96 - 014

REPORT ON
THE HISTORY AND STRUCTURE
of the
CITY STONE MILL
in
DECORAH, IOWA

Leonard E. Wolf
Architectural Collection

Submitted to

Mr. L.M. Patten

Professor of Architecture

Iowa State University

Ames, Iowa

By

Robert D. Speer

Architecture 352

Iowa State University

February 15, 1960

Ames, Iowa

TABLE OF CONTENTS

	Page
INTRODUCTION	1
Object of the report.	2
Abstract.	2
Scope of report	2
Sources of information.	3
Conclusions	3
Recommendations	3
REPORT ON THE HISTORY AND STRUCTURE OF THE CITY STONE MILL IN DECORAH, IOWA.	4
I. Nature of the problem.	5
II. History of the building.	5
Early history	5
Later history	6
Recent history.	6
Points of interest.	7
III. Description of structure	8
Exterior appearance	8
South elevation.	8
North elevation.	9
West elevation	9
East elevation	11
Materials	11
Interior structural system.	12
Basement	12
First floor.	13
Second floor	13
Third floor.	14
Shed roofs	14
IV. Conclusions.	15
V. Recommendation	15
APPENDIX	16
A. Drawings of building	
B. Photographs of building	

INTRODUCTION

OBJECT OF THE REPORT

The Iowa Society for the Preservation of Historical Landmarks is a volunteer organization interested in preventing the needless destruction of Iowa buildings which are examples of the architectural styles and achievements of the state's early history. This report is the result of a study of the City Stone Mill in Decorah, Iowa, and is intended as reference material for the society.

ABSTRACT

Section I, "Nature of the Problem", states that the problem is to secure information, which may be used to wage a battle against the destruction of the mill in case such a movement should get started.

Section II, "History of the Building", tells of the founding of the mill by William Painter in 1851 and traces name changes, ownership changes, alterations in physical structure and the various uses of the building up to the present.

Section III, "Description of Structure", describes the physical structure as being constructed of native limestone around a post and beam framework and in the style learned by its builder and used by his ancestors in Norway.

SCOPE OF REPORT

This report is not meant to be a highly technical paper nor is it intended to analyze the building from the standpoint of plumbing, heating or any economic angle. It is merely intended to give information from which the society may be able to decide whether the structure is worth saving as an example of an architectural achievement of Early Iowans.

SOURCES OF INFORMATION

Sources of information for the report include: (1) personal interview with Mr. and Mrs. Carl Myrah who do custom grinding of feed in the mill now; (2) W.E. Alexander, History of Winneshiek and Allamakee Counties, Iowa, 1882; (3) Atlas of Winneshiek County, Iowa, 1905; (4) Charles H. Sparks, History of Winneshiek County, with Biographical Sketches of its Eminent Men, 1877; (5) Edwin C. Bailey, Past and Present of Winneshiek County, Iowa, 1913; (6) Decorah Journal, June 6, 1949 and (7) Decorah Journal, June 9, 1949. These sources were supplemented with a set of plans for the building and visits to the building for the purpose of photographing it.

CONCLUSIONS

The conclusions of the study are:

1. That the mill is valuable as an example of the type of structure used in a business which helped build the state and has now all but disappeared.

2. That the building is in no immediate danger of being torn down as it is still structurally sound and is in active use.

RECOMMENDATION

The recommendation of the report is that the society should explore the possibility of moving the Norwegian Museum into the mill if the building is ever in danger of being torn down.

REPORT ON
THE HISTORY AND STRUCTURE
of the
CITY STONE MILL
in
DECORAH, IOWA

NATURE OF THE PROBLEM

The Iowa Society for the Preservation of Historical Landmarks is an organization of people who are interested in preserving old Iowa buildings which are good examples of the architectural styles and achievements of the state's early history. These people collect information on worthwhile structures and keep the information of file to be used as reference material for anyone desiring information of this nature. The file may also be used in attempts to keep these structures from being torn down. In this report the City Stone Mill of Decorah, Iowa, is analyzed from the standpoint of history and construction.

HISTORY OF THE BUILDING

The history of the mill was obtained from source material in the Decorah public library and through a personal interview with the present proprietors of the mill. In some instances the source material was contradictory. Those cases are noted in the text of the report.

EARLY HISTORY

The City Stone Mill is located at 200 North Mill Street in Decorah, Iowa. Decorah is on the Iowa River in Winneshiek County in the extreme northeast corner of the state. The mill was built in 1851 by William Painter who was one of the first two settlers in Decorah. Painter came to Iowa in 1849 from Painterville, Ohio, where he had learned the

milling trade which he started in Decorah along with a mercantile business. The original structure was used as a gristmill and was built with the help of a man by the name of Philip Morse. It was originally known as the Painter Mill and was the first industry in the town.[1]

LATER HISTORY

In later years the mill changed hands several times. Painter operated his business until 1865 when the post-Civil War depression caused him to sell out to Henry Heivly who continued the gristmill operations. The Heivly Mill became the Ammon, Greer and Company Mill in 1870 when John Greer and John Ammon bought the building and operated it as a "mill, foundry and agricultural manufactory".[2] That business came to an abrupt halt in 1880 as the result of a poor run of wheat. Business dropped well below the profitable level when the flour made out of the poor wheat proved unusable.[3] Heivly bought the mill back and continued the flour milling operation.

RECENT HISTORY

Heivly operated the mill until the present owner's family bought it around 1900. William Bernatz bought the business and it is currently known as the Bernatz mill or City Stone Mill. Mrs. Josephine Bernatz inherited the mill when William died and is still the active owner. The Decorah Feed Mill is now housed in the building and is

---

[1] Decorah Public Opinion, June 6, 1949.
[2] Decorah Journal, June 9, 1949.
[3] Bailey, E.C., Past and Present of Winneshied County

engaged in the custom mixing of feeds. Art Blegen and Carl Myrah operate the business.[4]

POINTS OF INTEREST

The City Stone Mill has been in continuous operation for 109 years and up until 1948 it was run entirely by water power. This is believed to be the last mill in Iowa operated completely by that means. The mill was changed over to Diesel power in 1948, although the river still offered plenty of power. The water rights had to be given up to make way for the Dry Run flood control project. In 1949 the program was put into operation and diverted the river's course away from the mill. Since the change to Diesel power, an office has been built over what was the millrace.

In conjunction with the survey of the mill it was learned that the Norwegian Museum is housed in a condemned building which is located a block south of the mill. This information is included in the report for its future value in case the mill should face destruction because of lack of functional use or for some other reason which would not keep it from being used as a museum.

---

[4]Myrah, C., present proprietor of the City Stone Mill, personal interview.

[5]This information was obtained from the Decorah public librarian.

DESCRIPTION OF STRUCTURE

EXTERIOR APPEARANCE

South Elevation

In its end elevations, the mill resembles a large symmetrical barn with a high central mow flanked on either side by lower sheds. The shape reflects the Scandinavian influence demonstrated in many of the mills in that area of the state. The central highpoint is 43 feet above ground level. This central roof has a slope of 1 to 2. The high portion is 26 feet wide and the shed roofs tie into the high walls 27 feet 4 inches from the ground. Each shed roof slopes at the rate of 1 to 2. These sections each add 13 feet to the width of the building giving the end elevations a total width of 52 feet.[6]

The fenestration of the south elevation is as symmetrical as the basic shape of that side. There are 10 double hung windows arranged so that there are four 18-light windows on each of the first 2 floors and two 8-light windows on the third floor. The lights in the first and second floor windows are 8 inches by 10 inches and the lights in the third floor windows are 12 inches by 14 inches. The windows are arranged in a vertical pattern with 5 on each side of the wooden door which is in the middle of the elevation. The 2 middle windows of the first 2 floors are spaced 14 feet apart and the other windows on those floors are 7 feet in from the corners. The two top windows are in line with

---

[6] See plate 1 in appendix.

the 2 middle windows. The sills of the windows are 3½ feet, 12 feet and 23½ feet from the ground. The office, which was built about 1950, blocks out the 2 lower west windows and is a 15 foot by 20 foot brick structure with a hipped roof. This addition is out of character with the rest of the building and is considered only briefly in the report.[7]

North Elevation

The north elevation is identical with the south end except for the door and the window arrangement on the first 2 floors. The door is 4 feet off center toward the west and takes the space where a window would be if the pattern on the south end were followed. From there on the pattern is the same except that there is a row of 4 smaller stationary windows between the second and third floor levels. These windows each have 6 lights. The 13 windows on this elevation are a different size at each level. First floor windows are stationary and have four 12 inch by 18 inch lights. Second floor windows are double hung and have twelve 8 inch by 10 inch lights as do the small windows between the second floor and the third floor. The third floor windows are identical with those on the south elevation.[8]

West Elevation

The east and west elevations differ only in fenestration and door placement. These elevations are 59 feet long.

---

[7] See plate 1 in appendix.
[8] See plate 1 in appendix.

A. DRAWINGS OF THE BUILDING

The shed roof starts its slope 20 feet above the ground. The wall on the high portion is 7 feet from the high side of the shed roof to the eave of the high roof. Starting with the fenestration in this high wall on the west elevation, there are 4 equally spaced double hung 8-light windows. Each light is 12 inches by 14 inches. Below the eave of the shed roof there are 10 windows of 5 different sizes. Just below the eave there are 3 stationary 6-light windows equally spaced for 44 feet from the north end of the building. They have 12 inch by 10 inch lights and are spaced 9 feet apart. Spaced equal distance from the last of the 3 small windows is a double hung 18-light window with 8 inch by 10 inch lights. The sill of this window is 12 inches above the second floor line. The second floor cuts across t e next row of three windows at their parting stops. These are double hung 12-light windows with 8 inch by 10 inch lights.

On the first floor there are 2 stationary 4-light windows with 12 inch by 18 inch lights and one stationary 4-light window with 12 inch by 20 inch lights. The north window on this level is 9 inches above the concrete loading platform. The last window at the first floor level is 13 feet from the south end of the building and is 4 feet 2½ inches above the platform. The door and windows on this elevation are in vertical alignment, which gives the west elevation a pleasing appearance even though the windows are all different sizes and not aligned horizontally.[9]

---

[9]See plate 1 in appendix.

East Elevation

The east elevation is full height from the basement on its north end as the river has cut away the earth exposing the foundation down to the basement floor level. The tail-race was on this side and the structure which covered the turbines is still there, although it is in bad repair. This structure is 33 feet 9 inches by 15 feet 1 inch and is 7 feet 10 inches from ground to eave. The roof is a shed type and slopes 2 feet 2 inches in the 15 foot 1 inch run. The building has two stationary windows spaced 9 feet from each end. They are 2-light windows with 12 inch by 20 inch lights. There is a door into the room on its south elevation and another stationary window on the north elevation.

There are two windows in the high wall spaced 8 feet from each corner. These are double hung 8-light windows with 12 inch by 14 inch lights. Below the eave of the shed roof on the mill proper, the windows are the same as on the opposite elevation. The turbine shack blocks out two of the windows and the door, but they still open into the shack. The lower south window and t e door are interchanged as compared to the arrangement on the west elevation. The large south window is blocked out. On the north end of the elevation there is a door which opens into the basement. The header on the door is 5 inches below the first floor line.[10]

MATERIALS

The exterior of the mill is composed of limestone, shiplap siding, wooden shingles, drop siding, concrete

---

[10]See plate 1 in appendix.

foundation, and mule hide roofing. Native limestone is used to face the mill all around from the first floor level to the eave line of the shed roof. From the eave line on up to the peak 8 inch drop siding is used. The turbine shack has an 8 inch shiplap exterior with a mule hide roof. Wooden shingles are used to roof the rest of the mill with the exception of the office, which has asphalt shingles. Stone lintels are used over the window and door openings. Concrete is used in the loading platform, millrace and foundation wall.[11]

INTERIOR STRUCTURAL SYSTEM

The interior is broken up into 4 floor levels: basement level with a ceiling height of 11 feet 2 inches, first floor with a ceiling height of 11 feet, second floor with ceiling height of 10 feet, and third floor with a ceiling height of 15 feet 9 inches.

Basement

The basement has a dirt floor and housed the original Painter wheel. This means the course of the millrace was through the basement in an arc with a radius of 32 feet from the southeast corner. There are three 6 foot arched openings in the south wall through which the river flowed in its original course. These openings are blocked out in the present building. The stairway leading to the first floor

---

[11]See plate 1 in appendix.

is located in the northeast corner. There are two windows in the basement. One is on the west side 7 feet 4 inches from the northwest corner and the other is 18 feet 10 inches from the same corner on the north side. Both windows are stationary and have four 20 inch lights.[12]

First Floor

The first floor is supported by 10 inch by 10 inch and 8 inch by 12 inch oak posts set on concrete footings. Fir beams 14 inches by 14 inches and 12 inches by 12 inches carry 2 inch by 12 inch floor joists spaced 16 inches center to center. The posts are arranged in 3 rows and are spaced at distances varying from 6 feet to 9 feet. The wall ends of the beams are recessed into and are supported by the stone walls. The floor is made of 13 inch by 16 inch by 8 inch pine blocks. This floor held the original stone burrs and holds the present milling equipment. The stone wall tapers from 30 inches at the first floor level to 24 inches at a level 7 feet above the floor.[13]

Second Floor

The second floor is supported by 12 inch by 12 inch fir posts and 14 inch by 14 inch fir beams. The posts are arranged in the same general pattern as those in the basement, but these are spaced from 9 feet 4 inches to 16 feet 9 inches. The flooring is a single thickness of 13 inch by 16 inch by 6 inch fir blocks laid over half inch by 4 inch oak strips.

---

[12]See plate 2 in appendix.
[13]See plate 2 in appendix.

The stairway to this floor is in the northeast corner. This floor contains storage bins and additional milling equipment.[14]

Third Floor

The third floor is supported by 10 inch by 10 inch oak posts and beams spaced from 9 feet to 24½ feet center to center. The 2 inch by 8 inch floor joists are notched into the beams and are spaced 16 inches center to center. This floor area is cut down to 24 feet by 58 feet because of the lower shed roofs on either side. The floor is made of 1 inch by 6 inch and 1 inch by 8 inch fir strips. Chamferred 8 inch by 8 inch oak posts and 6 inch by 6 inch oak beams support the roof rafters. The rafters are 2 inch by 6 inch members spaced 24 inches center to center. The walls are constructed from 2 inch by 6 inch studs resting on 12 inch by 6 inch plates and spaced 24 inches center to center. There is no inside finish over these studs. The stairwell is along the west wall and 12 feet from the south wall.[15]

Shed Roofs

The shed roofs are supported on 2 inch by 6 inch rafters spaced 16 inches center to center. The ends of these shed rafters are carried by 4 inch by 6 inch plates. One inch by 6 inch wooden sheathing is used over the rafters and this is covered with wooden shingles.[16]

---

[14]See plate 3 in appendix.
[15]See plate 3 in appendix.
[16]See plate 3 in appendix.

CONCLUSIONS

1. The mill is valuable as an example of the type of structure used in a business which helped build the state and has now all but disappeared.

2. The building is in no immediate danger of being torn down as it is still structurally sound and is in active use at the present time.

RECOMMENDATION

The recommendation is that the possibility of moving the Norwegian Museum into the mill be explored if the mill should ever be in danger of being torn down.

A P P E N D I X

DEPARTMENT OF ARCHITECTURE AND ARCHITECTURAL ENGINEERING
IOWA STATE COLLEGE

Architecture History Survey of Local Architecture

Made in Conjunction with

The Iowa Society for the Preservation of Historical Landmarks

NAME OF BUILDING THE CITY STONE MILL

STATE Iowa CITY Decorah

SECTION OF STATE Northeastern ADDRESS 200 North Mill Street

COUNTY Winneshiek SECTION OF COUNTY

GIVE LOCATION SKETCH WITH COMPASS ARROW BELOW:

DATE 1851 ARCHITECT OR BUILDER William Painter

PRESENT USE OF THE BUILDING Custom grinding of feed (Decorah Feed Mill)

PRESENT OWNER Mrs. Josephine Bernatz

FORMER OWNER AND DATES William Painter, 1851-1865; Henry Heivly, 1865-1870; John Greer and John Heivly, 1870-1880; Heivly, 1880-1900; William Bernatz family, around 1900 'till the present

ORIGINAL USE OF BUILDING Gristmill- grinding feed

TYPE OF CONSTRUCTION Post and beam, exterior limestone bearing-wall, upper floor is wood frame.

BUILDING MATERIAL Predominately limestone with oak and fir for post and beams and pine floors. Some fir floors also.

ALTERATIONS AND DATES Millrace installed on south and east sides of mill and vertical Standard Samson Turbines made by the Leffel and Company installed in the turbine shack on the east side- 1913 Office built on about 1950 on the south side.
PHOTOGRAPHS AVAILABLE Photographs of elevations and details of stonework, windows and turbine shack.
PLAN Included in report (Delineated from a plan in the architecture library at Iowa State University- Ames, Iowa.
HAS INFORMATION ABOUT BUILDING BEEN PUBLISHED Yes BOOKS yes

MAGAZINES _____ LOCAL PAPERS yes COUNTY AND TOWN HISTORY yes

AMERICAN HISTORICAL BUILDING SURVEY _____ FEDERAL WRITERS' STATE

GUIDE _____

WHY CHOSEN: INTERESTING CONSTRUCTION _____ HISTORICAL INTEREST x

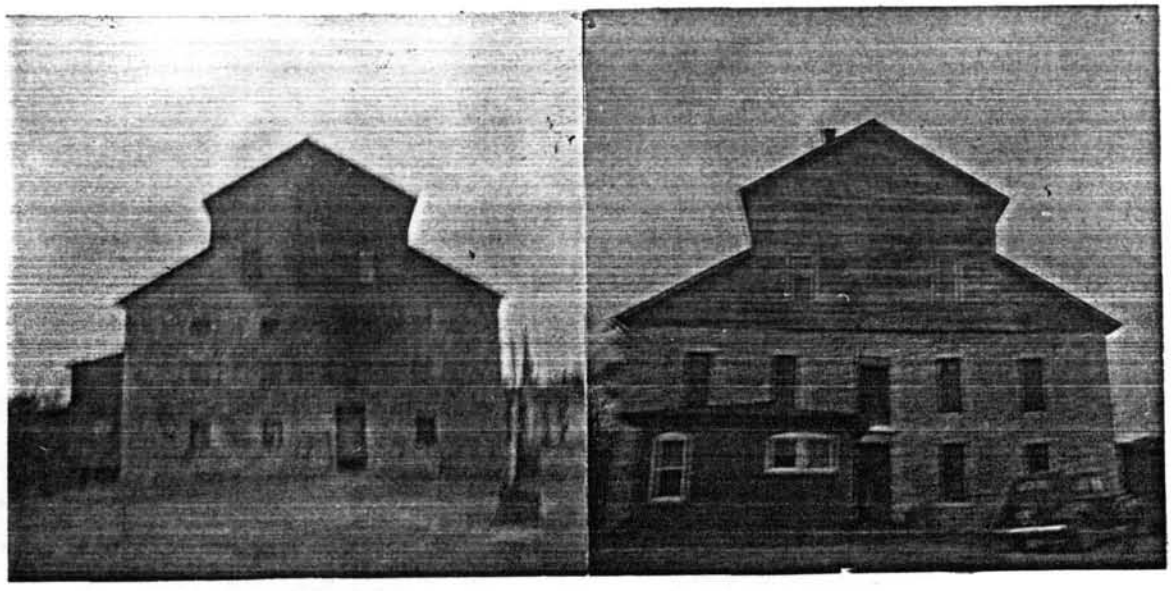
OTHER _____

ADDITIONAL INFORMATION: Contained in accompanying report.
Model of building also submitted with report.

Submitted by Robert D. Speer
Robert D. Speer

B. PHOTOGRAPHS OF THE BUILDING

PHOTOGRAPHS OF ELEVATIONS



NORTH

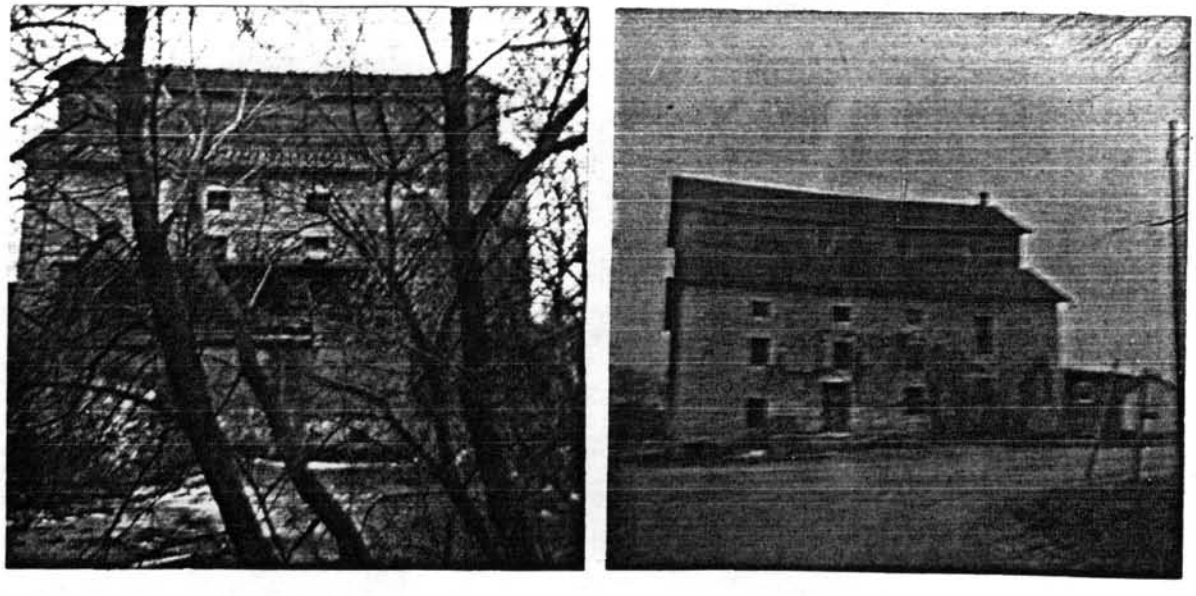
SOUTH

THE CITY STONE MILL

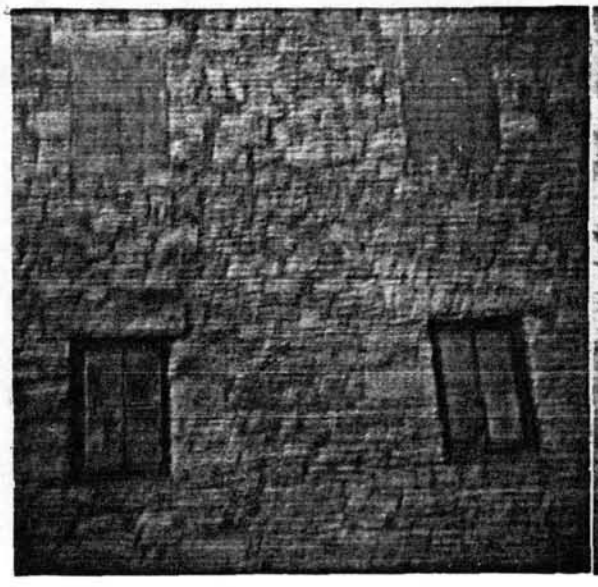
Decorah, Iowa

EAST

WEST



PHOTOGRAPHS OF DETAILS



WINDOWS AND STONE LINTELS

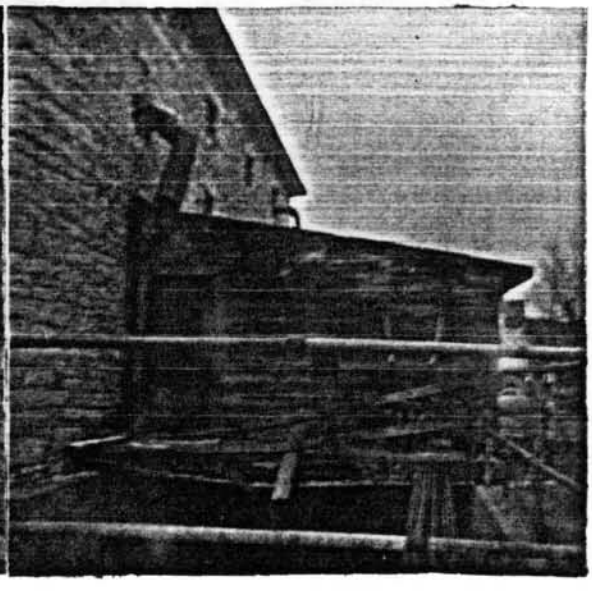
WINDOW

THE CITY STONE MILL

Decorah, Iowa

STONEWORK

TURBINE SHACK



BIBLIOGRAPHY

Alexander, W.E., History of Winneshiek and Allamakee Counties, Sioux City, Western Publishing Company, 1882.

Atlas of Winneshiek County, Iowa, April, 1905.

Bailey, E.C., Past and Present of Winneshiek County, Iowa, chpt 15, Chicago, Clark Publishing Company, 1913.

Decorah Journal, June 9, 1949.

Decorah Public Opinion, June 6, 1949.

Myrah, C., present proprietor of the City Stone Mill, personal interview.

Sturctural plans from the architecture library, Iowa State University, Ames, Iowa.

Sparks, C.H., History of Winneshiek County, with Biographical Sketches of its Eminent Men, James Alexander Leonard, Publisher and Bookseller, 1877.

DEPARTMENT OF ARCHITECTURE -- IOWA STATE COLLEGE
DATA SHEET FOR ARCHITECTURAL PHOTOGRAPHS

1. Subject Principal name of structure and other names by which it is known.

THE CITY STONE MILL, or THE BERNATZ MILL

2. Location Town or City Decorah County Winneshiek

State Iowa Country USA

Street address or other information such as Sketch Map with North Point on reverse side of sheet. 200 North Mill Street

3. Date Generally accepted dates of construction. 1851

Dates of important additions or alterations. 1913, 1950

4. Architect Principal architects or designers written chronologically.

William Painter, Philip Morse

5. Style Principal style or period of architecture and influences.

Scandinavian influence (Norway)

6. Important Detail Shown Important details which show in the photograph and which for record or discussion purposes might be interesting in themselves, such as sculpture, fireplaces, building materials.

Native limestone used

7. Material and Construction Principal Materials Limestone, oak and fir beams and posts, fir and pine floors

Structural System Post and beam; Limestone bearing walls

8. Original Use Gristmill

Present Use Custom grinding feed Date Photographed Dec. 29, 1959

9. Size or Principal Measurements Length 59' Width 52' Height 43'

Capacity Where applicable as in churches, schools, hospitals, etc.

10. View and Direction Information such as west facade, interior from balcony, view, plan, section, etc.

Photographs of all for elevations included in the accompanying report
Photographs of details- stonework, window, turbine shack

11. References and additional information Author or editor, title, date, volume number and page numbers. Underscore title only.

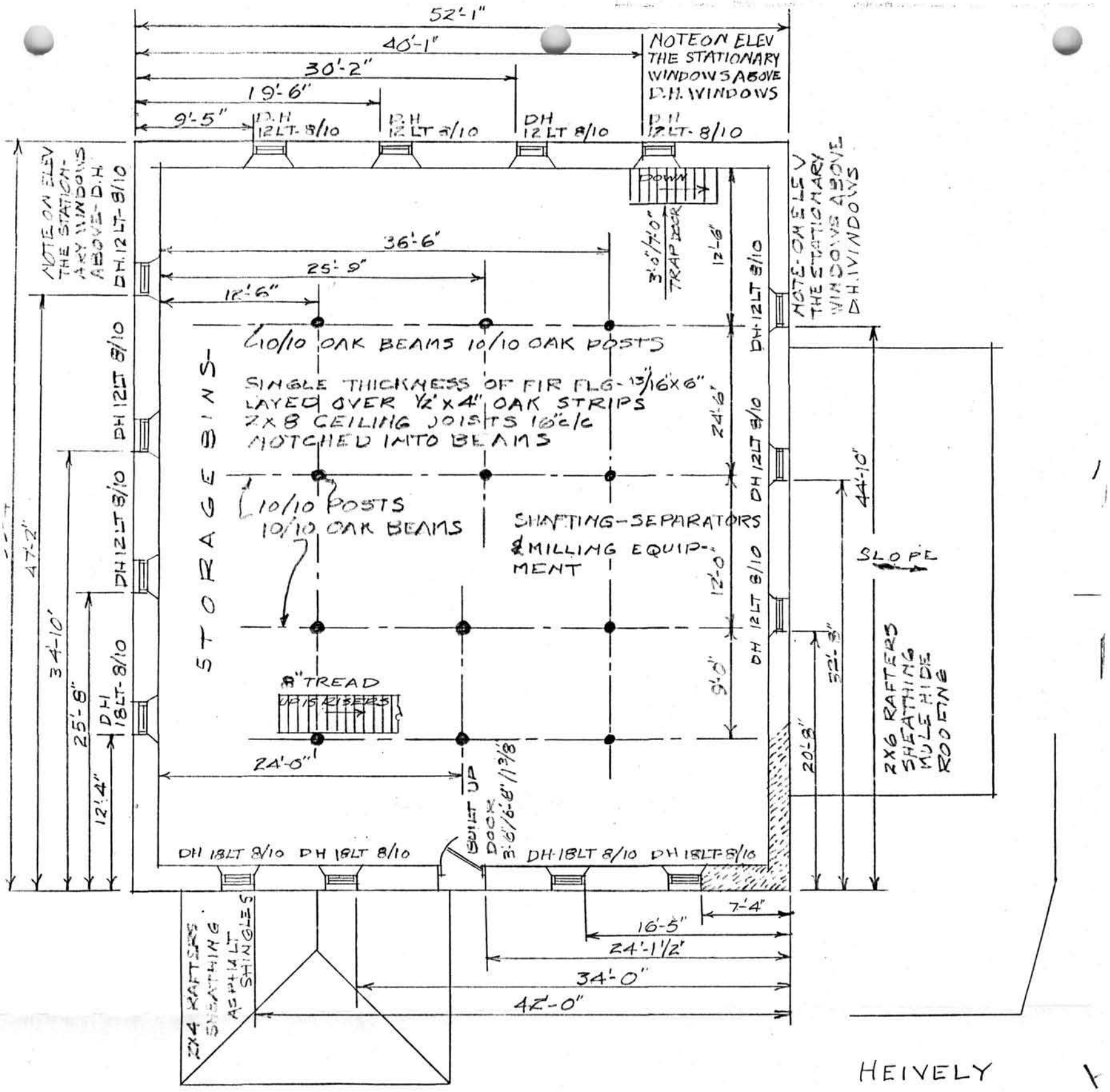
Alexander, W.E., History of Winneshiek and Allamakee Counties, Sioux City, Western Publishing Company, 1882.
Atlas of Winneshiek County, Iowa, April, 1905.
Bailey, E.C., Past and Present of Winneshiek County, Iowa, chpt 15, Chicago, Clark Publishing Company, 1913.

(over)

Note If it is impossible to complete the information on the proper line on the face of the sheet due to lack of space, place an asterisk at the end of the line. This will indicate that the rest of the information will continue on the reverse side of the sheet preceded by the same number, as near the top of the sheet as is practical.

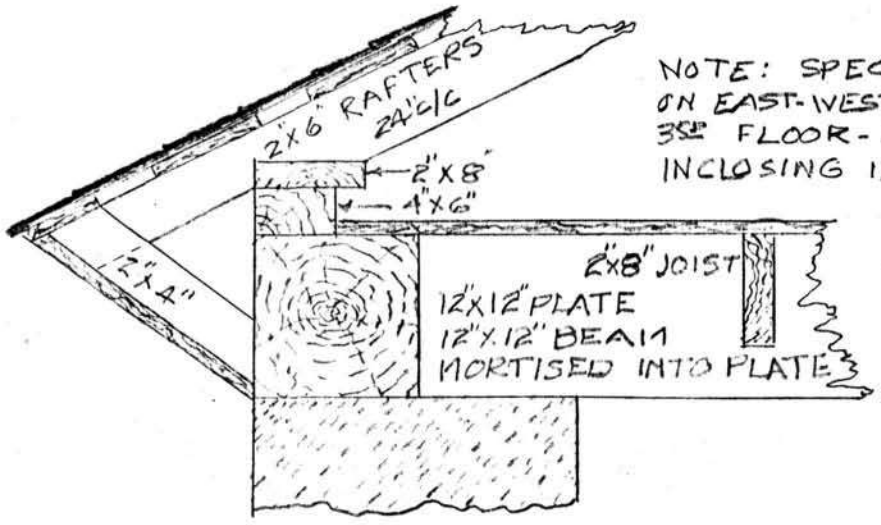
Report submitted by Robert D. Speer Date February 15, 1960

11. Decorah Public Opinion, June 6, 1949.
Decorah Journal, June 9, 1949.
Sparks, C.H., History of Winneshiek County, with Biographical Sketches of its Eminent Men, James Alexander Leonard, Publisher and Bookseller, 1877.



HEIVELY STREET-

SECOND FLOOR PLAN- 1/8" = 1'-0"



DETAIL OF SPECIAL EAVE

NOTE: SPECIAL EAVES USED ON EAST-WEST AND SOUTH SIDES 3RD FLOOR-LOWER ROOF INCLOSING 12"X12" PLATE

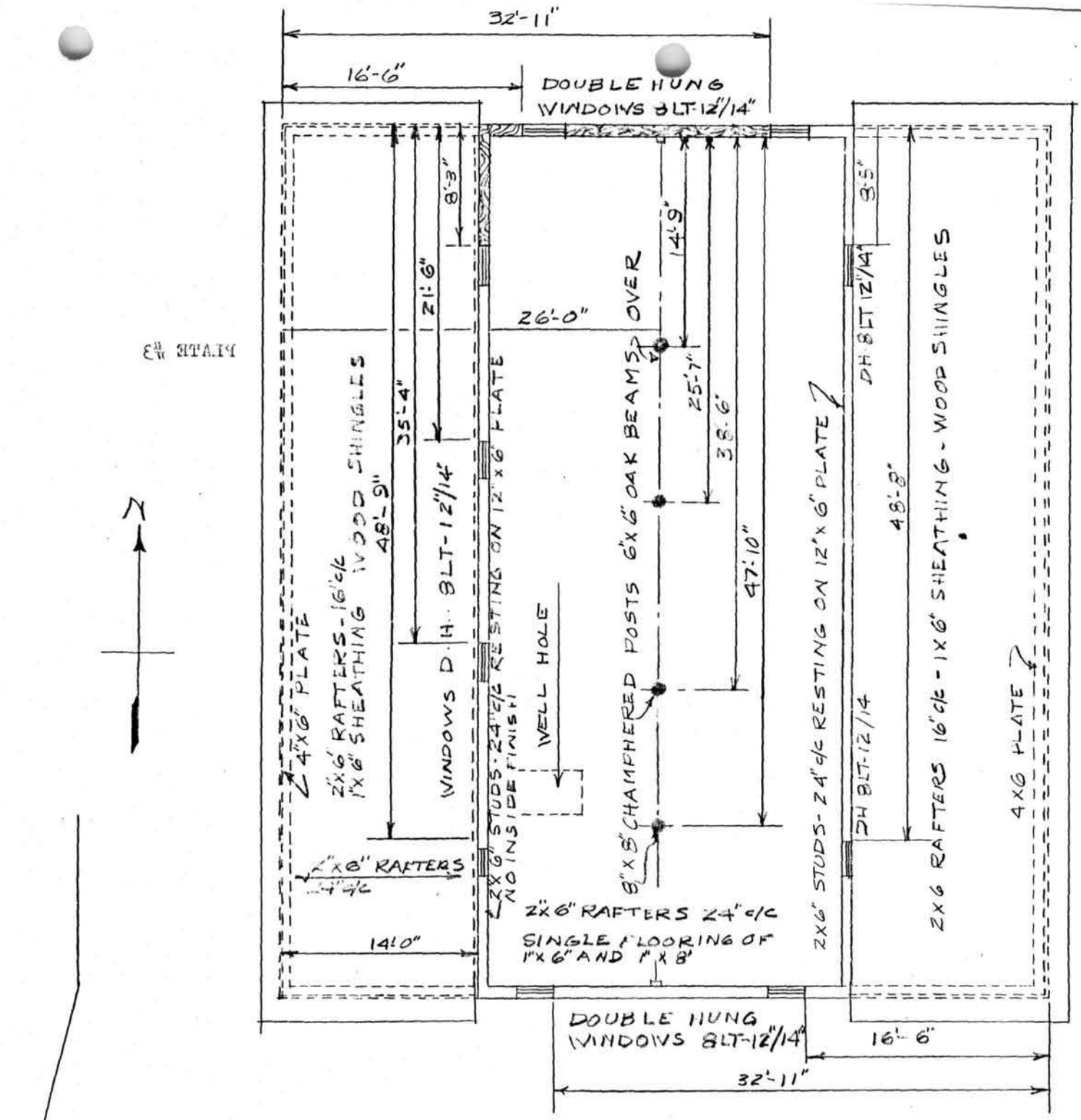
SCALE 1"=1'-0"

GRAPHIC SCALES

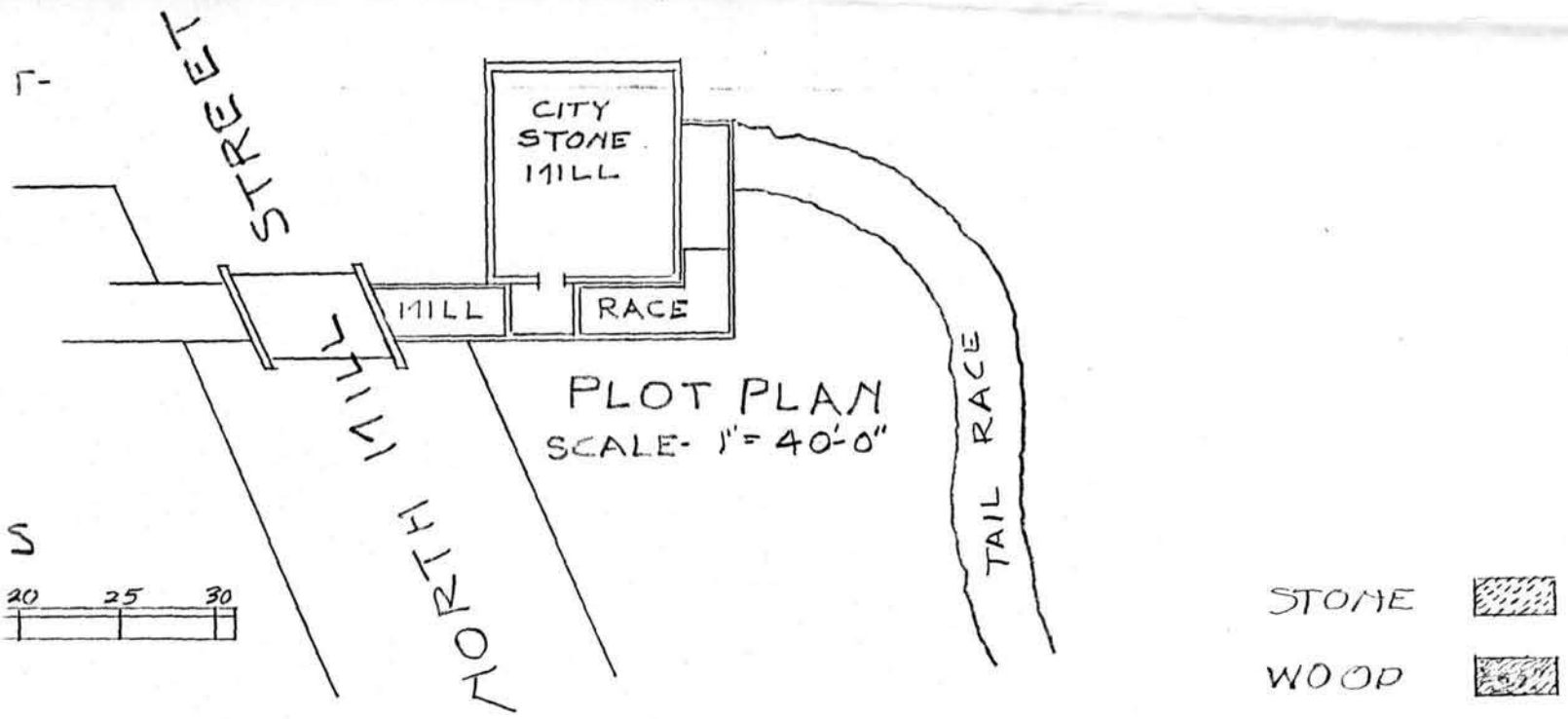
FEET 0 2 4 6 8 10 15 20 25

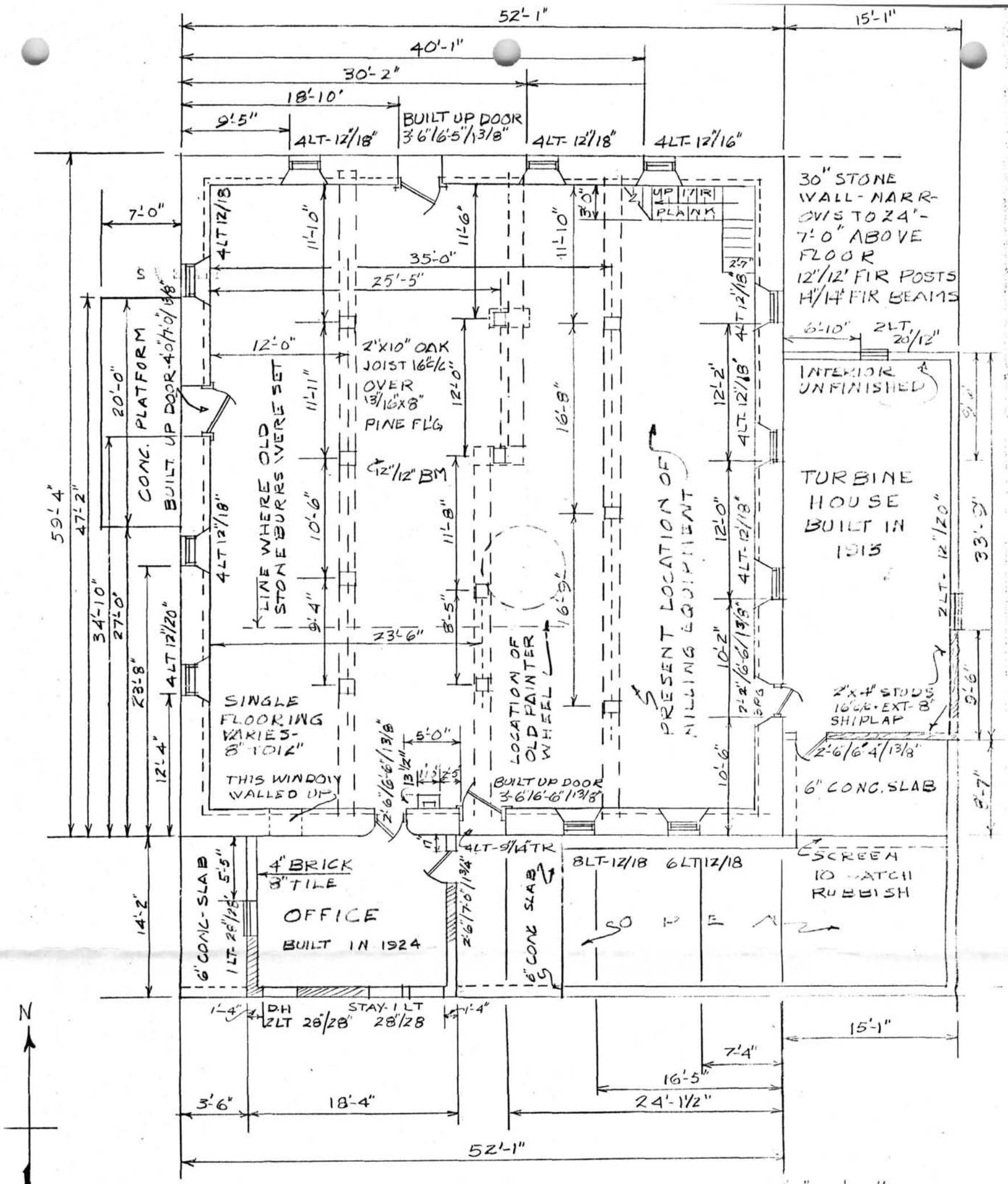
1/8" SCALE

PLATE #3



THIRD FLOOR PLAN 1/8"=1'-0"



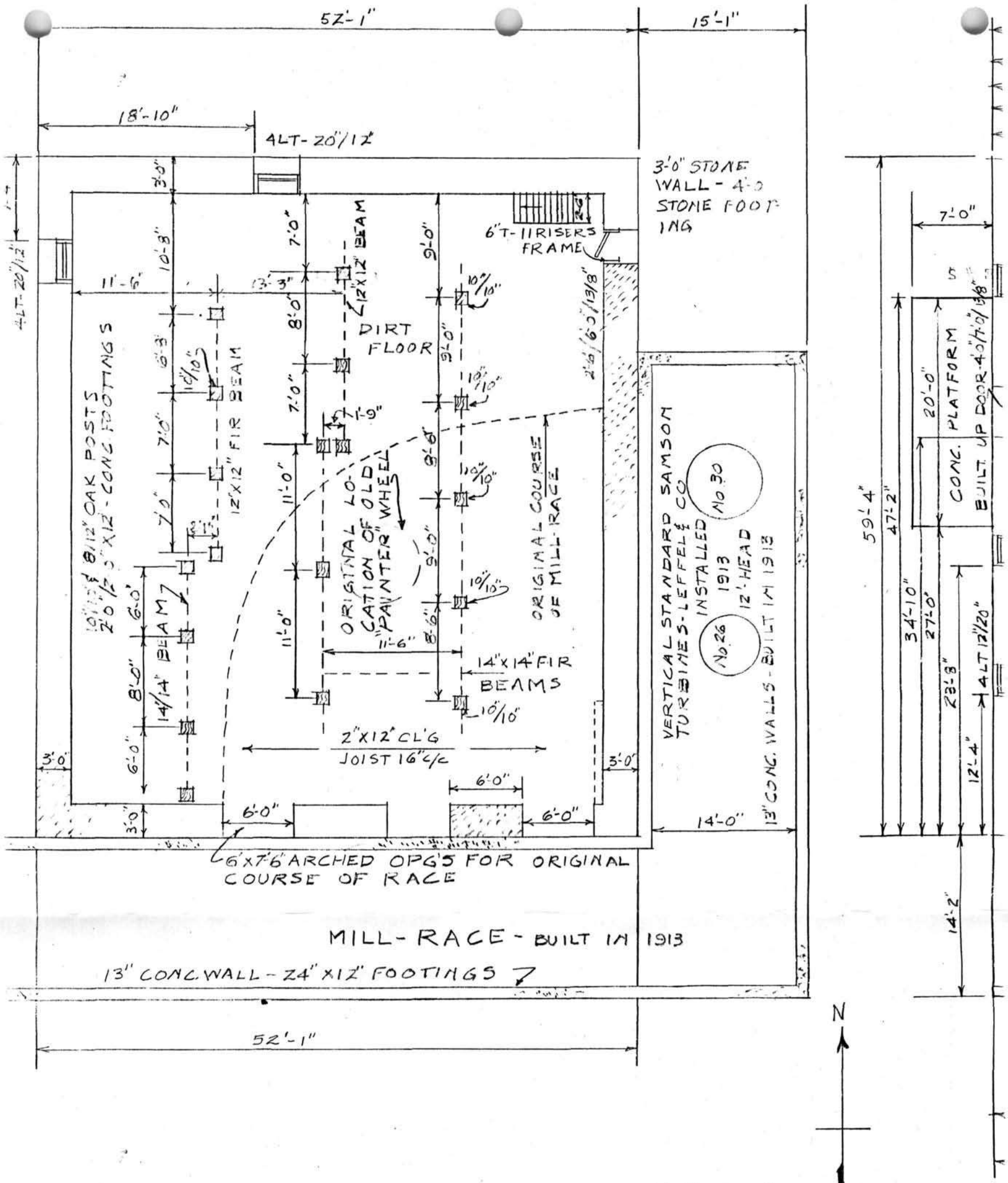


FIRST FLOOR PLAN - 1/8"=1'-0"

GRAPHIC SCALES

FEET

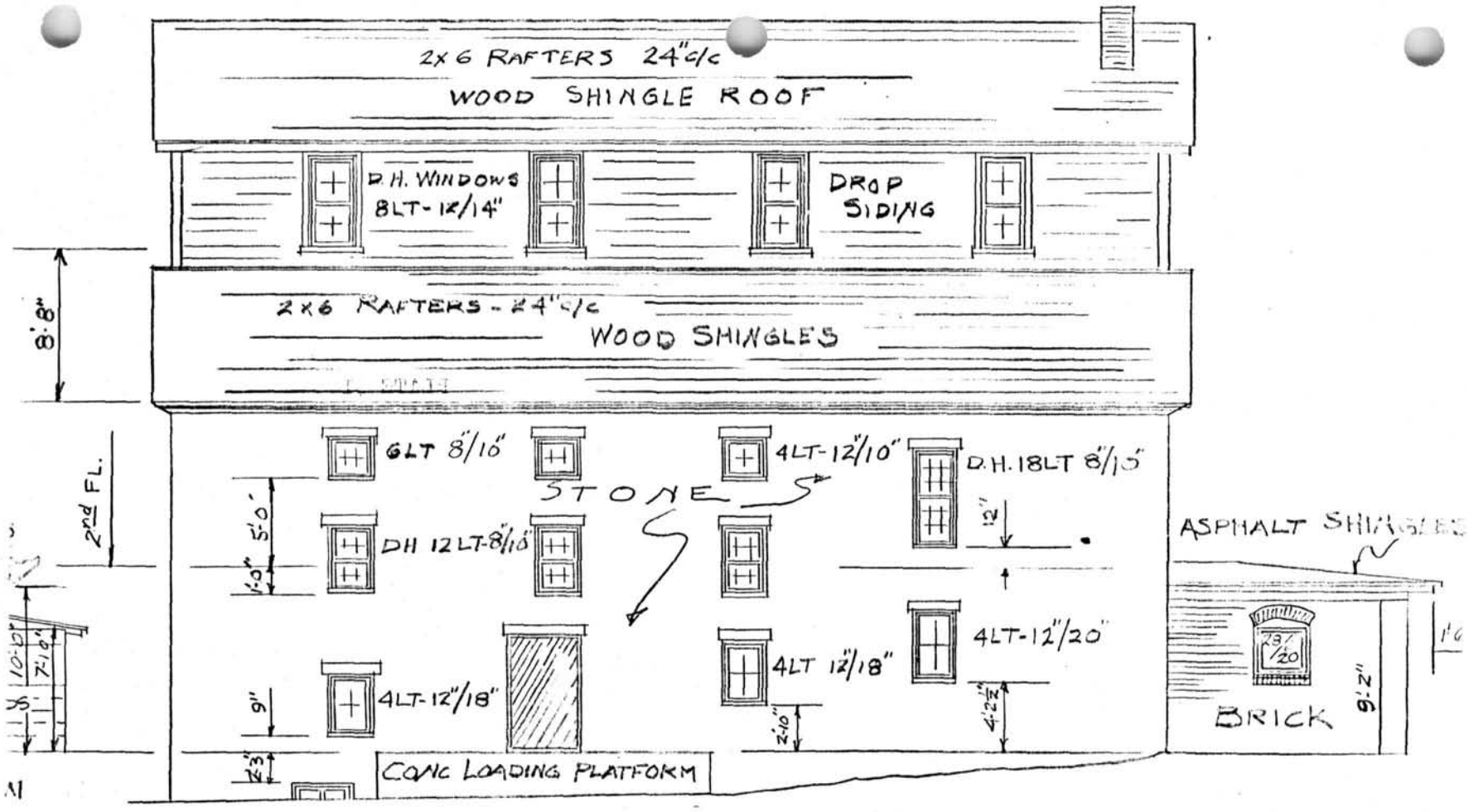
CL-DECORAH, IA. 1/8" SCALE



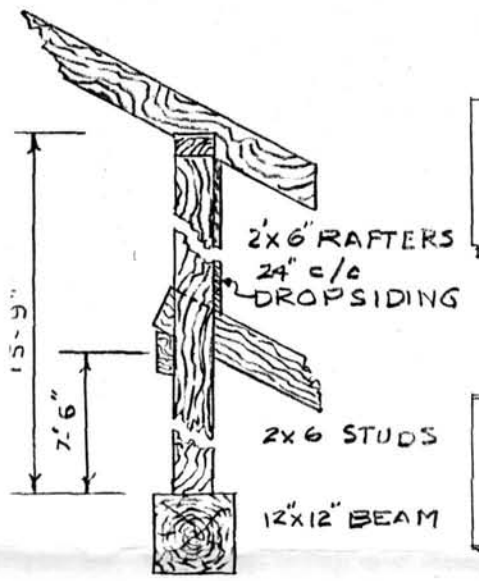
BASEMENT PLAN - 1/8" = 1'-0"

BRICK
CONCRETE
STONE
WOOD

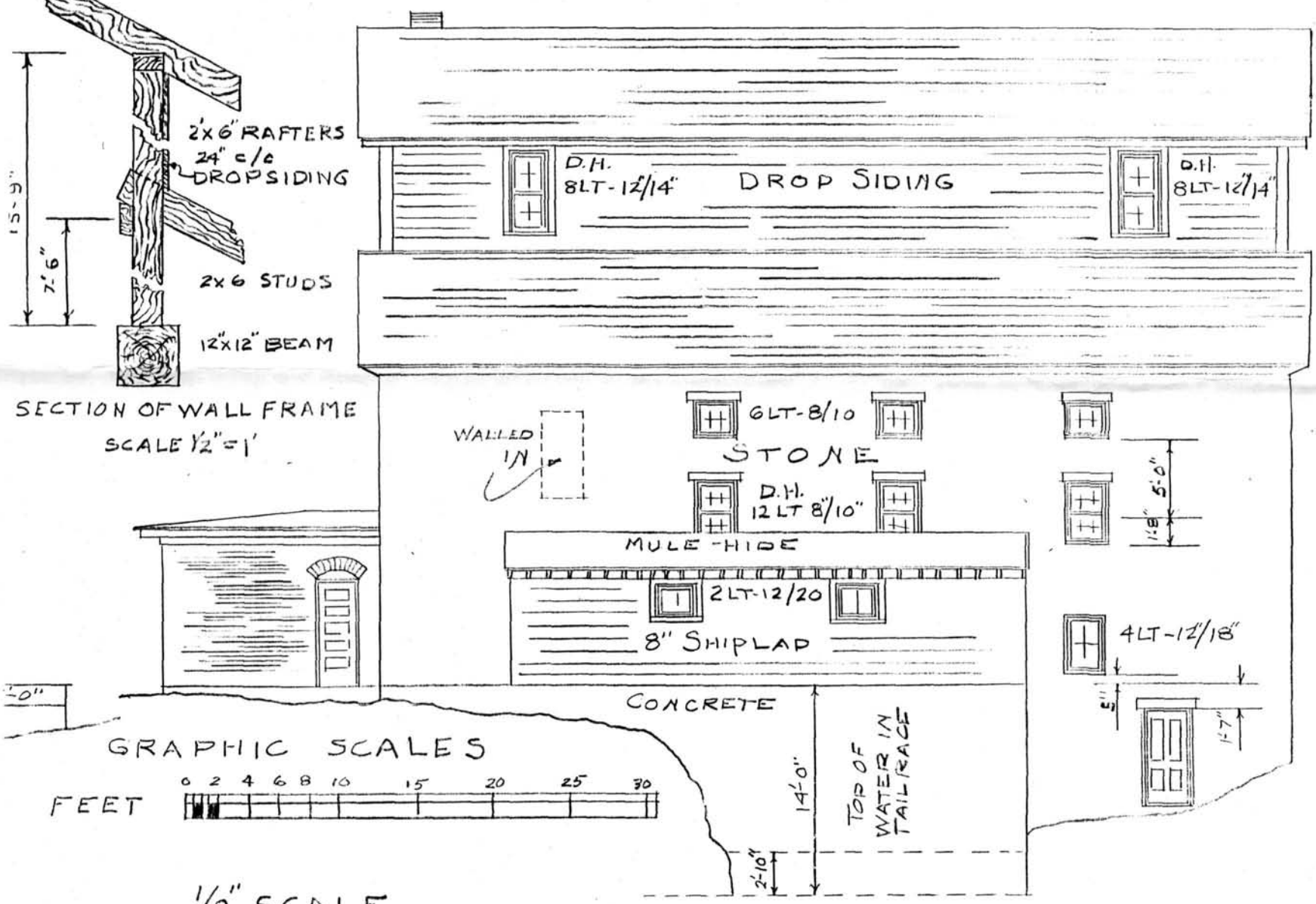
CITY STONE MILL - DECO



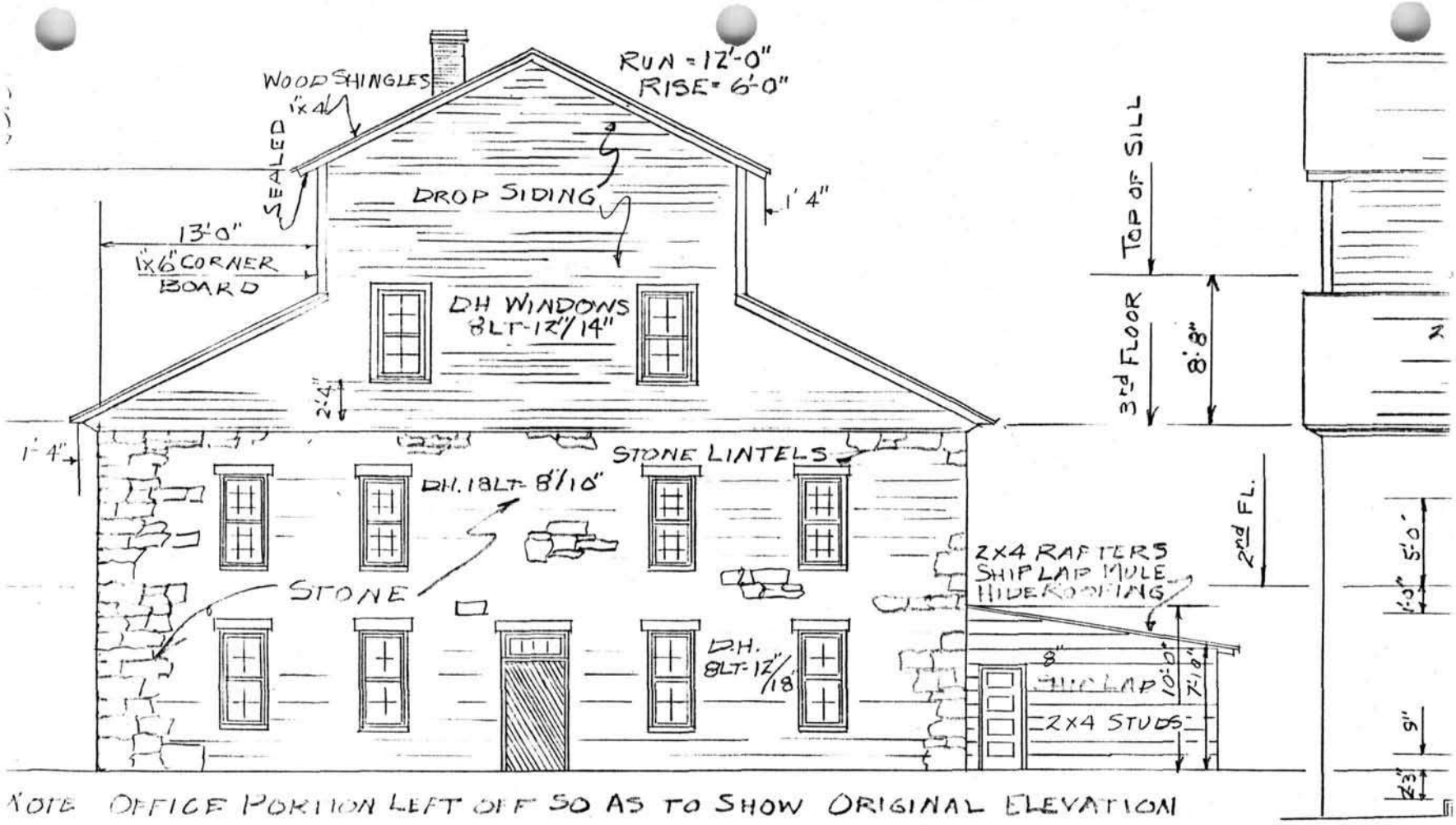
WEST ELEVATION - 1/8"=1'0"



SECTION OF WALL FRAME
SCALE ½"=1'

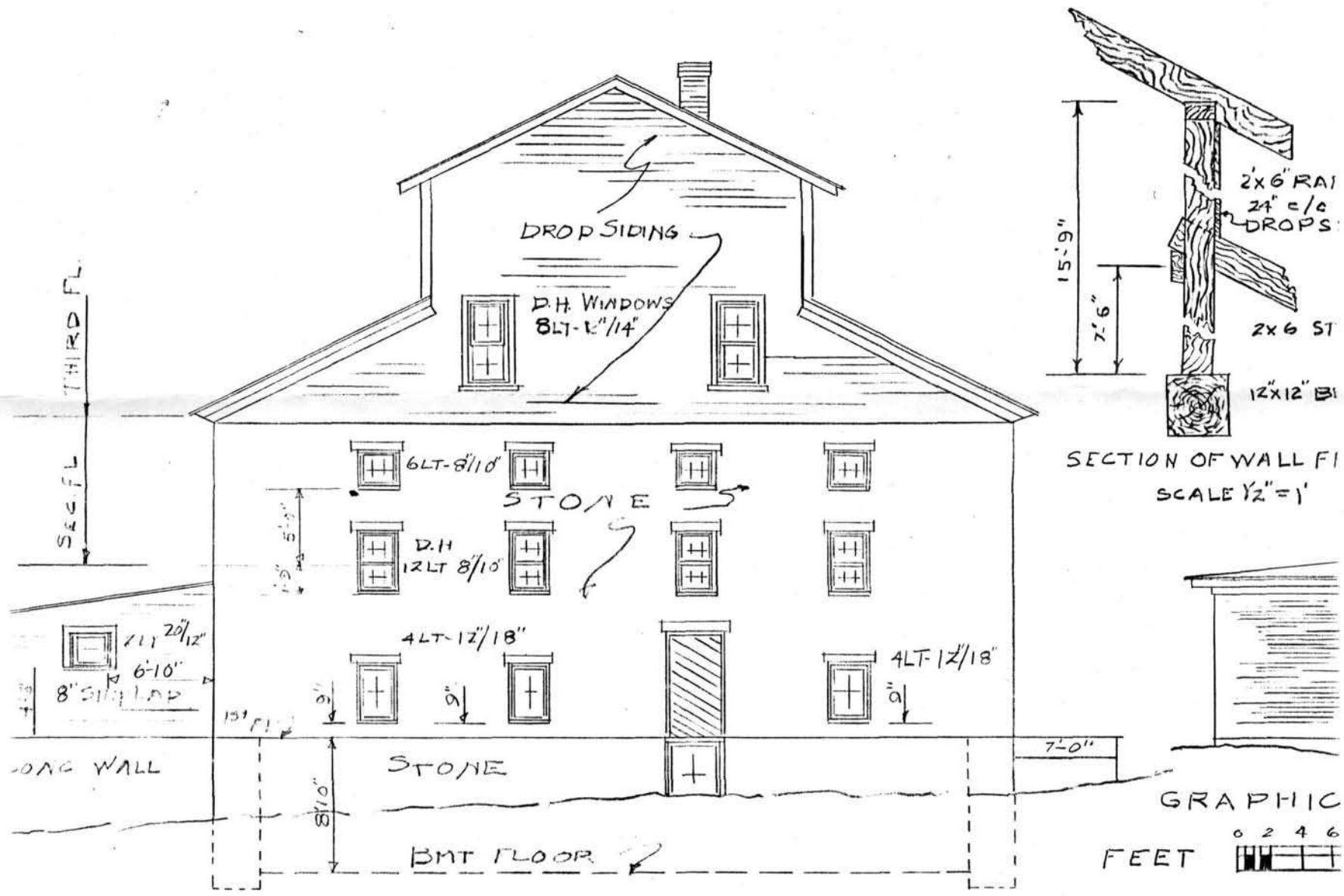


EAST ELEVATION 1/8"=1'0"



NOTE OFFICE PORTION LEFT OFF SO AS TO SHOW ORIGINAL ELEVATION

SOUTH ELEVATION - 1/8"=1'-0"



NORTH ELEVATION 1/8"=1'-0"

1/8" S