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NATIONAL REGISTER

United States Department of the Interior
National Park Service

National Register of Historic Places
Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Rehm, Louis, Barn

other names/site number Armin Rehm Barn

2. Location

street & number 2 and a half miles north of Hebron N/A not for publication

city or town Hebron vicinity

state North Dakota code ND county Morton code 059 zip code 58638

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property meets does not meet the National Register criteria. I recommend that this property be considered significant nationally statewide locally (See continuation sheet for additional comments.)

James E. Sperry 12/10/1993
Signature of certifying official/Title James E. Sperry Date
State Historic Preservation Officer, North Dakota
State of Federal agency and bureau

In my opinion, the property meets does not meet the National Register criteria. (See continuation sheet for additional comments.)

Signature of certifying official/Title Date

State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that the property is:

<input checked="" type="checkbox"/> entered in the National Register. <input type="checkbox"/> See continuation sheet.	<u>Lynda McCulland</u>	<u>3/14/94</u>
<input type="checkbox"/> determined eligible for the National Register <input type="checkbox"/> See continuation sheet.	_____	_____
<input type="checkbox"/> determined not eligible for the National Register.	_____	_____
<input type="checkbox"/> removed from the National Register.	_____	_____
<input type="checkbox"/> other, (explain:)	_____	_____

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Gordon Van-Tine Company. Farm Buildings. Davenport, Iowa: 1920.

Klamkin, Charles. Barns, Their History, Preservation and Restoration. New York: Hawthorn Books, Inc., 1973.

Mills, G. E. Buying Wood and Building Farms, Marketing Lumber and Farm Building Designs on the Canadian Prairies. Ottawa: National Historic Sites Parks Service, Environment Canada, Minister of the Environment, 1991.

Noble, Alan G. Wood Brick, & Stone, The North American Settlement Landscape, Volume 2: Barns and Farm Structures. Amherst: The University of Massachusetts Press, 1984.

Radford Company. Farm Buildings. Chicago.

Rehm, Armin. Interview, August 1992.

Sloane, Eric. An Age of Barns. New York: Funk and Wagnalls, 1967.

Sears Roebuck and Company. Honor Built Barns. Chicago: 1921.

Flinspach, Joan. William Loudon. unpublished article, Iowa State Historical Society, Des Moines.

Louden Machine Company. Louden Barn Plan Book. Fairfield, Iowa: Loudon Machine Co., date unknown.

Wooley, John C. Farm Buildings. New York: McGraw-Hill Book Company, Inc., 1946.

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Armin Rehm Barn, Morton County, North Dakota

Verbal boundary description:

Two and a half miles north of Hebron on Section 20, Township 140, Range 90: SE Quarter, NW QQ, NW QQQ, NE QQQQ.

Boundary Justification:

The boundary delineates a margin around the barn, and does not include the adjacent ineligible farmhouse and outbuildings.

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Louis Rehm Barn
Armin Rehm Barn
Morton County, North Dakota

**Acreage of Property
Amendment**

Change the Acreage of Property to: less than 1 acre

**Boundary Description
Amendment**

The boundary delineates the barn and a 14-foot wide margin around the barn, and does not include the adjacent ineligible farm house and outbuildings.

Louis Rehm Barn

Morton County, North Dakota

Name of Property

County and State

5. Classification

Ownership of Property (Check as many boxes as apply)

Category of Property (Check only one box)

Number of Resources within Property (Do not include previously listed resources in the count.)

- private, public-local, public-State, public-Federal

- building(s), district, site, structure, object

Table with 2 columns: Contributing, Noncontributing. Rows for buildings, sites, structures, objects, Total.

Name of related multiple property listing (Enter "N/A" if property is not part of a multiple property listing.)

Number of contributing resources previously listed in the National Register

N/A

N/A

6. Function or Use

Historic Functions

Current Functions

(Enter categories from instructions)

(Enter categories from instructions)

AGRICULTURE/SUBSISTENCE: animal facility

AGRICULTURE/SUBSISTENCE: animal facility

7. Description

Architectural Classification

Materials

(Enter categories from instructions)

(Enter categories from instructions)

Other: Gothic arch

foundation CONCRETE

walls WOOD

roof Shingle

other METAL

Narrative Description

(Describe the historic and current condition of the property on one or more continuation sheets.)

Louis Rehm Barn
Name of Property

Morton Co., North Dakota
County and State

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- A** Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B** Property is associated with the lives of persons significant in our past.
- C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D** Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

Property is:

- A** owned by a religious institution or used for religious purposes.
- B** removed from its original location.
- C** a birthplace or grave.
- D** a cemetery.
- E** a reconstructed building, object, or structure.
- F** a commemorative property.
- G** less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance

(Enter categories from instructions)

ARCHITECTURE

Period of Significance

1917

Significant Dates

1917

Significant Person

(Complete if Criterion B is marked above)

Cultural Affiliation

Architect/Builder

Adam Rehm, builder

Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

Bibliography

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey

- recorded by Historic American Engineering Record # _____

Primary location of additional data:

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository:

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Section number 7 Page 1 Armin Rehm Barn Morton County, North Dakota

The Louis Rehm Barn is located just northwest of Hebron on the original homestead site of Magdalena and Ludwig Rehm. (Mr. Rehm changed his name from Ludwig to Louis sometime in the 1910s) The nomination consists of a single property, the other remaining farm buildings of insufficient significance and diminished integrity to warrant nomination. The residence, barn and outbuildings are owned by Louis' son Armin Rehm, and rented for the purpose of maintaining the farm operation.

The Rehm barn exemplifies an early application of the gothic arch roof in barn design, measuring 96 feet in length by 60 feet in width. Constructed entirely of douglas fir balloon framing and sided with fir drop siding, the building's commanding profile features integral side wings of equal dimension measuring 28 eight feet deep. An arched wagon entry containing swinging double doors is located at the west end of the south facade. This feature enters into a concrete paved drive (originally of wood) that extends the width of the barn up to the north side box stalls. A similar arched dormer with hay door is located at the east end of the north facade and provides access to the hay floor located above the north milking parlor.

Doors at both the west end of the south and north facades access a row of stalls and mangers for eight teams of horses, with additional space for two more teams located around the corner in the north wing. An overlying hay floor serves these stalls alone and provided storage for the natural prairie hay required for horses. The remaining north wing originally functioned as a milking parlor; twelve to fourteen stanchions have since been removed.

All doors, including a small hay door at the west end above the horse stalls were originally reinforced with crossed and diagonal battens highlighted in white. Today, only the hay door on the north facade features "X" battens; remaining doors are constructed of vertical boards. Rows of small, four light sash are located at the first story on all sides; four identical fixed windows are located in the upper portion of the arches. All window casings and frames are painted white; the balance of the barn is painted red.

Built in 1917 on a concrete foundation with a dirt floor, the multi-purpose barn exhibits an early and highly substantial version of the gothic arch roof. Individual rafters are composed of five,

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1 x 10s, saw cut in a slightly arched configuration. Built-up rafters are secured by nails and braced on either side by a single 2 x 4 eight feet in length. This system of braced arch construction further strengthened the basic gothic arch concept of roof design. Cedar roof shingles were laid in a nearby stream to soak, thereby softening them and making them pliable to the arched line of the roof.

Unlike many contemporary barns of the period, the Rehm barn lacked a continuous second story hay floor, instead allocating the center of the building as a ground floor hay mow. Alfalfa hay was pitched over a low wall to the cattle parlor located in the south wing of the building. Straw pitched onto the dirt floor in winter months provided insulated bedding material for the animals.

The interior operations of the barn were performed with the most modern hardware and apparatus then available. Entering through the south arched entry into a wood paved drive, hay wagons were unloaded by means of a system of pulleys and slings assisted by a team of horses. Tracks made of strong angle irons ran the full length of the barn, serving both directions for the feeding of cattle or horses. Rollers attached to a series of pulleys and connected to slings allowed wagons centered under the roof ridge to be unloaded.

Slings composed of three to five ropes and separated by hard wood 2 x 2s were filled and raised gradually until they joined at either end forming a round bail of hay. Once hoisted to the proper location, the team would halt, thereby causing the meeting ends of the sling pulleys to lock. A small rope attached to the trip mechanism of the sling was given a strong jerk allowing the sling load to dump. The process was repeated until the hay rack on the wagon was empty. The hoisting team was then carefully backed out of the barn. The original pulley tracks remain, although the ropes and slings have since been removed.

By this period, manure removal had been revolutionized by the introduction of "litter carriers." In the Rehm barn this apparatus serviced the north, south and east cattle and dairy stalls. A metal track followed a "U" path from which a semicircular metal bucket was suspended. The manure bucket was easily raised and lowered to facilitate the shoveling of manure. Once full, the bucket was pulled along and through double doors located at the east end

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of the barn. The load was then dumped onto an awaiting wagon with a manure spreader. Pulled by a team of horses, the manure spreader could then disperse the fertilizer throughout the fields.

The barn was electrified in 1918, thereby safeguarding against fires commonly caused by kerosene lamps. A windmill and gabled well house originally located on the south side of the barn have been removed; the well itself has been sealed over and modified with a pump. The original cedar shingles are badly weathered and permit much daylight and weather to enter the barn; the south wing and a portion of the north wing have been sheathed in metal to prevent further deterioration of the roof system. One metal ventilator with weathervane, and four lightning rods have been removed, as have the original pulley ropes and hay slings and litter carrier system. Altogether, these are relatively minor alterations to a barn which has remained mostly unchanged since the year of its construction.

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Nominated for architectural values under criterion C, the Rehm barn is an early and important application of the gothic arch in barn design. Gothic arch construction was widely embraced on the northern plains, although its use nationwide was brief. Gothic arch roofs were considered stronger than other types and were well suited to the buffeting power of prairie winds. Known examples indicate that the barn type continued to be built in North Dakota into the 1950s with few apparent design changes. Gothic arch barns of more recent vintage which exhibit the later form of arch construction using bent, laminated rafters survive in the greatest numbers throughout North Dakota.

An outgrowth of the gambrel roof which had debuted in the upper midwest in the 1880s, the gothic arch further expanded the hayloft by eliminating space consuming bracing and trussing. While the balloon framing of the gambrel roof had greatly liberated the hayloft from a network of frames, some versions such as the Iowa and Shawyer truss gambrels required additional bracing which encroached on the hay floor space. The gothic arch required no bracing, instead making use of continuous rafters arched in a slightly parabolic curve.

The first gothic arch construction introduced around 1915 was considered a triumph, although the practice of cutting a series of wide boards to an arched configuration (observed in the Rehm barn) was a costly and wasteful use of materials. Later techniques marketed by the Sears Roebuck and Company and the Gordan Van-Tine Company of Davenport, Iowa reduced material waste by maximizing the cut of lumber. The William Loudon Company of Fairfield, Iowa further refined the gothic arch with a patented "bent rafter" system, incorporating 1 X 4s bent to proper curvature and nailed and bolted together. All of these companies, in fact, claimed to have introduced the gothic arch around 1915. Gothic arch barns also appeared north of the border during the same period, having been promoted by Canadian journals and mail order firms after 1912.

The Rehm barn exhibits the earlier phase of gothic arch design, incorporating five built-up 1 X 10s cut to a curve on the outer edge. Flanking each built-up rafter are standard 2 X 4s; four 2 X 4s follow the curve of the rafters from the top of the wall to the roof peak. Such bracing fortified the already durable gothic arch, making the Rehm barn an uncommon variation of the type.

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Armin Rehm Barn

Morton County, North Dakota

The origins of the Rehm barn design are unclear. Adam Rehm, brother of Louis, constructed the barn in 1917. A contractor from Iowa Falls, Adam was well versed in barn construction and built a number of barns in the central region of Iowa. Given the locality and period of his experience, it is likely that Adam was acquainted with the barn designs of the Gordon Van-Tine Company of Iowa and of the William Loudon Company of Fairfield, Iowa, among others. Because the gothic arch barn was being vigorously promoted by these companies at this time, it is possible that Adam became knowledgeable of its principles and adapted them in the construction of his brother's barn near Hebron.

Louis (Ludwig) Rehm, original owner of the barn, arrived in Hebron from Iowa in 1895, eventually marrying Magdalena Schmalenberger. In 1906, the couple assembled the present farm from two failed homesteads and two tree claims to form an acreage totaling 640 acres. The site of the nominated property, as well as some of the adjacent land, had previously been acquired by Phillip Stephan, a cousin of Magdalena Rehm.

Mr. Rehm's farming operation eventually encompassed 1860 acres, approximately 1000 of which were under cultivation. Cattle raising, a small creamery operation and hog production were all served by the large barn, which sheltered teams of horses as well. Having been a mayor of Hebron, an alderman, president of a cooperative elevator board, church leader, and school board president for thirty six years, Mr. Rehm is remembered for his active role in community affairs.

The Rehm barn, built in 1917, constitutes the single nominated site and is located adjacent to the 1906 farmhouse and outbuildings that have lost sufficient integrity for National Register eligibility. Dominating the surrounding landscape, the barn is a significant remnant of the state's earliest barn architecture, particularly as a benchmark of gothic arch roof design. Though it may be impossible to determine the first appearance of the gothic arch barn in North Dakota, this most early example may prove, with further research, to have had a revolutionary impact on barn design in this region of the state.