Facility Design, Shelter Animal Housing and Shelter Population Management

This information sheet includes links to many resources describing shelter best practices, and the designs that support them, as well as photographs and drawings illustrating the concepts. Particular attention is paid to including Capacity for Care (C4C) in any shelter design.

When designing a new facility or remodeling the current facility, it is important to think about not only the type of housing that will be used, but also the appropriate number of housing units to have for each type of animal that the shelter cares for. Determining the number of housing units is based on past intake and outcome trends as well as the shelter’s capacity for care (C4C) – the ability to provide all animals in their care with the Five Freedoms of Animal Welfare. Understanding this and developing population management strategies to achieve C4C will allow the organization to be successful in the new/remodeled facility in terms of providing outstanding welfare (for both animals and staff) and positive outcomes.

General Recommendations for Animal Housing

A cornerstone of successful shelter design is determining the right size and type of animal housing. To meet animal needs, reduce animal stress and allow staff to care for animals safely and efficiently, housing should be double-compartment. These recommendations intend for all animals to be housed individually (exceptions: mothers and offspring, bonded pairs, juveniles, purpose-designed group housing). The housing recommended will meet most animals’ needs for up to about a two-week shelter stay. If animals are expected to be housed in the shelter for periods beyond two weeks, then accommodation for additional needs – for more housing space, out-of-housing time, and provisions for behavioral needs according to the individual animal – must be met; the housing recommendations provided here are not intended for extended stays.

In general, all individual (dog and cat) shelter housing should:

- Be used such that during average intake times no more than 80% of housing be occupied. Open housing units are a must for shelters to function effectively day to day.
- Provide double compartments of adequate space for animal housed
- Provide a place for retreat within the housing unit (carrier/crate [whole or just bottom half], hiding box, high sided bed, cardboard box, curtain/towel attached to housing unit door, etc.)
- Allow human/animal interaction to readily occur at the front of the housing unit
- Maximize the floor space by utilizing raised beds and elevated food/water dishes
- Provide fresh clean food and water daily
- Provide as much choice within the housing unit for the animal (soft and hard surfaces, cool and warm surfaces, floor and elevated height spaces, hiding/retreat space, indoor and outdoor space, window viewing, etc.)
- Be located in a quiet environment
- Provide natural lighting
- Provide adequate ventilation – open barred doors generally allow room ventilation into housing spaces and are preferred over completely enclosed housing units
- Have surfaces that are easy to clean and disinfect
- Provide visual stimulation – window views, outdoor views, view into the center of the room, etc. (generally avoid views into a blank wall)

Cats

Housing in: Hold/Isolation/Special Care and for Open Selection operational models

Double compartment caging/condos – Our favorite are two 30” long by 28” deep by 28-30” high cages with a side to side pass-through between them with the units double stacked (we do not recommend triple stacking). These cage sizes can be found in laminate, stainless steel or fiberglass units. Not all will have a pass-through available if purchased new. Most older units that are still in good shape will be single cages, but both new and older cage units can be retrofitted to double compartment with a portal. Plastic, quiet latches and hinges can be ordered with new units and updated on older cages.

- Example: New 30” stainless steel cages that have had portals installed to make them double compartment
Cage set-up when double compartment is side to side:

- These cages can be spot cleaned daily and fully disinfected between occupants
- The minimum size for double compartment cat housing is a 4’ unit
  - Example: Two “2x2” cages retrofitted with a portal in between the two cages making a double compartment housing unit
    - Staff initially needed a reminder to house only one cat per double unit when portals were installed - hence the sign “1 cat” sign
Example: 4’ cage divided to provide a main living area and a litter box side. This is a Shor-Line stainless steel double compartment cage unit.

Housing in Cat Adoption: provide a variety of housing - caging, individual room, group room

**Caging - Our Favorite is the Adoption Quad**  - Four 30” long by 28” deep by 28-30” high cages with pass through side to side and up to down. These are basically the same as the holding units but have an additional pass-through up to down, which provides more housing flexibility. It also works well to present cats at the eye level of the adopter when the double compartment is up to down.

- This example is a Shor-line laminate housing unit. Many manufactures make similar models.
- The open bar cage fronts allow room ventilation to easily enter the housing unit and are great for observation and adopter/cat interactions.

- Cage set up when double compartment is up to down:
These cages can also be **spot cleaned** daily and fully disinfected between occupants.

**Group rooms** – minimum of 18 ft²/cat. Rooms can be larger but maximum number of cats planned for a room should be no more than ~4-6 with some flexibility to mitigate stress and infectious disease concerns.

**Individual cat room** – minimum of 18 ft²/cat. Minimum size needed for a person to enter comfortably and sit in a chair and interact with a cat (~6’ x 6’). For one to two cats (bonded).

**Cat Adoption Housing Example**: this schematic depicts a variety of housing with several double compartment cages (up to down configuration in adoption) along the right wall, as well as several larger group rooms and some smaller individual cat rooms each with access to outside porches. Work spaces and get acquainted areas are also shown.
Other feline housing

Outdoor pens – outdoor pens can group-house cats that are used to living in outdoor environments (community cats, feral cats). These can be provided as part of a barn enclosure or separate outdoor pen unit. These need to be covered and protected from wind and weather. The pens need a solid wall surface that extends up about 3-4 feet. A solid back wall and between pen walls may be preferred. The remainder can be cat proof fencing. The interior of the pens needs shelving, hiding boxes, litter boxes, feeding stations and any other amenities needed to maintain health and well-being depending on the time of year (warming boxes, etc.). These should be located in quiet, low traffic areas and have an enclosed front aisle creating a double door entry to the pens.

Examples of what an outdoor pen may look like:
Indoor pens - these are similar to the outdoor pens except they are located inside the shelter and are generally simple pens with the same amenities as the outdoor pens. They can be used to house community or feral cats. Additionally they could be used for confiscate or hoarding cases where multiple cats from the same household would benefit from group housing.

Temporary group pens - these can be used to house cats when there is an acute need for group-housing, such as hoarding cases. Dog kennel type pens with tops can work well. Ideally, these could be set up when needed in a room designed for multiple uses. These should be thought of as temporary housing, and cases should be processed as quickly as possible. When setting these up, keep the needs
of the animals to be housed within them in mind. This may be indoor or outdoor (with proper protection from the elements and predators). Include necessary amenities, such as food and water stations, warming boxes (when needed), adequate shelving, hiding places and vertical space.

Dogs

Hold/Isolation/Quarantine/Adoption - Double Compartment Kennels

These can be indoor/outdoor or indoor/indoor kennels with a pass-through front to back or double stacked cages with a pass-through side to side

- The preference is for indoor/outdoor kennels when possible, however there may be a preference for small dog kennels to be indoor/indoor
- Example:
These kennels can be **spot cleaned** daily and fully disinfected between occupants.

In addition to the guillotine door, indoor/outdoor kennels should have a dog door to maintain a consistent indoor conditioned environment.

- Example (and our favorite): the saloon style door by Biteguard Kenneplex

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**General kennel size:**

- 4’ wide by 10-12’ feet long divided by a guillotine door pass-through fits most dogs
  - Always include a few kennels for giant breed dogs or co-housed dogs, mom and pups, etc.
  - 6’ wide x 10-12’ long divided by a guillotine door pass through
  - Ensure the guillotine door is big enough for giant breed dogs
- If it is expected that people will spend time with dogs within their kennels, increase the kennel width to accommodate this need (~5-6’ wide or greater)

**Small dog kennel -- Hold/Special Care/Isolation/Adoption (Ex: Chihuahua, some terriers and puppies)**

- 3’ wide by 6’ long divided by a guillotine door pass-through
  - Limited space for personnel to enter kennel
Small dog double stacked kennels - Hold/Special Care/Isolation/Adoption (small dogs/puppies) - recommend stainless steel

- 6’ wide by 28” deep by 30” tall divided by a side-to-side pass-through
- Example:

   ![Image of double stacked kennels](image1)

Housing for Dog Adoption – provide a variety of housing

- Any of the above canine housing can work for adoption areas
- May be combined with canine hold housing for “open selection” type operation and greater flexibility
- Real Life Room
  - Indoor/outdoor or indoor/indoor
  - Generally enclosed with some amount of glass for viewing
  - Room is individually ventilated
  - Accommodate for adopter/dog interaction
    - Sniff holes – allows treats to be administered and for dogs to sniff what’s outside their room space
    - Dutch doors – allows for some interaction to occur without having to take the dog out of its housing space
    - May increase noise in the dog adoption area when upper door is open if housing a barking dog
- Ideally, set up with amenities that might be found in a home, such as easily disinfectable furniture (cement, plastic, etc.), dog bed, crate, etc.
- Example: This large real life room co-houses two dogs and has access to a second, outdoor compartment for urination and defecation needs:

   ![Image of real life room with dogs](image2)

Example: Another real life room with access to another indoor compartment
Related resources:

- Shelter housing for cats (A two-part study by Drs. Denae Wagner, Kate Hurley, and Jenny Stavisky published in the Journal of Feline Medicine and Surgery in 2018):
  - Principles of design for health, welfare and rehoming
  - Practical aspects of design and construction, and adaptation of existing accommodation
- Article in Animal Sheltering on Capacity for Care: Finding your Magic Number
- Peer reviewed article in The Veterinary Journal: An observational study of the relationship between Capacity for Care as an animal shelter management model and cat health, adoption and death in three animal shelters
- Dr. Kate Hurley’s Conference Lectures from the 2014 University of Florida’s Shelter Medicine Course (video recordings) – these are very good:
  - Part 1
  - Part 2
- Understanding length of stay (LOS) - Information sheet
- Calculating shelter capacity - Information sheet
- Fast track/slow track flow through planning – Fast track/slow track planning - Information sheet
- Developing intake and adoption decision making criteria (includes scoring system information) - Information sheet
- Capacity for Care (C4C) / Magic Number Calculator – Information sheet
- New paradigms for shelters and community cats - Information sheet
- Facility design – Information sheet
- The ASV Guidelines for Standards of Care in Animal Shelters (PDF)