.

Goal 3 strives to reduce the vulnerability of critical and public facilities from the effects of disasters. Objectives encourage the county to consider designing and installing wind and/or waterproofing components and target hardening for all proposed government owned critical facilities, and seek to develop and maintain energy, communications and preparedness plans that will be both practical and effective during periods of disrupted energy and communication events. Objectives aim to incorporate hazard mitigation measures such as wind/flood proofing and target hardening during any rehabilitation of existing public facilities.

Goal 4 emphasizes the importance of strengthening Post-Disaster, Recovery and Mitigation Plans. Objectives support the analysis, review and update Collier County Post-Disaster, Recovery, and Mitigation Plans and Ordinances. Objectives seek to work with other federal, state and local government agencies to strengthen post-disaster, recovery, mitigation plans and ordinances; and aim to work with other federal, state and local government agencies in post disaster recovery establishing contracts to facilitate timely restoration of public and private infrastructure.

Goal 5 seeks to improve coordination of disaster preparedness information through the broadcast and print media to increase public awareness and participation in preparedness, response, recovery and mitigation activities. Objectives aim to conduct educational programs and research to meet local, state, regional planning, growth management and hazard mitigation needs or concerns.

Goal 6 states that Collier County shall make every reasonable effort to protect water resources, unique natural habitats and ecologically sensitive areas such as wetlands and hardwood hammocks, and restore, to the maximum extent possible, degraded natural systems to their original state. Objectives seek to conserve and protect wetlands and coastal natural features to maintain their economic, aesthetic and recreational values; and to acquire, retain, manage and inventory public lands to provide conservation and related public benefits. Objectives promote the use of agricultural and horticultural practices which are compatible with the protection of natural systems, and to protect and restore the ecological functions of wetland systems to ensure their long-term environmental, economic and recreational values. Objectives strive to protect and enhance water sources, public utilities, wetlands, natural habitats.

### **Comprehensive Emergency Operations Plan (CEMP)**

The Collier County CEMP references the LMS in the Basic Plan. Post-disaster mitigation priorities are established by the Disaster Recovery Task Force. The LMS Working Group is responsible for the pre-disaster identification of new mitigation opportunities and techniques, as well as maintaining the County LMS. The CEMP discusses hazard mitigation in the context of standard operating procedures, activities, responsibilities and available programs. This includes the post-disaster implementation of the Hazard Mitigation Grant Program and related disaster mitigation, response and recovery assistance programs, as well as pre-disaster mitigation programs such as the National Flood Insurance Program, Community Rating System and Flood Mitigation Assistance Program.

Though the identification of mitigation opportunities lies predominately with the LMS working group, the document lists numerous activities and supporting agencies to assist in supporting mitigation in the County. In addition to various county departments providing management and assistance in managing plans and strategies for pre-and post-disaster mitigation, municipal departments also support these efforts. Following a disaster, the Collier County Emergency Management Director serves as the Post-Disaster Hazard Mitigation Coordinator. The Emergency Support Function (ESF) 5, Planning and Intelligence, is responsible for the review of damage assessments as well as the identification of mitigation opportunities and hazard mitigation projects.

As such, the CEMP is a good tool for planners, which includes collaborative procedures for working with emergency managers to reduce vulnerability from hazards.

### **Post-Disaster Redevelopment Plan (PDRP)**

The Collier County PDRP was not available for review at the time that this profile was developed.

### **National Flood Insurance Program/Community Rating System**

Collier County (unincorporated areas) and all of its municipalities participate in the National Flood Insurance Program (NFIP). Collier County (unincorporated areas) and the municipalities of Marco Island and Naples also participate in the NFIP Community Rating System (CRS). In the CRS program, Sarasota County (unincorporated areas) and Marco Island currently have a rating of seven, and Naples currently has a rating of six. The municipality of Everglades does not participate in the CRS program.

## **4. Comprehensive Plan Review**

### **Purpose and Intent**

The Collier County Growth Management Plan was reviewed for the purpose of developing this profile. The Plan was adopted on October 1997, with the exception of the Economic Element, which was adopted on December 16, 2003. Plan Elements were amended on an individual basis, and the dates of those amendments are listed below.

This review was undertaken in order to assess what steps Collier County has taken to integrate hazard mitigation initiatives from their Local Mitigation Strategy (LMS), and hazard mitigation initiatives in general, into the local planning process. Each Element of the Plan was evaluated to establish the extent to which the principles from the LMS were incorporated into the objectives and policies of the existing Comprehensive Plan.

### **Approach**

This review includes an assessment of tropical cyclone generated storm surge, flooding, and wildfire hazards. A preliminary list of objectives and policies currently contained in the Plan that pertain to hazard mitigation and any policies related to these hazards is found in **Attachment F**. The following is a discussion of the extent to which the Plan appears to address each of the hazards. Recent policy amendments may not have been available for review, or proposed policies might be in the process of creation, which address these hazards. As a result, this assessment is considered preliminary and subject to input from the local government.

### **Summary of Findings**

The highest risk hazards for Collier County as identified in the County's Local Mitigation Strategy (LMS) are tropical cyclone generated storm surge, floods and wildfires. The LMS risk assessment indicated sinkholes to be a low risk hazard for Collier County. Therefore, the Collier County Comprehensive Plan elements were not reviewed for policies pertaining to sinkhole hazards. Collier County Comprehensive Plan focuses on the protection of environmentally sensitive areas including natural drainage features, wetlands, floodplains and aquifer recharge zones. Policies address hazard mitigation to protect sensitive areas, and vulnerable properties and populations through development controls and environmental management. The Plan incorporates land use tools including the transfer of development rights (TDRs), overlay districts and regulation of transportation facilities in order to protect natural areas and to address hurricane evacuation issues, flooding and wildfires.

Collier County is a coastal county, so policies are geared toward coastal management and resource protection. According to the Future Land Use Element, the Future Land Use Map is designed to coordinate coastal population densities with the Regional Hurricane Evacuation Plan. There are also provisions for County staff to coordinate and cooperate with City of Naples staff for planning, management, and funding programs to limit specific and cumulative impacts on Naples



Bay and its watershed. Two of the goals of this County-City agreement are controlling stormwater run-off and the reduction of exposure to natural hazards.

### **Flooding**

Flooding is addressed from two vantage points, the protection and restoration of natural resources, and protection of vulnerable populations and properties. There are several policies directed at minimizing flooding and stormwater runoff. These policies include the design of transportation facilities to minimize the flooding risk.

Stormwater concurrency requirements are discussed extensively in the Sanitary Sewer, Solid Waste, Drainage, Potable Water and Natural Groundwater Aquifer Recharge Element. There are detailed policies to prevent the exacerbation of stormwater issues brought on by new development. There is a policy in place to ensure that post-development stormwater runoff is no greater than pre-development stormwater runoff. There are additional buffering and filtering requirements for existing and proposed developments aimed at mitigating for and preventing stormwater runoff.

Flood hazard related policies include elevation requirements within the 100-year floodplain. For areas of Critical State Concern, minimum lowest floor elevation permitted for structures shall be at or above the 100-year flood level, as established by the Administrator of the Federal Flood Insurance Administration. Flood control projects are also included on the Capital Improvements Element list of improvements.

### **Storm Surge**

Hurricane evacuation and storm surge issues are addressed through targeted infrastructure improvements, as well as transportation and evacuation planning. The Future Land Use Element limits new residential development within the coastal high hazard area. Policies also include the goals of evacuation time reduction and maintenance of lower densities within the Category 1 evacuation zone. Land use plan amendments in the Category 1 hurricane vulnerability zone shall only be considered if such increases in densities provide appropriate mitigation to reduce the impacts of hurricane evacuation times.

The Plan details management and conservation guidelines to be defined in the County Land Development Code. These guidelines are designed to protect natural shoreline and dune systems for the undeveloped coastal barrier and estuarine natural resources protection area.

From a transportation standpoint, policies require that the directors of the Transportation and Emergency Management Departments annually review evacuation route road needs to assure that necessary improvements are incorporated within the Capital Improvement and Traffic Circulation Element projects. The Transportation Element includes the provision that any impact to a hurricane evacuation route within a Transportation Concurrency Management Area (TCMA) shall require a proportionate share payment provided the remaining LOS requirements of the TCMA are maintained. Policies also include the development of a program to examine the maintenance and operational needs of the rural roadway system for hurricane evacuation purposes.

Educational policies for hurricane evacuation include a comprehensive awareness program to be developed and publicized prior to May 30th of each year, and evacuation zones and routings will be printed in each local newspaper. Boat evacuation is also addressed through the requirement for marinas and multi-slip docking facilities to prepare hurricane plans.

### **Sheltering**

Similar to most of Florida's coastal counties, Collier County currently has a significant shelter deficit. According to Florida's Statewide Emergency Shelter Plan, Collier County has an existing

shelter capacity of 14,600 people. The 2004 shelter demand for a Category 4 or Category 5 hurricane is 41,863 people, leaving an existing shelter deficit of 27,263. In 2009, the projected shelter demand is 52,697, leaving an anticipated shelter deficit of 38,097. The opportunity exists to construct new facilities to standards that will allow them to serve as shelters, and to construct future public facilities outside of floodplain areas.

County policies include timeframes to identify additional shelter space. The Plan requires that all new or existing mobile home subdivisions in the process of expanding, which are 26 units or larger in size, to provide emergency shelters on-site or to provide funding to enhance existing off-site shelters.

### **Wildfire**

Policies directly relating to the wildfire hazard are related to the management of specific land use designation areas such as “Rural Lands Areas” and “Receiving Lands”. In some areas, Wildfire Prevention and Mitigation Plans are required to reduce the likelihood of threat to life and property from wildfires. Management plans are also required to address project structural design; the use of materials and location of structures so as to reduce wildfire threat; firebreaks and buffers; water features; and, the impacts of prescribed burning on adjacent or nearby lands.

Several Comprehensive Plan Elements have been amended on an individual basis. The dates are below:

#### **Capital Improvements Element:**

**Amended:**

**February 23, 1999**

**May 9, 2000**

**November 19, 2002**

**September 10, 2003**

**December 16, 2003**

**October 26, 2004**

**June 7, 2005**

#### **Transportation Element:**

**Amended:**

**October 28, 1997**

**February 23, 1997**

**May 9, 2000**

**November 19, 2002**

**December 16, 2003**

**October 26, 2004**

#### **Public Facilities Element**

##### **Sanitary Sewer Sub-Element & Potable Water Sub-Element**

**October 28, 1997**

**October 22, 2002**

**February 11, 2003**

**June 19, 2002**

**September 10, 2003**

**June 7, 2005**

#### **Drainage Sub-Element and Natural Groundwater Aquifer Recharge Sub-Element**

**May 9, 2000**

#### **Solid Waste Sub-Element**

**October 28, 1997**

**Housing Element**

**May 9, 2000**

**Recreation and Open Space Element**

**October 28, 1997**

**December 16, 2003**

**Conservation and Coastal Management Element**

**October 22, 2002**

**June 19, 2002**

**December 16, 2003**

**October 26, 2004**

**Intergovernmental Coordination Element**

**October 28, 1997**

**December 16, 2003**

**Future Land Use Element**

**December 12, 2000**

**March 13, 2001**

**March 13, 2001**

**May 14, 2002**

**October 22, 2002**

**February 11, 2003**

**June 19, 2002**

**September 9, 2003**

**September 10, 2003**

**December 16, 2003**

**October 26, 2004**

**June 7, 2005**

**Economic Element**

**Adopted: December 16, 2003**

## 5. Data Sources

### County Overview:

Florida Statistical Abstract – 2004 (38<sup>th</sup> Edition). Bureau of Economic and Business Research, Warrington College of Business, University of Florida. Gainesville, Florida.

State and County QuickFacts. U.S. Census Bureau. Data derived from 2000 Census of Population and Housing.

### Hazard Vulnerability:

Florida Repetitive Loss List March 05. Florida Department of Community Affairs, Division of Emergency Management, Flood Mitigation Assistance Office. March 2005.

Mapping for Emergency Management, Parallel Hazard Information System (MEMPHIS). Florida Department of Community Affairs, Division of Emergency Management.  
<http://lmsmaps.methaz.org/lmsmaps/>

Protecting Florida's Communities – Land Use Planning Strategies and Best Development Practices for Minimizing Vulnerability to Flooding and Coastal Storms. Florida Department of Community Affairs, Division of Community Planning and Division of Emergency Management. September 2004.

State of Florida 2004 Statewide Emergency Shelter Plan. Florida Department of Community Affairs, Division of Emergency Management.

State of Florida. 2005 Hurricane Evacuation Study Database. Florida Department of Community Affairs, Division of Emergency Management.

### GIS Data:

#### Flood Zone GIS Data

Source: FEMA FIRM GIS coverages (1996), supplied by University of Florida GeoPlan Center Florida Geographic Data Library Version 3.0.

- Areas with an "A\_", "V\_", "FPQ", "D", "100IC", or "FWIC" value in the "Zone" field in these coverages were considered to be in the 100-year flood zone, and were used in the mapping/analysis.

#### Hurricane Evacuation Zone/Coastal High-Hazard Area (Category 1 Hurricane Evacuation Zone) GIS Data

Source: GIS coverage of hurricane zones compiled by Florida Department of Community Affairs/Division of Emergency Management (2003), from GIS data collected from county emergency management agencies in the State of Florida.

- Areas shown/analyzed are those areas in the above-referenced GIS coverage where the value in the field "Evacuation Category" is equal to "Zone TS", "Zone A/1", "Zone B/2", or "Zone C/3", in the maps/tables for the Hurricane Vulnerability Zone.
- Areas shown/analyzed are those areas in the above-referenced GIS coverage where the value in the field "Evacuation Category" is equal to "Zone TS", "Zone A/1" in the maps/tables for the Coastal Hazards Zone.

Hurricane Storm Surge Zone GIS Data

Source: GIS coverage of storm surge zones compiled by Florida Department of Community Affairs/Division of Emergency Management (2004), from various storm surge studies performed by regional planning councils and the U.S. Army Corps of Engineers.

- Areas shown/analyzed are those areas in the above-referenced GIS coverage where the value in the field "Category" is equal to "Tropical Storm" or "Category 1".

Sinkhole Hazard GIS Data

Source: Kinetic Analysis Corporation web site (2005),  
at: [http://lmsmaps.methaz.org/lmsmaps/final\\_cty/](http://lmsmaps.methaz.org/lmsmaps/final_cty/)

- Areas shown/analyzed are those areas in the "Rawsink1.shp" GIS coverage supplied by KAC, where the value in the field "Gridcode" is 3 to 6, representing "High", or Very High, "Extremely High", or "Adjacent", based on the classification system used in the sinkhole hazard maps found on the above website.

Wildfire Susceptibility GIS Data

Source: Florida Department of Agriculture and Consumer Services/Division of Forestry, Florida Fire Risk Assessment System (FRAS) data, 2004.

- Areas shown as "wildfire susceptible areas" and that were analyzed are those areas with a "Wildfire Susceptibility Index" value of greater than 10,000 (in north Florida counties) or greater than 0.1 (in south Florida counties)\*, based on the FRAS model, and that are also within areas of forest or shrub vegetation or "low impact urban" land cover, based on the Florida Fish and Wildlife Conservation Commission "Florida Vegetation and Land Cover - 2003" GIS data.

Municipal Boundaries

Source: Boundaries of municipalities were extracted from the U.S. Census 2000 "Places" GIS coverage for the State of Florida.

**ATTACHMENT A  
Maps of the Existing and Future Land Uses within Coastal Hazards Zone**

**ATTACHMENT B  
Maps of the Existing and Future Land Uses within Hurricane Vulnerability Zone**

**ATTACHMENT C  
Maps of the Existing and Future Land Uses within the 100-year Floodplain**



**ATTACHMENT D**  
**Maps of the Existing and Future Land Uses within Wildfire Susceptible Areas**

**ATTACHMENT E**  
**Local Mitigation Strategy**  
**Goals and Objectives Pertaining to Comprehensive Planning**

Collier County's LMS includes the following goals and objectives that are directly related to local comprehensive planning and growth management:

**GOAL 1:** Collier County shall make every reasonable effort to reduce the vulnerability and exposure of its residents and guests by protecting lives and property from the effects of natural, man made and technological disasters.

Objective 1.1: Maximize the protection of the public's health, safety and welfare from natural, man made and technological disasters.

Objective 1.2: Reduce the potential loss of personal and public property caused by natural, man made and technological disasters.

Objective 1.2. 1: Collier County shall make every effort to reduce the number of repetitive loss properties within its boundary.

Objective 1.2.1.1: Acquire the repetitive loss properties through funding structured for such purposes.

Objective 1.2.1.2: Elevate the repetitive loss properties through financial incentive programs that are developed for such purposes.

Objective 1.3: Protect natural resources (such as environmentally sensitive lands and aquifers) in order to maximize their survivability and to safeguard them from damages caused by natural, man made or technological disasters.

Objective 1.4: Ensure that Collier County's Land Development Code and Ordinances are sufficient to protect public safety and property.

Objective 1.5: Develop and maintain evacuation plans for the safe evacuation of residents from coastal storm surges, inland flooding, terrorist acts, hazardous material incidents and wildland fires.

Objective 1.6: Protect dune systems and coastal/marine resources from the adverse effects of coastal development.

Objective 1.7: Ensure that mitigation measures are adequately addressed in the comprehensive system of coordinated planning, management and land acquisition.

Objective 1.8: Encourage land and water uses which are compatible with the protection of environmentally sensitive lands and coastal resources.

Objective 1.9: Prohibit development and other activities which disturb coastal dune systems, and promote the restoration of dune systems that have been damaged.

**GOAL 2:** The Collier County Emergency Management Department will take a pro-active role in ensuring intra-governmental coordination within Collier County Government and inter-governmental coordination with other government agencies in order to enhance hazard mitigation planning activities.

Objective 2.3: Encourage cooperation and participation of all public and private agencies in mitigation planning.

Objective 2.4: Ensure that the Collier County Hazard Mitigation Annex to the Comprehensive Emergency Management Plan incorporates appropriate mitigation measures as reflected in each agency's Emergency Support Function Annex or Standard Operating Procedures.

**GOAL 3:** Reduce the vulnerability of critical and public facilities from the effects of terrorism, natural, man made and technological disasters.

Objective 3.1: Consider designing and installing wind and/or waterproofing components and target hardening for all proposed government owned critical facilities.

Objective 3.2: Develop and maintain energy, communications and preparedness plans that will be both practical and effective during periods of disrupted energy and communication events.

Objective 3.3: Incorporate hazard mitigation measures such as wind/flood proofing and target hardening during any rehabilitation of existing public facilities.

**GOAL 4:** Strengthen Post-Disaster, Recovery and Mitigation Plans.

Objective 4.1: Analyze, review and update Collier County Post-Disaster, Recovery, and Mitigation Plans and Ordinances.

Objective 4.2: Work with other federal, state and local government agencies to strengthen post-disaster, recovery, mitigation plans and ordinances.

Objective 4.3: Work with other federal, state and local government agencies in post disaster recovery establishing contracts to facilitate timely restoration of public and private infrastructure.

**GOAL 5:** Improve coordination of disaster preparedness information through the broadcast and print media to increase public awareness and participation in preparedness, response, recovery and mitigation activities.

Objective 5.2: Conduct educational programs and research to meet local, state, regional planning, growth management and hazard mitigation needs or concerns.

**GOAL 6:** Collier County shall make every reasonable effort to protect water resources, unique natural habitats and ecologically sensitive areas such as wetlands and hardwood hammocks, and restore, to the maximum extent possible, degraded natural systems to their original state.

Objective 6.1: Conserve and protect wetlands and coastal natural features to maintain their economic, aesthetic and recreational values.

Objective 6.2: Acquire, retain, manage and inventory public lands to provide conservation and related public benefits.

Objective 6.3: Promote the use of agricultural and horticultural practices which are compatible with the protection of natural systems.

Objective 6.4: Protect and restore the ecological functions of wetland systems to ensure their long-term environmental, economic and recreational values.

Objective 6.5: Protect and enhance water sources, public utilities, wetlands, natural habitats from potential natural, man made and terrorist acts.

**ATTACHMENT F**  
**Collier County Comprehensive Plan Excerpts Pertaining to Hazard Mitigation**

**FUTURE LAND USE ELEMENT**

**OBJECTIVE 1:** Unless otherwise permitted in this Growth Management Plan, new or revised uses of land shall be consistent with designations outlined on the Future Land Use Map. The Future Land Use Map and companion Future Land Use Designations, Districts and Sub-districts shall be binding on all Development Orders effective with the adoption of this Growth Management Plan. Standards and permitted uses for each Future Land Use District and Subdistrict are identified in the Designation Description Section. Through the magnitude, location and configuration of its components, the Future Land Use Map is designed to coordinate land use with the natural environment including topography, soil and other resources; promote a sound economy; coordinate coastal population densities with the Regional Hurricane Evacuation Plan; and discourage unacceptable levels of urban sprawl.

**(VII)(IX) Management of Coastal Development:** Two major coastal development issues in Collier County are the protection of natural resources and the balancing of risk in natural hazard areas. Extensive populated areas in Collier County are vulnerable to periodic salt-water inundation from tropical storms or hurricanes. It is extremely important that an acceptable balance between at-risk population and evacuation capability be achieved. In addition, public and private investment in such vulnerable areas must be carefully considered. This issue is addressed here and in the Conservation and Coastal Management Element through several measures. A Coastal High Hazard Area is identified on the Future Land Use Map essentially as all lands seaward of US 41. This line is based on the close fit to the storm Category 1 SLOSH area (potential for salt water flooding from 1 storm in 12 years) and evacuation planning areas. Within the Coastal High Hazard Area maximum permissible residential density is limited in recognition of the level of risk, the existing deficiency of evacuation shelter space and existing patterns of density. The Coastal High Hazard Area is also identified in the Conservation and Coastal Management Element and policies are provided therein. Finally, coastal natural hazards are addressed through Land Development Regulations already in effect relating to coastal building standards, per Chapter 161, Florida Statutes, and protection of structures from floods, per County participation in the FEMA Flood Insurance Program.

**FUTURE LAND USE DESIGNATION DESCRIPTION SECTION**

The following section describes the land use designations shown on the Future Land Use Map. These designations generally indicate the types of land uses for which zoning may be requested. However, these land use designations do not guarantee that a zoning request will be approved. Requests may be denied by the Board of County Commissioners based on criteria in the Land Development Code or on special studies completed for the County.

**I. URBAN DESIGNATION**

Urban Designated Areas on the Future Land Use Map include two general portions of Collier County: areas with the greatest residential densities, and areas in close proximity, which have or are projected to receive future urban support facilities and services. It is intended that Urban Designated Areas accommodate the majority of population growth and that new intensive land uses be located within them. Accordingly, the Urban Area will accommodate residential uses and a variety of non-residential uses. The Urban Designated Area, which includes Immokalee and Marco Island, represents less than 10% of Collier County's land area. The boundaries of the Urban Designated Areas have been established based on several factors, including: patterns of existing development; patterns of approved, but unbuilt, development; natural resources; water management; hurricane risk; existing and proposed public facilities; population projections and the land needed to accommodate the projected population growth.

**(IV)(XI) 2. Urban Coastal Fringe Subdistrict:** The purpose of this Subdistrict is to provide transitional densities between the Conservation Designated Area and the Urban Designated Area. It includes that area south of US 41 between the City of Naples and Collier-Seminole State

Park, including Marco Island and comprises approximately 18,000 acres and 15% of the Urban Mixed Use District. In order to facilitate hurricane evacuation and to protect the adjacent environmentally sensitive Conservation Designated Area, residential densities shall be limited to a maximum of 4 dwelling units per acre, except as allowed in the Density Rating System to exceed 4 units per acre through provision of Affordable Housing and Transfer of Development Rights, and except as provided in the Bayshore/Gateway Triangle Redevelopment Overlay. New rezones to permit mobile home development within this Subdistrict are prohibited. Rezones are recommended to be in the form of a Planned Unit Development. The Marco Island Master Plan shall provide for density, intensity, siting criteria and specific standards for land use districts encompassed by the Marco Island Master Plan but outside the incorporated area of Marco Island.

**(IX) B. Rural Fringe Mixed Use District:** The Rural Fringe Mixed Use District is identified on Future Land Use Map. This District consists of approximately 93,600 acres, or 7% of Collier County's total land area. Significant portions of this District are adjacent to the Urban area or to the semi-rural, rapidly developing, large-lot North Golden Gate Estates platted lands. Agricultural land uses within the Rural Fringe Mixed Use District do not represent a significant portion of the County's active agricultural lands. As of the date of adoption of this Plan Amendment, the Rural Fringe Mixed Use District consists of more than 5,550 tax parcels, and includes at least 3,835 separate and distinct property owners. Alternative land use strategies have been developed for the Rural Fringe Mixed Use District, in part, to consider these existing conditions. The Rural Fringe Mixed Use District provides a transition between the Urban and Estates Designated lands and between the Urban and Agricultural/Rural and Conservation designated lands farther to the east. The Rural Fringe Mixed Use District employs a balanced approach, including both regulations and incentives, to protect natural resources and private property rights, providing for large areas of open space, and allowing, in designated areas, appropriate types, density and intensity of development. The Rural Fringe Mixed Use District allows for a mixture of urban and rural levels of service, including limited extension of central water and sewer, schools, recreational facilities, commercial uses and essential services deemed necessary to serve the residents of the District. In order to preserve existing natural resources, including habitat for listed species, to retain a rural, pastoral, or park like appearance from the major public rights-of-way within this area, and to protect private property rights, the following innovative planning and development techniques are required and/or encouraged within the District.

**(IX)1. Transfer of Development Rights (TDR), and Sending, Neutral, and Receiving Designations:** The primary purpose of the TDR process within the Rural Fringe Mixed Use District is to establish an equitable method of protecting and conserving the most valuable environmental lands, including large connected wetland systems and significant areas of habitat for listed species, while allowing property owners of such lands to recoup lost value and development potential through an economically viable process of transferring such rights to other more suitable lands. Within the Rural Fringe Mixed Use District, residential density may be transferred from lands designated as Sending Lands to lands designated as Receiving Lands on the Future Land Use Map, subject to the provisions below. Residential density may not be transferred either from or into areas designated as Neutral Lands through the TDR process.

**(IX) A) Receiving Lands:** Receiving Lands are those lands within the Rural Fringe Mixed Use District that have been identified as being most appropriate for development and to which residential development units may be transferred from areas designated as Sending Lands. Based on the evaluation of available data, these lands have a lesser degree of environmental or listed species habitat value than areas designated as Sending and generally have been disturbed through development, or previous or existing agricultural operations. Various incentives are employed to direct development into Receiving Lands and away from Sending Lands, thereby maximizing native vegetation and habitat preservation and restoration. Such incentives include, but are not limited to: the TDR process; clustered development; density bonus incentives; and, provisions for central sewer and water. Within Receiving Lands, the following standards shall apply, except for those modifications that are identified in the North Belle Meade Overlay:

4. Emergency Preparedness:

a) In order to reduce the likelihood of threat to life and property from a tropical storm or hurricane event, community facilities, schools, or other public buildings shall be designed to serve as storm shelters if located outside of areas that are likely to be inundated during storm events, as indicated on the Sea, Lake, and Overland Surge from Hurricane Map for Collier County. Impacts on evacuation routes, if any, must be considered as well. Applicants for new residential or mixed use developments proposed for Receiving Lands shall work with the Collier County Emergency Management staff to develop an Emergency Preparedness Plan to include provisions for storm shelter space, a plan for emergency evacuation, and other provisions that may be deemed appropriate and necessary to mitigate against a potential disaster.

b) Applicants for new developments proposed for Receiving Lands shall work with the Florida Division of Forestry, Collier County Emergency Management staff, and the Managers of any adjacent or nearby public lands, to develop a Wildfire Prevention and Mitigation Plan that will reduce the likelihood of threat to life and property from wildfires. This plan will address, at a minimum: project structural design; the use of materials and location of structures so as to reduce wildfire threat; firebreaks and buffers; water features; and, the impacts of prescribed burning on adjacent or nearby lands.

## **V. OVERLAYS AND SPECIAL FEATURES**

**A. Area of Critical State Concern Overlay** The Big Cypress Area of Critical State Concern (ACSC) was established by the 1974 Florida Legislature. The Critical Area is displayed on the Future Land Use Map as an overlay area. The Critical Area encompasses lands designated Conservation, Agricultural/Rural, Estates and Urban (Port of the Islands, Plantation Island and Copeland). Chokoloskee is excluded from the Big Cypress Area of Critical State Concern. All Development Orders within the Critical Area shall comply with Chapter 28-25, Florida Administrative Code, "Boundary and Regulations for the Big Cypress Area of Critical State Concern". Those regulations include the following:

b. Any non-permeable surface greater than 20,000 square feet shall provide for release of surface run off, collected or uncollected, in a manner approximating the natural surface water flow regime of the area. e. Fill areas and related dredge or borrow ponds shall be aligned substantially in the direction of local surface water flows and shall be separated from other fill areas and ponds by unaltered areas of vegetation of comparable size. Dredge or borrow ponds shall provide for the release of storm water as sheet flow from their downstream end into unaltered areas of vegetation. Access roads to and between fill areas shall provide for the passage of water in a manner approximating the natural flow regime and designed to accommodate the 50-year storm. Fill areas and related ponds shall not substantially retain or divert the total flow in or to a slough or strand or significantly impeded tidal action in any portion of the estuarine zone.

a. Existing drainage facilities shall not be modified so as to discharge water to any coastal waters, either directly or through existing drainage facilities. Existing drainage facilities shall not be expanded in capacity or length except in conformance with paragraph (2) below; however, modifications may be made to existing facilities that will raise the ground water table or limit salt water intrusion. b. New drainage facilities shall release water in a manner approximating the natural local surface flow regime, through a spreader pond or performance equivalent structure or system, either on site or to a natural retention, or natural filtration and flow area. New drainage facilities shall also maintain a ground water level sufficient to protect wetland vegetation through the use of weirs or performance equivalent structures or systems. Said facilities shall not retain, divert, or otherwise block or channel the naturally occurring flows in a strand, slough or estuarine area. c. New drainage facilities shall not discharge water into any coastal waters either directly or through existing drainage facilities. d. This rule shall not apply to drainage facilities modified or constructed in order to use land for agricultural purposes or to convert land to such use.

**3. Transportation** a. Transportation facilities which would retain, divert or otherwise block surface water flows shall provide for the re-establishment of sheet flow through the use of interceptor spreader systems or performance equivalent structures and shall provide for passage of stream, strand, or slough water through the use of bridges, culverts, piling construction or

performance equivalent structures or systems. b. Transportation facilities shall be constructed substantially parallel to the local surface flow, and shall maintain a historic ground water level sufficient to protect wetland vegetation through the use of weirs or performance equivalent structures or systems and as feasible, the flows in such works shall be released to natural retention filtration and flow areas. c. Transportation facility construction sites shall provide for siltation and run-off control through the use of settling ponds, soil fixing or performance equivalent structures or systems.

**4. Structure Installation** a. Placement of structures shall be accomplished in a manner that will not adversely affect surface water flow or tidal action. b. Minimum lowest floor elevation permitted for structures shall be at or above the 100- year flood level, as established by the Administrator of the Federal Flood Insurance Administration. The construction of any structure shall meet additional Federal Flood Insurance Land Management and Use Criteria (24 CFR 1910), as administered by the appropriate local agency.

**(VII) Policy 5.6:** For those lands that are not voluntarily included in the Rural Lands Stewardship program, Collier County shall direct non-agricultural land uses away from high functioning wetlands by limiting direct impacts within wetlands. A direct impact is hereby defined as the dredging or filling of a wetland or adversely changing the hydroperiod of a wetland. This policy shall be implemented as follows: 1. There are two (2) major wetlands systems within the RLSA, Camp Keais, Strand and the Okaloacoochee Slough. These two systems have been mapped and are designated as FSA's. Policy 5.1 prohibits certain uses within the FSA's, thus preserving and protecting the wetlands functions within those wetland systems. 2. The other significant wetlands within the RLSA are WRA's as described in Policy 3.3. These areas are protected by existing SFWMD wetlands permits for each area. 3. FSAs, HSAs and WRAs, as provided in Policy 5.3, and the ACSC have stringent site clearing and alteration limitations, nonpermeable surface limitations, and requirements addressing surface water flows which protect wetland functions within the wetlands in those areas. Other wetlands within the RLSA are isolated or seasonal wetlands. These wetlands will be protected based upon the wetland functionality assessment described below, and the final permitting requirements of the South Florida Water Management District.

g. Wetland preservation, buffer areas, and mitigation areas shall be identified or platted as separate tracts. In the case of a Planned Unit Development (PUD), these areas shall also be depicted on the PUD Master Plan. These areas shall be maintained free from trash and debris and from Category I invasive exotic plants, as defined by the Florida Exotic Pest Plant Council. Land uses allowed in these areas shall be limited to those listed above (3.e.iv.) and shall not include any other activities that are detrimental to drainage, flood, control, water conservation, erosion control or fish and wildlife habitat conservation and preservation.

## **TRANSPORTATION ELEMENT**

**OBJECTIVE 5:** The County will coordinate the Transportation System development process with the Future Land Use Map.

**(IV)Policy 5.9:** Should the TIS for a proposed development reflect that it will impact either a constrained roadway link and/or a deficient roadway link within a TCMA by more than a de minimis amount (more than 1% of the maximum service volume at the adopted LOS), yet continue to maintain the established percentage of lanes miles indicated in Policy 5.8 of this Element, a proportionate share payment shall be required as follows:

d. No impact will be de minimis if it exceeds the adopted LOS standard of any affected designated hurricane evacuation routes within a TCMA. Hurricane routes in Collier County are shown on Map TR7. Any impact to a hurricane evacuation route within a TCMA shall require a proportionate share payment provided the remaining LOS requirements of the TCMA are maintained

**OBJECTIVE 10:** The County shall encourage safe and efficient mobility for the rural public.

**Policy 10.1:** The County shall develop a program to examine the maintenance and operational needs of the rural roadway system. This program will address the mobility needs of the rural resident to include the availability of roads for rural-to-urban travel, as well as for hurricane evacuation purposes.

**CONSERVATION AND COASTAL ZONE MANAGEMENT ELEMENT**

**(II) OBJECTIVE 1.3:** Pursuant to Administration Commission Final Order AC-99-002 dated June 22, 1999, the County has completed the phased delineation, data gathering, management guidelines and implementation of the Natural Resource Protection Area (NRPA) program as part of the required Collier County Rural and Agricultural Assessment. Through this Assessment, the County has determined that the NRPA environmental systems. Accordingly, within the Rural Lands Stewardship Area Overlay in the Future Land Use Element, the County has delineated Stewardship Sending Areas that will function to protect large environmental systems. Pursuant to the following policies, the County shall protect identified environmental systems through the NRPA and Rural Lands Stewardship programs.

**(II) Policy 1.3.3:** Continue with management guidelines as defined within the County LDC that provide for the management and conservation of the habitats, species, natural shoreline and dune systems for the undeveloped coastal barrier and estuarine natural resources protection area.

**OBJECTIVE 2.1:** By January 1, 2000, the County shall prepare Watershed Management Plans that will address appropriate mechanisms to protect the County's estuarine and wetland systems.

**Policy 2.1.4:** All Watershed Management Plans should address the following concepts:  
g. The effects on natural flood plains, stream channels, native vegetative communities and natural protective barriers, which are involved in the accommodation of flood waters;

**OBJECTIVE 2.3:** All estuaries shall meet all applicable federal, state and local water quality standards.

**Policy 2.3.5:** Continue to have staff coordinate with the City of Naples staff regarding coordinated and cooperative planning, management, and funding programs for limiting specific and cumulative impacts on Naples Bay and its watershed. At a minimum, this agreement includes the following:

- a. Insure adequate sites for water dependent uses,
- b. Prevent estuarine pollution,
- c. Control run-off,
- d. Protect living marine resources,
- e. Reduce exposure to natural hazards,
- f. Ensure public access,
- g. Provide a continuing monitoring program.

**(II)(III) OBJECTIVE 6.1:** The County shall protect native vegetative communities through the application of minimum preservation requirements. The following policies provide criteria to make this objective measurable. These policies shall apply to all of Collier County except for the Eastern Lands Study Area, for which policies are required to be adopted by November 1, 2002.

**(II)(III) Policy 6.1.1:** For the County's *Urban Designated Area, Estates Designated Area, Conservation Designated Area, and Agricultural/Rural Mixed Use District, Rural-Industrial District and Rural-Settlement Area District* as designated on the FLUM, native vegetation shall be preserved on-site through the application of the following preservation and vegetation retention standards and criteria, unless the development occurs within the Area of Critical State Concern (ACSC) where the ACSC standards referenced in the Future Land Use Element shall apply. Notwithstanding the ACSC requirements, this policy shall apply to all non-agricultural development except for single-family dwelling units situated on individual lots or parcels. The



standards and criteria provided for in this policy may change for the area governed by the Golden Gate Area Master Plan, which is currently under restudy, by Plan amendment. The following standards and criteria shall apply to the vegetation retention requirements referenced above:

(6) A management plan shall be submitted to identify actions that must be taken to ensure that the preserved areas will function as proposed. The plan shall include methods to address control and treatment of invasive exotic species, fire management, and maintenance of permitted facilities.

**(II)(III) Policy 6.1.2** For the *County's Rural Fringe Mixed Use District*, as designated on the FLUM, native vegetation shall be preserved on site through the application of the following preservation and vegetation retention standards and criteria: Preservation and Native Vegetation Retention Standards: f. In order to ensure reasonable use and to protect the private property rights of owners of smaller parcels of land within lands designated Rural Fringe Mixed Use District on the Future Land Use Map, including nonconforming lots of record which existed on or before June 22, 1999, for lots, parcels or fractional units of land or water equal to or less than five (5) acres in size, native vegetation clearing shall be allowed, at 20% or 25,000 square feet of the lot or parcel or fractional unit, whichever is greater, exclusive of any clearing necessary to provide for a 15-foot wide access drive up to 660 feet in length. For lots and parcels greater than 5 acres but less than 10 acres, up to 20% of the parcel may be cleared. This allowance shall not be considered a maximum clearing allowance where other provisions of this Plan allow for greater clearing amounts. These clearing limitations shall not prohibit the clearing of brush or under-story vegetation within 200 feet of structures in order to minimize wildfire fuel sources. (6) A management plan shall be submitted to identify actions that must be taken to ensure that the preserved areas will function as proposed. The plan shall include methods to address control and treatment of invasive exotic species, fire management, and maintenance of permitted facilities.

**(II)(III) Policy 6.1.8 [re-numbered to reflect merger of Ordinance No. 2002-32 and 2002-54]**

An Environmental Impact Statement (EIS) is required, to provide a method to objectively evaluate the impact of a proposed development, site alteration, or project upon the resources and environmental quality of the project area and the community and to insure that planning and zoning decisions are made with a complete understanding of the impact of such decisions upon the environment, to encourage projects and developments that will protect, conserve and enhance, but not degrade, the environmental quality and resources of the particular project or development site, the general area and the greater community. An EIS shall be required for:

1. Any site with an ST or ACSC-ST overlay, or within the boundaries of Sending Lands or NRPA's.
2. All sites seaward of the Coastal High Hazard Area boundary that are 2.5 or more acres.
3. All sites landward of the Coastal High Hazard Area boundary that are ten or more acres.
4. Any other development or site alteration, which in the opinion of the development services director, would have substantial impact upon environmental quality.

**(II)(III) OBJECTIVE 6.2:** The County shall protect and conserve wetlands and the natural functions of wetlands. The following policies provide criteria to make this objective measurable. These policies shall apply to all of Collier County except for the Eastern Lands Study Area, for which policies are required to be adopted by November 1, 2002.

**(II)(III) Policy 6.2.6 [this Policy reflects merger of Ordinance No. 2002-32 and 2002-54]**

Within the *Urban Designation and the Rural Fringe Mixed Use District*, [required] wetland preservation, buffer areas, and mitigation areas shall be dedicated as conservation and common areas in the form of conservation easements and shall be identified or platted as separate tracts; and, in the case of a Planned Unit Development (PUD), these areas shall also be depicted on the PUD Master Plan. These areas shall be maintained free from trash and debris and from Category I invasive exotic plants, as defined by the Florida Exotic Pest Plant Council. Land uses allowed in these areas shall be limited to those listed in Policy 6.2.5(5)d of this element and shall not include any other activities that are detrimental to drainage, flood control, water conservation, erosion control or fish and wildlife habitat conservation and preservation.

**(IV)OBJECTIVE 10.1:** Priorities for shoreline land use shall be given to water dependent uses over water related land uses and shall be based on type of water-dependent use, adjacent land use, and surrounding marine and upland habitat considerations. The Collier County Manatee Protection Plan (NR-SP- 93-01) May 1995 restricts the location of marinas and may limit the number of wet slips, the construction of dry storage facilities, and boat ramps, based upon the Plan's marina siting criteria.

**Policy 10.1.6:** New marinas shall conform to the following criteria: d. Marinas and multi-slip docking facilities shall prepare hurricane plans for approval which describe measures to be taken to minimize damage to marina sites and neighboring properties and the environment; this hurricane plan shall be reviewed and approved by the County.

**OBJECTIVE 10.3:** Undeveloped coastal barriers shall be maintained predominantly in their natural state and their natural function shall be protected, maintained and enhanced.

**Policy 10.3.6:** Prohibit construction of structures seaward of the Coastal Construction Control Line on undeveloped coastal barriers. Exception shall be for passive recreational structures access crossovers, and where enforcement would not allow any reasonable economic utilization of such property. In the latter event, require construction that minimizes interference with natural function of such coastal barrier system.

**Policy 10.3.7:** Participate in and encourage Regional and State programs to acquire naturally functioning, undeveloped coastal barrier systems to insure the preservation of their natural function.

**Policy 10.3.14:** Substantial alteration of the natural grade on undeveloped coastal barriers by filling or excavation shall be prohibited except as a part of an approved dune and/or beach restoration program, or as part of a DER approved wastewater treatment system or as part of an approved public development plan.

**OBJECTIVE 10.4:** Developed coastal barriers and developed shorelines shall be continued to be restored and then maintained, when appropriate by establishing mechanisms or projects which limit the effects of development and which help in the restoration of the natural functions of coastal barriers and affected beaches and dunes.

**Policy 10.4.1:** Promote environmentally acceptable and economically feasible restoration of the developed coastal barriers and the urban beach and dune systems.

**Policy 10.4.2:** Prohibit further shore hardening projects except where necessary to protect existing structures, considering the total beach system and adjacent properties.

**Policy 10.4.3:** Prohibit activities which would result in man induced shoreline erosion beyond the natural beach erosion cycle or that would deteriorate the beach and dune system.

**Policy 10.4.4:** Require dune stabilization and restoration improvements in land development projects along beach areas.

**Policy 10.4.5:** Initiate and support beach and dune restoration and preservation programs where appropriate.

**Policy 10.4.6:** Require native vegetation as landscaping in development activities in developed coastal barrier systems and on the beach and dune systems.

**Policy 10.4.7:** Prohibit construction seaward of the Coastal Construction Control Line except where the same would be permitted pursuant to the provisions of the Florida Coastal Zone Protection Act of 1985 or where said prohibition would result in no reasonable economic utilization of the property in questions, or for safety reasons. In such cases, construction will be as

far landward as is practicable and effects shall be minimized on the beach and dune system and the natural functions of the coastal barrier system.

**Policy 10.4.8:** Construction seaward of the Coastal Construction Control Line will be allowed for public access and protection and restoration of beach resources. Construction seaward of the Coastal Construction Control Line shall not interfere with sea turtle nesting, will utilize native vegetation for dune stabilization, will maintain the natural beach profile, will minimize interference with natural beach dynamics, and where appropriate will restore the historical dunes and will vegetate with native vegetation.

**Policy 10.4.9:** Seawall construction fronting the Gulf of Mexico shall be prohibited except in extreme cases of hardship.

**Policy 10.4.10:** Vehicle traffic or traffic on the beach and primary dunes shall be prohibited except for emergency and approved maintenance purposes. The County shall enforce this requirement with the existing Vehicle On The Beach Ordinance.

**OBJECTIVE 10.4:** Developed coastal barriers and developed shorelines shall be continued to be restored and then maintained, when appropriate by establishing mechanisms or projects which limit the effects of development and which help in the restoration of the natural functions of coastal barriers and affected beaches and dunes.

**Policy 10.4.10:** Vehicle traffic or traffic on the beach and primary dunes shall be prohibited except for emergency and approved maintenance purposes. The County shall enforce this requirement with the existing Vehicle On The Beach Ordinance.

**Policy 10.4.12:** In permitting the repair and/or reconstruction of shore parallel engineered stabilization structures, require, where appropriate, at a minimum:  
a. All damaged seawalls will be replaced with, or fronted by, b. Where appropriate, repaired structures will be redesigned

**Policy 10.4.13:** Development and redevelopment proposals shall consider the implications of potential rise in sea level.

**OBJECTIVE 10.5:** For undeveloped shorelines, provide improved opportunities for recreational, educational, scientific, and esthetic enjoyment of coastal resources by protecting beaches and dunes and by utilizing or where necessary establishing construction standards, which will minimize the impact of manmade structures on the beach and dune systems.

**Policy 10.5.1:** Recreation that is compatible with the natural functions of beaches and dunes is the highest and best land use.

**Policy 10.5.2:** Prioritize acquisition efforts in order to meet the projected need for additional public beaches.

**Policy 10.5.3:** Prohibit activities which would result in man induced shoreline erosion beyond the natural beach erosion cycle or that would deteriorate the beach dune system.

**Policy 10.5.4:** Prohibit construction of any structure seaward of the Coastal Construction Control Line. Exception shall be for passive recreational structures access crossovers, and where enforcement would not allow any reasonable economic utilization of such property. In the latter event, require construction that minimizes interference with natural function of such beaches and dunes.

**Policy 10.5.5:** Prohibit motorize vehicles on the beaches and dunes except for emergency and maintenance purposes. The County shall enforce this requirement with the existing Vehicle On The Beach Ordinance.

**Policy 10.5.6:** Regulate activities so that they will not threaten the stability of the dunes or the beach itself.

**Policy 10.5.7:** Pursue the acquisition of undeveloped beaches and dunes as the first alternative to development.

**Policy 10.5.8:** Prohibit shoreline armoring processes and encourage non-structural methods for stabilizing beaches and dunes.

**Policy 10.5.9:** Prohibit construction seaward of the Coastal Construction Control Line except as follows: a. Construction will be allowed for public access; b. For protection and restoration of beach resources; c. In cases of demonstrated land use related hardship or safety concerns as specified in The 1985 Florida Coastal Zone Protection Act, there shall be no shore armoring allowed except in cases of public safety.

**Policy 10.5.10:** Construction activities shall not interfere with the sea turtle nesting, shall preserve or replace any native vegetation on the site, and shall maintain the natural beach profile and minimize interference with the natural beach dynamics and function.

**Policy 10.5.11:** The County will waive all other non-safety related setback requirements and site planning requirements before allowing construction seaward of the Coastal Construction Control Line.

**Policy 10.5.12:** For all beach front land development related projects require dune stabilization and restoration improvements, the removal of exotic vegetation, and replacement with native vegetation, as appropriate.

**I) OBJECTIVE 10.6:** The County shall conserve the habitats, species, natural shoreline and dune systems contained within the County's coastal zone.

**(I) Policy 10.6.1:** In addition to those applicable policies supporting Objectives 10.1, 10.2, 10.3, 10.4, and 10. 5, development within the County's coastal zone shall also meet the following criteria: 1. Densities on the following undeveloped coastal barriers shall not exceed 1 unit per 5 acres: a. Wiggins Pass Unit FL-65P, b. Clam Pass Unit FI-64P, c. Keywaydin Island Unit P-16, d. Tigertail Unit FI-63-P, e. Cape Romano Unit P-15. 2. Site alterations shall be concentrated in disturbed habitats thus avoiding undisturbed pristine habitats (Reference Policy 10.1.4). 3. Beachfront developments shall restore dune vegetation. 4. Projects on coastal barriers shall be landscaped with native Southern Floridian species. 5. Boathouses, boat shelters and dock facilities shall be located and aligned to stay at least 10 feet from any existing seagrass beds except where a continuous bed of seagrass exists off of the shore of the property, in which case facility heights shall be at least 3.5 feet NVGD, terminal platforms shall be less than 160 square feet and access docks shall not exceed a width of four (4) feet.

**OBJECTIVE 10.5:** For undeveloped shorelines, provide improved opportunities for recreational, educational, scientific, and esthetic enjoyment of coastal resources by protecting beaches and dunes and by utilizing or where necessary establishing construction standards, which will minimize the impact of manmade structures on the beach and dune systems.

**Policy 10.5.5:** Prohibit motorize vehicles on the beaches and dunes except for emergency and maintenance purposes. The County shall enforce this requirement with the existing Vehicle On The Beach Ordinance.

**Policy 10.5.6:** Regulate activities so that they will not threaten the stability of the dunes or the beach itself.

**Policy 10.5.7:** Pursue the acquisition of undeveloped beaches and dunes as the first alternative to development.

**(I) OBJECTIVE 12.1:** The County will maintain the 1994, hurricane evacuation time for a Category 3 storm at a maximum of 28 hours as defined by the 1996 Southwest Florida Regional Planning Council Hurricane Evacuation Study Update, and reduce that time frame by 1999, to 27.2 hours. Activities will include on-site sheltering for mobile home developments, increased shelter space, and maintenance of equal or lower densities of the Category 1 evacuation zone as defined in the 1996 Southwest Florida Regional Planning Council Hurricane Evacuation Study Update.

**Policy 12.1.1:** A comprehensive awareness program will be developed and publicized prior to May 30th of each year. Evacuation zones and routings shall be printed in each local newspaper. This information shall be made readily available to all hotel/motel guests.

**(I) Policy 12.1.2:** Land use plan amendments in the Category 1 hurricane vulnerability zone shall only be considered if such increases in densities provide appropriate mitigation to reduce the impacts of hurricane evacuation times.

**Policy 12.1.3:** The County shall continue to identify shelter space that complies with Red Cross standards for 45,000 persons by 1998 and 60,000 by 2002. Shelter space will be determined at the rate of 20 square feet per person.

**Policy 12.1.4:** The County shall continue to maintain requirements and standards for hurricane shelters for all new or existing mobile home subdivisions in the process of expanding, which are 26 units or larger in size to provide emergency shelter on-site or provide funding to enhance existing public shelters off-site. Building will be of such a size to house park residents at the rate of 20 sq. ft per resident. Resident size will be estimated by averaging park population during the June-November time frame. On-site shelters shall be elevated to a minimum height equal to or above the worst case Category 3 hurricane flooding level utilizing the current National Oceanic and Atmospheric Administration's storm surge model, known as Sea, Lake, and Overland Surges from Hurricanes (SLOSH).; The design and construction of the required shelters shall be guided by the wind loads applied to buildings and structures designated as "essential facilities" in the latest Standard Building Code, Table 1205. Shelters shall be constructed with adequate emergency electrical power and potable water supplies; shall provide adequate glass protection by shutters or boards; and shall provide for adequate ventilation, sanitary facilities and first-aid equipment. A telephone and battery-operated telephone is also required within the shelter.

**Policy 12.1.5:** The directors of the Transportation and Emergency Management Departments will review, at least annually, evacuation route road needs to assure that necessary improvements are incorporated within the Capital Improvement and Traffic Circulation Element projects, as indicated in Table 1 of the Appendix.

**Policy 12.1.6:** The County shall update the hurricane evacuation portion of Collier County Peacetime Emergency Plan prior to June 1st of each year by integrating all regional and State emergency plans in the identification of emergency evacuation routes.

**Policy 12.1.7:** The County's land development regulations include mitigation policies addressing flood plains, beach and dune alteration and storm water management.

**(I) Policy 12.1.8:** Upon approval of the "Local Hazard Mitigation Strategy" by the Department of Community Affairs Collier County will begin implementation of the Local Mitigation Projects as listed in the Plan.

**(I) Policy 12.1.9:** Construct all new Public Safety facilities to be floodproofed and designed to meet 160 mph wind load requirements.

**(I) Policy 12.1.10:** The County will continue to coordinate with Collier County Public Schools to ensure that all new public schools outside of the Coastal High Hazard Area be designed and

constructed to meet the Public Shelter Design Criteria in “State Requirements for Educational Facilities” (1997), Section 5.4(15).

**(I) Policy 12.1.11:** The County will continue to work with the Board of Regents, State University System to ensure that all new facilities in the State University System that are located outside of the Coastal High Hazard Area be designed and constructed to meet the Public Shelter Design Criteria in “State Requirements for Educational Facilities” (1997), Section 5.4(15).

**(I) Policy 12.1.12:** The County will continue to mitigate previously identified shelter deficiencies through mitigation from Developments of Regional Impact, Emergency Management Preparedness and Enhancement grants and from funds identified in the annual Shelter Deficit Studies.

**(I) Policy 12.1.13:** All new nursing homes and assisted living facilities that are licensed for more than 15 clients will have a core area to shelter residents and staff on site. The core area will be constructed to meet the Public Shelter Design Criteria that is required for new public schools and public community colleges and universities.

**(I) Policy 12.1.14:** The County will consider establishing one-way evacuation routes on County maintained roads for storm events that have the potential for inundating low-lying populated areas. The County will coordinate with FDOT to consider one-waying State maintained roads that are primary evacuation routes for vulnerable populations.

**OBJECTIVE 12.2:** The County shall ensure that building and development activities are carried out in a manner, which minimizes the danger to life and property from hurricanes. The public shall limit its expenditures involving beach and dune restoration and renourishment, road repair, publicly owned seawalls, docking and parking area. All future unimproved requests for development in the coastal high hazard areas will be denied.

**Policy 12.2.1:** The Hazard Mitigation Annex of the peacetime Emergency Plan (PEP) shall be reviewed and updated every three (3) years beginning in 1988. The Director shall also incorporate hazard mitigation reports from other agencies into the Peacetime Emergency Plan.

**Policy 12.2.2:** The calculated needs for public facilities will be based on the adopted level of service standards and future growth projections within the coastal high hazard area. The Future Land Use Element limits new residential development, (thus obligation to infrastructure expenditures) to a maximum of four dwelling units per gross acre within the coastal high hazard area. In addition, existing zoning not vested shall be re evaluated within three years and may change to a density level consistent with the Future Land Use Element.

**Policy 12.2.3:** The County shall participate in the National Flood Insurance Program (NFIP).

**Policy 12.2.4:** The County shall maintain requirements for structural wind resistance as stated in the latest approved edition of the Southern Standard Building Code.

**(I) Policy 12.2.5:** The County shall consider the coastal high-hazard area as that area lying within the Category 1 evacuation zone as defined in the Southwest Florida Regional Planning Council Hurricane Evacuation Study Update.

**Policy 12.2.6:** The County shall require that all new sanitary sewer facilities in the coastal high-hazard flood area be flood proofed, be designed to reduce leakage of raw sewage during flood events to the maximum extent practicable, and new septic tanks shall be fitted with back-flow preventers.

**Policy 12.2.7:** The County shall continue to assess all unimproved property within the coastal high hazard area and make recommendations on appropriate land use.

**Policy 12.2.8:** Public facilities that are dependent on county funding shall not be built in the coastal high-hazard area unless the facility is designed for public access or for resource restoration.

**OBJECTIVE 12.3:** The County shall develop and maintain a task force that will plan and guide a unified County response to post-hurricane disasters.

**Policy 12.3.1:** The Comprehensive Emergency Management Plan shall comply with the policies under this objective, and shall contain step-by-step details for post disaster recovery. After a hurricane that necessitated an evacuation, the Board of County Commissioners shall meet to hear preliminary damage assessments. This will be done prior to re-entry of the population. At that time, the Commission will activate the recovery task force and consider a temporary moratorium on building activities not necessary for the public health, safety and welfare.

**Policy 12.3.3:** The recovery task force shall include local law enforcement authorities, the Community Development Administrator, Public Works Administrator, Planning and Zoning Director, Emergency Management Director and other members as directed by the Board of County Commissioners. Representatives from municipalities receiving damage from the storm should also be members of the recovery task force.

**Policy 12.3.4:** The recovery task force shall review and decide upon emergency building permits, coordinate with State and Federal officials to prepare disaster assistance applications, analyze and recommend to the County Commission hazard mitigation options including reconstruction or relocation of damaged public facilities, recommend amendments to the Comprehensive Plan, Peacetime Emergency Plan and other appropriate policies and procedures.

**Policy 12.3.5:** Immediate repair and clean-up actions needed to protect the public health and safety include repairs to potable water, wastewater, and power facilities, debris removal, stabilization or removal of structures that are in danger of collapsing, and minimal repairs to make dwellings habitable. These actions shall receive first priority in permitting decisions.

**Policy 12.3.6:** Structures in the coastal high-hazard area which have suffered damage to pilings, foundations, or load-bearing walls on one or more occasion shall be required to rebuild landward of their current location or to modify the structure to mitigate any recurrence of repeated damage.

**Policy 12.3.7:** The County shall develop and adopt a Post-disaster Recovery, Reconstruction and Mitigation Ordinance prior to May 30, 1997, to evaluate options for damaged public facilities including abandonment, repair in place, relocations, and reconstruction with structural modifications. This process shall consider these options in light of factors such as cost to construct, cost to maintain, recurring damage, impacts on land use, impacts on the environment and public safety.

**Policy 12.3.8:** Within 30 days of a hurricane resulting in disaster the County shall identify non-public structures in the coastal high-hazard area, inventory their assessed value, judge the utility of the land for public access and make recommendations for acquisition during post-disaster recovery.

**OBJECTIVE 12.4:** The County shall make every reasonable effort to meet the emergency preparedness requirements of people with special needs such as the elderly, handicapped, the infirmed and those requiring transportation from a threatened area.

**Policy 12.4.1:** All new hospitals, nursing homes, and adult congregate living facilities shall prepare an emergency preparedness plan for approval by the Emergency Management Department prior to receiving a final development order.

**Policy 12.4.2:** The County, in cooperation with other public agencies and public service groups, shall make a reasonable effort to provide for the emergency transportation needs of people

having limited mobility that do not reside in licensed institutions serving people with special needs.

**Policy 12.4.3:** The County, in cooperation with the Collier County Health Department and other public service groups shall make a reasonable effort to provide basic medical services in selected shelters designated as special needs shelters.

### **CAPITAL IMPROVEMENTS ELEMENT**

**Policy 1.1.2:** The quantity of public facilities that is needed to eliminate existing deficiencies and to meet the needs of future growth shall be determined for each public facility by the following calculation:

$Q = (S \times D) - I$ . Where Q is the quantity of public facility needed, S is the standard for level of service, D is the demand, such as the population, and I is the inventory of existing facilities.

D. There are three circumstances in which the standards for levels of service are not the exclusive determinant of need for a public facility: 1. Calculated needs for public facilities in coastal high hazard areas are subject to all limits and conditions in the Conservation and Coastal Management and Future Land Use Elements of this Growth Management Plan.

### **PUBLIC EXPENDITURES: COASTAL HIGH HAZARD AREA**

**OBJECTIVE 1.3:** Effective with plan implementation public expenditures in the coastal high hazard area shall be limited to those facilities needed to support new development to the extent permitted in the Future Land Use Element. In addition, public expenditures shall include the following categories: A. Maintenance of existing public facilities; B. Beach, shore and waterway access; C. Beach renourishment.

**Policy 1.3.1:** The County shall continue to expend funds within the coastal high hazard area for the replacement and maintenance of public facilities identified in the Conservation and Coastal Management Element.

**Policy 1.3.2:** The calculated needs for public facilities will be based on the adopted level of service standards and future growth projections within the coastal high hazard area. The Future Land Use Element limits new residential development (thus obligations for infrastructure expenditures) to a maximum of four dwelling units per gross acre within portions of the coastal high hazard area.

**(III) Policy 1.3.3:** The County shall continue to insure that access to beaches, shores and waterways remain available to the public and will develop a program to expand the availability of such including funding options for acquisition.

### **HOUSING ELEMENT**

**OBJECTIVE 4:** By 2000, the County and City will conduct a comprehensive housing survey to identify substandard dwelling units. Through continued enforcement of each jurisdiction's housing codes, and the provision of housing programs, the number of substandard units associated with a lack of plumbing and/or kitchen facilities throughout the County shall be reduced by 5% per year through rehabilitation or demolition.

### **JOINT CITY/COUNTY POLICIES**

**Policy 4.4:** In the event of a natural disaster or government intervention, replacement housing shall comply with all applicable Federal, State and local codes and shall consider commercial accessibility, public facilities, places of employment, and housing income.



**OBJECTIVE 7:** Although mobile home parks currently exist within Collier County, as a result of the coastal community's susceptibility to flooding and storm surges, any new mobile home parks will be restricted to areas outside of the urban coastal fringe.

**CITY POLICIES**

\* **Policy 7.2:** Additional mobile home developments will not be permitted in the city limits due to the City's low elevation, susceptibility to flooding, storm surges and high winds in hurricane and tropical storms and that mobile homes are particularly vulnerable to damage.

\* **Policy 7.3:** The County has numerous sites where mobile homes are a permitted use and these sites will continue to be available for mobile home development. However, due to the low lying elevations, susceptibility to flooding, storm surges and high winds from hurricanes and tropical storms, and that mobile homes are particularly vulnerable to damage, no additional sites will be zoned for mobile home development within coastal Collier County.

**GOLDEN GATE AREA MASTER PLAN**

**(VIII) OBJECTIVE 6.3:** In planning and constructing road improvements within Golden Gate Estates and Golden Gate City, Collier County shall coordinate with local emergency services officials to ensure that the access needs of fire department, police and emergency management personnel and vehicles are met.

**(VIII) Policy 6.3.1:** Beginning in 2005, the Collier County Transportation Planning Department shall hold at least one annual public meeting with Golden Gate Area emergency services providers and the local civic association in order to ensure that emergency needs are addressed during the acquisition of right-of-way for design and construction of road improvements.

**(VIII) Policy 6.3.2:** Beginning in 2005, the Collier County Transportation Planning Department shall coordinate with Golden Gate Area emergency services providers to prioritize necessary road improvements related to emergency evacuation needs.

**(VIII) OBJECTIVE 7.1:** The Collier County Bureau of Emergency Services, Collier County Sheriff's Department, Golden Gate Fire Control and Rescue District, and other appropriate agencies, will continue to maintain and implement public information programs to inform residents and visitors of the Greater Golden Gate Area regarding the means to prevent, prepare for, and cope with, disaster situations.

**(VIII) Policy 7.1.1:** The County, fire districts that serve the Golden Gate area, and other appropriate agencies, shall embark on an education program to assist residents in knowing and understanding the value and need for prescribed burning on public lands in high risk fire areas.

**(VIII) Policy 7.1.2:** The Golden Gate Fire Control and Rescue District and Collier County Bureau of Emergency Services shall actively promote the Firewise Communities Program through public education in Golden Gate Estates.

**(VIII) Policy 7.1.3:** By 2005, the Collier County Community Development and Environmental Services Division shall evaluate the Land Development Code for Golden Gate Estates and shall eliminate any requirements that are found to be inconsistent with acceptable fire prevention standards. This evaluation process shall be coordinated with the Golden Gate Fire Control and Rescue District and the Collier County Bureau of Emergency Services.

**(VIII) Policy 7.1.4:** The Golden Gate Fire Control and Rescue District and the Collier County Bureau of Emergency Services shall hold one or more annual "open house" presentations in the Golden Gate Area emphasizing issues related to wildfires, flooding, emergency access and general emergency management.

**(VIII) OBJECTIVE 7.2:** Capital improvement projects within the Golden Gate Area shall be coordinated with all applicable emergency services providers to ensure that the needs of these entities are included in the overall public project design.

**(VIII) Policy 7.2.1:** Preparation of Collier County's annual Schedule of Capital Improvements for projects within the Golden Gate Area shall be coordinated with the Fire Districts, public and private utilities, Emergency Medical Services Department and the Collier County Sheriff's Department to ensure that public project designs are consistent with the needs of these agencies.

**(VIII) Policy 7.2.2:** The Golden Gate Fire Control and Rescue District, Collier County Emergency Medical Services Department and the Collier County Sheriff's Department shall receive copies of pre-construction plans for capital improvement projects in the Golden Gate Area and shall be invited to review and comment on plans for the public projects.

**(VIII) OBJECTIVE 7.3:** While the County Transportation Planning Department is in the process of developing strategies for the enhancement of roadway interconnection within Golden Gate City and the Estates Area, interim measures to assure interconnection shall be developed.

**(VIII) Policy 7.3.1:** By 2006, the Collier County Bureau of Emergency Services, the Collier County Transportation Division, Golden Gate Fire Control and Rescue District, and other appropriate Federal, State or local agencies, shall begin establishing one or more of the following routes for emergency evacuation purposes:

- a. An I-75 Interchange at Everglades Boulevard.
- b. Improved emergency access from Everglades Boulevard to I-75.
- c. Construction of a north-south bridge on 23rd Street, SW, between White Boulevard and Golden Gate Boulevard.

**(VIII) Policy 7.3.2:** All new residential structures shall comply with NFPA (National Fire Protection Association, Incorporated) 299 Standard for Protection of Life and Property from Wildfire, 1997 Edition, as adopted by reference in the Florida Fire Code or the most recent edition.

**(VIII) Policy 7.3.3:** Modified portions of existing structures shall meet NFPA Standards through the adoption of appropriate regulations in the County Building Codes.

**(VIII) Policy 7.3.4:**

Beginning in 2006, County-owned property within Golden Gate Estates shall be subject to an active, on-going management plan to reduce the damage caused by wildfires originating from County-owned properties.

**B. LAND USE DESIGNATION DESCRIPTION SECTION**

The following section describes the three land use designations shown on the Golden Gate Area Future Land Use Map. These designations generally indicate the types of land uses for which zoning may be requested. However, these land use designations do not guarantee that a zoning request will be approved. Requests may be denied by the Board of County Commissioners based on criteria in the Land Development Code or in special studies completed for the County.

**1. URBAN DESIGNATION: URBAN MIXED USE AND URBAN COMMERCIAL**

- Urban Designated Areas on the Future Land Use Map include two general portions of Collier County: areas with the greatest residential densities and areas in close proximity, which have or are projected to receive future urban support facilities and services. It is intended that Urban Designated areas accommodate the majority of population growth and that new intensive land uses be located within them. The boundaries of the Urban Designated areas have been established based on several factors including: patterns of existing development, patterns of approved but unbuilt development, natural resources, water management, and hurricane risk, existing and proposed public facilities, population projections, and land needed to accommodate growth.