

Appendix D:

Methodology for Recommendation of Projects for Funding

METHODOLOGY FOR RECOMMENDATION OF PROJECTS FOR FUNDING:

The Department has developed a point based rating system, which was used to prioritize projects. The rating system is consistent with the intent of Section 252.385, F.S., and the Department's and American Red Cross' shelter selection guidelines. Factors that were considered in the retrofit proposal review process were regional and local shelter deficits, building construction characteristics (ARC 4496), proposed shelter type, an increase in shelter capacity, ownership and day-to-day use of the facility, cost-effectiveness, etc. See Appendix H for an example of the 2006 Project Priority Worksheet. All factors considered in the prioritization process this year are generally consistent with those used in previous shelter retrofit reports. Projects carried over from the *2005 Shelter Retrofit Report* were reevaluated on changes in the shelter deficits (region and/or county), and on additional information if provided in updates from the counties (See Appendix H, Retrofit Priority Worksheet).

In prioritizing the projects the Department based its selection on the criteria listed below. If the desired information in a given line item was not provided and could not be readily determined from other sources, no points were allocated, except as otherwise noted. In some cases, certain criteria were considered "Show Stoppers" and automatically excluded the facility from recommendation. The show stopper designation was only given when a condition existed that could potentially exclude the building as a shelter, such as the presence of a long span roof or unreinforced masonry walls. Further explanations are given with the specific criteria items below. The following is a listing of the specific criteria used by the Department's staff to rank each project based upon information provided with each project proposal.

1. Proposed project is located within a region with a shelter deficit situation:

Section 252.385(3), F.S., is very specific in its intent to give priority to regions of the state where shelter deficits are greatest. This information was extracted from shelter status data that was provided by county emergency management officials and tabulated by the Department's All Hazards Planning Unit. A maximum of 75 points was given for those shelters that are location in a region with a severe (greater than 200,000) shelter deficit. Lesser point values were given to retrofit projects in regions with less severe deficits.

2. Proposed project is located with a county with a shelter deficit situation:

Section 252.385(3), F.S., also indicated its intent to give priority to counties of the state where shelter deficits are severe. Again, this information was extracted from shelter status data that was provided by county emergency management officials and tabulated by the Department's All Hazards Planning Unit. A maximum of 50 points was given to those shelters located in counties with a severe (greater than 50,000) shelter deficit. Lesser point values were given to retrofit projects in counties with less severe deficits. If all other factors being reviewed are equal in score, the combined effect of items one and two (125 total points) can have a significant impact upon a given project's priority.

3. Current status of facility is demonstrated to meet ARC 4496 guidelines:

The Department recommends that all hurricane shelters be thoroughly analyzed for consistency with the American Red Cross' "Guidelines for Hurricane Evacuation Shelter Selection," ARC 4496. Critical building envelope features (exterior wall and roof construction, percentage of glass in exterior walls, long span roof, window shutters, etc.), year built to determine design wind code requirements, presence of interior core area or storm pod, and other construction factors must be included in the decision to utilize the building as a shelter and establish its priority for retrofitting. There is only nominal value to installing window protection systems on a shelter building if there are other "weak links" that are limiting factors for the building's wind performance. Flooding and/or inclusion of the facility in a hazardous materials evacuation zone are also important factors when establishing a building as a hurricane shelter.

A maximum of 75 points was allocated based on how well the given facility is demonstrated to conform to ARC 4496 guidelines.

- A. A maximum of 25 points was allocated based on what Sea, Lake and Overland Surges from Hurricanes (SLOSH) or Storm Surge evacuation zone the facility is in. Presence of the facility in a Category 1/Tropical Storm or Category 2 surge zone is a "Show Stopper" and excludes the shelter from recommendation. The point system used for this item is generally consistent with Section 235.26(9), F.S., that exempts educational facilities from the public shelter design criteria if located within a Category 1, 2, or 3 Evacuation Zone.
- B. A maximum of 15 points was allocated based on the National Flood Insurance Program (NFIP) Flood zone (as established in the most recent Flood Insurance Rate Map the facility is located within). If this information was not provided, no points were allocated. Generally, buildings in the Flood Insurance Rate Map zones with an "A" designation were not recommended without detailed justification. Exception was given to those counties (such as Miami-Dade and Collier) whose populations live in areas that are extremely flat and provide very limited natural drainage.
- C. A maximum of 25 points was allocated based on the building construction parameters. Here the building's structural and envelope characteristics are very important. Structures are evaluated to shelter people during a severe wind storm or major hurricane. "Show Stoppers" typically included unreinforced masonry walls, flat lightweight roofs over long spans, pre-engineered metal buildings, lack of load-path connectors, etc. The majority of "Show Stoppers" originated in this item.
- D. A maximum of 10 points was allocated for other considerations. In this item, the extra items that would assist in determining the relative safety of the facility are evaluated. Examples were certification for wind speeds of 130

mph or more, in-place shutters, hip roofs, and other structural issues. If not specified, certification was not assumed.

4. Proposed project will serve to improve the structural integrity of the building envelope from wind and/or flood effects:

All retrofit projects that serve to maintain or improve the structural integrity of the building envelope will be given a high priority, as they will have an immediate impact upon the survivability of the shelter population. One of the most important things that can be done to reduce overall evacuation times, and thereby reduce the vulnerability of the population, is to provide adequate shelter space to meet the demand. Therefore, any project proposal for retrofitting that would allow for additional useable space within a structure due to improvements in the building envelope will receive priority consideration for funding.

A maximum of 25 points was allocated for projects that would improve the structural integrity of the facility. Here a window protection system would normally get 10 points since it will usually provide some additional protection against windborne debris. Exceptions were buildings (like pre-engineered metal buildings) that have historically performed poorly and on which the window protection system will have nominal impact. In those cases where a structure was considered relatively strong and the only apparent weakness was the windows, 25 points would be allocated.

5. Facility has been identified for potential use as a shelter by ARC or other sheltering agency, but is not currently in local inventory due to deficiencies to be corrected by this proposal:

In this line item there was a maximum of 25 points allocated. Points were given for projects that will remedy identified deficiencies (structural and mass care features) in a facility not currently listed in the local inventory as meeting ARC 4496 guidelines. The objective was to give priority to renovating or retrofitting structures in order to add new shelters.

6. Numerical increase in shelter capacity due to this proposed retrofit project:

A maximum of 75 points was allocated based on a numerical increase in shelter capacity. No points were allocated for shelter spaces already in inventory. This was a priority based on Florida law requiring reduction of the statewide public hurricane shelter deficit and was intended to encourage projects that add new shelter space to the inventories.

7. Building ownership and availability for use as a public shelter.

A maximum of 50 points was allocated, depending on ownership and availability status.

Public facilities received the highest priority for retrofit project recommendation based on their availability (and the use of public funds). Private facilities, such as churches, were recommended for retrofit based upon local necessity for space, previous history as a public shelter and/or existing agreements, type of project to be undertaken, and the endorsements of the local emergency management director.

8. Shutters Only Projects:

Generators and electrical work items are not considered in this item. Otherwise:

A maximum of 50 points was allocated if the retrofit project only required/listed shuttering (i.e. protection of fenestrations/doors/strengthening of doors) to meet ARC 4496.

A maximum of 25 points was allocated where shuttering (window/door protection) and engineer certifications were the only items (excluding electrical work) required/listed on the project.

If other structural work is required/listed then no points were allocated.

9. Cost-effectiveness of the proposed project:

A maximum of 50 points was allocated depending on the cost effectiveness of the project. This was based on the total structural costs (non-engineering study, non-generator) divided by the total shelter capacity gained. If the number of spaces, or costs, could not be determined, no points were allocated.

10. Project proposal has been demonstrated to have a significant impact upon the local, regional, and statewide shelter deficit situation:

In order to maintain the statewide scope in assessing which factors would be used to establish the criteria, the assigning of priorities was done on a county wide rather than an individual shelter facility basis; therefore, all retrofit projects in a particular county were ranked equally.

The first criteria used to help classify the various counties were the overall vulnerability and severity of the evacuation and sheltering situation for a particular county or region. The state was divided into four areas, each comprised of several regions as defined by the Regional Planning Councils (RPC). Out of a total of 75 possible points for this project selection category, this criterion comprised a maximum of 50 points.

1. The RPC regions within the highly urbanized southern portion of the Florida peninsula were assigned the highest value of 50 points because of their large vulnerable populations; the relatively few alternatives regarding evacuation routes; and the large distances that must be traveled by evacuees from those regions in order to get to destinations that provide them relative safety from hurricane force winds. The intent of the high point value for this area was to also reflect the need to increase the local shelter reserves, which would thereby reduce the need for the region's evacuees to travel over long distances. This area includes the South Florida; Southwest Florida; Treasure Coast; Central Florida; and Tampa Bay Regional Planning Council Regions.
2. The Regional Planning Council regions in the central portion of the Florida Peninsula were given 30 points in order to reflect the area's less acute situation with regards to vulnerable population, evacuation distances, and relative isolation of the population. The proportionally high point assignment for this area was also intended to emphasize the need to increase regional shelter capacity not only for local evacuees, but also for the evacuees from South Florida. The Withlacoochee, North Central and East Central Florida Regional Planning Council regions are included in this area.
3. The Regional Planning Council regions for Northeast Florida, the Big Bend and the entire Panhandle were assigned a value of 15 points because their evacuation and sheltering situation is not as critical as areas in the previous two categories. This area has considerably smaller overall vulnerable populations and there exist numerous options available to local residents regarding evacuation into the inland regions of Georgia and Alabama. This area is comprised of the Northeast Florida, Apalachee and West Florida Regional Planning Council Regions.

The next criteria for assigning points to each county was whether the counties were traversed by either highway U.S. 17 or U.S. 27, or likely to be designated as a host shelter area during the implementation of the Regional Evacuation Procedures. The counties that fulfill this criteria are: Alachua; Columbia; Orange; Osceola; Leon; Marion; Sumter; Lake; Polk; Hardee; DeSoto; Highlands; Charlotte; Glades; Hendry; Palm Beach; Broward; and Miami-Dade. Out of a possible total of 75 points for this shelter retrofit project selection category, the above counties received 15 points.

The rationale for selecting counties along routes U.S. 17 and U.S. 27 as a criteria for assigning county priorities for shelter retrofitting is to reflect the increased importance of both highways as alternative evacuation routes to the more frequently considered and therefore much more congested roads, the Florida Turnpike, I-75, and I-95. The roadway segments in Marion County and south along both routes U.S. 17 and U.S. 27 will play an increasingly vital role in the development of a Statewide Evacuation and Sheltering Strategy. Due to the likely preeminence of both these highways in the future with regards to evacuation, it is imperative that shelter capacities in the counties along these roads be

increased. Therefore, in an effort to address this necessity, the counties listed above were given an additional 15 points.

The final criteria for prioritizing the counties with respect to shelter retrofit projects is whether a shelter deficit exists in the county being considered. A point value of 10 points was given to a county where the number of shelter spaces is greater than the in-county demand for a category 5 storm, based on data provided in the *2002 Statewide Emergency Shelter Plan* and updates as provided by county emergency management agencies.

The basis for using this as criteria to prioritize the counties is the premise that the counties with already existing shelter space surpluses will be the counties where additional facilities will be found and regional shelter capacity increased. Many of the counties with shelter space deficits have experienced these shortfalls for many years, despite the best efforts of local emergency management staff to find additional in-county shelter capacity. Furthermore, counties with a shelter surplus have not had the need or the incentives to conduct an exhaustive search for new shelter facilities or implement innovative approaches to increase their shelter capacity. Therefore, this final criterion is a reflection of the emphasis placed on addressing the statewide shelter deficit problem by creating and augmenting regional shelter capacity rather than eradicating existing county shelter deficits.

11. Project Specified in Local Mitigation Strategy

A maximum of 50 points was allocated if the specific project building was referenced in a county's Local Mitigation Strategy.

A maximum of 25 points was allocated if the specific project campus/complex/site was referenced in a county's Local Mitigation Strategy.

Otherwise no points were allocated.

12. Project can be completed in a fiscal year (i.e. 12 months)? YES or NO

If project can be completed in a fiscal year then it was awarded 25 pts. If no or not known- then zero pts.

13. Project Building is a Designated Special Needs Shelter? YES or No

If yes, then it was awarded 25pts. If no or unknown- then zero pts.