The Development of the
Cloverdale Stock Horse Center

Pamela Hays
Spring 1998
Consultant Dr. Ron Spangler
Advisor Professor Les Smith

Ball State University • Muncie, Indiana
Department of Landscape Architecture
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I would like to thank all those who were involved in this project from its stormy conception to the final stages of completion. A special thanks to my thesis advisor Professor Les Smith and my consultant Dr. Ronald Spangler for the time they devoted to the refining and defining of this project. And to all those who provided information or moral support, I wholeheartedly thank you.
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Project Introduction

Throughout history the horse has always been a great commodity and friend to man. The noble beast that was once needed for daily survival has become more of a friend and social pastime in the modern world. Automobiles and changing lifestyles have replaced the need for the horse. Through this shift in function much of the historical developments and achievements that occurred through the use of the horse have been lost to the equine sporting world. The purpose of this research proposal was to develop a modern equine facility that promotes and enhances the current use of the horse as a labor of love and recreational activity, while reestablishing many of the historical functions and connections of the historical use of the horse to the modern recognized sporting events. The display of these connections create a learning environment for both horseman and non-horseman alike.

Once used for food, horses became a essential part in mans hunt for food
The focus of this design project is the development of a competition and training center for the working stock horse, as well as, a facility to promote the sport and educate the general public.

Example of structure in Wyoming, although recently built it still maintains the traditional ranch feeling.
Problem

The primary problem of the design topic area is the development of a working facility for the training and competition of the modern stock horse and promotion of the sport throughout the region. Inherent within the larger problem are several smaller more manageable problems that will each work to produce a solution to the challenges of developing an equine facility.

One of the largest challenges of developing a facility that specializes in the needs of the working stock horse is the lack of existing facilities by which to base comparisons and standards. The first question that must be answered in the facility development is the selection of stock horse events and functions that the facility will support. For each sanctioned event there are standards and requirements that must be meet for the competition to be approved by the organization, and the facility to be highly successful within the horse industry. The selection of facility functions must include a variety of compatible stock horse events, as well as other equestrian events, for the facility to be useable by all equestrians.

Another challenge of developing a stock horse facility is the attempt to develop the facility in such a way as to reintroduce the historical development of the stock horse into the modern events. Many of the modern events developed from the work that was required from the horse on the range and in the daily operation of large western ranch operations. To define the origins of stock horse events, an understanding of the events will be required in the development of each function that will be showcased in the new facility. The literature reviews will provide information that will aide in the determi
nation of important features and characteristics of each event that contributed to the development of the sport. These features may range from traditions and standards in procedures to customs in equipment and organization patterns of facilities. The development of the facility will need to include as many historical features and organization patterns as possible to accurately portray the working horse heritage in the modern events of the stock horse industry.

Example of facility in the northwest United States, traditional structures and functions are still used for modern operations.
Assumptions

The project is to be based on several standard assumptions, which allow for the detailed study of a specific area or portion of the facility, rather than the development of the entire facility as a whole.

- The property is currently owned by the Showmasters development company.

- The equine industry has sufficient demand for a specialize facility to warrant the development of a stock horse facility.

- Funding for the facility would be provided by private groups and institutional organizations, such as the National Horse Show Association and the National Horse Council.

- The zoning ordinances for the property have been adjusted from A-1 Agriculture to the required Special Use Commercial zone.

- The development of the educational center has been placed outside the limits of this study.

- The facility will be developed in phases to avoid overwhelming the surrounding community.

- This growth will occur as the facility grows and requires additional areas for successful hosting of competitions.
The introduction of the horse into the settlements of the new world during the 17th and 18th centuries changed the way society dealt with everyday business. Horses became a necessity for daily life in almost every capacity, from agricultural production to travel and recreation. As settlements grew with the success of society, the areas that were needed to support them grew, and in an effort to support themselves many settlements ran common herds of cattle, which required the use of horses to care for and transport the herds from one valley to another as grass was needed, often these valleys were at large distances from the settlements. The movement the pasture land into the urbanized settlements for slaughter was the beginning of the modern stock horse and traditional cowboy. The first recognized cattle drive was held in Massachusetts in the late 18th century.

The development of an equestrian facility that allows for the enhancement of the modern stock horse, while providing the common user (non-horse person or one who rides for the love of riding, but has no interest in training and competition) with a strong connection to the heritage of the stock horse and its social development. The equine industry as a recreational hobby has grown immensely over the last decade. As a result of this growth many studies have been done on the wide range of recognized sporting events within the equine industry (Ensminger: 1991), and many more have traced the development of the numerous breeds (West: 1965) and their orignals both in breeding and purpose (Hope: 1973). As traditional western ranches began to develop with the spread of society, many of the activities that were associated with the working of the cattle began to
develop into sports. Cowboys would often gather to celebrate and compete against each other to see who was the best. This was the start of the modern rodeo and the heart of all stock horse events. The advancement of the industrial age brought about more recreational time and increased development of stock horse competitions, which were becoming more social events and served less functional needs in the training of ranch stock horses. As the leisure age spread the modern horse became almost purely recreational, with very few facilities relying on the horse for daily work. Throughout the county training and competition with western stock horses has become increasingly popular as recreational activities, but the majority of the existing equestrian facilities are devoted to the western show horse or to English style riding.

In addition to the multitude of breeds (Hendricks: 1995), volumes have been written discussing the beginnings of the 27 different recognized sporting events in the equine industry (Smith), and other functions of the horse, including physical (Britton: 1991) and emotional therapy (MacClintock: 1980). These works include information on the development of the individual sports (Howard: 1965), and proper training techniques for developing champion horses. Multitudes of manuals detail the regulations for each recognized event. While many have discussed and documented procedures for the construction of modern facilities (Carruthers: 1978; Hill: 1990) few have focused on the relationship of the modern equine sport and its functional heritage in society. There are volumes of work documenting the growth of the stock horse industry (Nye: 1973) and just as many that focus on the history of the classic stock horse breeds (Edwards: 1988). The missing connection in many documents is the link from the development of the breeds and sporting events to the role that each sport played in the development of society (West: 1965). These links include the use of the horse as a necessity for survival to
Cowboys working young horses in a warmup arena before they are to be used on the range

Team penning has gained rapid popularity throughout the midwest in the last ten years

the increased popularity during the industrial age (West: 1965). As the popularity of the horse grew throughout the 20th century, the number of equestrian facilities grew just as rapidly (Hill: 1990). Many of these facilities only focus on the modern recreational usage of the horse (IDNR: 1984) and competitions to display the quality and ability of horse and rider to work as a team (May). Few of these facilities ever make an attempt to display the heritage of the horse and the equine sporting industry (Brownlee: 1988). The modern dude ranches of the west begin to make allow the user to see the horse in a recreational capacity, while experiencing the heritage of the working stock horse. This project will make an attempt to recognize those linkages and display them in a manner that will enhance and promote the stock horse events in the rapidly growing equine industry. A reconnection to the stock horse heritage can be made through the design of a facility that focuses on a selection of traditional events and organizational patterns.
Goals and Objectives

The primary driving goal of this project is to develop an equine facility that is dedicated to the training and competition of the working stock horse. The development of the facility will require the twinning of several smaller goals and solutions to produce a facility that will become home to regional equestrian events.

The largest goal of the design project topic is to identify all of the necessary structures and organization that is required for the development of a working stock horse facility. The selection of events and functions that the facility will support is the first step in developing the program needed for the facility design. The primary events of the facility will be traditional working stock horse events that are currently recognized by the Nation Horse Show Association. These events might include team roping, team penning, cutting, reining, roping, regional stock horse shows. Additional functions of the site will include professional clinics, personal training, and recreational opportunities. In order to develop a regional facility the size and capacity of each event that the facility will host must be determined. To be a successful facility within the industry, it must be large enough to support the selected events. The requirements for each event can be found through a review of the rules and regulations that are published by each event organization. A collection of information focused on the standards used in the stock horse industry for training and competition will aide in the final development of a regional facility.

After all standards, functions, and organizations have been identified, a site that is suitable for the development of an equestrian facility must be identified. The selected site must meet the require
ments and functions of the equestrian events and be centrally located, in order to attract a large regional user group. The selection of a readily available site becomes a limiting factor in making final site selections. The selected site must not only be centrally located, but also large enough to house the selected events. The site also needs to be readily available for acquisition before any development can begin.

The development of the facility will also reintroduce and reestablish the original purpose and function of the stock horse into the modern stock horse events. The development of the facility should include historical organizations that are compatible with the modern recreational function of the stock horse. The use of historical facilities as examples will provide a model in which to base the organization of the new facility. The study of working cattle ranches will aide in the development of a modern facility that showcases historical functions of the horse. This study will also include analyzes of working facility in the mid-west, to help in the development a local vernacular for the design of the facility. This research project will develop the facility for the training and competition of the modern stock horse. The features of the facility will be based on the heritage of the working stock horse and its modern function. The use of historical organizational patterns and structures will allow the facility to provide a linkage to the past and an educational experience for the visitor and competitor while, accommodating the modern function of the working stock horse.

The design of the stock horse facility will include the development of a small scale working cattle ranch for the training of the stock horse, as well as educational and promotional purposes. To develop the working facility, larger historical and modern working facilities will provide models for the development of a smaller facility. To
develop a working facility a selection of characteristics and features of working facilities is essential in the development of the final design. The working portion of the facility will serve to preserve the heritage of the working stock horse and display the stock horse and its role in society to the public.

Although the following goals will be addressed in this study, they are outside the limits of the project.

The creation of an educational facility with historical quality and character will be based on the study of museums and similar facilities that are devoted to a specific sport. An understanding of the development of the working stock horse and its role in history will aide in the selection of events and occurrences that highlight the importance of the working stock horse and should be displayed in an appropriate manner.

The selected events will display the development of the working stock horse for educational purposes in addition to promoting the stock horse industry. The development of the educational center will include spaces for displays and objects devoted to the development of the stock horse. Several large classrooms will be included for educational purposes.

Marketing and promoting the facility throughout the regional horse industry is an additional goal that is addressed, but placed outside the limits of this project. Advertisement of the facility through a variety of methods. Most of the traditional advertisement sources can be found throughout the regional stock horse and national equine industry. These sources might include industry shows, trade magazines and journals, exposition displays, professional clinics, development of invitational stock horse events, clinics, and most effectively word of mouth. These advertisements will display the unique
of the modern stock horse and the specialization of the facility. Other clients can be found through the hosting of well known established events, and developing new invitational stock horse competitions.

Although the facility is focused toward the enhancement of the stock horse, it will be functional for a variety of recognized equestrian events. The promotion and development of the facility can be furthered by establishing professional relationships with a variety of equine organizations. Large national and state organizations would be the most beneficial in the development of the facility.
The primary user of the stock horse facility would be the horsemen that live within central Indiana. These horsemen will use the facility during competitions and for those living even closer, the facility would be available on a daily basis for training. Another larger user group would be comprised of the regional horsemen, whom are willing to travel longer distances for large competitions. These competitions will include breed shows, invitational events, and regional events. Theses horseman may come from as far away as three or four states. The final and smaller user group is comprised of the local residents and area school children. Many people enjoy attending large equestrian events, such as rodeos. The site would be available to local schools for field studies opportunities that would allow students to experience a version of living history.
The 200 acre site is located within 3 miles of the center of the town of Cloverdale, Indiana, and less than 1 mile from the I-70 and SR 231 interchange. Located immediately outside the current city limits the site is in an A-1 agricultural district, that must be altered to a special use district before the development of a stock horse facility can begin. A two lane sealed road fronts the site, providing good access to the site and the neighboring trailer courts. Although the chip and seal stops immediately after the entrance to the residential development. The majority of the site's road frontage is along county road 925 s. with additional access points along county road 900 s. The existing site is almost 200 acres of rolling woods and tillable ground, there is potential for expansion into the wooded acreage that is currently for sale immediately to the west of the selected site. This additional acreage continues form the west boundary of the site west toward county road ?? and continues across the road for an undisclosed distance. Wooded terrain is also available across county road 925 S. to the south for an undisclosed distance. Limited numbers of private residences surround the selected site to the south and west, with the exception of the higher density contained within the Stardust Hills trailer court.

As the site currently exists approximately fifty percent is recently harvested corn fields, and the remainder of the site is densely wooded, with three small ponds being located in the central portion of the site. The large open expanses will provide suitable locations for the development of structural facilities that are needed to operate a stock horse facility. The expanses of wooded ground offers many
opportunities for recreational riding and training. The existing topography will require minimal alterations before the construction of the facility can begin. The current ponds provide water sources for the livestock, they can also offer a variety of recreational opportunities for the users of the site, as well as, local residents of the surrounding community. With the exception of one metal barn structure the site is undeveloped and has minimal access roads throughout the site.

Conveniently located in a junction of Interstate 70 and SR 231 the site lies approximately half way between the larger cities of Indianapolis and Terre Haute. The town of Cloverdale contains hotels, restaurants, and other general supply stores for use by the horse industry. The near by town of Greencastle contains larger specialty stores, a variety of hotels and restaurants for additional resources. The location in central Indiana creates a site that is easily accessible by horsemen throughout the entire mid-west region.
Site selection criteria

The following criteria were used in the selection of a 200 acre site in Cloverdale, Indiana, for the development of a working stock horse center.

- The facility must be developed on a site that is large enough to accommodate all of the selected functions and features of the site and expansion as the facility grows in needs.

- The selected site should include room for expansion of the working stock horse center or the addition of new facilities.

- To be successful the facility should have an easily accessible location, that is centrally located to the horse industry of the mid-west.

- The facility should be located within a short distance to nearby towns that have adequate support facilities.

- The facility should not be located too close to urban development, due to the conflict of interest in the site uses. Equestrians will want room to ride and work their horses, while home owners will see the riders as a threat.

- The topography of the selected site should provide a variety of terrain conditions that offer different riding opportunities and experiences.

- The facility should be developed on property that is readily available for purchase by the facility owners.
Legal Description

Legal description of the site as taken from studies compiled by Showmasters Inc.

A parcel of ground consisting of 195 acres West of CSX Railroad, North of Stardust Hills and South of Interstate 70 in Warren and Cloverdale Townships, with an address of Rural Route, Cloverdale, Indiana.

Situate in the State of Indiana, County of Putnam and being a part of the Southwest quarter of the Southwest quarter of section 25, a part of the south half of the Southeast quarter of section 26, a part of the North half of the Northeast quarter of section 35, and a part of the North half of the Northwest quarter of section 36, all in township 13 North, Range 4 West to the Second Meridian, more particularly described to wit:

Beginning at a stone marking the Southwest corner on the South half of the Southeast quarter of section 26, Township 13 North, Range 4 West; thence North 00 degrees 24 minutes East 1087.96 feet with the west line of said South half quarter to a 5/8 inch rebar on the South right-of-way line of Interstate 70; thence with the South right-of-way line of Interstate 70 86 degrees 16 minutes East 582.26 feet to a 5/8 inch rebar; thence South 89 degrees 16 minutes East 541.63 feet to a 5/8 inch rebar on the Southwesterly right-of-way of the CSX Railroad; thence leaving the South right-of-way of Interstate 70 South 36 degrees 24 minutes East 2922.44 feet with the Southwesterly right-of-
way of CSX Railroad to a railroad spike on the South line of the 
Northeast quarter of the Northwest quarter of section 36; thence North 
89 degrees 48 minutes West 510.55 feet with said South line to a rail-
road spike marking the Southwest corner of said Northeast quarter; 
 thence North 89 degrees 6 minutes West 1321.34 feet to an iron pin 
marking the Southeast corner of the North half of the Northeast quar-
ter of section 35; thence North 89 degrees 12 minutes West 2646.04 
feet to an iron pin marking the Southwest corner of said North half 
quarter; thence North 00 degrees 34 minutes East 1319.82 feet to the 
point of the beginning, containing 195.16 acres, more or less.
Site inventory

In order to create a great design and fit that ideal creation to the selected one must have a strong knowledge of the selected site. This knowledge begins with a site visit and cataloging the features of the site. They can then be analyzed in the terms of opportunities and constraints that will effect the final design solution.

The 200 acre site located on County Road 600 South just north of Cloverdale, Indiana is currently used as agricultural ground producing cash crops of corn and beans. Well suited to that usage the topography that exists on site is slight enough to cause minimal problems, but great enough that many drainage problems and visual deficiencies are avoided. The site is bordered to the north by I-70, the east by an active freight line of the Monon Railroad, the south and west are edged by County Road 600 South which dead ends approximately 2 miles past the site. Directly across the chipped and sealed road is the residential development of Stardust Hills, which is home to approximately 300 residents. There is also several small commercial developments near the site. The small factory of Putnam Plastics is located at the south east corner of the site, and there is commercial growth surrounding the interstate interchange with U.S. 231.

The site itself has about 150 acres of tillable ground and 50 that is densely wooded. These woods contain a variety of trails and topographical changes. Some of which create natural drainage systems for the site in the form of Ferguson Creek. Which is feed by the three ponds located in the center of the site. All three contain a variety of wildlife ranging from fish and turtles to water fowl and mammals. The only other distinguishable feature of the site is the tree lines and
the buffers that they provide, to the north they shield 90% of the traffic from the interstate, the west is completely isolated by the dense vegetation, and the railroad is partially screened by tree growth along the right-of-way lines. Only Stardust Hills is not screened by vegetation that is on site, but it is located south of two large ponds and heavy tree growth along the south side of the county road. After reviewing the list of features that the site contains it is easy to see and envision the potential for a unique development that the now under-utilized site contains.

Tree line at end of field screens majority of 1-70 traffic from the site

Dirt lane that is used to access the northern field on the site

Trees on lane that surrounds the top two ponds and creates a buffer from the neighboring developments

North end of wooded ravine that splits site with Ferguson creek
Site analysis

In an effort to determine what existing conditions the design of the facility would be placed in an complete site analysis was undertaken to determine what areas would provide opportunities and where the design constraints would be. To begin the study the entire site was looked at from a stand point of opportunities. Where and what were the features of the site that would aide and increase the final impact of the design.
The selected site is located only 5 minutes from the I-70 and U.S. 231 interchange, rendering it extremely easily accessed by larger trucks and trailers that trailer great distances for many competitions. The 200 acre site is currently covered in woods or farm ground. The simple fact that the site was currently undeveloped proved to be a great opportunity. It meant that there were no areas that couldn’t be designed or had to be treated with extreme care. The open fields provided great potential because all were large enough to house a competition facility in entirety and leave the remainder of the site open for training purposes or future development. The naturally slight topographical changes meant that very little earthwork would be required for any construction that will take place. The dense wooded areas provided great variety for riding experiences and training, as well as natural divisions on the site and buffers for the surrounding community of Stardust Hills. The three ponds that are located on the site also provided great views of the site, as the dams were at a slightly higher elevation that the surrounding area. The eastern most two ponds created a wonderful entry sequence for any development that might occur.

The entry between the two ponds, although sound for farm vehicles that dam will need structural support for heavier traffic.
The nearby town of Cloverdale, and just slightly further Greencastle, provide the support facilities that a development like this will need to function successfully. These would include things such as hotels, groceries, truck stops, restaurants, tack and feed stores, and general supply stores, such as Wal-mart.

While the site offers opportunities, there are several corresponding constraints and some that will present unique design challenges. The location of the site, although easily accessed is restricted by the nature of the road system in the area, I-70 to the north limits any access, and the Monon railroad that borders the eastern edge limits access, as well as, presenting noise concerns for the competitors and the horses. County road 600 south where the current access is, is a chip and seal road that dead ends approximately 2 miles past the site, leaving it as the only point of entry to the site. A residential development immediately south of the site presents issues of concern, such as, noise, smell, lights, and traffic, for the residents.
The same physical characteristics that provides such an array of opportunities for the development also creates several design problems and constraints. The ponds, woods, and topographical changes that are highly valued as opportunities are positioned in such a way as to divide the site into several portions. Making a large scale facility difficult to develop without extensive earth work and tree removal. The dams, although currently used for farm equipment, will require structural work to support the higher traffic volume of a competition facility. The final constraints are minor in comparison and require only minimal work to correct, these include such things as a drainage tile that has eroded into a large gully, and dirt drives that would not be able to maintain traffic during wet seasons. Although they are viewed as constraints many are only issues that must be considered and can easily be overcome by the fitting of the ideal design to the situation that the site environment has created.

The severely eroded gully that is in need of major repair before the surrounding area will be structurally stable.

Standing water in the dirt lanes that now serve as an entry and circulation system for the site.
Ideal relationships

In every set of structural elements there is an order or organization pattern that is ideal. Often this design can only occur through the designer's dreaming of the perfect world. In our quest for that world, we begin to create things the way we feel they need to be. Only after there is a perfect design can we begin the true design process, this often involves forcing the constraints of the modern world onto our perfect design. Although sometimes painful this process creates a better design, because we place the design elements where we feel they best fit within each other then slowly adjust and bend our world to fit reality. Through this process we can create a design that has all the characteristics of a perfect world, while responding to and working with the conditions or location on which we place that design.

In the development of the stock horse facility I took the features of the design and began to determine where they fit best within the needs and functions of each element and the whole of the design.

The first relationship diagram is that of the competition facility. It depicts the ideal relationship of all the pieces that create the whole. One must first travel through a formal entry, from there the vehicles are left in a parking area while the competitor enters the competition and is given any specific directions and assignments. After that the horses and placed in the barn along with a portion of the equipment. Depending on the type of competition a large amount of equipment may be required and many people will prefer to store their tack in trailers specially designed to house horses and equipment, often also

Ideal relationships of the elements in the competition area

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containing a small living area. The competition cycle is a constant one for the duration of the event. The competitor leaves the barn area, waits in the makeup or warm-up arena until his event and then enters the competition arena. After competing he may return to the barn for a period of time and repeat the process, or if that was the only event return to the barn, gather any gear and equipment he had, and then leave through the same sequence by which he entered, often not needing to stop at the show office on the way out. Trails for recreational riding are accessed directly from the barn area, and the cattle are housed in an area near the main arena, but opposite the horse barns.

Due to a shared use of facilities the boarder’s facility is located near the competition area, but outside the center of high activity. This facility has much the same sequence of events as the competition area, but on a smaller scale. An entry leads past the trainer’s residence so activity can be monitored for the safety of the users. Parking is near the barns, but not as necessary as that of the competition facility, if people are boarding their animals here, the majority of their tack will be stored in rooms within the facility. A small arena is near for light work and a trail system leads directly from the barn area through the pasture and paddocks. Again, exit of facility is the same basic sequence but in the reverse order.
Site Functions

In order to completely design a facility one must have a basic understanding of everything that will be included in that facility, and how those features are going to be used and organized.

The functions that will occur on the site will include a range of activities, mostly equestrian but a few non horse oriented. These will include, but are not limited to:

- Breed shows
- Regional Competitions
- Event Competitions
- Local Shows
- Training
- Recreational riding
- School field trips
The development of the facility will include three areas. The first being a competition area, which will house all of the elements required to host a national level equestrian event. The second area is a boarding facility. Here people can stable their horses if they do not own property, have a horse trained, or use the facilities to continue schooling or train their own horse. For the fore mentioned areas to operate efficiently there must be a strong support facility which may or may not blend into the background and become unnoticed.
The Competition area will include the following:

- 2- 200x300 board arenas (one covered the other open)
  seating for 2000
- vendor space for 10 businesses
- announcer's stand
- 2 warm up arenas
- 4-6 50 stall barns
  12x12 box stalls
- 1 tack stall/ lounge area per 10 stalls
- 2 wash racks per barn
- 1 hot walker per barn
- sufficient tie space in front of barn (hitchin' rails)
- 1 cattle barn and chute area
- 300 20x40 competitor parking spaces
- 150 10x20 visitor parking spaces

Example of competition facility in Calgary, Canada
The Boarding Facility will be comprised of:

2 15 stall boarder's barns
12x12 box stall
2 wash racks
1 tack room lounge per barn

Sufficient tie space in front of barns
1 hot walker
10 75x125 separate runs
50 acres pasture

Riding Trails
15x20 field shed
150x200 board arena

40 parking spaces and trailer parking
Trainer's residence

No matter the original intent horses are a highly social activity in modern society
Support Facilities
Entry gate
Show office
Entry office
Tack shop
Restaurant/ lounge
Veterinarian/ farrier
Medical station
Educational facility
Information Boards
Display Wall
Caretaker's residence
Machine shed

Hitchin' rails provide a traditional methods for ticeing horses for a short time
Concept 1: Working Stock Horse Competition Facility

All great designs are the culmination of months of work, research, and design studies. For every final design there are at least three conceptual designs. These are designs that the artist toys with and experiments in finding the perfect design solution for the challenge that they undertook in accepting the responsibility for the creation of a design.

The first concept that was developed placed the primary focus on the competition facility and allowed the boarders to remain on the western half of the site, where the two uses would not interfere with each other. (see next page) The main competition area was placed behind or to the north of the ponds, in an effort to create a buffer for the residents in the residential development to the south. In order to place the facility in one of the open areas, rather than divide it over the site, elements were clustered in areas of use. Trying to prevent a sense of confusion when using the site. Outside of the competition facility and the minor development on the boarders area, the majority of the site has been left undeveloped in order to allow for a variety of riding experiences and training conditions.
Enlargement of Concept 1 Illustration
Concept 2: Cloverdale Horse Farms

After the development and review of concept 1, it became clear several of the elements needed to be closer together. Such as the boarders facility wanted to share the elements of the competition facility, in order to allow the users to take full advantage of the site, and properly train their horses. That shift in use places the focus of the concept toward a horse farm that has competition facilities as support facilities.

The boarders barn has been placed toward the south edge of the site, in an effort to create a visual, and physical buffer for the residents. They are more likely to accept a large facility if it looks like vernacular architecture they are used to seeing in the area. Again the ponds have been used as a division of spaces, and in this concept they create an entry sequence that allows the user to experience the character and quality of the site before they are bombarded with the realities of preparing for a competition. To more evenly distribute the activity over the entire site the elements have been organized into small clusters. Theses would be facilities that can support each other independently, such as the barns, wash racks, competitor parking, and warm-up arenas. Here again, the majority of the site to the west of the ponds has been left undeveloped in order to provide a variety of experiences and training conditions.
Master Plan Development

The master plan for any design is like a rule book for a sporting event. It is the place where all those involved turn to when in question about the development of a facility. The master plan for a facility should include the answer to any, every, and all questions that a user or developer of that facility might ask. Due to the large scale of this project and the limited time frame in which it was developed, there are many questions that will remain unanswered. This project should be viewed as a plan or guideline by which further studies and additional planning should refer to truly complete a proper master plan. Recommendations for further studies concerning this project are made later in this document.

Master planning for any project evolves only after a large amount of time has been spent researching the project, completing site inventories, analyses, creating conceptual designs, and from those spawn the final master plan. A master plan is nothing more than selecting the pieces and parts of the conceptual designs that are either highly favored or function in such a way as to achieve the overall effect the designer was seeking. The two conceptual plans for this project were combined and altered in the creation of the final plan. After the mid-project presentation, several suggestions were made to pull the two areas of the facility together, and create one unified facility. This was accomplished by reassessing the needs of the various facility sections, such as what the boarder area truly needed and how much of the competition area would meet the needs of boarder area. The end result was a single cohesive facility that meets the needs of all potential users and future serves the educational goals.
of the facility. The design of the master plan allows for even more exposure to the horse industry and history for those local non-horseman who wish to visit the site.

The driving purpose for the stock horse facility is to reintroduce the heritage of the working stock horse into the modern competitions, and develop an educational facility for the local non-horseman. Therefore the easiest and most direct way to achieve that result is to start with imagery. A traditional entry gate has been placed along the county road, at an equal distance from the railroad crossing, for safety, and the entry to Stardust Hills, for the security of the residents. A long winding drive will take one along the rail line, toward a dense wood, during this entry sequence the west side of the drive will feature a vista of open, rolling landscape dotted with horses from the boarding facility. The drive will then bend to the west and travel the south edge of the woods, and again turning to the north travel between the two existing ponds and along the southern edge of the competition facility. Another visual aide will be the architectural style of the structures. The show office will take the form of a two story ranch house, all support structures (i.e. machine shed) will resemble the scattered outbuildings of a ranch, and the barns, while accommodating modern features will carry a historical flavor throughout the design. All fencing will be done in cedar log fences, although a classic image of the west is the long stretches of barbed wired, no wire will be used on the facility for safety reasons. Another support facility will be the development of a community recreation area. This will be developed to accommodate the non-horse person who chooses to use the site for camping, or fishing.
The final plan is integrated form of the original concepts. The plan has three distinct areas, these being the main show arena, boarding facility, and working arena. The main show arena, will be the primary competition facility for all non-stock horse events. The 200 by 300 covered show arena is the main feature of this section, it is supported by 8 show barns. While the plans only depict a covered arena, should the demand be present the arena can later be completely enclosed. A covered arena will allow for more comfortable use during inclement weather, although many smaller competition events are held regardless of the weather, unless there is a threat to the safety of the competitors, such as lightning. The potential for a completely enclosed arena will draw the interest of the larger national events, which are so high scale that they almost always require an indoor facility in which to host competitions. The arena has seating capacity for 3000, and takes advantage of the typical empty space beneath the seating to provide spaces for 20 vendors. These vendors can be anything from food stands to equipment sales. Often competitors are scrambling before a show because some vital piece of equipment was forgotten at home. To accommodate the competitors need to exercise a horse before a competition, as with any athlete a variety of warm-up excursions are needed before an event to prevent injury. A 150 by 100 warm-up arena has been placed outside the main competition arena. Even though this arena is currently uncovered, it could be enclosed and attached to the main arena at a later date if the demand becomes present.

Throughout the facility the barns are placed in clusters of 3 to create an interior courtyard, which will create a people/horse space that encourage socialization and provide a space where the competitors can feel comfortable while preparing or waiting to compete. There are two barn sizes, one holds 60 12 by 12 box stalls, while the other contains 120 12 by 12 box stalls. Within each barn cluster are the
support facilities that are always needed by a competitor, 4-6 wash racks for the last minute grooming, restroom, which include showers and changing facilities, and a manure bin for the soiled bedding. Also posted throughout the barns are bulletin boards on which announcements, or classifieds can be placed, and vending machines and pay phones for the use of the competitor.

To aide the development of the courtyards, each has been fenced at least partially to deter vehicular access, and help prevent the chaos that develops when a horse breaks loose. Also each barn cluster has a paved loading/unloading zone for ease of stabling the animals before a competition. The loading zone reduces the hassle of having to lead an animal and carry heavy equipment through large numbers of parked vehicles to the stable area before a competition. Parking for visitors and competitors has been located along the perimeter of the compound, in an effort to remove the vehicle component from the show component for safety, and to allow for the experience of a facility that reintroduces the landscape history of the stock horse events back into the modern stock horse competitions. To ease the impact of hundreds of large vehicles, a series of vegetative buffer strips have been developed to break the parking into smaller clusters, rather than one large sea of trucks.
The second major section to the facility is the boarding area. This is the area that will be used year round and during the week. The majority of equestrian competitions are held on weekends, with only the larger national level shows continuing through the week. The people choosing to board their horses here would be people who either don't have enough room to keep a horse at their house, or people who want to use the larger, more professional facilities, that they cannot afford otherwise.

A full time trainer would reside on the property to both function as a trainer and a watchman for the safety of the horses, and those using the facility. The boarding area will house three, 30 stalls barns, each with the same qualities that are in the barns around the main arena. The three barns here will comprise one courtyard that is fenced in the same manner as the other show barns with the exception of a complete enclosure, due to the number of horses kept here daily. One barn will be used to stable boarded horses, and the other two will house show horse during a competition. As with the other barn areas, a loading/unloading zone will ease the access of the facility for those hauling in for a competition or bringing a new horse. Again, all parking is located along the edge, to maintain the spatial quality of the barn lots.

The horses permanently kept there will be fed daily, and have several turnout options. The first being stalled nightly and turned out on 50 acres to graze daily. This can easily handle 25 horses. The rule of thumb being 2 acres per head of livestock. There will be four
individual turnout paddocks for those horses that must be kept separated. In addition to having access to the larger facilities during non-competition times, the boarders will have the use of a 66 foot diameter breaking pen. This is designed to allow one to train a young horse in a confined area, reducing the number of distractions that the young horse must face. Those boarding here will have several miles of trails for recreational riding. And the western side of the site has been left undeveloped to further the experience of the stock horse in herding cattle in a range like setting. This can also be used for the training of a young horse or for the education of the general public.

*View of the boarding area and riders in the courtyard.*

*Section of trail system that runs through the western half of the site.*
The final area of development in the equestrian facility is the working arena. This is the second large arena for the development, and it may not be necessary, depending on the amount of use the site sees. This uncovered arena has many of the features that the main show arena has, but is only 200 by 250 feet. The smaller size allows for more of the working events, where cattle are involved, such as team penning and cutting. Although historically this type of work was done on the open range, for competition purposes a smaller arena makes handling the cattle slightly easier. This arena also has a cattle barn attached through a series of chutes or small pens, which allows for handling the cattle before an event. Many facilities will hire a stock contractor to bring in cattle for an event. Usually they have their own pipe gates that area used to create temporary chutes, but the inclusion of permanent chutes will attract the larger events. The working arena can seat 1500 people, with the space beneath the seating for ten commercial booths, as was seen in the larger arena. A single cluster of three barns will support this portion of the facility, with the potential to house animals in all the show barns should the need arise.

The unique feature of this facility is the open exhibition space, which is the large fenced commons area between the barns and the arenas. The raised entry to the arena allows for protected vendor spaces, since the arena is uncovered, and provides amphitheater style seating for the exhibition space. This space can be used to host larger educational demonstrations, or can be filled with commercial booths during a national event. The fencing serves as seating, as well as a barrier between the animals and the public. The parking for this area is also located along the perimeter. Vegetative buffers have been used to create the illusion of small pockets of parking, rather than a vast sea, and provide shaded areas for those competitors that choose to store their equipment in the trailer, or have a camper where they sleep.
Although every national level facility has a large number of support structures and amenities, the three main portions to the Cloverdale Stock Horse Center are well on their way to becoming a national level competition facility. A phasing plan has been recommended for the installation and development of the facility, this plan is detailed later in the report. With successional developments only the portions of the facility that are truly needed can be built, as they are needed. As a designer one can only try to include every possible use in the development of a master plan, but often that is impossible. The needs and functions of a facility change with every use of that facility, therefore what was needed at one time isn’t needed the next. And the development of a large facility in phases allows for those growths and changes.

View of the bermed earth behind the working arena, that creates a seating element and cover for the vending spaces below the bleachers
Development Phasing

It is recommended that the facility be developed in phases to minimize financial impact and to allow the facility to develop as the demand creates the need for the next phase of growth. This will allow the developers to avoid large financial losses when barns remain empty due to lack of use. The phasing is separated in portions of the facility that are needed to make a successful equestrian center, rather than each of the three areas identified on the master plan. Each of the three areas have elements that are key for the function of the facility as a whole, therefore each area is not an independent facility unto itself.

Phase One:

The first phase of development will require site preparation work. This would include general site clearing and rough grading as needed. Once the entire site has a minimal level of preparation all future developments will be that much easier to install without major disturbances of the existing features. The rough grade would include grading for road beds, other infrastructure elements, such as drainage, and major topographical changes. The first development would include a portion of the boarding facility, a few (three or four) show barns for the small shows that will aide in developing a national level facility, and the main working arena that is suited for the cattle needed in stock horse events. Also many of the small elements that are es-
sential to a quality establishment will be included in this phase, elements such as seating, hitching rails, and vendor spaces, if not sold booths at this time.

To maintain a full time trainer a residence should be established in conjunction with the boarding facility. All the infrastructure that is needed to support the constructed facilities should be installed, with preparations for the later additions as needed. Included with the infrastructure is the entry gate and a cohesive signage system for the facility. And to enhance the visual appearance while the facility is growing a portion of the plantings should be implemented wherever possible without hindering future growth, of both the vegetation and the facility.

**Phase Two:**

Phase two will continue to expand site into the larger facility it will eventually become. The first part of phase two is to make some additions to what was completed in phase one, each of the barn clusters will have courtyard area developed, which will enhance the quality of the space. These courtyards will include fencing, seating for people spaces, hitching rails, shade elements, and other amenities that make a world class facility. If the facility is bearing a high user capacity additional barns may be added on as needed basis, these would also include the courtyard spaces described above, to maintain cohesive appearance throughout the facility. As additional barns are added the infrastructure system needs to be extended to support these new features.
If the facility is supporting events larger enough to require extra barns, a winners wall or display wall might be designed and erected in a manner keeping with the overall character of the facility. To enhance the entire appearance of the facility additional vegetation may be added, in such a way as to not halt or disturb future development, yet maintaining the character already established from the developments of phase one. The final constructed element of phase two is the community recreation area. This would be a picnic/camping area for use by the non-horse person living in the community. It would include a small playground and access to the three ponds located on the site.

The final elements of phase two are non-structural, the first is a open range training program to be developed by the trainer in residence. This would be an educational tool for horseman who wish to continue either their education or that of the horse in the art of "cowboy work" or working cattle on the open range, rather than the confines of an arena. In addition to this an educational program needs to be developed to begin the educational portion of the facility, for use by local non-horseman wishing to learn or those who desire to continue their education.

Phase Three:

The third but not necessarily the final stage of development would complete the list of master planned elements. But no matter how much planning and foresight are used in the design of a large facility, there will always be a use it must accommodate, yet was totally unforeseen. The major element of the third phase is the completion of the
main show arena, for the larger national level events. This will also accommodate multiple functions for which the site might be used if it becomes successful. If a second arena is needed, there is probably a need for the final barns to be added. With each cluster of barns a courtyard will be developed and the infrastructure extended to support each. If the facility reaches a level of success to demand the large number of structure elements it would also require a permanent groundskeeper, who in turn will require a residence. As the facility develops the number of users will increase, creating a demand for the final vegetation installations throughout the parking areas, to create a comfortable area for those staying on the grounds throughout the competition. In addition to competition users, there will be an increase in local users for whom the trail system can be extended onto surrounding acreage.

The final developments for a national level facility are the conveniences that are not necessary to operate a facility, but nice to have. One such feature is a show office to house the entries and a variety of other offices required for the operation of a large show. The other element that is not necessary, but the one that makes this facility unique is the educational center. Although the facility as a whole is programmed to be an educational tool, the center would act more like a class room and see and learn museum for structured learning.

As with any facility the features listed here are only the ones developed in the program, but with success and growth the facility may find it requires a variety of other features to function as a national level competition facility.
Design Recommendations

Due to the large scale of this project and the limited time frame in which it was developed, this document should be viewed as an overall master plan guideline, which should serve as a support document for further studies. While this document and project is a complete project within itself, there are a variety of projects that could provide topics for deeper and more complete studies on the subject of equestrian designs.
Soils Study

Due to the nature of the clay soils that are existent throughout the site, there is a need for further research concerning how those soils will react the heavy equestrian use site will receive. Will they compact and become a detriment to the created landscape and specified vegetation? Is there a way to avoid compaction even with the heavy use? Are there new technologies that will help stabilize a surface suitable for use by equestrians, while reducing the damage the horses will cause? These question also apply to the trail system involved with the facility. How can the trails be used without massive environmental degradation? These are only a few of the questions that went unanswered in this report.

- Planting Plan

Here again due to the scope of the project a few design details were overlooked. One such detail is the planting plan for the facility. It is recommended to use native Indiana species, in order to have a landscape that requires minimal maintenance. Although the plan was not completed, a list of toxic plants, that are commonly found in the area of the development, was compiled. These plants should be avoided altogether in the development of the planting list. Many are toxic to horses and cattle, as well as, humans. For a partial list of native toxic plants refer to appendix B.
Educational Programs

Although this project is outside the scope of a project design or the training of an architect, it is essential to develop an educational program in order to fully implement the educational facility that has been programmed into the site design. To properly develop a program that will aide in the education of local non-horseman and further the education of horsemen, it is recommended a professional educator be consulted in the development of the programs to be implemented in the facility.

Connections

Though this project is somewhat isolated by the interstate and local highway, there are a variety of connections that can be made in further developed projects. One such connection is the 3 miles through the country along the railroad, into the heart of Cloverdale. The town has a variety of historic interests, which would provide a trail system link to the facility. If the railroad is decommissioned, the railbed provides a wide variety of opportunities for trail systems. In addition to the rail line, Leiber State Park is located about 15 miles to the southwest. A trail connection between the park and the facility would create local system in which one could ride for a range of times, a couple of hours, a day, several days for the horseback camper. The development of a trail system could create several new projects that work in conjunction with this facility, but all will require additional time to study and develop.
Summary

The development of a stock horse facility is the culmination of research and design studies that focus on the enhancement and promotion of the modern working stock horse and the region's stock horse industry. This facility would be important to the working stock horse industry because it would be a unique facility in the mid-west and one of a few specialized facilities in the nation. It will also work to promote the breeding and competition of the stock horse by the inclusion of a museum type educational center, which would be open to horsemen and general visitors alike to study and learn about the heritage of the working stock horse. The development of such a facility will also move the sport of riding into a new dimension of history lessons in addition to the cultural return to a former way of life.
Appendix A: Powerpoint Presentation
The Development of the Cloverdale Stock Horse Center

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Terms and Definitions

- Working Stock Horse
- Boarding Facility
- Saddle clubs
- Event Associations
- Warm up arena
Client

The clients of the project are the users of the equestrian facility.

- Local horsemen
- 4-H
- Saddle Clubs
- Regional Horsemen
- Local Residents
Problem Statement

Many equestrian facilities are designed for large competitions in a variety of events, but very few are focused toward the events and history that developed the modern version of the working stock horse.
Project Goals

- Develop a national level equestrian facility

- Reintroduce the history of the stock events to the modern competitions

- Education for the non-horseman
Project Assumptions

- Regional demand for facility
- Funded by event associations
- Minimal impact on neighboring developments
- Zoning ordinances changed
- Developed in phases
Site Selection Criteria

- Convenient regional location
- Suitable acreage
- Varied topography
- Non-urban area
- Near support facilities
  - hotel
  - grocery
  - general store