

# Historic Barns of Iowa State

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On March 22, 1858, Governor of Iowa Ralph P. Lowe signed the legislative bill establishing the State Agricultural College and Model Farm. The bill provided for a board of trustees to manage the model farm and college to be developed. Residents of Story and Boone counties presented an attractive proposal to locate the new institution at a site west of Squaw Creek and downtown Ames. The proposal included significant gifts of land and funding to assist in developing the College site. The Story County site was selected by the trustees on June 21, 1859.

The first concern was establishing the model farm specified in the legislation. Priority was given to two buildings. A farmhouse and livestock barn were both considered essential as a beginning, and construction of these two started in 1860.

### Barns of Iowa State—A Part of Our Culture

The story “Barns of Iowa State” begins with the construction of a cattle barn in 1860 and continues to this day; however, the barns considered here are those that are or would be more than 50 years old. During this 140-year period, barns have been an integral part of Iowa State’s efforts to serve in the land grant tradition. In subtle and almost mysterious ways, though made of timber, clay and steel, they have become a part of us—a part of our culture. Students, faculty, farmers, and those serving the livestock industry have many memories related to use of these facilities for learning the latest technologies and methods for animal production and care. Many students have worked in these facilities to earn a part of the cost of attending Iowa State and to gain extensive experience in livestock production. The barns have provided facilities for literally thousands of student-managed activities and events related to career development. These experiences have been not only an important part of professional development but also in many cases have formed the basis of lifelong friendships. Many students, faculty, and conference attendees remember fondly social functions such as barn dances, barbecues, picnics, and breakfasts held in and around the barn areas on campus. Thus, the barns were and are loved for many reasons. Some reasons are related to what Iowa State has contributed to the lives and professional pursuits of individuals and society in the larger sense. Some are related to human and animal relationships that developed between students and the

animals they cared for and studied. Some are related to the fact that a homesick freshman could go to a barn and be in surroundings that made one feel a little closer to home. In all cases, however, the barns were loved because they represented an important part of our heritage associated with agriculture and rural life. The barns reflect something about the important symbiotic relationship between humans and animals and the contributions of the livestock sector of agriculture to society as a whole. Strong appreciation exists because the barns represent an important component of the architectural heritage of Iowa State and the Midwest. And finally, some love them simply because they represent an architectural style that reflects a unique combination of beauty, simplicity, and magnificence developed by the mind and hand of simple folk. All of these feelings are intensified in that such important historical examples are rapidly disappearing from the landscape.

### Architectural Treasures

Many of the Iowa State barns reflected a common thread in architectural style. To some extent this was because a limited number of architectural firms did the designs. In addition, function of the facilities dictated common elements of design. Although each building was different in detail, all had to meet standard functions for housing animals and the storage of feed resources. In viewing the buildings over the years and in looking at pictures of those long since buried as dusty rubble in unmarked graves, there are common threads that characterize the buildings. They were modest in size, usually rather austere in internal finish, simple and functional in design, and in the case of the major barns were built of durable materials.

Of the historic Iowa State barns described below, only two remain in largely original condition of design and materials—the Horse Barn located in the northeastern part of campus and the Dairy Barn and associated buildings located at the University Dairy Farm on Mortensen Road south of the campus. Looking at these on a beautiful day and hearing the haunting sounds of *Bells of Iowa State* wafting in the distance from the Campanile, one is reminded of the importance of these old structures in the heritage of the Institution. They like the bells are a part of the Iowa State culture. And like the bells and the Campanile that houses them, those that remain must be restored and preserved as a part of our heritage even though use of the buildings may change over time.

The following descriptions of the individual barns of Iowa State include the date of construction and in most cases the date of razing as these buildings have given way to other needs. Dates and architectural descriptions are based on the extensive work of H. Summerfield Day

in his book, *The Iowa State University Campus and Its Buildings 1859—1979*. Mr. Day was University Architect 1966—1975 and Planning Coordinator for Facilities 1975—1980. Additional resources are *The Land Grant Idea at Iowa State College* by Earle Ross, published by the Iowa State University Press, Ames, in 1958 on the occasion of Iowa State's centennial; *A Heritage of Leadership* by Richard Willham, published by the Animal Science Department, Iowa State University, in 1996 commemorating the department's centennial; and *Iowa's Historic Architects, A Biographical Dictionary* by Wesley I. Shank, published in 1999 by University of Iowa Press, Iowa City. Finally, an Iowa State University report by Wesley I. Shank, *The Impact of the Proposed North Campus Loop Road, Iowa State University Campus upon Historic Architecture*, dated November 30, 1989, provided some architectural descriptions.

### **President's Barn**

#### **President Welch's Barn, 1874—905.**

President Welch, using his personal funds, built the President's Barn in 1874. Use of the barn is not recorded. It was most likely a stable and coach house. The building was used only a short time by the President and in 1878 was converted to a dissecting room for the study of anatomy and pathology by veterinary students. It was later moved and used as storage for University grounds maintenance equipment and as storage for the Department of Domestic Economy.

### **Cattle Barns**

#### **First Cattle Barn, 1860-1928.**

The original Iowa State barn was built in 1860, along with the Farm House, as the first two buildings on the new campus following establishment of the College and Model Farm site.



The building on the extreme right, built in 1860, was the first cattle barn. The additions were completed in 1865 as a perpendicular wing. The first horse barn is to the extreme left.

The architect for both structures was Milens Burt of Muscatine, Iowa. The barn, of frame construction, measured 42 x 60 feet and provided feed storage and housing for cattle. In 1865 additions were proposed and over a period from 1869 to 1871 additions included a lean-to on three sides, the addition of a corncrib, a henhouse, a root cellar, and stables for horses. In 1871 the barn was declared inadequate and an additional barn was planned and built but was still considered a part of the cattle barn. Although records are not clear as to completion date it was probably in 1874 because funds were made available in the preceding year. Descriptions of the new barn indicated a structure 54 x 70 feet with a stone basement and foundation, wood siding, and pine shingles. The basement level included space for 48 head of cattle and the necessary breeding and calf pens along with root storage for 4000 bushels. The middle level was a drive-through design with 16-foot alley. This level had a number of sections dedicated to equipment storage, a room for the herdsman, large grain storage bins, and breeding stalls. The upper part of the building included storage for 150 tons of hay and straw. Chutes were constructed to direct bales from the mow to the basement below where the animals were housed. A wagon shed was built as an attachment to the new barn and connected the new areas with the old. Records indicate that the building was completed in a good and handworker manner at a cost of \$4916.44. Based on later photographs of the overall structure the new barn was expanded to encompass the wagon shed. This provided a single wing of equal height and width with perpendicular connection to the old barn. This modification, however, is not noted in official records.

These structures were razed in the Fall of 1928 or Spring of 1929. A new cattle barn (described below as the Beef Barn) had been constructed in 1924-1925.

#### **Cattle Barn (Beef Barn), 1924—1980s.**

The building came to be known as the Beef Barn but was designated in University documents only as Cattle Barn. The cattle barns in use at the time were known as Old and New Cattle Barns both of which were razed about three years after this barn was completed. Previous cattle barns housed both beef and dairy cattle; however, the new Dairy Barn was completed on Mortensen Road in 1908 and the dairy animals relocated at that time. Records do not reveal whether the barn ever served as a site for dairy production. However, the west wing did contain a number of stanchions of a type that could be used for milking. These stalls and stanchions were used for many years for Holstein nurse cows for steers being fitted in the Beef Barn for exhibition at the International Livestock Show in Chicago. Three International grand champion steers were developed in the facility.



The Cattle Barn was generally known over the years as the Beef Barn. George Edwards, long-time herdsman, and students developed three International Grand Champion steers here.

The barn, eventually to be a U-shaped building, was constructed in phases. Design was by Proudfoot, Bird, and Rawson of Des Moines and construction was by Netcott Brothers. The barn represented the classical gambrel roof design with architecturally interesting gables built into the roof with windows for light and ventilation. In addition to the cooling effect of ventilation for the building, it was important for completion of the drying process for newly stored hay.

The unit included loose housing and numerous box stalls for one or two animals being developed for use in classes, student activities, and for showing. Feed storage was provided in three upright silos and a haymow above the entire lower level. The office area included rooms for students who worked at the barn. In 1931, lightning ignited a fire and the entire building was destroyed. It was replaced immediately. In 1958 the entire roof of the east wing was destroyed by fire and replaced the following year. The barn was razed in sections in the late 1980s to provide space for the National Soil Tilth Laboratory and the Linear Accelerator addition to the Meat Laboratory along with additional parking space. The National Swine Research and Information Center now occupies a part of the site.

In the late 1800s and early 1900s new methods and materials for constructing silos were being developed. The beef barn included three silos. The design of the original silos and construction materials are not documented; however, it is clear from examining photographs that the University was building silos of many different types during this period. The silos at the Beef Barn after the 1931 fire included two constructed of hollow clay tile and one (probably constructed later) was built with concrete staves, a type of silo block that remains in widespread use today. During the early years of the 20<sup>th</sup> century a lot of effort was invested in the design of silo building blocks. Matthew Leander King was a proponent for the use of hollow clay tile in building silos and other farm structures during this period. His position at Iowa State College was Experimentalist in Agricultural Engineering, Iowa Agricultural Experiment Station. King's article, Hollow

Clay Blocks for Farm Buildings (published in *Transactions of the American Society of Agricultural Engineers* in, Volume IV, December, 1910), attests to his strong support for use of such blocks for all types of farm buildings. King was active in developing alternate designs for masonry blocks during these years and in 1920 was issued a patent for a new hollow clay tile design (U.S. Patent No. 1350656, dated August 24, 1920).

## Horse Barns

Clearly, horses were essential to the development and operation of the Institution from the beginning. There is no record of a barn being built specifically for horses until 1870, however. Photographs suggest that some of the early structures were probably used for horses as well as cattle.

### First Horse Barn, 1870—1900.

The need for the first building designated as a horse stable was endorsed by the Iowa State College trustees as early as 1868 and an appropriation of \$2500 was made by the legislature the same year. Construction was not started until 1870, however. The barn was 30 x 40 feet with loft and basement and built of brick. No architect or contractor is noted in records. This barn was razed in 1900 and replaced with a brick structure that would serve as the horse barn until it was remodeled in 1930—1931 for use by the Landscape Architecture Department.



Iowa State's first horse barn built in 1870 was replaced in 1900 with a new horse barn that would later be remodeled and converted to the home of Landscape Architecture.



**Horse Barn (Landscape Architecture), 1931 to present. Livestock Judging Pavilion, 1900—1930 (Shattuck Theater, 1930—1979).**

The Iowa General Assembly appropriated \$12,000 in 1900 for the construction of a new horse barn and a livestock judging pavilion. The architecture firm of Liebbe, Nourse, and Rassmussen of Des Moines was employed for design and Main and McKee was general contractor for the two units. The horse barn was constructed of brick and was characterized by creative and interesting architectural detail. The gabled roof included dormers with windows and an exquisite, towering ventilation cupola. The gable ends of the roof reflected an effort to simulate a half-timber style. The Horse Barn/Landscape Architecture building is still in use as a teaching facility by Landscape Architecture and other departments for offices and classrooms. The Livestock Judging Pavilion later named Shattuck Theater was razed in 1979.



The horse barn in the foreground replaced the first horse barn. This building is presently in use by Landscape Architecture and other departments as a teaching and office facility. In the background at the extreme left is the original cattle barn. The Agronomy building occupies this site presently.

**Horse Barn No. 2 (present main horse barn), 1923—1926 to present.**

This horse barn is the facility that most will recognize as the Iowa State Horse Barn. It is an architectural gem constructed of clay tile. The roof is gambrel style with turned up eaves. The roof is outfitted with striking metal ventilators with lightning rods. The roof includes numerous gabled and shed dormers that accommodate ventilation windows and haymow doors. Proudfoot, Bird, and Souers of Des Moines served as the architectural firm. The two wings designed to house animals were built in 1923; however, the name of the builder is not recorded. The center wing designed by Proudfoot, Souers, and Rawson of Des Moines was constructed by E. B. Castle in 1926. This addition completed the U-shaped design.



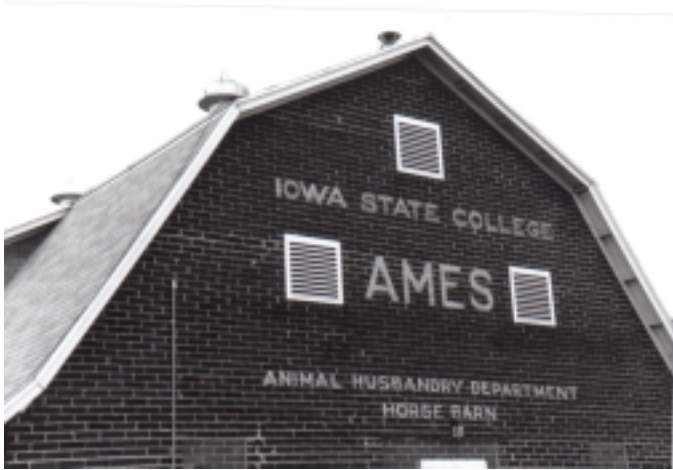
Horse Barn No. 2 is still in use as the primary location of Iowa State's horses and equitation activities. The building remains largely original in both exterior and interior design.

The interior of the building is largely original in both design and material. Numerous box stalls, tie stalls (some with original wood block floors), and group-housing stalls are included along with feed storage, office, and student rooms. The haymow covers the entire building. The center wing, originally built in 1926 to house machinery, is currently used for that purpose and also accommodates a breeding stall area and a room for an equine treadmill. The two outside wings provide the various stall types for horses. The U shape provides a courtyard that is utilized for demonstrations in training and equitation as well as general use in the equine teaching program. The building, while in largely original condition, is in a poor state of repair. A major restoration effort is needed soon to reverse the effects of continuing neglect.

**Horse Barn No. 3 (present nutrition laboratory), 1927 to present.**

Horse Barn No. 3 was built in 1927. It was used as a horse barn until being remodeled in 1957 and again in 1989 for use in basic ruminant nutrition research. The building is constructed of clay tile with gambrel roof and shed dormers. The barn was designed by Iowa State College Building and Grounds Department. Construction was by L. D. Anthony. The building is located adjacent to the main horse barn (Horse Barn No. 2) and the north end of the building faces the railroad tracks. This facade provided a surface for signage to inform passengers on the train about the area they were viewing. The sign, although a bit faded, is still visible as follows: "Iowa State College, Ames, Animal Husbandry Department, Horse Barn."

The barn is characterized by gambrel roof with handsome metal ventilators (embossed with the brand, MILCOR).



Horse barn No. 3 was remodeled for use as a basic animal nutrition laboratory. The sign was painted to inform train passengers that they were passing through the Iowa State campus.

### **Military Stables, 1925—1926 to 1998.**

Military stables were constructed on campus to support cavalry training. One hundred horses were used to support these programs. Two military stables were constructed west of Horse Barn No. 2 near the railroad tracks. The north building, 35 x 130 feet, was designed by Proudfoot, Rawson, and Souers of Des Moines and constructed by Netcott Bros. in 1925—1926. Roof style was gable type and walls were constructed of clay tile. The building was modified in 1955 as a physiology laboratory and later as an obstetrics laboratory. The unit was razed in 1997 to make room for additional parking. A second military stable, similar in size and design, was located to the south of this unit and was later modified for use as a surgery area for the College of Veterinary Medicine.

### **Experiment Station Barn, 1902—1922.**

The Experiment Station Barn replaced an earlier building, designated the Iowa Agricultural College Experiment Barn, built in 1894 by Architects Nourse and Hallett and contractor Bisbee and Potter. This earlier building burned in 1902 along with an adjacent



The first barn built for experimentation. It was designated Experiment Barn and the sign reads IAC (Iowa Agricultural College) Experiment Barn.

cattle barn. The new barn, designated Experiment Station Barn was a substantial building constructed of brick, had a gabled roof, and a clay tile silo. The silo roof was of special interest in that it was of conical style reminiscent of tower roofs typically seen on French chateaux. The building consisted of two floors and a loft and was built at a cost of \$17,858.59. Location was on Wallace Road near the present south wing of the Physical Plant building. Design work was by Liebbe, Nourse, and Rassmussen. H. W. Schleuter was the contractor. A lightning strike resulted in complete loss by fire in 1922.



The new Experiment Station Barn was built to replace the original IAC Experiment Barn that was destroyed by fire. Two judging pavilions (Pavilions 2 and 3) appear immediately to the right of the barn.

### **Judging Pavilions**

Several pavilion-type structures were built on campus during the period from 1900 to 1925. Typical construction was octagonal, round, or oval. All were constructed with large windows, some with skylights to provide ample natural lighting for appraising animals or crop products being studied.

### **Judging Pavilion (Stock Pavilion—Theater Workshop — Shattuck Theater), 1900—1979.**

This was the first pavilion built on campus. It was designed by Liebbe, Nourse, and Rassmussen of Des Moines and constructed by Main and McKee in 1900. Location was adjacent to the Horse Barn. Configuration was round and the building was of wood construction. The facility was used as a judging pavilion until about 1925 when the new livestock pavilion was completed. The pavilion was later used for the performing arts and was designated Shattuck Theater in 1960 to honor Fredrica Shattuck, founder of the Iowa State Players established in 1914. Shattuck Theater was razed in 1979.





The first judging pavilion built on campus. It was later converted as a theater for the performing arts and was finally designated Shattuck Theater.

### **Judging Pavilion No. 2 (Agronomy Farm Crops Laboratory), 1903—1972.**

The building was octagonal, had a diameter of 60 feet, and was surfaced with buff-colored brick. The two-story building was used by Animal Husbandry and Agronomy. This building was located adjacent to the Experiment Station Barn with an elevated walkway between the buildings. The pavilion was designed by Proudfoot and Bird of Des Moines and constructed by C. E. Atkinson in 1903. It was later designated the Agronomy Farm Crops Laboratory and used for this purpose until 1972 when it was razed to make room for Physical Plant Shops and Central Stores Building.

### **Judging Pavilion No. 3 (Carpenter Shop), 1911—1972.**

This pavilion, 64 feet in diameter, was designed by Proudfoot and Bird of Des Moines and built in 1911 by Thomas Sloss (Iowa State College) as a livestock judging facility. It was used for that purpose until the new Judging Pavilion was built in 1925. Design was similar to Judging Pavilion No. 2 in that the shape was octagonal and the building was two stories in height. Remodeling for use as the Physical Plant Carpenter Shop was done in 1925. This use continued until the building was razed in 1972.

### **Judging Pavilion, 1924—1925 to 1998.**

The building was completed in 1925. Proudfoot, Bird, and Rawson of Des Moines did the design; Thomas Sloss (Iowa State College) supervised construction. The building was oval and constructed of clay tile. The roof was enhanced by a large metal cupola. The walls were equivalent in height to two-story structures to accommodate tall windows around the entire building to maximize natural lighting. Remodeling was accomplished in 1931 to expand seating by building in fixed bleacher-type seating.



The judging pavilion was the site of many classes in livestock selection and management. The building was an important facility used in the training of Iowa State's judging teams that over the years won more national championships than any other university in the United States. This was the site of the Little International showmanship contest for many years. Numerous extension events were held here annually.

The building was razed in 1997 to make room for the addition to Kildee Hall dedicated in 1998.

### **Sheep Barns**

During the period 1865 to 1898, several structures were built to house the College sheep flocks. The first was developed as a model sheep house to accommodate six breeds of sheep. This small facility was located where the Food Science Building is presently located.

#### **Early Sheep Barn.**

Photographs in the Iowa State University Archives that were made in 1917 show a sheep barn of wood-frame construction. The building was rich in architectural detail with eyebrow-shaped dormers built into the roof.



An early sheep barn of simple yet striking architectural design. The sheep barn built in 1922 replaced it. Construction date is not available; however, this photograph was taken in 1917. Railroad tracks in the foreground are for the Dinky, the rail line that ran from The Hub on campus to downtown Ames.

### **Sheep Barn, 1922—1925 to 1969.**

In 1922 a substantial sheep barn was built where the National Soil Tilth Laboratory now stands. This building was designed by Proudfoot, Bird, and Rawson of Des Moines and constructed under supervision of Thomas Sloss (Iowa State College). Walls were of clay tile. The roof style was gambrel with turned up eaves characteristic of the other barns in the area. The roof had shed dormers with windows and ventilators. The two wings formed an L-shaped design. The first wing was constructed in 1922 and the second was completed in 1925. The interior provided large group housing as well as small pens for breeding and lambing. The building was razed in 1969.



This barn was headquarters for the Iowa State sheep flock until 1965 when the unit was relocated to the present site on South State Avenue south of campus.

### **Hog Barns**

Minutes of meetings and annual reports indicate that discussions relative to need for hog houses and pens were common as early as 1858. Various hog facilities were constructed in 1866, 1867, 1868, and 1880; and 1886 notes indicate that a hen house was remodeled to accommodate hogs. The major hog house constructed in 1886 was called Piggery.



The Piggery was one of the first major buildings on campus dedicated to pork production.

This was the primary headquarters for swine production until destroyed by fire. Records are not

available to indicate whether the building was replaced as such.

### **Hog Barn and Pavilion, 1921—1922 to 1969—1976 (south farrowing wing razed in 1969 and the balance of the barn and pavilion razed in 1976).**

In 1922 a major swine facility was developed for producing animals and for teaching. The development of the barn and pavilion was part of a plan to develop a “New Purebred Hog Plant” at Iowa State College. The facility was located south of the site presently occupied by the National Soil Tilth Laboratory. The building, constructed of clay tile, consisted of two wings for swine housing and a pavilion for teaching swine management and visual appraisal of animals. The design included varied and extensive skylights and windows to evaluate the advantages of natural light and sun exposure in swine production. Cost of the new barn and pavilion designed by Proudfoot, Bird, and Rawson of Des Moines and built by Thomas Sloss (Iowa State College) was about \$20,000.



The hog barn and pavilion was built as a part of an effort to support Iowa State’s newly stated emphasis on swine production. It was state of the art with capability to study the effect of natural light and exposure on swine.

### **Experimental Feeding Sheds (Hogs and Cattle), 1902 and 1916 to 1957.**

During the period from 1902 to 1928 numerous sheds and pens were built and expanded to accommodate feeding research with cattle and hogs. In 1928 a part of these facilities was moved to a site south of campus on Beech Avenue. Dr. Wise Burroughs used these experimental facilities in the 1950s for beef cattle nutrition research. Burroughs’s work led to the idea of including stilbestrol in the diets of cattle to enhance growth and efficiency of feed use. The idea was patented by the Iowa State University Research Foundation and for many years most beef cattle finished in the United States were produced using this technology.



## Dairy Barns

A dairy farm site was developed south of campus on Mortensen Road in 1908. The facility remains at this location and includes a number of barns and a pavilion.

### First Dairy Barn, 1908 to present.

The development of this wood-frame building is mentioned in early records as being needed to relocate dairy cows from the campus proper. The building is currently used for storage and shelter.



The original barn at the Iowa State Dairy Farm is still in use at the Mortensen Road site south of campus.

### Dairy Farm Pavilion.

This oval facility is constructed of clay tile and provides seating for students and spectators at events. The unit has high windows for natural light and a delightful architectural character reminiscent of pavilions built at major fair grounds. The building was restored recently by an effort of students and faculty supported by the dairy industry. Construction was most likely in 1921 or 1922; a 1923 photograph shows a new building but the construction site was healed at the time.



The Dairy Farm Pavilion is presently in use in teaching livestock selection and management. Students and faculty with support of the dairy industry recently restored the unit.

### Dairy Barn and Milking Parlor, 1937 to present.

The present main dairy barn was built during the 1930s and completed in 1937. The building remains in largely original condition both inside and out although milking parlor modifications have been made as improved equipment was acquired over the years.



The main dairy barn and milking parlor at the Iowa State Dairy Farm is in largely original condition in both exterior and interior design. However, the milking parlor has been renovated periodically as new equipment was developed.

The barn is a U-shaped design with classical gambrel roof accommodating a haymow over the entire structure. The structure was recently roofed with white painted metal. The dairy farm is a routine stop for school field trips. Thus, the milking parlor and animal housing units have been visited by thousands of school children to observe first hand, many for the first time, the source of the food that is so important to them.

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