Planning Your Equine Facility

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Adapted from: Horse Barns & Equipment, Clemson Extension booklet

Considerations

BUILDING SITE. An overall land use plan and building location plan will help to obtain a convenient arrangement and present a pleasing appearance.
Consider these items:
• Grade the site to obtain positive drainage away from the area.
• Plan adequate parking space for loading and unloading, and for access to all areas for waste management, bedding distribution, feed delivery and storage.

ZONING. Early on, determine if municipal zoning ordinances or other regulations prohibit or govern keeping livestock in your area.
• Does the property have deed restrictions as to land use, etc.?
• What do the neighbors think?

DRAINAGE. Locate barns on a well-drained site that is conveniently accessible.
• Individual barns may have a 5% grade away from the building for a minimum distance of 10' on all sides.
• Collect all surface runoff and conduct water out of area.

SURROUNDING AREA. Plan and provide adequate space for other animal needs and activities around the barn such as pastures, paddocks, grooming areas, riding arenas, training facilities, treatment areas and horse shoeing.

FEED AND WATER. Plan and provide for adequate feed storage and for water supply and distribution systems.

SECURITY. Select type of stall partition, gates and or doors including latches or locks that provide the level of security and safety needed for both animals and equipment.

WASTE AND FLIES. Develop a plan for daily and periodical waste management and fly control programs. Is an insecticide delivery system desirable in your situation?

FIRE PROTECTION. Determine what area fire protection service is available and provide emergency protective equipment on the premises. Consider an automatic sprinkler system, mounted fire hose, appropriate individual fire extinguishers. Consult your prospective fire insurance company about hay or feed storage restriction or cost, on-site fire protection and inquire about liability insurance needed for anticipated activities.

BUDGET. Determine the capital investment required for the facilities and the range of the operating budget. Determine restroom facilities needed, shower facilities, tack storage, locker facilities, etc., that may be needed for the particular scope of activities at the facility.

ANIMAL NUMBERS. Determine how many animals can be adequately handled and follow through by providing the needed facilities and buildings. The scope of activities and services offered is a consideration. If
animals are to be pastured, consider whether it is a desired feed source or just an exercise lot. Size of a pasture for adequate forage availability should provide 2 to 3 acres per horse.

**Suggestions**

**STALL SIZES.** A review of literature and recommendations by horse barn owners suggest these stall sizes:

- Small animals ... 10' x 10' to 12' x 12'
- Mature animals...10' x 12' to 12' x 12'
- Stallions………14' x 14'
- Foaling stall…. Two stalls (12’ x 24)

**STALL PARTITIONS.** Stall partitions should be of durable materials. Horses tend to kick, rub and gnaw at exposed wood. Tongue and groove 2" x 6" planking with the bottom three boards of pressure treated lumber is popular. The following illustration suggests a 4' sliding door, with the tongue and groove lumber 5' high with metal at least two feet above the wood. Some barns locate the 4' door in the center of the front wall with the hay manger on one side of the door and the grain box and water on the other side of the door; however, with the door next to one wall, horses have less of a tendency to bang into door posts. The metal screening above the stall partitions may have 3" or 4" spacing between vertical bars.

**BARN AND STALL FLOORS.** Stall floors can be compacted clay with ample bedding material of wood shavings, sawdust, or straw. Rubber stall mats are also an option. Stalls should be “mucked” out and the bedding rearranged daily with additional bedding added as needed.

- Some service areas within the barn are can be paved with concrete. These may include wash and grooming areas, feed rooms, tack rooms and treatment areas where stocks are used. Sloped floors for drainage are always mandatory where floors are to be washed down.

- Barn alleys or halls may be paved with asphalt or concrete. Rubber mats are suggested to reduce slipping on smooth concrete walkways.

- Fully enclosed and bedded horse working areas tend to develop a dust problem. Some method of being able to wet down the floor bedding, either manually or by a manually controlled sprinkler system, is a management consideration.

**BARN LIGHTING.** A complete electrical system is needed for each horse barn. Considerations may include:

- Wire guards over glass globes in stalls or any other areas where light bulbs may be broken by animals or barn activities.

- The level of general lighting may include fluorescent fixtures mounted high over central halls or horse working areas.

- Fiberglass sky lighting may be installed in the barn roofing to raise the general lighting level in the barn. Increased day length (14 hours) can be used to speed hair loss in the spring, retard hair growth in the fall and hasten the mares estrous during the early spring. More specifically, a light level of two foot-candles at the horse’s head are necessary for photosimulation to occur. The light can be either incandescent or fluorescent. A 200-watt incandescent bulb for an average stall is generally sufficient. Day length in excess of 16 hours is counterproductive.

- Convenient outlets need to be in all service and work areas.

**TACK ROOMS.** The tack room is located where horses can be saddled and unsaddled with easy access to the tack equipment. Some barns have individual horse bridles, blankets and halters on each stall door for convenience. All tack rooms should have a good floor, adequate lighting, convenient outlets and a good door lock for security. Please note all tack room equipment can be built, however, various tack stores and online warehouses also have items available.

**BARN HALL WIDTHS.** Barn halls 12’ wide for barns with up to ten stalls seem to work well. Horses may be saddled here and 12’ will accommodate vehicular traffic for waste and bedding management activities, feed trucks,
etc. Barns 100 feet or more in length may use the hall for riding, breaking and training young horses. Full lighting of the hallway permits nighttime activities.

**BARN INSULATION AND VENTILATION REQUIREMENTS.** Any building with a high animal population density is subject to condensation of respiratory moisture. The moisture usually condenses on the under surface of the exposed metal roofing and may even appear as frost during cold weather. Typically, in cold weather, when the sun begins to shine on the roof, the condensed moisture on the exposed under side of the roofing will form drops and fall. This problem can be minimized by ventilation and installation of insulation beneath the metal roofing. Dense rigid insulation board placed between 2” x 4” roof purlins work well. Whenever animals are enclosed in buildings, heat, moisture and gases are produced which need to be removed. Ridge ventilators or a 4 to 6” ridge opening will allow warm, moisture laden air to escape while bring in fresh air lower in the building. If fan driven ventilation is used, allow 100 cfm/1000 lbs. of animals. Cold weather will use about one-fourth this rate. One square foot of inlet should be allowed for every 750 cfm of fan capacity.