



City of Tampa Coastal Area Action Plan

Comprehensive Plan Policy Review

Alfred Benesch & Company

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1 CITY OF TAMPA COASTAL PLANNING

As part of the deliverables for the Coastal Area Action Plan, funded by a Community Development Block Grant - Mitigation (CDBG-MIT) grant, Benesch completed a review of the city's comprehensive plan as it relates to coastal planning, particularly the evacuation A and B zones. As part of this review, Benesch also reviewed the comprehensive plans of the Florida counties required to develop a coastal management element pursuant to 163.3177 and 380.24, *Florida Statutes*, as well as the comprehensive plans of 20 coastal cities of varying sizes around the state. The purpose of this review was to evaluate the levels of regulation in coastal areas each local government has adopted in light of the many changes made to Florida's growth management laws and rules since the enactment of the Growth Management Act in 1985. The overall observations and general recommendations in this report are based on our review of the city's plan, other local government plans, and relevant statutory requirements for comprehensive planning as they relate to coastal planning.

The Coastal Area Action Plan that will be developed for the Palmetto Beach and "South of Gandy" neighborhoods includes significant public outreach to be completed as part of the overall project. Once the community engagement portion of the project is complete, the Benesch Team will re-visit these initial observations and finalize recommended text amendments to the comprehensive plan.

Coastal Planning Maps

The below maps document the recent changes in coastal high hazard (CHHA), FEMA areas of special flood hazard, evacuation zone designations, and sea level rise projections related to coastal management in the South of Gandy and Palmetto Beach neighborhoods. Floodplain areas with a 0.02% (or 1 in 500 chance) or less annual chance of flooding includes areas of moderate flood hazard, such as base floodplains and shallow flooding areas, and minimal flood hazard, which may still have ponding and local drainage problems.

Figure 1.1 and Figure 1.2 contrast the 2016 Coastal High Hazard Area (CHHA) to the most recent boundaries for the CHHA released in 2021. (Note – the CHHA referenced here is the category 1 hurricane inundation defined in Florida Statute 163.3177 and 163.3178, not the CHHA defined by FEMA as the Velocity Zone on flood insurance rate maps.) Both neighborhoods' CHHA's are larger in area than previously mapped, due in part to more accurate LIDAR mapping technology completed by the Federal Emergency Management Agency and partially funded by the State of Florida. This increase in the CHHA is relevant to coastal planning policy, as Florida Statutes guide land use, density, and intensity decision-making and mitigation for areas within the CHHA.

FIGURE 1.1: SOUTH OF GANDY COASTAL HIGH HAZARD AREA, 2016 VS. 2021

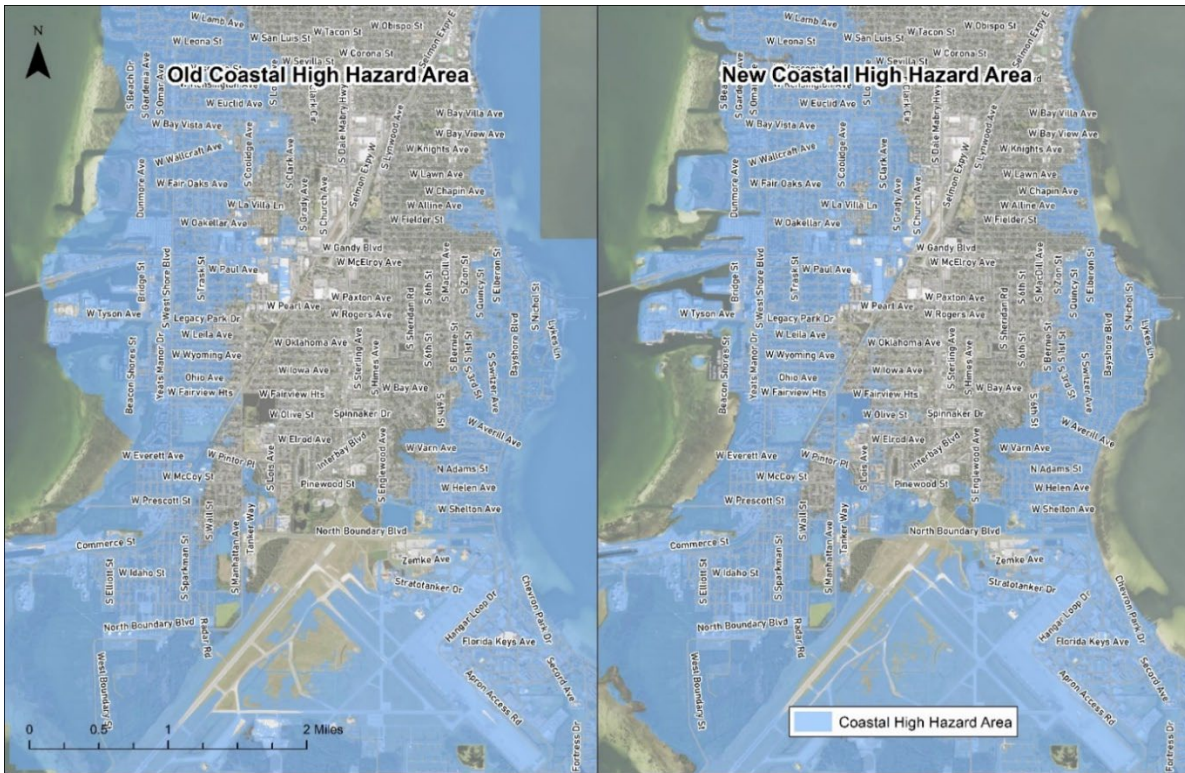


FIGURE 1.2: PALMETTO BEACH COASTAL HIGH HAZARD AREA, 2016 VS. 2021

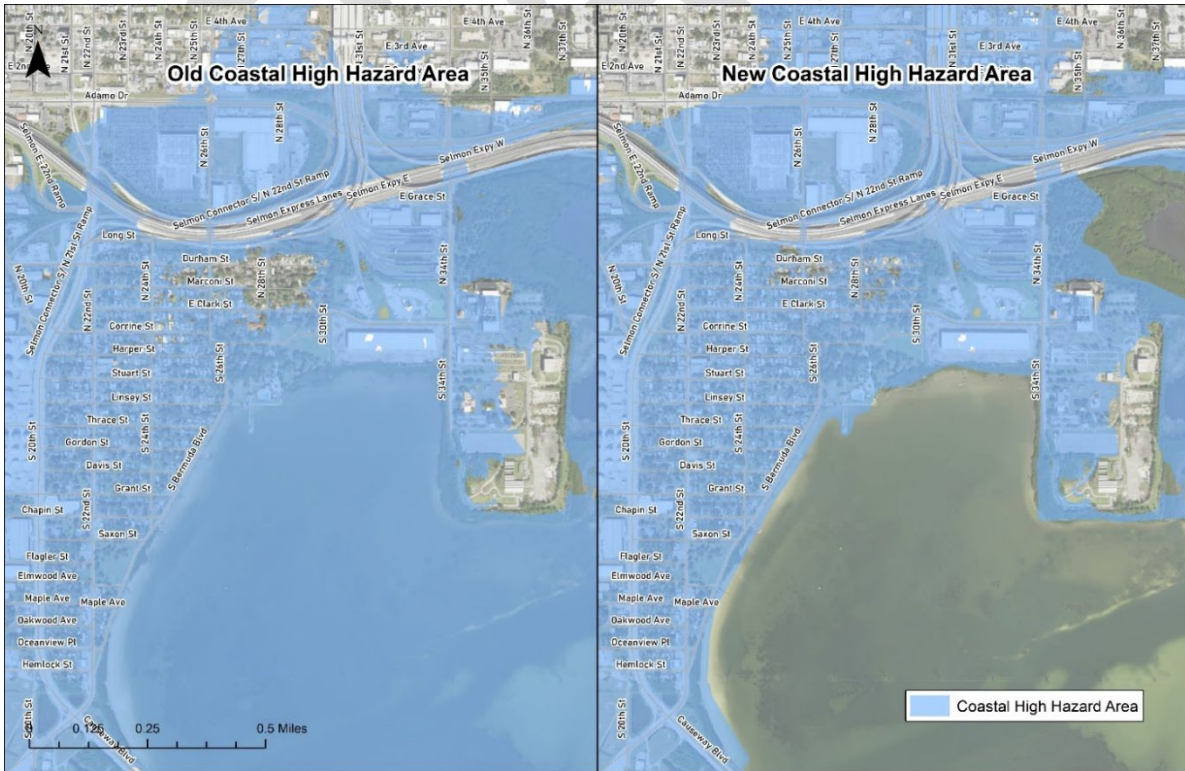


Figure 1.3 and Figure 1.4 depict the change in evacuation zones between 2017 and 2022. The area south of Gandy Boulevard saw a small increase in the Evacuation Zone A, while Palmetto Beach’s evacuation zone remains unchanged; the neighborhood is located entirely in Zone A.

FIGURE 1.3: SOUTH OF GANDY EVACUATION ZONES, 2017 VS. 2022

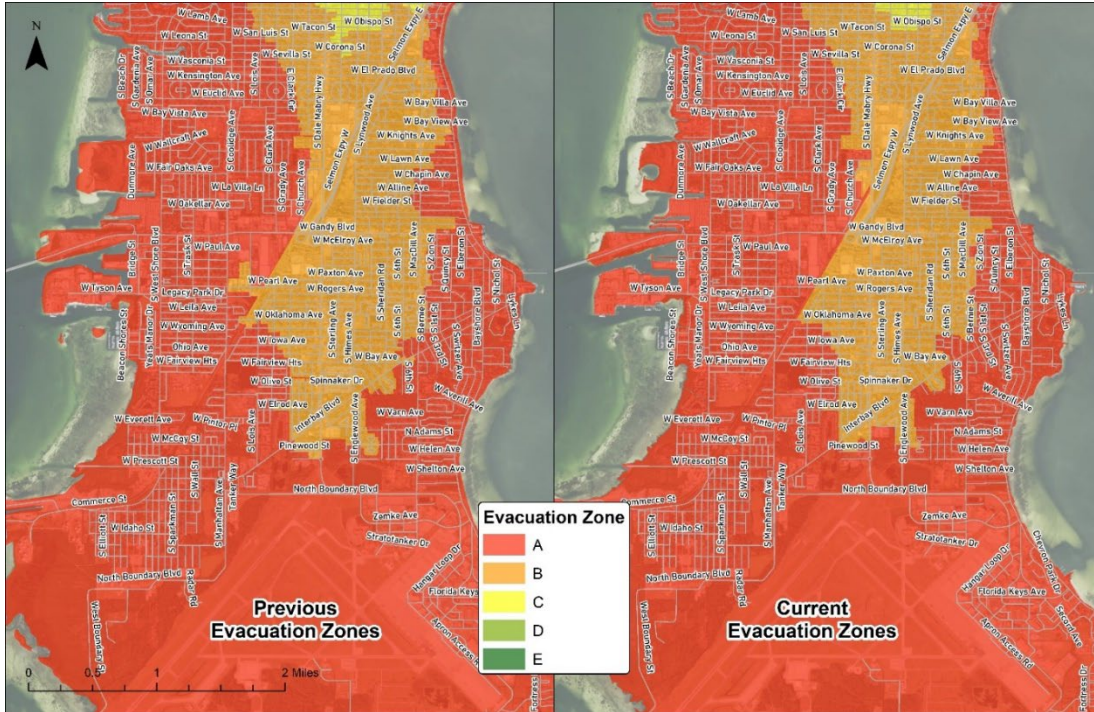


FIGURE 1.4: PALMETTO BEACH EVACUATION ZONES, 2017 VS. JUNE 2022

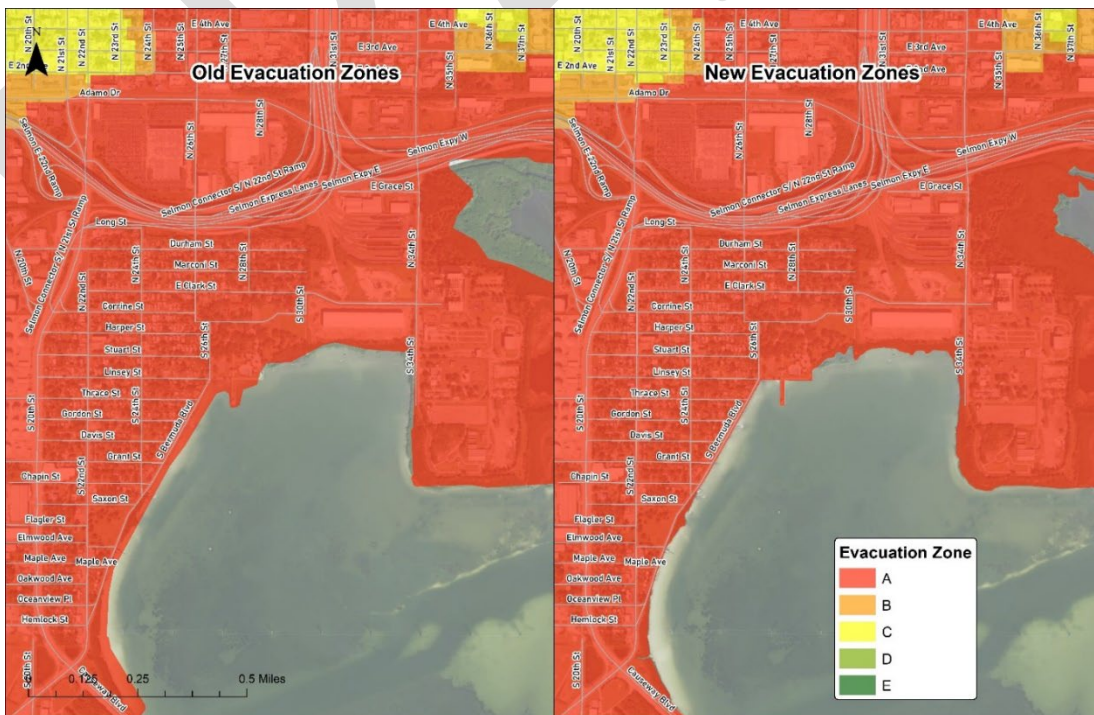


Figure 1.5 and Figure 1.6 illustrate projections for sea level rise for the years 2040 and 2080. The most extreme predictions (2.1 feet) in 2040 primarily affect the area just inside the existing coastline for both South of Gandy and Palmetto Beach. In contrast, 2080 predictions start on the low end at 1.3 feet and go up to 7 feet for the highest estimates. The 2080 forecast shows sea level rise greatly impacting both neighborhoods, especially Palmetto Beach.

FIGURE 1.5: SOUTH OF GANDY SEA LEVEL RISE, 2040 & 2080

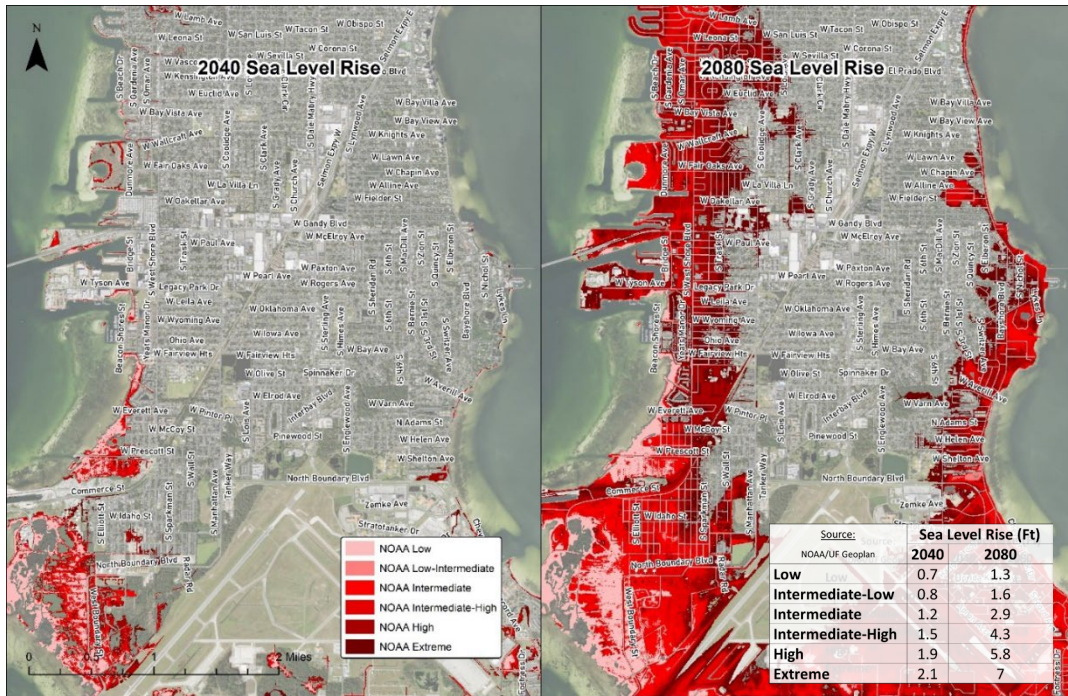
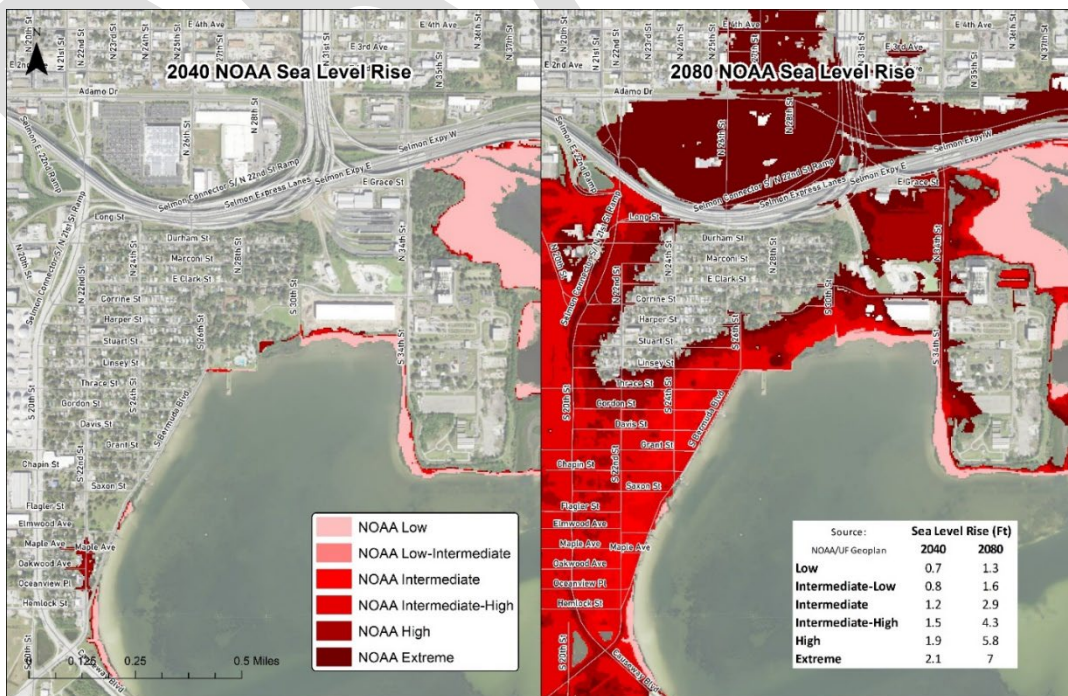


FIGURE 1.6: PALMETTO BEACH SEA LEVEL RISE 2040 & 2080



The last maps in this section, Figure 1.7 and Figure 1.8, illustrate the Special Flood Hazard Areas as found on the FEMA National Flood Insurance Rate Maps. The South of Gandy and Palmetto Beach neighborhoods span three flood zone categories (VE, AE, and X .2% annual chance). The Federal Emergency Management Agency (FEMA) defines these zones as follows:

- **VE:** Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. (Note- the V/VE zones are known as the Coastal High Hazard Area by FEMA and the Florida Building Code. This is unrelated to the CHHA identified in Chapter 163 Florida Statutes for policy planning purposes.)
- **AE:** The base floodplain where base flood elevations are provided.
- **X:** Floodplain area with a 0.02% (or 1 in 500 chance) or less annual chance of flooding. It includes areas of moderate flood hazard, such as base floodplains and shallow flooding areas, and minimal flood hazard, which may still have ponding and local drainage problems.

FIGURE 1.7: SOUTH OF GANDY FLOOD ZONES

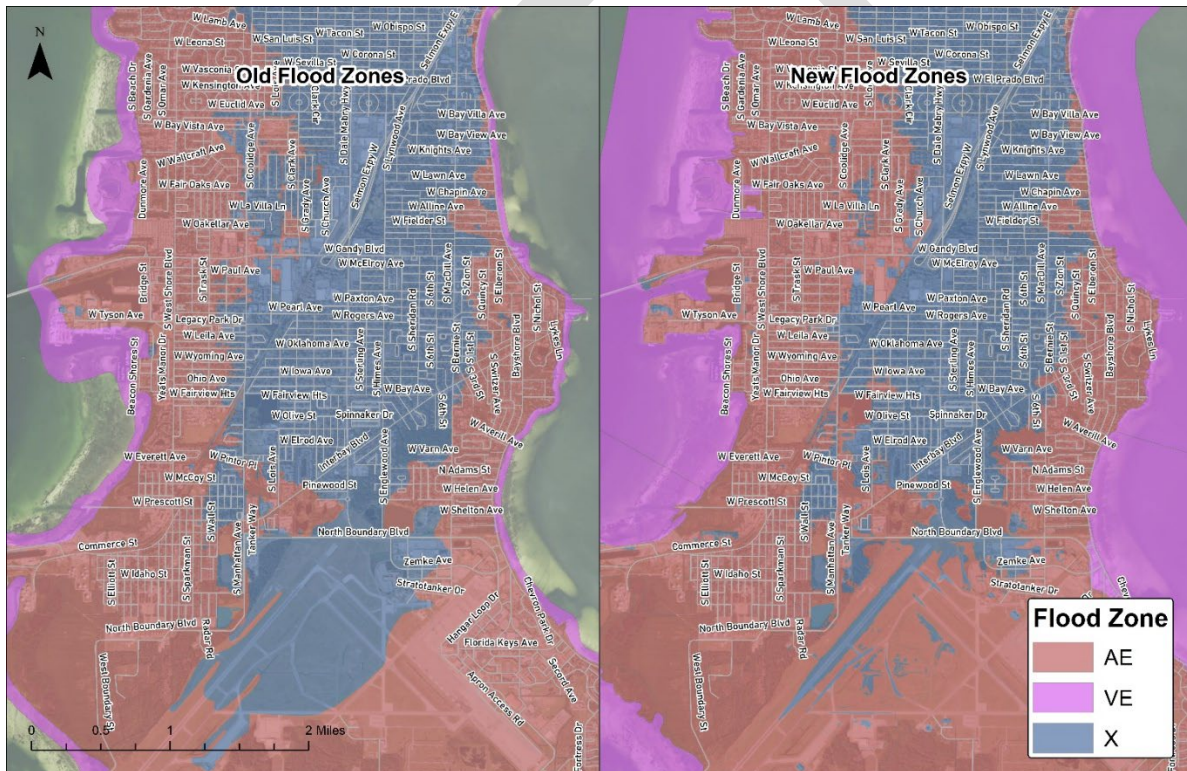
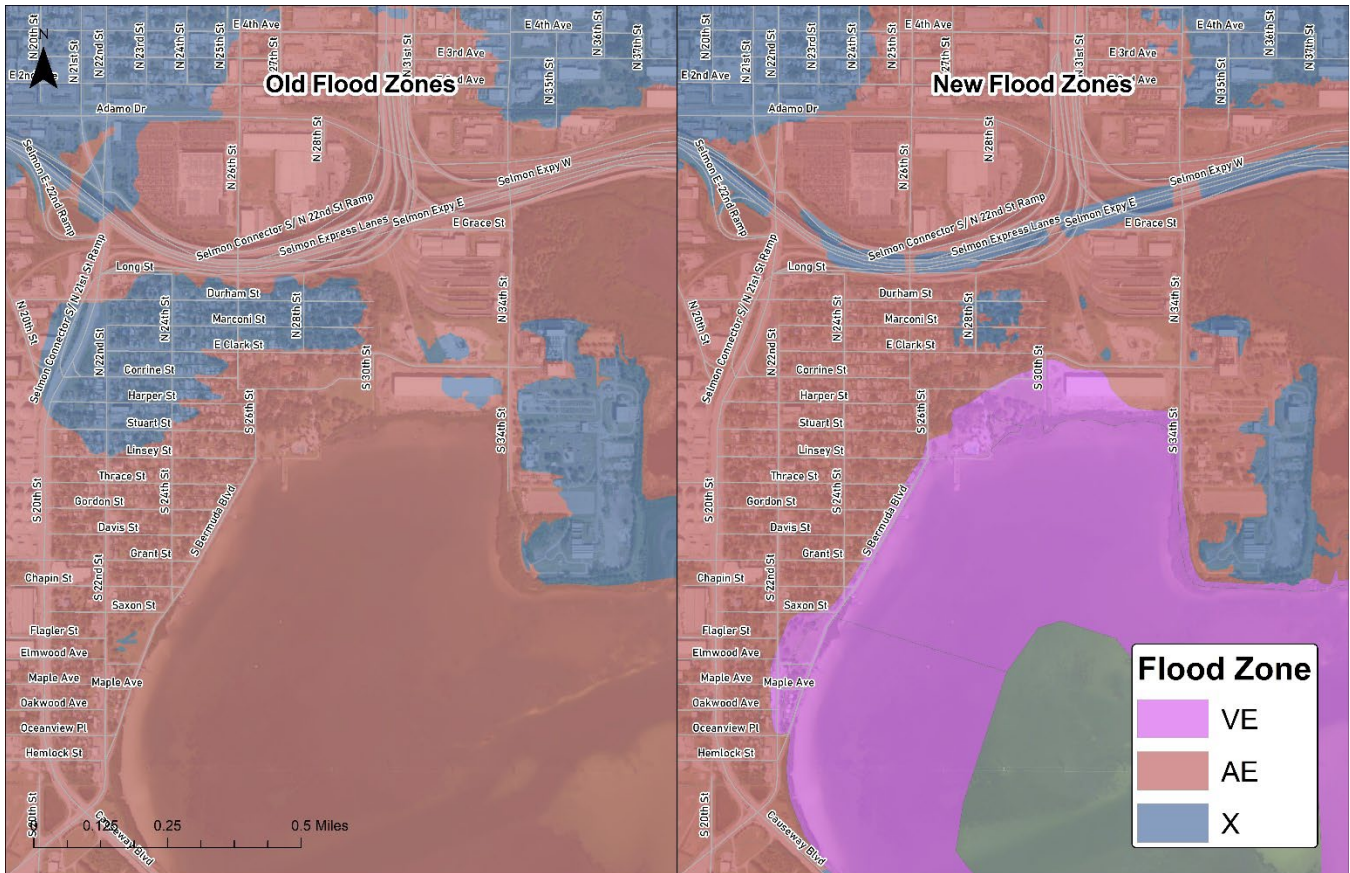


FIGURE 1.8: PALMETTO BEACH FLOOD ZONES



Coastal Planning Regulatory Background

Growth Management laws in Florida Statutes have been amended several times since their enactment in 1985, including laws related to coastal planning. Prior to 2006, F.S. [Section 163.3178 \(2005\)](#) defined the Coastal High Hazard Area as the category 1 hurricane evacuation zone. Evacuation zones were defined by each individual county (generally by emergency management and first responder personnel) and not necessarily based on flood or inundation data. Many were based simply on evacuation routes, also established by each individual local government. Coastal central cities were significantly limited in their development potential in a time when many were trying to reinvest in their downtowns and first ring suburbs. The legislature realized these policies impacted development rights, and in 2002 Section 163.3191 was amended to require local governments to evaluate whether reductions of residential density in coastal high hazard areas had impaired private property rights as part of the Evaluation and Appraisal Report process. In 2006, the definition of the CHHA changed to the category 1 inundation area based on the Sea, Lake, Overland Surges from Hurricanes (SLOSH) model.

Until 2011, comprehensive planning was further regulated by Rule 9J-5, Florida Administrative Code. Rule 9J-5.005(2) and (5)(a), Rule 9J-5.012(3)(b)6 and 7 contained the language that directed population concentrations away from the CHHA, and the Florida Department of Community Affairs routinely objected to future land use map amendments that increased residential density in the CHHA.

The rule also contained language defining the Coastal Planning Area. It was defined as:

“An area of the local government’s choosing when preparing and implementing all requirements of the coastal management element (except those requirements relating to hurricane evacuation, hazard mitigation, water quality, water quantity, estuarine pollution, or estuarine environmental quality); however, this area must encompass all of the following where they occur within the local government’s jurisdiction: water and submerged lands of oceanic water bodies or estuarine water bodies; shorelines adjacent to oceanic waters or estuaries; coastal barriers; living marine resources; marine wetlands; water-dependent facilities or water-related facilities on oceanic or estuarine waters; or public access facilities to oceanic beaches or estuarine shorelines; and all lands adjacent to such occurrences where development activities would impact the integrity or quality of the above. When preparing and implementing the hurricane evacuation or hazard mitigation requirements of the coastal management element, the coastal planning area shall be those portions of the local government’s jurisdiction which lie in the hurricane vulnerability zone. When preparing and implementing the requirements of the coastal management element concerning water quality, water quantity, estuarine pollution, or estuarine environmental quality, the coastal planning area shall be all occurrences within the local government’s jurisdiction of oceanic waters or estuarine waters.”

Further, hurricane vulnerability zone was defined as:

“The areas delineated by the regional or local hurricane evacuation plan as requiring evacuation. The hurricane vulnerability zone shall include areas requiring evacuation in the event of a 100-year storm or Category 3 storm event.”

The rule required local governments to inventory existing land uses, historic resources, infrastructure, estuarine resources, wetlands, wildlife, etc. as part of the data and analysis to support the plan. As part of the requirements for goals, objectives, and policies, the rule required the local government to coordinate coastal planning area populations with hurricane evacuation plans “when applicable” and required that infrastructure be available for densities allowed by future land use map within the coastal planning area. The rule did not limit development in the coastal planning area – rather, it required thoughtful planning in that area. The rule was repealed in its entirety in 2011 and the minimum requirements for comprehensive planning were moved to Chapter 163 Part II, Florida Statutes. It should be noted that the language “directing populations away” from the CHHA is not contained in Section 163 Florida Statutes, nor is there a provision that outright prohibits an increase in development in the CHHA. Rather, the statute implies that if mitigation measures are not adopted, then a map amendment could be found not-in-compliance. It is unclear how the DEO would administratively challenge such an amendment without an outright prohibition or other guidance in the statute if the local government does not adopt and implement mitigation measures. Currently, Florida Statute 163.3178 (8)(a), reads that map amendments would be found in compliance with CHHA provisions if:

- *The adopted level of service for out-of-county hurricane evacuation is maintained for a category 5 storm event as measured on the Saffir-Simpson scale; or*
- *A 12-hour evacuation time to shelter is maintained for a category 5 storm event as measured on the Saffir-Simpson scale and shelter space reasonably expected to accommodate the residents of the development contemplated by a proposed comprehensive plan amendment is available; or*
- *Appropriate mitigation is provided that will satisfy subparagraph 1. or subparagraph 2. Appropriate mitigation shall include, without limitation, payment of money, contribution of land, and construction of hurricane shelters and transportation facilities. Required mitigation may not exceed the amount required*

for a developer to accommodate impacts reasonably attributable to development. A local government and a developer shall enter into a binding agreement to memorialize the mitigation plan.

- *For those local governments that have not established a level of service for out-of-county hurricane evacuation by following the process in paragraph (a), the level of service shall be no greater than 16 hours for a category 5 storm event as measured on the Saffir-Simpson scale.*

Tampa Comprehensive Plan Review

There are a number of policies in the land use and coastal management sections of the city's comprehensive plan that cover coastal planning issues such as hurricane evacuation, infrastructure, and land use planning.

The City's overall objectives related to coastal planning are:

- Direct population concentrations away from the CHHA (no net density increase)
- Reduce evacuation clearance times
- Mitigate storm/severe weather impacts (Hazard Mitigation)
- Limit Infrastructure Investments in the CHHA

The plan identifies two distinct areas for coastal planning purposes: The Coastal High Hazard Area (CHHA) and the Coastal Planning Area (CPA). These two areas are very different.

The Coastal High Hazard Area for growth management purposes is defined by Section 163.3178(2)(h) of Florida Statutes and the city's plan as the area below the elevation of the category 1 storm surge line as established by a Sea, Lake, and Overland Surges from Hurricanes (SLOSH) computerized storm surge model. (This should not be confused with the [coastal high hazard area established for flood regulation](#) construction in conformance with the FEMA National Flood Insurance Program and the Florida Building Code. This CHHA is identified as the velocity zones illustrated on the Flood Insurance Rate Maps.) The city's plan further states that "if 50% or more of a parcel, or any portion of a proposed building footprint, is located within the CHHA, then it is subject to development regulations of the CHHA" (CM Policies 1.1.3 & 1.1.4).

By comparison, the Coastal Planning Area is defined in the city's comprehensive plan as, "The area covering the 5-evacuation zones, which fall under the 5-hurricane categories (include off shore areas too, so all of the water, wetlands, and marine resources are included)." When the city adopts the updated hurricane evacuation maps Hillsborough County recently released, it will include over 7,500 additional acres.

Direct Populations Away from the CHHA - No Net Increase

The objective and policies on this subject focus on limiting increases in density and net population increases in the CHHA. To achieve this, the city's plan limits "new" development in the CHHA to uses that are "vested or shown on the Future Land Use Map and defined in the Urban Design and Land Use Element" (CM Policy 1.1.6). The policies do not outright prohibit a change to the future land use map that increases density, but "no net increase" implies that an increase would not be allowed without a concurrent reduction in density in the CHHA to achieve no "net" increase. Other policies expand review to the "coastal planning area" which includes all evacuation zones – which is now the majority of the city. CM Policy 1.2.2 requires rezonings in the Coastal Planning Area that increase the number of residential units shall mitigate the impact on shelter space demands based on the shelter space LOS.

CM Policy 1.2.5 conflicts with the “no net increase” in density objective by stating “Proposed plan amendments which would increase densities within the Coastal Planning Area shall demonstrate no negative impacts on hurricane evacuation times, routes, and shelter demands. Proposed plan amendments that will increase hurricane evacuation times shall mitigate impacts (such as, but not limited to, providing transportation improvements, agreements with HART to provide emergency evacuation service, or emergency van pools.)” If the city adopts an amendment increasing density, then it is not directing populations away from the CHHA, as Objective 1.1 directs.

The internal inconsistencies noted above have clearly affected the interpretation and implementation of the plan. In 2020, the Hillsborough City County Planning Commission [staff reported that:](#)

“Between 2001 and 2020, 89 plan amendments were proposed in the City of Tampa for properties wholly or partially within the CHHA. Most requests occurred during the building boom between 2005 and 2006 (26 amendments). Staff recommended a finding of consistency on 73 cases and a finding of inconsistency on ten cases, with the applicants withdrawing the remaining six cases prior to staff review. Of all the amendments requested, 72 were adopted/transmitted, with only seven instances in which elected officials approved the request and did not follow staff’s recommendation of inconsistency.” (page 15)

In more recent years, other amendments in the two study areas have been adopted that increased the theoretical density in the CHHA.

Reduce Clearance Times

The plan establishes a Level of Service standard for emergency evacuation shelters at 20 square feet per person seeking public shelter, calculated at 20% of total potential evacuees (CM Policy 1.2.1). The comprehensive plan does not establish a methodology to calculate the number of “potential” evacuees. This should be addressed as part of the comprehensive plan update, consistent with the Tampa Bay Hurricane Evacuation Plan (2020). Rezoning in the Coastal Planning Area (CPA) – which is most of the city - that would “increase the number of residential units” are required to mitigate the demand on shelter space, but it is unclear what an “increase” means: It could refer to an increase over units already allowed under the current FLUM category or zoning, or, assuming the land is vacant or redevelopable, it could refer to any number of units in excess of what is currently on the ground. Future Land Use Map amendments in the CPA that would increase density are subject to mitigation of the impact on the Level of Service for evacuation times, routes, and shelters (CM Policy 1.2.5). Annual reviews of new development in the Coastal Planning Area are required by the plan to monitor impacts on hurricane shelter capacity and evacuation routes (CM Policy 1.2.3); however, this review has not been conducted. It is unclear what mitigation agreements have been made for the plan amendments referenced in the [Planning Commission Report](#) mentioned above. According to city staff, no development agreement exists.

Mitigate storm/severe weather impacts (Hazard Mitigation)

Strategies to reduce risk include restricting the development of vulnerable properties, as well as acquiring/regulating waterfront property to preserve open space and encourage water-dependent uses (CM policies 1.1.7, 1.1.8, and 1.3.16, CAP Policy 1.7.1). Multiple policies prohibit the development or expansion of new “special needs” facilities (e.g., nursing homes) without special approval. Furthermore, the retrofitting and/or relocation of public uses in vulnerable areas is promoted.

Water-dependent and water-related uses, particularly light and heavy industrial uses, are encouraged along the waterfront (CM Policies 1.6.1, 1.6.2, 1.6.3, 1.6.5, 1.6.6). Non-industrial uses that are water-related (e.g., Waterfront Hotel Resorts) are allowed subject to the following:

- The proposed use shall not significantly degrade the natural and/or man-made environment;
- The proposed use shall not contribute to the use of land or water resources in an inappropriate manner;
- The proposed use will not result significantly in the reduction of economic or recreational vitality of the surrounding area;
- The proposed use will not adversely affect the roadway network within the Coastal Planning Area, inhibiting the expeditious and safe evacuation of the Coastal Planning Area; and
- The proposed use will not significantly disrupt the long-term desired land use patterns.

The city should consider amending this section to allow recreational and commercial working waterfronts to the definition of water dependent uses. Such uses in Section 342.07 Florida Statutes include "water-dependent facilities that are open to the public and offer public access by vessels to the waters of the state or that are support facilities for recreational, commercial, research, or governmental vessels. These facilities include public lodging establishments, docks, wharfs, lifts, wet and dry marinas, boat ramps, boat hauling and repair facilities, commercial fishing facilities, boat construction facilities, and other support structures over the water."

Limit Infrastructure Investments in the CHHA

Policies for this approach relate to building code requirements, procedures for redevelopment, limiting public infrastructure in the CHHA/CPA, and strengthening land development regulations. Requirements for new development include meeting land development regulations, Florida Building Codes, and FEMA guidelines; requiring underground utilities; and generally encouraging best practices that would enable development to better withstand natural disasters (CM Policies 1.3.1, 1.3.5, 1.3.6, 1.3.8, 1.3.14, 1.3.18, 1.5.3). Existing development which is substantially damaged (>50%), is subject to rebuilding to all land development regulations, building codes, and FEMA regulations (CM Policies 1.3.4, 1.3.14, 1.5.3). In the event of a natural disaster, the City will suspend development review/permitting fees and implement abbreviated development review procedures to expedite rebuilding in accordance with state law and building code (CM Policy 1.5.2).

The Plan also requires (CM Policy 1.4.1) that public expenditure on infrastructure in the CHHA will be limited to projects that can demonstrate:

- The expenditure is for restoration or enhancement of natural resources or public access; or
- The expenditure is for storm water management facilities; or
- The expenditure is for flood-proofing potable water and sanitary sewerage facilities; or
- The expenditure is for the development or improvement of public roads and bridges which are in the City of Tampa or Hillsborough County MPO Long Range Plan or the facility will serve a crucial need by ameliorating the evacuation time of residents of the City of Tampa; or
- The expenditure is for a public facility of overriding public concern as determined by the City Council (e.g. the expansion of the treatment plant); or
- The expenditure is for reconstruction of seawalls that are essential to the protection of existing public facilities or infrastructure; or

- The expenditure is for land application of treated effluent (irrigation) of public and private open spaces; or
- The expenditure is for infrastructure to serve existing port-related uses, new port-related development or port-related development consistent with the Tampa Port Authority Master Plan.

This sentiment is reiterated in the Capital Improvements Element of the Plan, which states that public expenditures in the CHHA should be consistent with policies in all elements of the Plan (CAP Objective 1.7). However, the city may want to add additional provisions, given its significant investment in infrastructure in the Channel District, Water Street, downtown, the Selman Greenway, the Riverwalk, and other redeveloping areas of the city.

2 LOCAL GOVERNMENT COMPREHENSIVE PLAN REVIEW

A review of Comprehensive Plans of coastal cities and counties was conducted to identify instances where policies regulate areas in addition to the Coastal High Hazard Area. Benesch specifically looked for goals, objectives, and policies that included Evacuation Zone B/Category 2 hurricane zones due to the terms of the city's grant funding for this project and the contract scope, but we also looked for policies that regulated any area referred to as a "coastal storm area," "coastal planning area," "hurricane vulnerability zone," evacuation zones, or any other term that is related to regulating growth in an area vulnerable to coastal storms or coastal flooding. As noted earlier, the terms "coastal planning area" and "coastal storm area" do not exist in Florida Statute and the Coastal High Hazard Area is regulated in Chapter 163, Part II, Florida Statutes. We found that some coastal cities and counties retained language that dates back to the now repealed Rule 9J-5, Florida Administrative Code, like the Tampa Comprehensive Plan.

The review primarily focused on the Future Land Use, Coastal Management, and Conservation elements, as well as any special elements related to hurricane or disaster planning. General findings from the review include the following:

- Policies include general evacuation-related direction, such as maintaining standards for evacuation times, shelters, and infrastructure needed to achieve evacuation times. Some included other regulatory direction for all evacuation areas. These instances are not noted below unless they explicitly mention the thresholds determined by an evacuation zone subset, excluding policies describing where zones are located within a city or county.
- Many policies reference the Coastal High Hazard Area (CHHA) defined in Florida Statutes, FEMA flood zones, and coastal protection regulations in Florida Statutes and Florida Administrative Code (F.A.C.) such as those related to the Coastal Construction Control Line (CCCL). Some plans reference Adaptation Action Areas, provided as an optional designation as outlined in Sections 163.3164 and 163.3177, Florida Statutes. An Adaptation Action Area is defined as "a designation in the coastal management element of a local government's comprehensive plan which identifies one or more areas that experience coastal flooding due to extreme high tides and storm surge, and that are vulnerable to the related impacts of rising sea levels for the purpose of prioritizing funding for infrastructure needs and adaptation planning." The statute further states that "at the option of the local government, develop an adaptation action area designation for those low-lying coastal zones that are experiencing coastal flooding due to extreme high tides and storm surge and are vulnerable to the impacts of rising sea level. Local governments that adopt an adaptation action area may consider policies within the coastal management element to improve resilience to coastal flooding resulting from high-tide events, storm

surge, flash floods, stormwater runoff, and related impacts of sea-level rise. Criteria for the adaptation action area may include, but need not be limited to, areas for which the land elevations are below, at, or near mean higher high water, which have a hydrologic connection to coastal waters, or which are designated as evacuation zones for storm surge.” Adaptation Action Areas are an evolving concept around the state. The Florida Department of Environmental Protection, in conjunction with the Department of Economic Opportunity and NOAA, provides policy guidance in the [Adaptation Action Area Guidebook for Local Governments](#).

- Note that policy language featured in this memorandum may stem from language formerly in the Florida Administrative Code that has been repealed, including language related to:
 - The “Hurricane Vulnerability Zone,” previously defined in 9J-2.0256, then 73C-40.0256, F.A.C. The latter section was repealed in 2018.
 - The “Coastal Planning Area,” previously defined in 9J-5.003, F.A.C; this and related 9J-5 sections that were repealed in 2011.

The complete list of city and county plans reviewed is in Appendix A.

2.1 Category 2 Storm/Evacuation Zone B Thresholds

Few coastal county and city policies reviewed were found to explicitly address areas subject to category 2 storm vulnerability/evacuation standards or evacuation zone B standards. The following summarizes policy strategies for these areas (see specific policy language for more details and applicable conditions):

- Evaluate zoning changes and how they affect evacuation
- Discourage siting of hospitals, care facilities, public buildings and infrastructure, other facilities that must function during an emergency, and hotels/motels
- Prioritize acquisition of properties damaged or destroyed by a hurricane
- Address shelter deficiencies
- Require mitigation of impacts on evacuation clearance times and shelter space for future land use amendments (mitigation plans are developed at the time of a plan amendment)
- Restrict public expenditures (with application inclusive of CHHA).
- Prohibit approval of density bonuses

The excerpts of policies summarized here and supporting policies can be found in Appendix B.

2.2 Policies Regarding Category 3 Storm Vulnerability or Evacuation Zone C Areas and Above

Summarized below are policies explicitly addressing areas subject to category 3 storm vulnerability/evacuation standards or above. More policies were found under this wider umbrella due to prior regulatory language such as the Coastal Planning Area and Hurricane Vulnerability Zones that often referred to evacuation zones 1- 3, as directed by the now repealed sections of the Florida Administrative Code. The following summarizes policy strategies for these areas (see specific policy language in Appendix C for more details and applicable conditions):

- Locate and upgrade capacity for hurricane shelters outside the category 3 storm surge zone
- Require that public investments be designed to withstand expected storm intensities
- Provide adequate evacuation shelter space for populations in these areas

- Require that development in these areas mitigate for shelter and evacuation impacts; in one instance there is language specific to permanent or temporary places of residence
- Prioritize these areas for capital improvements for evacuation routes
- Require development in these areas to retain and increase native habitat
- Require development review for these areas to include review of impact on adjacent natural marine resource areas
- Require restoration or avoidance of disturbed/degraded natural coastal resources
- Expand integrated pest management and pollution prevention in public buildings, golf course, and common area vegetation to reduce pesticide and fertilizer use in these areas
- Restrict dredge and fill activity
- Prioritize water-dependent and water-related uses
- Minimize public expenditures that encourage growth
- Prohibit mobile homes
- Evaluate limitations on capacity of hospitals, nursing homes and assisted living facilities.
- Provide financial and technical assistance for resilient housing.
- Require hurricane evacuation planning.
- Identify funding for land acquisition for public access, conservation, open space.
- Focus on this area for local mitigation strategy planning.
- Apply hazard mitigation and post-disaster measures.

The excerpts of policies summarized here and supporting policies for context can be found in Appendix C.

2.3 Land Use Densification/Intensification

Policies across the state also addressed limiting land use densification/intensification, directing populations away from the coastal high hazard area or coastal planning areas. There were two instances of explicitly limiting land use to a specific density: Pinellas County's limitation of no more than five units per dwelling acre in the "coastal storm area" ("The CHHA, including all properties connected to the mainland by bridges and/or low-lying properties that have restricted evacuation and emergency access") (CM Policy 1.3.5 and definitions). Wakulla County prohibits Future Land Use amendments that increase density in Category 1 and 2 "vulnerability" zones (not defined) unless it reflects an existing condition or contributions that increase evacuation capacity are made. More often, policies stated that rezoning and/or future land use densification/intensification requests in the coastal area would be "evaluated" (City of St. Petersburg CM Policy 13.2) with consideration to how evacuation routes and clearance times are affected (Sarasota County CM Policy 1.2.2 and FLU Policy 2.9.1), while some allow for approval via mitigation efforts (e.g., shelter space and evacuation capacity improvements) (Lee County FLU Policy 1.4.7 and CM Policy 24.7.5). It should be noted that, like Tampa's comprehensive plan, many local government policies require "evaluation" of a plan amendment or rezoning but do not state whether an application would be approved or denied based on that evaluation. Additionally, Sarasota County included in their Future Land Use Element that intensification of land uses within Evacuation Zones A and B would be "discouraged" (but not prohibited) and affordable housing density bonuses were not permitted in these zones (FLU Policy 1.2.6 and 1.2.16). Manatee County limits density to 3 units per acre in the "Coastal Evacuation Area" (FEMA velocity zones) (CM Policy 4.3.1.2 and Objective 4.3.1). The City of Bradenton's plan states the city will deny future land use amendments that increase density in the CHHA (CM policy 5.3.1).

3 INITIAL RECOMMENDATIONS

Comprehensive Plan Policy

- Remove language referring to “Coastal Planning Area” and “Hurricane Vulnerability” zones. This language is no longer referenced in Chapter 163, Part II, Florida Statutes, and Rule 9J-5 Florida Administrative Code was repealed in 2011. This nomenclature has since been replaced by the “Coastal High Hazard Area.”
- Amend ambiguous Coastal High Hazard Area language and correct the internal inconsistencies among policies. Terms like “desired areas of development,” “minimal” density increases, and “little” increases in evacuation times are subjective and are not “meaningful and predictable,” as required by 163.3177(1) Florida Statutes. Consider strengthening the language to read, “the city shall deny future land use map amendments that increase density in the Coastal High Hazard Area. The city may consider an application for a Future Land Use Map amendment in the CHHA with a concurrent Future Land Use Map change that decreases density in the CHHA that results in no net increase in residential units.”
- Alternatively, if the city wants more flexibility in the CHHA, consider adopting the language in Florida Statutes that allows for increases in density if the applicant mitigates for the increase via a concurrent development agreement, pursuant to Section 163.3178 (8)(a) Florida Statutes. Lee County’s comprehensive plan, for example, requires a development agreement with a mitigation plan to be in place prior to the adoption of the future land use amendment that increases density in the CHHA.
- Establish an estimate of the number of evacuees for both out-of-county evacuation and in-county shelter demand per development.
- It is unclear whether or not the city allows density and intensity bonuses in the CHHA. The plan does state that there shall be not net increase in density, but it is unclear if this has been implemented in regard to density bonuses. The city should prohibit density bonuses in the CHHA.
- Section 163.3178 (6)(h) Florida Statutes specifically defines the area of the CHHA. The city’s Coastal Management Element Policy 1.1.1 reflects this definition as well, but policies 1.1.3 and 1.1.4 conflict with these definitions by expanding the CHHA. This is not authorized by Florida Statute. Policies 1.1.3 and 1.1.4 should be deleted in their entirety. Alternatively, the city can amend the policies referring to the Coastal Planning Area to include the CHHA and these low lying areas, as Pinellas County has done, instead of amending the definition of CHHA.
- Adopt the 2021 Coastal High Hazard Area map as part of the future land use map series as required by Florida Statute Section 163.3177(6)(a)10.a. NOAA [provides the data from the SLOSH model](#) that is used for CHHA mapping. (Note – the city’s current plan contains the future land use map from 2015 and then directs the reader to the Planning Commission website for an updated map. The map is required to be included in the comprehensive plan by the same statute section noted above and should be included in the plan each time it is amended. The CHHA map is not included in the future land use map series and should be added.)
- Consider adopting an adaptation action area(s) in the comprehensive plan pursuant to 163.3177 Florida Statutes. The adaptation area can replace the city’s Coastal Planning Area policies and allow the city to regulate and prioritize infrastructure improvements in a defined area or areas that is/are prone to flooding and projected to be affected by sea level rise. Adaptation Action Areas are defined by Florida Statute Section 163.3164(1) as: “a designation in the coastal management element of a local

government's comprehensive plan which identifies one or more areas that experience coastal flooding due to extreme high tides and storm surge, and that are vulnerable to the related impacts of rising sea levels for the purpose of prioritizing funding for infrastructure needs and adaptation planning." The [Florida Department of Economic Opportunity](#) and the [Department of Environmental Protection provide more information about adaptation action areas.](#)

- Consider adopting a policy that increases freeboard to a minimum of three feet (up to 6 feet, as some local governments have done) in areas that are predicted to be impacted by sea level rise and/or areas of special flood hazard (refer to updated SLR and FIRM maps). This is consistent with and furthers the required Peril of Flood Act comprehensive plan amendments. Once adopted, amend the floodplain management regulations in the code of ordinances and adopt a local technical amendment to the building code also requiring three feet of freeboard. These three amendments will ensure additional points to be added to the city's Community Rating System score. (See City of Bradenton Coastal Management policies 5.1.2 and 5.1.3 that add one foot of freeboard and require the city to consider adding 2 feet of freeboard.)
- Prioritize the acquisition of repetitive loss properties in order to reduce life and property vulnerability, increase stormwater attenuation, reduce neighborhood flooding, and provide open/green space. (See [FEMA's definitions and guidance](#) on repetitive loss properties.)
- Consider limiting Planned Development zoning in the Coastal High Hazard Area and instead adopt performance zoning that ensures mitigation of or adaptation to flooding and sea level rise. Performance zoning can include form-based standards or supplemental regulations for various uses that ensure resilient design.
- Consider amending Coastal Management Policy 1.4.1 to add instances or circumstances where the city may pay for infrastructure in the CHHA, including improving any public road (not just those in the Long Range Transportation Plan as the policy currently reads), particularly for connectivity, bike/ped facilities, and flood mitigation.

As stated at the beginning of this memorandum, these observations and recommendations are preliminary, and the project team will revisit these policy recommendations once the public outreach and additional analysis is provided pursuant to the scope of work.

4 APPENDICES

Appendix A – Municipalities and Counties Reviewed

TABLE 1: MUNICIPALITIES AND COUNTIES REVIEWED

Municipalities	Counties
City of Atlantic Beach	Bay County
City of Bradenton	Brevard County
City of Clearwater	Broward County
City of Delray Beach	Charlotte County
City of Fort Myers	Citrus County
City of Hollywood	Collier County
City of Jacksonville	Dixie County
City of Miami	Duval County
City of Naples	Escambia County
City of New Smyrna Beach	Flagler County
City of Panama City	Franklin County
City of Pensacola	Gulf County
City of Sanibel	Hernando County
City of Sarasota	Hillsborough County
City of St. Petersburg	Indian River County
City West Palm Beach	Jefferson County
Town of Fort Myers Beach	Lee County
	Levy County
	Manatee County
	Martin County
	Miami-Dade County
	Monroe County
	Nassau County
	Okaloosa County
	Palm Beach County
	Pasco County
	Pinellas County
	Santa Rosa County
	Sarasota County
	St. Johns County
	St. Lucie County
	Taylor County
	Volusia County
	Wakulla County
	Walton County

Appendix B: Specific Relevant Objectives and Policies Reviewed - Municipalities

4.1.1 City of Fort Myers

- Future Land Use Element:
 - Standard 3.4.5.1: “The City shall work with Lee County Emergency Management for the donation of land for public facilities or donation of the use of private structures to be used as primary public hurricane shelters that are located outside the Category 3 hurricane storm surge zone.”
 - Standard 3.4.5.2: “The City shall work with Lee County Emergency Management to identify upgrading of existing primary and secondary hurricane shelters located outside the Category 3 storm surge zones to increase the County’s primary public hurricane shelter space availability.”
- Conservation and Coastal Management Element:
 - Policy 10.1: “The City has designated a hurricane vulnerability zone, which includes all parcels within the evacuation zone for a tropical storm and Category 1, 2, and 3 hurricanes as established in the Florida Statewide Regional Evacuation Study Program, Southwest Florida, Storm Tide Atlas for Lee County 2010 as demonstrated on Map L-3. The City of Fort Myers’ designated Coastal High Hazard Area (CHHA) is the most vulnerable portion of the City’s designated hurricane vulnerability zone.”
 - Action 10.1.2: “Public investments within the hurricane vulnerability zone shall be designed to withstand expected storm intensities as required by the Land Development Regulations (Standard Building Code reference).”
 - Standard 10.1.2.1: “Engineering designs for facilities within the hurricane vulnerability zone shall certify that facility designs shall withstand Category 3 storm event.”

4.1.2 City of Jacksonville

Conservation/Coastal Management Element, Objective 7.2: “Adequate shelter space shall continue to be available for the population in the Hurricane Evacuation Zones at risk under a Category 3 storm event. The City, acting as Duval County, shall have a mechanism in place to assist in providing shelter and transportation for people with special needs during an emergency.”

4.1.3 City of St. Petersburg

- Definitions: “Hurricane Vulnerability Area - Area delineated by the Pinellas County Hurricane Evacuation Plan Implementation Guide produced by the Tampa Bay Regional Planning Council which will require evacuation in the event of a category 3 storm event.”
- Coastal Management Element:
 - Objective CM13: “The City shall cooperate with state, regional and county agencies to maintain or reduce hurricane evacuation times, and actively work with the Red Cross in the identification of emergency shelters to provide space for the population in Evacuation Zone A, B and C.”
 - Portion of Policy CM13.2: “Evaluate any zoning changes in evacuation levels A, B, or C that would increase the residential densities in those areas for their impact upon evacuation shelter availability”

4.2 Appendix C: Specific Relevant Objectives and Policies Reviewed - Counties

4.2.1 Charlotte County

Coastal Planning Element:

- CST Policy 4.1.3: “The County shall improve evacuation routes based on the following criteria:
 1. Critical roadway links causing congestion on evacuation routes for Category 1 through 3 hurricanes shall receive high priority for capital improvement expenditures. The County's hurricane evacuation system shall be improved to ensure that evacuation times will be maintained, at a minimum, and reduced if possible.
 2. Improvements to the County's primary hurricane evacuation routes shall be consistent with this function, and shall be maintained at elevations above the Category 3 or Category 4 Storm Surge, as feasible and applicable.
 3. Hurricane evacuation corridor improvements shall be based on the following criteria:
 - a. The roadway heads inland and away from the coast
 - b. The roadway rises out of areas affected by storm surge.
 - c. Water crossings are minimized.
 - d. The roadway provides a direct route to high ground and shelter.
 - e. The roadway is not subject to roadway flooding.
 4. Through its Emergency Management Office, Metropolitan Planning Organization, Growth Management Department, and Public Works Department, the County shall continue to work with Sarasota County to establish effective evacuation routes out of the Cape Haze Peninsula.”
- CST Objective 4.3: “To develop an adequate shelter space plan for population at risk under a Category 3 hurricane.”
- CST Policy 4.3.1: “The County shall develop a program designed to meet public shelter needs under a Category 3 hurricane. Components of this program may include:
 1. Funding of the All-Hazards MSTU;
 2. An impact fee or fee-in-lieu for new residential developments, with appropriate credits for the construction of on-site shelters outside of a Category 1 hurricane storm surge;
 3. Mandatory on-site shelters for new residential developments (including mobile home and recreational vehicle parks) over a specified size threshold and outside the CHHA; and
 4. Any available State funds.”

4.2.2 Flagler County

Coastal Management Element, Policy E.2.4.6: “Flagler County will evaluate Development Orders for their impacts on traffic circulation, evacuation routes, on-site hurricane shelter provisions, and proximity to off-site shelter facilities within the Storm Category Zones 1, 2, and 3.”

4.2.3 Franklin County

Coastal/Conservation Element, Policy 14.7: “The County shall evaluate any proposed zoning changes in the areas vulnerable to Category 1 and 2 storms on how the change would affect the evacuation capabilities of the zone.”

4.2.4 Hillsborough County

Coastal Management Element, Policy 3.1.11: “New hospitals, nursing homes and assisted living facilities in the Coastal High Hazard Area are prohibited. Siting or expansion of hospitals or care facilities in Evacuation Level B zones is discouraged.”

4.2.5 Lee County

Glossary: "HURRICANE VULNERABILITY ZONE – The areas delineated by the area below the elevation of the category 3 storm surge line as established by a Sea, Lake, and Overland Surges from Hurricanes (SLOSH) computerized storm surge model. (Ord. No. 99-15, 16-07)"

Future Land Use Element:

- Policy 1.4.7: "The Coastal Rural future land use category is established for the Greater Pine Island Planning District to address the area's predominantly rural character, coastal environment, existing agricultural uses, limited public infrastructure, and its location within and proximity to the Coastal High Hazard Area and Hurricane Vulnerability Zone.
The standard maximum density is one dwelling unit per 2.7 acres (1 du/2.7 acres). Maximum densities will be increased to an "Adjusted Maximum Density" of one dwelling unit per acre (1 du/acre) where 70% of the overall development parcel(s) is: maintained as native habitat; or restored as native habitat; or maintained in agricultural use on those parcels identified as existing farmland on Lee Plan Map 2-C. Residential developments containing ten or more dwelling units must be approved through the planned development rezoning process and, as part of the planned development process, must: a) demonstrate the implementation of adopted design standards and development approaches that support and maintain the rural character; b) provide notification to property owners of permitted adjacent agricultural uses and their right to continue operations; and c) provide mitigation for impacts to hurricane evacuation clearance times and shelter needs.
Permitted land uses include agriculture, fill-dirt extraction, conservation uses, minimal nonresidential land uses, limited to marinas, fish houses, and minor commercial uses, that serve the island residents and visitors as set forth in Policy 24.4.4, and low density residential uses. Bonus densities are not allowed in this land use category."
- Policy 24.7.5: "New residential development and redevelopment within, or partially within, the Hurricane Vulnerability Zone must mitigate hurricane sheltering and evacuation impacts in accordance with the LDC, Chapter 2, Article XI. (Ord. No. 16-07, 18-18)"
- POLICY 5.2.6: For sites located within the Coastal High Hazard Area, proposed redevelopment must: 1. Have sufficient elevation to address a storm surge from a land falling category 5 hurricane; 2. Be constructed to withstand winds of 200 mph in accordance with the Florida Building Code; 3. Utilize impact protection for all exterior openings in accordance with the Florida Building Code; 4. Be equipped with emergency power and potable water supplies to last up to five days; 5. Be protected with adequate ventilation, sanitary facilities, and first aid medical equipment; and, 6. Be designed to minimize light pollution, sky glow and light trespass beyond the property lines by using appropriate light fixtures and other light management techniques to reduce the impact on wildlife such as sea turtles and migrating birds. Techniques may include: utilizing fully shielded, full cut off luminaries; down style canisters with interior baffles on the balconies; pole lights less than 15 feet in height; bollard type fixtures with louvers; and other techniques acceptable to the Department of Community Development. 7. Up-lighting is prohibited. Mercury vapor and metal halide lamps are also prohibited. 8. Glass windows and doors must be treated to achieve an industry-approved, inside-to-outside light transmittance value of 45% or less.

Community Facilities and Services Element, Policy 72.2.2: "Assess the impact of all new residential development upon the projected hurricane evacuation network and upon projected hurricane evacuation times, and require

mitigation either through structural (on-site or off-site shelter) provisions or through nonstructural methods or techniques. Pursuant to Policy 24.7.5, all new residential development and redevelopment within the Hurricane Vulnerability Zone in Greater Pine Island must mitigate hurricane sheltering and evacuation impacts in accordance with the LDC, Chapter 2, Article XI. (Ord. No. 00-22, 16-07, 18-28)”

Capital Improvements Element, Policy 95.1.3: “Evacuation and Shelter LOS: (a) Category 5 storm event out of County hurricane evacuation in 18 hours countywide. (b) In-County and on-site shelter for 10% of the population at risk in the Hurricane Vulnerability Zone under a Category 5 storm hazard scenario.”

Conservation and Coastal Management Element, Policy 101.3.5: “An applicant of a development order for any permanent or temporary places of residence including, but not limited to, caretakers residence, dormitories, hotels or motels, and dwelling units within the Hurricane Vulnerability Zone or on islands, must provide appropriate mitigation as determined by Lee County Department of Public Safety, which may include, but is not limited to, the payment of a fee, or construction of hurricane shelters and transportation facilities. (Ord. No. 05-19, 18-28)”

4.2.6 Manatee County

Definitions: “Coastal Planning Area (CPA): Those portions of Manatee County which lie within the Hurricane Vulnerability Area (evacuation levels A, B, and C) as updated on a periodic basis. This area shall also include water and submerged lands of oceanic water bodies or estuarine water bodies; shorelines adjacent to such water bodies; coastal barriers; living marine resources, marine wetlands; water-dependent or water-related facilities on oceanic or estuarine waters; public access facilities to oceanic beaches or estuarine shorelines; and all lands adjacent to such occurrences where development activities would impact the integrity of the above mentioned land or water body.”

Coastal Management Element:

- Goal 4.1: “Protection, Preservation, and Enhancement of the Natural Resources of the Coastal Planning Area to Provide the Highest Environmental Quality Possible.”
- Objective 4.1.2: “Maintain or increase the amount of native habitat in the Coastal Planning Area to:
 - Retain habitat for native species;
 - Provide natural areas for passive enjoyment by local residents and visitors;
 - Provide filtration of pollutants for runoff to coastal waters;
 - Preserve habitat for juvenile fish;
 - Preserve the unique natural character of the County's coastlines; and
 - Prevent the intrusion of invasive species which provide inferior habitat.”
- Policy 4.1.2.1: “Require developments within the Coastal Planning Area to preserve representative tracts of native upland communities. [See policies under Objective [3.3.2](#)]

Implementation Mechanism(s):

1. Maintain land development regulations to require projects encompassing native upland vegetative communities to specify the complete or partial preservation of such communities.
2. Encourage preservation of native upland vegetative communities as part of any mitigation activities as required in Policies 3.3.1.3 and 3.3.1.4.”

- Policy 4.1.2.4: “Review all proposed land developments for compatibility with, and determination of cumulative impacts on, adjacent natural marine resource areas.

Implementation Mechanism:

- a) Review all land development applications for cumulative effects on adjacent natural marine resource areas in the Coastal Planning Area.”
- Policy 4.1.2.7: “Encourage the restoration and enhancement of disturbed or degraded natural coastal resources.
 - Implementation Mechanism:
 - a) Review of all proposed development in the Coastal Planning Area. (See policies under Objectives 3.3.1 and 3.3.2)...”
- Policy 4.1.3.1: “Require all land development activities within the Coastal Planning Area which discharge into receiving coastal waters demonstrate non-degradation of water quality for all applicable parameters.”
- Policy 4.1.4.2: “Consider the restoration and maintenance of water quality, indigenous populations of shellfish, fish, and wildlife, and recreational activities in Sarasota and Tampa Bays, as an important County priority and implement all effective, equitable and affordable bay management strategies to implement this policy.
 - Implementation Mechanism(s):
 - a) Continued development and implementation of appropriate bay management strategies consistent with the national estuary program's management plan(s).
 - b) Expansion of integrated pest management and pollution prevention for public buildings and review of management plans for golf courses and vegetation in common areas to reduce the use of pesticides and fertilizers in the Coastal Planning Area...”
- Policy 4.1.5.2: “Restrict dredge and fill operations in the Coastal Planning Area to operations which facilitate the continued use of existing channels, operations associated with appropriate water-dependent uses, or operations which correct environmental problems caused by limited tidal circulation or other deficiencies of the environmental system.”
- Goal 4.2: “Compatibility of Land Development in The *Coastal Planning Area* With Natural Resource Protection.”
- Objective 4.2.1: “Give priority to the siting and development of water-dependent uses within the Coastal Planning Area, as compared with other shoreline uses and provide for compatibility of water-dependent and other uses in the Coastal Planning Area to protect natural shorelines, habitat and water quality.”
- Policy 4.2.1.1: “Shoreline uses shall be prioritized according to the following list. Uses are prioritized in descending order with most preferable uses listed first and least preferable uses listed last.
 1. Water dependent conservation uses such as fish, shellfish, and marine resource production, natural coastal habitat protection, shoreline stabilization, compatible passive recreational facilities and projects that enhance public safety and water dependent industrial uses associated with port facilities;
 2. Water-related uses such as certain utilities, commercial, and industrial uses;
 3. Water-enhanced uses such as certain recreation and commercial uses;
 4. Non-water dependent and non-water enhanced uses which result in an irretrievable commitment of coastal resources.
 - Implementation Mechanism:
 - a) Determination of priority ranking for developments proposing to locate within the Coastal Planning Area.”

- Policy 4.2.1.3: “Prohibit the siting of new wastewater treatment plants within the Coastal Planning Area and ensure that expansion of existing facilities will not degrade water quality in coastal receiving waters.”
- Goal 4.3: “Protection of the Residents and Property Within the Coastal Planning Area from the Physical and Economic Effects of Natural Disasters.”
- Objective 4.3.1: “Limit development type, density and intensity within the Coastal Planning Area and direct population and development to areas outside of the Coastal High Hazard Area to mitigate the potential negative impacts of natural hazards in this area.”
- Policy 4.3.1.6: “Prohibit the development of new mobile home projects within the Coastal Planning Area.”
- Objective 4.3.2: “Minimize public expenditures on infrastructure for new development within the Coastal Planning Area to limit replacement costs in case of damage from natural hazards.”
- Policy 4.3.2.1: “Limit the placement of County-funded infrastructure within the Coastal Planning Area which exceeds the demands generated by approved development except to provide for hurricane evacuation needs and as allowed in Policy 4.3.2.2.”
- Policy 4.3.2.6: “Continue to provide assistance to identified neighborhoods in the Coastal Planning Area which require more resilient housing through financial or technical assistance to improve sub-standard housing. (See also Objective 6.1.4)”
- Policy 4.4.2.2: “Require new development in the Coastal Planning Area to provide hurricane evacuation plans for the project prepared in coordination with County staff, and require the implementation of such plans with funding for such planning and implementation provided by the developers of the project or their successors.”

Capital Improvements Element:

- Policy 10.1.2.3: “Encourage efficient provision of capital improvements by minimizing public expenditures that subsidize development in Coastal Planning Area (see Objective 4.3.2).”

4.2.7 Martin County

Coastal Management Element:

- Policy 8.2B.3: “Martin County shall identify funding sources for buying land in the Category 1, 2 and 3 hurricane surge areas (as established by the most recent application of the SLOSH model) for public access, conservation or open space.”
- Policy 8.2D.10: “The County should coordinate with the Treasure Coast Regional Planning Council in updating the hurricane technical report to ensure a unified local mitigation strategy for the Category 1, 2 and 3 hurricane surge area as established by the most recent application of the SLOSH model. The strategy should involve:
 - Identifying structures within the Category 1, 2 and 3 hurricane surge areas;
 - Inventorying assessed value of these structures;
 - Judging the utility of the land for public access; and
 - Making recommendations for acquisition when post-disaster opportunities arise.”

4.2.8 Miami-Dade County

- Coastal Element:

- Policy CM-9A: “Development and redevelopment activities in the Coastal High Hazard Area (CHHA), and the Hurricane Vulnerability Zone shall be limited to those land uses that have acceptable risks to life and property. The basis for determining permitted activities shall include federal, State, and local laws, the pre-disaster study and analysis of the acceptability of various land uses reported in the County's Comprehensive Emergency Management Plan required by Policy CM-10A, when approved...” and a list of additional guidelines that primarily involve
 - i. Discourage development on the CHHA, including the barrier islands and shoreline areas susceptible to destructive storm surge;
 - ii. Direct new development and redevelopment to high ground along the Atlantic Coastal Ridge and inland environmentally suitable lands;
 - iii. Maintain, or reduce where possible, densities and intensities of new urban development and redevelopment within the Coastal High Hazard Area; to that of existing development and zoning;
 - iv. Prohibit construction of new mobile home parks and critical facilities in the Coastal High Hazard Area;
 - v. Prohibit Land Use Plan map amendments or rezoning actions that would increase allowable residential density in the FEMA "V" Zone, the CHHA or on land seaward of the Coastal Construction Control Line (CCCL) established pursuant to Chapter 161, F.S. unless it can be demonstrated that measures will be undertaken to maintain the existing evacuation period in accordance with Policy CM-8F; and,
 - vi. Continue to closely monitor new development and redevelopment in areas subject to coastal flooding to implement requirements of the federal flood insurance program.
- A footnote for Hurricane Vulnerability Zone in Policy CM-9A defines the zone: “According to 92.0256, F.A.C., Hurricane Vulnerability Zones are defined as areas delineated in the regional or local evacuation plan as requiring evacuation in the event of a 100-year or category three hurricane event. In Miami-Dade County, the Hurricane Vulnerability Zones are considered Hurricane Evacuation Zones A and B.” (It should be noted that this provision of the FAC has been repealed.)
- CM-9B. Land use amendments to the Comprehensive Development Master Plan shall not be approved in Coastal High Hazard Areas if they would decrease Levels of Service on roadways below the LOS standards established in the Transportation Element.
- Policy CM-9D: “New facilities which must function during a hurricane, such as hospitals, nursing homes, blood banks, police and fire stations, electrical power generating plants, communication facilities and emergency command centers shall not be permitted in the Coastal High Hazard Area and when practical, shall not be located in the Hurricane Vulnerability Zone.”
- Policy CM-10E: “During pre-disaster planning, Miami-Dade County shall determine the feasibility of relocating public buildings and infrastructure away from the Coastal High Hazard Area and Hurricane Vulnerability Zone, particularly the FEMA "V" Zone, except as provided in Policy CM-9F. The County shall develop a formal process and guidelines for evaluating alternatives to the replacement or repair of public facilities damaged by hurricanes such as abandonment, relocation, or repair and reconstruction with structural modifications. The costs; environmental impacts; mitigative effects; community impacts; economic development issues; employment effects; legal issues; consistency with state, regional and local plans; time period for implementation; and availability of funds should be evaluated for each alternative.”

- Policy CM-10F: “The Coastal High Hazard Area (CHHA) and Hurricane Vulnerability Zone (HVZ) boundaries shall be delineated on maps for the unincorporated areas as public information maintained by Miami-Dade County. The CHHA shall be identified using the Sea, Lake, Overland Surges from Hurricanes (SLOSH) model and shall be depicted as one of the maps in the Future Land Use Map series. Geographic Information Systems (GIS) and other forms of mapping will be used for the purpose of public information and government planning, administration, emergency management, zoning, and location of public facilities and services in the unincorporated areas of Miami-Dade County. This mapping shall be maintained by the Department of Regulatory and Economic Resources, the Office of Emergency Management, and other appropriate departments and updated as needed. The VII-16 SLOSH model shall be used to identify the Coastal High Hazard Areas. The Office of Emergency Management shall manage and update the SLOSH model and hurricane evacuation studies for Miami-Dade County and shall work with the South Florida Regional Planning Council to ensure that such maps and studies are done in a consistent manner, and that the methodology used for modeling storm surge is that used by the National Hurricane Center.”
- Policy CM-11D: “Miami-Dade County shall give priority to the public acquisition of properties in the HVZ and, in particular, in the CHHA that have been destroyed as a result of a hurricane. Miami-Dade County shall identify and encourage potential federal and state acquisition programs to assist with the purchase of these properties and for possible relocation of facilities on these properties to outside of the CHHA.”

4.2.9 Monroe County

Conservation and Coastal Management Element, Objective 215.2: “Monroe County shall continue to address existing and projected shelter deficiencies for Category 1 and 2 storms. [F.S. § 163.3178(2)(d)]”

4.2.10 Pasco County

Coastal Management Element:

- Policy COA 3.1.4: “Pasco County shall continue to develop and maintain adequate shelter capacity for the population at risk within the Hurricane Vulnerability Zone under a Category 3 hurricane.” Note that the policy below indicates the Hurricane Vulnerability Zones includes evacuation areas up to level C (see policies in following section).
- Policy COA 3.1.7: “Pasco County shall continue to address the impacts created by new development on hurricane shelter availability and evacuation capability in Pasco County through the implementation of the 2005 Hurricane Shelter Mitigation Ordinance, which implements hurricane preparedness mitigation techniques and fees for all new developments planned in the Hurricane Vulnerability Zones (Evacuation Levels A-C).”
- Objective COA 3.2: “Reduce the risks to human life and public and private property from natural disasters through implementation of hazard mitigation measures and post disaster redevelopment planning within the Hurricane Vulnerability Zone as described in the Pasco County Comprehensive Emergency Management Plan.” Note that areas explicitly mentioned in policies related to this objective are “hazard-prone areas,” areas “landward” of the shoreline, and the CHHA.

4.2.11 Pinellas County

Coastal Management Element:

Coastal Management Element, Policy 1.3.9: “In association with the Evaluation and Appraisal of the Comprehensive Plan, Pinellas County shall evaluate the feasibility of limiting the capacity of hospitals, nursing homes, and assisted living facilities proposed to be located within area inundated by a category 3 hurricane as depicted by the SLOSH model, as reflected within the most recent Regional Evacuation Study, Storm Tide Atlas.”

CM POLICY 2.1.2: Establish the “Coastal Storm Area” (CSA) to include the Coastal High Hazard Area (CHHA) defined as areas projected to be inundated from category one hurricane storm surge in the most recent “Sea, Lake and Overland Surges from Hurricanes (SLOSH)” model or most recent storm surge model compliant with applicable state statutes.

- All land connected to the mainland of Pinellas County by bridges or causeways;
 - Isolated areas projected to be inundated by storm surge from a category two hurricane or above by the slosh SLOSH or most recent surge model that are surrounded by the CHHA or by CHHA and a body of water; and
 - All land located in Coastal “A” zones, “V” “VE” or “V1-30” velocity zones designated by the federal emergency management agency (FEMA) flood insurance rate maps.
- CM POLICY 2.1.3: Pinellas County shall not approve any request to amend the Future Land Use Map (FLUM) to designate parcels of land within the CSA with a FLUM category that permits more than 5.0 dwelling units per gross acre.

CM POLICY 2.1.3: Pinellas County shall not approve any request to amend the Future Land Use Map (FLUM) to designate parcels of land within the CSA with a FLUM category that permits more than 5.0 dwelling units per gross acre.

4.2.12 Sarasota County

Definitions: “HURRICANE VULNERABILITY ZONE: The areas delineated by the regional or local hurricane evacuation plan as requiring evacuation. The hurricane vulnerability zone shall include areas requiring evacuation in the event of a 100 year storm or Category 3 storm event.”

Coastal Disaster Management Chapter, Coastal policy 1.3.5: “As part of the State-wide Regional Evacuation Study, 2010, emergency evacuation routes were identified and the County should strive to improve, as needed, evacuation routes based on the following criteria:

1. Critical roadway links causing congestion on evacuation routes for Category 1 through 3 hurricanes should receive high priority for capital improvement expenditures. The County should strive to ensure that the hurricane evacuation system evacuation times will be, at a minimum maintained, and reduced if possible.
2. Improvements to the County’s primary hurricane evacuation routes should be consistent with this function, and should be maintained at elevations above the Category 3 or Category 4 Storm Surge, as technically feasible and economically applicable.
3. The following criteria for hurricane evacuation corridor improvements should be considered:
 - a. The roadway heads inland and away from the coast.
 - b. The roadway rises out of areas affected by storm surge.
 - c. Water crossings are minimized.
 - d. The roadway provides a direct route to high ground and shelter.
 - e. The roadway is only subject to minimal roadway flooding.”

Land Use Chapter:

FLU Policy 1.2.6: “Discourage the intensification of land uses within Hurricane Evacuation Zones A and B (Map 1-8, Environment Chapter), consistent with Future Land Use Policy 2.9.1, and Coastal Objective 1.2 and Policies 1.2.1 - 1.2.5.”

FLU policy 1.2.16: “As an incentive to providing affordable housing, residential development up to 25 dwelling units per acre may be approved by the Board of County Commissioners when thirty percent of the units qualify as affordable housing (those making less than 100 percent of Area Median Income (AMI) as calibrated for family size) with no less than 10 percent of the total units shall be affordable to those making less than 80 percent of AMI (as calibrated for family size) as long as the following criteria are met:

- The development is located within ¼ mile of a transit route.
- The site is not located within a Hurricane Vulnerability Zone 1 or 2 (See Environment Map 1-8)
- The development is certified as a green development.
- The affordability of the units shall be preserved in perpetuity.
- The request is supported by a jobs/housing balance study.
- The parcel is not located on a barrier island.
- The Future Land Use designation of the property is;
 - Commercial Center (excluding Neighborhood Commercial Centers),
 - Commercial Corridor,
 - Major Employment Center,
 - Major Government Use, or
 - Office/Multi-Family Residential”

Coastal Disaster Management Element:

Coastal policy 1.2.2: “Proposed land use plan amendments in Evacuation Zones A and B hurricane vulnerability zone (storm surge areas) may be considered if such increases in density and intensity do not adversely impact hurricane evacuation times and are consistent with Future Land Use Policy 2.9.1 and Appendix A, Article 4, Section 4.6, Residential District Intent Statement, Code of Ordinances of Sarasota County, Florida.” Note that Future Land Use Policy 2.9.1 concerns barrier islands.

Coastal policy 1.2.3: “Encourage hotel/motel development in the storm evacuation zones category C, D and E rather than evacuation zones A and B.”

4.2.13 St. Johns County

Coastal Management/Conservation Element, E.1.3.11: “St. Johns County will evaluate development orders for their impacts on traffic circulation, evacuation routes, on-site hurricane shelter provisions and proximity to off-site shelter facilities within the Storm Category Zone 1, 2 and 3.”

4.2.14 Wakulla County

Coastal Management Element, Policy 2.8: “Land use decisions (including rezonings and amendments to the Future Land Use Map) in the coastal high hazard area shall consider the nature of the proposed land use and its relationship to hurricane evacuation needs and conditions, along with its relationship to the economic development needs, the environmental protection needs, and the infrastructure capacity in coastal areas. Land use plan changes in the Category 2 or lower vulnerability zone shall not be approved unless: (a) the change is made to reflect existing conditions; (b) the change results in a lower density; or (c) the applicant provides mitigation or makes contributions (i.e., impact fees, etc.) to improve evacuation capacity.”

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