

Attachment 3

Sheltering Space and Floor Plan Considerations

American Red Cross (ARC) Sheltering guidelines recommend that 20 square feet per person be made available for short-term, or “evacuation” sheltering, and up to 40 square feet per person for “long term” sheltering. “Long term sheltering” is generally defined as any period longer than seventy-two hours.

Typical ARC or military surplus cots require about 21 square feet (7ft X 3 ft) of floor space. By allowing space for maneuverability around the cot, expanding the assigned space to approximately 4 feet X 10 feet, you can arrive at the recommended floor space of 40 sq ft per occupant. The relatively narrow, long space allotment allows for the storage of belongings at the foot of each cot.

In most cases, accommodating the needs of people with disabilities in shelters requires only minor modifications of the standard operating guidelines and some forethought concerning the floor plan of the shelter facility. Some additional equipment considerations are also worth considering. A detailed assessment of your local population, as well as a close working relationship with local advocacy groups, can help you determine the exact type and quantity of equipment that may be required in your shelter, in addition to resources for obtaining those supplies. Following is a brief discussion of some of these considerations.

Space issues are always of great concern when it comes to sheltering large populations. The idea of accommodating individuals with wheelchairs, lift equipment, personal care assistants, and service animals can, at first, seem unreasonable. However, some experimentation with floor planning shows that even one individual who brings all of these needs to a shelter can fit into about 100 square feet. That translates to 50 square feet per person—only ten square feet more than the Red Cross per-person allotment for long term sheltering.

Some particular features of this layout need more detailed explanation. Starting with the motorized wheelchair, careful consideration should be given to placement of individuals with power needs within the shelter. While many motorized wheelchairs can go several days between charges, remember that sudden disasters may bring people to your shelter whose chairs may need immediate charging, and as days wear on nearly all people relying on wheelchairs will need to charge them. It should be emphasized that motorized wheelchairs are not simply wheelchairs that move on their own. While implying that these apparatus are “life support” equipment would be an overstatement, they are certainly “quality of life support” equipment. Not just providing mobility, they are custom made, 400+ pound, sophisticated pieces of medical equipment that also prevent skin degradation and ulceration, prevent circulatory disorders and respiratory infections, and help individuals care for themselves. With that in mind, motorized wheelchairs can create a significant draw on electrical circuits while charging. This is an important consideration, and should be coupled with

other power demands, such as breathing machines (CPAP, BiPAP) or other equipment that may be in use. In general, consider distributing your power-consuming shelter residents across multiple walls and/or circuits. Even relatively large chairs can be parked for the night without taking up too much space. Placing the chair at the head of its owner's bed not only creates a compact storage area, it also provides a sense of security (as opposed to having to "surrender" the chair to a common storage area) as well as a platform for personal effects, perhaps including assistive breathing equipment.

Spacing individuals with disabilities throughout the shelter to distribute power demand, and integrate the entire population, presents some challenges. While individuals who are ambulatory can walk to bathrooms, perform personal hygiene, and change clothes, persons with certain disabilities cannot. Portable privacy screens may be a suitable option for providing privacy at the individual's cot. Alternatively, if the shelter is a school, the nurse's office can be designated as a private room for addressing personal needs of persons with disabilities. Such a room should be at least 100 square feet and should include an examination table or massage-type table to help facilitate change of clothing or addressing other personal care needs.

Cots that provide a wider sleeping surface, a thicker mattress pad, and a higher surface can be found at (www.emergencyresources.com). This makes the cot more versatile when dealing with populations that may have trouble getting in and out of low beds. Eighteen inches is generally not, however, high enough for self-transfer in and out of wheelchairs.

Many individuals with disabilities rely on family members, friends, or personal care assistants to provide support with activities of daily living to live in and participate in the community. Therefore, to live independently within a shelter, persons with disabilities will likely bring more than one family member or personal care assistant with them to a shelter. However, only one family member or personal care assistant can stay in the 100 square foot area at a time. Other family members or personal care assistants may stay in the general population section of the shelter and rotate into the 100 square foot area as needed.

An additional consideration that leads to the 100-ft² floor space requirement is the need to access the bed area by wheelchair, and the potential need for lifting/moving equipment such as a Hoyer Lift. Alternatively, Hoyer Lifts made available at the shelter for general use may help minimize both equipment storage concerns as well as the need for individuals to transport their own lift during an evacuation. Emergency planners may consider arranging memorandums of understanding (MOUs) with companies to supply equipment such as Hoyer lifts to enhance accessibility, should the need to open a shelter arise. Some other equipment to consider having available by MOU might include:

- Portable showers for people in wheel chairs

- Shower chairs
- Egg crate mattress pads

Finally, space is needed to accommodate a service animal. A minimal amount of floor space (6 square feet) may be required, or the service animal may even sleep on the bed with their owner.

In order to assess the number of specialized cots, amount of space dedicated to accessible sheltering, power supply requirements, etc. needed in each community, local officials should review available demographic or statistical data for their community. Working closely with community partners (area agencies on aging, disability advocates, etc) during the planning stages will help to better prepare both the emergency management staff as well as people with disabilities for a disaster. If no estimation of local requirements is available, it is recommended that a figure of 10% of the shelter population be used in calculating the need for specialized cots and space.

