



Courtesy Blackburn Architects (2)

A Barn for Every Budget

By Kara L. Stewart

Your needs in a barn can vary significantly depending on your level of involvement with your horses, level of competition you pursue and other factors, but remember that every horse requires the same basics of a safe and healthful environment.

Horse people and barns. What is it that makes us want to hang out at the barn rather than at home? Is it the smell of leather, horses and fresh shavings, the nickers that greet us when we walk through the door or the camaraderie of people who share our passion? Or the fact that time at the barn is some of the most rewarding time spent during our day?

Whatever the reason, designing a barn that meets your needs and sticking to a budget that doesn't break the bank can be a wonderful experience...or a nightmare if things go wrong.

No matter whether you're building a barn on a shoestring or money's no object, there are ways to make the process as painless as possible, and most importantly, ensure that your barn is a happy, healthful place for your horses for years to come.

When you walk to the barn in the glorious light of sunset, there's no

better feeling than knowing your horses are living in a safe, healthful environment that you helped create.

Identify Your Needs

The budget you can spend to build your barn may range from modest to generous. Where do you fit on the following scale?

\$—You've just bought your first horse and have decided to keep him at home on your small horse-zoned acreage rather than board him. Like many horse people, you're on a budget and you're looking to build good safe basic accommodations for your horse.

\$\$—You've had horses for several years, and you just added another to your small herd. The board bill for four horses has become very expensive, so you're looking for a piece of property large enough for a barn and an outdoor arena—a place that will serve your needs for a long time to come. You can spend what's required for most

of the amenities you need, but you know you can't go crazy with the checkbook.

\$\$\$—You're serious about horses. You either campaign a few high-caliber horses on a national circuit, compete internationally, run a renowned breeding operation or train horses professionally with top-ranking clientele. You know the first impression your facility makes on a prospective client is important, and you're more than happy to spend the money necessary to be sure the impression is a good one.

Barn-Building Options

Now that you know which budget range you're in, what are the options to build the barn that works for your needs?

\$—Lowest Cost Options

Build it yourself. If you're looking to build a barn on a modest budget, your least expensive avenue will be to design and build the barn yourself. You'll need to research zoning and covenants, design for geographic necessities, such as snow loads or wind resistance, work with your city or county planning department to review your drawings, pull the necessary permits and then purchase the materials for delivery. Once that's finished, the real work, er, the fun, starts.

Be realistic about how much time it can take to build even a simple structure such as a run-in shed with tack and feed areas. Five months, from excavation to turning the horses into their new home, is not unreasonable. This is especially true if you're working mostly alone or with just a helper or two, and if you can't spend every waking hour swinging a hammer. And, once the barn is finished, you'll need to install fencing.

Building a barn yourself is rewarding, but be aware that the project can consume your evenings and weekends for months on end. Horse owners who discover this may not find amusement in the irony that the project leaves them very little time for actually riding the horse whose house they are building.



However, as equine author Cherry Hill, whose custom barn was built by her husband Richard Klimesh, said, "I spend more time in my barn than in my house. It's not only horse friendly, but has a special ambience for me, too!"

Pick prefab installation. Many small-scale horse owners simply don't have the time—or the inclination—to plan, design and build a barn themselves. They often go the next step and purchase a prefabricated barn, which is delivered and set up on their site.

"The prefab route is the cheapest, quickest way to get a barn," said architect John Blackburn, AIA, whose company Blackburn Architects, with offices in Washington, DC, and San Francisco, CA, is known for its custom barns.

"Prefab barns can be designed in almost any configuration, starting with a 12x12 stall and going from there," said Lauren Del Sarto, owner of LTD Equestrian Ranches, an equestrian facility planning and project management company in Morgan Hill, CA.

Do You Need a Barn?

John Blackburn may design some of the most gorgeous barns in the world, but he sometimes asks clients, "Why do you need a barn?"

"It depends on your climate and your geographical location," he said. "If you're in Southern California or South Texas, a good shelter is all you need to give your horses the option to get out of rain or the hot sun when they choose to."

In many ways, barns are more for the convenience of us humans than for the comfort of our horses. When horses live in a barn, it's easy to catch them, they stay cleaner and they're protected from some of the potential dangers of living outside, such as running through a fence or getting kicked by another horse.

But there are trade-offs to keeping horses enclosed. They may suffer respiratory problems if the ventilation is not good. Some can develop stable vices such as cribbing, weaving and stall walking if they're not kept mentally engaged.

If your situation allows, see if you can build a run-in shelter set inside a pasture or large paddock. This way, your horse can get low-level exercise every day, can get out of inclement weather and still be easy to gather up for when you want to go for a ride.

At the very least, provide turnout daily for several hours. Helping a horse live a life more closely aligned to what nature intended can go a long way in fostering health and happiness.

Opposite: Heronwood Farm in Virginia was John Blackburn's first barn project 23 years ago.

Left: Heronwood features natural ventilation. Ventilation is an important factor to consider when designing a barn.



This prefab barn, available from Morton Buildings, offers plenty of storage and work areas and offers shelter from bad weather. Most prefab barn manufacturers offer several plans to choose from and may be able to customize to your situation.

The downside to a prefab barn is that the companies selling them generally aren't able to help with site planning that makes sense for the long term. Instead, you decide where you want the barn, and they install it there. There are also few considerations given to geographical needs in a prefab barn.

"I've had people say to me, 'I put up a barn three years ago, and now it's in the space where I want my arena to go,'" shared Blackburn. He laughed and added, "I say, 'Well, you should have called me four years ago!' But I do think prefab barns are a good option for people on a low budget."

While the cost of a prefab barn may seem like a bargain, there are other costs involved in setting up the structure. "You may also need excavation work or need to have a concrete pad poured, plus run underground utilities several hundred feet," said Del Sarto. "Then you may find you have expansive soils or some other variable that adds to the cost."

\$\$—Mid-Range Options

Work with a project manager. A project manager has experience building safe equine facilities and knows the ins-and-outs of state and local building regulations, permit requirements, geographical needs, construction practices and so on.

In addition, a project manager should provide you with a long-term plan and a conceptual budget that's broken out by stages of the plan. This way, you can build out your facility in stages that make sense as you have the time and money, and you'll know ahead of time what your costs are likely to be.

"Building your first barn is always the most difficult, because you haven't been through the process," said Del Sarto. "Clients benefit from the project manager's experience garnered over the years working on numerous projects."

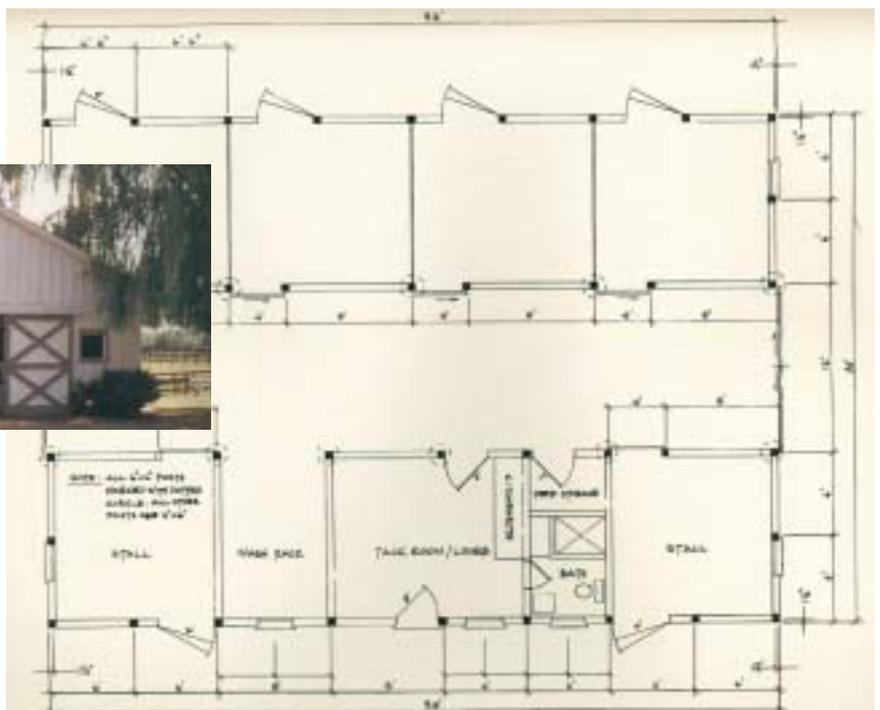
Tucker Stanwood and Karen Shaw of Gilroy, CA, used Del Sarto's services and couldn't agree more. "Using a project manager was invaluable," said Stanwood. "It was so helpful having someone who knew the county regulations, the inspectors, which permits we needed and the issues that might arise. Lauren made the process fun and pleasant, and we've developed several friendships as a result of the project."

Photos from *Complete Plans to Building Horse Barns Big and Small*, 3rd Edition; Copyright Breakthrough Publications, Inc.; Book available through www.booksonhorses.com



Inset: Moderate in size, this six-horse show barn includes a wash stall, kitchenette and could be designed with upgrades, such as a bathroom, aisle ceiling, etc.

Right: This barn was designed and built by the Upperville Barn Company of Upperville, VA.



Even if you work with a project manager, you still need to be involved. “Communication at each stage of the project is crucial so you avoid misunderstandings based on assumptions,” said Stanwood.

Most states or communities have barn building project managers. Check with the horse council in your state, look through phone books under “Barns” and peruse your state’s horseman’s directory and regional equine publications.

Purchase a prefab barn using the services of a project manager. “We frequently purchase prefab barns on a client’s behalf,” said Del Sarto. “One of the services we offer is to ensure the contract is acceptable and to add contingencies that are important, such as a cancellation option if you are unable to secure permits.”

Using this approach, it’s a true turn-key process, and all you have to do is bring your horses home.

Design-build using the services of a project manager. The next step up from a prefab barn is hiring a well-respected local barn builder and working alongside your project manager.

“In California, we have some quality pole barn builders that have been in business for 40 years,” said Del Sarto. “I’m sure that every state or region has companies that have been building quality facilities for a long time.”

Design-builders are often general contractors who offer a selection of barns that will be built on your site. If you have little construction knowledge, a project manager can help you be sure that what is paid for according to the plans is what is actually built.

Companies with long lists of satisfied clients will be honorable in their bids and construction materials. However, there have been cases of builders not following plans in order to shave money from the materials list. For example, rafters may be set on 16-inch centers rather than 12-inch centers or use 6x6 columns instead of 8x8 columns. Such changes might not be apparent to the untrained eye, but can prove disastrous when the roof caves in during a record-breaking snow fall.

\$\$\$ —High-End Options

Design and master planning by an equine architect. When you want your barn to reflect your professionalism in the industry, you’ll want to use an architect that specializes in equine facilities.

“When it comes to designing and planning horse facilities, there are three basic concerns,” said Blackburn. “They are the goals of the owner, the demands of the site and the needs of the horse. I bring those into balance, and the highest priority is always the health and safety of the horse.”

To create a master plan for a high-end equine facility with numerous structures and amenities, Blackburn first has his clients fill out a 10-page questionnaire that takes anywhere from two to four hours to complete. “This gives me a very clear picture of how a client will operate that barn, and that tells me how it needs to be planned and designed. We’ve used this approach for over 10 years and it’s been very successful.”

Rosamond Smythe, a client in Medfield, MA, filled out this detailed questionnaire before Blackburn designed her barn. “It asks every question imaginable, and from my answers, John was able to design my barn and make suggestions that I would have never thought of based on his vast knowledge of barn building and what works best for your lifestyle and situation.”

The hallmark of many high-end barns is the beautiful finish work and special details. However, because the most important part of the barn is the health and safety of the horse, Blackburn tries to choose finishes that actually contribute to the horse’s well-being rather than just being merely aesthetically pleasing. “Things like



Robert Kinmesh (2)

Top: The construction phase definitely benefits from lots of prior planning.

Above: The finished product is a welcomed sight. This 12-stall barn is fashioned in a more traditional layout.

A Barn for Every Budget

heavy timber construction and slate roofs can be very helpful in some climates for their insulating abilities. In some areas, there's big preference for wood barns versus block barns."

What does Smythe like most about her custom barn? "It had to coexist with our 1914 brick Georgian style house and the surroundings, and it does so beautifully," she said. "John created a drop-dead gorgeous barn that's also very functional, safe and easy to work in. I love to look at the barn, and I love to be in the barn—it has a great feel to it inside."

While a lower-cost barn can have the same horse-healthy aspects as an expensive barn, oftentimes a lovely barn is considered a vital marketing tool for a top trainer or breeder.

"A well-kept farm is a good selling point. When a prospective buyer walks into a barn to look at an expensive horse for sale and the barn smells, it looks bad, run-down or whatever, that first impression remains," said Blackburn. "If you're smart about marketing, whether it's a racehorse, a Warmblood dressage horse or a reining horse, you know the facility you keep that horse in can have an impact on the perceived value of that horse."

No Matter Your Budget, Your Horse Comes First

"I've never had a horse ask for heavy timber construction or a slate roof, or complain about not having enough high-end finishes in their barn!" joked Blackburn.

It's these expensive touches that add significantly to the cost of a barn, and many of the elements that are most important to the horse don't need to cost a lot of money. Instead, they just require creativity and up-front planning.

Here are some items that are most important to the comfort of your horse.

Ventilation

"If I had to choose one element that is the most important in a barn, I would say it's ventilation," said Blackburn.

Horses are much better suited for cold rather than hot and humid weather, so your barn should be designed to increase ventilation during hot conditions; however, good ventilation is important year-round. In addition, ventilating vertically rather than horizontally is healthier for the horse. Vertical ventilation that comes in low in the building and exits at the roof or ridge line helps rid the barn of viral infections, bacteria, ammonia gasses, odors and humidity from the horses. The more typical method of ventilating by opening doors at both ends of the barn results in horizontal ventilation that can spread viruses or bacteria down the row of stalls.

While working with a landscape architect 23 years ago on his first barn project, Heronwood Farm in Virginia, Blackburn learned an approach to natural ventilation. "It worked perfectly, and we've been following this idea ever since."

"Place the barn so the long wall is perpendicular to the prevailing summer breeze. Add vents low in the building and vents along the ridge line," suggested Blackburn. "One feature we build into many barns are skylights along the ridge line. Not only do they greatly increase natural light in the barn, but they also heat the air in the ridge of the barn."

It's this temperature differential between the hot air at the top of the barn and the cooler air at the bottom of the barn that creates a chimney effect and causes vertical ventilation.

He adds, "If you go into the barns with this design in the hottest part of the year, even when there's no breeze outside, you walk in and the breeze caused by the natural ventilation will start to lift your hair."

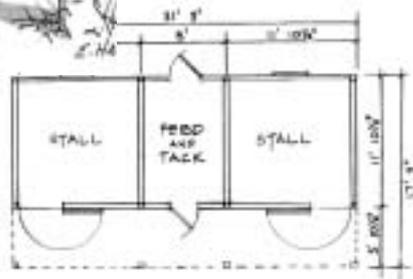
Natural Lighting

Allowing in as much natural light as possible enables people to work in the barn during the day without lights, which saves money, reduces maintenance costs of fre-



Above: This small two-stall barn could include options such as overhead storage, eave ventilation or additional side windows.

Right: The barn-building company of P.J. Williams, Inc., of Somerset, VA, designed this basic barn for those with minimal stabling needs.



quently replacing light bulbs and also decreases the risk of fire due to hot light bulbs that can ignite cobwebs or bird nests.

“The skylight design also works very well for a broodmare barn,” said Blackburn. “The daylight coming into the barn in late winter and early spring helps produce the natural cycling of the mare, and you don’t have to turn the lights on as much.”

“Another way to get natural light into a barn is to use translucent fiberglass panels instead of opaque siding at the gable ends and along the tops of the walls,” said Klimesh, author of several books on barn planning and building. “Fiberglass panels often cost less than steel or wood siding, so you can save money here as well. Just be sure to keep fiberglass out of the reach of horses, because they can easily break it.”

Flooring

“Flooring costs can be dirt cheap, literally, or very expensive,” said Klimesh. When considering flooring options, think about traction, noise, comfort, safety and cleanliness.

Rubber mats can be a good investment for covering dirt or concrete floors. “They need to be installed properly or they can shift, become uneven and buckle at the seams,” said Klimesh.

Concrete is a popular choice for floors in aisles and tack and feed rooms. It’s rather expensive to pour, but it will last forever and is easy to maintain. While concrete can have a smooth finish in tack and feed rooms, it should have rougher texture when used in areas where horses walk for traction.

“In my opinion, the interlocking rubber brick is the best floor for horses,” said Blackburn. “It provides good cushioning, it drains well, and it wears well. We’ve designed barns in which the owner did the entire floor—stalls, aisles, everything—in custom colored rubber brick. It looked fabulous! The problem is it costs a lot.”

“In outside pens, the best footing in the world will be wet if the base is not sloped to drain water away,” said Hill. “We prefer small gravel, such as pea gravel or 3/8” minus. It drains well and is small enough to fall through the tines of a manure fork when cleaning the pens. An area of this gravel 6” deep will be comfortable for a horse to lie down.”

Drainage/Siting

Before you decide where to put the barn, do some investigating. “Ask the previous owners or close-by neighbors if they can tell you any secrets about your building site before you begin excavation, such as hidden or seasonal springs,” suggested Klimesh.

“One of the most common problems I’ve seen is people not allowing for adequate drainage around their barn and pens during times of heavy rain or snowfall,” he added. “This is especially true of a barn built into a hillside. Design a ditch or swale on the uphill side to catch runoff from the hill and divert it away from the barn and pens.”

While it’s important that the ground slope away from the barn, it only needs about 1/4- to 1/2-inch per foot of grade change to accomplish good drainage. Steeper slopes can cause erosion.

Include • a Social Center

For many horse people, the barn becomes much more than a place to ride. It becomes a place to spend time with friends and hang out with the horses.

Take advantage of this natural tendency to gather and create a space for socializing in your barn. “It may be the lounge, the tack room, the grooming stall or a special terrace outside the tack room,” suggested Blackburn, “where the owner can sit in a favorite rocking chair at the end of a day’s riding to relax, have a drink and watch the horses grazing in the field or the children riding in the arena.”

Added Del Sarto, “We encourage our clients to think beyond the barn as just a home for the horses and more of a second family room. Oftentimes, they will spend more time in the barn than in the house. One client’s daughter does her homework on the porch outside the tack room, so they put in a small desk. The horses love the extra time spent with you, too.”

Resource Books

Barns, Sheds & Outbuildings, by John D. Wagner

Building or Renovating a Small Barn for Your Horse
(*Storey Country Wisdom Bulletin, A-238*), by Jackie Clay

Horse Housing: How to Plan, Build and Remodel Barns and Sheds,
by Cherry Hill and Richard Klimesh

Horsekeeping on a Small Acreage: Facilities Design and Management, Second Edition,
by Cherry Hill

Renovating Barns, Sheds, and Outbuildings, by Nick Engler

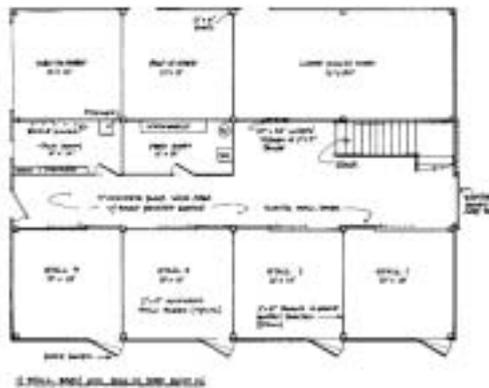
Roofs and Rails: How to Plan and Build Your Ideal Horse Facility, by Gavin Ehringer

Stablekeeping: A Visual Guide to Safe and Healthy Horsekeeping, by Cherry Hill

Horse Barns Big & Small Revised, released by Breakthrough Publications



This four-stall barn with run-in shed under the same roof allows the owner to save money on materials. The corners are edged with metal stripping to prevent damage from cribbing horses that may be turned out for the run-in shed function.



Roam Time

“A horse is meant to live in the wild,” says Blackburn. “As soon as we bring him into a manmade environment, whether it’s a paddock, a barn or whatever, we’re asking for trouble.”

“Horses seem to be most content when they are allowed time to mosey around and be horses,” said Hill. “A blend of stall, pen and pasture life is ideal with a good number of hours each day in a turnout situation. My horses get daily (or nightly) pasture turnout and spend the majority of their other time in a sheltered pen large enough to allow them to trot. We put horses in stalls only during blizzards or extreme heat or for lay-up.”

“I’ve found it works well to have either a paddock behind the rear entrance of the stalls or some other arrangement so the stalls open to a run-in area,” said Linda Bertani of her Mendin’ Fences Farm in Tennessee. “This saves a tremendous amount of work for us, and the horses can use it as they see fit.”

“I encourage clients to allocate as much space as they can so their horses can roam,” added Del Sarto. “A client we’re working with now has 1/3-acre for two horses. That’s a small space, so we’re designing it so the horses will always have access to the arena as well as the small turnout just so they can move around. Plus, we’ll keep the barn more of an open in-and-out loafing shed so they can get exercise.”

Site Planning: Take a Long-Term Approach

A landscape architect looks at the big picture: the lay of the land, what features will go where, how the site will look when the saplings planted today reach maturity in several years...or decades. They don’t necessarily plant every species on the master design plan at once, but rather fill in areas at different stages.

These same ideas apply to planning your barn and facility. “It doesn’t matter if you have a 1/2-acre to work with or several hundred,” said Blackburn. “You still need to be sure that where you’re placing your barn today doesn’t turn out to be the best place for your outdoor arena a few years from now.”

If you’re installing a prefab barn, for example, you should do some initial site planning and evaluation and decide the best place to put the barn, taking into consideration drainage, slope, wind protection, etc.

However, depending on your local building or fire department regulations, you may have few realistic options on where to place your barn. In this case, make the best of the location and be flexible.

Some restrictions can severely limit the placement of your barn. “I’m in an unincorporated county of California, and fire regulations require that the back of the structure be within 150 feet of a fire hydrant,” explained Del Sarto. “If an existing hydrant does not exist in that proximity, you must install another hydrant or put in a sprinkler system. And, if you have to install a new hydrant, you also have to designate an 80x80 turnaround area for the fire trucks next to that hydrant. On a small acreage, that’s a significant amount of space that needs to be dedicated for county services.”

Designing for Context and Geography

Whenever possible, it’s wonderful to pick a prefab barn or design a barn that fits into the local context of the area. Doing so also frequently enhances the per-

Words of Wisdom

Start designing on paper. Make it correct and workable now, rather than fixing problems later.

Plan for the 100-year weather conditions as much as possible, and design your facility (or have a plan in place) to allow some type of access even in extremes, such as record snowfall, heavy rain, and so on.

Allow three times as much time as you think it will take. This usually proves to be a pretty accurate estimate!

When planning a facility, separate horses, people and vehicles as much as possible. For example, lay out the farm so that horses can access the arena or paddocks without walking across a paved parking area, which can be slippery to shod hooves.

Whenever possible, install gates at the end of runs or paddocks that are wide enough for a tractor to fit through. This way, you can scrape manure out with a tractor blade and scoop up one big pile rather than moving it the old-fashioned way—by shovel.

Consider designing your barn for your needs but adding enough generalized aspects to enhance resale value later to a non-horse owner. For example, install overhead garage doors in the hay storage area so it can be used for boat storage in the future.

Unless there's no limit to the amount of labor and help available for daily chores and regular upkeep, plan the barn to have the lowest level of maintenance possible. This helps you spend time riding, not working on the barn.

Understand what you do with horses and customize the barn plan to work for you. Don't necessarily build the standard four-stall, aisle-down-the-middle barn, unless it works for your situation.

Don't underestimate the labor it takes to care for horses. Maintain only the number of bedded inside stalls that you can clean when you have the flu!

Plan for more stalls than you have horses so that you can rotate stalls between use and let them dry out. Extra stalls can also be used as a buffer between sick or troublesome horses

or as overflow storage for bedding or hay.

Do it right the first time. In the long run, it's less expensive (and definitely less time consuming).

Consider all the details, such as whether the feed room is on the north wall, which will mean sweet feeds will freeze or clump together in freezing winter weather.

If at all possible, design your site so you can have a year's worth of hay delivered and stored in an area easily accessible to the barn.

When you're digging the trench to put water lines to the barn, put everything else into the trench, such as coaxial video cable, phone line, power cable, and so on. Later on it's easy to add a video camera for the foaling stall or a phone in the tack room, for example.

Drainage is a huge issue and there are solutions. However, it's always better to address issues before building a barn rather than dealing with poor drainage after construction is complete. At the least, be sure the ground slopes away from the barn, whether naturally or via excavation.

formance of the barn because it's better suited to the climate in which you live.

"Whenever I design a barn for an area I haven't yet worked in, I'll go to the bookstores and buy all the local and regional magazines," said Blackburn. "I'll drive around and take pictures of the old and historic farms and barns to see what materials, forms, shapes and so on have been used. I want to see what drives the local architecture and why it evolved the way it did in the area."

No matter whether you're building a barn on a shoestring budget

"Although certain principles are universal, barn styles will vary by locale," said Hill. "The open air 'mare motels' that are popular in Arizona would fill with drifting snow in North Dakota. A tight and cozy Minnesota barn ideal for long winters might be stuffy in Florida. Visit neighboring horse farms and ranches, make notes of the designs used, and ask the owners what works and what doesn't in your climate."

Incorporating some of these local elements into your barn needn't be expensive and can add touches that help anchor your barn in the setting and help it provide the level of protection your horses need for the area.

Reflecting on a Job Well Done

Any way you approach it, building a barn is a large undertaking. Whether you build it yourself, benefit from the talents of an equestrian architect or choose a path somewhere in between, you'll come away from the project wiser and more knowledgeable about horses—and yourself.

There may be stresses along the way, but in the end it's all worth it. When you walk to the barn in the glorious light of sunset, there's no better feeling than knowing your horses are living in a safe, healthful environment that you helped create. ■

or money's no object, there are ways to make the process as painless as possible, and most importantly, ensure that your barn is a happy, healthful place for your horses for years to come.

Kara L. Stewart is a freelance writer in Colorado whose work appears regularly in Horse Illustrated and other magazines. She and her husband designed and built, with the help of generous neighbors, a barn with run-in access and feed storage—and they are still married after the project, which consumed many months and countless hours. Stewart can be reached at karastewart2001@yahoo.com.

A barn is an agricultural building usually on farms and used for various purposes. In the North American area, a barn refers to structures that house livestock, including cattle and horses, as well as equipment and fodder, and often grain. As a result, the term barn is often qualified e.g. tobacco barn, dairy barn, sheep barn, potato barn. In the British Isles, the term barn is restricted mainly to storage structures for unthreshed cereals and fodder, the terms byre or shippon being applied to cow A barn (symbol: b) is a unit of area equal to 10^{-28} m² (or 100 fm²). Originally used in nuclear physics for expressing the cross sectional area of nuclei and nuclear reactions, today it is also used in all fields of high-energy physics to express the cross sections of any scattering process, and is best understood as a measure of the probability of interaction between small particles. A barn is approximately the cross-sectional area of a uranium nucleus. The barn is also the unit of area used in