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MEMORANDUM

TO: The Honorable Terence R. McAuliffe, Governor
The Honorable Brian Moran, Secretary of Public Safety and Homeland Security
The Honorable Carlos Hopkins, Secretary of Veterans and Defense Affairs
The Honorable Thomas K. Norment, Jr., Co-Chairman of the Senate Finance Committee
The Honorable Emmet W. Hanger, Jr., Co-Chairman of the Senate Finance Committee
The Honorable S. Chris Jones, Chairman of the House Appropriations Committee
Mr. Daniel Timberlake, Director of the Department of Planning and Budget

VIA: The Honorable Brian J. Moran, Secretary of Public Safety and Homeland Security

FROM: Jeffrey D. Stern, State Coordinator

SUBJECT: Report on the Commonwealth's Emergency Shelter Capabilities and Readiness

In accordance with Item 402 (B) of the 2017 Appropriations Act, I am pleased to submit the 2017 Report on the Commonwealth's Emergency Shelter Capabilities and Readiness. Please contact me if you have any questions or need any additional information concerning this report.

JDS

Enclosure

VIRGINIA DEPARTMENT OF EMERGENCY MANAGEMENT

2017 Annual Report on the Commonwealth's Emergency Shelter Capabilities and Readiness

Item 393 (B) of the 2014 Appropriations Act

October 2017

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Preface

Item 393(B) of the 2014 Appropriations Act established a sheltering coordinator position within the Virginia Department of Emergency Management “to improve the safety and security of the citizens of the Commonwealth upon evacuation and subsequent housing in a local or state shelter.” The duties of the sheltering coordinator are outlined as follows:

The Coordinator shall be responsible for, but not be limited to, improving and coordinating the Commonwealth’s sheltering preparedness and capabilities in the event of evacuations due to natural or man-made disasters by reviewing, evaluating and developing a state-wide master plan for the operation of state and local emergency shelters in the Commonwealth. The Coordinator shall establish an integrated system for coordinating the planning and operation of state emergency shelters, and facilitate cooperation among local entities and state agencies in the sheltering preparedness efforts in the Commonwealth.

This report, in accordance with Item 402(B) of the 2017 Appropriations Act, provides a status update on the Commonwealth’s emergency shelter capabilities and readiness.

Executive Summary

Virginia is vulnerable to a variety of hazards and the Virginia Department of Emergency Management (VDEM) works diligently to ensure localities and the Commonwealth have adequate plans to prepare for, respond to, and recover from disasters. This report outlines the state, local, and regional efforts to improve sheltering capacity, overall sheltering, and mass care capabilities within the Commonwealth. Since the 2016 report, VDEM has continued to facilitate the Virginia Mass Care Task Force and has developed a Statewide Sheltering Plan Strategic Framework. This framework was reviewed and approved by numerous state, regional, and local agencies, as well as community partners, and lays the foundational groundwork for development of the new statewide sheltering plan.

This report discusses the status of the State-Managed Shelter Plan and identifies critical gaps. The most critical gaps in sheltering in the Commonwealth are a lack of sheltering data to identify capacity issues in the state, a lack of staffing, and too few available commodities to support large-scale, immediate sheltering needs. The report concludes with recommendations for closing those gaps.

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1. Major Accomplishments since the 2016 Report

Since the 2016 report, VDEM's Sheltering Coordinator, in partnership with the Virginia Department of Social Services (VDSS), established the Virginia Mass Care Task Force to create an integrated, statewide planning team for the development of the statewide sheltering plan. The Mass Care Task Force, led by the Sheltering Coordinator, includes representatives from numerous state agencies, local emergency management agencies, Departments of Health, Departments of Social Services, FEMA Region 3, disability service organizations and agencies, healthcare coalitions, planning district commissions, and voluntary agencies, as well as animal control officers and building code officials.

The Sheltering Coordinator and VDSS's Division of General Services Office of Emergency Management (OEM) drafted the Statewide Sheltering Plan Strategic Framework, which was reviewed and approved by the Mass Care Task Force and both VDEM and VDSS leadership. The framework identifies planning principles and goals for the new Commonwealth sheltering plan as well as specific, actionable objectives to close identified gaps and address the more complex aspects of shelter planning. In addition, the Sheltering Coordinator examined and aggregated applicable federal and state laws, regulations, and executive orders to ensure the plan, once developed, is fully compliant.

Additional Sheltering Coordinator activities in the past year include:

- Conducted mass care coordination calls with regional coordinators and localities to identify emerging needs related to sheltering, mass care, pet sheltering, and public health during emergency activations in 2016 and 2017.
- Conducted disability partner calls with regional coordinators, FEMA, and disability service agencies and organizations to address anticipated and emerging concerns and needs during emergency activations in 2016 and 2017.
- Actively engaged with state agencies through the Access and Functional Needs Advisory Committee to support individuals with disabilities during sheltering operations and housing recovery.
- Partnered with the Thomas Jefferson Health District Medical Reserve Corps to create Functional and Access Needs Support Team volunteer programs in three localities. These teams will provide direct personal assistance services to individuals with disabilities in shelters.
- Conducted accessibility site surveys of three evacuation assembly centers and evaluated decontamination procedures to ensure accessibility of decontamination and other services following a radiological event. At these centers, evacuees are decontaminated, provided treatment, connected with social services, and provided temporary care and shelter.
- Provided technical assistance to localities and regional entities in support of sheltering and access and functional needs planning, including but not limited to:
 - Assisted with shelter surveys in Newport News and reviewed their Memorandum of Agreement (MOA) with the American Red Cross.
 - Assisted James City County in developing a set of engineering standards and to conduct engineering assessments of local shelters. The standards, which are now

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- complete, have been made available to other localities in the Commonwealth and will be used to assess facilities used for state-coordinated sheltering.
- Provided information regarding access and functional needs, functional needs support services, pet sheltering, and sheltering, in general.
- Facilitated a statewide conference call with local emergency management agencies and the Virginia Departments of Health, Behavioral Health and Developmental Services, Medical Assistance Services, Virginia Hospital and Healthcare Association, and the Near Southwest Preparedness Alliance to provide information about and answer questions regarding the Centers for Medicare Services (CMS) emergency preparedness rule.
- Served as an evaluator at multiple local sheltering exercises.

2. Roles and Responsibilities for Sheltering

Shelter operations are a local government responsibility to be provided in accordance with local Emergency Operations Plans (EOPs). In the Commonwealth of Virginia, local governments are legally responsible for the safety and security of their residents and visitors, which includes sheltering.

Local Responsibilities

The Commonwealth of Virginia Emergency Operations Plan (COVEOP) specifies local responsibilities for public shelter facilities. These include provisions for feeding, overnight sleeping accommodations, back-up power, augmented communications, a medical aid station, security, traffic control, fire inspections, and procedures for operating public shelters. The COVEOP also states that all localities should have a clear, comprehensive shelter plan as part of their local EOP, and that localities are solely responsible for establishing and maintaining a refuge of last resort.

State Responsibilities

The Commonwealth's role is to support localities by helping them meet the needs and obligations that exceed their capabilities. The specific roles and responsibilities for state agencies are addressed in the Mass Care, Emergency Assistance, Housing and Human Services and the Mass Care and Sheltering Annexes of the COVEOP.

Status of State-Managed Shelter Plan

Sheltering options within the Commonwealth currently include local shelters, refuges of last resort, and State-Managed Shelters (SMSs). Local shelter capacities range from fewer than 50 to more than 500 individuals in larger cities. Most local shelters, particularly those outside the three largest population centers—Northern Virginia, Richmond, and Hampton Roads—are intended for smaller, localized events. State-managed shelters are intended for catastrophic events for up to 30 days. Presently, there are very few regional sheltering agreements between localities.

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There are challenges with the State-Managed Shelter Program that make state-managed shelters unfeasible as pre-landfall, evacuation shelters. First, sheltering during both the initial response and recovery from a disaster will present significant challenges due to the required lead time to open an SMS. VDSS has documented that a minimum of five days is required to open a SMS. However, predictions for landfall locations are unreliable five days out.

Second, the cost for supplies and equipment to open and operate an SMS will range from \$4–10 million for the first seven days with following weeks having considerably lower operational costs. These cost estimates do not include staffing costs or overstock, warehousing, cleaning, and storage for the items purchased, nor does it include post event surplus.

Because hurricane forecast models are highly uncertain five days before landfall, it is unwise to activate a shelter plan at that time that could cost the Commonwealth between \$4–60 million or more. Given the costs and significant challenges associated with the State-Managed Shelter Program, the Commonwealth is changing its strategic approach to state-level sheltering.

The new plan will replace the SMS plan with the regional framework established by the Statewide Sheltering Plan Strategic Framework. The regional framework will establish types of shelters that are scalable and flexible.

Local shelter

Most sheltering events are for short-durations and within the capacity and capabilities of the impacted locality or localities. Shelters opened, operated, and funded by a locality are local shelters.

Locally-coordinated regional shelter

Some events might benefit from multiple localities within a region cooperatively sheltering instead of each operating a separate shelter. This type of cooperative sheltering might occur in recovery as shelter client numbers decline, in large events where the numbers of shelterees exceed the capacity of local shelter facilities, or in events where the sheltering need within each locality is so small that opening multiple local shelters is an unreasonable option. In this situation, a regional shelter would be opened, operated, and funded by impacted localities with little to no assistance from the Commonwealth.

State-coordinated regional shelter

A State-Coordinated Regional (SCR) shelter would be operated and funded by the Commonwealth either by initiating and opening the shelter or by assuming responsibility for the operation of a locally-coordinated regional shelter. Some events may immediately exceed the capacity of multiple impacted localities and require the Commonwealth open a large-scale, regional shelter. An SCR shelter might also be needed during recovery to enable localities to consolidate local shelters with declining numbers into a state-coordinated regional shelter.

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3. Regional Shelter Sites

Currently, facilities designated as SMS sites are only available to the Commonwealth for use during sheltering events. When these sites are transitioned to the new state sheltering plan, the goal is for the Commonwealth to establish agreements with these sites to be available for use as locally-coordinated regional shelters whenever possible. The Commonwealth will evaluate additional sites for use as well. Sites being evaluated for the new plan will be categorized by hazard so that sites will not be disqualified for use based solely upon a single hazard. For example, on the coast of Virginia, shelters that do not meet wind-speed, surge, and flood zone requirements for use during hurricanes and tropical storms could still be used during non-high wind, non-flood events.

The Commonwealth will endeavor to identify non-educational facilities for use as regional shelters so as not to disrupt a non-impacted locality's or higher education institution's operations. The Commonwealth may partner with private organizations to ensure adequate shelter facilities in regions with limited government-owned facilities capable of serving as shelters

4. Current Capacity

Maintaining sheltering data is essential to accurately identifying capacity and capability gaps. Identifying these gaps provides the necessary information to ensure the Commonwealth and its localities can provide adequate sheltering when needed. To date, several issues have made aggregating this critical information difficult.

Historically, efforts to identify and catalog local shelter facility capacities have focused on shelters capable of being operated as pre-landfall hurricane shelters. As such, data was only collected from highly-populated, hurricane-prone regions of the state. This single-hazard focus has led to an underestimation of regional shelter capabilities as it does not reflect facilities that could be used in non-high wind events.

The Sheltering Coordinator has been working to identify shelters statewide by the type of hazard for which they are viable. The Sheltering Coordinator has updated much of the shelter data for Hampton Roads and expanded data collection to the rest of the Commonwealth. Through its recent efforts, VDEM has identified a statewide shelter capacity of approximately 108,390 in 30 localities with a capacity of 93,275 in Hampton Roads. However, because localities are not obligated to provide the data and many have chosen not to, a true estimation of shelter capacities and capabilities in the Commonwealth is not available.

The Virginia Department of Emergency Management has added shelter data to the annual, mandated Local Capabilities Assessment of Readiness (LCAR) beginning in 2018. This should improve the data available, however if the data is not provided or is inaccurate, the Commonwealth has no additional recourse or authority to require provision of the data.

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Capacity Gap

The Commonwealth has focused on sheltering capacity gaps, particularly in the Hampton Roads region, as a result of the 2013 Joint Legislative Audit and Review Committee's (JLARC) report to the Governor and General Assembly entitled *Review of Disaster Preparedness Planning in Virginia*.

The JLARC Report provided data regarding the capacity to shelter Hampton Roads evacuees in the table, *Current State and Local Shelters Lack the Capacity to Shelter Approximately Half of Evacuees During a Category 3 Hurricane* (pages vii, 67). The table provides the estimated number of evacuees for each category of hurricane and compares it to current sheltering capacity within Hampton Roads and the SMS program. This data indicates that localities and the Commonwealth would be unable to shelter 10,595 people in a category 2 hurricane; 45,000 people in a category 3 hurricane; and 96,000 in a category 4. This analysis is based upon the assumption that 100% of evacuees will seek shelter at local or SMSs.

However, for planning purposes, the industry standard percentage of impacted individuals expected to seek shelter is 10%. This planning percentage is used by both the state of Florida and the American Red Cross, the leading experts on sheltering and hurricane impacts. Additionally, experience and analysis of previous events indicate that 100% of evacuees will not seek shelter at a government or non-governmental shelter. For example, according to the *Hurricane Sandy After Action Report* (May 2013), New York City reported that only 6,800 people sought shelter before, during or after the storm. More than 1 million residents lived within the Hurricane Sandy storm surge zone and 375,000 of these residents were within the mandatory evacuation zone. In this instance, less than 1% of individuals in the storm surge impact area and 1.8% of individuals in the mandatory evacuation zone sought shelter.

Using the standard planning percentage provides planning assumptions that are more realistic and provides an accurate baseline from which the Commonwealth can more appropriately and effectively focus planning efforts and funding. By applying the 10% planning percentage to JLARC's evacuee estimations, it reveals that there may not be a capacity gap in local sheltering for Hampton Roads evacuees.

Category Hurricane	Within Hampton Roads				Outside Hampton Roads				Evacuees Without Shelter	
	# of evacuees*	# Seeking Shelter (10%)	Shelter capacity*	Evacuees without shelter	# of evacuees*	# Seeking Shelter (10%)	Shelter capacity*	Evacuees without shelter	Number	Percent of all evacuees
2	36,000	3,600	80,000	0	30,000	3,000	19,405	0	0	0%
3	103,000	10,300	58,000	0	50,000	5,000	15,694	0	0	0%
4	127,000	12,700	31,000	0	90,000	9,000	15,694	0	0	0%

* Source: JLARC staff analysis of 2011 Regional Catastrophic Planning Grant data and 2013 DSS State Managed Shelter data.

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Using tiered evacuation data, the anticipated worst-case scenario would result in approximately 550,000 evacuees from Hampton Roads. Using only the data we have, Hampton Roads and surrounding areas could house the potential 55,000 evacuees seeking shelter.

Recent events have shown that shelter populations will rapidly decline post-event. Although it is too early to provide substantial shelter data from Hurricanes Harvey and Irma, this has been shown from the sheltering data currently available. A rapid decline in shelter populations will result in decreased requirements for commodities, facilities, and staffing as the Commonwealth moves further into post-event recovery.

The table below provides shelter data from Hurricane Irma:

State	Peak Shelter Population	Population within 48 hours of peak	Percent decrease in population	Population within 5 days of peak	Percent decrease in population
Puerto Rico	2,911	85	-97%	184	-94%
Georgia	5,902	879	-85%	14	-99.8%
Alabama	1,197	142	-88%	0	-100%
South Carolina	1,059	0	-100%		
Tennessee	149	79	-47%	0	-100%
Florida	184,139	22,611	-88%	4,695	-97.5%

*Source: *Senior Leadership Briefing, Post-Tropical Cyclone Irma*. FEMA. (September 15, 2017, 0500).

VDEM continues to monitor recent disaster events for lessons learned to leverage them in the Commonwealth's planning.

5. Current Capability

There is still a significant gap in sheltering capabilities across the Commonwealth. Like capacity, capability also limits the number of individuals that can be sheltered. If a locality has the floor space (capacity) for 500 individuals but only has staffing and resources (capability) to support 150, the number of individuals that locality is able to shelter without assistance is only 150.

Currently, data on shelter facilities only reflects pet sheltering capabilities and the ability to house individuals with medical needs. Sheltering information to be collected through the 2018 LCAR will include information on both capacity and the following capabilities: staffing, supplies, facility accessibility, backup power, showers, laundry services, pet sheltering, and functional needs support services

Most Significant Capability Gap: Staffing

Staffing was the most common and critical need identified in previous assessments and during the 2015 Regional Listening Sessions held by VDEM. The majority of localities know whether they have a staffing deficit, but providing specific numbers on the extent of the deficit can be difficult

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due to the amount of coordination needed between multiple local and state agencies. Specific sheltering concerns identified in the Regional Listening Sessions include concerns about the availability of the American Red Cross to staff shelters, the need for Department of Social Services staff to return to their regular work quickly, and the identification of additional staffing options. The personnel commitment for recovery sheltering alone will put a significant strain on VDSS personnel, who must balance the operation of both local and state-managed shelters with their regular, on-going client caseloads, and the additional responsibilities for operating disaster survivor assistance programs.

Accessibility of Buildings and Programs

Disability integration and Americans with Disabilities Act (ADA) compliance is a tremendous concern across the Commonwealth. This concern was identified in multiple sheltering assessments including the Regional Listening Sessions, the In-Season Review of Hurricane Preparedness for Hampton Roads, and the Review and Assessments—A Look at Virginia's Hurricane Planning and Preparedness. The key issues identified by localities at the sessions include training on ADA compliance and functional needs support services, and adequate resources to support individuals with disabilities and others with access and functional needs.

An additional concern identified by VDEM is the pervasive assumption by local emergency managers that all school buildings are ADA compliant. This is an inaccurate assumption that has become evident in previous disasters across the country. Additionally, some local emergency managers report having challenges working with school districts to ensure physical accessibility to their facilities.

Pet Sheltering

Pet sheltering was identified as a challenge across the Commonwealth in the Regional Listening Sessions, the Hampton Roads Capability Assessment (2011) and the Virginia Regional Preparedness Measure (2013). The key issues include a lack of facilities, supplies, staffing, and a need for training.

In 2016, VDEM was informed by the Virginia Department of Agriculture and Consumer Services that they would no longer carry out their pet sheltering responsibilities due to a reduction in grants. Materials were returned to VDEM and pet shelter responsibilities were delegated to state sheltering coordinator as an interim measure until a long-term solution can be found.

Funding

As Virginia's population continues to increase, particularly in vulnerable coastal and flood-prone regions, it is vitally important that the Commonwealth consider sheltering capabilities a top priority. If Virginia's goal is to ensure adequate shelter capacity in every region of the state, the Commonwealth must support incorporating all state employees into the disaster workforce, assessing and retrofitting suitable existing buildings, and aggregating comprehensive shelter data for improved planning and coordination. The overall result of a fully funded sheltering program is a

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greater level of emergency preparedness, a more efficient capability for responding to incidents, and a greater ability to meet the needs of disaster survivors.

Assessments, retrofits and upgrades: In order to eliminate sheltering deficits, the Commonwealth must aggregate comprehensive shelter data for improved planning and coordination, conduct a professional and comprehensive assessment of current shelter facilities, retrofit suitable existing buildings, and provide funds to support construction of new buildings that meet public shelter design criteria. Retrofitting and upgrading shelters would likely result in a significant fiscal impact.

Backup Power: Backup power capabilities are a common need across the Commonwealth. Backup power at shelters has been identified as a shelter requirement in multiple class action settlements, including the Judge's Opinion and Order in the class action suit against New York City following Hurricane Sandy (*Brooklyn Center for Independence of the Disabled vs. Michael Bloomberg and the City of New York, U.S. District Court, Southern New York District, 2013*). Backup power is also critical to maintain HVAC and shelter feeding, and to support medical care for individuals with medical needs. Some funding is available through FEMA's Hazard Mitigation and Pre-Disaster Mitigation Grant Programs, and VDEM is educating localities on these grant opportunities. Alternative power is also an option to consider, in particular solar-powered microgrids, which could potentially provide backup power to shelters, hospitals and other critical infrastructure.

Local emergency management needs funding to make shelter facility retrofits and upgrades possible. This funding could potentially bring shelters up to current building codes, which would provide more durable shelters, provide for external, professional accessibility site surveys of shelter facilities, or provide the upgrades needed to achieve full compliance with the ADA. In addition, incentivizing the school districts to allow and assist with these assessments, retrofits and upgrades could be highly effective.

6. Commonwealth Statewide Sheltering Plan Strategic Network

The goal VDEM has established for the Commonwealth sheltering strategy is to effectively support, enhance, and augment sheltering at the local and regional levels. Focusing efforts on closing capability gaps that exist across the Commonwealth will ensure the development of an effective sheltering plan that is flexible and integrates with local sheltering operations.

The Sheltering Coordinator has worked closely and collaboratively with VDSS OEM and the Virginia Mass Care Task Force to develop a comprehensive Statewide Sheltering Plan Strategic Framework to guide development of the new statewide sheltering plan. The framework identifies the planning principles and goals for the new sheltering plan, as well as specific, actionable objectives for resolving the most complex and common shelter planning and operational gaps. The 2016 report to the General Assembly provided numerous goals for the Statewide Sheltering Plan Strategic Framework, all of which were approved by the Task Force and included in the final, approved draft of the Strategic Framework.

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The Sheltering Coordinator included an outcomes section in the Strategic Framework that aggregates the proposed outcomes of the sheltering plan including recommended policies, program development and revision, and new operational support products. The Sheltering Coordinator also conducted a review of federal and state statutes, regulations, and executive orders to identify all requirements for the sheltering plan.

Guiding Principles

The Commonwealth's sheltering strategy will be guided by the following planning principles:

1. All disasters are local. Any sheltering plan created by the Commonwealth must recognize that disasters begin and end locally. As such, the Commonwealth statewide sheltering plan needs to be capable of integrating with local and regional shelter plans. Localities must be involved in developing all state-level sheltering plans both to ensure that integration is possible and to guide development of a plan they support and feel they can rely upon.

2. Localities are the most knowledgeable about their communities' needs, resources, and capabilities. Localities are in the best position to determine when and what type of assistance is needed. These needs will vary across the Commonwealth. The development of the Commonwealth's sheltering plan should, therefore, be guided by identified needs of the localities.

3. Provide the opportunity for individuals to remain as close to home as possible. The Commonwealth's sheltering plan will strive to support individuals and households in remaining as close to their home community as is safe and practical. Communities are a safety net and support system for individuals and families. Enabling individuals to remain close to their jobs, schools, doctors, service providers, faith-based organizations, friends, and family is crucial to their recovery and stability. Community economic and social recovery is also improved when residents remain in the community following a disaster.

4. Commonwealth sheltering programs and facilities should be universally accessible. The Commonwealth is committed to ensuring equal access to individuals with disabilities and others with access and functional needs. Making programs and facilities accessible to individuals with disabilities will make them more accessible to everyone using the programs and services. As such, all Commonwealth mass care programs and any shelter facilities utilized by the Commonwealth must be accessible to individuals with disabilities and others with access and functional needs including individuals with service animals.

5. The sheltering plan should be efficient, effective, and practical. The Commonwealth is committed to developing a plan that will effectively utilize state resources and assets, integrate with local, state, tribal, and federal plans and capabilities, be capable of rapid implementation, and, given the variations in geographic and demographic characteristics of Virginia localities, be flexible enough to support sheltering across the Commonwealth.

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Goals

The established goals for the new statewide sheltering plan are as follows:

1. Develop a statewide sheltering plan that will augment and enhance sheltering at the local and regional levels.

The Commonwealth's statewide sheltering strategy recognizes that even though sheltering is predominantly a local responsibility, localities may need support and assistance to ensure disaster survivors are able to safely shelter as close to home as possible. The Commonwealth will provide direct support and resources to localities to augment and enhance local and regional sheltering capabilities. This will be achieved by creating a system that will effectively and efficiently utilize the capabilities and resources available from the Commonwealth, the region, the locality, and voluntary organizations.

2. Develop a sheltering plan that can be implemented across the Commonwealth and that has the capacity to expand and contract as needed.

Localities in the Commonwealth vary substantially in available resources, capabilities, needs, and geographic restrictions. Each emergency and disaster event is also unique in size, location, and evolution. As such, the statewide sheltering plan will need to be adaptable and scalable to ensure the plan can support various events and localities across the Commonwealth.

3. Use the sheltering strategy framework to develop a comprehensive sheltering plan in partnership with federal, tribal, state, local, and community partners and stakeholders.

Developing the statewide sheltering strategy is the first step in creating and implementing "a statewide master plan for the operation of state and local emergency shelters in the Commonwealth." Once the strategy is approved and adopted, the Commonwealth's sheltering plan will be built using the strategy as its foundation and developed through close collaboration with all partner and stakeholder agencies and organizations to ensure success.

4. Use a realistic planning percentage, after action reports from previous events across the nation, and other applicable guidance to develop the sheltering plan.

In addition to complying with applicable regulations, the sheltering plan will use after action reports, guidance documents, best practices, and research to identify how best to support displaced individuals in shelters. The sheltering plan will be developed, in accordance with industry standards, to support up to 10% of displaced individuals from an impact area.

Objectives

The objectives for the statewide sheltering plan detail how the Commonwealth will achieve its goals for the sheltering plan and address the most critical and complex issues in sheltering. The following objectives have been reviewed and approved by the Mass Care Task Force, VDEM, and VDSS.

Objective 1: Ensure the state sheltering plan integrates with local and state agency evacuation, sheltering, long-term recovery housing, and re-entry plans. This objective will be accomplished through an integrated planning team, the Virginia Mass Care Task Force, that

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includes representatives from ESF-6 state and voluntary agencies and local emergency managers and planners. VDEM's Sheltering Coordinator, VDSS OEM, and the Task Force will work collaboratively to improve information sharing between localities and the Commonwealth through the use of an alternative information sharing portal. Additionally, appropriate planning and operational policies and procedures will be established, including sequence of sheltering, thresholds, transitioning between state, local, and voluntary agencies, demobilization, and the progression to long term recovery housing.

Objective 2: Improve shelter staffing support for local and regional sheltering. VDEM's Sheltering Coordinator and VDSS OEM will work to increase available shelter staff through a coordinated system of staffing support to include the Adjunct Emergency Workforce (AEW), statewide mutual aid system (SMA), Emergency Management Assistance Compact (EMAC), and voluntary agencies. Shelter staff typing, including identification of roles and responsibilities within mass care, consistent with national standards when possible, will be established and VDEM will require compliance with staff typing standards when staffing resource requests are submitted to the state. Recommended staffing levels will be developed using national standards and best practices, when available and applicable to Virginia, and a program to provide personal assistance services staff to survivors with disabilities in shelters will be implemented. The Sheltering Coordinator will also assist localities in developing shelter staff and shelter staff teams capable of supporting impacted localities through SMA.

Objective 3: Identify current shelter resource gaps and address those gaps in the statewide sheltering plan. The current commodity lists for the SMS program will be reviewed and revised to develop scalable commodities and staffing lists for localities and regional organizations to use in assessing their shelter capabilities. Using the revised commodities list, VDEM will conduct a gap analysis of local and regional shelter resources to identify the anticipated supplies needed to support local and regional sheltering events throughout the Commonwealth. VDEM will also create deployable and/or prepositioned kits or trailers of functional needs support equipment and supplies, including durable medical equipment, non-perishable consumable medical supplies, sensory kits, and accessible communications kits.

Objective 4: Provide or facilitate training for shelter and emergency management staff, including but not limited to shelter management, shelter operations, access and functional needs, and pet sheltering. VDEM and VDSS OEM will conduct a training gap analysis that includes identification of competencies and training categories, and identification and evaluation of existing training and training resources to determine whether existing trainings and resources can be used or modified for use in Virginia. Following the gap analysis, VDEM and VDSS OEM will develop a training plan and program to close identified gaps.

Objective 5: Ensure state compliance with regulatory requirements, including, but not limited to, building code and non-discrimination laws. The sheltering plan will meet and exceed, whenever possible, regulatory requirements for mass care and sheltering programs. This will include establishing policies and procedures for ensuring sheltering programs and facilities are universally accessible and meet or exceed, when possible, architectural and programmatic accessibility requirements with the goal of creating a model universally accessible mass care and

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sheltering program. It will also include identifying the relevant building and fire code requirements and developing policies and procedures to ensure that any facility used by the Commonwealth for sheltering meets or exceeds those code requirements.

Objective 6: Work with state, local, and community partners to exercise and evaluate the shelter plan once complete. VDEM and VDSS OEM will create an exercise plan for the new statewide sheltering plan, including, in particular, all new and revised programs, policies, and products, as well as non-discrimination laws.

Objective 7: Determine budget estimates in order to implement the state sheltering plan for local and regional sheltering of humans and pets. The Sheltering Coordinator will work with VDSS OEM and the Task Force to determine costs for: shelter staffing, supplies and resources, exercise and training plans, implementing recommended policy changes, new staffing programs, and changes to existing programs. Additionally, VDEM will evaluate the need for and cost of enhancements to physical structures to be used as shelters to ensure compliance with regulatory requirements and will identify funding sources for pre-disaster sheltering initiatives including procurement of supplies, commodities, and storage facilities.

7. Improving Accessibility of Programs and Services

In the past several years, VDEM has made rapid and substantial progress towards fully inclusive emergency management, including:

- Having the Access and Functional Needs Advisory Committee review targeted COVEOP Annexes.
- Establishing the Disability, Access, Functional and Medical Needs Working Group as part of the Mass Care Task Force.
- Adopting a policy of universal accessibility in the Commonwealth Sheltering Plan Strategic Framework.
- Conducting disability partner calls during emergency response operations.
- Working with voluntary agencies to create the Functional and Access Needs Support Team program - a statewide volunteer program to provide personal assistance services in shelter.
- Conducting accessibility site surveys at evacuation assembly centers.
- Reviewing decontamination procedures for accessibility issues.

VDEM remains a national leader in disability-inclusive emergency management. This was accomplished through diligent efforts throughout the agency, the commitment of leadership, and interagency support. The Sheltering Coordinator was selected by FEMA and the National Americans with Disabilities Act (ADA) Centers to present a national best practice in disability integration webinar in 2017 titled “Engaging Emergency Management Leadership to be Champions of Change.” The states of Delaware and Pennsylvania requested the Sheltering Coordinator to provide training and presentations on Virginia’s disability integration activities. The Sheltering Coordinator was also selected to present “Developing Universally Accessible Sheltering and Evacuation Programs” at Pennsylvania’s 2017 Governor’s Preparedness Conference; “A

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Collaborative Partnership: The Role of the ADA Coordinator in Emergency Management” at the 2017 Mid-Atlantic ADA Update Conference; and “Virginia’s Assessment of Accessibility in REP Programs” at the 2017 FEMA Region III Radiological Emergency Preparedness Workshop.

8. Conclusion & Recommendations

VDEM will continue to work with its partners and stakeholders to ensure the Commonwealth has an effective sheltering plan that is capable of enhancing and augmenting local and regional sheltering through partnerships and collaboration across all levels of government. There are critical gaps that need to be addressed and a cohesive, flexible, and integrated approach to sheltering at the local, regional, and state levels must be developed and implemented.

VDEM’s recommendations for addressing the gaps identified in this report include:

1. **Address the current shelter resource gaps in the statewide sheltering plan.** The current commodity lists for the SMS program will be reviewed and revised to develop scalable commodities and staffing lists for localities and regional organizations to use in assessing their shelter capabilities. Using the revised commodities list, VDEM will conduct a gap analysis of local and regional shelter resources to identify the anticipated supplies needed to support local and regional sheltering events throughout the Commonwealth. VDEM will also create deployable and/or pre-positioned kits or trailers of functional needs support equipment and supplies including durable medical equipment, non-perishable consumable medical supplies, sensory kits, and accessible communication kits.
2. **Develop the statewide sheltering plan using a realistic planning percentage, including information from after action reports from previous events across the nation, and other applicable guidance.** In addition to complying with applicable regulations, the sheltering plan will use after action reports, guidance documents, best practices, and research to identify how best to support displaced individuals in shelters. The strategic framework and sheltering plan will be developed to support 10% of displaced individuals from an impact area, in accordance with industry standards to support accurate and cost-effective planning.
3. **Improve local shelter data.** Localities should be required to provide data to VDEM annually on their shelters, including, building names, locations, evacuation zones, capacity by person, medical needs capacity, current wind rating, standards compliance, backup power, and lead agency for staffing (Red Cross, local DSS, other). This recommendation will require legislation to implement.
4. **Improve shelter staffing support for local and regional sheltering.** VDEM’s Sheltering Coordinator and the Virginia Department of Social Services’ Office of Emergency Management will work to increase available shelter staff through a coordinated system of staffing supports to include the AEW, SMA system, EMAC, and voluntary agencies.

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- There is currently no standardized typing for shelter staff. VDEM would require compliance with staff typing standards when staffing resource requests are submitted to the state, including identification of roles and responsibilities within mass care consistent with national standards when possible.
 - Recommended staffing levels will be developed using national standards and best practices, when available and applicable to Virginia, and a program to provide personal assistance services staff to survivors with disabilities in shelters will be implemented. The Sheltering Coordinator will also assist localities in developing shelter staff teams capable of supporting impacted localities through SMA. Currently, SMA and EMAC are available but rarely used for sheltering due to a lack of understanding at the local level.
 - To increase the staff available for shelters, the Department of Human Resources Management (DHRM) should ensure that all non-essential state employees are part of the AEW and adjust Employee Work Profiles accordingly. Currently, AEW membership is voluntary. Emergency workforce program management would ensure that IT and Program Management for DHRM are able to update the AEW database and manage the entire state workforce role in disasters.
 - Recommendations for increased staffing may require funding to implement.
5. **Create flood predictive mapping.** VDEM would work with localities to identify vulnerable populations and critical infrastructure in the 100 and 500-year flood plain as well as those who need regular sheltering. This recommendation may require legislation to implement.
 6. **Establish the Governor's shelter retrofit program.** A grant or match program should be established to fund the retrofitting of local buildings so that they can withstand stronger category hurricanes. This recommendation would require funding to implement.
 7. **Enhance sheltering capacity.** VDEM would purchase sheltering supplies to sustain 55,000 people and 27,000 pets for one week and provide training for shelter staff and volunteers. This recommendation would require funding to implement.
 8. **Store disaster commodities.** VDEM would acquire a warehouse and store a stockpile of disaster commodities (food, water, tarps, etc.) for catastrophic emergencies. This recommendation would require funding to implement.
 9. **Provide or facilitate the provision of training for shelter and emergency management staff, including but not limited to, shelter management, shelter operations, access and functional needs, and pet sheltering.** VDEM and VDSS OEM will conduct a training gap analysis that includes identification of competencies and training categories, and identification and evaluation of existing training and training resources to determine which existing trainings and training resources can be used or modified for use in Virginia. Following the gap analysis, VDEM and VDSS OEM will develop a training plan and program to close identified training gaps.



Commonwealth of Virginia Statewide Sheltering Plan Strategic Framework

Written by:

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Virginia Mass Care Task Force

Date: July 2017

SCOPE OF DOCUMENT

This document was prepared to provide a strategic framework for development of a new, integrated sheltering plan for the Commonwealth of Virginia as called for in Item 393(B) of the 2014 Appropriations Act³⁰. The strategy, as outlined and described herein, was approved by the Virginia Mass Care Task Force (MCTF) on July 27, 2017. A complete list of represented agencies and organizations participating in the MCTF is provided in this document.

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Executive Summary

Pursuant to Item 393(B) of the 2014 Appropriations Act, COV Title 2.2 Administration of Government, and COV Title 44 Military and Emergency Laws; Ch. 3.2 Emergency Services and Disaster Law, the Virginia Department of Emergency Management is responsible for developing a state-wide plan for the operation of state and local emergency shelters in the Commonwealth and for establishing an integrated system for coordinating the planning and operation of state emergency shelters. This framework was developed to provide guidance in developing the new sheltering plan; establish planning principles and goals for the new sheltering plan; identify specific, actionable objectives to resolve the most complex and critical issues with sheltering in the Commonwealth; and identify the programs, planning and operational products, and policies (supports) necessary to implement and support the sheltering strategy and statewide sheltering plan.

This framework establishes the planning principles that will guide development of the new sheltering plan as:

1. All disasters are local.
2. Localities are the most knowledgeable about their communities' needs, resources, and capabilities.
3. Individuals should be provided the opportunity for individuals to remain as close to home as possible.
4. Commonwealth sheltering programs and facilities should be universally accessible.
5. The sheltering plan should be efficient, effective, and practical.

The planning goals established in this framework are:

1. Develop a statewide sheltering plan that will augment and enhance sheltering at the local and regional levels.
2. Develop a sheltering plan that is capable of being implemented across the commonwealth and has the capacity to expand and contract as needed.
3. Use the sheltering strategy framework to develop a comprehensive sheltering plan in partnership with federal, tribal, state, local, and community partners and stakeholders.
4. Develop the sheltering strategy framework and statewide sheltering plan using a realistic planning percentage, after action reports from previous events across the nation, and other applicable guidance.

The new strategy created a system of shelter categories that is flexible, adaptable, and can be used for any scale of disaster. The state-managed shelters will be replaced with state-coordinated regional shelters and locally-coordinated regional shelters. This new strategy focuses on recognizing that sheltering is a local responsibility, providing Commonwealth staff and resources to assist, ensuring individuals are provided the opportunity to remain as close to home as possible, and ensuring capacity and capability to shelter 10% of an impacted population.

The next phase in developing the new stateside sheltering plan involves drafting the plan, identifying the critical supports to develop or revise. This phase began in August 2017 and it is anticipated the draft and supports will require 12-24 months to fully and effectively develop and implement.

Virginia Mass Care Task Force

Purpose

The Virginia Mass Care Task Force (MCTF) was established in July 2016 to serve as the integrated planning team consistent with CPG 101 requirements and to guide the development of the statewide sheltering strategy, Commonwealth Sheltering Plan, and related documents. The MCTF will advise VDEM and VDSS on mass care related topics specific to their agencies and areas of expertise and ensure the new sheltering plan is horizontally and vertically integrated and inclusive of all populations.

Responsibilities

The specific responsibilities of the VMCTF include:

- Guiding the development of a comprehensive, integrated sheltering strategy that effectively augments and enhances local and regional sheltering capabilities.
- Providing subject matter expertise to the development of the Commonwealth's sheltering plan and proposed programs and projects.
- Maintaining a working knowledge of the COVEOP Support Annexes and ESF Annexes, including:
 - ESF 6: Mass Care, Emergency Assistance, Housing and Human Services
 - ESF 8: Public Health & Medical Services
 - ESF 11: Agriculture and Natural Resources
 - ESF 17: Volunteer and Donations Management
- Mass Care & Sheltering Annex
- Evacuation and Re-entry Annex
- Periodically reviewing the MCTF's mission, vision, and the Task Force's strategic approach, making recommendations for changes as needed.
- Reviewing the sheltering plans and documents on an established, regular basis to provide recommendations as needed based upon changes in laws, the Commonwealth of Virginia Emergency Operations Plan and related Annexes, and other factors.
- Reviewing existing programs, projects, and services related to mass care, as needed.
- Supporting regional and state-level mass care exercises, as available.
- Monitoring the Task Force's performance against selected, measurable milestones and timelines.

Membership

As of January 2017, represented agencies and organizations include:

Localities:

- Arlington County Department of Human Services
- Stafford County
- Halifax County Emergency Services
- DSS City of Fredericksburg
- DSS Smyth County
- Prince George County

- DSS Hanover County
- Central Shenandoah Health District
- DSS Bath County
- Richmond City Health District
- DSS City of Richmond
- DSS James City County
- Stafford County Fire and Rescue
- Middlesex County
- DSS Essex County
- Lancaster County
- James City County
- Virginia Beach
- Stafford County
- City of Alexandria

Regional, Community, and Voluntary Organizations

- Appalachian Independence Center
- Blue Ridge Independent Living Center
- Endependence Center
- Eastern Virginia Healthcare Coalition
- Institute of Building Technology and Safety
- Near Southwest Preparedness Alliance
- Middle Peninsula Planning District Commission
- American Red Cross
- Richmond Planning District Commission
- Resources for Independent Living
- 2-1-1

Higher Education

- Virginia Commonwealth University
- Virginia Community College System
- Virginia Tech, Advanced Research Institute
- Old Dominion University
- Virginia Tech

State Agencies

- Virginia Department of Health
- Virginia Department of General Services
- Virginia Department of Medical Assistance Services
- Virginia State Police
- Office of the Attorney General, VDEM Counsel
- Virginia Department of Agriculture and Consumer Services
- Virginia Department of Behavioral Health and Developmental Services
- Virginia Department of Housing and Community Development
- Virginia Department of Emergency Management
- Office of the Attorney General, VDSS Counsel
- Virginia Department of Deaf and Hard of Hearing

- Virginia Department of Social Services (VDSS)
- Virginia Cooperative Extension
- Virginia Department of Education

Federal Agencies

- FEMA Region III
 - Office of Disability Integration and Coordination
 - Individual Assistance Specialist

Background and Authority

COV §2.2-222.1.F requires that “The Secretary [of Public Safety and Homeland Security] shall be responsible for the coordination and development of state and local shelter, evacuation, traffic, and refuge of last resort planning. The Secretary shall ensure that jurisdictions and subdivisions of the Commonwealth have adequate shelter, evacuation, traffic, and refuge of last resort plans to support emergency evacuation in the event of a man-made or natural disaster. To that end, the Secretary shall direct VDEM to monitor, review, and evaluate on a cyclical basis all *shelter*, evacuation, traffic, and refuge of last resort plans to ensure they are feasible and suitable and can be implemented with available resources.” *Emphasis added.*

Additionally, Item 393 (B) of the 2014 Appropriations Act required the Virginia Department of Emergency Management (VDEM) to hire a state sheltering coordinator. The sheltering coordinator was tasked in Item 393 (B) with improving “the safety and security of the citizens of the Commonwealth upon evacuation and subsequent housing in a local or state shelter. The Coordinator shall be responsible for, but not be limited to, improving and coordinating the Commonwealth's sheltering preparedness and capabilities in the event of evacuations due to natural or man-made disasters by reviewing, evaluating and developing a state-wide master plan for the operation of state and local emergency shelters in the Commonwealth. The Coordinator shall establish an integrated system for coordinating the planning and operation of state emergency shelters, and facilitate cooperation among local entities and state agencies in the sheltering preparedness efforts in the Commonwealth.”

The Commonwealth of Virginia Emergency Operations Plan (COVEOP) designates the Virginia Department of Social Services (VDSS) as the lead agency for Emergency Support Function (ESF) 6 which includes mass care, emergency assistance, housing and human services. VDSS is responsible for coordinating “all activities assigned to ESF #6 in accordance with” the COVEOP.

Glossary

Access and functional needs (AFN): Assistance needs of individuals as a result of a number of conditions, both temporary and permanent, that limit their ability to take action or access services. No diagnosis or specific evaluation is required to determine an individual has an access or functional need. Individuals with access and functional needs may include individuals from diverse cultures, races, and nations of origin; those who don't read; and those who have physical, sensory, behavioral, mental health, intellectual, developmental, and cognitive disabilities.

Accessible: The characteristic that products, programs, services, and facilities can be independently used by people with a variety of disabilities. This includes but is not limited to communications, facilities, services, programs, and information technology.

Disability: The Americans with Disabilities Act defines a disability, with respect to an individual, as a physical or mental impairment that substantially limits one or more of the major life activities of an individual; having a record of having such an impairment; or being regarded as having such impairment. The following are specifically excluded from the definition of disability: transvestism, transsexualism, pedophilia, exhibitionism, voyeurism, gender identity disorders not resulting from physical impairments, or other sexual behavior disorders; compulsive gambling, kleptomania, or pyromania; or psychoactive substance use disorders resulting from current illegal use of drugs. The complete definition can be found at [§ 35.108 of Title II](#) of the ADA.

Medical need: A medical need is different from a disability-related need in that it requires medical care that would typically be provided in a clinical setting by licensed healthcare professionals. Individuals with disabilities are not necessarily medically fragile and do not inherently have medical needs. Genuine medical needs should be clearly delineated from disabilities or access and functional needs which means mass care and sheltering plans should not include labels like 'special medical needs' or 'access and functional (medical) needs'.

Refuge of last resort (ROLR): A form of mass care facility that offers only protection from environmental hazards. The State of Florida has defined ROLRs as "those structures not recommended for shelter, but designated as the best possible refuge in the event portions of the hurricane vulnerable (surge and wind) population, within structures or in vehicles, cannot or do not evacuate." (*Refuge of Last Resort Study*, The Southwest Florida Regional Planning Council, State of Florida Department of Community Affairs Division of Emergency Management, No Date.) ROLRs do not provide any services or supports. The intended function is only as a place of refuge from the elements until it is safe to return home or evacuate to another location. A ROLR is not a shelter and the term "shelter of last resort" will not be used in state-level shelter planning to reduce confusion.

Reasonable accommodation: A modification or adjustment to a program, service, or the way things usually are done that enables a qualified individual with a disability to enjoy equal access to programs and services.

Reasonable modification: A modification to a public entity's policies, practice, or procedures to avoid discrimination unless the modification would fundamentally alter the nature of its service, program, or activity.

Service animal: Any dog that is individually trained to do work or perform tasks for the benefit of an individual with a disability, including a physical, sensory, psychiatric, intellectual, or other mental disability. The ADA does allow for an exception to this rule for miniature horses. No other animals are considered service animals *under the ADA*. Virginia has not added additional animals to the state's definition of service animals.

Shelter: An immediate, short-term accommodation for individuals threatened by or displaced by an emergency or disaster event. At the time this document was drafted, there were no specific mandates for required services, supplies, or features to be provided within shelters except for the requirements related to accessibility and nondiscrimination. At a minimum, shelters should provide overnight accommodations, heat or cooling as needed, and security. Additional services that might be provided in shelters include but are not limited to: meals, snacks, water, health services, reunification, childcare, showers, and laundry.

Related terms for types of shelters include: medical shelter, evacuation shelter, hurricane shelter, storm shelter, emergency shelter, and alternate care site.

Alternative solutions to sheltering when overnight accommodations are not to be provided: cooling or warming center, convenience centers, and power and shower sites.

Temporary modification: A temporary solution to a non-accessible feature, service, or building to make it accessible. The temporary modification must result in substantially equivalent or greater accessibility and usability when compared to something that would be considered ADA compliant. For example: portable ramps, propping open doors which are too heavy or have round doorknobs, or temporary accessible showers and toilets.

Guiding Principles, Goals, and Objectives

Guiding principles

The COV sheltering strategy will be guided by the following principles:

1. All disasters are local. Any sheltering plan created by the Commonwealth must recognize that disasters begin and end locally. As such, the Commonwealth's statewide sheltering plan needs to be capable of integrating with local and regional shelter plans. Localities must be involved in developing any state-level sheltering plans both to ensure integration is possible and to guide development of a plan they support and feel they can rely upon.

2. Localities are the most knowledgeable about their communities' needs, resources, and capabilities. The localities are in the best position to determine the types of assistance needed and when assistance is needed. These needs will vary across the Commonwealth. The development of the Commonwealth's sheltering plan should, therefore, be guided by identified needs of the localities.

3. Individuals should be provided the opportunity for individuals to remain as close to home as possible. The Commonwealth's sheltering plan will strive to support individuals and households in remaining as close to their home community as is safe and practical. Communities are a safety net and support system for individuals and families where their jobs, schools, doctors, service providers, faith-based organizations, friends, and family may all be located. Enabling individuals to remain close to these support systems is crucial to their recovery and stability. Community economic and social recovery is also improved when residents remain in the community following a disaster.

4. Commonwealth sheltering programs and facilities should be universally accessible. The COV is committed to ensuring equal access to individuals with disabilities and others with access and functional needs. Making programs and facilities accessible to individuals with disabilities will make them more accessible to everyone utilizing the programs and services. As such, any shelter facilities utilized by the Commonwealth and all Commonwealth mass care programs will be accessible to individuals with disabilities and others with access and functional needs including individuals with service animals.

5. The sheltering plan should be efficient, effective, and practical. The Commonwealth is committed to developing a plan that will effectively utilize state resources and assets; integrate with local, state, tribal, and federal plans and capabilities; is capable of rapid implementation; and, given the variations in geographic and demographic characteristics of Virginia localities, is flexible enough to support sheltering across the Commonwealth.

Goals

The established goals for the new statewide sheltering plan are as follows:

1. DEVELOP A STATEWIDE SHELTERING PLAN THAT WILL AUGMENT AND ENHANCE SHELTERING AT THE LOCAL AND REGIONAL LEVELS.

The Commonwealth's statewide sheltering strategy recognizes that even though sheltering is predominantly a local responsibility, localities may need support and assistance to ensure disaster survivors are able to safely shelter as close to home as possible. The COV will provide direct support and resources to localities to augment and enhance local and regional sheltering capabilities. This will be achieved by creating a system of supports and resources that will effectively and efficiently utilize Commonwealth, regional, voluntary organizations', and local capabilities and resources.

2. DEVELOP A SHELTERING PLAN THAT IS CAPABLE OF BEING IMPLEMENTED ACROSS THE COMMONWEALTH AND HAS THE CAPACITY TO EXPAND AND CONTRACT AS NEEDED.

Localities in the COV vary substantially in available resources, capabilities, needs, and geographic and political restrictions. Each emergency and disaster event is also unique in size, location, and evolution. As such, the statewide sheltering plan will need to be adaptable and scalable to ensure the plan can support various events and localities across the Commonwealth.

3. USE THE SHELTERING PLAN STRATEGIC FRAMEWORK TO DEVELOP A COMPREHENSIVE SHELTERING PLAN IN PARTNERSHIP WITH FEDERAL, TRIBAL, STATE, LOCAL, AND COMMUNITY PARTNERS AND STAKEHOLDERS.

Development of the statewide sheltering strategy is the first step in creating and implementing "a state-wide master plan for the operation of state and local emergency shelters in the Commonwealth." Once the strategy is approved and adopted, the Commonwealth's sheltering plan will be built using the strategy as its foundation and developed through close collaboration with all partner and stakeholder agencies and organizations to ensure success.

4. DEVELOP THE SHELTERING STRATEGY FRAMEWORK AND STATEWIDE SHELTERING PLAN USING A REALISTIC PLANNING PERCENTAGE, AFTER ACTION REPORTS FROM PREVIOUS EVENTS ACROSS THE NATION, AND OTHER APPLICABLE GUIDANCE.

In addition to complying with applicable regulations, the sheltering plan will use after action reports, guidance documents, best practices, and research to identify how best to support displaced individuals in shelters. The strategic framework and sheltering plan will be developed to support up to ten percent of displaced individuals from an impact area. The planning percentage of ten percent is based upon industry standards to support accurate and cost-effective planning.

Objectives

The objectives for the statewide sheltering plan are how the COV will achieve its goals for the sheltering plan. The following objectives have been reviewed and approved by the MCTF. Each objective will be elaborated in a separate section of this document.

OBJECTIVE 1: ENSURE STATE SHELTERING PLAN INTEGRATES WITH LOCAL AND STATE AGENCY EVACUATION, SHELTERING, LONG-TERM RECOVERY HOUSING, AND RE-ENTRY PLANS.

- 1a. Establish an integrated planning team that includes representatives from ESF-6 state and voluntary agencies and local emergency managers and planners.
- 1b. Improve information sharing between localities and the Commonwealth through the use of EWA Phoenix, WebEOC, or an alternative information sharing portal.
- 1c. In collaboration with the integrated planning team, establish appropriate planning and operational policies and procedures; sequence of sheltering; thresholds; transitioning between state, local, and voluntary agencies; demobilization; and the progression to long term recovery housing.

OBJECTIVE 2: IMPROVE SHELTER STAFFING SUPPORT FOR LOCAL AND REGIONAL SHELTERING.

- 2a. Increase available shelter staff through a coordinated system of staffing supports to include the Adjunct Emergency Workforce (AEW), statewide mutual aid system (SMA), Emergency Management Assistance Compact (EMAC), and voluntary agencies.
- 2b. Establish shelter staff typing, including identification of roles and responsibilities within mass care, consistent with national standards, when possible, and require compliance with staff typing standards when staffing resource requests are submitted through WebEOC.
- 2c. In collaboration with the integrated planning team (MCTF), develop recommended staffing levels using national standards and best practices, when available and applicable to Virginia.
- 2d. Establish and implement a program to provide personal assistance services staff to shelters.
- 2e. Support localities in developing shelter staff and shelter staff teams capable of supporting impacted localities through SMA.

OBJECTIVE 3: IDENTIFY CURRENT SHELTER RESOURCE GAPS AND ADDRESS THOSE GAPS IN THE STATEWIDE SHELTERING PLAN.

- 3a. Review and revise the current commodity lists for the SMS program to develop scalable commodities and staffing lists for localities and regional organizations to use in assessing their shelter capabilities.
- 3b. Using the list developed in Objective 3a, conduct a gap analysis of local and regional shelter resources to identify the anticipated supplies needed to support local and regional sheltering events throughout the Commonwealth.
- 3c. Create deployable and/or pre-positioned kits or trailers of functional needs support equipment and supplies including durable medical equipment, non-perishable consumable medical supplies, sensory kits, and accessible communications kits.

OBJECTIVE 4: PROVIDE OR FACILITATE PROVISION OF TRAINING FOR SHELTER AND EMERGENCY MANAGEMENT STAFF INCLUDING BUT NOT LIMITED TO SHELTER MANAGEMENT, SHELTER OPERATIONS, ACCESS AND FUNCTIONAL NEEDS, AND PET SHELTERING.

- 4a. Conduct a training gap analysis that includes identification of competencies and training categories, and identification and evaluation of existing training and training resources to determine which existing trainings and training resources can be used or modified for use in Virginia.

- 4b. Develop a training plan that includes identification of funding sources for the Commonwealth and localities.
- 4c. Develop training to close identified training gaps and meet the requirements of the training plan.
- 4d. Create and disseminate a list of trainings and training resources for localities and voluntary organizations.

OBJECTIVE 5: ENSURE STATE COMPLIANCE WITH REGULATORY REQUIREMENTS INCLUDING, BUT NOT LIMITED TO, BUILDING CODE AND NON-DISCRIMINATION LAWS.

- 5a. Develop a sheltering plan that meets and exceeds, whenever possible, regulatory requirements for mass care and sheltering programs.
- 5b. Establish policies and procedures for ensuring sheltering programs and facilities are universally accessible and meet or exceed, when possible, architectural and programmatic accessibility requirements with the goal of creating a model universally accessible mass care and sheltering program.
- 5c. Identify relevant building code requirements and develop policies and procedures for ensuring any facility used by the Commonwealth for sheltering meets or exceeds those code requirements.

OBJECTIVE 6: WORK WITH STATE, LOCAL, AND COMMUNITY PARTNERS TO EXERCISE AND EVALUATE THE SHELTER PLAN ONCE COMPLETE.

- 6a. Create an exercise plan for the new statewide sheltering plan including, in particular, all new and revised programs, policies, and products.
- 6b. Establish policies exercise-related to help ensure compliance with non-discrimination laws.

OBJECTIVE 7: DETERMINE BUDGET ESTIMATES TO IMPLEMENT THE STATE SHELTERING PLAN FOR LOCAL AND REGIONAL SHELTERING OF HUMANS AND PETS.

- 7a. Using the work completed for Objective 2, determine shelter staffing cost estimates for state-coordinated regional shelters.
- 7b. Using the work completed for Objective 3, determine sheltering supply and commodity costs.
- 7c. Using the work completed in Objectives 2 and 4, determine the cost estimates for executing the recommended training plan, staffing programs, and staffing program changes.
- 7d. Using the work completed in Objective 5, determine the need for and cost of enhancements to physical structures to be used as shelters to ensure compliance with regulatory requirements.
- 7e. Using the work completed in Objective 6, determine the cost estimates for executing the exercise plan and implementing recommended policy changes.
- 7f. Identify funding sources for pre-disaster sheltering initiatives, particularly those identified in Objectives 1-6, including procurement of supplies, commodities, and storage facilities.

Horizontal and Vertical Integration

OBJECTIVE 1: ENSURE THE STATE SHELTERING PLAN INTEGRATES WITH LOCAL AND STATE AGENCY EVACUATION, SHELTERING, LONG-TERM RECOVERY HOUSING, AND RE-ENTRY PLANS.^{3, 20, 30, 14}

Sheltering is ultimately a local responsibility, but localities may need support and assistance to meet the demands for sheltering and to ensure disaster survivors are able to safely shelter as close to home as possible^{13, 14, 29}. *COVEOP ESF 6 Annex*, Commonwealth of Virginia (2012), p.1. In order to provide this support, the COV must consider the evacuation, sheltering, long term recovery housing, and re-entry plans of the localities. Any plans developed by the COV must integrate with those plans in order to be effective and practical.

The current plan for state-level sheltering is contained and outlined in the COVEOP's ESF-6 Annex and Support Annex 4 (SA 4). The State Managed Shelter (SMS) plan is the operational plan for how state-level shelters will be operated. The new statewide sheltering plan will replace the current SA 4 and will incorporate many aspects of the SMS plan, potentially including the agreements with facilities, resources, and planning work completed, but it will ultimately require the SMS plan to be revised to meet the regional framework described below.

The sheltering strategy as outlined in this document will establish a series of shelter categories that vary in who operates, staffs, and funds them. The shelter categories will be:

Local shelter

Most sheltering events are short-duration, small-scale and within the capacity and capabilities of the impacted locality or localities. Shelters opened, operated, and funded by a locality are local shelters.

Locally-coordinated regional shelter

Some events might require or benefit from multiple localities within a region cooperatively sheltering instead of each operating a separate local shelter. This type of cooperative sheltering might occur in recovery as shelter client numbers are declining; in large events where the numbers of shelterees exceed the capacity of local shelter facilities; or in events where the shelter need within each locality is so small that opening multiple local shelters is an unreasonable option. In this situation, a regional shelter could be opened, operated, and funded by impacted localities with little to no assistance from the Commonwealth.

State-coordinated regional shelter

A state-coordinated regional (SCR) shelter is operated and funded by the Commonwealth either by initiating and opening the shelter or by assuming responsibility for the operation of a locally-coordinated regional shelter. Some events might immediately exceed the capacity of multiple impacted localities and require the Commonwealth open a large-scale, regional shelter. An SCR shelter might also be needed during recovery to enable localities to consolidate local shelters

with declining numbers into a regional shelter, allowing local staff to support and focus on recovery efforts.

Regional Shelter Sites

Currently, facilities designated as state-managed shelter sites are only available to the Commonwealth for use during sheltering events. When these sites are transitioned to the new state sheltering plan, the Commonwealth should work toward agreements with these sites to be available for use as locally-coordinated regional shelters whenever possible.

The Commonwealth will evaluate additional sites for use as regional shelters.^{3, 11, 19, 28} Sites being evaluated for the new plan will be categorized by hazard so that sites will not be disqualified for use based solely upon a single hazard. For example, on the coast of Virginia, shelters that do not meet wind-speed, surge, and flood zone requirements for use during hurricanes and tropical storms could still be used during non-high wind, non-flood events.

The Commonwealth will endeavor to identify non-educational facilities for use as regional shelters so as not to disrupt a non-impacted locality's or higher education institution's operations. The Commonwealth may partner with private organizations to ensure adequate shelter facilities in regions with limited government-owned facilities capable of serving as shelters.²⁷

1A. ESTABLISH AN INTEGRATED PLANNING TEAM THAT INCLUDES REPRESENTATIVES FROM ESF-6 STATE AND VOLUNTARY AGENCIES AND LOCAL EMERGENCY MANAGERS AND PLANNERS.^{13, 43, 63, 64, 65, 68}

This objective has been met through the establishment of the Virginia Mass Care Task Force. The Sheltering Coordinator will continue to work with VDEM's Chief Regional Coordinators to enhance locality participation.

1B. IMPROVE INFORMATION SHARING BETWEEN LOCALITIES AND THE COMMONWEALTH THROUGH THE USE OF EWA PHOENIX, WEBEOC, OR AN ALTERNATIVE INFORMATION SHARING PORTAL.

The Commonwealth, in collaboration with the Virginia Mass Care Task Force, will identify the problems with and obstacles to effective and consistent information sharing between the localities and the Commonwealth. These issues will be used to evaluate current and potential information sharing platforms to make recommendations on what can be done to improve information sharing. This could include changes in expectations, changes in local policies regarding WebEOC access and utilization, changes to current WebEOC boards, funding for local EWA Phoenix equipment, or other options as yet unidentified.

1C. IN COLLABORATION WITH THE MASS CARE TASK FORCE, ESTABLISH APPROPRIATE PLANNING AND OPERATIONAL POLICIES AND PROCEDURES INCLUDING PLANNING PERCENTAGES; SEQUENCE OF SHELTERING; THRESHOLDS; TRANSITIONING BETWEEN STATE, LOCAL, AND VOLUNTARY AGENCIES; DEMOBILIZATION; AND THE TRANSITION TO LONG TERM RECOVERY HOUSING.¹³

The Virginia Mass Care Task Force will guide the development of the sheltering plan including advising on recommended policies and procedures listed above. The Commonwealth

recognizes that the localities and state agencies are the experts on their own plans, capabilities, concerns, and needs and should follow the recommendations made by the Task Force.

Staffing

OBJECTIVE 2: IMPROVE SHELTER STAFFING FOR LOCAL AND REGIONAL SHELTERING.

Staffing is the single most critical gap in sheltering. This gap has been reported in every sheltering-related assessment and report conducted since 2008. Currently there are three primary models of shelter staffing found across the Commonwealth. Table T-1 lists the staffing models and associated benefits and challenges.

Resolving the staffing gap will require a multi-prong approach and development of a flexible set of staffing options. The Commonwealth must recognize and account for the differing needs, capabilities, resources, unique geographies, and political environments of the localities. To do this, the sheltering strategy recommends listening to the localities’ input on staffing challenges, developing a more complex system of staffing supports using several options already in place for providing staff and developing new options, enhancing training, and standardizing staffing terms and positions.

Table T.1

Staffing Model	Benefits	Challenges
American Red Cross (ARC) staffs and manages shelter from open to close.	<ul style="list-style-type: none"> • Institutional knowledge and experience. • Volunteers with consistent credentialing and training • Resources and staff are provided at no cost to the locality. • Non-governmental organization which disaster survivors may be more likely to trust. • Established MOAs with hundreds of localities and non-governmental facilities across the Commonwealth. • Established systems, policies and procedures for staffing and operating shelters. 	<ul style="list-style-type: none"> • Recent disasters in Virginia and other states have resulted in failures to provide Red Cross shelter staffing. • Duplication of efforts including service delivery and damage assessments which are not coordinated with, and sometimes not communicated to, the localities. • Inconsistent capabilities across the COV make anticipating capabilities difficult. • Inconsistent messages from ARC to emergency management regarding capabilities creates confusion and uncertainty. • Recent change in disaster response policy, which was not

		<p>communicated to VDEM, VDSS, local emergency managers, or public, has damaged relationships with the Red Cross in some localities.</p> <ul style="list-style-type: none"> • Communications with ARC leadership have not resulted in positive change leaving concern that future response operations may not fare better.
<p>Local Department of Social Services (LDSS) and local VDH staffs and manages shelter from open to close.</p>	<ul style="list-style-type: none"> • Increased control over response and staff. • Policies and procedures for operating the shelter are determined and enforced by the locality. • Better access to and coordination with local and state agencies. • Simplified processes for evaluation, exercise and revision of sheltering plans. 	<ul style="list-style-type: none"> • LDSS and VDH staff need to return to work quickly to meet the demands of an increased workload post-disaster. • Turnover and training can make maintaining a ready cadre difficult. • In larger events, LDSS and VDH staff within a single locality may not be sufficient to meet staffing needs. • In some smaller localities, LDSS staff may be unable to staff. • Local employees may be personally impacted and unable to staff shelters. • Medical staffing is a significant challenge requiring identification of appropriate staff and services as well as the possible need for VDH staff to work in local and state shelters simultaneously.
<p>Local Department of Social</p>	<ul style="list-style-type: none"> • Localities are able to 	<p>In addition to the ARC</p>

<p>Services opens, staffs, and manages the shelter for the first 72 hours; the American Red Cross takes over staffing and managing until the shelter closes.</p>	<p>ensure the shelter opens and is staffed in a timely manner</p> <ul style="list-style-type: none"> • LDSS staff are able to return to work after 72 hours • Limits cost to localities by transferring responsibility to the ARC quickly 	<p>challenges provided above:</p> <ul style="list-style-type: none"> • Communications during the transition between LDSS and ARC. • Potential failure of ARC to provide sufficient staff would leave LDSS in a bind on short notice.
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2A. INCREASE AVAILABLE SHELTER STAFF THROUGH A COORDINATED SYSTEM OF STAFFING SUPPORTS TO INCLUDE THE ADJUNCT EMERGENCY WORKFORCE (AEW), STATEWIDE MUTUAL AID SYSTEM (SMA), EMERGENCY MANAGEMENT ASSISTANCE COMPACT (EMAC), AND VOLUNTARY AGENCIES. ^{11, 17, 28, 29(D)}

In light of questions and concerns regarding the Red Cross’s current capabilities related to shelter staffing, it is wise for the Commonwealth to take steps to ensure it can support shelter staffing independent of the Red Cross. In order to do this, the Commonwealth should not rely entirely on a single solution. Instead, multiple, complementary solutions which are capable of working in concert to meet the staffing needs of a locality or region should be implemented. There are currently several supports that can be further developed and enhanced.

STATEWIDE MUTUAL AID (SMA) SYSTEM

This system allows localities to provide direct support when requested, including shelter and volunteer staff. SMA is available for local, regional, and state-level emergencies and disasters. Input from the Task Force and the Regional Listening Sessions show that local emergency managers may not be aware the SMA system can be used to request shelter staff, are not certain how or if they will be reimbursed for costs, and are concerned about maintaining daily operations in their own locality should they send staff to support an impact area.

<http://www.vaemergency.gov/emergency-management-community/emergency-management-resources/logistics/statewide-mutual-aid/>

Potential improvements and enhancements:

- Educate local emergency managers on applicability of SMA to staffing and the process for requesting reimbursement
- Work with and support localities in developing deployable shelter staff and shelter teams
- Provide assistance to localities in creating processes and procedures for deploying shelter staff through the SMA system (Position typing is addressed in Obj. 2b; Standardization of training is addressed in the Training Section under Obj. 4b)

ADJUNCT EMERGENCY WORKFORCE (AEW)

The AEW is the program established by the Commonwealth in 2007 to allow state employees to offer to be temporarily reassigned for disaster response within the Commonwealth. The AEW

focuses on staffing for state managed shelters. Any non-essential Commonwealth employee, with supervisor approval, is eligible to participate. To date, this program has not been implemented in response to a disaster event and participation in training has been extremely low.

A major problem with the AEW program is program management. VDSS receives a spreadsheet of those enrolled once or twice per year. This list is not updated or synchronized with current employee status or information so employees who have left state employment, changed agencies or contact information are not automatically updated and rarely remember to update the AEW information on their own. This results in VDSS having to spend time attempting to reconcile the spreadsheet making management of the program virtually impossible. This also results in VDSS being unable to communicate regularly with the AEW participants.

<http://resources.dhrm.virginia.gov/AdjunctEmergencyWorkforce.html>

Potential improvements and enhancements:

- Work with the Department of Human Resources Management (DHRM) to reinvent and reinvigorate the AEW program
- Establish shelter position typing (addressed in Obj. 2b)
- Work with relevant state agencies and community organizations to establish training and background requirements for the typed shelter positions
- Work with the Governor's Office and VDEM Public Affairs to create a marketing and recruitment campaign
- Discuss with the Governor's Office and DHRM the possibility of adding disaster response to non-essential personnel's employee work profiles or establishing an incentive for state employees to participate and for supervisors to allow and encourage participation
- Work with VDEM Training, Exercise, and Education Division (TEED) to develop and provide training to the AEW regularly
- Draft and adopt policies for including AEW participants in mass care exercises and training, including policies for being released from day jobs for participation *without* penalty
- Find and fund a software program or part time/contract position to actively manage the database of AEW participants.

EMERGENCY MANAGEMENT ASSISTANCE COMPACT (EMAC)

EMAC is a national disaster relief compact that offers assistance during governor-declared states of emergency. The system allows states to send personnel, equipment, services, and commodities to other states to assist with relief efforts. The EMAC is law in all 50 states, D.C., Puerto Rico, Guam and the U.S. Virgin Islands.

<http://www.emacweb.org/>

Potential improvements and enhancements:

- Virginia should adopt shelter typing consistent with EMAC to ensure ease of use of the EMAC system to support sheltering.
- Educate localities on availability and use of EMAC for sheltering support.
- Develop a Virginia Mass Care Mission Ready Package to support other states as requested. This will not only establish good will with assisted states, it will provide additional experience for our shelter staff, improving Virginia’s capabilities.

VOLUNTARY ORGANIZATIONS ACTIVE IN DISASTER (VOAD)

VOAD is an association of organizations that mitigate and alleviate the impact of disasters and fosters more effective delivery of services to communities affected by disasters. VDEM has a VOAD liaison position. The Virginia VOAD includes more than 40 voluntary organizations.

<https://vavoad.communityos.org/cms/home>

Potential improvements and enhancements:

- Work with the Voluntary Agency Liaison and the VAVOAD to identify all member organizations capable of supporting mass care.

2B. ESTABLISH SHELTER STAFF TYPING, INCLUDING IDENTIFICATION OF ROLES AND RESPONSIBILITIES WITHIN MASS CARE, CONSISTENT WITH NATIONAL STANDARDS, WHEN POSSIBLE, AND REQUIRE COMPLIANCE WITH STAFF TYPING STANDARDS WHEN STAFFING RESOURCE REQUESTS ARE SUBMITTED THROUGH WEBEOC. ^{3, 21, 22, 23}

Standardization of shelter staff positions and organizational structures is important for successfully meeting Objective 2. To create a system that enables localities to request shelter staff positions or shelter management teams, localities and the Commonwealth need to clearly understand what is being requested and what is expected to be provided. The Commonwealth cannot mandate compliance with shelter typing, but it can require that requests submitted to the Virginia Emergency Operations Center comply with adopted shelter typing standards. These typing standards should, to the extent possible, match what is used nationally in order to ensure ease and simplicity when working with EMAC, voluntary agencies, and other states.

FEMA has done some very limited work on shelter staff position typing and the Red Cross has established shelter staff typing for their organization as well. The Commonwealth will use these and [FEMA’s Shelter Field Guide](#) in collaboration with the Task Force to develop shelter staff position typing for Virginia.

2C. IN COLLABORATION WITH THE INTEGRATED PLANNING TEAM (MCTF), DEVELOP RECOMMENDED STAFFING LEVELS USING NATIONAL STANDARDS AND BEST PRACTICES, WHEN AVAILABLE AND APPLICABLE TO VIRGINIA. ^{3, 21, 22, 23}

Shelter staffing plans identify positions and the quantity of personnel needed for each operational period. Using national standards, best practices, and previously developed staffing plans, the Commonwealth and MCTF will recommend a scalable staffing plan for use in state-level sheltering and provide those recommendations as guidance to localities.

VDEM and VDSS will encourage localities to adopt the recommended staffing plans or to share their own, local staffing plan so that a staffing baseline can be quickly established during an event. That baseline data can be used by the Commonwealth to anticipate locality staffing support needs.

2D. ESTABLISH AND IMPLEMENT A PROGRAM TO PROVIDE PERSONAL ASSISTANCE SERVICES STAFF TO SHELTERS. ^{22, 23, 24, 31, 32, 41, 43, 46, 50, 63, 64, 73}

Provision of personal assistance services (PAS), also called personal care services (PCS), is one way to ensure the accessibility of shelter programs and services and ensure that localities and the Commonwealth are meeting the legal requirement to provide services in the most integrated setting appropriate for the individual. PAS have been identified as a requirement for making a shelter accessible to individuals who require assistance. (*BCID v. Bloomberg and The City of New York* (2013) Judge's Opinion and Order, p. 97-98, 103) PAS includes formal and informal services provided by personal attendants (paid or unpaid), friends, family members or volunteers that enable individuals to maintain their usual level of independence in a general population shelter.

Many sheltering plans include the statement that individuals with disabilities who require PAS are *required* to be accompanied by their personal care aides. A policy that denies access to the general population shelter based upon a need for PAS or because the individual does not provide their own personal care services provider has been deemed a violation of those individuals' civil rights under the Americans with Disabilities Act. (See citation immediately above). The U.S. Department of Justice has provided guidance that these individuals *should be housed in general population shelters even if they are not accompanied by their personal care aides.* (*ADA Best Practices Tool Kit for State and Local Governments, Chapter 7 Addendum 2: The ADA and Emergency Shelters: Access for All in Emergencies and Disasters*).

This is a challenge for entities responsible for providing shelter because most are not sure what services to provide, who can provide them, and how to implement these services. Cost is always a challenge as well. The Virginia Department of Emergency Management will work with various local and regional voluntary agencies to establish a statewide Functional and Access Needs Support (FANS) Team volunteer program. This program recruits individuals with training and experience in PAS to provide those services in shelters and in support of evacuations. These teams will be deployable across the Commonwealth and will be available to support local and regional shelters. Teams have already been established in cooperation with the Medical Reserve Corps in Albemarle County, Staunton, and Winchester.

In addition to the volunteer program, the VDEM Sheltering Coordinator will work with VDEM Logistics to secure contracts with PAS providers from within the state and with national organizations. During a sheltering event, the locality or the Commonwealth would be able to use either the contract(s) or the volunteer program or both.

2E. SUPPORT LOCALITIES IN DEVELOPING SHELTER STAFF AND SHELTER STAFF TEAMS CAPABLE OF SUPPORTING IMPACTED LOCALITIES THROUGH SMA. ^{3, 21, 22, 29(D)}

In order to achieve Objective 2a, specifically increasing use of the Statewide Mutual Aid (SMA) system to provide shelter staffing, the Commonwealth will encourage, guide, and provide technical assistance to localities in developing shelter staff and shelter management teams. The COV will also provide technical assistance to localities in developing and adopting policies and procedures for deployment of local personnel. Development of these staff and teams will also increase staffing capability to respond to events that impact their own localities. The COV cannot directly create and utilize these teams, but it should provide the assistance and incentives necessary for the localities to take this step.

Resources and Assets

OBJECTIVE 3: IDENTIFY CURRENT SHELTER RESOURCE GAPS AND ADDRESS THOSE GAPS IN THE STATEWIDE SHELTERING PLAN. ^{3, 9, 11, 19, 23, 24, 28, 31, 32, 37, 41, 50, 63, 64, 73}

3A. REVIEW AND REVISE THE CURRENT COMMODITY LISTS FOR THE SMS PROGRAM TO DEVELOP SCALABLE COMMODITIES AND STAFFING LISTS FOR LOCALITIES AND REGIONAL ORGANIZATIONS TO USE IN ASSESSING THEIR SHELTER CAPABILITIES.

VDEM and VDSS will work with the Resources Work Group to review the resource lists created for the SMS sites to remove superfluous items and categorize by resources necessary for opening a shelter versus resources that are optional or could be provided after opening. The Resources Work Group will create resource lists, scalable by shelter population, for the regional VDEM staff, local emergency managers, and voluntary agencies to use to conduct surveys of their shelter resources (Obj. 3b). These lists will include durable medical equipment, consumable medical supplies, and pet sheltering resources. This survey of resources is authorized by COV § 44-146.18 (B)(14).

3B. USING THE LIST DEVELOPED IN OBJECTIVE 3A, CONDUCT A GAP ANALYSIS OF LOCAL AND REGIONAL SHELTER RESOURCES TO IDENTIFY THE ANTICIPATED SUPPLIES NEEDED TO SUPPORT LOCAL AND REGIONAL SHELTERING EVENTS THROUGHOUT THE COMMONWEALTH.

VDEM will work through the regional offices, VOAD and other voluntary organizations, and local emergency managers to conduct an analysis of currently available local and regional resources using the lists developed under Obj. 3a. The goal of the analysis is to identify resource gaps that exist within localities and regions. The Resources Work Group will provide the gap analysis to VDEM and VDSS to guide the procurement of the resources necessary to ensure shelters can be fully equipped as required in COV §44-146.18 (B)(9).

3C. CREATE DEPLOYABLE AND/OR PRE-POSITIONED KITS OR TRAILERS OF FUNCTIONAL NEEDS SUPPORT EQUIPMENT AND SUPPLIES INCLUDING DURABLE MEDICAL EQUIPMENT, NON-PERISHABLE CONSUMABLE MEDICAL SUPPLIES, SENSORY KITS, AND ACCESSIBLE COMMUNICATIONS KITS. ⁷³

The Resources Work Group will work with the Access, Functional, and Medical Needs Work Group to identify the equipment and supplies needed to ensure universal accessibility of mass care programs including evacuation assistance centers, recovery centers, and family assistance centers. This work will be done in conjunction with Obj. 3a to ensure inclusion in the resource lists and gap analysis. Once the gap analysis (Obj. 3b) is complete, VDEM and VDSS will coordinate acquiring kits or trailers of the necessary functional needs support services (FNSS) equipment. VDEM Logistics will work with regional VDEM staff to determine whether each type of kit or trailer should be pre-positioned or should be deployed from the VDEM warehouse. These FNSS kits and trailers will be available to the localities for use for local shelters, locally-coordinated and state-coordinated regional shelters.

The kits and trailers that will need to be created include, but are not limited to:

- Durable medical equipment (DME): Some regions have DME trailers already available, but this is not a statewide resource and capability.
- Consumable medical supplies (CMS): Shelters will need to provide basic consumable medical supplies such as waterproofing pads, antibacterial wipes, and patient care gloves.
- Accessible communications kits: These are kits that contain equipment necessary to ensure equally effective communications for individuals with LEP and disabilities that impact communications. FEMA has developed a good model for these kits which will be used in development of the Commonwealth's kits. The Resources Work Group will work with the agencies under Secretary of Health and Human Services to finalize the recommended contents for these kits. Some equipment may be available through state agencies, disability service agencies, or voluntary organizations on demand. VDEM's Sheltering Coordinator will work with those agencies and VDEM Logistics to establish procedures for securing and deploying those resources. Equipment not available through these agencies should be procured and positioned as quickly as possible to ensure these tools are available for the next mass care event.
- Sensory kits: Many individuals will come to shelters and other mass care sites with disabilities that affect their senses such as Autism Spectrum Disorder and brain injuries. These individuals will need some simple equipment to help ensure their safety and well-being in a mass care environment. The Resources and AFMN Work Groups will work together to create a list of the recommended equipment, including weighted blankets, pop up tents and tunnels, and noise cancelling headphones. As with the Accessible Communications Kits, the Commonwealth should procure and position as quickly as possible to ensure these tools are available for the next mass care event.

Training

OBJECTIVE 4: PROVIDE OR FACILITATE PROVISION OF TRAINING FOR SHELTER AND EMERGENCY MANAGEMENT STAFF INCLUDING BUT NOT LIMITED TO SHELTER MANAGEMENT, SHELTER OPERATIONS, ACCESS AND FUNCTIONAL NEEDS, AND PET SHELTERING. ^{21, 25}

Training was identified in the regional listening sessions and multiple sheltering assessment reports as a common need across the Commonwealth. The difficulties with training include, but are not limited to:

- Limited time for individuals to participate in training,
- Staff turn-over,
- Limited funding for provision of training,
- Little to no adequate pet sheltering and access and functional needs training,
- Lack of just-in-time training for shelter staff, and
- Consistency of training across the Commonwealth.

As the state sheltering plan is developed, the Training Work Group and the Mass Care Task Force will complete the following sub-objectives including development of a training plan for state employees and a recommended training plan for local employees and volunteers.

4A. CONDUCT A TRAINING GAP ANALYSIS THAT INCLUDES IDENTIFICATION OF COMPETENCIES AND TRAINING CATEGORIES, AND IDENTIFICATION AND EVALUATION OF EXISTING TRAINING AND TRAINING RESOURCES TO DETERMINE WHICH EXISTING TRAININGS AND TRAINING RESOURCES CAN BE USED OR MODIFIED FOR USE IN VIRGINIA. ¹⁹

The Training Work Group will partner with the Staffing Work Group to identify the core competencies and training needs based upon the Staffing Work Group's shelter position typing. The Training Work Group will identify and evaluate currently available training, including but not limited to American Red Cross training, to determine whether existing training resources meet Virginia's needs or if training needs to be developed for certain positions or topics. This group will summarize their work in a report to the Task Force.

4B. DEVELOP A TRAINING PLAN THAT INCLUDES IDENTIFICATION OF FUNDING SOURCES FOR THE COMMONWEALTH AND LOCALITIES. ²¹

The Training Work Group will work with the Staffing Work Group to create two training plans for shelter staff: (1) a mandatory training plan for state employees who are or will be staffing shelters, and (2) a recommended training plan for localities to use²². These training plans will break down training by position and will also include general training applicable to all shelter staff. This general training could include access and functional needs, active shooter situations, Psychological First Aid, and training on the state sheltering plan, in general.

The training needs identified in the 2015 Regional Listening Sessions, which will be included in the training gap analysis and the training plans, were:

1. Shelter operations
2. Shelter management

3. Access and functional needs, including triage
4. Pet sheltering
5. Just-in-time training (all types)

The training needs identified by the Mass Care Task Force Work Groups, which will be included in the training gap analysis and the training plans, were:

1. Functional and Access Needs Support (FANS) Team Program
2. Shelter inspectors/Building Officials
3. Food handler (ServSafe) training, if needed
4. Training for facility managers

4C. DEVELOP TRAINING TO CLOSE IDENTIFIED TRAINING GAPS AND MEET THE REQUIREMENTS OF THE TRAINING PLAN.

Using the report produced in Objective 4a, the Task Force will recommend creation of training for shelter positions or training topics which were deemed inadequate or do not already exist. VDEM and VDSS will develop the training, whether through in-house resources, in partnership with VOAD agencies, or through a contractor, to be able to meet the requirements of the training plan, as adopted.

4D. CREATE AND DISSEMINATE A LIST OF TRAININGS AND TRAINING RESOURCES FOR LOCALITIES AND VOLUNTARY ORGANIZATIONS.

VDEM will publish the training report from Obj. 4a and the training plans on the sheltering resources page on their website with links and additional information to ensure localities can easily access the training resources. Additional training programs and resources will be added to this page as they are developed or identified. Whenever a new training resource is added, VDEM's Sheltering Coordinator will notify local emergency managers.

Regulatory Requirements and Compliance Strategies

OBJECTIVE 5: ENSURE STATE COMPLIANCE WITH REGULATORY REQUIREMENTS INCLUDING, BUT NOT LIMITED TO, BUILDING CODE AND NON-DISCRIMINATION LAWS.

The federal and state regulatory requirements related to mass care and sheltering are found in

- The Americans with Disabilities Act;
- Title VI of the Civil Rights Act; and
- Section 504 of the Rehabilitation Act, which are tied to the federal financial assistance received by VDEM and other state agencies with ESF-6 roles and responsibilities;
- Post-Katrina Emergency Management Reform Act (PKEMRA);
- Pet Evacuation and Transportation Standards Act of 2006 (PETS);
- Presidential Executive Orders; and
- Building codes.

In addition to these requirements, the Stafford Act has specific regulations related to firearms in shelters, Virginia code has statutes related or relevant to mass care, and additional guidance documents have been issued by FEMA and others that provide recommendations based upon research, anecdotal evidence, and input from subject matter experts.

The statewide sheltering plan will be developed to, at minimum, meet regulatory requirements. Guidance documents, best practices, and other reference documents will be consulted and evaluated for use in the statewide sheltering plan.

5A. DEVELOP A SHELTERING PLAN THAT MEETS AND EXCEEDS, WHENEVER POSSIBLE, REGULATORY REQUIREMENTS FOR MASS CARE AND SHELTERING PROGRAMS.

Numerous federal regulatory and state statutory requirements apply to the Commonwealth's sheltering program. Additionally, there are one Governor's Executive Order and two Presidential Executive Orders that apply to the COV's sheltering program. Those requirements have all been outlined in Appendix A: Statutes, Regulations, and Executive Orders Related to Sheltering.

The COV's sheltering plan will be developed to ensure the Commonwealth is complying with all regulatory and statutory requirements.

5B. ESTABLISH POLICIES AND PROCEDURES FOR ENSURING SHELTERING FACILITIES AND PROGRAMS ARE UNIVERSALLY ACCESSIBLE AND MEET OR EXCEED, WHEN POSSIBLE, ARCHITECTURAL AND PROGRAMMATIC ACCESSIBILITY REQUIREMENTS WITH THE GOAL OF CREATING A MODEL UNIVERSALLY ACCESSIBLE MASS CARE AND SHELTERING PROGRAM.

This sub-objective is addressed in the Disability, Access, Functional, and Medical Needs Section on page 33.

5C. IDENTIFY RELEVANT BUILDING CODE REQUIREMENTS AND DEVELOP POLICIES AND PROCEDURES FOR ENSURING ANY FACILITY USED BY THE COMMONWEALTH FOR SHELTERING MEETS OR EXCEEDS THOSE CODE REQUIREMENTS.

The relevant building code requirements were mostly identified in a report provided to the Hurricane Evacuation Coordination Working Group in 2015 called *In-Season Hurricane Review Priorities: SH-32 Identification of Building Code Guidelines Final Report*, included as Appendix B. Since then, there has been a change in applicability of ICC-500 to shelters in Virginia, discussed in the following several paragraphs. VDEM will provide the SH-32 Report to local emergency managers with an addendum containing the changes to ICC-500. This will also be posted to VDEM's sheltering resources page on their website.

ICC-500

The strictest building construction requirements for shelters are found in ICC 500 which Virginia includes in its Uniform Statewide Building Codes (USBC). The requirements found in the 2012 USBC apply to new construction and existing buildings. ICC 500's design wind speed requirements have been particularly problematic for shelters in hurricane-prone regions of the Commonwealth. This code requirement sets extremely high standards that are difficult, if not impossible, for localities and school districts to meet because of costs and competing requirements.

Both the 2012 (current edition) and the 2015 (future edition, when adopted) Uniform Statewide Building Codes (USBC) states that if a storm shelter is being built, regardless of whether it is in a new or rehabilitated building, the ICC-500 standard shall be followed. The construction documents submitted to the locality identifying the project's name, construction type, use group, and all other pertinent construction information, would need to include the words "storm shelter" in order to begin to make reference to the ICC 500 standard. For example, if a locality is building a new school and the construction documents read "ABC Elementary School", nothing in the USBC assumes this to be a storm shelter. The construction documents would need to read "ABC Elementary School/Storm Shelter" to trigger the ICC 500 requirement. 2012 USBC incorporates ICC 500-08 and 2015 USBC will incorporate ICC 500-14. Both ICC 500-08 and 500-14 identify two types of shelters related to design wind speed requirements: tornado and hurricane shelters. The revised ICC 500-14 code states: "For tornado shelters, the design wind speed shall be in accordance with Figure 304.2(1). For hurricane shelters, the design wind speed shall be in accordance with Figure 304.2(2)."

The tornado shelter design wind speed maps (App. C) did not change between ICC 500-08 and 500-14. The code requires that in "areas where the shelter design *wind speed for tornadoes is 250 mph* in accordance with Figure 304.2(1) of ICC 500" shelters be constructed to ICC 500-08 standards.

When the 2015 USBC is adopted, the code language changes to address critical emergency operations and use group E (education) occupancies as follows:

423.3 Critical emergency operations. In areas where the shelter design wind speed for tornados in accordance with Figure 304.2(1) of ICC 500 is 250 MPH, 911 call stations,

emergency operation centers and fire, rescue, ambulance and police stations shall have a storm shelter constructed in accordance with ICC 500.

423.4 Group E occupancies. In areas where the shelter design wind speed for tornados is 250 MPH in accordance with Figure 304.2(1) of ICC 500, all Group E occupancies with an aggregate occupant load of 50 or more shall have a storm shelter constructed in accordance with ICC 500. The shelter shall be capable of housing the total occupant load of the Group E occupancy.

Exceptions:

1. Group E day care facilities.
2. Group E occupancies accessory to places of religious worship.
3. Buildings meeting the requirements for shelter design in ICC 500.”

However, the Shelter Design Wind Speeds for Tornadoes (Figure 304.2(1)) map shows that Virginia has no areas in the 250 MPH zone, therefore the 2015 International Building Code sections 423.3 Critical Emergency Operations and 423.4 Group E Occupancies are not applicable for tornado shelters in Virginia.

Under the current 2012 USBC, the ICC 500-08 Shelter Design Wind Speeds for Hurricanes (Figure 304.2(2) – Appendix D) map does not provide any information related to determination of which areas of Virginia require storm shelters. Figure 304.2(2) from the ICC-500-14 requires a hurricane shelter in Virginia to be built to 160 mph wind speed. Figure 304.2(2) from the ICC-500-08 has higher design wind speeds than ICC-500-14 for some areas on the coastline. Concerning design wind speed, once the 2015 USBC is adopted, any building that is designated in its construction documents as a “storm shelter” will need to be built to meet the 160 mph wind speeds as required by ICC 500-2014. ICC-500 also contains additional criteria and requirements beyond design wind speed for hurricane shelters. Local emergency managers should consult with their local building code official to determine what requirements their facilities need to meet.

The current USBC allows the building official to consider future amendments to model codes when granting modifications but does not require acceptance of modifications based on future amendments. That means local and state building code officials may choose to use the newest version of the USBC which reduces required design wind speed for parts of Virginia.

Some localities have discussed and questioned whether using a building as a shelter would trigger a change of use, thereby requiring that the building be brought up to current code standards. A modification may be granted under VCC § 117.1.1 by the Authority Having Jurisdiction to allow a building to be used as a shelter without requiring a change of use when it is determined to be appropriate by the local building official based upon its historic use and the code under which it was constructed.

In summary, the building code requirements that should be used by the Commonwealth for sheltering are those identified in the SH-32 report in App. B and the 160 mph design wind speed requirement for hurricane shelters. Localities should discuss local sheltering facilities, plans, and building code requirements with their local building official.

To ensure facilities used by the Commonwealth meet or exceed the building code requirements, the Task Force will recommend adoption of a policy requiring that any facility to be used by the Commonwealth for sheltering must be evaluated using the Rapid Shelter Screening Criteria created by IBTS for James City County with necessary adjustments made to the code requirements for each locality. This assessment was created and used by the Institute for Building Technology and Safety to assess many of the shelter facilities in James City County and results in a Least-Risk Decision Making Table (App. F) that can be used to determine which facilities are appropriate for what types of hazard events. This assessment can be provided to any locality for use in assessing their own shelter facilities.

Disability, Access, Functional, and Medical Needs

5B. ESTABLISH POLICIES AND PROCEDURES FOR ENSURING SHELTERING PROGRAMS AND FACILITIES ARE UNIVERSALLY ACCESSIBLE AND THAT MEET OR EXCEED, WHEN POSSIBLE, PHYSICAL AND PROGRAMMATIC ACCESSIBILITY REQUIREMENTS TO CREATE A MODEL UNIVERSALLY ACCESSIBLE MASS CARE AND SHELTERING PROGRAM.³¹⁻⁷³

The Commonwealth must have both policies and procedures in place to ensure sheltering and mass care programs and services are equally accessible to individuals with disabilities, limited English proficiency, and individuals with religious or cultural requirements. The Commonwealth's sheltering plan will strive to go beyond the minimal requirements of accessibility to create a program that is universally accessible - accessible to everyone, everywhere, every time.

To meet the non-discrimination requirements of state and federal law, which are identified in App. A, the COV must ensure:

- Building areas being used for sheltering and mass care, programs, and services are all equally accessible and effective. It is important to note that compliance with ADA and Section 504 of the Rehabilitation Act of 1973, as amended, may require changes or temporary modifications to buildings in those areas being used for sheltering.^{39, 52, 70, 63}
- Communications within and about shelters and mass care programs are equally effective for individuals whose primary language is not English, individuals who are deaf or hard of hearing, individuals who are blind or have low vision, individuals with developmental or intellectual disabilities, and other individuals with disabilities who use alternate means of communication.^{44, 49, 50, 51, 55, 56, 57, 63, 66-69}
- Individuals with access and functional needs are fully able to participate in and receive the benefits of emergency programs, services, and activities including planning, preparedness, training, and exercises related to the sheltering plan and programs.^{31, 32, 33, 37, 46, 47}
- Emergency programs, services and activities are provided in an integrated setting. Individuals with disabilities must be provided sheltering in the most integrated setting appropriate to their needs.^{31, 32, 33, 37, 46, 47}
- A process is in place for requesting, providing, and ensuring reasonable accommodations for all activities involving or for the benefit of the public, employees, and volunteers.
- No recipient of reasonable accommodations is charged for any supports or services necessary to make programs and facilities accessible.⁷¹

The federal and state regulatory and statutory requirements related to accessibility are provided in more detail in App. A.

The Access, Functional, and Medical Needs (AFMN) Work Group will work with the Access and Functional Needs Advisory Committee (AFNAC) to review and evaluate existing policies, procedures, and after action reports to determine changes necessary to ensure universal

accessibility. The groups will determine how best to resolve the issues and will provide recommendations to VDEM and VDSS.

Policies that should be incorporated into the Commonwealth's sheltering plan will include, but are not limited to:

- All state-coordinated regional shelters must be fully accessible, with or without temporary modifications.^{39, 52, 70, 63}
- All state-coordinated regional shelters will have a designated and trained Access and Functional Needs Coordinator.
- Individuals will not be separated from service animals, medical equipment and supplies, care providers, interpreters, or family including unrelated household members. Exceptions may be made for those with critical medical needs but in those cases, families will be housed nearby.^{31, 32, 33, 37, 46, 47, 73}
- The Commonwealth of Virginia will not segregate individuals based solely on a disability, access, or functional need. However, each individual has the right to self-determination. If the individual feels safer or more comfortable in a medical shelter or medical area, and meets the criteria established by the agency operating the shelter, the individual may be allowed to reside there if space is available as determined by the shelter manager. Individuals with acute care needs will be transferred to a medical facility for treatment and sheltering.^{31, 32, 33, 37, 46, 47}

At a minimum, the most current Department of Justice guidance and tools for emergency management and sheltering programs will be used to assess the accessibility of programs and facilities. VDEM's Sheltering Coordinator will work with VDSS and the Access, Functional, and Medical Needs Work Group to analyze and aggregate recommendations, models, and best practices from various additional sources to further enhance accessibility beyond the minimum requirements of law. The Sheltering Coordinator will create two lists of recommendations:

- (1) Recommendations to incorporate into the statewide sheltering plan; and
- (2) Ideas and recommendations for local sheltering plans.

Both lists will be added to the shelter resources page on the VDEM website.

Finally, the AFMN Work Group also recommends the Virginia Emergency Support Team (VEST) position currently assigned responsibilities for access and functional needs support be more fully defined and supported. With the key responsibility for this position to ensure that access and functional needs are being considered and addressed across response and recovery operations, specific considerations and actions need to be taken.

First, this position is currently titled Special Needs Coordinator and should be renamed Access and Functional Needs (AFN) Coordinator. This position should coordinate, support, and monitor all AFN activities related to VEOC and VEST tasks and assignments to include shelter support.

Second, training should be developed and additional staff assigned to this position to ensure full coverage during VEST activations and recovery operations. Third, the AFMN Work Group recognizes that access and functional needs touches far more than just ESF-6 and (task dependent) may include ESF-1 Transportation, ESF-7 Logistics, ESF-8 Public Health, Plans Section, ESF-14 Recovery, and ESF-15 Public Information, etc. When required, the VEST AFN Coordinator will coordinate between state agencies, local agencies, and ESFs.

Exercising the Plan

OBJECTIVE 6: WORK WITH STATE, LOCAL, AND COMMUNITY PARTNERS TO EXERCISE AND EVALUATE THE SHELTER PLAN ONCE COMPLETE. ²

Once the sheltering plan is complete, the COV should immediately begin to test the plan through a series of exercises leading up to a full-scale exercise. This series should be repeated regularly, so that the plan is continually exercised and revised. Whenever possible, these exercises should be incorporated into existing recurrent exercises, such as Virginia Emergency Support Team exercise, to reduce fiscal impact and practice integrating sheltering into various types of responses. The MCTF recommends that these exercises leverage existing community resources such as 2-1-1 and Virginia Healthcare and Alerting Status System (VHASS).

6A. CREATE AN EXERCISE PLAN FOR THE NEW STATEWIDE SHELTERING PLAN INCLUDING, IN PARTICULAR, ALL NEW AND REVISED PROGRAMS, POLICIES, AND PRODUCTS.

In addition to exercising the new statewide sheltering plan, each new or improved programs, products, and policies will need to be exercised repeatedly to both test and rehearse the programs. The exercise will be compliant with the Homeland Security Exercise and Evaluation Program.

The exercise plan should include exercising the various transitions which might occur with the new integrated structure of sheltering in the Commonwealth. The transitions that should be included in the exercise plan are:

- Large state-coordinated regional shelter to long-term recovery housing
- Locally-coordinated regional shelter to state-coordinated regional shelter
- Multiple, local shelters to state-coordinated regional shelter
- Multiple, local shelters to locally-coordinated regional shelter

6B. ESTABLISH EXERCISE-RELATED POLICIES TO HELP ENSURE COMPLIANCE WITH NON-DISCRIMINATION LAWS. ^{31, 37, 40, 63, 64, 65, 68}

Non-discrimination laws apply equally to exercise programs as they do to other aspects of the Commonwealth's emergency programs. The DAFMN work group will work with AFNAC and the Sheltering Coordinator to develop recommended policies and practices for exercise programs to ensure inclusion of individuals with access and functional needs in all stages of an exercise; prohibition of scoping out access and functional needs from exercises; and ensuring sufficient AFN-related representation on all exercise planning teams, regardless of the exercise focus.

Budget

OBJECTIVE 7: DETERMINE BUDGET ESTIMATES TO IMPLEMENT THE STATE SHELTERING PLAN FOR LOCAL AND REGIONAL SHELTERING OF HUMANS AND PETS. ^{2, 7, 23, 24, 37, 39, 59, 66}

Identifying the financial impacts and funding requirements of the new sheltering plan and associated program and policy changes is critical. To ensure these needs are clear and easy to track, each objective has been separately identified as a sub objective to Objective 6. Each sub objective contains items identified or proposed in this document which might require funding or have some other financial impact. This list does not include personnel hours when individuals are performing work consistent with their EWP or job duties. This list should be considered a living list; it will change as planning progresses. An up-to-date list will be maintained by the Sheltering Coordinator.

7A. USING THE WORK COMPLETED FOR OBJECTIVE 2, DETERMINE SHELTER STAFFING COST ESTIMATES FOR STATE-COORDINATED REGIONAL SHELTERS.

Once the staffing recommendations and guidelines are created, VDEM and VDSS will work together to meet this objective.

7B. USING THE WORK COMPLETED FOR OBJECTIVE 3, DETERMINE SHELTERING SUPPLY AND COMMODITY COSTS.

The following plans and recommendations identified under Objective 2 will likely require funding:

- *Maintenance of and enhancements to EWA Phoenix.*
- *Funding for optional support equipment for local use of EWA Phoenix* either through direct procurement by the Commonwealth or through grant program applications. (p. 21)
- *Creation, maintenance, and administration of functional needs support services (FNSS) supply kits and trailers.* This will involve procuring containers and trailers, durable medical equipment, communications equipment, and other resources. To ensure the trailers can be moved to shelter locations, towing hitches may need to be changed on some regional office vehicles. (p. 34)

7C. USING THE WORK COMPLETED IN OBJECTIVES 2 AND 4, DETERMINE THE COST ESTIMATES FOR EXECUTING THE RECOMMENDED TRAINING PLAN, STAFFING PROGRAMS, AND STAFFING PROGRAM CHANGES.

The following plans and recommendations identified under Objective 2 and 4 will likely require funding:

- *Training for state staff enrolled in the Adjunct Emergency Workforce or will be assigned to state-coordinated regional shelters.* Funding will be required for travel and materials related to this training. (p. 21)
- *Enhance and reinvigorate the Adjunct Emergency Workforce program.* To accomplish this goal, the Commonwealth will need to create and implement an internal marketing program to educate and promote the program to state employees. VDEM and VDSS will also either need a part time person to actively manage the program or a better software solution for managing the information. (p. 21)

- *Educate local emergency managers on applicability of SMA and EMAC to staffing.* This may require travel funds for the Sheltering Coordinator and/or the Chief of Logistics to conduct meetings or trainings across the Commonwealth. (p. 20)
- *Support localities developing deployable shelter staff and teams.* In addition to personnel hours, this might require training, procuring equipment, and travel. (p. 20)
- *Establish statewide program for provision of personal care services in shelters.* This will need to be a multi-pronged program that includes both contracts with personal and home care agencies and development of a statewide Functional and Access Needs Support Team program. Funding will be needed when a PCS contract is activated and will be needed to establish the FANS Team Program. (p. 23)

7D. USING THE WORK COMPLETED IN OBJECTIVE 5, DETERMINE THE NEED FOR AND COST OF ENHANCEMENTS TO PHYSICAL STRUCTURES TO BE USED AS SHELTERS TO ENSURE COMPLIANCE WITH REGULATORY REQUIREMENTS.

The following plans and recommendations identified under Objective 5 will likely require funding:

- *Funding for backup power generation for shelters.* Grant or other funding is needed to assess state and local shelter building for installation of backup generators, make necessary repairs and retrofits, and to install quick connects for generators. Additionally, the Commonwealth should consider funding a larger project that will equip one or more shelters in each region with solar backup power. This could be done as part of a mitigation and recovery project that includes other critical infrastructure in the solar backup power. (p. 29)
- *Conduct assessments of shelter buildings to be used by the state and localities.* This will include professional site surveys for accessibility using the Department of Justice Shelter Checklist Tool and the Rapid Shelter Screening Criteria (RSSC) created by IBTS. This might also include funding to establish a volunteer program similar to [Oklahoma's Safe Schools 101 Program](#) which allows architects and engineers to conduct the RSSC as volunteers. (p. 29)
- *Retrofit and enhance shelter facilities to increase sheltering capacity statewide.* Funding will be needed to improve the hazard-specific structural integrity of shelter facilities owned by both the Commonwealth and localities to increase shelter capacity across the state. Typically the focus for retrofit funding is on hurricane shelters; however, there are many other hazard threats across the Commonwealth and localities impacted by those hazards should not be excluded from funding for retrofits and enhancements. (p. 29)
- *Create and/or provide access and functional needs (AFN) training.* This training is a critical need and the most commonly-requested training across the state. There is very little AFN training already available so the COV might need to create the training, which is likely to require funding. Funding will also be needed to provide the training. (p. 33)
- *Host a building code forum.* In order to increase understanding of the applicable building codes, the relevant processes and structures, and to facilitate engagement between code officials and emergency management, the Regulatory Compliance Work Group has recommended the COV host a forum for code officials and emergency managers and planners. Funding would be required for speakers, venues, travel, marketing, etc.

- *Create an Access and Functional Needs Coordinator position for state-coordinated shelters.* The creation of this position and related job aids, position descriptions, and training programs will also benefit localities that choose to add this shelter position to their own teams. Creation of a new shelter position will require funding for training.

7E. USING THE WORK COMPLETED IN OBJECTIVE 7, DETERMINE THE COST ESTIMATES FOR EXECUTING THE EXERCISE PLAN AND IMPLEMENTING RECOMMENDED POLICY CHANGES.

Exercises tend to be expensive but are necessary to test, practice, and improve the Commonwealth's plans and programs. The Sheltering Coordinator will work with VDEM's Training, Exercise, and Education Division to estimate the cost of the various exercises. A report on the cost estimates will be provided to the Task Force and to VDEM leadership.

7F. IDENTIFY FUNDING SOURCES FOR PRE-DISASTER SHELTERING INITIATIVES INCLUDING PROCUREMENT OF SUPPLIES, COMMODITIES, AND STORAGE FACILITIES.

The Sheltering Coordinator will work with VDEM to identify the potential funding sources for each of the programs recommended by the strategic framework or needed to implement the new statewide sheltering plan.

Documents to be Referenced

The following guidance and other documents listed below will be referenced to develop the statewide sheltering plan. This list is not exhaustive and additional documents may be added to this list.

- FEMA Comprehensive Planning Guide 101
- EMAC 500 Person Shelter Management Guidance
- Department of Justice, Guide for Local Governments
- Department of Justice, Chapter 7 Tools:
 - Emergency Management Under Title II of the ADA
 - Title II Checklist
 - The ADA and Emergency Shelters
 - ADA Accessibility Survey Forms and Instructions
- Department of Justice, Chapter 3: General Effective Communication Requirements Under Title II of the ADA
- Department of Justice, Language Access Assessment and Planning Tool for Federally Conducted and Federally Assisted Programs
- NYC Class Action Case – Opinion and Order Summary
- FEMA Host-State Evacuation and Sheltering reimbursement
- FEMA Resource Typing Definitions for Mass Care Services
- FEMA Shelter Field Guide
- International Association of Venue Managers (IAVM) , Mega-Shelter Planning Guide
- ARC, Dallas Convention Center, FEMA, IAVM, State of California, and State of Florida: Shelter Guidance Aid and Shelter Staffing Matrix, Oct 2010
- FEMA, Guidance on Planning for Integration of Functional Needs Support Services in General Population Shelters
- IAEM/NEMA, Disability, Access and Functional Needs Emergency Planning Guidance
- National Commission on Children and Disasters: 2010 Report
- VDEM Shelter Positions List Methodology
- In-Season Hurricane Review Priority SH-32: Identification of Building Code Guidelines, Final Report
- State of Texas, Functional Needs Support Services Toolkit
- City of Oakland, Mass Care and Shelter Plan, Functional Needs Annex
- Albemarle County Department of Social Services, Emergency Sheltering Handbook
- State of California, People with Access and Functional Needs Shelter Annex
- Massachusetts Statewide Mass Care and Shelter Coordination Plan
- North Carolina Coastal Region Evacuation and Sheltering Field Operational Guide
- North Carolina Coastal Region Evacuation and Sheltering Standard Operating Guidelines
- Virginia Modeling, Analysis, and Simulation Center
 - Hampton Roads Shelter Study Report, May 2013 and June 2013
 - Behavioral Study

Outcomes

This table provides a list of anticipated outcomes from this strategic document, the Virginia Mass Care Task Force, and development of the new statewide sheltering plan. There are three categories of outcomes: policies, programs, and products. Policies include recommendations for policy changes to current policy or adoption of new policies within state agencies, the COVEOP, mass care plans, and other plans related to mass care and sheltering. Recommended legislation is included in the policies category. The programs category addresses new programs that will be or are recommended to be developed to implement the sheltering plan. In some cases, recommendations might be made to revise or expand existing programs. The products categories identifies items that will be produced to achieve or during development of the sheltering plan. This could include outcomes such as a training plan, training resource, scalable commodities list, or public education campaign plan. Each item indicates which section of this document with which it is associated for quick referencing.

CATEGORY	OUTCOME	SECTION
Program	An established integrated planning team for development of the statewide sheltering plan.	Integration
Product	Information sharing report.	Integration
Product	Policies and operational procedure for the statewide sheltering plan.	Integration
Program	Educational program for local emergency coordinators, local DSS directors, and VDEM and VDSS regional staff on using SMA, AEW, and EMAC for staffing.	Staffing
Program	Technical assistance program for providing support to localities developing deployable shelter staff and shelter teams.	Staffing
Program	Redevelopment of the AEW program.	Staffing
Product	Official shelter position typing standards.	Staffing
Product	Identification of training and background requirements for shelter staff positions.	Staffing
Product & Program	Marketing and recruitment campaign for AEW.	Staffing
Policy	Recommendation for the COV to adopt a policy of adding disaster response to non-essential personnel's employee work profiles or establishing incentives for participation in AEW.	Staffing
Program	Training for AEW staff.	Staffing; Training
Policy	Recommendation for the COV to adopt a policy requiring inclusion of AEW participants in related exercises and allowing personnel to be released from daily activities for participation without penalty.	Staffing

Product	Software program or part-time/contract position to manage AEW participant database.	Staffing
Product	A mass care mission ready package for providing EMAC support to other states.	Staffing
Product	VOAD capabilities list either located or created.	Staffing
Policy	Recommendation to adopt a policy requiring localities to follow COV shelter position typing standards when requesting staffing support through WebEOC.	Staffing
Product	Scalable staffing level recommendations for state, regional, and local shelters.	Staffing
Product	Contracts with PAS providers for shelter staffing.	Staffing
Program	Establishment of a statewide FANS Team volunteer program.	Staffing; DAFM* Needs
Product	Survey and gap analysis of state and local sheltering resources.	Resources
Product	Scalable shelter resource lists.	Resources
Product	Procurement of necessary resources to ensure shelters are fully equipped.	Resources
Product	FNSS trailers and kits including DME, CMS, accessible communications kits, and sensory kits.	Resources
Product	Policies and procedures for use of FNSS trailers and kits.	Resources
Product	Training plans (one for state personnel, one for localities) to ensure training on identified mass care competencies, roles, and responsibilities.	Training
Product	Training gap analysis report.	Training
Product	New or enhanced training for shelter staff and access and functional needs.	Training
Product	Training plans posted on VDEM sheltering resources website page.	Training
Program	Recommend creation of an incentive program for new schools to be designated as emergency shelters in design plans and built to applicable shelter-related building codes.	Regulatory Compliance
Policy	Proposal for a budget line item for funding costs of constructing new schools to storm shelter standards and for retrofitting existing school buildings.	Regulatory Compliance
Product	Provision of SH-32 Report, identifying applicable building codes, to local emergency coordinators and posting on VDEM sheltering resources website page	Regulatory Compliance
Policy	Recommendation to adopt policy requiring all shelters used for state-coordinated or state-supported sheltering be evaluated using the Rapid Shelter Screening Criteria, as revised for the locality.	Regulatory Compliance

Program	Statewide building code forum for local emergency coordinators and building code officials on sheltering facilities and code requirements.	Regulatory Compliance
Policy	Policy requiring all shelter sites selected for use by the Commonwealth to be universally accessible with or without temporary modifications.	DAFM* Needs
Product	Analysis of existing policies and procedures and report of recommendations to improve universal accessibility in mass care programs.	DAFM Needs
Program	New shelter staff position: Access and Functional Needs Coordinator	DAFM Needs
Policy	Renaming of Special Needs Coordinator VEST position to Lead Access and Functional Needs (AFN) Coordinator. Position given oversight and coordination of the AFN Coordinators in shelters.	DAFM Needs
Product	Completion of a language access plan for mass care programs in general, shelter sites, and public information.	DAFM Needs
Policy	Recommend adoption of policies related to compliance with non-discrimination laws in exercises and training.	Exercising the Plan
Program	Training for stakeholders on new statewide sheltering plan.	Exercising the Plan
Program	Series of exercises to test and evaluate the new statewide sheltering plan.	Exercising the Plan
Product	Report on identification of potential funding sources for various programs recommended in the strategic framework or needed to implement the new statewide sheltering plan.	Budget
Product	Report on costs associated with exercising the plan and new or enhanced programs and policies.	Budget

*DAFM: Disability, access, functional, and medical

Appendices

Appendix A

Statutes, Regulations, and Executive Orders Related to Sheltering

**** The following information is not intended, nor should it be construed, as legal advice.**

Emergency Management Laws			
<u>Regulation or Statute</u>	<u>Citation</u>	<u>What it says</u>	<u>Application to mass care & sheltering</u>
Stafford Act	Section 706	¹ In a federally-declared disaster, unless there is a state or local <i>law</i> prohibiting firearms in shelters or other mass care facilities, it is against federal law for anyone working for a state, local, or non-profit agency that receives federal funds, while acting in support of relief from the disaster to prohibit possession of any firearm or to promulgate any rule, regulation, or order prohibiting possession of any firearm, in any place or by any person where such possession is not otherwise prohibited by law. If that happens, the aggrieved party (the one who was not allowed to possess their firearm) may sue the individual(s) who prohibited their possession. Individual state, local, and non-profit employees and volunteers may be sued as individuals.	Virginia has a law that <i>allows</i> the Governor to temporarily prohibit firearms in any emergency shelter in the Commonwealth (COV § 44-146.15(3)). This is done through an executive order and it is unclear whether this state statute meets the requirements of § 706 to permit this type of firearms prohibition. The impact this could have on sheltering is significant. During a federally-declared event or upon transition to a federally-declared event, localities and the American Red Cross may opt not to provide shelters to avoid creating an unsafe environment for residents and to eliminate the potential liability to state personnel and volunteers.
Post-Katrina Emergency Management	Sec. 512. (a)	² Allows EM agencies to use SHSGP and UASI funds for evacuation planning, preparing for, exercise and execution of mass evacuation	This statute does NOT require agencies to use their funding for these plans but does enable them to use the funding to

<p>Reform Act of 2006 (PKEMRA)</p>		<p>plans. This includes retrofitting of facilities and stockpiling shelter resources.</p>	<p>support most, if not all, of their state to local planning, preparedness, and exercising of sheltering and mass care programs.</p>
	<p>Sect. 512 (b) (1-6)</p>	<p>³Requires mass evacuation plans authorized under subsection (a), specifically the plans of any state, tribal, or local entity receiving SHSGP or UASI funds, be developed to accomplish the following, to "the maximum extent practicable":</p> <ul style="list-style-type: none"> • Ensure that State, local, and tribal government plans, including evacuation routes, are coordinated and integrated; • Identify evacuation transportation modes and capabilities, including the use of mass and public transit capabilities, and coordinating and integrating evacuation plans for all populations including for those individuals located in hospitals, nursing homes, and other institutional living facilities; • Develop procedures for informing the public of evacuation plans before and during an evacuation, including individuals with disabilities and other access or functional needs, with limited English proficiency, or who might otherwise have difficulty in obtaining such information; and • Identify shelter locations and capabilities. 	<p>§ 512 (b) supports the efforts of the COV to collaborate with all types of stakeholders in developing the new statewide sheltering plan. This also requires that localities coordinate with the COV for local shelter planning.</p> <p>This section also supports the identification of sheltering capabilities and locations across the Commonwealth. The COV has been attempting to aggregate that data for some time in the Hampton Roads region with a moderate degree of success. That effort will continue and will be expanded to the rest of the state.</p>

	Sect. 512 (c)	⁴ FEMA may establish guidelines it determines are appropriate for ensuring effective mass evacuation planning. FEMA is required to "make assistance available upon request" by a state, local or tribal government to assist institutions that "house individuals with special needs" with mass evacuation planning, including exercises. The plans must be coordinated with and integrated into the requesting government's mass evacuation plans.	The COV and localities can request assistance from FEMA for planning for evacuations from healthcare institutions.
	Sect 689 (a)	⁵ FEMA is required to develop guidelines to accommodate individuals with disabilities including guidelines for the accessibility of shelters, recovery centers, and other facilities; and "devices used in connection with disaster operations" including but not limited to first aid stations, mass feeding areas, and temporary housing.	The Sheltering Coordinator has reached out to FEMA for these guidelines. The only guidance currently available is their document <i>Guidance on Planning for Integration of Functional Needs Support Services in General Population Shelters</i> . It is important to remember that accessibility includes both communications and programs.
	Sect. 689 (b)	⁶ Added "rescue, care, shelter, and essential needs to individuals with household pets and services animals, and to such pets and animals" to the list of services the federal government may, <i>but is not required to</i> , provide during federally-declared events.	This statute does NOT require that FEMA or any other federal agency provide pet sheltering or care.

Pet Evacuation and Transportation Standards Act of 2006 (PETS)	Sect. 2	⁷ Amends the Stafford Act to require that state and local plans of governments requesting federal funds for personnel and administrative expenses under 42 U.S.C. 5196b, "take into account the needs of individuals with household pets and service animals prior to, during, and following a major disaster or emergency."	An emergency and a major disaster are defined in the Stafford Act as Presidentially-declared disaster events. This requirement does NOT mandate sheltering or evacuation of pets. This statute requires only that plans address pets in some way.
	Sect. 4	⁸ This section also amends Sect 403 (a)(3) to add "rescue, care, shelter, and essential needs to individuals with household pets and services animals, and to such pets and animals" to the list of services the federal government may, but is not required to, provide during federally-declared events.	This was done through PKEMRA, as well.
COV Title 2.2 Administration of Government	Code of Virginia § 2.2-221.B.3	⁹ Gives SPSHS, in coordination with VDEM and other applicable state agencies, oversight of all emergency management plans for state agencies. It also requires the SPSHS, in coordination with VDEM and other applicable state agencies, to coordinate and review all emergency management plans for state agencies.	This includes the state-managed shelter plan.
	Virginia Acts of Assembly 2014, cc. 115 and 490, cl. 6 (Editor's Note)	¹⁰ Gives priority in reviewing local plans, particularly sheltering and evacuation plans, to the Hampton Roads region.	
	Code of Virginia § 2.2-221.B.5	¹¹ Gives SPSHS authority to direct state resources to safeguard Virginia and its citizens.	This allows for the allocation of state resources and personnel to sheltering.

	Code of Virginia § 2.2-221.B.13	¹² Directs SPSHS to work with the appropriate state agencies to ensure that regional working groups are meeting regularly and focusing on regional initiatives in training, equipment, and strategy to ensure ready access to response teams in times of emergency and facilitate testing and training exercises for emergencies and mass casualty preparedness.	The MCTF is a collaborative working group working to address sheltering on a regional level.
	Code of Virginia § 2.2-222.1.E	¹³ Requires the SPSHS to ensure VDEM and other state agencies are following rigorous planning practices for response plans. Requires VDEM to evaluate state and local shelter plans for feasibility, suitability, and ability to implement.	This supports development of the strategy and sheltering plan through the process of in depth consultation with partners and stakeholders; rigorous review of regulations, guidance and best practices; and taking time to work collaboratively through the Virginia Mass Care Task Force.
	Code of Virginia § 2.2-222.1.F	¹⁴ Makes the SPSHS responsible for the "coordination and development of state and local shelter plans."	
COV Title 44 Military and Emergency Laws; Ch. 3.2 Emergency Services and Disaster Law	44-146.18 (B)(19)	¹⁵ Requires VDEM to develop a plan to address the needs of households with pets and service animals and to assist and coordinate with local agencies in developing an emergency response plan for household pets and service animals.	Similar to PKEMRA and the PETS Act, this requires VDEM to create a plan but does not <i>require</i> sheltering of household pets.
	44-146.15(3)	¹⁶ States that this code section does not empower the Governor or any political subdivision to limit or prohibit gun rights except to ensure public safety in any place or facility designated or used by the Governor or a locality as an emergency shelter or for the purpose of sheltering people.	This statute allows the Governor or any political subdivision to prohibit firearms

	44-146.17(5)	¹⁷ Allows the Governor to send staff and resources to other states in need using EMAC.	This includes shelter staff and resources.
	44-146.17(1)	¹⁸ The Governor may direct and compel evacuations, prescribe destinations in connection with an evacuation, and control reentry.	This prescription of destinations does not mean that individual residents are compelled to only go where directed, nor should the COV or a locality expect 100% compliance with such an order.
	44-146.18 (B)(14)	¹⁹ Allows the Governor to conduct studies and surveys of facilities and resources in the COV to ascertain the capabilities of the COV and to plan for the most efficient use of such.	This includes surveys of shelter facilities and resources.
	44-146.18 (B)(6)	²⁰ Requires VDEM to coordinate response and recovery plans with the coordinating federal, state, and local government agencies and related groups.	This supports the establishment of the VMCTF and ensuring the new sheltering plan is developed to integrate horizontally and vertically and implementation can be fully coordinated with local sheltering and evacuation plans.
	44-146.18 (B)(7)	²¹ Requires VDEM to provide guidance and assistance to state agencies and localities in developing and maintaining emergency management programs, plans, and systems.	This includes sheltering and mass care plans and programs.
	44-146.18 (B)(8)	²² Requires VDEM to make recommendations to federal, state, and local agencies on measures which would eliminate or reduce the impact of disasters.	This supports VDEM providing recommendations and guidance to localities and the COV regarding sheltering programs and planning.
	44-146.18 (B)(9)	²³ Requires VDEM to determine resources that will be needed by both the COV and the localities in the event of a declared emergency which are not readily available.	This supports objective 3 - identify current shelter resource gaps and address those gaps in the statewide sheltering plan.

	44-146.17(3)	²⁴ Allows the Governor to procure supplies and equipment in advance of a disaster to ensure the COV is adequately equipped when needed.	This also supports objective 3 and allows for the purchasing of shelter supplies and assistive technology in advance of an event to ensure our shelter operations are fully equipped for an emergency event.
	44-146.18(B)(10); 44-146.17(3)	²⁵ Requires VDEM to assist state agencies and localities in establishing and operating both training and public information and education programs related to emergency services and disaster preparedness. Allows the Governor to institute emergency management training and public information programs.	Both of these include sheltering and mass care programs. These two statutes support several objectives identified in this framework.
	44-146.23 (A) and (F)	²⁶ (A) Exempts from liability for the death of or injury to another person or damage to property for employees of the Commonwealth or localities, public or private employees, federal employees, volunteers in state and local Medical Reserve Corps (MRC) or Community Emergency Response Teams (CERT) when the individual is engaged in emergency services activities or is complying with a rule, regulation, or executive order pursuant to § 44-146. Willful misconduct is excepted, meaning if an individual is willfully negligent or reckless, they could be held liable. Coverage for volunteers for organizations other than MRC or CERT is found in subsection F.	This statute provides the critical liability exemption for employees and volunteers working in shelters. It is important to note that willful misconduct is not exempted and reckless or negligent conduct would also likely not be covered.

		<p>(F) Provide immunity from liability for the death of or injury to another person or loss of or damage to property when the loss/injury was caused by the “circumstances of” the emergency or subsequent conditions or a formal training or exercise. This immunity applies to individuals, organizations, and companies who are voluntarily providing “services, goods, real or personal property, or facilities” in one of the following situations:</p> <ol style="list-style-type: none"> 1. For a formal VDEM, city or county exercise or training; 2. During a Governor-declared emergency; or 3. At the request of VDEM or a city or county employee whose responsibilities include emergency management. 	
	44-146.23(B)	<p>²⁷Releases from liability any owner or controller of real estate who <i>voluntarily and without compensation</i> permits their property to be used for emergency sheltering.</p>	<p>This release from liability might encourage private and faith-based partners to provide shelter facilities.</p>
	44-146.24	<p>²⁸Directs the heads of state agencies, local directors and governing bodies of localities to utilize the resources of the Commonwealth and the localities to "the maximum extent practicable consistent with state and local emergency operations plans." Requires those departments and agencies to provide services and facilities requested by the State Coordinator or the Governor.</p>	

	<p>44-146.19</p>	<p>²⁹(A) “Each political subdivision within the Commonwealth shall be within the jurisdiction of and served by the Department of Emergency Management and be responsible for local disaster mitigation, preparedness, response and recovery. Each political subdivision shall maintain in accordance with state disaster preparedness plans and programs an agency of emergency management which, except as otherwise provided under this chapter, has jurisdiction over and services the entire political subdivision.”</p> <p>(C) “Whenever the Governor has declared a state of emergency, each political subdivision within the disaster area may . . . protect the health and safety of persons and property and provide emergency assistance to the victims of such disaster.”</p> <p>(D) “The director of each local organization for emergency management may . . . develop or cause to be developed mutual aid arrangements for reciprocal assistance in case of a disaster too great to be dealt with unassisted. Such arrangements shall be consistent with state plans and programs and it shall be the duty of each local organization for emergency management to render assistance in accordance with the provisions of such mutual aid arrangements.”</p>	<p>Sections A and E give responsibility for local emergency management programs and plans, which would reasonably include sheltering programs and plans.</p> <p>Section C authorizes localities to provide sheltering and emergency assistance.</p> <p>Section D requires that localities' mutual aid arrangement must be consistent with state plans and programs.</p>
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		(E) "Each local and interjurisdictional agency shall prepare and keep current a local or interjurisdictional emergency operations plan for its area."	
2014 Appropriations Act Item 393 (B)		<p>³⁰Establishes the Sheltering Coordinator position. Requires the Sheltering Coordinator to:</p> <ul style="list-style-type: none"> • Improve the safety and security of citizens during evacuation and local and state sheltering. • Improve and coordinate the COV's sheltering preparedness and capabilities by reviewing, evaluating and developing a state-wide master plan for the operation of state and local emergency shelters in the Commonwealth. • Establish an integrated system for coordinating the planning and operation of state emergency shelters. Facilitate cooperation among local entities and state agencies in the sheltering preparedness efforts. 	<ul style="list-style-type: none"> • The planning portion of this requirement is being met through the VMCTF. • The integrated system for coordination is being accomplished through the VMCTF.
Anti-Discrimination Laws			
Virginians with Disabilities Act	Title 51.5 Ch. 9 Sect 51.5-40 Nondiscrimination under state grants and programs	³¹ Prohibits exclusion from participation in, denial of benefits of, or subjected to discrimination on the basis of a disability from any program or activity receiving state financial assistance or under any program or activity conducted by or on behalf of any state agency.	This may mean that local EMAs could lose state financial assistance if their EM programs discriminate against individuals with disabilities.

	Sect 51.5-44 Rights of persons with disabilities in public places and places of public accommodation	³² (B) Entitles individuals with disabilities to full and equal accommodations at facilities including those of public entities including schools and other places to which the public is invited.	This applies to shelters because the public is invited to the facility and to use the services.
		³³ (C) Requires localities to ensure that individuals with disabilities have access to public transportation either through general public transportation or provision of paratransit.	This might apply to provision of transportation during an evacuation.
		³⁴ (E) Applies some very specific restrictions on service animal in public places.	This section may require amending at the General Assembly to ensure it is consistent with federal laws regarding service animals.
	Sect. 51.5-44.1 Fraudulent representation of a service dog or hearing dog; penalty.	³⁵ Any person knowingly and willfully using indications typical of a service dog to represent that their animal is a service dog for the purpose of fraudulently gaining public access for the dog is guilty of a misdemeanor.	Because it is a crime, this might require that shelter staff report a fraudulent service dog to law enforcement. The COV and localities might need to consider whether there should be a notice provided to shelter registrants.
	Sect. 51.5-45 Right of persons with disabilities to housing accommodations.	³⁶ Entitles all individuals with low or no vision who have a guide dog and individuals with hearing dogs to full and equal access to housing accommodations without being charged fee. Dog owner retains liability for damage.	This statute requires that localities and the COV provide access to shelters for individuals using a guide dog and prohibits any charge for such access. This is consistent with the ADA.
Section 504 of the Rehabilitation Act	29 U.S.C. § 701(a)	³⁷ Prohibits federal agencies, and any agencies or organizations that receive federal funds from discriminating on the basis of disability. These covered agencies and organizations may not exclude or deny individuals with disabilities an equal opportunity to receive program benefits and services.	These prohibitions apply to service availability, accessibility, and delivery.

	<p>29 U.S.C. § 701(b)</p>	<p>³⁸Discrimination is prohibited throughout the entire institution or agency if any part of the institution receives federal financial assistance.</p>	<p>Even if the emergency management department, agency, or office does not receive federal funds, if ANY department or office within the political subdivision does, then these regulations apply to every department, agency, or office.</p>
	<p>28 CFR § 45.520-522</p>	<p>³⁹Recipients of federal financial assistance must ensure the facilities in which their programs and services are provided are accessible and usable. This section does not require a recipient to make each existing facility or every part of a facility accessible. It requires that when the program is viewed as whole, it is readily accessible and usable by individuals with disabilities. Recipients may provide services in accessible buildings, assign aids to individuals using the services or programs, alter existing facilities, or use any other method that results in making programs and services accessible.</p> <p>Small recipients are not required to make structural changes to existing facilities when other methods are effective in achieving accessibility and usability. When selecting the methods for meeting the requirements of this section, a recipient must give priority to the methods that result in the most integrated setting appropriate.</p>	<p>For sheltering, if it is possible to integrate individuals with disabilities into a shelter by selecting an accessible shelter site, then that is what should be done.</p> <p>In addition, 504 states that “small” recipients (which is not defined in the code) can use temporary modifications to make a facility or program accessible rather than doing structural changes.</p>

		⁴⁰ There is no exemption for religious entities so churches or other faith-based groups that receive federal financial assistance.	Religious entities that receive federal funds must ensure those programs and buildings are accessible when offering sheltering or mass care programs.
Americans with Disabilities Act	28 CFR § 35 – Non Discrimination on the Basis of Disability in State and Local Government (Title II)	^{41, 43} Prohibits discrimination on the basis of disability in state and local government. § 35.101(a)	Title II applies to programs, services, and activities provided directly by the agency as well as those provided through third parties, including the American Red Cross.
		⁴² Defines disability as a physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such impairment, or a person who is perceived by others as having such impairment. The ADA does not specifically list all of the impairments covered under the law. § 35.108(a)(1)	
		⁴⁴ Requires covered entities to effectively communicate with people who have communication disabilities including hearing, vision, or cognitive disabilities. § 35.160	Effective communications is well-defined and the DOJ has provided extensive guidance and tools. Effective communications include communications about the shelters and services and communications within the shelters.
		⁴⁵ Requires covered entities to make changes to policies, practices, procedures, and structures as a reasonable accommodation for individuals with disabilities unless doing so would require a fundamental alteration of the program or constitute an undue financial and administrative burden.	Undue burden is an extremely high standard to meet and would have to be claimed, in writing, by the chief elected official of the political jurisdiction. This requires that changes to policies such as ‘no animals in the gym’ be

			changed to accommodate service animals.
		⁴⁶ Entities generally may not use eligibility criteria that screen out or tend to screen out people with disabilities. § 35.130(b)(8)	This is why "Special Needs" or "Access and Functional Needs" shelters are a violation of the ADA. Screening based upon <i>genuine medical needs</i> may not be a violation.
		⁴⁷ Entities are required to make reasonable modifications to policies, practices, and procedures when necessary to avoid discrimination. § 35.130(b)(7)	This might include keeping families together in a medical area of a shelter, allowing pets on to paratransit vehicles during an evacuation, or allowing and facilitating a call in or video relay for an otherwise in-person planning meeting.
		⁴⁸ Entities are required to ensure effective communications with people with disabilities including providing auxiliary aids and services at no charge when requested. Effective communication is defined as written or spoken communication that is "as clear and understandable to people with disabilities as it is for people who do not have disabilities." § 35.160	In a shelter, this might require, depending on the need, the shelter operator to provide ASL interpreters, large print forms, or assisted listening devices at no cost to the individual.
		⁴⁹ Entities are required to make information about the location of accessible services, activities, and facilities available in a format that is accessible to people who are deaf or hard of hearing and those who are blind or have low vision. § 35.163	This regulation requires that not just the location of a shelter be communicated but the services available at the shelter and whether or not it is accessible also be communicated. Additionally, this information must be communicated via captioning and ASL when spoken; via large print and Braille when written;

			<p>and accessible to a screen reader when provided online.</p>
		<p>⁵⁰When an auxiliary aid or service is requested, entities must provide an opportunity for that person to request the aids or services of their choice and the entity must give primary consideration to the individual's choice. § 35.160(b)(2)</p>	<p>At the shelter, the clients must be given the opportunity to communicate what aids and services (a.k.a. accommodations) they need. The COV or locality must provide the accommodation requested unless it is unreasonable, infeasible, or too costly. For example, if the individual requests and ASL interpreter, a locality should not refuse and require the individual to communicate by writing. However, if video relay is available while the interpreter is en route, that might be an acceptable alternative in the interim.</p>
		<p>⁵¹When an interpreter is requested by a person who is deaf or hard of hearing or a reader by an individual who is blind or has low vision, the interpreter or reader must be qualified except when in an emergency involving “imminent threat to the safety or welfare of an individual or the public where there is no interpreter available” or when the individual with a disability specifically requests the person accompanying them be the interpreter. However, in cases where there is such a request, reliance on that individual as an interpreter needs to be “appropriate under the circumstances.” § 35.160(c)(2)</p>	<p>This prohibits using a random person working or residing in the shelter or a friend or family member, unless requested by the individual with the disability and if appropriate. During registration at a shelter or a recovery center, much personal information is shared by the individual and critical information is communicated to the individual. It is important that the COV or locality can be certain these communications remain confidential, that the person providing interpreting services will not misuse the information, and that the information is</p>

			being communicated accurately and without bias.
		⁵² Prohibits exclusion from participation in or denial of the benefits of a program or service because of an inaccessible or unusable facility. “A public entity is not required to make structural changes in existing facilities where other methods are effective in achieving compliance.” § 35.149 - 150	This regulation allows for the use of temporary modifications that will result in making services, programs, and activities readily accessible to and usable by individuals with disabilities.
		⁷⁰ A public entity is not “necessarily” required to make all of its facilities accessible and usable by individuals with disabilities. However, in choosing how to meet the requirements of the ADA, the entity must give priority to those facilities which provide the most integrated setting appropriate. § 35.150 (a) (1); (b) (1)	Every shelter facility is not required to be accessible under the ADA. The standard is that when viewed in its entirety, the sheltering program is accessible. When appropriate and possible, the state or locality should select shelter facilities that allow for integration of individuals with disabilities in shelters.
		⁵⁴ Also applies to public transportation services prohibiting discrimination based on disability in the provision of services. § 37.5, § 37.21, § 37.23	This applies to service animals on public transportation and refusing service because of a disability.
		⁷¹ Prohibits charging a fee for any accommodations or services provided to ensure non-discrimination and compliance with the ADA. § 35.130(f)	This includes personal assistance services, interpreters, or use of equipment.

		<p>⁷³Does not require public entities (state or local governments) to provide individuals with personal devices such as wheelchairs, devices that have been individually prescribed, readers for personal use, or services including personal assistance (PAS). § 35.135</p>	<p>This could relieve a jurisdiction from needing to provide DME and PAS, however, the U.S. District Court ruled in <i>BCID, et al. v. Bloomberg and the City of New York</i> (2013) that this regulation is “not universally applicable.” The court stated that in “special circumstances, such as where the individual is an inmate of a custodial or correctional institution” the regulation does not apply. The court found that “an emergency constitutes a similar circumstance” and that because the “purpose of the shelter is to provide people with the goods and services they need to remain healthy, safe, and functional when an emergency has rendered them unable to provide these goods and services for themselves”, denying those goods and services to individuals with disabilities is not allowed.</p>
	<p>47 U.S.C. § 225 – Telecommunications services for hearing-impaired and speech-impaired individuals (Title IV)</p>	<p>⁵⁵Requires closed captioning of federally funded public service announcements. 47 U.S.C. § 611</p>	<p>This might apply to any information sent to the public from a government agency, depending on the interpretation of “public service announcement”. If so, it would require all such public information to be captioned, including information about sheltering.</p>

		⁵⁶ Requires that Telecommunications Relay Services (TRS) be made available to individuals with speech and hearing impairments to the fullest extent possible and in the most efficient manner. 47 U.S.C. § 225(c)	In a shelter, this might require that the locality or COV provide TRS device(s) for use by individuals with disabilities. These should be considered for inclusion in accessible communications kits.
21st Century Communications and Video Accessibility Act of 2010	47 U.S.C. § 613(g)	⁵⁷ Requires broadcasted emergency information that is posted online to be accessible to individuals who are blind or have low vision.	This includes information about sheltering services and locations as well as announcements and information within shelters.
Civil Rights Act	Title VI – 42 U.S.C.A. § 2000d	⁵⁸ Prohibits discrimination on the basis of race, color, and national origin in programs and activities receiving federal financial assistance (Recipients). On the basis of race, color or national origin, individuals may not be excluded from participation in, denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. § 601	Because the COV and localities receive federal financial assistance, they must comply with Title VI. National origin discrimination includes individuals who speak a language other than English.
		⁵⁹ The DOJ recommends that either federal financial assistance be terminated or the matter be referred to the Department of Justice for legal action when a recipient is found to have discriminated and voluntary compliance cannot be achieved citing § 602 and 28 CFR 50.3. https://www.justice.gov/crt/fcs/TitleVI-Overview	
		⁶⁰ Recipients may not discriminate directly or through contractual or other arrangements. 28 CFR §§ 42.104(b)(1), (2)	This regulation includes indirect discrimination through MOAs with non-profit organizations such as the Red

			Cross. This means that if the Red Cross is operating a shelter under an agreement with the locality and the Red Cross violates Title VI by not providing language interpreters, it is the locality that will be held accountable for the discrimination.
		⁶¹ Recipients may not use criteria methods of administration which have the effect of discriminating based upon color, race or national origin. 28 CFR § 42.104(b)(1)	Similar to ADA, screening out individuals through registration processes or segregating within the shelter based upon race, color, or national origin is prohibited.
		⁶² Recipients are also prohibited from implementing policies that, although on their face are non-discriminatory, have a disproportionate impact on protected groups. 28 CFR § 42.104(b)(1), (2)	A sheltering-based example might be only opening a shelter in wealthy neighborhoods which would adversely impact protected groups.
Executive Orders (EOs are temporary as they may expire, be rescinded or replaced)			
Executive Order 2 (2006) – Community Integration for Virginians with Disabilities		⁶³ Requires state government to have appropriate structures in place to facilitate community integration for people with disabilities.	This EO requires that individuals with disabilities be integrated into the general population
Presidential Executive Order 13347 Individuals with Disabilities in Emergency Preparedness	Federal Register Vol. 69, No. 142 (July 26, 2004) pg. 44573-44574	⁶⁴ Sect. 1 (a-b) This EO encourages the federal government to consider in their emergency planning the needs of individuals with disabilities served by state, local and tribal governments including providing technical assistance.	These sections establish inclusive emergency planning as the policy of the federal government and encourage each level of government to provide technical assistance to ensure plans are inclusive.

		⁶⁵ Sect. 1 (c) This section of the EO establishes the policy of facilitating cooperation between federal, state, local and tribal governments as well as private organizations and individuals in implementing emergency plans as they relate to individuals with disabilities.	This is what is now commonly referred to as whole community planning and the policy of including all stakeholders, not just government agency stakeholders, in response operations (implementing emergency plans).
Presidential Executive Order 13166 - Improving Access to Services for Persons with Limited English Proficiency	Federal Register Vol. 69, No. 159 (August 16, 2000) pg. 50120-50125	⁶⁶ This EO specifies applicability to "federally assisted programs and activities" meaning any government agency or non-governmental organization that receives federal financial assistance must comply with this EO.	The Commonwealth and most, if not all, localities receive federal financial assistance which means this EO applies to their programs and activities. The American Red Cross also receives federal financial assistance, so this EO also applies to their activities.
		⁶⁷ Requires recipients to ensure that LEP persons have meaningful access to programs, activities, benefits, services, and vital information.	Substantial guidance is provided on the definition of "meaningful access".
		⁶⁸ Requires recipients to provide stakeholders, including individuals with LEP, an opportunity to provide input into the creation of the guidance and implementation.	
		⁶⁹ The factors considered to determine what constitutes reasonable steps include the number of or proportion of LEP individuals in the service population, the frequency with which these individuals come into contact with the program, importance of the service provided, and the resources available to the recipient.	Given the diverse culture in Virginia, particularly in population centers, the critical nature of sheltering programs, and the fact that most utilizing those programs will be low-resource individuals, those agencies operating shelters will likely be required to take significant steps toward ensuring LEP individuals have full, meaningful access to the shelter programs.

Appendix B

In-Season Hurricane Review Priorities: SH-32 Identification of Building Code Guidelines Final Report³

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Recommendation

Virginia should identify building code guidelines to increase shelter resiliency.

Synopsis of Issue

Buildings in the Commonwealth are subject to adherence to the state building code. The 2012 *Virginia Uniform Statewide Building Code* (USBC) is the version currently in effect. ICC/NSSA 500 *Standard for the Design and Construction of Storm Shelters* provides minimum design and construction requirements for storm shelters that provide a safe refuge from storms that produce high winds, hurricanes, and tornadoes. With the assistance of the Virginia Department of Housing and Community Development, a document should be drafted to provide guidance to local governments to ensure adherence to the state building code.

Task 1: Identify specific building code requirements as it applies to public shelters.

1.1 Identify the highlights of the existing code requirements for shelters.

The current building code in Virginia is the *International Building Code* (IBC), 2012 edition, with amendments promulgated by the Department of Housing and Community Development. The code may also be referred to as the *Virginia Construction Code* (VCC) or *Uniform Statewide Building Code, Part I* (USBC). The building code only applies to new construction. There are two other parts to the Uniform Statewide Building Code: Part II is the *Virginia Rehabilitation Code* and Part III is the *Virginia Maintenance Code*.

The *International Building Code*, as one of several model codes issued by the International Code Council (ICC), is revised and reissued in three year code cycles. The effective date for the current code in Virginia is July 14, 2014. The ICC is currently offering the 2015 editions of the model codes including the IBC. The Department of Housing and Community Development manages the code review and revision process. The Department typically replaces the administrative language and amends specific code sections due to state code or legislative requirements. Implementation of the 2015 edition with amendments will likely occur in 2018.

1.2 Identify types of shelters.

The term, *public shelter*, is not defined in the building code; the term, *storm shelter*, is defined in Section 202 of the Virginia Construction Code.

“Storm Shelter. A building, structure or portions thereof, constructed in accordance with ICC 500 and designated for use during a severe wind storm event, such as a hurricane or tornado.

Community storm shelter. A storm shelter not defined as a “Residential Storm Shelter.”

Residential storm shelter. A storm shelter serving occupants of dwelling units and having an occupant load not exceeding 16 persons.”

The building code further requires *storm shelters* to be designated as hurricane shelters, tornado shelters or combined hurricane and tornado shelters.

Another definition:

“[T]he term, ‘shelter’ is used in different ways by different agencies and entities. For instance, the American Red Cross uses the term ‘shelter’ to refer to temporary recovery areas” (FEMA P-361, 3rd ed., March 2015).

As a reference to the common definition (by Merriam-Webster), *shelter* is:

- 1 *a* : something that covers or affords protection <a bomb *shelter*>
- b* : an establishment providing food and shelter (as to the homeless)
- c* : an establishment that houses and feeds stray animals
- 2 : a position or the state of being covered and protected <took *shelter*>.”

A FEMA definition of shelter:

“A temporary facility which provides housing and basic services until persons can return home or obtain temporary or permanent house elsewhere” (*Guidance on Planning for Integration of Functional Needs Support Services in General Population Shelters*, November 2010).

FEMA also distinguishes between shelter and *safe room*. A FEMA *safe room* defined is “an interior room, a space within a building, or an entirely separate building, designed and constructed to provide near absolute life-safety protection for its occupants from tornadoes or hurricanes. Safe rooms are designed and constructed to meet the criteria in this publication or the most current edition of FEMA P-320.” (FEMA P-361, 3rd ed., March 2015). ICC “storm shelters provide life-safety protection; they are designed and constructed to meet ICC 500 criteria.” The distinction between the two standards is the concept of *near absolute protection* found in FEMA P-361. *Near absolute protection* is “based on our current knowledge of tornadoes and hurricanes, the occupants of a safe room built according to this guidance will have a very high probability of being protected from injury or death” (FEMA P-361, 3rd ed., March 2015).

1.3 Identify the related definitions found in the building code or cited references.

The building code and referenced documents have numerous definitions of construction and engineering terms. Those related to shelters relative hurricanes or significant wind forces include the following:

Hurricane-Prone Regions

“Areas vulnerable to hurricanes defined as:

1. The U.S. Atlantic Ocean and Gulf of Mexico coasts where the ultimate design wind speed, V_{ult} , for Risk Category II buildings is greater than 115 mph and
2. Hawaii, Puerto Rico, Guam, Virgin Islands and American Samoa” (VCC, 2012, § 202).

Wind-borne Debris Regions

Areas within hurricane-prone regions located:

1. Within one mile of the coast where the ultimate design wind speed, V_{ult} , is $\geq 130\text{mph}^1$; or
2. In areas where the ultimate design wind speed, V_{ult} , is $\geq 140\text{mph}^2$

For Risk Category II and III buildings, except healthcare facilities, the windborne debris region is based on Figure 1609A. For Risk Category IV and Risk Category III healthcare facilities, the windborne debris region is based on Figure 1609B (VCC, 2012, § 202).

Storm Shelter Design Wind Speed

“The maximum wind speed for which the shelter has been designed. Values shall be the nominal 3-second gust wind speed in miles per hour at 33 feet above ground for open terrain (Exposure C)” (ICC 500-2014, § 202).

Design Wind Pressure

“The wind pressure on a specific location of the shelter envelope, as determined in accordance with Section 304, Wind Loads, which controls the design of components and cladding (C & C) of the shelter envelope or the main wind-force resisting system (MWFRS) for the shelter” (ICC 500-2014, § 202).

1.4 Compare general code requirements for shelters specifically and buildings commonly used as shelters such as education and assembly use groups.

The building code provides for the construction and design requirements for all buildings that may be used as shelters. The distinctions found among the types of buildings are not based on their subsequent use as shelters, but by occupancy (or use group). In comparison, buildings designated as *storm shelters* shall meet the requirements found in the current edition of ICC-500, *ICC/NSSA Standard for the Design and Construction of Storm Shelters* (note-this requirement is for new construction only).

Although not totally inclusive of storm related structural design, most focus is placed on wind loads. Other design factors found in the building code related to storm protection include rain and flood loads. The building code has identified risk categories for buildings and structures. In the context of storm related code application to buildings, *risk category* is not associated with hurricane categories (e.g., Saffir-Simpson Scale). A *risk category* defined is:

“A categorization of buildings and other structures for determination of flood, wind, snow, ice and earthquake loads based on the risks associated with unacceptable performance” (VCC, 2012 § 202).

Buildings listed below are those which may be used or are more commonly used as shelters, public or private:

Selected Risk Categories (from Table 1604.5, VCC, 2012)	
Risk Category I	Temporary facilities
Risk Category II	Public assembly (OL*≤300) Daycares and schools (OL≤250) Colleges and universities (OL≤500) Nursing homes (OL<50) Other buildings or structures not listed as Risk Category I, III, IV
Rick Category III	Public assembly (OL>300) Daycares and schools (OL>250) Colleges and universities (OL>500) Nursing homes (OL≥50) Jails and detention centers Any building (OL>5000)
Rick Category IV	Hospitals Fire and police stations

	Designated earthquake, hurricane or other emergency shelters Emergency communications (911) centers
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* OL=occupant load

The building code utilizes maps to determine Ultimate Design Wind Speed for each risk category (Figures 1609A, 1609B and 1609C). Within Hampton Roads there are effectively three distinct zones or areas with graduated wind speed design requirements (associated with the map contours). For example, a school building with an occupant load greater than 250 (Risk Category III) to be built in James City County will be required to, in essence, build walls and roof structures designed to withstand wind speeds of 120 mph. The same school building in Hampton would need to be designed for 124 mph winds, and in Virginia Beach, 136 mph. The ultimate design wind speeds noted have been determined using linear interpolation. If the same school building is designated as a *storm shelter* (VCC, 2012 § 423), the shelter design wind speed for hurricanes is based on ICC-500 and is 160 mph regardless of location within Hampton Roads. It is noted that specific wind, rain or flood load requirements are identified by design professionals based on the actual site location and are approved by the local building official.

Currently, the design wind speed for tornado shelter designation is also 160 mph for eastern Virginia. If a building is constructed as a combination shelter (versus hurricane only) in Hampton Roads, there are some additional design criteria including debris impact testing. The cost difference may not be a considerable factor. Combination storm shelters require the more restrictive code requirements for each hazard—tornado or hurricane.

The newest edition of the IBC building code (2015) has significantly addressed tornado protection with wind speed design of 250 mph for school buildings (with an occupant load greater than 50) and “critical emergency operation centers” (EOCs, fire and police stations, 911 centers, etc.) in tornado-prone areas. This code change will not impact locally as Hampton Roads is not in a tornado-prone area. Wind speed for design purposes in the building code is measured as the highest 3 second gust at 33 feet above ground. There may be some disconnect among first responders, emergency managers, design professionals, and code officials in differentiating wind speed measurements to compare with the commonly accepted Saffir-Simpson Scale using hurricane wind speed. Hurricanes are measured as sustained 1 minute wind speed over water at 33 feet. Those interested in comparing a hurricane category to wind speed design found in the building code can utilize the table below.

Comparison of Saffir Simpson Scale and Design Wind Speed in IBC (in mph)		
Saffir-Simpson Hurricane Category	Sustained (1 minute) Wind Speed Over Open Water	Gust (3 second) Wind Speed Over Open Land
1	74-95	81-105
2	96-110	106-121
3	111-129	122-142
4	130-156	143-172
5	>157	>173

1.5 Review other state requirements or building code amendments, especially in hurricane-prone areas (e.g., Florida, Louisiana, Texas).

Research was conducted on code requirements for shelters in several states, including: Texas, Louisiana, Hawaii and Florida. Florida appears to have the most robust published code and policy related to hurricane sheltering.

In researching Florida building code requirements relative hurricane shelters, the source document providing the most information is the *Statewide Emergency Shelter Plan 2014* produced by the Florida Division of Emergency Management. This document was completed on December 31, 2014 and is mandated to be updated every two years. Primarily schools are used as shelters along with a very few public facilities.

Florida has several shelter definitions including:

“Shelter: A designated facility, building or place of safety that temporarily provides essential support services with the goal of preserving life and reducing human suffering”
(Florida Division of Emergency Management, *Statewide Emergency Shelter Plan*, 2014).

“Risk Evacuation Shelter: A facility that is safe and provides essential support services, and is located inside of a hazard risk area; e.g., projected path of an approaching hurricane or severe storm. As local conditions may present hazards such as storm surge inundation, inland rainfall flooding, high winds, or hazardous materials which may exceed the building codes of the facility, shelter selection criteria in ARC 4496 do need to be considered. For planning purposes, the operational period of a Risk Evacuation Shelter is from 24 hours prior to forecast landfall time until 72 hours after landfall of a hurricane or severe storm. The designation does not imply that a shelter is capable of affording complete protection or is free from hazards but only that it meets established minimum safety criteria” (Florida Division of Emergency Management, *Statewide Emergency Shelter Plan*, 2014).

“Short-Term Shelter: A safe congregate care facility that provides essential support services and is utilized for durations of less than two (2) weeks for populations displaced by an emergency or disaster event. Also referred to as Standard Shelter” (Florida Division of Emergency Management, *Statewide Emergency Shelter Plan*, 2014).

“Special Needs Shelter (SpNS): Location(s) that are, in whole or in part, designated under Chapter 252 and Section 381.0303, Florida Statutes, to provide shelter and services to persons with special needs who have no other option for sheltering. These shelters are designated to have back-up generator power. Special needs shelter services are to minimize deterioration of pre-event levels of health. See Rule 64-3.010(10), *Florida Administrative Code*” (Florida Division of Emergency Management, *Statewide Emergency Shelter Plan*, 2014).

Public shelter design criteria, also known as Enhanced Hurricane Protection Area (EHPA) criteria, are incorporated into the *Florida Building Code*. A significant feature of the Florida code is the requirement for new public school buildings to meet the shelter design criteria. Exceptions to proposed schools meeting these requirements are generally based on the locality’s existing shelter capacity. If there are no unmet capacity needs, immediate or near future, the exception may be granted and the school is constructed meeting standard code requirements.

Florida, through the mandated public shelter design criteria, ensures “new educational facilities meet or exceed applicable national design and construction standards, guidelines and ‘best practices.’ The EHPA criteria have been designed to significantly enhance occupant safety and building integrity. One of the main objectives of the EHPA is to ensure that these facilities continue to serve the public after exposure to a major hurricane. It is highly recommended that prior to design that the facility owners, planners and designers incorporate the American Red Cross’ ARC 4496 [*Standards for Hurricane Shelter Selection*] in the planning process for an EHPA....ARC 4496 requires that public hurricane evacuation shelters be

designed, constructed and capable of withstanding wind loads according to the American Society of Civil Engineers Standard 7 (ASCE 7). The EHPA code provisions recommend increasing the design map wind speed by 40 miles per hour. The Division endorses this recommendation.” (Florida Division of Emergency Management, *Statewide Emergency Shelter Plan*, 2014).

The latest edition for the ARC 4496 is 2002—there are some outdated reference standards in the document. The review of the Florida Building Code has not been done relative to the public shelters and/or educational buildings. The language in the *Statewide Emergency Shelter Plan* appears permissive with the recommendations increase the design map wind speed. Confirmation of actual code is necessary.

As costs and funding are obvious factors in requiring additional design standards for shelters (i.e., public school buildings), Florida’s *Statewide Emergency Shelter Plan* briefly addresses the topic:

“School districts have generally been reporting that the construction cost premium for incorporating the EHPA code provisions can range from less than one (1) to as much as 20 percent, though the average is about four (4) percent. For most new facilities, this appears to translate into a construction cost premium of less than \$900,000. These are not necessarily inconsequential costs that must be borne by State and local governments. Therefore, pursuant to §1013.372(2), Fla. Stat., the Division recommends use of existing state capital outlay to fund the additional cost of constructing hurricane evacuation shelters in public schools.”

1.6 Review non-code reference documents for shelters including those produced by FEMA, DOJ (ADA), American Red Cross, etc.

Multiple documents and articles were reviewed including those produced by FEMA, DOJ, American Red Cross (ARC), and professional trade organizations. Much emphasis is placed on shelters meeting ARC form 4496. ARC 4496’s most recent revision was January, 2002. Cited references for design wind loads are outdated.

FEMA produces numerous guides and reference material. Specifically, *Community Wind Shelters: Background and Research* (August 2002), FEMA P-361 *Safe Rooms for Tornadoes and Hurricanes: Guidance for Community and Residential Safe Rooms* (March 2015), FEMA P-320 *Taking Shelter from the Storm: Building a Safe Room for Your Home or Small Business* (Fourth Edition, December 2014), and FEMA P-431 *Tornado Protection: Selecting Refuge Areas in Buildings* (Second Edition, October 2009) were reviewed. Although some of the information reviewed included tornado protection via design and practices, application for hurricanes can be adapted. Consideration of FEMA P-431 in determining Best Available Refuge Areas (BARAs) may be beneficial in establishing a hierarchy of building protection ratings or assessments for hurricanes.

From the design and construction perspectives for the protection of occupants against primarily high wind forces or loads (e.g., hurricanes), and secondarily, flood and rain loads, buildings may be ranked or rated based on meeting code or standard criteria. In rank order of providing the safest, albeit not guaranteed, shelter environment to the least are: Safe rooms (FEMA P-361), designated storm shelters (ICC-500), selected buildings used as shelters (using more recent or improved building codes and/or ARC 4496), then best available refuse area or BARA (FEMA P-431).

The *ADA Checklist for Emergency Shelters* (July 26, 2007) was broadly reviewed. The checklist should be used as a part of any shelter evaluation. Features addressing accessibility may not be tied in to code

requirements or recommendations for wind, flood or rain loading of structural or building envelope members or systems. It is anticipated most building accessibility features are already integrated into those structures built after ADA requirements were incorporated into building codes. Obviously, older (pre-ADA) structures may require alteration or modification for accommodation.

Task 2: Determine legal requirements for locality to apply building code requirements to facilities used as a shelter.

In the workgroup’s opinion and from a code enforcement perspective, the requirements in the building code are *not* optional when used to construct storm shelters. The local building official is responsible for the enforcement of the same code. The “option” for localities *is* to designate the proposed building or renovation as a *storm shelter* defined in the building code. There are no known code requirements for mandatory designation of shelters. Empirically, the designation of a tornado shelter, hurricane shelter or combination shelter would increase costs via added design and construction criteria.

Local building officials “may approve conditions or modifications for temporary uses, including hypothermia and hyperthermia shelters, that may be necessary as long as the use meets the spirit and functional intent” of the building code (USBC §117.1.1). The building official shall review and may approve temporary uses for storm shelters that are not designated and/or do not fully meet the code requirements. Such uses may be initiated during or as results of emergencies.

Many localities use school (education use group) or public assembly (assembly use group) buildings as shelters for many obvious reasons—space requirements, restroom facilities, food preparation areas or kitchens, parking or access, strategic location within the community, etc. The determination of code compliance for the special features and/or construction methods required for shelters should be left to the building official or an approved third party engineer.

Two other workgroups are assigned related topics. One (SH-30, Shelter Engineering Assessment) is investigating the potential use of designated shelters after inspection and/or review of construction or as-built drawings, while the other (SH-31, Incentives for Local Shelter Retrofitting) is assigned to determine incentives for shelter designations and building/structural upgrades in new construction, as well as, renovations. The three workgroups may need or benefit from future collaboration in addressing local shelter criteria.

This issue of future shelter construction criteria or requirements for local storm shelter designation (and effectively requiring more robust construction features) should be addressed in the code review and revision process coordinated by the Department of Housing and Community Development. Positions on the subject should be sought from local government officials including emergency managers, VDEM, and other interested parties.

Conclusion

The Commonwealth of Virginia has existing code requirements for the construction of storm shelters which meet nationally recognized standards. However, the implementation of these building code requirements is not mandatory for the state or local governing bodies. This workgroup does not have any data or information regarding the number of buildings constructed specifically to the code requirements for storm shelters (i.e., to the ICC-500 standard). There were none reported in the areas the workgroup members represent or others in the Hampton Roads region.

Outside of storm shelters constructed to ICC-500 requirements, buildings are assumed to be correctly designed, constructed and inspected in meeting the code requirements for wind speed and pressure

(and other hurricane related criteria) for specific uses or risk categories. Decisions on the use of these buildings for shelters are based (or should be based) on recognized criteria.

Storm shelters in Virginia *can* be built to meet construction standards that should offer reasonable amounts of protection *if* there were means to fund or incentivize. As an opinion, local governments will not opt to construct to the ICC-500 standard for storm shelters given the choice due to added cost. This workgroup has not addressed potential costs for the additional design and construction features but anticipates it could be significant. Further investigation into the Florida model may be beneficial, whereas, localities are required to construct public school buildings to certain hurricane related standards with some funding relief available to offset the cost difference.

If a decision is made to require localities to construct storm shelters (or buildings that may be used as such), further research is required for determination of space requirements or number of occupants. The Florida requirement for constructing new schools to meet shelter criteria is set aside when localities or regions have enough shelter capacity in the immediate or near future. This workgroup also did not conduct research into community shelter capacity calculations.

No further research or reporting is anticipated from this workgroup.

ENDNOTES

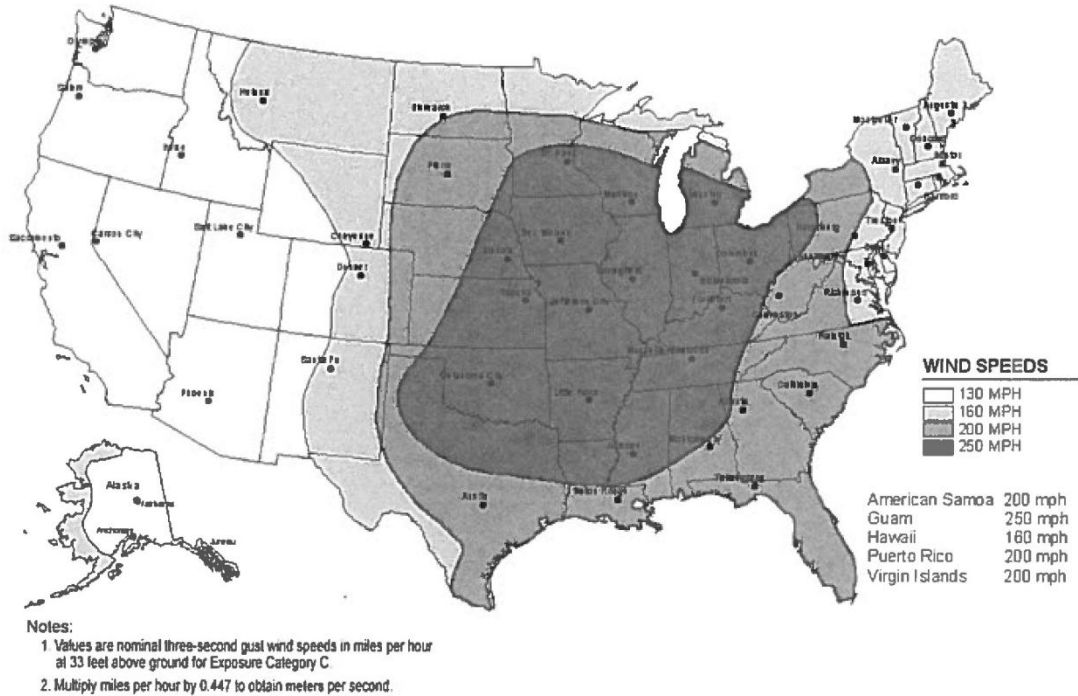
¹This only applies to Risk Category III and IV buildings located in the eastern halves of Accomack County and Northampton County as well as much of Virginia Beach.

² This is not applicable in Virginia because in VUSBC Figures 1609A and 1609C, all of Virginia is located west of the 130 mph contour. In Figure 1609B for Risk Categories III and IV, the 130 mph contour runs down the middle of the Eastern Shore and through Virginia Beach. The contour for 140 mph in VUSBC Figure 1609B lies east of Virginia, therefore Item 2 of the section on Wind-borne Debris Regions is not applicable. Therefore, the eastern halves of Accomack County and Northampton County as well as much of Virginia Beach are covered by Item 1 where the ultimate design wind speed is 130 mph or greater. Note that the maximum wind speed in Virginia is 136 mph in the southeast most point of Virginia Beach.

³ Edited to incorporate revision requested by the State Building Code Official.

Appendix C

Figure 304.2(1): Shelter Design Wind Speeds for Tornadoes (ICC 500-2014)

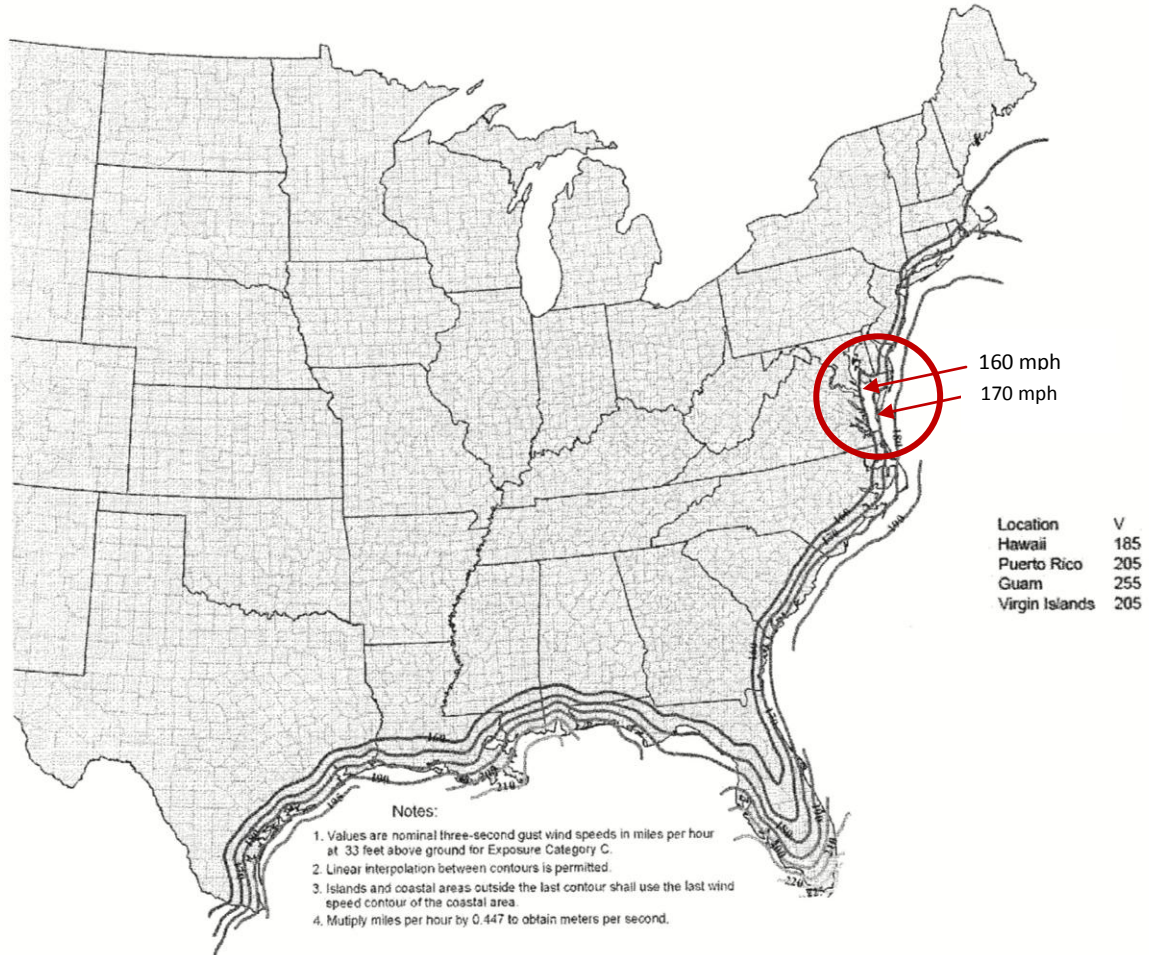


For SI: 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s.

**FIGURE 304.2(1)
SHELTER DESIGN WIND SPEEDS FOR TORNADOES**

Appendix D

Figure 304.2(1): Shelter Design Wind Speeds for Hurricanes (ICC 500-2008)

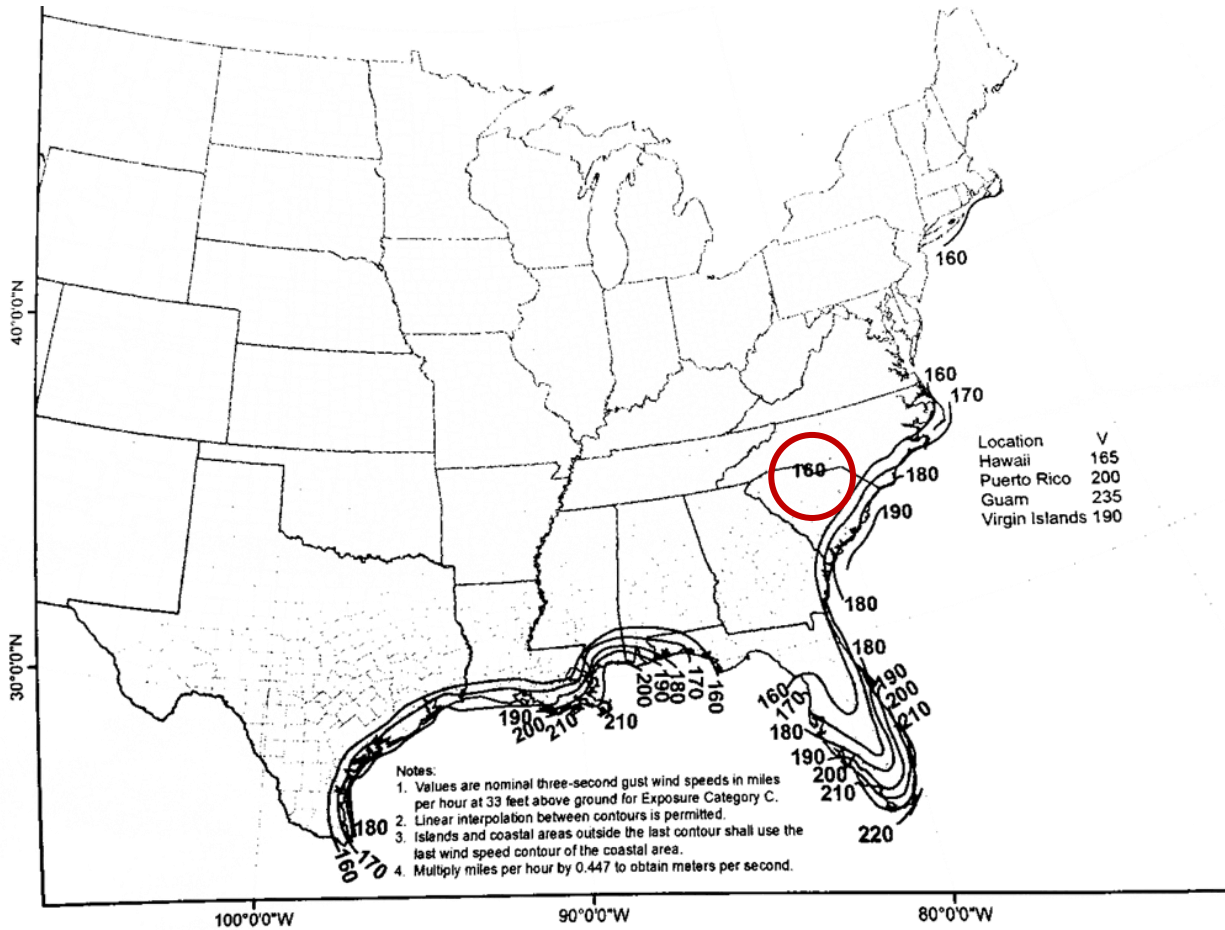


For SI: 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s.

**FIGURE 304.2(2)
SHELTER DESIGN WIND SPEEDS FOR HURRICANES**

Appendix E

Figure 304.2(1): Shelter Design Wind Speeds for Hurricanes (ICC 500-2014)



Appendix F
State of Florida Least-Risk Decision Making: ARC 4496
Hurricane Evacuation Shelter Prescriptive Summary Guidance

(Revision 04/18/2014) State of Florida (Revision 04/18/2014) Least-Risk Decision Making: ARC 4496 Hurricane Evacuation Shelter Prescriptive Summary Guidance			
Criteria	Revised Rankings		
	Preferred	Less Preferred / Marginal	Further Investigation / Mitigation Required
<p>1. Storm Surge Inundation</p> <p>For building's located in storm surge hazard evacuation zones, provide the building's finished floor elevation (FFE) as shown on construction documents, site survey or other reliable source. Provide the FFE of all floors if the building is multistory. Confirm reliability of the given FFE value(s) by comparison to the applicable site elevation shown on USGS or other authoritative topographic map products.</p>	<ul style="list-style-type: none"> - Building is located outside of Category 5 hurricane storm surge inundation zone - Building is not subject to isolation due to Category 5 hurricane storm surge inundation 	<ul style="list-style-type: none"> - Building is located outside of Category 4 hurricane storm surge inundation zone, but inside of areas subject to potential inundation by a Category 5 surge event - Shelter floor is potentially subject to Category 5 storm surge inundation of up to one (1) foot - Building is subject to isolation due to Category 5 storm surge inundation 	<ul style="list-style-type: none"> - Building is located inside of Category 4 hurricane storm surge inundation zone, and subject to inundation from a Category 4 or 5 storm surge event - Shelter floor is potentially subject to Category 5 storm surge inundation in excess of one (1) foot - Avoid basements if there is any chance of flooding - Avoid buildings located on coastal barrier islands
<p>2. Rainfall Flooding / Dam Safety</p> <p>For building's located in storm surge hazard evacuation zones, provide the building's finished floor elevation (FFE) as shown on construction documents, site survey or other reliable source. Provide the FFE of all floors if the building is multistory. Confirm reliability of the given FFE value(s) by comparison to the applicable site elevation shown on USGS or other authoritative topographic map products. Documentation must include FEMA Flood Map # and revision date.</p>	<ul style="list-style-type: none"> - Building is located outside of 500-year floodplain - Building is located in FIRM Zone C or X (unshaded) area - Building is not subject to isolation due to 100-year flood event (1% annual chance of being equaled or exceeded) - Building is not subject to flooding or isolation due to dam or reservoir containment failure 	<ul style="list-style-type: none"> - Building is located within the 500-year floodplain - Shelter building is located in FIRM Zone B or X (shaded) area - Shelter floor is at or above the BFE of the most recent FIRM or Flood Insurance Study - Building is subject to isolation due to 100-year flood event - Building is subject to isolation due to dam or reservoir containment failure 	<ul style="list-style-type: none"> - Building is located within the 100-year floodplain - Shelter floor is below the BFE of the most recent FIRM - Shelter building is located in FIRM Zones V and AH - Avoid basements if there is any chance of flooding - Building is subject to velocity flooding and/or higher than one (1) foot still-water inundation due to dam or reservoir containment failure

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Least-Risk Decision Making: ARC 4496 Hurricane Evacuation Shelter Prescriptive Summary Guidance			
Criteria	Revised Rankings		
	Preferred	Less Preferred / Marginal	Further Investigation / Mitigation Required
<p>3. Hazmat and Nuclear Power Plant Considerations</p> <p>* Always coordinate level of risk from hazmat facility to shelter with LEPC and local EM. LEPC and Local EM can assist in determining the suitability of a potential hurricane evacuation shelter or determine precautionary zones (safe distances) for facilities near potential shelters that manufacture, use or store hazardous materials.</p>	<ul style="list-style-type: none"> - Building that does not store certain reportable types or quantities of hazardous materials - Building that is not located within a precautionary zone for facilities that manufacture, use or store hazardous materials - Building is not located within the ten-mile emergency planning zone (EPZ) of a nuclear power plant 	<ul style="list-style-type: none"> - Building that stores certain reportable types or quantities of hazardous materials, or Building is located within a precautionary zone for facilities that manufacture, use or store hazardous materials; and -the hazardous materials facility has been reviewed by LEPC & EM and precautions deemed adequate* - Building is located within the ten-mile Emergency Planning Zone (EPZ) of a nuclear power plant but mitigating procedures have been implemented per LEPC and local EM 	<ul style="list-style-type: none"> - Building that stores certain reportable types or quantities of hazardous materials, or Building that is located within a precautionary zone for facilities that manufacture, use or store hazardous materials, and -the hazardous materials facility has not been reviewed by LEPC & EM or has been reviewed and precautions deemed inadequate* - Building is located within the ten-mile emergency planning zone (EPZ) of a nuclear power plant, but no mitigating procedures per LEPC and local EM
<p>4. Lay-down Hazard Exposure</p> <p>12 inch diameter or larger trees may be sufficient to cause lay-down damage to buildings.</p>	<ul style="list-style-type: none"> - Buildings not exposed to very large/heavy trees or structures that could cause destructive collapse or lay-down impact damage (i.e., envelope breach) - Buildings whose access routes are not tree-lined 	<ul style="list-style-type: none"> - Buildings exposed to very large/heavy trees or structures that could collapse or lay-down and cause minor impact damage, but not considered sufficient to cause significant envelope breach - Buildings whose access routes are tree-lined, and appropriate mitigating measures are available (e.g., isolation plan in-place, road debris clearance plan in-place, etc.) 	<ul style="list-style-type: none"> - Buildings exposed to very large/heavy trees or structures that could cause destructive collapse or lay-down impact damage, sufficient to cause significant envelope breach and/or crushing injuries to shelter occupants, and problem not mitigated - Buildings whose access routes are tree-lined, and no mitigating measures available.

(Revision 04/18/2014) State of Florida (Revision 04/18/2014)			
Least-Risk Decision Making: ARC 4496 Hurricane Evacuation Shelter Prescriptive Summary Guidance			
Criteria	Revised Rankings		
	Preferred	Less Preferred / Marginal	Further Investigation / Mitigation Required
<p>5. Wind and Debris Exposure</p> <p>Note: If a source of heavy/massive windborne or falling debris is present, recommend roof and walls be constructed of top & bottom layered reinforced 8 inch or thicker cast-in-place concrete</p>	<ul style="list-style-type: none"> - Buildings located in areas that are sheltered/protected from strong winds - Urban and suburban areas, wooded areas, or other terrain with numerous closely spaced obstructions having the size of single family dwellings or larger - Building surroundings can be described as ASCE 7 Exposures A and B - Buildings located more than one (1) mile from a hurricane coastline - No significant sources of small, large, very large/heavy lay-down, roll-over, and/or falling debris sources within 300 feet of shelter building's perimeter 	<ul style="list-style-type: none"> - Buildings located in areas subject to strong over-land non-coastal wind effects - Relatively flat open terrain with scattered obstructions having heights generally less than 30 feet above grade for a distance of at least a quarter mile (1,500 feet) - Building surroundings can be described as ASCE 7 Exposure C - Buildings located within one (1) mile of hurricane coastline but with mitigating measure (e.g., modern wind design, such as ASCE 7-98 or more recent editions) - Significant sources of small and large debris are present within 300 feet, and/or very large/heavy lay-down, roll-over, or falling debris sources within 100 feet of shelter building's perimeter, but with mitigating factor(s) 	<ul style="list-style-type: none"> - Buildings located in areas subject to strong coastal wind effects - Relatively flat, unobstructed areas exposed to wind flowing over hurricane coastal shoreline, and/or open water for a distance of at least one (1) mile - Building surroundings can be described as ASCE 7 Exposure D - Buildings located within one (1) mile of hurricane coastline and with no mitigating measure - Significant sources of small and large debris within 300 feet, and/or very large/heavy lay-down, roll-over, or falling debris sources are present within 100 feet of shelter building's perimeter, and with no mitigating factor(s)

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Least-Risk Decision Making: ARC 4496 Hurricane Evacuation Shelter Prescriptive Summary Guidance			
Criteria	Revised Rankings		
	Preferred	Less Preferred / Marginal	Further Investigation / Mitigation Required
<p>6. Wind Design</p> <p>Additional preference may be given to buildings designed and constructed to ASCE 7-98 (or more recent editions), and IBC and FBC equivalents, Occupancy Category III or IV (I=1.15) or Risk Category III or IV; or higher wind design standard, code or guideline (e.g., ICC500 or FEMA 361)</p>	<ul style="list-style-type: none"> - Certification by a licensed structural engineer to be capable of withstanding wind loads according to ANSI A58.1-1982, ASCE 7 and IBC and FBC equivalents, Occupancy Category III or IV (I=1.10 or greater) or Risk Category III or IV - Documentation that notes structural design by a licensed structural engineer and specifies wind design as ANSI A58.1-1982, ASCE 7 and IBC and FBC equivalents, Occupancy Category III or IV (I=1.10 or greater) or Risk Category III or IV - Massive structures or other special facilities, such as nuclear fallout shelter bunkers 	<ul style="list-style-type: none"> - Engineered structure designed and constructed to ANSI A58.1-1982, ASCE 7 and IBC and FBC equivalents, Occupancy or Risk Category II; or SBC (1982) and MBMA (1986) or more recent editions, or similar wind load codes or standards; meets other established hurricane shelter safety criteria prescribed in ARC 4496, Rev. January 2002 - Engineered heavy concrete or steel construction facility with ordinary reinforced concrete roof (i.e., a self-weight of 35 psf or greater) and designed to ASA/ANSI A58.1-1955 wind standard or 1961 or more recent model codes and revisions; must also meet other established hurricane shelter safety criteria prescribed in ARC 4496, Rev. January 2002 	<ul style="list-style-type: none"> - Non-engineered or partially engineered structures - Light or ordinary construction buildings designed to: <ul style="list-style-type: none"> - Pre-ANSI A58.1-1972 wind design standard; - Pre-1982 SBC or other similar model code wind design; or - Pre-1986 MBMA wind design
<p>7. Construction Type / Definable Continuous Loadpath</p> <p>Note: Unless otherwise indicated, assume masonry wall systems are 8 inch nominal thickness hollow concrete masonry units (CMU) with running bond, type M or S mortar, and continuous horizontal joint</p>	<ul style="list-style-type: none"> - Heavy steel or reinforced concrete skeletal frame buildings - 8 inch or thicker reinforced masonry (typical max. vert. rebar spaced @ 4 feet o.c. or less) or cast-in-place reinforced concrete (typical rebar spacing is 18 inches o.c. or less each way) wall-bearing buildings. 	<ul style="list-style-type: none"> - Light steel or glulam wood skeletal frame building - ANSI A58.1-1982, ASCE 7 and IBC and FBC equivalents, Occupancy or Risk Category III or IV certified or documented buildings that do exceed 60 feet in height above grade - ANSI A58.1-1982, ASCE 7 and IBC and FBC equivalents, 	<ul style="list-style-type: none"> - All partially engineered (a.k.a., marginally engineered) or non-engineered structures; example: light steel frame w/ unreinforced masonry infill walls - 8 inch unreinforced masonry wall-bearing buildings (typical max. vert. rebar spaced @ 9 feet o.c. or greater, or tie-column/pilaster and tie-beam spacing greater than 14 feet o.c.)

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Least-Risk Decision Making: ARC 4496 Hurricane Evacuation Shelter Prescriptive Summary Guidance			
Criteria	Revised Rankings		
	Preferred	Less Preferred / Marginal	Further Investigation / Mitigation Required
<p>reinforcement spaced every 16 inches vertically; intermediate bondbeam(s) recommended for walls that are 13.5 feet in height or greater; stack bond rebar spacings are half those of running bond (e.g., 2 feet o.c. rebar instead of 4 feet for preferred ranking)</p> <p>Additional preference may be given to buildings designed and constructed to ASCE 7-98 (or more recent editions), and IBC and FBC equivalents, Occupancy Category III or IV (I=1.15) or Risk Category III or IV; or higher wind design standard, code or guideline (c.g., ICC500 or FEMA 361)</p>	<ul style="list-style-type: none"> - ANSI A58.1-1982, ASCE 7 and IBC and FBC equivalents, Occupancy Category III or IV (I=1.10 and greater) and Risk Category III or IV certified or documented buildings that do not exceed 60 feet in height above grade -Pre-engineered Metal Building Hybrids certified or documented design to ANSI A58.1-1982, ASCE 7 and IBC and FBC equivalents, wind design standard and Occupancy or Risk Category III or IV - Massive structures or other special facilities, such as nuclear fallout shelter bunkers 	<p>Occupancy Category II (I=1.00) or Risk Category II certified or documented buildings regardless of height above grade</p> <ul style="list-style-type: none"> - Post-1986 Pre-engineered Metal Buildings designed and constructed to ANSI A58.1-1982, ASCE 7 and IBC and FBC equivalents, Occupancy Category II (I=1.00) or Risk Category II, or model codes, such as MBMA or SBC; bracing present in both wall and roof planes - 8 inch partially reinforced masonry (typical max. vert. rebar spaced up to @ 8 feet o.c.), or 12 inch partially reinforced masonry (typical max. vert. rebar spaced up to 11 feet o.c.) or precast reinforced concrete panel wall-bearing building - Masonry wall-bearing systems equivalent to partially reinforced masonry (for 8 inch CMU with typical tie-column/pilaster and tie-beam spacing no greater than 13.5 feet o.c, or 12 inch CMU with typical spacing up to 16 feet o.c.) - Engineered light wood or metal-stud wall-bearing buildings 	<ul style="list-style-type: none"> - Partially engineered or non-engineered light wood or metal-stud wall-bearing building - Pre-engineered (steel prefabricated) buildings built before the mid-1980s

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Criteria	Revised Rankings		
	Preferred	Less Preferred / Marginal	Further Investigation / Mitigation Required
<p>8. Building Condition / Wind Damage History</p>	<ul style="list-style-type: none"> - Building is in good condition with no observable or known structural or cladding deterioration - Building or interior shelter core area (if applicable) is approximately as sound as it was when new 	<ul style="list-style-type: none"> - Building or interior shelter core area (if applicable) has minor structural and/or cladding deterioration; deterioration does not appear to significantly jeopardize wind-resistance 	<ul style="list-style-type: none"> - Building or interior shelter core area (if applicable) has major deterioration of structural and/or cladding components and assemblies; deterioration appears to significantly jeopardize wind-resistance
<p>9. Exterior Wall Construction</p> <ul style="list-style-type: none"> - 8 inch high bondbeams are not recommended for reinforcement spacing that exceeds six (6) feet o.c <p>Note: Unless otherwise indicated, assume masonry wall systems are 8 inch nominal thickness hollow concrete masonry units (CMU) with running bond, type M or S mortar, and continuous horizontal joint reinforcement spaced every 16 inches vertically; intermediate bondbeam(s) recommended for walls that are 13.5 feet in height or greater; stack bond spacing are is half those of running bond (e.g., 2' o.c. rebar instead of 4' for preferred ranking)</p> <p>Additional preference may be given to buildings designed and constructed to ASCE 7-98 (or more</p>	<ul style="list-style-type: none"> - 4 inches or thicker reinforced concrete (rebar spacing is 12 inches o.c. or less, or wire-welded mesh reinforced) - 8 inch or thicker reinforced masonry (typical max. vert. rebar spaced @ 4 feet o.c.) w/ masonry or stucco veneer (anchored @ 24" o.c. max. each way) - 20 gauge or thicker metal wall panels w/ no veneer - 22 to 24 gauge metal wall panels w/ masonry or stucco veneer (anchored @ 24" o.c. max. each way) - Less than 1% of any exterior wall area is softspot; no direct exposure to shelter area(s) 	<ul style="list-style-type: none"> - Wall construction assemblies "deemed to comply" with FBC (ref: s. 1626.4) - 5/8 inch or thicker CD grade plywood w/ masonry or stucco veneer (anchored @ 24" o.c. max. each way) - 2 inches of reinforced concrete (rebar spacing is 18 inches o.c. or less, or wire-welded mesh reinforced) - 8+ inch partially reinforced masonry (typical max. vert. rebar spaced @ 8 feet o.c.) with or without veneer - 8 inch masonry wall systems equivalent to partially reinforced masonry: typical tie-column and tie-beam spacing no greater than 13.5 feet o.c., 12-inch CMU tie-column and tie-beam spacing up to 16 feet o.c.; with or without veneer. 	<ul style="list-style-type: none"> - Wall construction assemblies that do not meet "deemed to comply" criteria of FBC (ref: s. 1626.4) - Wall systems that, at a minimum, do not meet "marginal ranking" - 26 gauge or thinner metal wall panels w/ no impact resistant veneer - EIFS wall system on substrate other than reinforced masonry or concrete, or 5/8"+ plywood - Gypsum wall board sheathing over metal or wood studs, with or without brick or stucco veneer - 8 inch masonry tie-beam and tie-column wall systems that exceed 14 feet o.c. spacing - 6 % or greater exterior wall area is comprised of softspot, or direct exposure of softspot to shelter area(s)

(Revision 04/18/2014) State of Florida (Revision 04/18/2014) Least-Risk Decision Making: ARC 4496 Hurricane Evacuation Shelter Prescriptive Summary Guidance			
Criteria	Revised Rankings		
	Preferred	Less Preferred / Marginal	Further Investigation / Mitigation Required
recent editions), and IBC and FBC equivalents, Occupancy Category III or IV (I=1.15) or Risk Category III or IV; or higher wind design standard, code or guideline (e.g., ICC500 or FEMA 361)		-22- 24 gauge metal wall panels w/ no veneer (*check impact testing for 24 gauge) - 1 to 5% of any exterior wall area softspot; no direct exposure to shelter area(s) - 5/8 inch or thicker CD grade plywood w/ masonry or stucco (with metal lathe) veneer (anchored @ 24" o.c. max. each way)	
10. Fenestrations / Window Protection Additional preference may be given to buildings designed and constructed to ASCE 7-98 (or more recent editions), and IBC and FBC equivalents, Occupancy Category III or IV (I=1.15) or Risk Category III or IV; or higher wind design standard, code or guideline (e.g., ICC500 or FEMA 361)	- Testing Protocols (must pass one or more of the following): SBCCI SSTD 12; ASTM E 1886 & ASTM E 1996; SFBC 201, 202 & 203, and/or FBC TAS 201, 202 and 203 (<i>At a minimum, protected window and door assemblies must meet high wind missile testing protocols: 9 lb 2x4 wood plank striking on-end at 34 mph</i>) - Less than 1% of any exterior wall area comprised of unprotected glass; no direct exposure to shelter area(s)	- Protected window and door assemblies that cannot be certified or documented to meet high wind missile testing protocols, but will provide adequate barrier to envelope breach effects - 7/16"+ thick CD grade wood structural panel (shutters) with adequate sub-framing and anchorage (reference FBC) - 1 to 5% of any exterior wall area comprised of unprotected glass; no direct exposure to shelter area(s)	- Unprotected window and door assemblies, or "protective" assemblies that cannot be certified or documented to meet high wind missile testing protocols and will not provide an adequate barrier to envelope breach effects - 6 % or greater exterior wall area comprised of unprotected glass, or unprotected glass with direct exposure to shelter area(s)

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<p>11. Roof Construction / Roof Slope</p> <p>** - Per ASCE 7-98, section 6.2, the area of potential roof openings must not exceed 1% of the shortest length wall face's area. This only applies to the story immediately below the roof.</p> <p>*** - Fiber-based formboard, insulation or cementitious panels; typically installed on bulb-tee sub-framing.</p> <p>Note: If a source of heavy/massive windborne or falling debris is present, FEMA 361 recommends roof and walls be constructed of two layers (one each top & bottom) of bi-directionally reinforced 9 inch or thicker cast-in-place concrete</p> <p>Additional preference may be given to buildings designed and constructed to ASCE 7-98 (or more recent editions), and IBC and FBC equivalents, Occupancy Category III or IV (I=1.15) or Risk Category III or IV; or higher wind design standard, code or guideline (e.g., ICC500 or FEMA 361)</p>	<ul style="list-style-type: none"> - Building with a heavy concrete roof system (i.e., a self-weight of 50 psf or greater) - 4 inches or thicker reinforced concrete (rebar spacing is 12 inches o.c. or less or wire-welded mesh reinforced on 22 gauge or thicker metal deck) - Building designed to a pre-2000 model code with light or moderate weight roof deck with a steep roof slope greater than 30° (7/12 pitch) and hipped geometry - Building designed to a pre-2000 model code with roof eaves or overhangs that do not extend more than 2 feet from exterior envelope cladding - ANSI A58.1-1982 and ASCE 7 wind design standards, Occupancy Category III or IV (I=1.10 or greater) or Risk Category III or IV, and IBC and FBC equivalents, certified or documented roof eave or overhangs that do extend more than 2 feet from exterior envelope cladding - Structural 20 gauge or thicker metal deck 	<ul style="list-style-type: none"> - 3 inches (+/-) of ordinary reinforced concrete (rebar spacing is 18 inches o.c. or less, or wire-welded mesh reinforced on 22 gauge or thicker metal deck) - Building designed to a pre-2000 model code with light or moderate weight roof deck and a flat or moderate roof slope less than 30° (2/12-7/12 pitch) - Building designed to a pre-2000 model code with braced gable-end roof or hipped roof geometry - Roof assemblies "deemed to comply" with FBC (ref: s. 1626.4); e.g., 2 inches of reinforced concrete, 5/8" CD plywood sheathing, etc. - 5/8" CD plywood sheathing w/impact resistant covering - ANSI A58.1-1982 or ASCE 7, Occupancy Category II (I=1.00) or Risk Category II, and IBC and FBC equivalents, certified or documented roof eaves or overhangs that do extend more than 2 feet from exterior envelope cladding 	<ul style="list-style-type: none"> - Roof systems with unverifiable or inadequate loadpath connections - Unbraced gable-end roof geometry - Non-metal or non-wood deck assemblies*** - Uncertified or documented roof eave or overhangs that extend more than 2 feet from exterior envelope cladding - Structural 26 gauge or thinner metal deck w/o structural concrete fill - Heavyweight Unanchored roof appendages - Significant breach potential (6+ %**)

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	<ul style="list-style-type: none"> - No unanchored roof appendages - Negligible breach potential, less than 1%** 	<ul style="list-style-type: none"> - Structural 22-24 gauge metal deck, or structural 26 gauge w/ structural fill - Lightweight unanchored roof appendages present - Moderate breach potential, 1-5%** 	
<p>12. Roof Open Span</p> <p>Additional preference may be given to buildings designed and constructed to ASCE 7-98 (or more recent editions), and IBC and FBC equivalents, Occupancy Category III or IV (I=1.15) or Risk Category III or IV; or higher wind design standard, code or guideline (e.g., ICC500 or FEMA 361)</p>	<ul style="list-style-type: none"> - ANSI A58.1-1982, ASCE 7, IBC or FBC Occupancy or Risk Category II certified or documented building with a max. roof span of 40 feet or less - ANSI A58.1-1982, ASCE 7, IBC or FBC Occupancy Category III or IV (I=1.10 or greater) or Risk Category III or IV certified or documented building with a max. roof span greater than 40 feet 	<ul style="list-style-type: none"> - Building designed to a pre-2000 model code with a max. roof span of 40 feet or less - ANSI A58.1-1982, ASCE 7, IBC or FBC Occupancy or Risk Category II certified or documented building with a max. roof span greater than 40 feet 	<ul style="list-style-type: none"> - Building with a roof span greater than 40 feet and no ANSI A58.1-1982, ASCE 7, IBC nor FBC certification or documentation
<p>13. Roof Drainage / Ponding</p> <p>Note: 100-year, 1-hour rainfall rate per Figure 1106.1, FBC Plumbing indicates approx. 4.4 to 5.0" per hour for Florida</p>	<ul style="list-style-type: none"> - See ASCE 7-98, section 8.2 & FBC, s. 1503.4; 100-year, 1-hour rainfall rate - Building with no roof drainage confining parapet walls or curbs - No evidence of ponding that exceeds 2 inches in accumulation 	<ul style="list-style-type: none"> - Building with roof drainage confining parapet walls or curbs; flow capacity of overflow scuppers is not less than primary drains, and/or mitigating factor(s) present - No evidence of ponding that exceeds 5 inches in accumulation 	<ul style="list-style-type: none"> - Building with roof drainage confining parapet walls or curbs; unknown flow capacity, or flow capacity of overflow scuppers is less than primary drains - Evidence of ponding that exceeds 5 inches in accumulation

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<p>14. Interior Safe Space</p> <p>Note: An interior safe space/core area is not required if the proposed hurricane shelter building, as a whole or in part, meets ARC 4496 guidelines/ standards</p> <p>Additional preference may be given to buildings designed and constructed to ASCE 7-98 (or more recent editions), and IBC and FBC equivalents, Occupancy Category III or IV (I=1.15) or Risk Category III or IV; or higher wind design standard, code or guideline (e.g., ICC500 or FEMA 361)</p>	<ul style="list-style-type: none"> - Interior shelter space must independently meet ARC 4496 guidelines - At a minimum, all “preferred” criteria apply to the interior safe space envelope - Example: 8+ inch reinforced masonry or 4+ inch reinforced concrete perimeter wall panels with cast-in-place 4+ inch reinforced concrete roof/ceiling slab; windows and doors meet high wind debris impact resistance requirements - Structural separation from surrounding building(s) is required (i.e., expansion, control or slip-joints) - Massive structures or other special facilities, such as nuclear fallout shelter bunkers -In the case where the surrounding building meets ARC 4496 this criteria is not applicable. 	<ul style="list-style-type: none"> - Interior shelter space must independently meet ARC 4496 guidelines - At a minimum, all criteria ranked as “marginal” apply to the interior safe space envelope - Example: 8+ inch partially reinforced masonry (vert. rebar @ 8 feet o.c., or tie-column & beam @ 13.5 feet o.c.) or 2+ inch reinforced concrete panel perimeter walls with cast-in-place 2+ inch reinforced concrete roof/ceiling slab or min. 24 gauge metal deck (or concrete & metal decks combined); no windows or doors w/ glass with direct exposure to shelter space - Roof of shelter framed separately from surrounding building, but complete structural separation not required -In the case where the surrounding building meets ARC 4496 this criteria is not applicable. 	<p>In the case where the surrounding building does not meet ARC 4496, and the interior shelter space (e.g., corridor) does not meet ARC 4496, describe why it does not.</p> <ul style="list-style-type: none"> - Interior spaces that cannot independently meet ARC 4496 guidelines - Unreinforced masonry walls - Gypsum wall board on metal or wood stud walls - Windows or doors present w/ glass (larger than a small view window) with direct exposure to shelter space(s) - Significant very large/heavy or falling debris, lay-down, and/or structural collapse hazards - Roof/ceiling of interior space is not framed separately from surrounding building (i.e., roof support members are continuous through or over interior space partitions -In the case where the surrounding building meets ARC 4496 this criteria is not applicable.

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15. Life Safety / Emergency Power	<ul style="list-style-type: none"> - Building must be in compliance with all local building and fire codes - Building and/or hurricane shelter space(s) supported by a standby back-up generator capable of supporting critical fire and life-safety systems, ventilation systems, adequate shelter lighting and if applicable, special needs requirements - Generator must be independent of off-site utilities/infrastructure (e.g., water, fuel, etc.), with a minimum of 24-hour on-site fuel supply (72 hours or greater recommended) - Generator and ancillary equipment must be adequately protected from major hurricane effects 	<ul style="list-style-type: none"> - Building must be in compliance with all local building and fire codes - No provision for standby or emergency back-up power - Or, generator present but dependent upon one or more off-site utilities/infrastructure (e.g., water, fuel, etc.), and/or less than a 24-hour on-site fuel supply - Or, generator and ancillary equipment are not adequately protected from major hurricane effects 	<ul style="list-style-type: none"> - Building that is not in compliance with all local building and fire codes; a local authority having jurisdiction must make this determination.
Notes:			