NPS Form 10-900
(Oct. 1990)

OMB No. 10024-0018

**United States Department of the Interior**
**National Park Service**

# National Register of Historic Places Registration Form

## 1 Name of Property

historic name Magnolia Mills

other names/site number Innes Elevator Mills

## 2 Location

street & number 200 West Pine Street [N/A] not for publication

city or town Warrensburg [N/A] vicinity

state Missouri code MO county Johnson code 101 zip code 64093

## 3 State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this [XX] 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 [XX] meets [ ] does not meet the National Register criteria. I recommend that this property be considered significant [ ] nationally [ ] statewide [XX] locally.
( See continuation sheet for additional comments [ ].)

Signature of certifying official/Title Claire F. Blackwell/Deputy SHPO Date 28 Aug 96

Missouri Department of Natural Resources
State or 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

State or Federal agency and bureau

## 4 National Park Service Certification

I hereby certify that the property is: Signature of the Keeper Date

[ ] entered in the National Register
See continuation sheet [ ].
[ ] determined eligible for the
National Register
See continuation sheet [ ].
[ ] determined not eligible for the
National Register.
[ ] removed from the
National Register
[ ] other, explain
See continuation sheet [ ].

## 5 Classification

**Ownership of Property**

[X ] private
[ ] public-local
[ ] public-State
[ ] public-Federal

**Category of Property**

[X ] building(s)
[ ] district
[ ] site
[ ] structure
[ ] object

**Number of Resources within Property**

| Contributing | Noncontributing | |
|---|---|---|
| 1 | 0 | buildings |
| 0 | 0 | sites |
| 0 | 0 | structures |
| 0 | 0 | objects |
| 1 | 0 | Total |

**Name of related multiple property listing.**

N/A

**Number of contributing resources previously listed in the National Register.**

N/A

## 6. Function or Use

**Historic Function**

INDUSTRY/PROCESSING/EXTRACTION/
manufacturing facility

**Current Functions**

INDUSTRY/PROCESSING/EXTRACTION/
manufacturing facility

COMMERCE/TRADE/specialty store

## 7. Description

**Architectural Classification**

No style

**Materials**

foundation Sandstone
walls Weatherboard
Brick
roof Metal
other Iron

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

## 8.Statement of Significance

### Applicable National Register Criteria

[X] **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

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
INDUSTRY

### Periods of Significance
1879-1946

### Significant Dates
1879
ca. 1884
ca. 1918

### Significant Person(s)
N/A

### Cultural Affiliation
N/A

### Architect/Builder
UNKNOWN

### Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets.)

## 9. Major Bibliographic 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:**

[XX] State Historic Preservation Office

[ ] Other State Agency

[ ] Federal Agency

[ ] Local Government

[ ] University

[ ] Other:

Name of repository:_____

## 10 Geographical Data

**Acreage of Property** less than one acre

**UTM References**

| A. Zone | Easting | Northing | B. Zone | Easting | Northing |
|---|---|---|---|---|---|
| 15 | 435450 | 4290550 | | | |

| C. Zone | Easting | Northing | D. Zone | Easting | Northing |
|---|---|---|---|---|---|
| | | | | | |

[ ] See continuation sheet

**Verbal Boundary Description**
(Describe the boundaries of the property on a continuation sheet.)

**Boundary Justification**
(Explain why the boundaries were selected on a continuation sheet.)

## 11 Form Prepared By

name/title Debbie Sheals

organization (Private Consultant) date June 20, 1996

street & number 406 West Broadway telephone 573-874-3779

city or town Columbia state Missouri zip code 65203

**Additional Documentation**
Submit the following items with the completed form:

**Continuation Sheets**

**Maps**

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **Sketch map** for historic districts and properties having large acreage or numerous resources.

**Photographs**

Representative **black and white photographs** of the property.

**Additional Items**
(Check with the SHPO or FPO for any additional items)

**Property Owner**
(Complete this item at the request of SHPO or FPO.)

name Innes Elevator Mills c/o Richard Squiric

street & number PO Box 338 telephone 816-747-8185

city or town Warrensburg state Missouri zip code 64093

**Summary:** The Magnolia Mills started operating in 1879 in Warrensburg, Johnson County, Missouri. The large frame mill and elevator building occupies the southwest corner of the intersection of W. Pine Street and Washington Avenue, facing east. The original mill building was three stories tall, with a flat roof, drop siding, and evenly spaced double hung windows. In 1884, the building was greatly enlarged by the addition of a three story frame elevator topped with a monitor roof and large cupola. A one story warehouse was added to the southwest corner of the building around 1888, and expanded to its present size sometime before 1907. The last major expansion occurred around 1918, when a fourth floor was added to the mill. The elevator was sheathed with lapped weatherboard siding when it was built, and the mill was resheathed to match, apparently at the same time the fourth floor was added. The building remained largely unchanged from that time on, and housed a mill business throughout the period of significance, which runs from 1879-1946. In the late 1940s, a modern concrete elevator and mill were built onto the west end of the warehouse, and milling operations were gradually moved into that part of the building. The property has been in the same family since 1933, and is still being used for a feed mill. The older parts of the building currently house the mill office and a feed store, and they have changed very little in the last century. The building is the only structure on the property, and it exhibits a high level of integrity of design, setting, materials, workmanship and association.

**Elaboration:** The Magnolia Mills building occupies most of a city block on the edge of Warrensburg's downtown commercial district. It is a massive wooden building which sits close to West Pine Street on the north and Washington Avenue on the east. The tracks of the Missouri Pacific Railroad run close to the south wall of the building, and the land directly west of the mill property is vacant. The mill complex today includes the historic building as well as a newer section which consists of a low mill building and a tall elevator. The addition, which was constructed of concrete in the late 1940s, sits more than 50 feet away from the rear wall of the original mill, and is separated from the earliest parts of the historic building by a low brick and frame warehouse, part of which dates to ca. 1888. (See Figure One.) The change in building height and construction materials clearly differentiates the two portions of the complex, and the addition does not significantly affect the integrity of the original mill.

The historic part of the building was constructed in stages, as time and expanding business needs dictated, and it consists of three main sections: the original mill of 1879, a large elevator which was added in 1884, and a low frame warehouse, part of which dates to the 1880s.[1]

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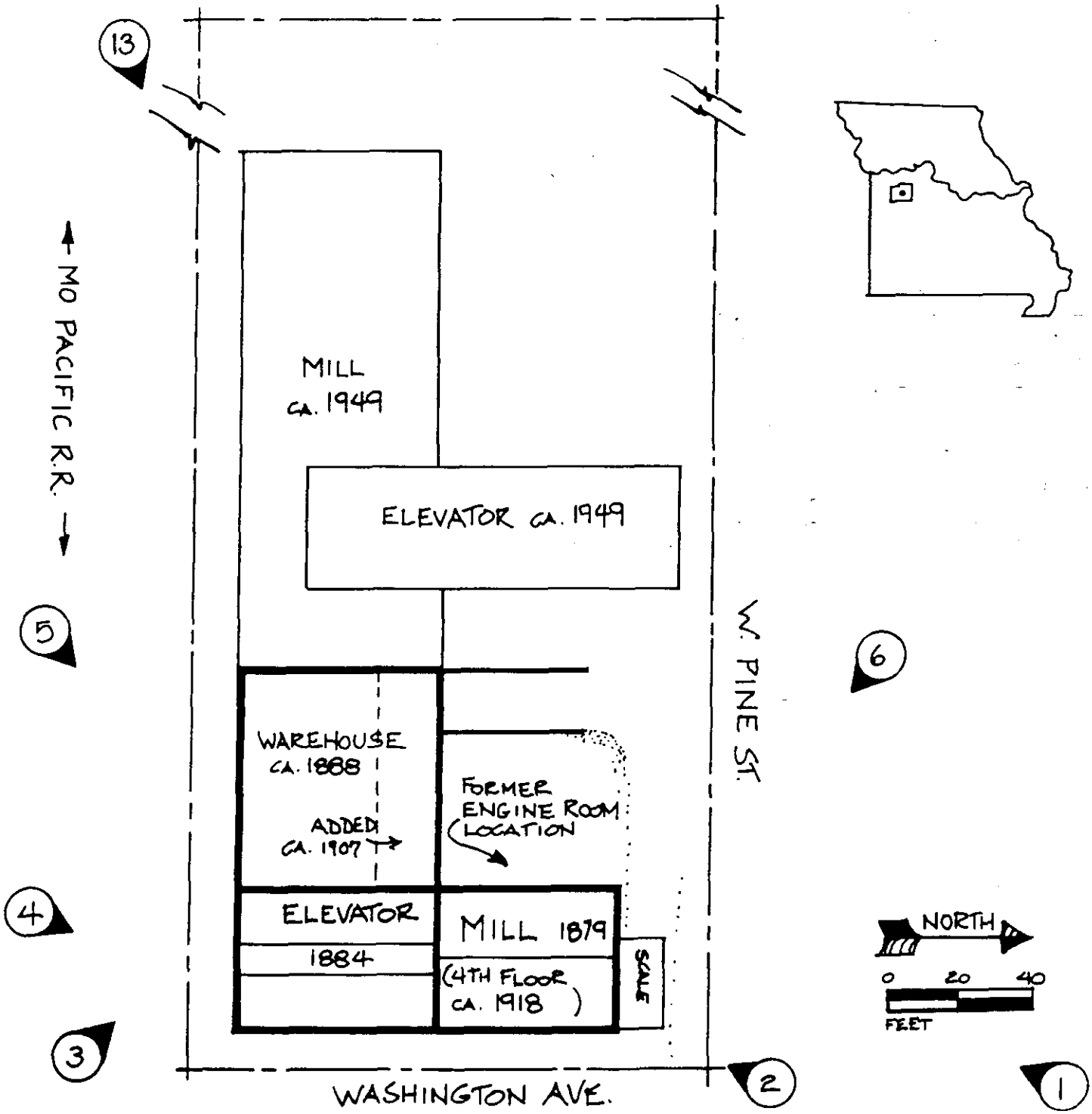
[1] Construction dates are from "Magnolia Mills and Elevator," Warrensburg Daily Standard. Feb. 12, 1885, and Sanborn Fire Insurance Company maps for the city of Warrensburg, selected years, 1883-1907.

Figure One. Site plan.



Construction on the original mill began in the fall of 1878, and Magnolia Mills opened for business in April of 1879. The new building was a three story, heavy frame structure which measured roughly 40' by 50'. Each story contained evenly spaced six-over-six windows; there were three bays across the north end and four bays across the wider east facade. The flat roof was edged with a small overhanging cornice, and a simple awning sheltered the ground floor along the north and east sides. The walls were sheathed with wide drop siding and the building sat on a full basement of sandstone blocks. A large sign with the words "Magnolia Mills" against a light colored background was painted directly onto the weatherboards in a wide band which ran between the second and third stories. (See photo 14, which is believed to have been taken shortly after the mill opened.)

There were also small one story ells on the west and south walls, both of frame construction, each with a flat roof and double hung windows. The mill was originally powered by a 60 horsepower steam engine which occupied a separate basement level room on the west side of the mill. The engine room had brick-lined stone walls and was enlarged around 1888.[2] Neither the small frame ells nor the engine room have survived to modern times. Although the lot the building occupies is now relatively level, it originally slanted sharply down to the west, making the west elevations a full story taller than those on the east.[3] The north wall of the warehouse still shows the ghost of the original engine room roof, which came just a few feet above the current grade level. (See photos 1 and 6.)

The interior of the building was kept open by the use of post and lintel construction, and two rows of evenly spaced 10" square posts support the framing members. The interior walls have retained their original tongue and groove horizontal wall boards and wood floors, and there is no evidence that there were ever any interior partitions on the upper floors of the mill. (See photos 7 and 8.) A narrow, L-shaped flight of stairs occupies the southeast corner on each floor, and there are large trap doors in the northwest corners of the rooms which allowed large items to be moved from floor to floor. (See photo 7.)

The size of the building was doubled in 1884 with the addition of an elevator to the south end of the mill. (See photos 3-5.) The 54' wide x 40' deep elevator is three stories tall, with a monitor roof that creates a tall central cupola. Part of the early standing-seam metal roofing of the elevator is still in place; other roof areas are covered with newer corrugated tin. The walls are sheathed with narrow, lapped wooden weatherboards over diagonal sheathing boards, and the foundation is built of the same type of stone blocks found in the mill basement.

Most of the interior of the elevator is occupied by grain bins, the

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[2] 1883 and 1888 Sanborn maps.

[3] Sanborn maps and a set of drawings dating to 1918 all indicate such a change in grade.

walls of which are constructed of cribbing. (See Figure Two and photo 11.) The cribbing was formed by stacking and nailing 2x4s or 2x6s together to create 4" and 6" thick solid wooden walls. The grain bins occupy the entire second and third floors of the elevator, with the exception of two small equipment rooms next to the wall of the mill. Each room has a double hung window in each end wall, and is reached from the mill rather than the elevator side of the building. The cupola provides access to the top of the bins, and housed some equipment when the elevator was in use. It was lined with windows; there were three in each end wall and five along each side. (Only the frames of those windows have survived, but the windows will be replaced during a planned rehabilitation of the building.)

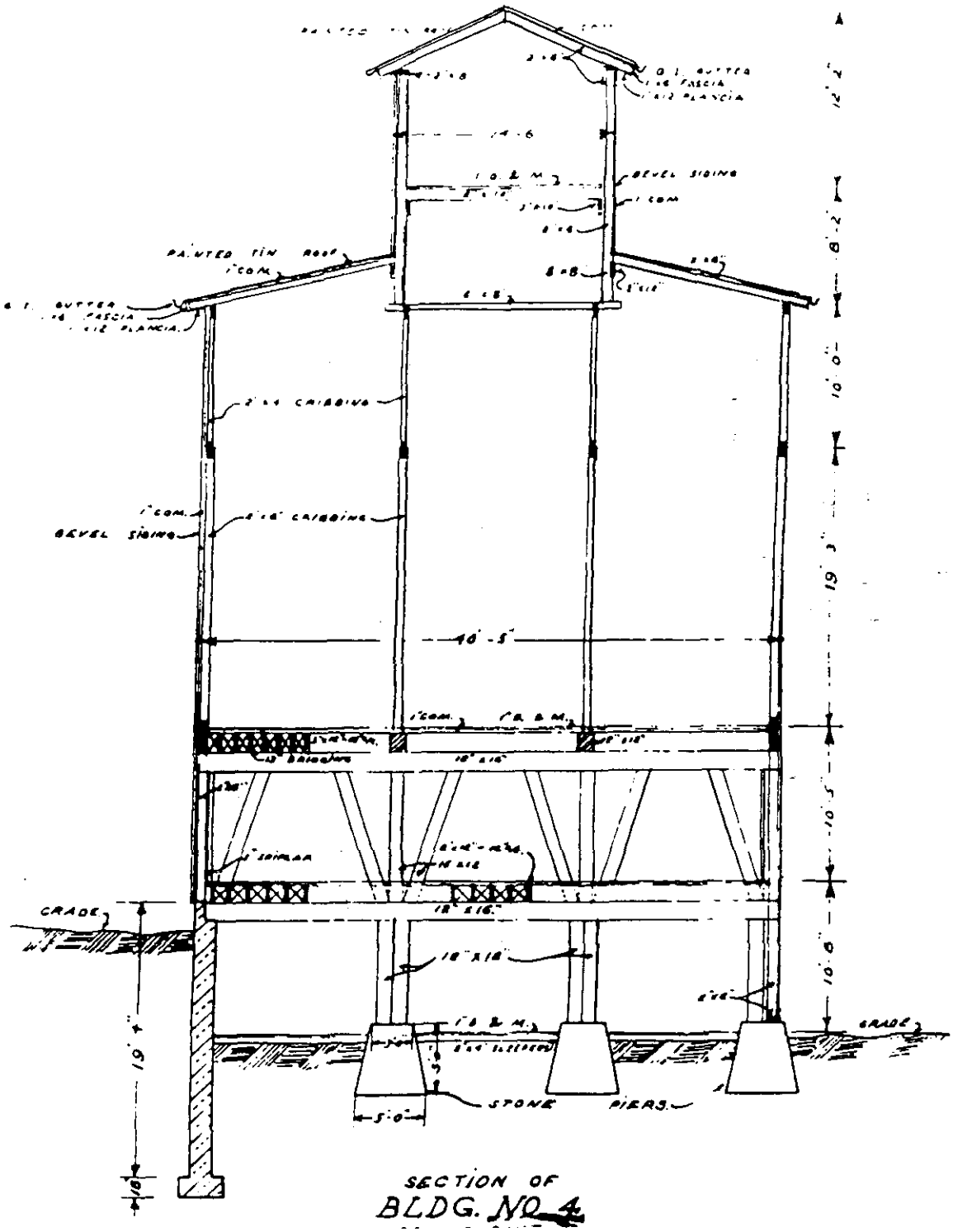
The ground floor of the elevator addition was left open, and the doors along the south wall originally provided access to a loading platform which faced the railway. (The platform is gone, but the spur which was built to serve the elevator remains.) The immense weight of the cribbing above required extra support at that level, and the space is distinguished by massive timber beams and V-shaped supports. (See photo 10 and Figure Three.) The original interior finishes of that room are very much intact; the walls and floors do not appear to have changed significantly since they were new. Small square wooden chutes in the ceiling still lead from the bins above, and several of the "legs" (elevators) which once carried grain up to the top of the bins are also still in place. There are several large double hung windows, and three of the four early doors are still somewhat functional, including a large door to a truck and wagon loading dock off of Washington Avenue.


Figure Two. From the Warrensburg Daily Standard, March 26, 1885.

The warehouse was built onto the back of the elevator addition around 1888, and it is reached via a wide doorway in the west wall of the elevator addition.[4] The ceiling of the one story warehouse is supported by evenly spaced 6" square posts, and the south wall of the room is frame, with iron exterior sheathing. (See photo 12.) That wall also has a wide door which

[4] Construction date from the 1888 Sanborn map of the building.

Figure Three. A cross-section of the elevator which was drawn in 1918.



once led to a loading dock, as well as four double hung windows which match those found on other parts of the building.[5] The north and west walls of the warehouse are constructed primarily of brick; they were probably built when the warehouse was expanded around 1907.[6] There are three windows topped with segmental arches in the north wall, one of which has been partially bricked in. An opening for a modern garage door has been cut into lower part of the wall near the west end, and a recessed driveway leads down to the basement level door. The west wall of the warehouse has seen several alterations; it now adjoins the modern milling operation and contains a fire door to the newer mill. A narrow set of steps along the east wall of the warehouse leads to the basement, which has sandstone block walls and large wooden support posts. The east wall of that basement room was originally the exterior wall of the elevator addition, and the early weatherboards, woodwork, and window openings are still in place there.

The final expansion of the building during the period of significance occurred between 1914 and 1918, when a fourth story was added to the mill wing. The mill complex was mapped by the Sanborn Fire Insurance Company in 1914, at which time the mill was still three stories tall. In April of 1918, the property changed hands, and measured drawings of the building which were made in November of the same year show a fourth story on the mill. (See Figure Four.) That construction project brought the building to the form it was to keep throughout the period of significance, and it appears today much as it did after the fourth floor was added. (Only the early engine room and small rear office ell are missing today.)

The fourth floor of the mill mirrors the floors below, and the basic floorplan and fenestration patterns were not changed with the upward expansion. There are still three bays on the end wall and four across the front, and the windows of the fourth floor closely match those of the lower floors. (They also match the windows in the other historic sections of the building.) The original cornice was removed with the expansion, and low parapet walls now shelter the slightly sloped roof. A slight flaring of the parapet walls and simple cornice returns on the elevator constitute the only architectural embellishment found on the building. The expansion project did involve covering the upper walls of the mill wing with same type of lapped weatherboarding used on the elevator walls. That siding is still largely in place, although in poor condition. The walls beneath the awning were not recovered, and the original shiplap siding is still exposed on the first floor of the mill wing. That siding shows the advantage of having been covered by the no longer extant awning; it is in much better condition than are the weatherboards above.

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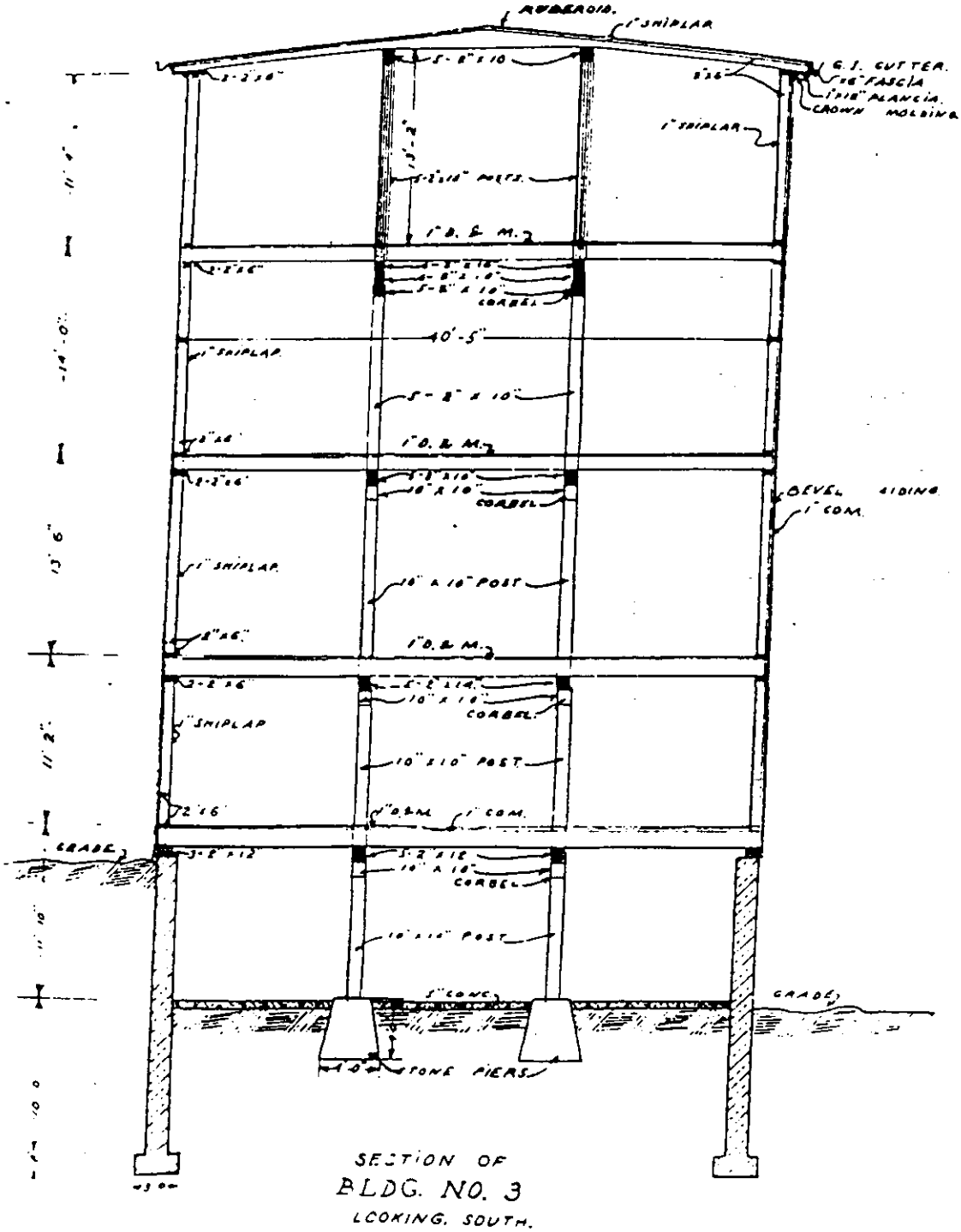
[5] Statements about missing elements are based on Sanborn maps, and a set of drawings of the building which date to 1918.

[6] Sanborn map of 1907.

Figure Four. A cross section of the mill which was drawn in 1918.



The building has naturally experienced minor alterations over the years, none of which seriously impact its historic integrity. Part of the ground floor of the mill wing is still in use as the mill office, and newer doors and windows, as well as some interior partitions, have been installed to accommodate that function. The majority of those changes appear to have occurred within the period of significance. A feed store has recently been established in another portion of the ground floor; it is utilizing the existing layout, and few changes have been made to the building in relation to that business.

Much of the mill machinery has disappeared over the years, but several elevator shafts, or "legs," are still in place, and a few pieces of processing equipment remain here and there.[7] Several of the early wheels for the belt drives are in place, as is the pulley used to hoist heavy loads up through the trap doors in the mill. (See photos 7 and 9.) The cribbing for the elevator bins is largely intact, and many of the wooden chutes which lead from the bins to loading areas on the south and east sides of the building still protrude from the sides of the building. (See photos 11 and 3.)

The simple open floor plan and architectural simplicity of the building have allowed its continued use without major alterations, and the relocation of the main milling activities to the 1940s addition have spared the historic structure much wear and tear. The heavy frame of the mill is as square as the day it was built, and exterior deterioration will be remedied during a planned rehabilitation of the historic portions of the mill and elevator. The historic portions of the building have changed very little since the period of significance, and they retain a high level of integrity of design, materials, craftsmanship, and association.

[7] The equipment used during the period of significance will be discussed more thoroughly in the statement of significance.

Figure Five. Ground Floor Plan, historic portions of the building.

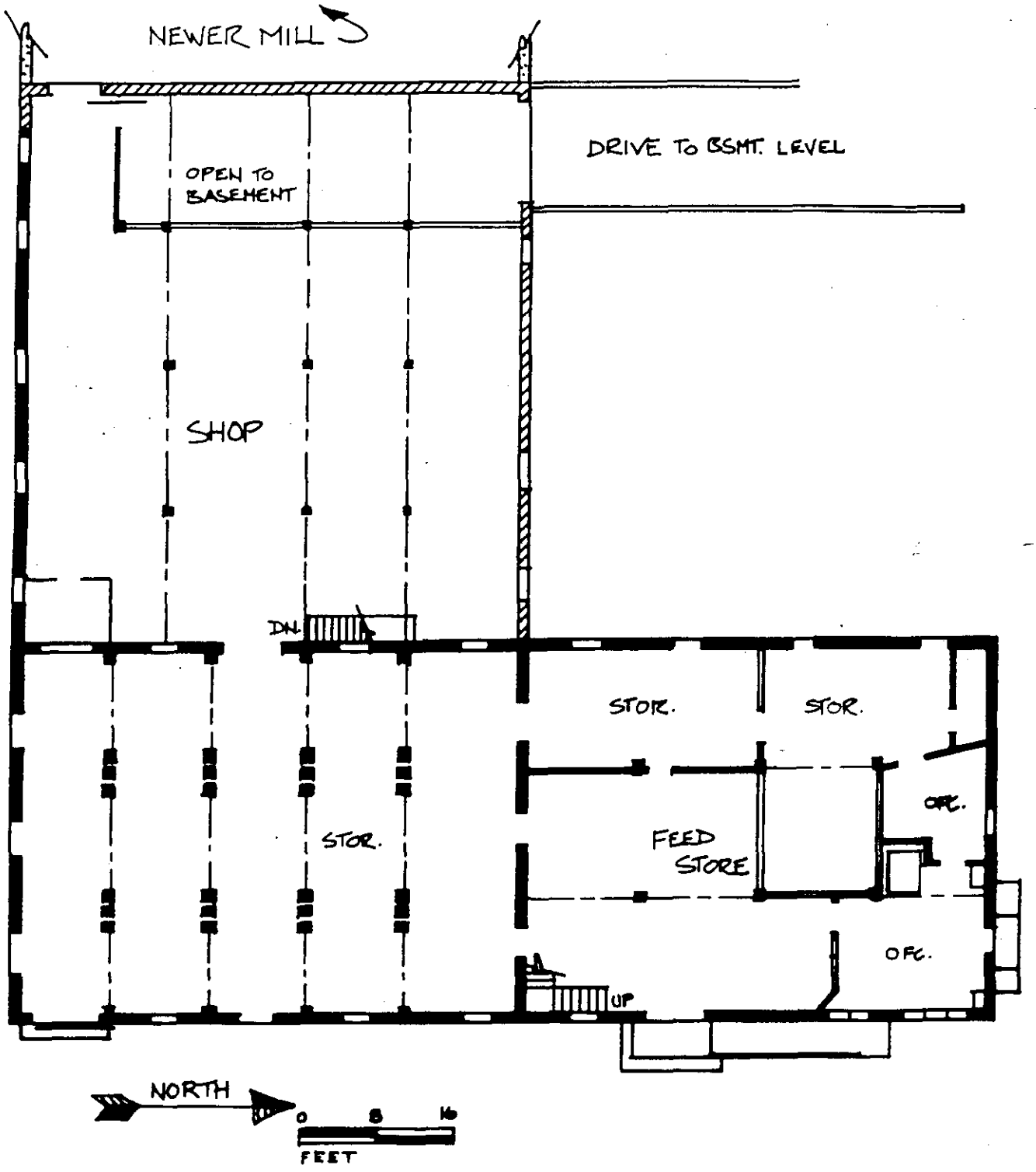
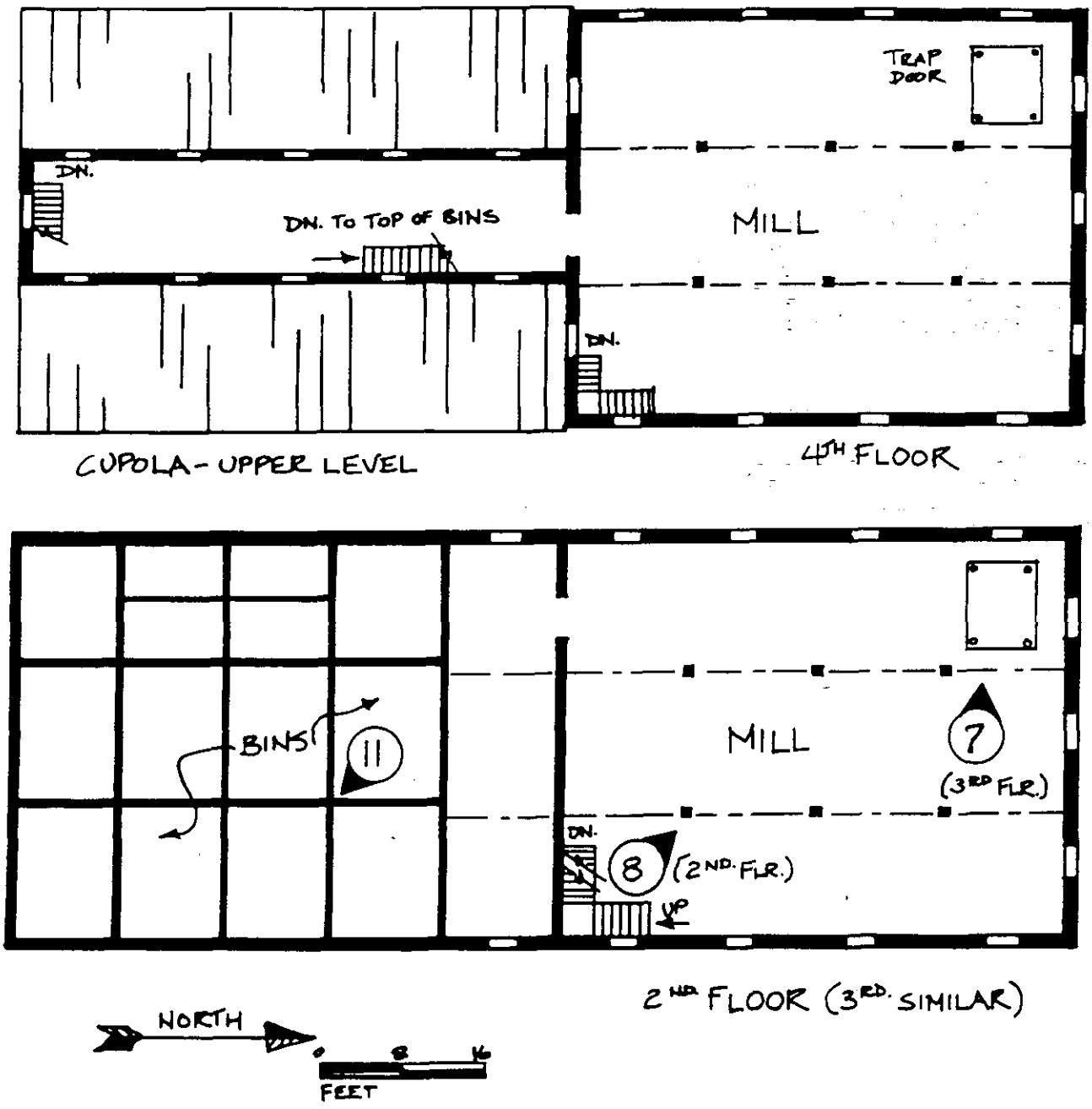


Figure Six. Plan of upper floors, historic portions of the building.



**Summary:** The Magnolia Mills of Warrensburg, Johnson County, Missouri, first opened for business in April of 1879. It is the only intact 19th century flour mill in Warrensburg; and it is significant under National Register Criterion C, in the area of Industry. The original building went through several early expansions, and was used as a grist mill and elevator into modern times. The period of significance begins with its opening in 1879 and runs until 1946, the traditional 50 year cut off point. The initial owners of the mill, Wm. H. Hartman and Isaac Markward, were active in its daily operation for many years, and both became leading businessmen in the town. The time period in which Hartman and Markward were building the mill and developing their business represents a turning point in the technology of making flour. Hartman and Markward kept up with such technological advances and changed their milling practices accordingly. The history of the mill closely mirrors the general history of commercial grist milling in the United States; it was built during a national boom in mill construction, and its operation over the years reflected the constantly evolving process associated with commercial milling in the United States. The mill operated in a typical manner throughout the period of significance, and the property continues to be used for milling today. The historic portions of the building have changed little in the past one hundred years, and they exhibit a high level of integrity, both inside and out.

**Elaboration:** Warrensburg is the seat of Johnson County, and was the largest town in the county throughout its early history. The town was founded in 1836, and soon became an important trading center. It was incorporated in 1856, during a period of railroad-spurred expansion. The original settlement was laid out just west of the present downtown, but the center of development shifted east when the Missouri Pacific Railroad came through the area in the mid-1850s. A history of the town which was written in 1881 noted that after the railroad depot was erected in 1867, "the merchants became frantic until they located their business near the station house."[8] The area surrounding the depot became the commercial center of town, and dozens of new buildings were built there in the next few decades, including three new flour mills.

The business climate remained favorable, and by 1881 the Warrensburg business directory included more than 200 separate listings.[9] Of those, six represented owners of the flour mills. Commercial production of flour in Warrensburg dates to around 1856, when William Dougherty built a large

[8] F. A. North, Managing Editor, The History of Johnson County, Missouri, (Kansas City: Kansas City Historical Company, 1881) p. 393.

[9] The History of Johnson County, Missouri, pp. 438-441.

frame mill southwest of the original town center.[10] The Dougherty mill operated for about a decade, after which the business was moved to the nearby town of Holden. A large new flour mill opened in 1867, about the same time that Dougherty's mill left town. That business was called the Eureka Mills, and it was for many years the premier flour mill in the area. A description of it which was written in 1881 noted that "this is one of the largest mills in the west....they have eleven hands at work constantly, running night and day."[11] The success of the Eureka Mills must have inspired others to go into the business, for two other mills opened in Warrensburg in 1879. One mill, the Warrensburg Elevator Mills, was added to an existing elevator, and the other represented a brand new business venture. The latter was the Magnolia Mills, which was built and operated by two former Eureka employees, Wm. H. Hartman and Isaac Markward.

Hartman and Markward worked at the Eureka Mills during the same period of time, and it is likely they met there. William Hartman was born and raised in New Jersey, and he worked as a miller there before he moved to Missouri in 1868. He was apparently skilled at his profession even as a young man, for he spent several years as the head miller at the Eureka Mills before going into business with Markward at the age of 37.[12] Isaac Markward was born in Pennsylvania in 1848, and moved to the Warrensburg area around the same time Hartman did.[13] He too worked at the Eureka Mills, and was boarding with Eureka owner F. C. Fike when recorded for the 1870 population census. The men apparently spent enough time working together at the Eureka Mills to come to the conclusion that they made a good team; they formed a partnership, and in the summer of 1878 construction began on their mill building at the corner of Pine and Washington. The mill opened for business in April of 1879.[14]

In spite of competition from the Eureka and the other mill in town, the Magnolia Mills prospered, and was soon one of the leading flour mills in the area. One local paper later wrote of Hartman and Markward that "the

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[10] Ewing Cockrell, History of Johnson County, Missouri, (Topeka: Historical Publishing Co., 1918) p. 211.

[11] F. A. North, Managing Editor, The History of Johnson County, Missouri, (Kansas City: Kansas City Historical Company, 1881) p. 424.

[12] "W. H. Hartman," Warrensburg Standard Herald Weekly, Sept. 9, 1898.

[13] "Death of Isaac Markward," Warrensburg Standard Herald Weekly. Aug. 13, 1915.

[14] "Magnolia Mills and Elevator," Warrensburg Standard Herald Weekly. Feb. 2, 1885.

success of this institution, under their management, was phenomenal."[15] Their early success may have been due in part to the practice of shipping much of their flour out of town, rather than depending solely on the local market. They had chosen a building site close to the tracks of the Missouri Pacific Railroad, a location which made it easy and inexpensive to ship the flour out of town. A description of the mill which was published just two years after it opened noted that "they ship principally to St. Louis, though they do a large home trade."[16] The capacity of the mill was then 120 barrels of flour per day, much of which went directly to St. Louis. (The Eureka's output was 200 barrels/day, and the much smaller Elevator Mill's was around 25 barrels/day.)

The quality of their flour was of course the most important factor in their success, and their reputation in that area was quickly established. In 1881 they were producing three different kinds of flour, one of which "took a premium in 1880 at the St. Louis fair."[17] The brands produced at that time were the Magnolia Fancy, the Magnolia Choice, and the Magnolia Atlas. Magnolia flour must have been redistributed once it arrived in St. Louis, as the same description claimed that "the 'Magnolia Flour' has a reputation extending far and wide all over the west."[18]

At the time Hartman and Markward opened for business, American flour mills were seeing the first change in the technology of flour milling to be seen in the industry in a century, and the first ever change in the basic process of making flour. Grist mills have been operating in America since the earliest days of settlement, and the important role of grist milling in early American life is testified to by the countless towns which were founded because a mill had been established in the area. Small mills often operated as "custom mills" in which the miller ground each farmer's grain to order, keeping a small percentage to serve as the fee for the work. In areas with greater populations it was more common to find larger concerns that operated as "merchant mills." Merchant millers bought unprocessed grain and sold ready made flour and meal as separate transactions.[19] Grist mills varied in size from small family businesses to large commercial operations, and by the late 1700s milling had become an important American industry. In fact, the world's first fully automated factory of any kind

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[15] "W. H. Hartman," Warrensburg Standard Herald Weekly. Sept. 9, 1898.

[16] The History of Johnson County, Missouri, 1881, p. 424.

[17] Ibid.

[18] Ibid.

[19] From Colonial Craftsmen, (Cleveland and New York: World Publishing Co, 1965) p. 29.

was an American flour mill, designed and built by Oliver Evans in 1785.[20]

Although Evans' mills utilized the same basic method of grinding the wheat that small mills had used since Colonial times, his system of mechanizing the production process streamlined the process and reduced the amount of manpower needed to run a large mill.[21] His designs revolutionized the commercial production of flour, and he held numerous patents on automated flour manufacturing equipment. The process he perfected continued to be used in large commercial flour mills for most of the next century, and it was not until around just before the Magnolia Mills opened that the industry saw any substantial new developments.[22]

Many early American mills relied on water or wind power, the source being determined by such things as climate and topography. (Windmills were popular along the seacoast, and water mills were more common inland.) Water was the preferred power source for larger mills, and was widely used even before the invention of the water turbine in 1823.[23] Later, advances in the use of steam engines provided mills with a steady, reliable, power source and eliminated the need to locate mills near a source of running water. The Magnolia Mills were initially powered by a 60 horsepower steam engine, and continued to run on steam power well into the 20th century. Many steam powered mills, including the Magnolia Mills, operated much like water mills, in that a main shaft from the power source turned a series of gears and belt-driven wheels, which in turn operated the various pieces of mill equipment. At the Magnolia Mills, the engine room was located at the basement level on the west side of the mill, and the power shaft came through the wall into the basement of the mill. From there, belt-driven wheels transferred power to equipment throughout the building.

Because most of the milling processes depended on gravity to move the grain from one station to another, it was essential to have a system for moving grain and meal to the upper floors of the mill. The piece of equipment which was almost universally used for moving the grain upwards was the elevator (or "leg"). Elevators were made of enclosed wooden chutes which contained moving belts to which were fastened small-dipper cups. The cups scooped the up the grain or meal from a bin on a lower level and carried it to an upper floor; as the belt rounded the top and started down again, the grain was pitched out of the scoops into a bin or chute.

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[20] The Smithsonian Book of Invention, (New York: W. W. Norton and Co., 1978) p. 192.

[21] Knight Neftel, "Flour Milling Processes," Report of the Productions of Agriculture as Returned at the 10th Census, June 1, 1880 (Washington, D.C.: Government Printing Office, 1883) p. 561.

[22] "Flour Milling Processes," p. 562.

[23] "Flour Milling Processes," p. 464.

Conveyors were similarly used to move the grain in a horizontal direction; they consisted of an enclosed box or pipe in which a screw or augur was turned to move the grain along. (Because grain dust can be extremely explosive, wooden parts were used whenever possible to avoid the danger of sparks from metal.) Oliver Evans has been credited with perfecting both elevators and conveyors, as well as many other pieces of processing equipment. There are a number of elevators still in place in the Magnolia Mills, and a set of unusual round wooden "pipes" now holding up a basement shelf may have originally been conveyor shafts. (See photo 9.)

In spite of new power sources and the production advances developed by Evans, the method used to actually grind the grain changed very little before the 1870s. Regardless of the size of the mill, flour was made by grinding wheat between wheel-shaped millstones, or burs (also spelled buhrs or burrs.) The bottom stone remained stationary, and the top stone rotated, powered by the turning of a water- or steam- driven shaft. The grain was fed into an opening in the center of the top stone, and as it ground, the meal slowly worked its way out to the edges, where it was directed through a chute into a bin below. The meal was then bolted, (sifted) at which time the superfine flour was separated from the tailings. Tailings consisted primarily of the bran (the tough outer layer of the grain) and the middlings (the coarse unground part of the wheat). The tailings were bolted again and reground, but because much of the bran and other impurities remained, the second grinding often produced an inferior dark or specky flour.

Because the second grinding created a lower quality flour, the millstones were routinely "run low" (set very close together), with the goal of producing the greatest amount of flour upon the first grinding. The stones had grooves cut into them to crush the grain and to direct the meal out to the edges of the wheel, and much care was given to create the most efficient pattern for the grooves and to keep them sharp. Large mills routinely operated more than one set of stones at a time, and commercial mills were often described in terms of how many "runs" of stone they operated. The Eureka Mills, for example, was described in 1881 as having "a run of six burs," while the Magnolia Mills opened with "five run of burs."[24]

Flour making in America underwent a major transformation in the early 1870s, based upon a basic change in the way the flour was produced. The change was made possible by the invention of the "middlings purifier" which was created around 1870 and first put into commercial use in a Minneapolis mill in 1871.[25] Flour making experts had discovered that the old way of

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[24] The History of Johnson County, Missouri, 1881, p. 424.

[25] Charles B. Kuhlman, The Development of the Flour Milling Industry in the United States, (Reprint, Clifton, New Jersey: Augustus M. Kelly Pub, 1973. (First Edition, 1895, rev. 1929) p. 116.

grinding the wheat left much of the valuable glutinous parts of the wheat kernels among the middlings, which were impossible to clean well enough to produce a quality flour. (Flour high in gluten produces the best bread.) The "New Process" as it soon came to be called, involved separating the burs somewhat so that the first grinding merely granulated the wheat rather than pulverized it, after which the middlings purifier was used to create a much cleaner meal than was previously possible. Regrinding that meal produced a very high quality flour, and the overall process utilized much more of the wheat grain.

The increased quality and reduction in waste naturally meant greater profits for millers, and as one history of the flour industry put it, "the 'New Process' flour was an immediate commercial success."[26] The first man to market the new flour, George Christian, advertised it as made by patented process, and it soon came to be called "Patent" flour. Although profits gradually leveled out as supply of the Patent flour increased, the initial demand resulted in a near decade-long period of very high profits for millers, which one source credited with causing "a great boom in mill-building."[27] That boom took place in the mid to late 1870s, just about the time Hartman and Markward decided to build the Magnolia Mills, and they appear to have built their mill to use the new system. A description of the mill which was written in 1881 noted that it had, in addition to five sets of burs, two "purifiers." Middlings purifiers were hallmarks of the New Process, and would not have been at the mill unless it was running under that system at the time.

A second change in milling came close upon the heels of the New Process, that of using parallel cylindrical metal rolls instead of burs to crush the wheat. The roller process had been used with good results in Hungary, and was adapted for American conditions in Minneapolis, where the New Process had been developed. The first rolls to be tried had smooth surfaces, and were used only to reduce the purified middlings. After a few experiments, American millers developed corrugated rolls that could efficiently crush the raw wheat as well, thus completely eliminating the need for burs. Rollers were found to be far superior to burs in that they used less power, took up less space, and increased flour yields. Using rollers required sending the meal through five or six grindings, or reductions, and it came to be known as the "Gradual Reduction Process."[28] In spite of the equipment changes, the philosophy behind the roller mill was based on the changes brought about with the New Process, and one history of the industry claimed that the New Process "was but a hesitating step in the right direction" towards creating an all-roller milling

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[26] The Development of the Flour Milling Industry, p. 118.

[27] The Development of the Flour Milling Industry, p. 119.

[28] "Flour Milling Processes," p. 572.

process.[29]

The first all-roller mill in the United States was built in Minneapolis in 1878, and by 1879 one milling journal was claiming that "nearly every mill which makes any pretensions to doing nice work is now using rollers more or less."[30] Both the New Process and the Gradual Reduction Process were developed in Minneapolis, which was at the time a major milling center in the United States. The popularity of the system spread from there, and within a few years mills all over the country were using the gradual reduction process. Roller mills are still used to produce flour today.

There is every indication that Hartman and Markward kept up on those new developments, and that they utilized the latest technology in the Magnolia Mills. The mill was using the New Process by 1881, and selling "Patent" flour by 1882. In September of 1882 the partners registered patents for the design of their grain sacks, which included three kinds of flour, "Patent", "Fancy", and "Choice." (See Figure 7.) Hartman and Markward apparently kept up with the advances of the roller mills also, and they added rollers in 1882, just four years after the first all-roller mill was built in Minneapolis. A description of the business which was printed in the local paper in 1885 noted that in 1882, "among other valuable improvements, the proprietors added PATENT ROLLERS now used by all the first class mills in the country. This improvement increased the capacity of the mill to 130 barrels per day, and greatly improved the quality of the flour."[31]

The new equipment and the resulting improvement in the flour quality increased business at the mill, and the next step was to build an elevator addition. The biggest stumbling block to adding the elevator appears to have been the Missouri Pacific's reluctance to add a short spur and switch to allow rail cars to pull right up to the building. Hartman and Markward wrote to the railroad several times, offering to pay a part of the expense of laying new track "if you would put us in a switch for our mill."[32] Their initial offers were apparently ignored, and a letter dated June 1, 1883 reflects some frustration with the railroad's lack of cooperation. They wrote that since their earlier offers of $500 and then $1,000 were not accepted, they would make a final offer of $1,500 towards the cost of

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[29] The Development of the Flour Milling Industry, p. 122.

[30] The Development of the Flour Milling Industry, p. 121.

[31] "Magnolia Mills and Elevator," Warrensburg Standard Herald Weekly. Feb. 12, 1885.

[32] Johnson County Historical Society Collections. Original letter from Hartman and Markward to Maj. E. L. Mertz of the Missouri Pacific Railroad Co. June 1, 1883.

Figure Seven. Patent Application Drawing, recorded Sept. 19, 1892.

installing the switch, and asked that the railroad let them know "if you will accept this proposition or not so that we can go ahead and build our Elevator or abandon it."[33]

The third offer must have been high enough to get the railroad's attention, as they responded favorably to Hartman and Markward's offer within a few days. Construction on the elevator and side track were soon completed. In early 1885 the local paper ran an article titled "Magnolia Mills and Elevator," which noted that the elevator "was completed in 1884, and has a storage capacity of 40,000 bushels. This building stands on the newly completed side track of the Pacific railroad, and cars are loaded directly from the bins, thus saving much time and labor."[34] A few years later the partners built a large warehouse off of the back of the elevator building. The low warehouse ran along the same spur which served the elevator, and included a loading platform and iron cladding on the walls.

The mill was mapped repeatedly by the Sanborn Fire Insurance Company over the years, the first time in 1883. The Sanborn maps generally included the equipment found in the building, a feature which provides a good deal of information about how the mill was operating at the time. The equipment list from 1883 included 6 run of stone, 1 double set of rolls, 3 purifiers, 11 different bolting reels, (bolting reels were used to sift the flour), and several pieces of cleaning equipment. As mentioned, the existence of purifiers and stones indicates that the partners were using the New Process, but the presence of a set of rollers also shows that they were trying out the newest techniques as well.

The changes in the equipment list found on a map made five years later indicate that flour was being produced almost exclusively on rollers. The 1888 Sanborn map recorded that the number of burs had been reduced to one, and there were seven double set of rolls. Mr. John Innes, who bought the mill in 1933 and has been working there ever since, remembered that the old mill stones were once visible beneath the support posts in the basement, and they may have been used as footings in the warehouse, which was built about the time the mill was converted to rollers.[35] The map also showed that the bolting reels had been replaced by scalpers and centrifugal reels, which were recent inventions that sifted the flour more efficiently. Dust collectors to reduce the hazard of explosion had been added as well.

The same map revealed that the grinding of corn was becoming more important to the business. The mill had advertised for corn and wheat from its earliest days of operation, but flour production had been emphasized and the business was generally referred to as a flour mill. Although the mill continued to concentrate on flour production, the grinding of corn

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[33] Ibid.

[34] "Magnolia Mills and Elevator," Warrensburg Daily Standard. Feb. 12, 1885.

[35] Interview with Mr. Innes, 5/21/96.

appears to have slowly taken a larger role as the years went by. The equipment list of 1888 included a corn sheller, and it may be that the remaining run of stone was reserved for grinding corn. The partners continued to add corn processing equipment, as shown by this notice from the mill which ran in an 1897 newspaper: "Having put in a line of machinery for removing rat filth and scouring and polishing our corn, we can furnish you with meal that cannot be excelled."[36] The Sanborn map of the mill which was made in 1898 recorded the addition of a "three high corn roll", a corn meal purifier, and a corn scourer, indicating that corn processing was becoming more important, and that roller technology was being used for corn meal as well as flour by then.

The increase in corn meal production may have been spurred by the fact that more corn was being grown in the county. Although both corn and wheat were grown with great success in Johnson County in the 19th century, wheat was the leading crop in the county when the mill was built. A promotional pamphlet which was put out by the nearby city of Holden in the mid-1880s boasted that "Johnson County is pre-eminently the wheat county of the State if not the Union. In the years 1882, 1883, and 1884 Johnson County produced more grain than any county in the United States."[37] Corn slowly took precedence, and by the turn of the century it represented nearly 2/3 of the county's total agricultural output. The corn crop of 1902 was valued at $2,022,955, and wheat came in a distant second at $667,675.[38]

Hartman and Markward ran the mill together for nearly 20 years, and were known for their active participation in its operation. They were described in 1885 as "thoroughly identified with the grain interests of the county. The mill is under their direct supervision, it receiving, in its various departments, their entire attention."[39] Their efforts obviously paid off; one source noted that they "acquired wealth rapidly. The plant has been improved from time to time until now it is one of the best milling plants in Western Missouri."[40] As the mill became established, the partners began to diversify their business holdings, and they became a major power in the business community. In 1898 the local newspaper credited the partners with having "done more to build up the town than any

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[36] Clipping on file with the Johnson County Historical Society, Oct, 1897.

[37] "Brief Sketch of Holden and Johnson County, Missouri: A County That is an Empire Within Itself." Pamphlet by Enterprise Printing, Holden, MO, ca. 1880s, p. 5. (From the library of the State Historical Society of Missouri.)

[38] Walter Williams, The State of Missouri: An Autobiography, (Columbia: E. W. Stephens Press, 1904) p. 416.

[39] "Magnolia Mills and Elevator," Warrensburg Daily Standard. Feb. 12, 1885.

[40] "W. H. Hartman," Sept. 9, 1898.

two other men in the city."[41]

County deed records show that the partners began buying up land in the city in the late 1880s, including several parcels located close to the mill building. They bought the property directly east of the mill in October of 1888, and the lot on the opposite corner in January of 1889. On the land opposite they built the Magnolia Opera House, a still extant building which hosted community theater and traveling troupes well into the 20th century.[42] (See photo 4.) Isaac Markward was active in the operation of the opera house in later years; a directory of the city which was published in 1901 included engraving of both the mill and the opera house, and listed Markward as the manager of the opera house.

The ground floor of the opera house building contained a shop which sold Studebaker wagons and buggies, as well as gasoline engines and "implements."[43] Hartman and Markward were apparently selling Studebaker brand wagons from the very beginning; the photo of the mill which was taken before the elevator was added shows a Studebaker sign tacked up onto the wall by the east door of the mill. (Just visible in photo 13, but relatively clear in larger prints.) The 1893 Sanborn map recorded an agricultural implement warehouse and office on the lot the partners owned due east of the mill, and it would seem likely that that building was used to store the wagons and other goods which were sold in the shop across the street.

**Figure Eight.** Isaac Markward. (From an undated photo in the Johnson County Historical Society Library.)

The partners were also involved in bringing electricity to Warrensburg, and in 1893 the Magnolia Light, Heat, and Power Company was incorporated. The power plant was located just one block east of the mill, at W. Pine and Warren Streets, and one early source boasted

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[41] Ibid.

[42] Mrs. Stella Christopher, who was born in Warrensburg in 1906, remembered going to see numerous productions in the theater, and the Johnson County Historical Society has a collection of early programs from the Opera House.

[43] A photo of the opera house from the Johnson County Historical Society collections shows the advertising signs ground floor shop very clearly.

that it could power 6,000 lights.[44] The partners installed electric lights in the mill soon after, replacing the old lard and coal oil lamps which had been in use since the early 1880s. The machinery of the mill however continued to run off of steam engines until the 1940s.[45] Other business ventures the two were involved in, either separately or together, include the Home Town Mutual Insurance Company, the Commercial and Citizen's Banks, and the Board of Trade.[46]

The partnership was abruptly terminated by the untimely demise of Mr. Hartman late in 1898. The front page headline in the local newspaper on Sept. 9, of that year read: "AWFUL TRAGEDY, W. H. Hartman Shot To Death Monday Night, BY AN ENRAGED HUSBAND."[47] Apparently Mr. Hartman, a married man himself, was in the wrong place at the wrong time, and paid for it with his life. The paper called the killing "the most sensational tragedy that ever occurred within the history of Warrensburg", and devoted several front page columns to descriptions of the crime and the funeral which followed. There was also a long obituary which emphasized his many achievements, and a plea that the readers "draw a veil of charity over the cause and the events leading up to it. Let us remember him as he was--bright, scintillating, full of business push and activity."[48]

As if poor Mrs. Hartman had not been through enough, a protracted legal battle over ownership of the mill followed. There was some disagreement as to how Hartman's share of the mill business should be handled, and the matter was not settled for almost two years. Finally, Isaac Markward became the sole owner of the mill property on October 8, 1900, having bought Hartman's wife and children's interest in the business at a partition sale.[49] Markward ran the mill for only three more years, and in September of 1903 he sold the property to the Magnolia Milling and Investment Company, a corporation which was formed expressly to purchase the mill.[50]

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[44] Johnson County Historical Society, The Golden Years, (Clinton: The Printery, 1970) p. 92.

[45] Interview with Mr. John Innes, 5/21/1996.

[46] "Death of Isaac Markward," and "W. H. Hartman."

[47] "W. H. Hartman."

[48] Ibid.

[49] "Abstract of Title to Lots 223, 224, 225, 226, 227, and 228, Holden's Second Addition to Warrensburg." Compiled by G. W. Patton Abstract and Title Co., Warrensburg, MO.

[50] Ibid.

After 24 years of operating the mill, Markward apparently felt the need to make a formal goodbye to his customers, and he wrote a long final statement for publication in area papers. It began:

> "having sold out my mill property and gone out of business, I feel it incumbent upon myself to express my gratitude for the liberal patronage and universally kind treatment that I have received from the people of this community while in business for myself and prior thereto with my partner W. H. Hartman, and it is with a feeling of regret that I sever my relations with my old mill property."[51]

Markward remained active in the Warrensburg business community until his death (of natural causes) in 1915. He is known to have built several small houses in town after he sold the mill and his obituary noted that he had "accumulated a goodly share of the goods of this world and at the time of his death owned a great deal of rental property in the city."[52] Longtime Warrensburg resident Stella Christopher remembered Markward from her childhood; she described him as "an entrepreneur" who was well known in the community. She especially remembered his funeral, which included an elaborate procession with a large brass band, something he had expressed a desire for when he was alive, and which seems fitting for a man who spent so many years as a public figure.[53]

The farewell statement that Markward had written when he sold the mill also contained a long description of the Magnolia Milling and Investment Company, including the business backgrounds of all five of the stockholders. Two of the men, president Daniel Bullard and H. F Kirk, had spent the previous 16 years working for the Waggoner-Gates Milling Co., of Independence, Missouri. Bullard had been "in charge of the office," and Kirk was the company's leading salesman. Those two men played the most active role in running the mill during the next 15 years, and both spent the rest of their lives in Warrensburg.[54] The other three owners of the company were longtime Johnson County residents with strong backgrounds in milling, two were from Holden and one from Chilhowee. The man from Chilhowee, vice president of the firm W. H. Hagemeyer, must have been fond of the name "Magnolia." In 1896 he founded a town named Magnolia about 15 miles southwest of Warrensburg.[55] Magnolia, Missouri no longer appears on highway maps, but it is known to have prospered for at least a couple of

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[51] "Magnolia Mills of Warrensburg Sold," Chilhowee News, Sept. 18, 1903.

[52] "Death of Isaac Markward," and interview with Stella Christopher.

[53] Interview with Mrs. Christopher, 5\21\1996.

[54] Interview with Stella Christopher.

[55] Johnson County Records, Plat Book 3.

decades. There was a flour mill there by 1900 which was still in operation in 1918.[56]

The mill continued to do well under the ownership of the Magnolia Milling and Investment Company, and during their 15 year tenure, the warehouse was enlarged and a second elevator building was erected. According to Sanborn maps, the warehouse was enlarged sometime before 1907, and the elevator building was in place by 1914. There were few changes in general milling technology during that time which would have called for major equipment changes, and Sanborn equipment lists show no major changes. However, new locations for many types of equipment do indicate that operating procedures were routinely upgraded, and the total capacity of the mill was raised slightly, from 250 to 300 barrels per day.

The mill changed hands again in April of 1918, when it was sold to the Warrensburg Mills, another newly formed corporation. Although Bullard and Hagemeyer served on the new board of directors, each owned only one share of new stock each, and the major stockholders of the new company were from Kansas City or further west. Controlling interest in the company was held by president J. L. Rodney of Abilene, Kansas, and Otto Lehrick, of Kansas City. Although St. Louis was the leading milling center in Missouri when Hartman and Markward opened the mill, the center of the milling industry in the area had shifted westward to Kansas City by the time the Warrensburg Mills took over. Kansas had been the leading wheat producer in the country since 1892, and the hard "Turkey Red" wheat being grown there is credited in part with that shift, especially after the gradual reduction process made milling it easy and profitable.[57]

The new millers from Kansas apparently undertook a major remodeling project which included enlarging the mill portion of the building. The fourth floor was added during their tenure, probably right after they purchased the property. A partial set of scaled drawings of the complex, dated November 30, 1918 has survived, and it includes a cross section of the mill area drawn with four floors above the basement level. (See Figure 4.) It is likely that those drawings were done to record current conditions as well as guide remodeling and new construction. The drawings show more than 80 separate pieces of equipment, not including conveyors and bins, and illustrate how the power was distributed throughout the complex. Unfortunately, the equipment is indicted by symbols and numbers only, and no identification key has survived. The changes did apparently increase the production capacity of the mill; the 1924 Sanborn map of the building stated the capacity at 850 barrels of flour per 24 hours.

The Warrensburg Milling Company owned the business only three years, and in 1921 the Rodney Milling Company took over the operation. Although the Rodney Milling Company was incorporated in Delaware, it seems likely

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[56] History of Johnson County, Missouri, 1918, p. 247.

[57] The Development of the Flour Milling Industry, pp. 191-204.

that Warrensburg Mills president J. L. Rodney was a principal of the new firm.[58] Rodney was still president of the company when the transaction took place, and it is likely that the ownership change represented more of a corporate restructuring than a major shift of ownership.

In spite of the ambitious remodeling project and the change of ownership, the mill experienced a serious decline in the late teens and early 1920s, and fell into disuse.[59] The Warrensburg Mill was not alone; small mills in general were having a hard time competing with the extremely large commercial mills which were operating in Kansas City and other major milling centers. One of Kansas' most noted millers was quoted as saying in 1910 that a mill producing less than five hundred barrels a day would have a hard time surviving in the increasingly centralized industry.[60] This was not just a regional trend; small mills were going out of business all over the country. U. S. Census figures show that between 1919 and 1929, the value of goods produced by the flour and grist milling industry nearly doubled, while the total number of mills in operation dropped sharply, from 10,708 to 4,022.

Although the mill was operating in 1924 when mapped by the Sanborn Company, it had been shut down by the time it was again sold, in 1926. The new owner, Jesse Culp, was a longtime area resident who had a family background in the milling business. Jesse Culp had practically been raised in a mill; in 1888 his father, John Culp, bought the small Elevator Mill that had opened the same year Hartman and Markward opened the Magnolia Mills in 1888. John Culp ran that mill, later with the help of his son Jesse, until his death in 1905, after which Jesse took over the business.[61] Ironically, Hartman and Markward appear to have had some business relationship with the elder Culp around the turn of the century. A city directory published for 1895-96 claimed that the mill owned by Culp was "operated by Mssrs. Hartman and Markward," who were also given ample credit for their Magnolia Mills operation.[62] Real estate tax records show that John Culp still owned the property at that time, so it is not clear why Hartman and Markward were involved. In any event, it does not appear that they ran Culp's mill for any significant period of time, and Jesse Culp is known to have owned and operated it until 1918 or later.[63]

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[58] Johnson County Records, Deed Book 208, p. 510.

[59] The Golden Years, p. 90.

[60] The Development of the Flour Milling Industry, p. 200.

[61] History of Johnson County, Missouri, 1918, p. 517.

[62] City Directory of Warrensburg, Missouri 1895-96, pp. 15-16.

[63] History of Johnson County, Missouri, 1918, p. 211.

Although he had been trained as a flour maker, Culp understood the changing market needs of the day, and he removed all flour making equipment from the Magnolia Mills building shortly after he bought it in 1926. Culp converted the property into a feed mill, a function it has kept into modern times. He remained involved in the milling business in Johnson county all of his life, and owned both the Magnolia Mills building and half interest in a mill in nearby Knob Noster when he died around 1932.[64] Culp's death resulted in the final change of ownership the mill has seen, and in 1933 the mill passed into the hands of the Innes family; it operates today as the Innes Elevator Mills. John Innes, who still spends time working at the mill, came to Warrensburg in 1933, shortly after receiving a degree in Civil Engineering. The purchase of the mill was backed by his father, who had been operating flour mills in the Kansas City area for many years. John's brother Richard soon joined him in the Warrensburg business, and the mill remains a family operation today.

The Innes brothers operated the mill in the original buildings until the late 1940s, when the new mill and elevator were built onto to the rear of the property. Construction of the newer section was quite an undertaking; the tall new concrete elevator was built using a slow continuous pouring of concrete which went on 24 hours a day for an entire month. Much of the day-to-day milling operations were transferred into the new part of the building soon after, and the original portions of the mill and elevator were gradually phased out of operation. The business office for the Innes Elevator Mills remains on the ground floor of the original Magnolia Mills, and the new "Magnolia Mill Feed Store" operates in the center of that floor. There are plans to rehabilitate the building for adaptive reuse as a physical fitness center, and the deterioration it is currently experiencing will soon be reversed.

The Magnolia Mills building has hosted a milling operation for nearly 120 years. The changes it has experienced over time are the result of a natural progression, and have had little effect on the historic fabric of the original building. The 1940s addition has actually served to protect the integrity of the older part of the building by housing the ever-changing equipment of a modern feed mill. The massive building which today looms over East Pine and Washington Streets has changed remarkably little in the more than 100 years it has occupied that corner, and it appears today much as it did when wagons lined the street as local farmers waited to exchange their grain for flour and meal.

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[64] Property Abstract.

"Abstract of Title to Lots 223, 224, 225, 226, 227, and 228, Holden's Second Addition to Warrensburg." Compiled by G. W. Patton Abstract and Title Co., Warrensburg, MO.

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Interviews.
Stella Christopher, longtime Warrensburg resident, 5/21/1996
John Innes, owner of Magnolia Mills property 1933-1990s, 5/21/1996

**Verbal Boundary Description**

All of lots 223, 224, 225, 226, 227, and 228 of Holden's Second Addition to Warrensburg, measuring 300 feet along West Pine Street and 140 feet along Washington Avenue.

**Boundary Justification**

The current boundaries encompass all of the land associated with the mill operation during the period of significance.

**Photographs**

The following information is the same for all photographs:

Magnolia Mills
200 W. Pine St.
Warrensburg, Johnson County, MO
Debbie Sheals
April, 1996
Negatives on file with Debbie Sheals

**List of Photographs**

See Site and Floor Plans for indication of camera angles.

1. Entire complex, looking southwest from Washington Ave.

2. Northeast corner, original mill and elevator.

3. Southeast corner, elevator in foreground, warehouse to left.

4. South elevation of elevator, Magnolia Opera House in background, behind RR crossing sign.

5. Southwest corners, from railroad tracks.

6. Northwest corner, from W. Pine St.

7. Third floor of original mill, trap doors on right, belt-driven wheels for equipment in upper left.

8. Second floor, with original beams and wall sheathing, elevator shafts in center, background.

9. Basement of original mill, base of same elevators seen in photo 8. Round wooden supports in center of rear shelving unit are hollow, and may have been conveyors.

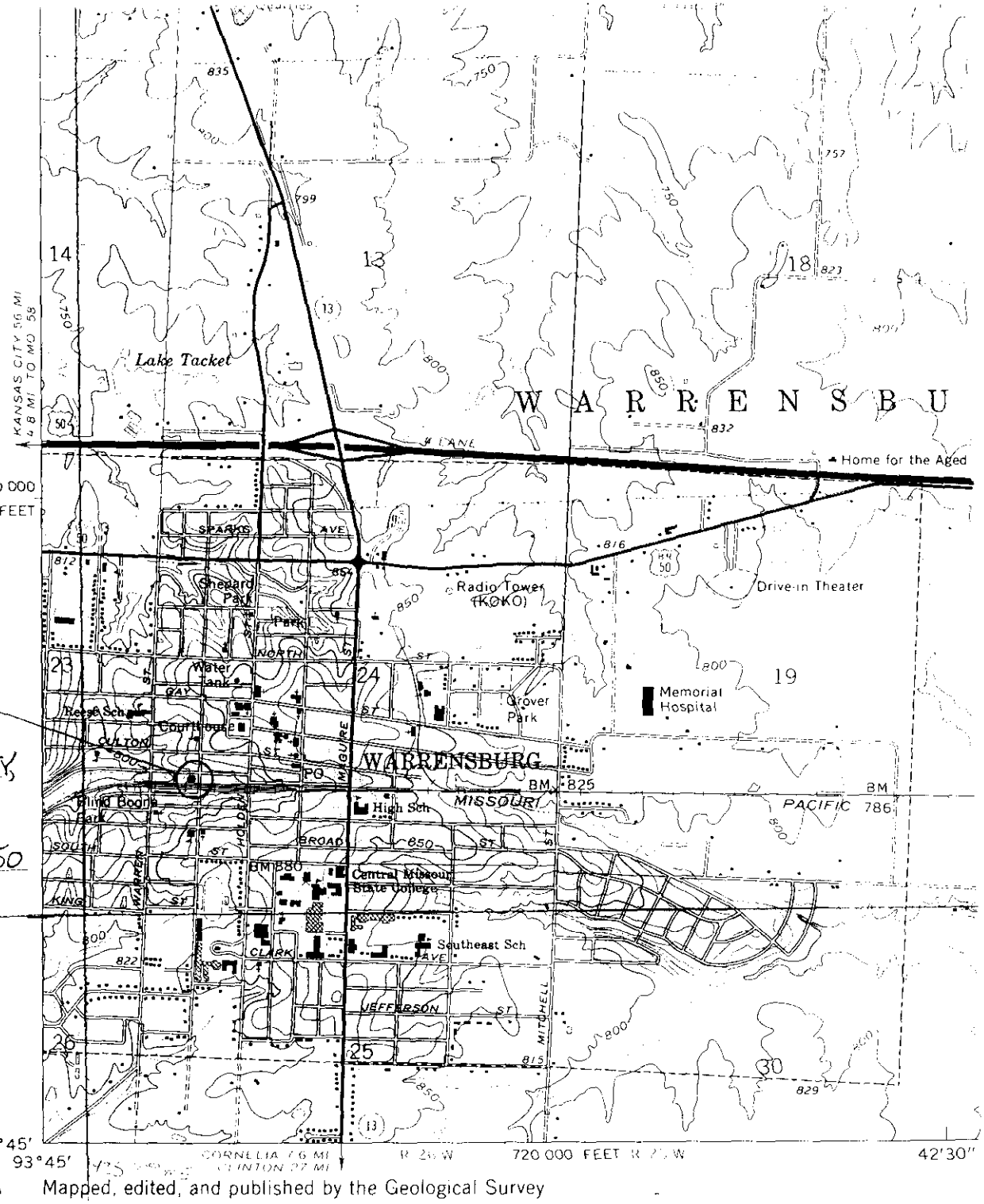
10. Ground floor of elevator building, note massive supports for bins above, and chutes from bins in ceiling.

11. Interior of grain bin in elevator, crib construction walls.

12. Interior of warehouse, looking southwest.

13. Entire complex, looking northeast from railroad tracks.

14. Early photo postcard of the mill taken ca. 1880.




MAGNOLIA MILLS

WARRENSBURG, JOHNSON COUNTY, MISSOURI

UTM REF. 15/435450/4290550

(CENTERVIEW)

Mapped, edited, and published by the Geological Survey

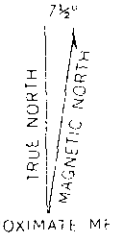
Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1958. Field checked 1962

Polyconic projection 1927 North American datum
10,000-foot grid based on Missouri coordinate system, west zone
1000-meter Universal Transverse Mercator grid ticks, zone 15, shown in blue

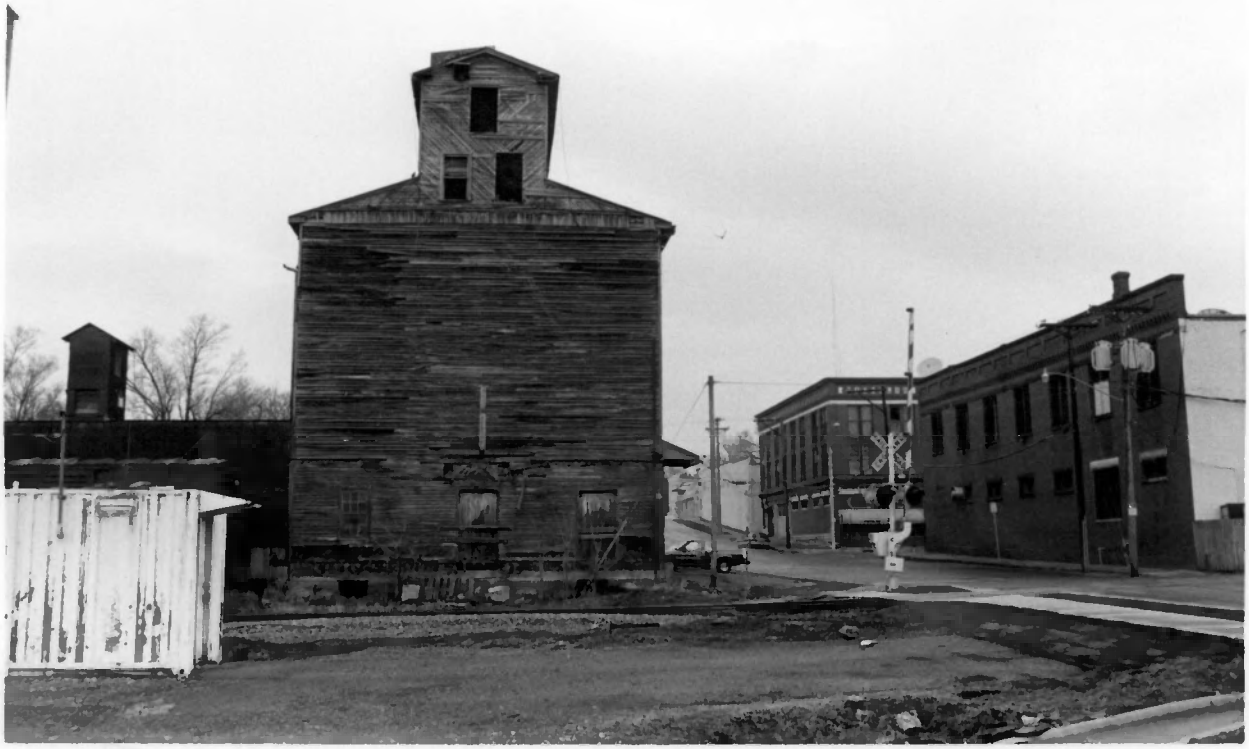
Red tint indicates area in which only landmark buildings are shown

Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked

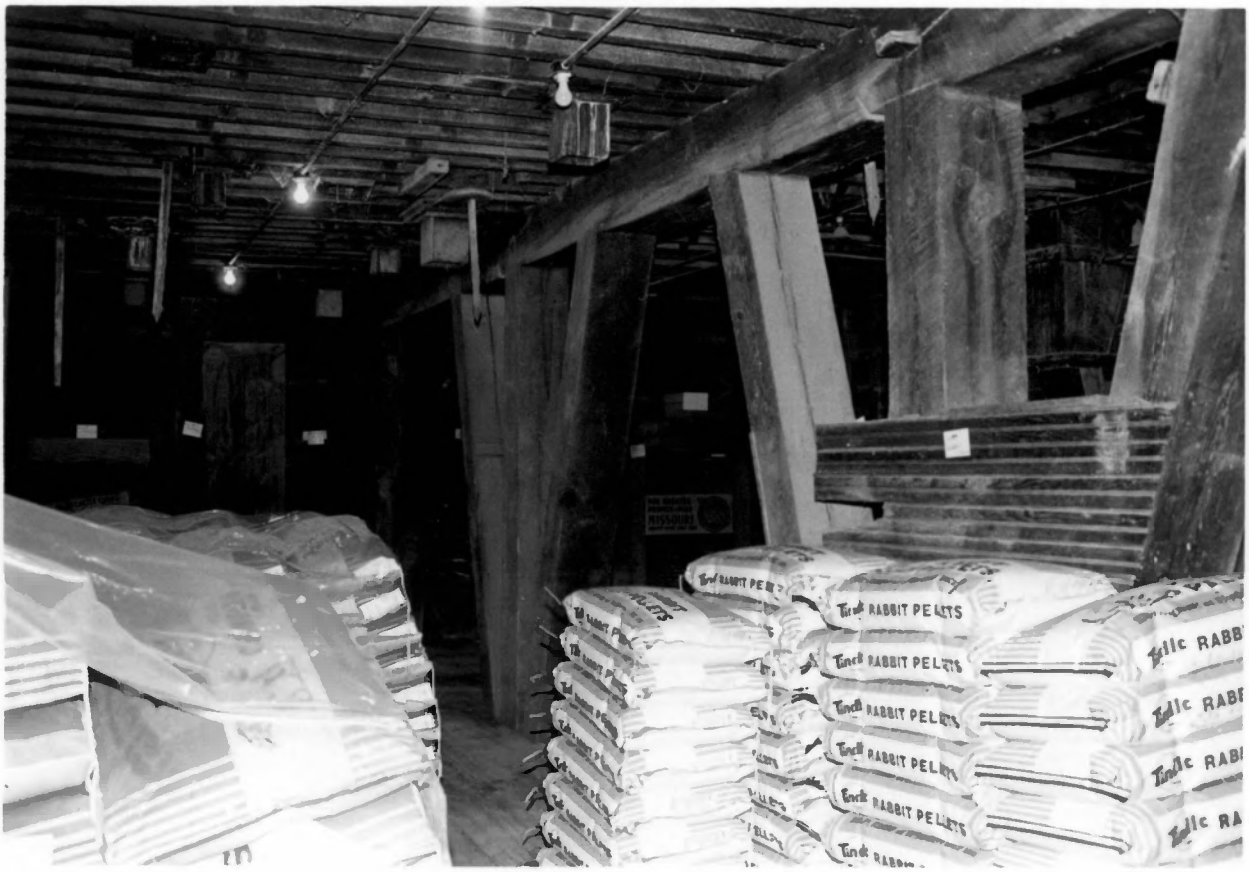



APPROXIMATE MEAN DECLINATION, 1962


FEED STORE
FEED STORE




FEED STORE
STOP

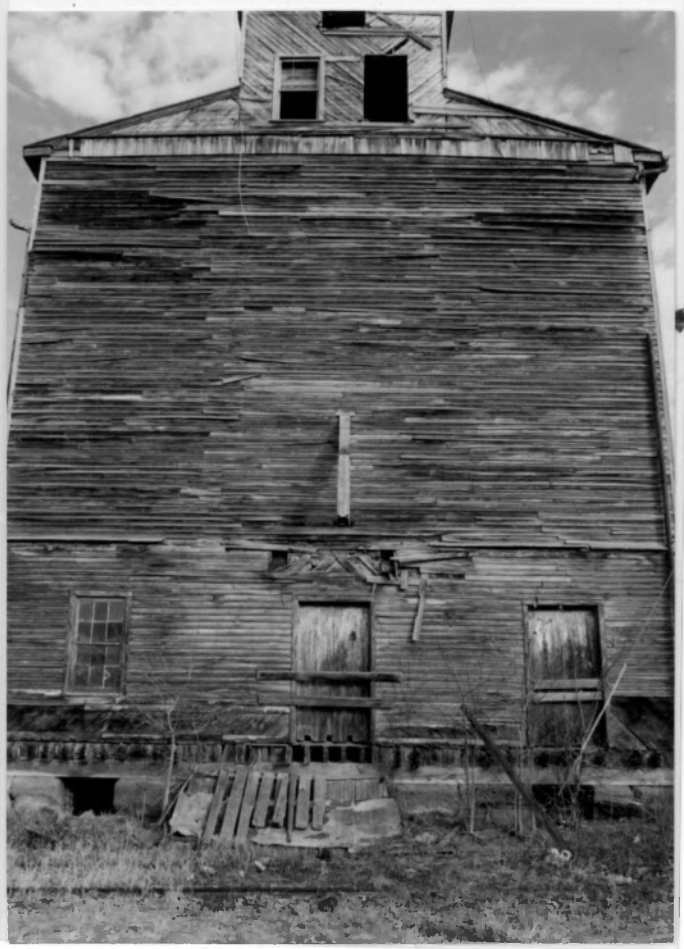

RABBIT PELLETS

EXTRA

PHOTOS


MAGNOLIA MILLS.
MAGNOLIA


FEED STORE




Magnolia Mill
FEED STORE
Farm And Pet Food
PRO PAC
AFFORDABLE PREMIUM