



HISTORIC STRUCTURE REPORT

Mabry Mill

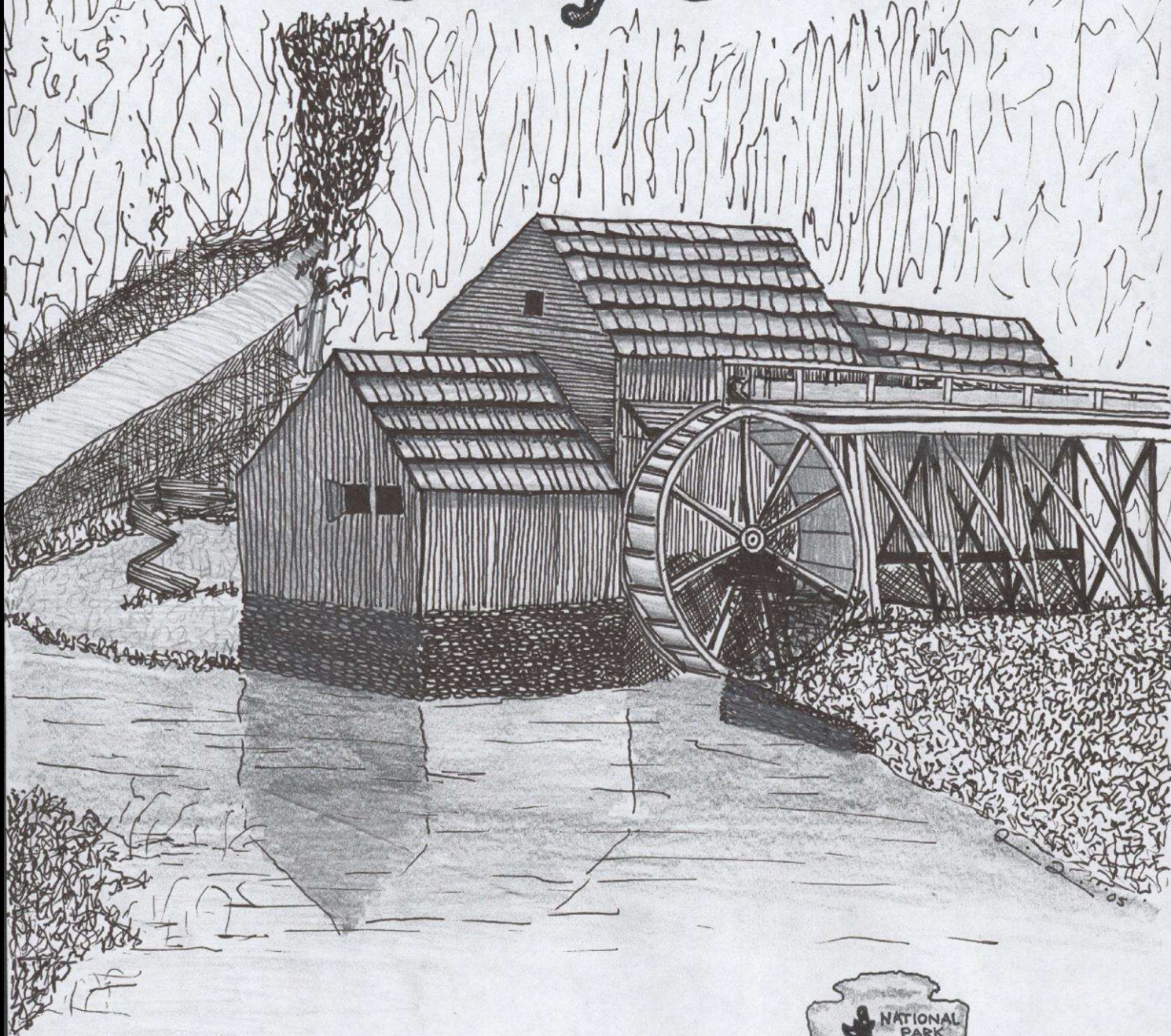


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Executive Summary



Executive Summary

This is a report done to examine the historic structure at the complex of Mabry Mill. The structure is located at milepost 176.2, on the Blue Ridge Parkway in Floyd County, Virginia.

Historical Summary:

Mabry Mill is a historic structure on the Blue Ridge Parkway at Mile post 176.2. The mill is one of a number of structures and features at this site which provides interpretation to the visiting public of historic cornmeal grinding, blacksmithing and weaving. However, all ground products sold at the mill are produced off the Blue Ridge Parkway. The site was originally the farm and home of Ed Mabry.

Matthew's Cabin

- Built 1869 by Samuel Matthew and neighbors ("house rising")
- Samuel and wife Elizabeth lived in it.
- Originally located in what's now Mt. Lebanon Church Community of Carroll County, near Woodlawn
- They had 8 kids
- When the oldest son married, he and his wife went back to live in the cabin (6 months)
- When they moved out the cabin was used for storage
- It was donated to the National Park Service 1956
- Originally built as one room with loft upstairs
- Shed room later added
- Cabin constructed of oak and chestnut logs

Ed Mabry:

- Ed Mabry was born on small farm
- Farm location: Big Bent section of Patrick County in 1867
- Married at age 18 to Mollie J. Spangler
- Worked with father-in-law making chairs
- Got interested in waterpower machinery
- 1889 marriage ended
- went to work in Bertha Zinc Mines
- 1891 returned and married Minortia Lizzie DeHart
- They moved to Bottom Creek, West Virginia [he worked as a blacksmith]

Blacksmith/wheelwright shop:

- The 1st structure Ed built
- Made of logs
- Foundation of shop still exists just beyond moonshine still
- After the Mill was built, Ed built a new blacksmith shop located next of Meadows of Dan Rd.
- This shop was moved to its present location in 1942
- It has 2 rooms

The Mill:

- Because the land was level, Mabry didn't have adequate water power
- He built log wooden races to fix this problem
- They all ran into on main race that powered the overshot wheel
- 1905 He got more land in order to secure more water for the Mill
- He then built his flume
- 1914 A new addition to the building was build near the pond
- The 16 ft diameter wheel was replaced by a 14 ft diameter wheel for efficiency. In 1950 Mabry and Hylton changed the wheel.

Wash house/Wood shed:

- Not a part of the original structure
- Now used for storage

Architectural Summary:

There are currently 4 structures in the historic boundaries of the park. The Mill and the washhouse are original and occupy their original sites. The blacksmith shop was relocated by the National Park Service in 1942 to its present location. According to a historical structure report done by the National Park Service in April 2001 and an earlier Development Concept Plan, the Matthew's Cabin was moved to its present site in 1957. It now stands where the Mabry home once stood. The cabin was evidently built in 1869 and moved from Carroll County (a neighboring county).

The National Park Service acquired the property in 1936 and continues to operate the mill and run the rest of the site. There have been many evaluations of the complex as noted through out this report. The current Mabry Mill's exterior was redone, and the rest of the building (interior) and the surrounding buildings have been evaluated and maintained periodically.

Recommendation:

Mabry Mill is a National Historical Landmark Located on the Blue Ridge Parkway in Virginia. This site has been made to be used for interpretation and demonstration (grinding, smithing, and weaving). Goods ground in the Mill can still be purchased. It was originally the farm of Ed Mabry. The Ultimate Treatment of the Mill may result in these primary components:

1. Preservation and repair of the building's existing architecturally significant features and material ;
2. design and construction of anything that may need to be added or changed to the structures;
3. adaptive use of unused space to accommodate new functions;
4. Restoration of the building's significant features that have been lost due to modern alterations.

Administrative Data



Administrative Data

Location Data:

- Building Name: Mabry Mill & Flumes
- Building Address: Mabry Mill Complex, Blue Ridge Parkway, Mile post 176.2
- LCS#: 000089
- Structure number: B330

Proposed treatment:

- Preservation and repair of the building's existing historically significant features, and material [interior and exterior] and all principal defining space.

Related Studies:

- *Historic Structure Report, Mabry Mill.* Prepared by Rick Palmer. Appalachian Consortium and NPS, Boone, North Carolina. April 1989
- *Historic Resource Study, Mabry Mill.* Prepared by Barry M. Buxton. Appalachian Consortium and NPS, Boone, North Carolina. April 1989
- *Historic Structure Report, Mabry Mill.* Cultural Recourses, Southeast Region, NPS. April 2001

Period of significance:

- From 1903-1910 The Mabry Mill complex underwent most of its main construction.

Building Information:

Identification:

- Structure name: Mabry Mill & Flumes
- Structure number: B 330
- Park: Blue Ridge Parkway
- Park district: BLRI Plateau District
- Structure state: Virginia
- Structure county: Floyd
- Region: Appalachian
- Administrative Unit: Blue Ridge Parkway
- LCS ID: 000089

Management- Legal:

- Legal interest: fee simple
- General Management Plan: In Progress
- LCS#:000089

Management- Category:

- Management- Category: Must be preserved and maintained
- Management- Category Date: 03/01/1981

Management- Treatment

- Ultimate Treatment: No treatment documented
- Was ultimate treatment approved: yes
- Was ultimate treatment completed: yes
- Ultimate treatment responsibility: National Park Service
- Ultimate treatment cost: 42000
- Ultimate treatment cost estimate date: 01/01/1975
- Estimate level: similar facilities
- Estimator: regional office
- Interim treatment responsibility: National Park Service
- Interim treatment cost: 0
- Interim treatment cost estimate date: 01/01/1975
- Routine Maintenance Responsibility: National Park Service
- Cyclic Maintenance responsibility: National Park Service

Construction Period:

- It was built starting in 1903AD and ending in 1914AD by Edward Mabry.
- Primary historic function: Manufacturing facility (mill).
- Primary current use: Exhibit

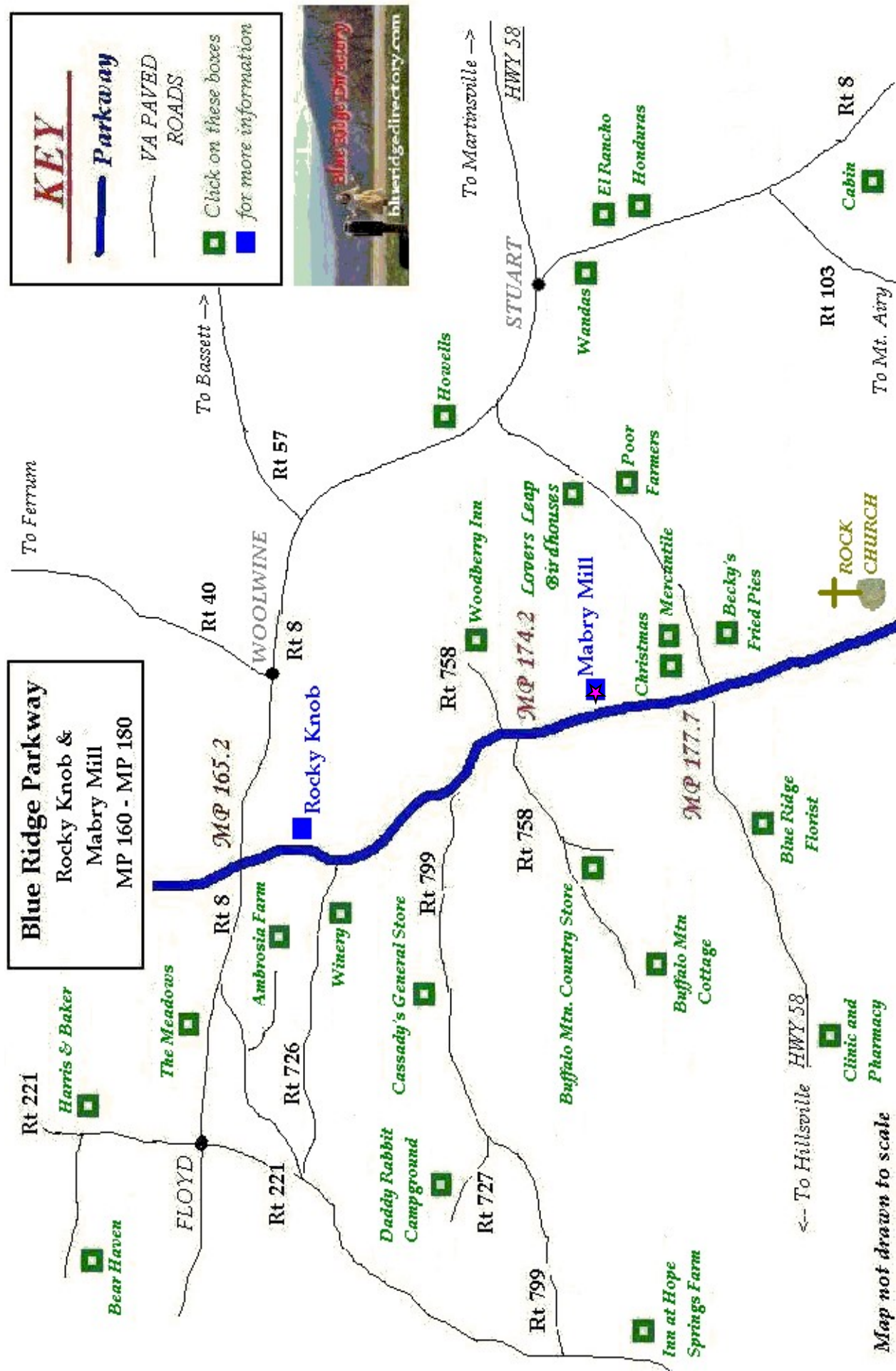
- Structure contains museum collections? Yes
- Other functions or uses: Wayside Exhibit (current)

Physical description:

- Structure type: building; mill
- Mill Volume: 2,000-20,000 cubic feet
- Mill Square feet: 958
- Materials: walls

Conditions and Impacts:

Structure Condition: The structure is in good condition. However, there are water damages, erosion from the land and a few other minor problems with the structure.



Historical Summary:

Matthew's Cabin

- Built 1869 by Samuel Matthew and neighbors ("house rising")
- Samuel and wife Elizabeth lived in it.
- Originally located in what's now Mt. Lebanon Church Community of Carroll County, near Woodlawn
- They had 8 kids
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- Farm location: Big Bent section of Patrick County in 1867
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Blacksmith/wheelwright shop:

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The Mill:

- Mill built in 3 stages from 1903-1914
- Gristmill in operation by 1905; dimensions were 20' x 16'
- Sawmill added in 1910; dimensions were 22'8" x 16'
- Woodworking shop (a.k.a. the woodworking shop) added in 1914; dimensions 18' x 15'
- Because the land was level, Mabry didn't have adequate water power.
- He built log wooden races to fix this problem.
- They all ran into on main race that powered the overshot wheel.
- 1905 He got more land in order to secure more water for the Mill
- He then built his flume.
- The 16 ft diameter wheel was replaced by a 14' diameter wheel for efficiency during the first major NPS mill rehabilitation of 1942

Wash House/Woodshed:

- Not a part of the original structure

Historical Background & Context



Historical Background and Context

Mabry Mill:

**The text in this section is an excerpt from the Mabry Mill Historic Resource Study done by the National Park Service [NPS] in 1989 prepared by Barry M. Buxton, the Mabry Mill Historic Structure Report prepared by Rick Palmer [1989 NPS], and the Historic Structure Report prepared by Dan Scheidt and staff at the National Park Service in 2001. This text is also adapted from a collaboration of documents prepared concerning Mabry Mill.*

Ed and Lizzie Mabry

Ed Mabry was born in 1867. At the age of 18 he married Mollie J. Spangler and farmed 100 acres (thought to have been inherited from his father) with her. Mabry then began to work with his father-in-law making chairs for the community of the Big Bent section of Patrick County. When they worked to create a water-powered lathe to make chairs, Ed's interest in water powered machines grew. According to one of Ed's close friends, he was known as "the man who could fix anything," in that area.

In 1889 his marriage to Mollie ended. This is when he left the Big Bent area to work in the Bertha Zinc Mines in Virginia. In 1891 Ed married Mintoria "Lizzie" DeHart. In that same year he sold 50 acres of land for 9 dollars in Patrick County. The Mabry's then settled on the remaining 50 acres near Meadows of Dan and this is when their farm life began. However, Ed's real goal in life was to own and operate his own mill. This would be a very expensive task for the Mabry's, so they moved to Bottom Creek, Virginia and sold their 50 acres (\$190) in Patrick County so that Ed could work as a blacksmith.

They then bought 43 acres of land on the waters of Fork Mt. Creek for \$185. Ed and Lizzie moved into a cabin that stood near, the future Blue Ridge Parkway. They stayed there until Ed could design his own home. This is when they constructed a small blacksmith/wheelwright shop. They came to the current Mabry Mill site in 1902. Later, in 1903, they bought an additional 47 acres for \$243.07. Now on their 90 acre property they could begin building their dreams.

Mabry Mill was built by Ed B. Mabry. It was constructed 1903-1914 and operated from 1905-1935. After the Mill was built he realized that he needed more water power so he created a flume system on purchased tracts of land to run water to his large overshot wheel. In order to keep a somewhat consistent flow of water to power the mill, Mabry installed gates and other devices to ensure that there would be a head of water

within the flume system. The flume system was to power the gristmill, sawmill, and wood working shop. Around 1910 Mabry built a new blacksmith/wheelwright shop which was later moved by the NPS to its present location in 1942.

Within the mill structure Ed Mabry operated a gristmill, sawmill, and woodworking shop, which included a jigsaw and planer. When the building was complete in 1914 it consisted of 3 rooms with a small loft in the center section. The overall dimensions of the structure were 16' x 61'.

In 1936 Ed Mabry died and left the mill for his widow Lizzie to operate and maintain. Long before Ed Mabry died Lizzie had earned a reputation as a more patient and careful miller than Ed, producing a better tasting cornmeal.

The Mill Structure:

When Ed Mabry first built his Mill, he had trouble with having adequate water flow in order to power the mill. This was because of the flat surface level of the site. Ed solved this problem in 1903 by going up different hollows and branches and building long wooden races to bring the water into one main race that would run the water over a big wooden overshot wheel, creating a more continuous flow of water to power the mill.

He began to get more land starting in 1905 in order to secure more water power for the mill. He continued to purchase land until 1914, in the process, building an extensive flume system. The flume was equipped with a gate to create a head of water that would operate the mill and sawmill.

The mill was built in 3 stages between 1903 and 1914. A grist mill was in operation by 1905, a saw mill was added after 1910, and a woodworking shop in 1914, which included a jigsaw, and planer. Now there is also a tongue and groove joiner. When the building was complete, it included 3 rooms with a small loft in the center section. The over all dimensions of the structure: 16' x 61'.

Ed also installed a log dam in order to store water from rain and spring thaws. A flume carried water from the dam to the mill. This allowed Mabry a more consistent flow of water to the mill and a higher power supply.

During the 1942 restoration of the complex, investigators were surprised to find that with the exception of the steel shaft, metal hanger bar, and casting, and a few nails and bolts, the gristmill was an entirely homemade machine.

According to Newton Hylton, a local milling expert who had helped Mabry build his first wheel in 1903, this original wheel was 16' in diameter. Nearly 40 years later Hylton constructed a new 14' 10" diameter wheel while working for the NPS during the 1942 mill rehabilitation.

Unlike his competitors, Mabry did not grind buckwheat or wheat. He also didn't have a bolter which was used to separate ground grain according to size. During an average week the Mabry's would grind 25 bushels of cornmeal and chop. The Mill operated everyday except for Sunday, even during the coldest days of winter. According to the Historic Structures Report done by the National Park Service in 2001, if the wheel was frozen it was up to the person who needed corn ground to cut the ice off the wheel.

Sometime after 1910 Ed connected the circular saw to the water wheel. According to Frank Dalto, a neighbor who occasionally worked at the mill, he and Mabry hauled the logs for the building which was to close the sawmill.

Ed used this sawmill to make lumber to build a woodworking shop of the far entrance mill. Mabry had: a planer, a tongue-and-groove jointer, saw for cutting wood shingles, grindstone for sharpening knives and farming implements, and a double bladed jigsaw.

The National Park Service has operated and maintained the site since the major 1942 rehabilitation of the mill. This work included reconstruction of the water wheel, flumes. Flooring and repair of the foundation. Mill framing and siding were left intact. Water wheel, flume, and related mill repairs were made again in 1954, 1974, 1984, 1989, 1995, and 2001.



This is a photograph taken of the mill. This photo shows that this is the state of the mill in 1937 [October]. Note there is no pond in front of the structure. Note the location of the blacksmith shop and Mabry residence.

Historical and Architectural Significance

*"Through the mill's extensive preservation and continued operation, it has become historically and architecturally significant. Historically the mill is significant, exemplifying the needs of the era in which it was born. It provides a tangible example of a community mill which fulfilled the needs of the people."*¹

Mabry Mill was one of the first buildings selected for preservation by the planners of the Blue Ridge Parkway. It was selected as a symbol of the self sufficiency of mountain communities. Ed Mabry put together most of the machinery, built his own buildings, and acted as miller, blacksmith, wheelwright, and carpenter for the surrounding area. The mill is, therefore, important in its own right and as an integral part of the Parkway. Although, some of the original materials have been replaced and the setting substantially changed in the course of restoration and repairs, the mill retains a fair degree of integrity.

This area of Floyd County remains today predominantly rural as it was in the Mabry's time. In the first quarter of the century, the mill provided a means for local people to obtain flour and meal. In combination with smithing abilities, the mill and related operations served a radius of about 5 or 6 miles. At this time, before the advent of processed and packaged foods, the mill was an integral part of the community.

Prior to his death, the Mabry farm was perhaps like many farms at that time. According to a photograph taken in 1922, (NPS Negative #2380) the Mabry's final home was a two story white, frame house with clapboard siding. Presently, Matthew's cabin occupies this site. According to the draft Development Concept Plan Site Map of 1974, across existing State Rd. 603, in an open field, a barn once stood. Also, around the farm was a chicken house, garden, granary, spring house, and the blacksmith shop (although a different location than where it presently sits).

Upon his death, Mrs. Mabry continued to operate the mill, using a small kerosene engine which no longer exists. The National Park Service purchased the land in 1936, and Mrs. Mabry stayed on the farm until her death in the late 1930's.

Through the mill's extensive preservation and continued operation, it has become historically and architecturally significant for exemplifying the needs of the era in which it was born. It provides a tangible example of a community mill which fulfilled the needs of the people.

¹ Palmer, Rick. Historic Structure Report: Mabry Mill 1989 National Park Service

Architecturally the mill is significant in that through the years of preservation, (with the exception of some footings, timbers, and roofing), the framing materials, exterior and interior wood fabrics, and construction techniques have not been seriously altered. Substantial replacements of these fabric members over the years have always followed the rule of "replacement-in-kind." This is important because one can look at the structure of the mill and describe the various types of construction, whether they are frame or log.

For purposes of historical documentation, it is significant that both the mill and washhouse occupy their original sites, as noted by the draft Development Concept Site Plan of 1974. The frame, gabled types of construction of these structures, making use of materials available and designed as they were, exemplifies "vernacular architecture."

As mentioned above, the means of reconstruction and preservation over the years has left the integrity of the original exterior of all structures substantially intact- The mill, the blacksmith shop, the washhouse, and Matthew's Cabin. The blacksmith shop's wheelwright attachment was adversely affected by NPS staff in the 1950's cutting a large opening at both sides for a visitor breezeway.

The shape and configuration of the mill is the same. However, it was reconstructed in 1992 and had various rehabilitation actions over the years. One of the notable architectural significances is that Mabry Mill itself is the most photographed site along the Blue Ridge Parkway. Its simple gabled construction, weathered siding, and idyllic setting lend support to this.²

² This text was taken from a Historic Structure Report written by Dan Scheidt and staff at the Southeast region of the National Park Service in April 2001

Chronology of Development & Use



Chronology of Development and Use

The Mabry Mill complex once included [or still includes]:

- The Mill
- Blacksmith/ wheelwright's shop
- A frame house
- A spring house
- Granary
- 2 chicken houses
- a wood/ wash house
- a shed/ barn
- a log barn

Mabry Mill was developed by Ed Mabry. He and his wife bought land totaling to 90 acres. The black smith shop was the first to emerge from Mabry's talents. He later constructed the mill, around 1910. After constructing a new blacksmith/wheelwright shop (located near the Blue Ridge Parkway which was later moved after being purchased by the National Park Service), Mabry added a flume to the mill for more water power. He then began to add more acreage in order to make a larger, more efficient flume. The mill was completed by 1910, but in 1914 a jigsaw and planer were added to the structure (thus the woodworking shop was born). A dam was later made by Mabry to assist with a stronger water flow. About 20 years later Mabry and his neighbor Hylton, made a new wheel (due to a damaged older wheel).

There have been numerous restoration activities at the site. The most comprehensive restoration was performed in 1942 under the direction of the Landscape Architect, K.C. McCarter.

Time Line Summary:

1867 Ed Mabry is born

Ed Mabry marries Mollie Spangler [age 18]

Ed gains interest in water powered machinery with father in law

They design and build water lathe

1869 Matthew's Cabin built

1889 Ed and Mollie's marriage ends

Ed moves to Virginia to work for Bertha Zinc Mines

1891 Ed marries Minorita "Lizzie" DeHart

They moved to Bottom Creek W. Virginia

Ed becomes a blacksmith

1902 They settle at the present site on the waters of the Fork Mt. Creek

Mill constructed and gristmill operation by 1905; mill is built

1903 Black smith shop is built

Flume was built

1905 more acreage is acquired for more water security

Gristmill built

1910 blacksmith/wheelwright shop emerges

1910 Mill is complete

Circular saw installation

1914 Ed discontinued purchasing land

Woodworking shop added

Bigger flume was built

Jigsaw and planer installed

Log dam constructed

1936 NPS purchases the land

1936 Ed Mabry dies [age 69]

Mrs. Mabry takes over the mill

1940 Mrs. Mabry dies [age 73]

1942 National Park Service restoration [on the mill]: included total reconstruction of the water wheel and flumes, re-roofing with wooden shakes, and replacement of stone footings, floor joist, and sills.

Blacksmith shop relocated

Pond added to complex

1950 William Lord interview surviving Matthews's family members

1954 National Park Service restoration [on the mill]:

Restaurant opened

1956 Matthew's Cabin donated

Newton Hylton employed as an interpreter

1957 Mathew's Cabin relocated

1958 sides of the wheelwright shop removed

1974 National Park Service restoration [on the mill]:

1984 National Park Service restoration [on the mill]:

1989 National Park Service restoration[on the mill]: Concrete footers poured, new floor joist and floor fabric installed, new roof supports and new shake roof installed, new exterior siding placed on 1/3 of the structure, 2 new entry doors installed [one large one small], and new window panels. The mill is cabled to an upright position.

1995 The wheel was rebuilt; size: 20" axle 30' wheel

2001 National Park Service restoration [on the mill]: new chestnut and oak foundation logs installed, new floor supports and floor boards, new siding boards installed, 3 new entrance doors installed, 2 board windows installed, and various roof shakes replaces.

Gutters are added to west elevation

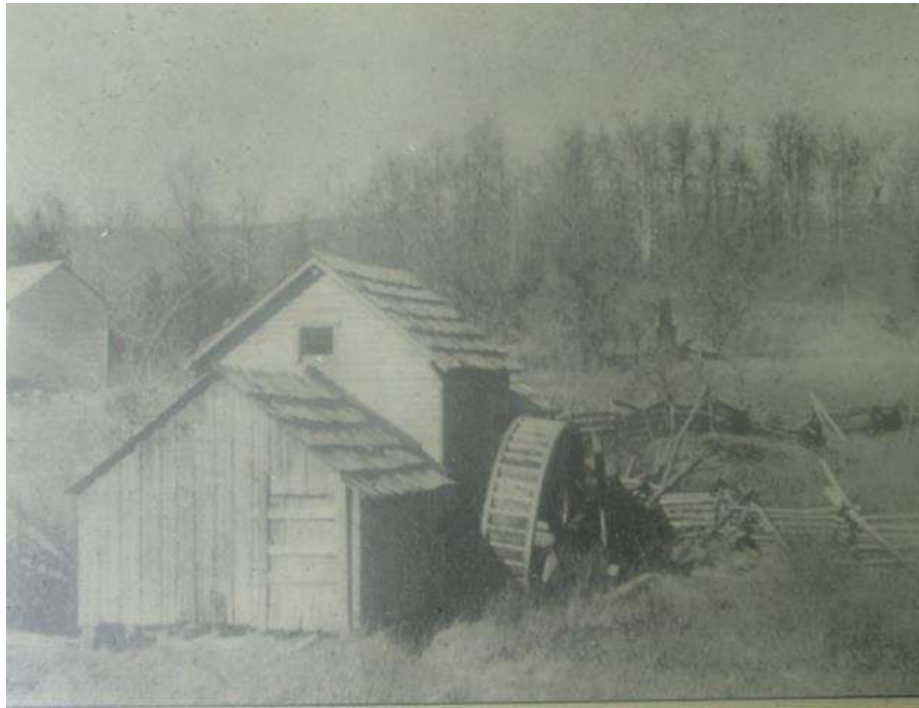
Things removed **1954-1959**:

Spring House

Granary

Chicken Houses

Small shed/barn



Mabry Mill before the National Park Service first began to preserve the structure [this is when the structure was first purchased]



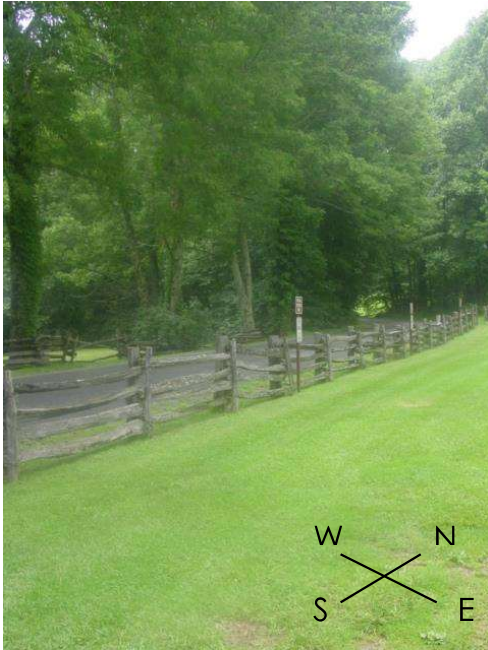
This photo is from the early days of NPS operations of Mabry Mill. Note the reconstructed flumes, and rehabilitated mill exterior. This scene immediately preceded a major silt removal in the pond, shows silt and plants clogging the pond

Physical Description

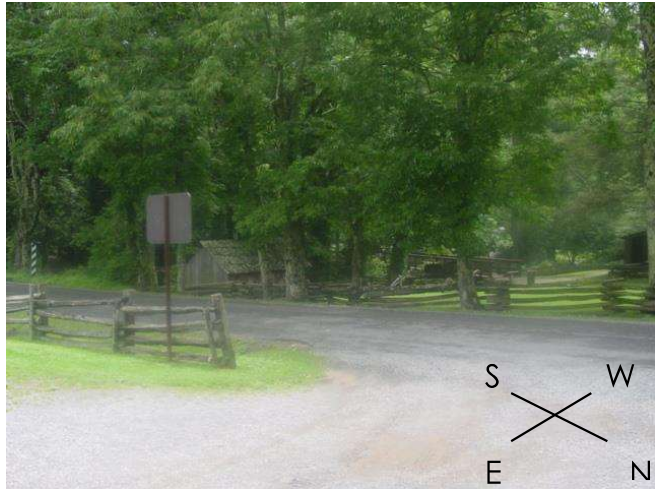


Site Description and Other Structures:

- Mabry Mill Complex: Along the Blue Ridge Passage



This is the road that leads from the Blue Ridge Parkway to the Mabry Mill site's overflow parking.



This is the road that leads from the Blue Ridge Parkway to the Mabry Mill site's overflow parking.



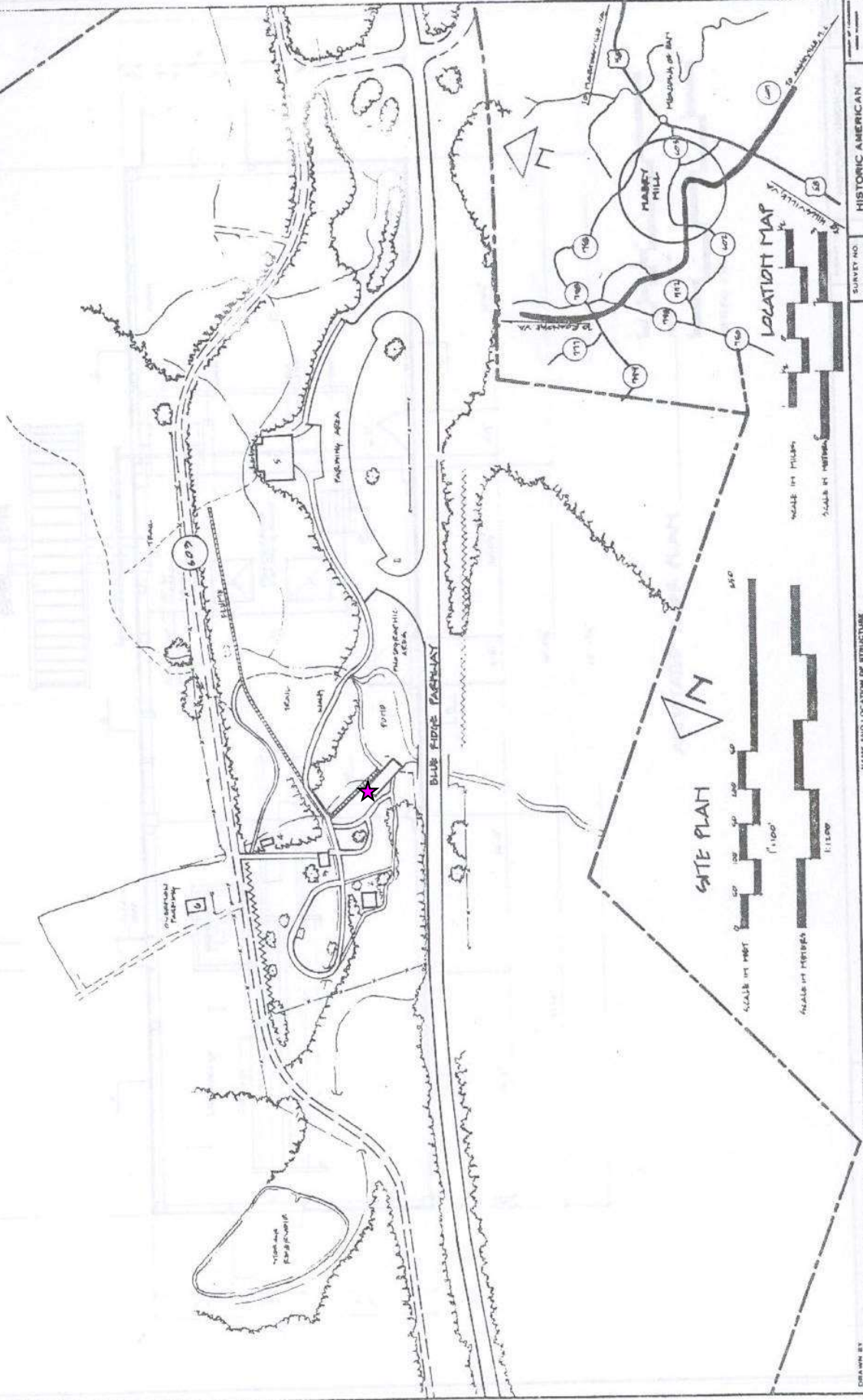
Viewing part of the overflow parking and the road that runs behind the Mabry Mill complex.



Viewing the complex from the entrance closest to the overflow parking in the rear of the complex.

KEY TO BUILDINGS:

- 1 MABEY MILL
- 2 MATTHEW'S CABIN
- 3 BLANCHETT SHOP
- 4 WASH HOUSE
- 5 CONCESSION
- 6 COMFORT STATION



HISTORIC AMERICAN
BUILDINGS SURVEY
SHEET 1 OF 15 SHEETS

SURVEY NO.
VA.
1250

NAME AND LOCATION OF STRUCTURE

MABEY MILL-FLOYD CO., VIRGINIA

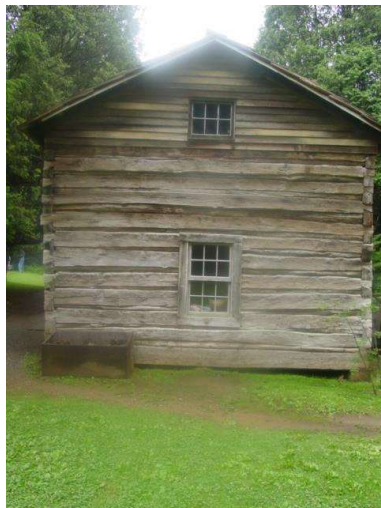
DRAWN BY
J. CALDWELL
Baltimore, Md.

- Floyd County, Virginia
- Location: mile post 176.2
- Buildings on site:

Matthew's Cabin:



West Elevation



North Elevation



South Elevation

Matthew's Cabin:

- Hewn-log building with wood chinking.
- Focal point is the chimney.

East Elevation

- East elevation there is a small window.
- Roof is simple gable running east and west.

North Elevation

- North elevation there is a wood plank door [which opens in].
- To the left of the door is a 6-pane fixed window.

West Elevation

- West elevation is other gable end.
- Logs are go up to meet clapboard siding.
- Small 4-pane fixed window in the center.

South Elevation

- Faces the Parkway.
- Has one entry door made of wood planks.

Interior

- Floor: 1" thick random width planks;
- Floor joist on second floor remain exposed;
- East wall has fire place/wood mantle and trim;
- Northwest corner small stair case [wind up to second floor];
- Second floor is an open room with one window in each gable;
- Exposed rafters in roof.

Blacksmith Shop:



West Elevation



South Elevation



North Elevation

Blacksmith/wheelwright shop:

- Most centrally located on the site;
- Log structure;
- Attached breezeway [former wheelwright shop].

West Wall

- West wall of breezeway is log.
- Door leading to the shop.
- Next to the door is a window. [clear view to the concession]
- A metal hood and flue are mounted over the stone forge and quencher and next to this stands the coal hopper.

Other walls

- Small window on the south and west elevations offers light and ventilation.
- Dirt floors:
- Pole rafters and oak shakes exposed;
- Roof pitch creates second roof line;
- Logs supported by dry stacked field stones;
- Most of the pathways lead to this building;
- Located on the highest point on the land.

Washhouse, Whiskey Still and Comfort station:



A wagon similar to those of Mabry's time; Washhouse in background.



Mabry Mill complex facing northeast; Washhouse in right hand corner.

Actual Whiskey still



Whiskey still located to the north in the Mabry Mill complex.



Restrooms; located near the overflow parking on the site.



This is a photo of the whiskey still.

Washhouse:

- Located north of blacksmith shop;
- Post and beam structure;
- Vertical oak siding;
- Door on south elevation;
- Building is now used for storage;
- East elevation there is a small 2' square door [opens out];
- North elevation covered with vertical siding;
- 3' roof overhang at the south elevation [supported by a beam];
- concrete floor inside is original;
- All siding comes in contact with the ground.

Site description:

- Mabry Mill complex: along the Blue Ridge Parkway;
- Floyd County, Virginia;
- Mile post 176.2;
- Buildings on site:
 - Mabry Mill
 - Blacksmith Shop
 - Matthew's Cabin
 - Washhouse
 - Comfort Station
 - Restaurant
 - Sorghum mill.
- There are 2 public parking areas: 1. in front of the restaurant 2. Behind the complex [overflow parking]. There is an asphalt pathway that leads to the mill.
- There are photographic areas when visitors can take famous pictures.
- There is a gentle slope to the north where the other structures lie.
- State Road 603 skirts the site.

- There is a paved parking area that gives easy access to the Mill and the concession building [including restaurant and comfort facilities].



Viewing the Comfort Station [restrooms] and overflow parking. The green area in the back ground is also used as overflow parking.

- An asphalt pathway leads to the mill and 6 other structures.
- There is a photographic area where visitors can take the famous picture of the mill.
- There is a gentle slope to the north where the other structures lie.
- State Road 603 skirts the site.
- Across the road is a comfort station and overflow parking

Physical Description: Mabry Mill



Famous Southeast perspective of Mabry Mill.



Exterior of upper loft of the mill section; southwest perspective.



East Elevation; note the overgrown vegetation on the exterior.

The Mill:

Exterior:

"Mabry Mill is a simple, gabled style building which contains 3 floor levels, all built in compatibility with the terrain. The south and the east elevations are the first seen by the visitor. The east elevation is covered with vertical board and batten siding. The Oak Mill wheel and oak flume system are the focal points of this side. A small opening to the left of the gear assembly provides a location for the shaft, which operates the belt wheels inside. These are located in the lower level of the mill. To the right of the water wheel is a six-paned, fixed-sash window. This is located in the middle section of the mill. Further to the right, there is a small wooden door which opens to the upper end of the mill (highest floor level), where the sawmill operation is located. The foundation above grade is all dry-stacked fieldstone. The oak shake roof, oak siding, and fieldstone blend with the terrain, and the building appears to be tucked into the sloping terrain.....The stone foundation (on the south side) which meets the water level, extends some 4'0" out of the water. At this point, vertical oak siding covers the frame wall inside....These (3'0" windows on the south façade) may be propped open with a hook and rod assembly, which appeared to be manufactured on site. Beyond, the gable roof covering the milling platform extends above the gable below. In this higher gable, there exists a six-pane, fixed sash window. The gable is covered with clapboard, oak siding. To the right of the structure, an end view of the wheel, gear assembly, and foundation blocking is afforded. The extent of rock used as a retaining wall should be noted. Oak guttering extends from the eave over the middle section of the structure.

The north and west elevations are covered with oak clapboard siding. The north elevation is of simple gable construction with a wooden door which opens to the log carriage of the sawmill. The west elevation has through entrances which serve the 3 different floor levels of the mill.

In the upper end there is a large door which swings up and in, providing access to the sawmill. The height of this door is 7'0" high. The middle section, which is 10" lower, has a wooden door which swings in. This door is 6'0" high. The actual milling operation is located inside this door and is raised some 4'0" above the floor level. A small, ladder like set of steps leads to the platform. Above the milling platform exist an open storage area. On the milling platform are 2 sets of grindstones. Each has a wooden hopper through which the grain is fed, to be ground. The third and lowest level is thirteen inches below the middle section. From this level, the belt wheels can be seen in operation and

in good view of the water wheel and gear assembly is offered, as well. On this level there is also a band saw and wood joiner, both originally powered by the water wheel. A pair of wooden windows measuring 3'0" square each can be fastened shut or propped open by a hook and rod assembly, which appear to be manufactured on site.

Each of the 3 levels is covered by a gable roof, which exposes the "pole" rafters and oak shakes. In the middle section, a partial ceiling is created by the overhead storage area, and the structural timbers which support this are exposed below. The interior of the mill is rustic with the stud/post combination of framing visible. The exposure of the framing, interior of the siding and plank flooring, reveal this to be original fabric. However, it has been noted in Blue Ridge Parkway records that the original joist and beams have been replaced with fabric similar to the original. The roofing, which has been replaced over the years, is of the original type of wood—oak. The fabric of the exterior oak siding, trim, and stone foundation are also original."

East Elevation

- The east elevation is covered with vertical board and batten siding.
- The oak mill wheel and oak flume systems are the focal points of this site.
- A small opening to the left of the gear assembly provides location for the shaft, which operates the belt wheels inside. These are located in the lower level of the gristmill section near the case opening for the axle.
- To the right of the water wheel is a six-paned, fixed-sash window. This is located in the middle section of the mill. Further to the right there is a small wooden door which opens to the upper end of the mill (highest floor level), where the sawmill operation is located. The foundation above the grade is all dry-stacked fieldstone.
- The oak shake roof, oak siding and field stone blend with the terrain, and to be tucked into the sloping terrain."³

South Elevation

- The south elevation is completely visible to the Parkway.
- In front lays a millpond where the spill way stream flows under the Parkway, through a culvert.
- There is a stone foundation that meets the mill pond.
- Vertical board and batten oak siding covers the exterior of the wall from the stone foundation to the roof.

³ Appearance of the structure Palmer, Rick. Historic Structure Report: Mabry Mill. 1989 National Park Service

- In the right corner of the south façade there exists a pair of 3' square wooded shutters.
- Beyond that the gable roof covering the milling platform extends above the gable below.
- In this higher gable there exists a 6-pane, fixed-sash window.
- The gable is covered with clapboard, oak siding.
- To the right of the structure, an end view of the wheel, gear assembly, and foundation blocking is afforded.
- Oak guttering extends from the eave over the middle section of the structure.

North and West Elevation:

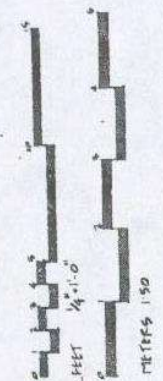
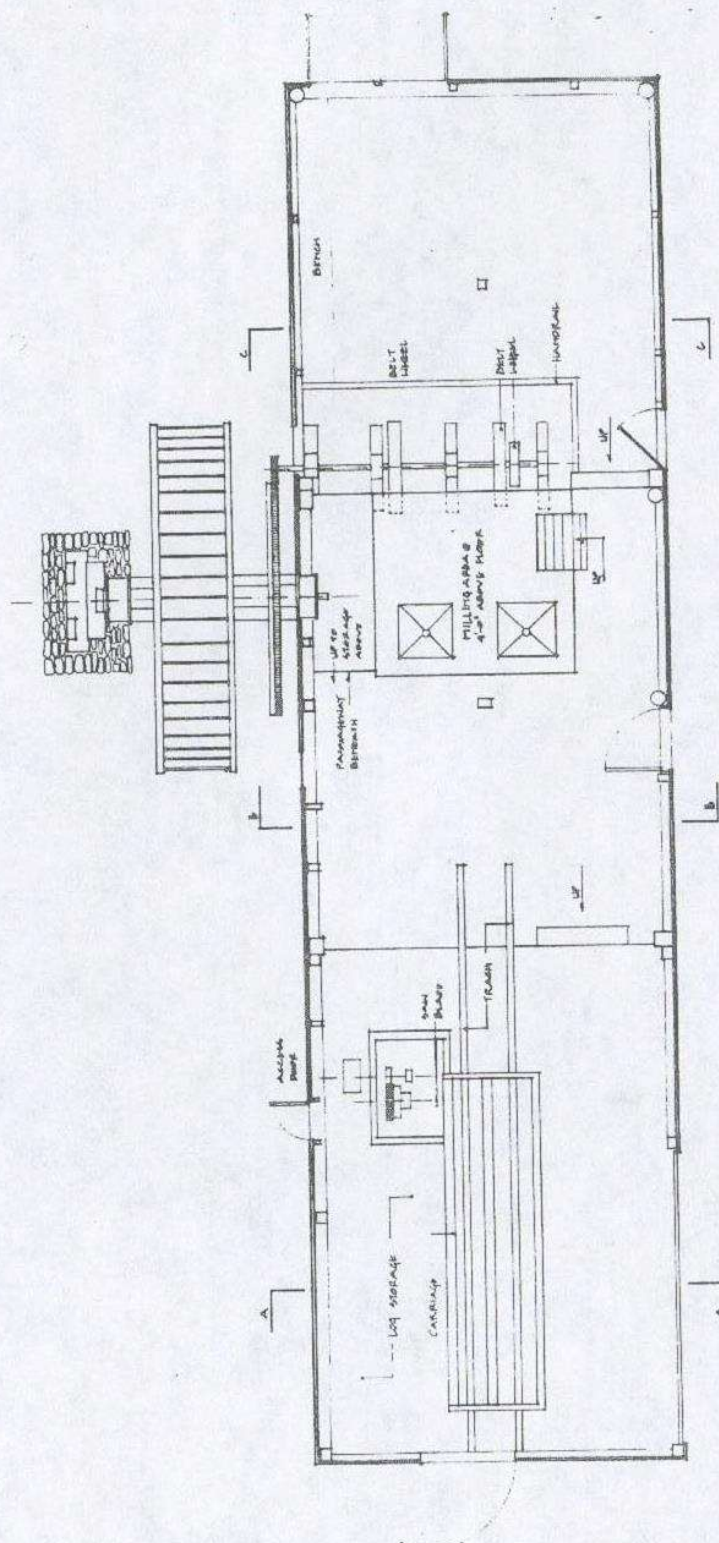
- Covered with clapboard siding.
- West elevation has through entrances [serves 3 different levels of the mill].
- The sawmill has horizontal boards.
- The mill section is clapboard.
- There are gutters and down spouts on the west elevation.
- Sawmill door is wider than the doors for the gristmill and the woodworking shop; this is in order to allow the sawmill to function.
- West elevation on the woodworking shop is board and batten
- There are 2 boxed in down spouts: 1. at the beginning of the woodworking shop 2. Where the sawmill and gristmill connect.



Viewing the northwest perspective; note the post and railing along the vegetation on the west elevation and the paved walk way that follows the post and railing.



Viewing closed mill looking at sawmill section door and handicap paved walkway. This door is larger in order to comply with the materials used for the sawmill.



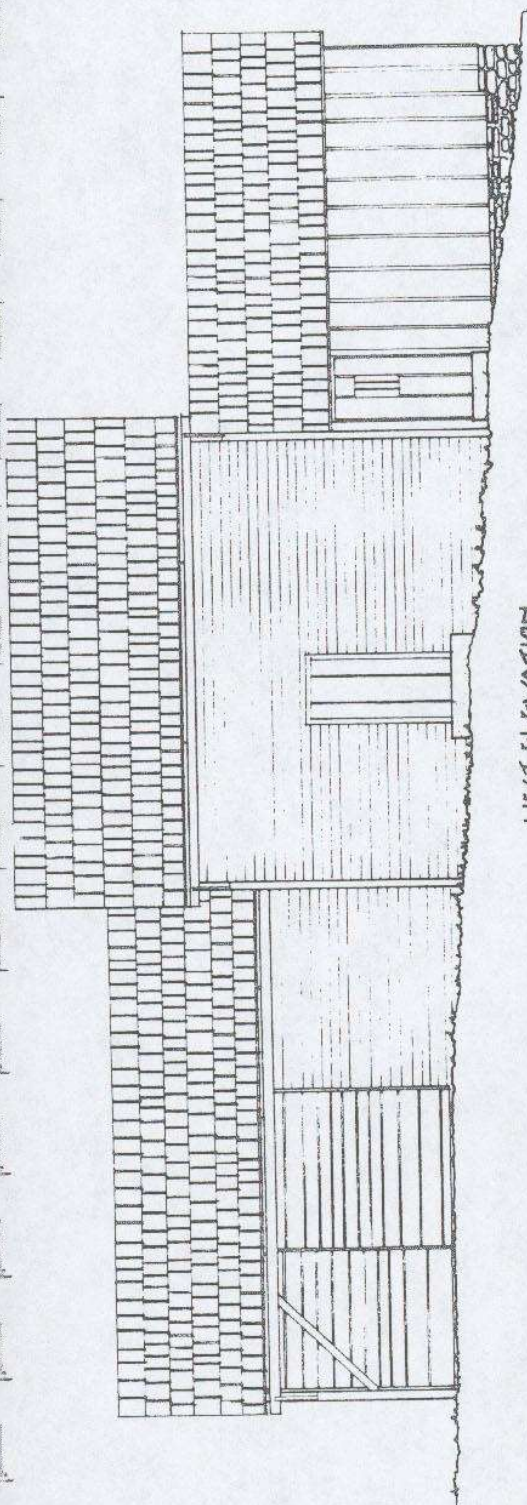
FLOOR PLAN

MABRY MILL

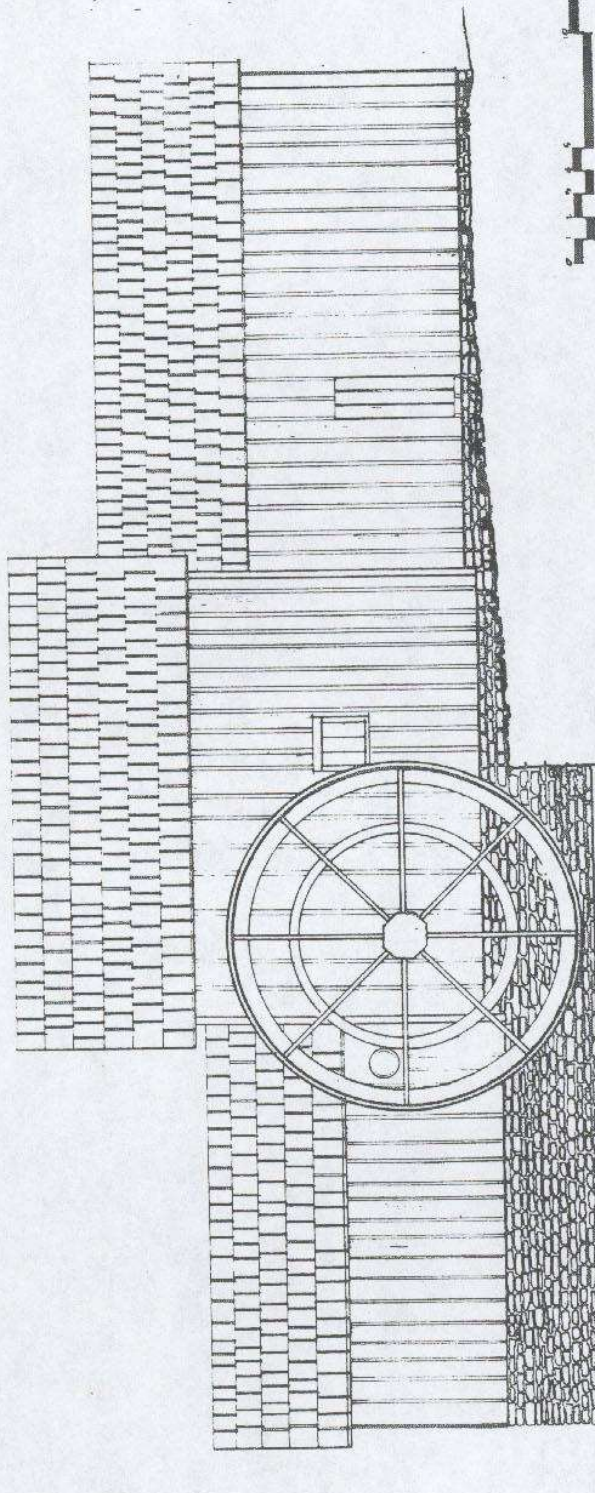
HISTORIC AMERICAN
BUILDINGS SURVEY
SHEET 5 OF 15 SHEETS

SURVEY NO.
V.A.
1250

R. FAIRBANKS
NATIONAL PARK SERVICE
NATIONAL MONUMENT OF THE INTERIOR

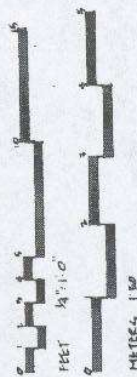


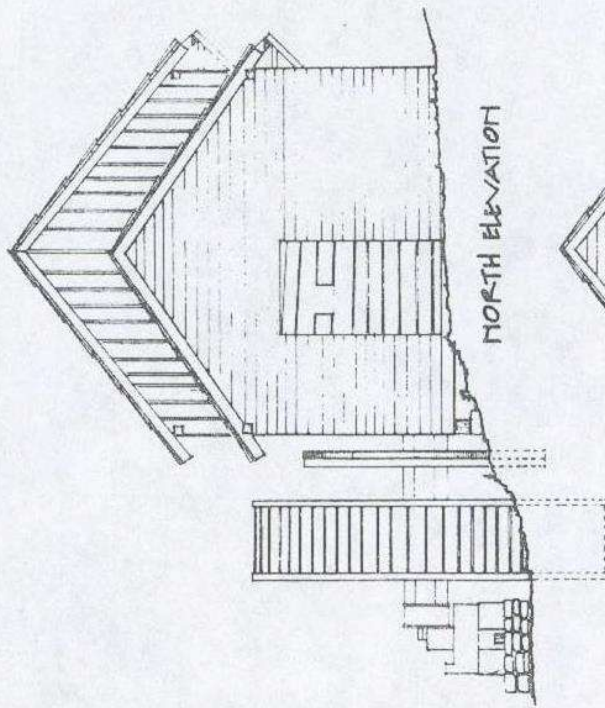
WEST ELEVATION



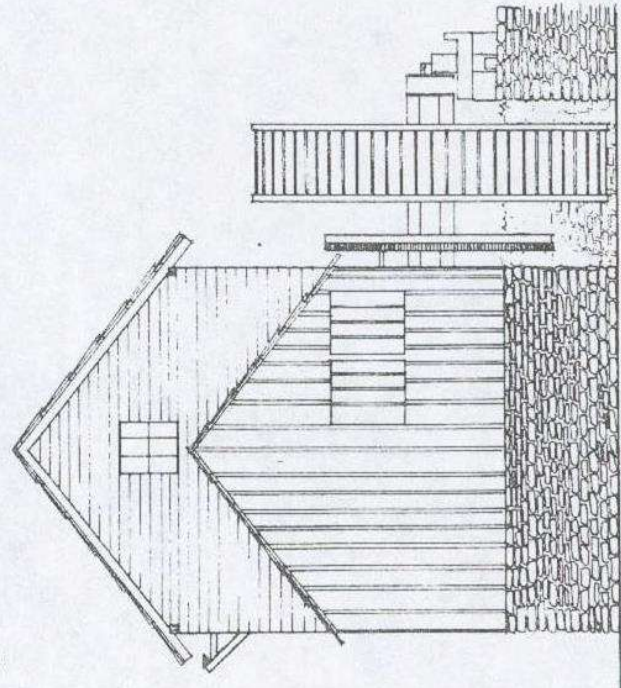
EAST ELEVATION

MATERIALS
ROOF: OAK SHINGLES
SIDING: CLAPBOARDS/HORIZONTAL PLANKS
FOUNDATION: STONE



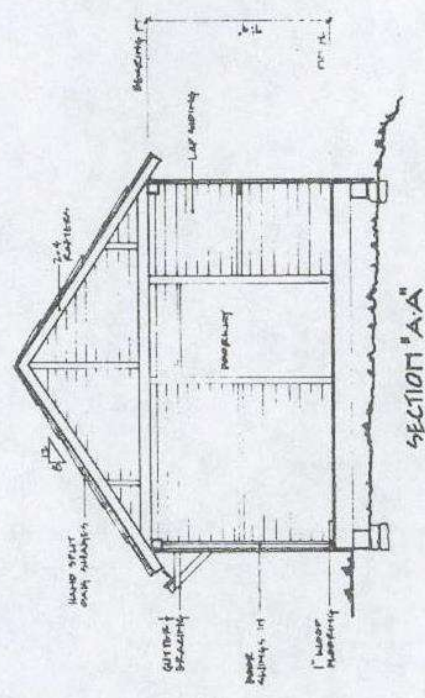


NORTH ELEVATION

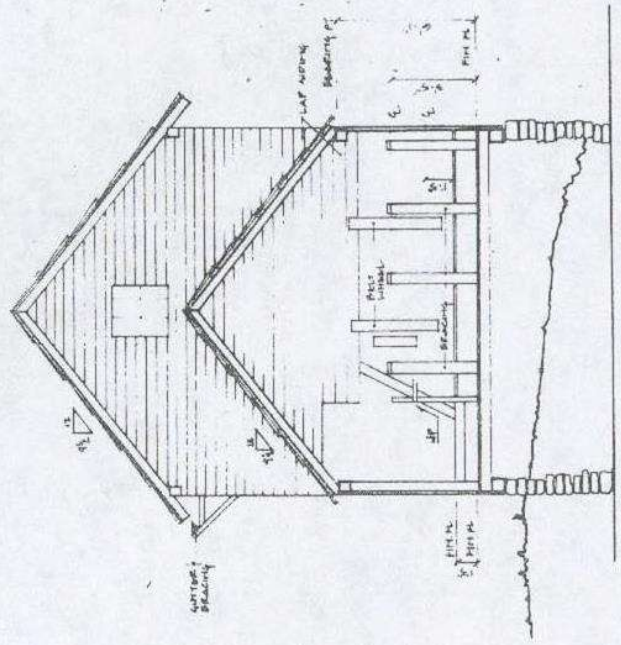


SOUTH ELEVATION

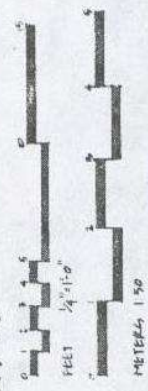
MATERIALS
 ROOF: SHINGLES
 SIDING: CLAPBOARD; SHEDS: SHEDS
 FOUNDATION: STONE
 INTERIOR: EXPOSED STUDS; VERTICAL TRIMMING



SECTION "A-A"



SECTION "C-C"



The Mill:

Interior:

3 sections of Mabry Mill:

The Sawmill shop:

- Located furthest north of the building.
- Contains a sawmill.
- Has the biggest entrance door.

The Gristmill:

- located in the middle section or gristmill section of Mabry Mill;
- contains a 3 level loft area: Level 1: ground floor; Level 2: grinding stone section [mid section]; Level 3: Pulleys and storage [Upper section];
- contains a cornmeal hopper;
- has an attached water wheel for power source;
- contains axle for the wheel ;
- Contains pulleys and is the main operation central of the water wheel.

The Woodworking shop:

- Located furthest south of Mabry Mill.
- Contains a blade sharpener, double blade jigsaw, and a tongue and groove joiner.

Over all:

Short Physical Description: the mill is a large, wood frame building with clad board and batten siding with clapboards. Its gable roof is covered with oak shake shingles. The building was constructed in 3 sections; the middle section measures 20'x16'; the upper section is 23'x16'; and the lower section is 18'x15'.



Southwest perspective



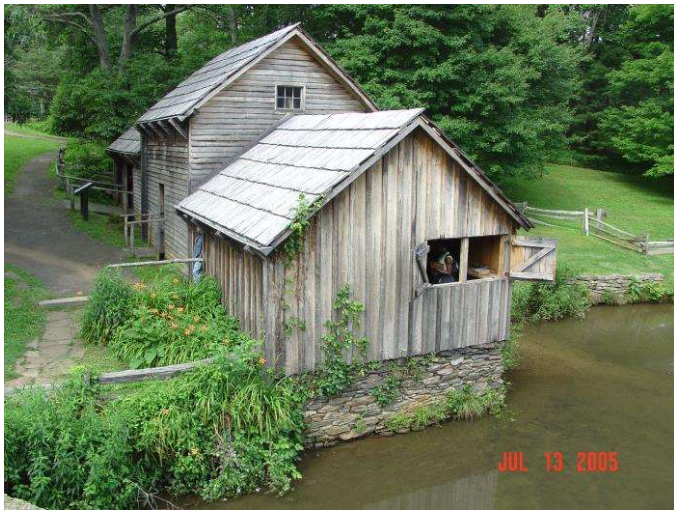
Northwest perspective



South Elevation



West Elevation



Viewing the southwest perspective of Mabry Mill.



Viewing the roof shakes on the west elevation of the mill section of Mabry Mill.



Viewing the connection on the west elevation of the sawmill shop and the gristmill shop.



Viewing the 3 handicap walkways that lead visitors into the 1. sawmill, 2. gristmill, and 3. Woodworking shop sections of Mabry Mill.



Viewing the closed sawmill section door on the Mabry Mill building. Also the handicap paved walkway.



Viewing the 3 paved handicap walkways that lead visitors into the 1. sawmill, 2. gristmill, and 3. Woodworking shop sections of Mabry Mill.



Old mill stones in front of the west elevation of the building.



Old mill stones [looking towards the east of the site].

Operation of the mill:

- Mabry Mill is open during the visitor season, seven days a week.
- Demonstration grindings of cornmeal are conducted by concession millers on Fridays and Saturdays, 3 times each day, for about 15-20 min each time and on other special occasions.
- Prior to each grinding, there are talks given by NPS interpreters inform the public regarding the basics of milling.
- The products from these demonstration grinds are not sold or given to the public due to US Public Health Service regulations.
- The miller runs and watches over the mill.
- The products sold in the mill are produced at approved mills on adjacent private lands.
- When the mill is closed the wheel is secured and the doors are locked with pad locks



Locks and security on the Mabry Mill Structure



- The loft area is an area for employees only.



Employees only sign is used to keep visitors out of the loft area of the Mill.

Communication:

- There are signs that are either nailed to or stapled to original parts of the mill.

Fire Protection:

- There are fire extinguishers located in the sawmill and the woodworking shop.

Other Maintenance:

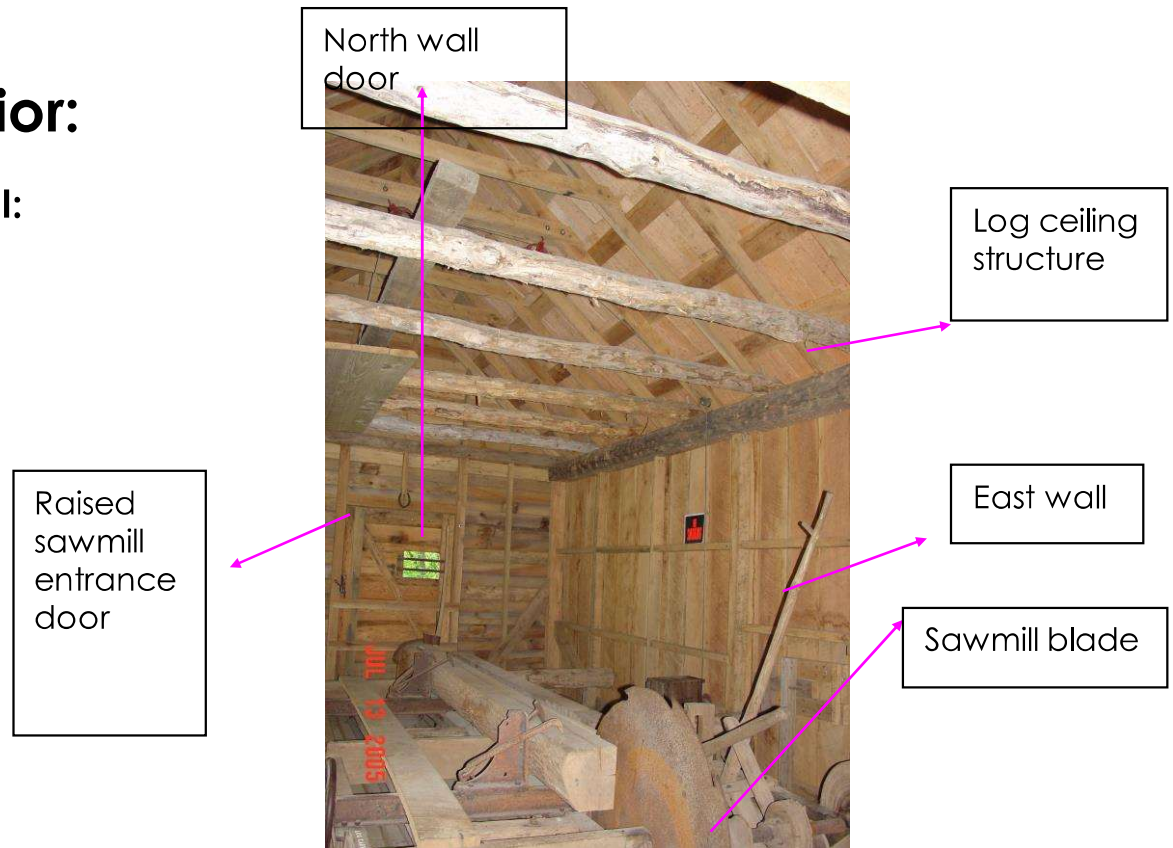
- There is a big bin for litter in the sawmill

•

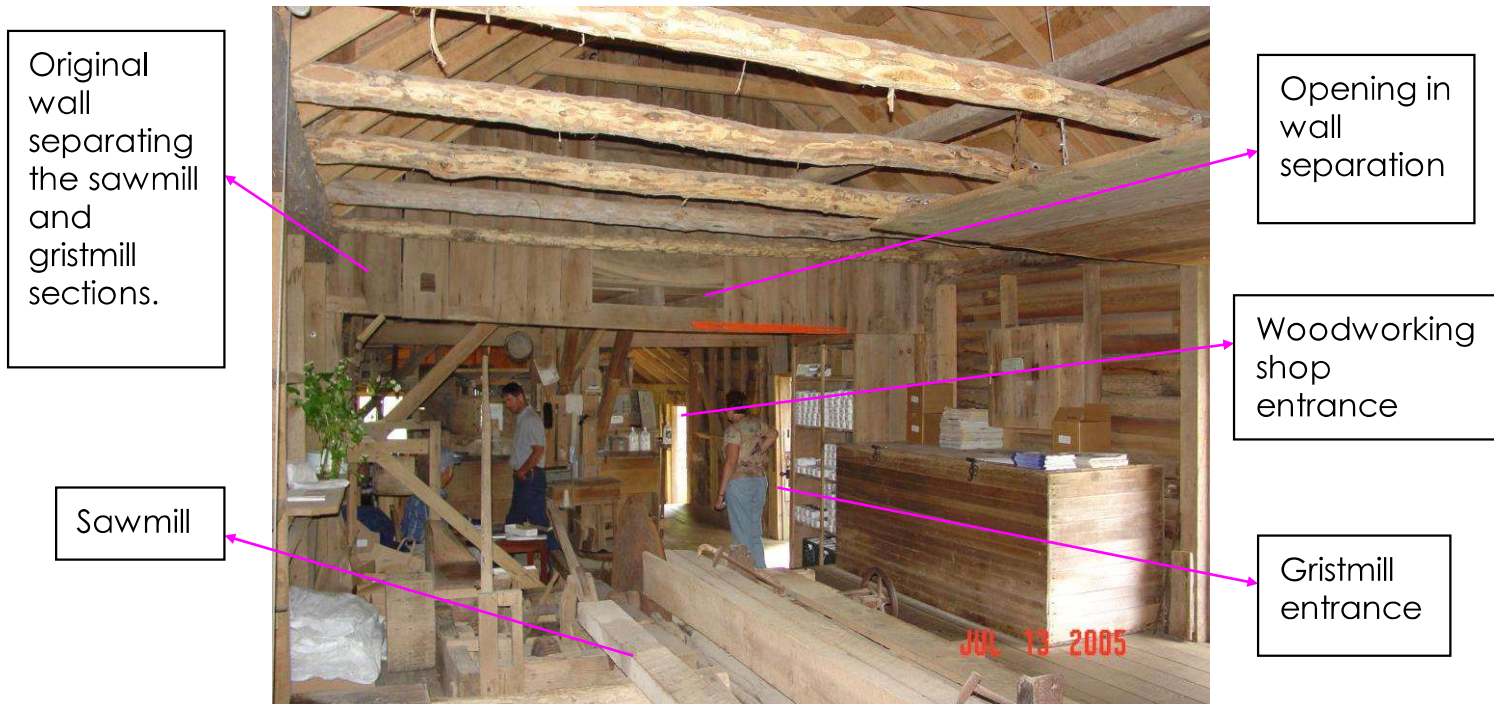


Interior:

Sawmill:

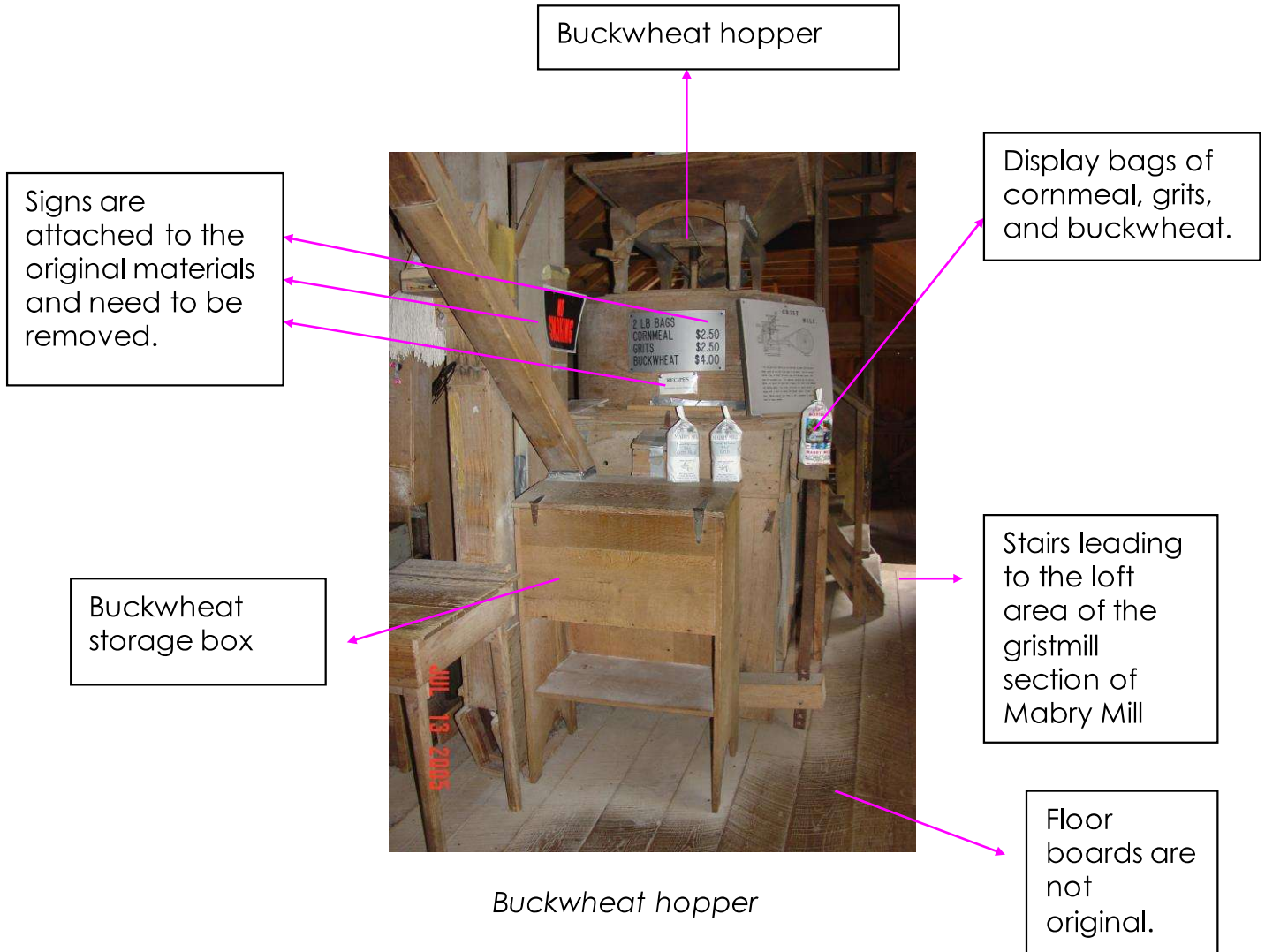


Viewing the sawmill looking towards the north interior wall. Notice the 15" diameter logs used as the ceiling structure [new logs, not original]. Note the door on the north interior wall.



Viewing the sawmill, looking towards the south and the middle mill section and carpenter shop.

Gristmill:





Cracks in buckwheat stone cover.



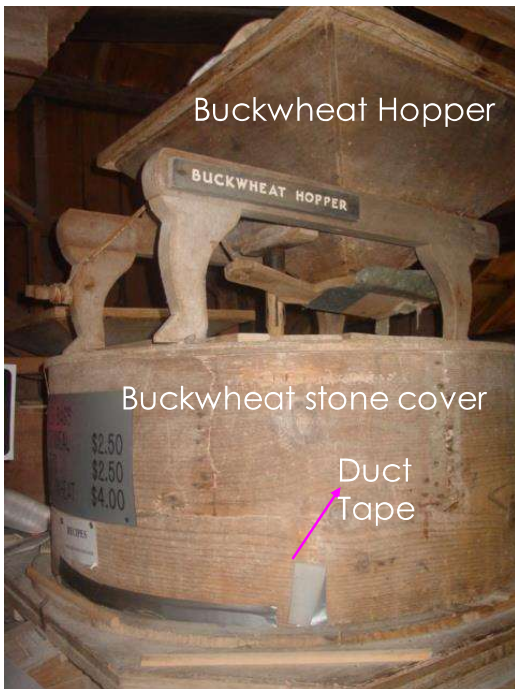
Cracks in buckwheat stone cover.



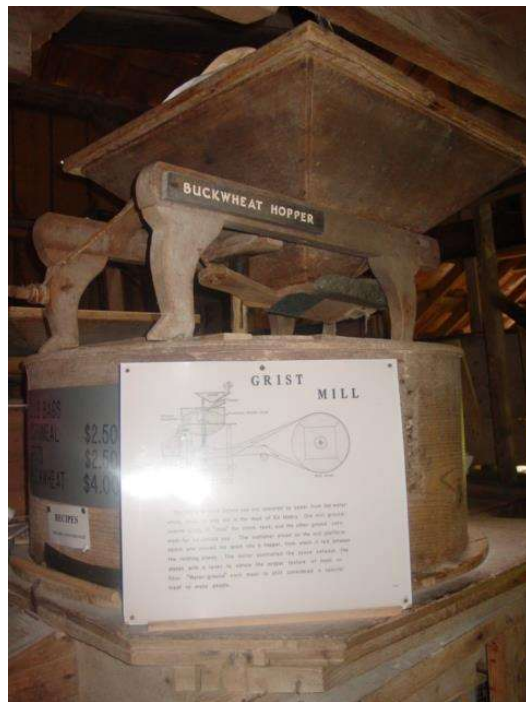
Cracks in buckwheat stone cover.



Cracks in buckwheat stone cover are under the duct tape.



Buckwheat hopper (above)



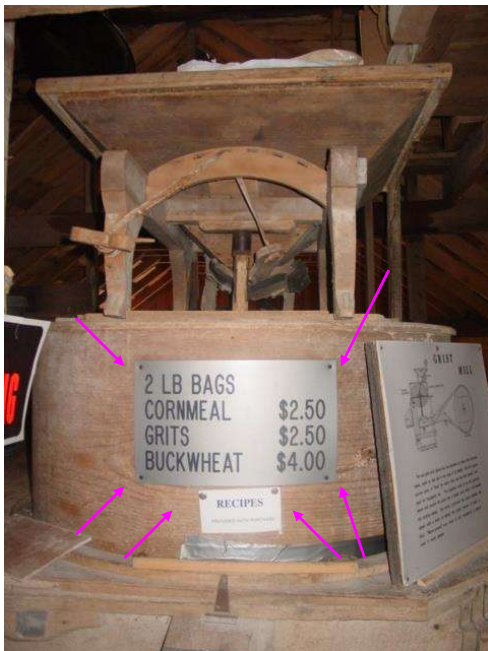
Buckwheat hopper (above)



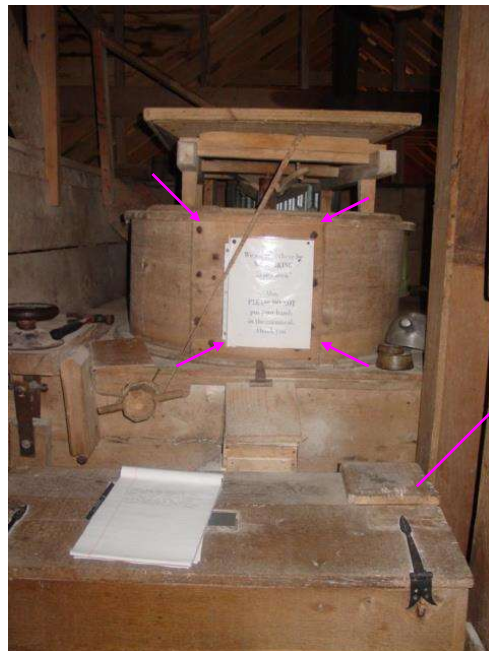
Underneath gristmill; actual working mill stone.



Underneath gristmill; actual working mill stone.



Buckwheat hopper above; note metal screw in buckwheat cover holding the sign.

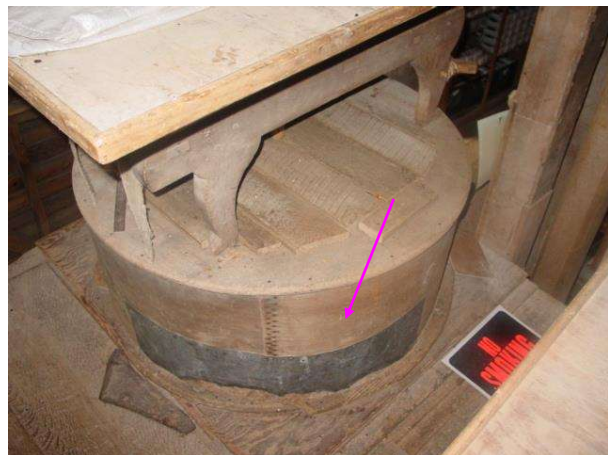


Cornmeal storage box

Gristmill for grinding cornmeal above; note metal screws in cornmeal stone cover holding the sign.



Sheet metal on Buckwheat stone cover used to keep it from cracking.



Sheet metal on buckwheat stone cover used to keep it from cracking



The inside of the gristmill stone
[cornmeal] cover.



The actual gristmill stone [and
surrounding cornmeal].

buckwheat



Buckwheat storage bin.



Actual working gristmill
stone.

cornmeal



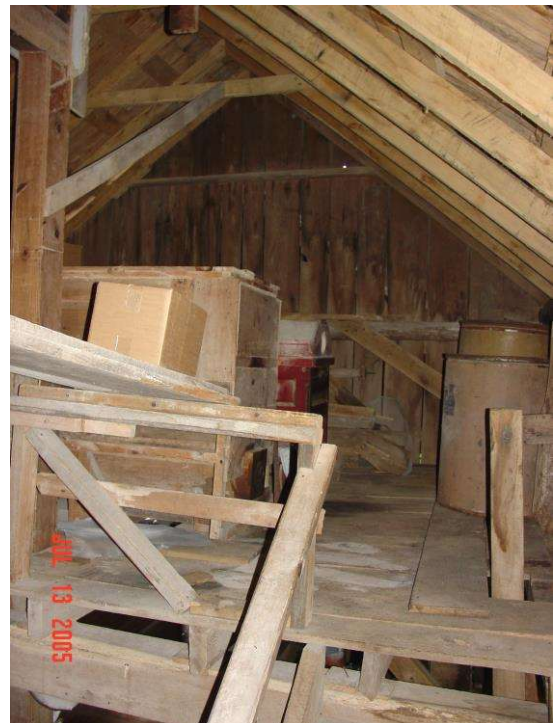
Gristmill: used to grind corn into cornmeal. In Mabry's time, a separate adjacent set of grinding stones were in place to produce a more course meal from corn called "chop" which was used for animal feed. In the late 1940s the concessionaire replaced these "chop" stones with buckwheat grinding stones



Gristmill: viewing from standing in the sawmill section looking towards the mill, the south interior wall, and the woodworking shop.

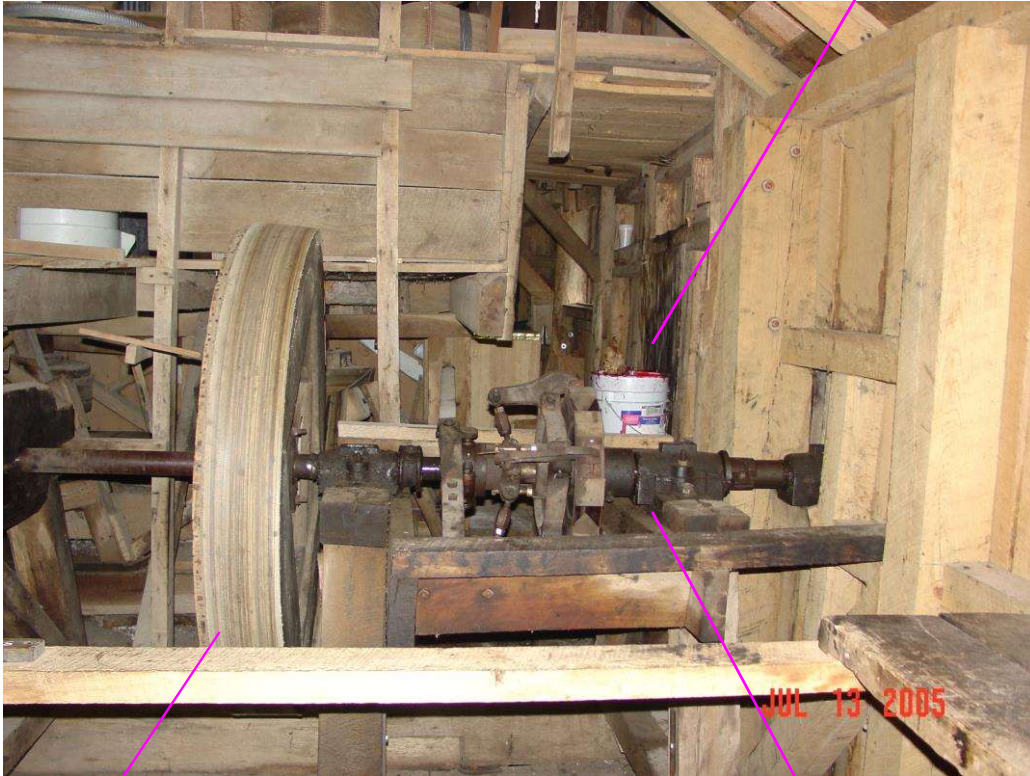


Grist Mill section: East interior elevation window next to gristmill; wheel is visible through this window. Window slides horizontally.



Upper loft area of the gristmill section of Mabry Mill [used now for storage].

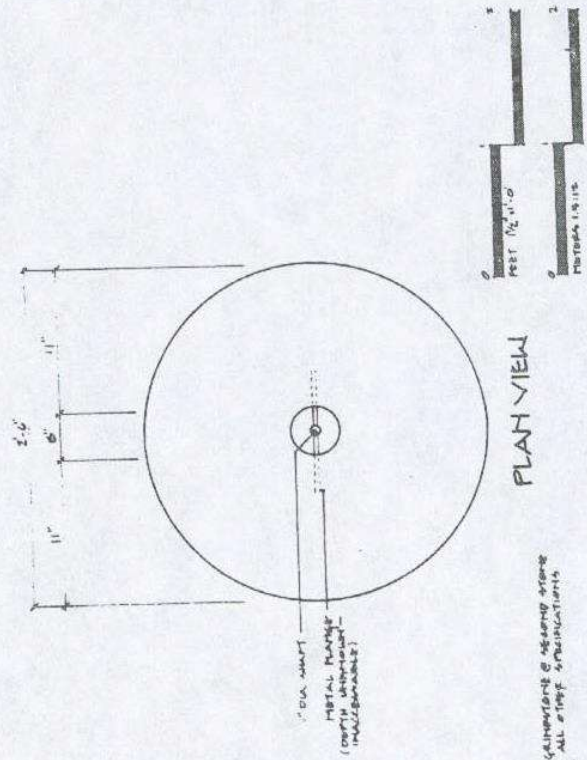
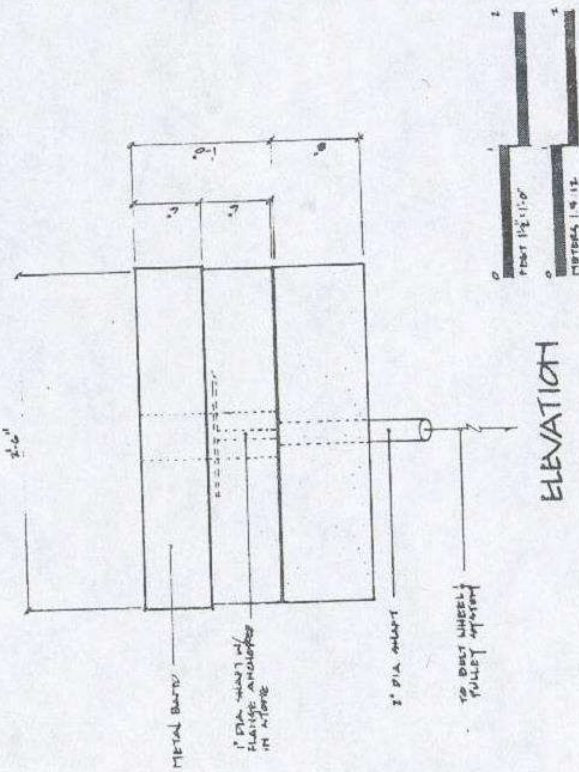
Case opening for
the axle and
bucket of grease
lubrication.



Mill axle

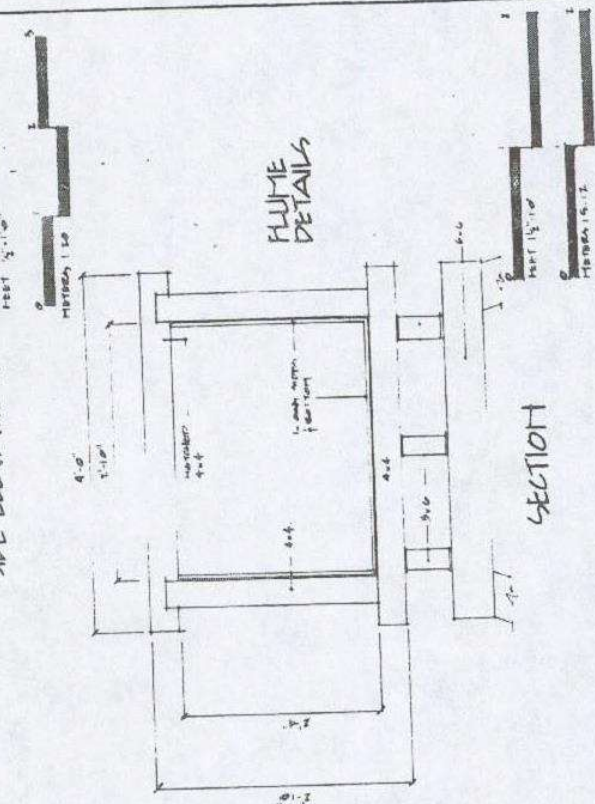
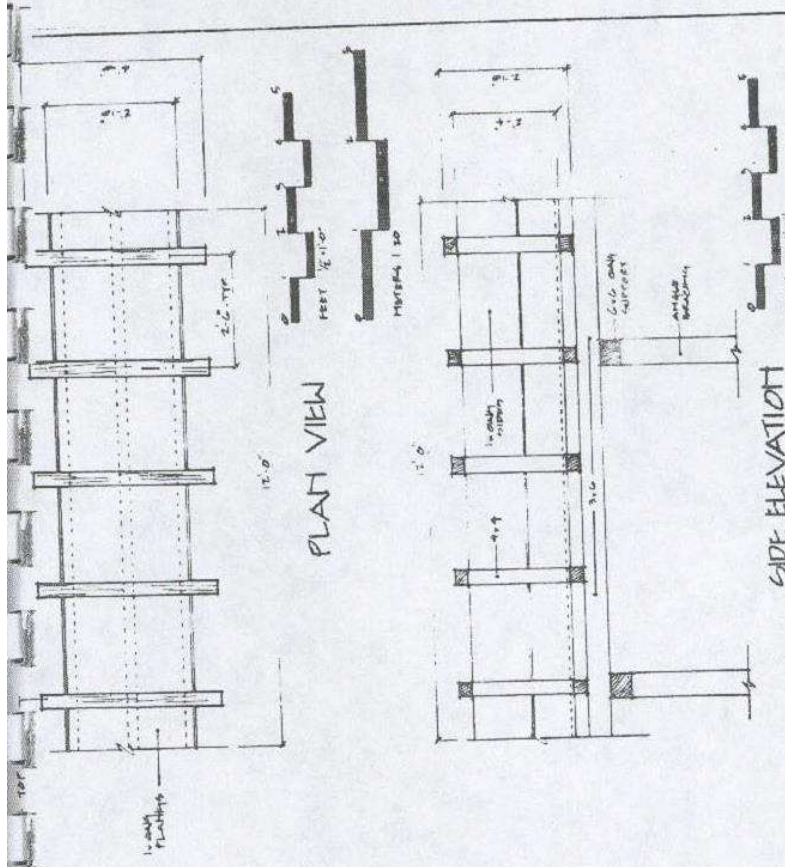
Mill clutch

Gristmill machinery: viewing from standing in the woodworking shop looking towards the north interior wall.



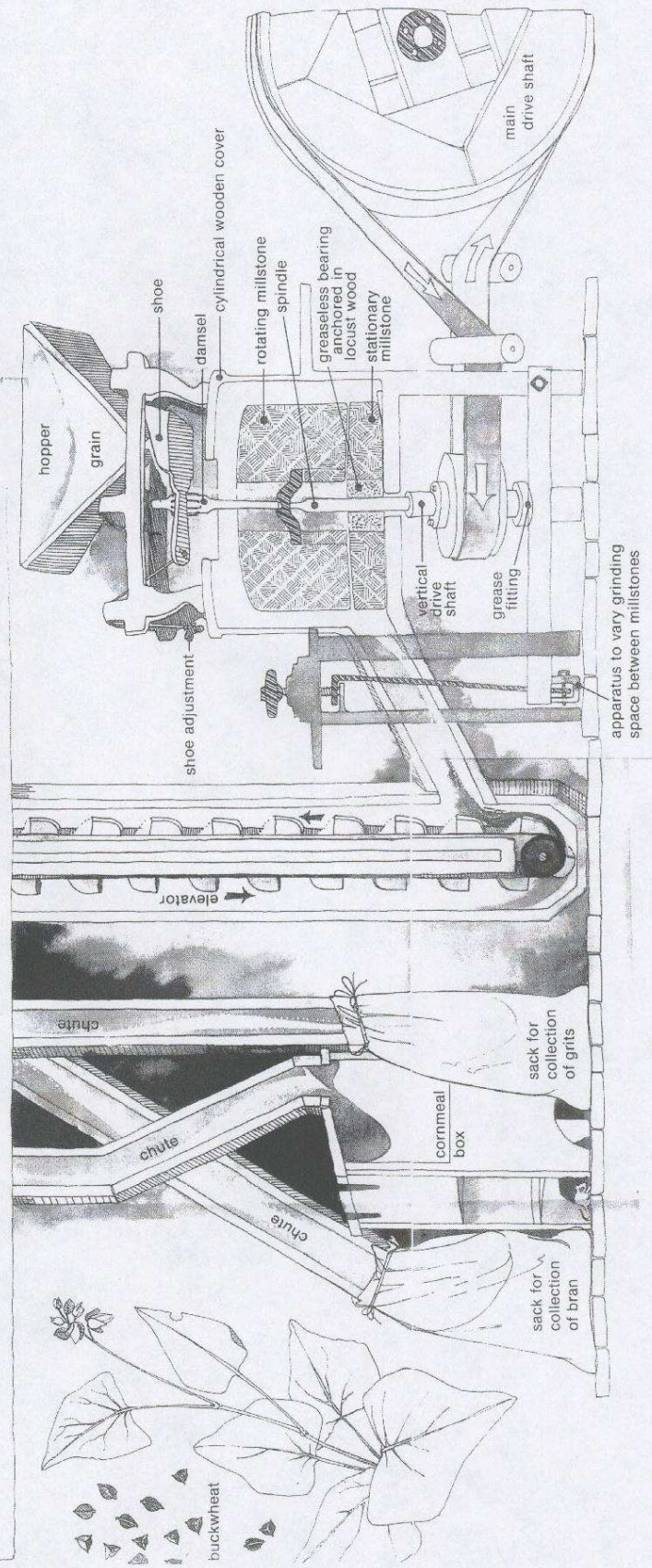
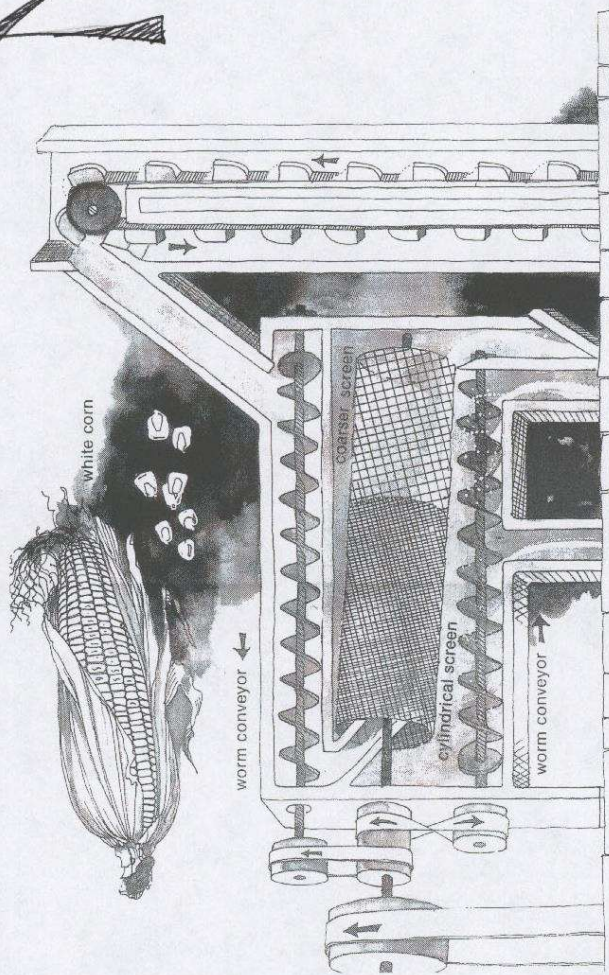
NOTE: FOR CONCRETE & REINFORCED STONE
 @ 14" DEEP ALL STONE SPECIFICATIONS
 THE SAME

GRIDSTONE DETAILS

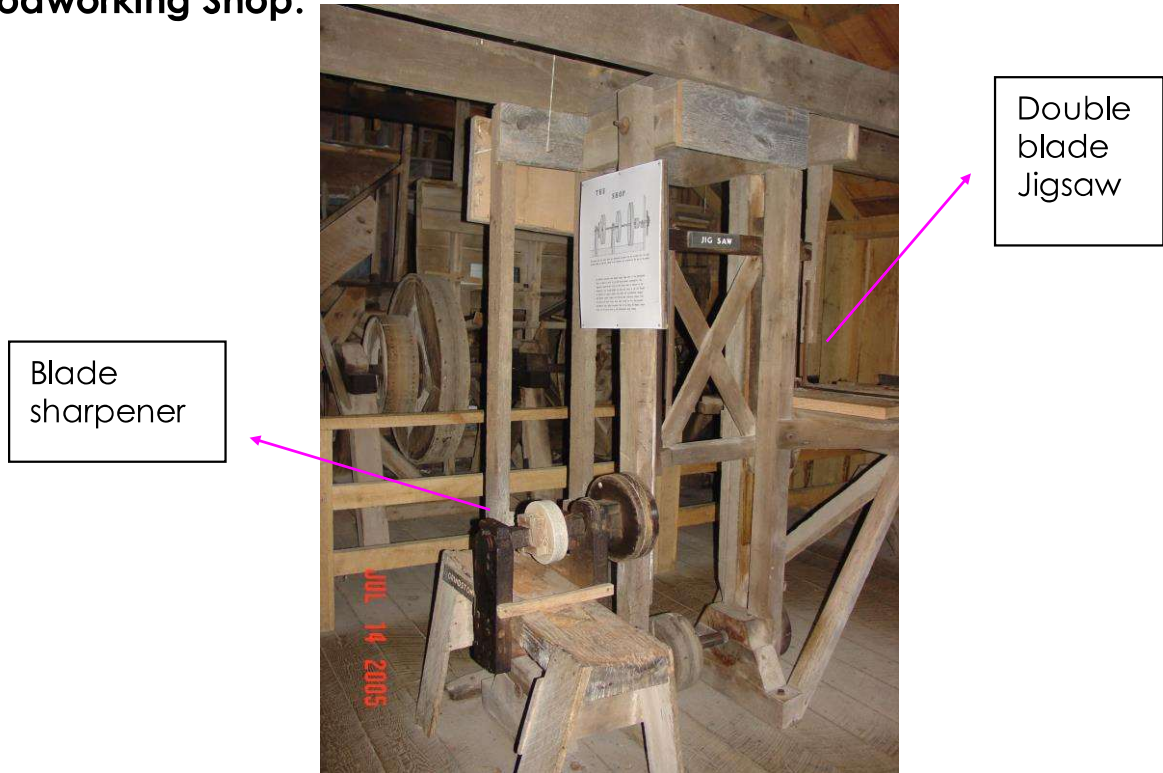


FLUME DETAILS

Flour Mill



Woodworking Shop:



Blade sharpener and double jigsaw in woodworking shop of the mill.



Viewing the woodworking shop standing near stairs in the loft section of the grist mill section of Mabry Mill.

Sawmill:

West Interior Wall:

Description/dimensions:

- There is a door that opens using a system that cranks and rolls a cord that pulls the door open. The door opens from the bottom to the top.
- Clapboard: 1" x 6"
- Horizontal board: 1" x 9"
- Tree trunks used as supports on ceiling: 15" diameter

North Interior Wall:

Description/dimensions:

- Clapboard: 2" x ¾" ; 26.5" on center
-

East Interior Wall:

Description/dimensions:

- Vertical boards: 1 ½" x 1 ½"
- The east wall is the same construction as the interior of the entire building.



This shows the east wall in the sawmill section of the building; note the small door that is thought to have been used to dispose sawdust in Mabry's time.



East wall of the sawmill section. Viewing the small door [thought to be used for disposing of sawdust in Mabry's time]. Located behind the sawmill.-

Floor:

Description/dimensions:

- Floor boards: 6" x $\frac{3}{4}$ " [circular saw]



There are 3 boards in between the guides on the saw mill that are the only original boards in the sawmill section of Mabry Mill. The surrounding boards are not original.



- The floor is cut with a circular saw. Patterns of the saw can be seen in the wood.

Original floor:

- These boards are original floor boards from Mabry's Mill. They are located in between the guides on the sawmill and are random in size. The floor that surrounds it is new.

Ceiling:

Description/dimensions:

- Rafter: 1 ¾" x 3 ½" ; 25" on center



Ceiling to the sawmill section of Mabry Mill.



This is the ceiling in the saw mill section of Mabry Mill. View is from standing near the gristmill section of the mill facing the north interior wall, looking up.



Ceiling in the upper loft section of the grist mill section in Mabry Mill; this photo shows roof structure.



Ceiling in the loft section of the mill section of Mabry Mill. This photo shows the structure in the ceiling.



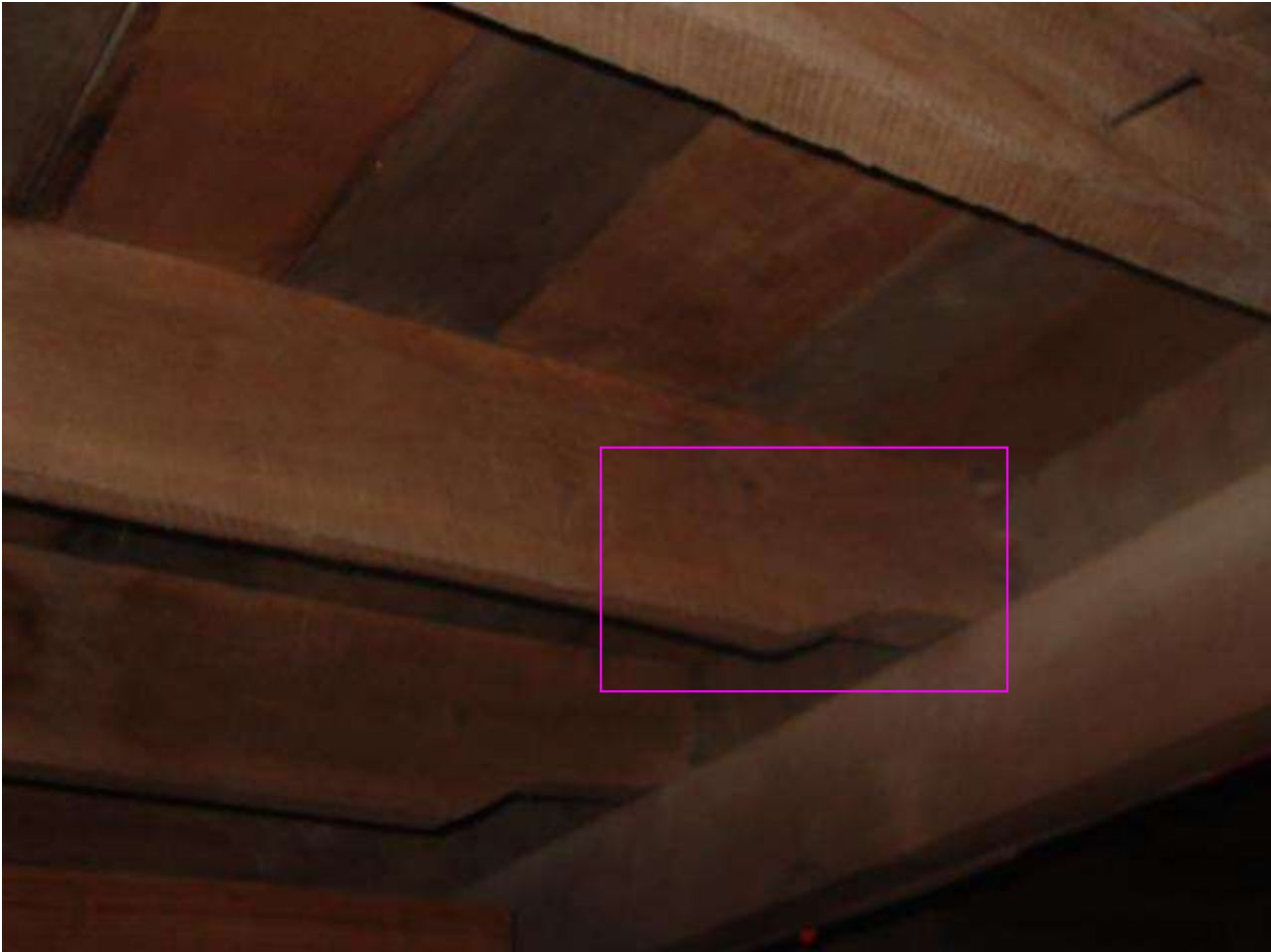
East elevation in the upper loft of the mill section of the structure.



Ceiling structure in the gristmill section of the mill; this wood is original.



There are grooves in the wood in order for them to rest on the beams.



Details of the grooves created for the beams in the ceiling structure of the mill section of Mabry Mill.

Door:

Description/dimensions:

- Random sized faux [hidden door] clapboard

Mill section:

West Interior Wall:

Description/dimensions:

- Clapboard: 1"x 6"

East Interior Wall:

Description/dimensions:

- Vertical boards: 9 ½" x 1"

Floor:

Description/dimensions:

- Floor boards: 7 ½" x 1"

Original Floor:

Description/dimensions:

- Board 1: 5 ½" x 1"
- Board 2: 5 ½" x 1"
- Board 3: 8" x 1"

Stairs:

Description/dimensions:

- Upper loft steps:
 - Stringers: 2"x 8"
 - Treads: 9" x ¾" [3 treads]
 - Width: 25"
- Middle loft steps:
 - Stringers: 2" x 8"
 - Treads: 9" x 1" [2 treads]
 - Width: 25"
- Lower loft steps [connecting to ground floor]
 - Stringers: 2" x 8"
 - Treads: 9 ½" x 2" [4 treads]
 - Width: 25"

Structure:

Stone Mill loft levels:

- Sheet metal on cornmeal hopper needs to be removed. Cornmeal hopper needs to be repaired in kind.
- The cover for the cornmeal hopper is damaged and needs to be repaired in kind. The sheet metal used as a mending material needs to be removed because it takes away from the character of the original structure.
- The grist mill sits next to the cornmeal hopper.
- The stones on the mill should be regularly and professionally sharpened and balanced. According to the miller the last time the stones were sharpened was 12 years ago in 1993.

These stones were being prepared to be sharpened during this evaluation.

Mid Loft Level:

Description/dimensions:

- Floor boards: 11 3/2" x 1" [original floor boards]

Upper Loft Level:

Description/dimensions:

- Rafters: supports: 1 3/4" x 3 3/4" ; 24" on center
- Batten: 5 1/2" x 1"
- Upper beam log: 10" x 6" [hand hewn log, new on the west side] sits on:
- Post: 2" x 4" (quantity= 7), and one 7" x 7" and one 4" x 5"
- Upstairs floor: random [25" x 1", 6 1/2" x 1", 8" x 1"]

Woodworking Shop section:

West Interior Wall:

Description/dimensions:

- Vertical board and batten [exterior]: 1" x 4"
- Interior vertical board: 1 1/2" x 1"

East Interior Wall:

Description/dimensions:

- Structure: There is a post and log side by side:
 - 9" x 9" [post]
 - post: (from left to right) 9" x 9" , 6" x 6" , 4" x 4" , 4" x 4" [all new post]
- Board and batten [this is the same along the whole interior of the east interior wall].

South Interior Wall:

Description/dimensions:

- Vertical board: 1 1/2" x 1"
- Spaces in between boards: Random
- Window [with "z" bracing]:
 - 2 case openings: 2' 7" x 2' 8" [both]
 - Shutter doors: vertical board and batten

Floor:

Description/dimensions:

- Floor boards: random- 7 1/8" – 7 3/2" x 1"

Ceiling:

Description/dimensions:

- Rafters: 1 3/4" x 3 1/2" ; 25" on center

Treatment and use:



Treatment and use:

Exterior:

West elevation:

- There is water damage on the west elevation. This water damage created by the down spout from the gutters. The gutters need to be cleaned on a regular basis. Check the down spout and seal any leaks. These leaks can be damaging to the structure.
- There is a guard railing located on the west elevation near the pond. On this railing there is a piece of paper tied to the rail stating the necessary caution to the poison oak that surrounds that area. Either remove the poisonous vegetation or create a more permanent, appropriate sign cautioning visitors of the surrounding danger.
- There are markings under the gutter brackets on the woodworking shop area of the west elevation. Evaluate in order to see why there are markings under these brackets (supports).



Overgrown
vegetation
touching
west
elevation.

Markings underneath the gutter brackets on the west elevation of the carpenter shop.



Connection of sawmill and gristmill on west elevation. Connection of gutters and down spout, that leads to leak problems if not cleaned.



Connection of sawmill and gristmill on west elevation. Connection of gutters and down spout, that leads to leak problems if not cleaned. Roof shakes also visible.



Corner on woodworking shop on west elevation [nearest to the north] vines are attached to the building and buildup will cause moisture.



Viewing erosion on handicap walkway standing inside of woodworking shop looking to the west of the complex. Note: the uneven connection with the asphalt and ground. This should be fixed.



Viewing erosion, photo taken while standing near millstones in from of the west elevation of the mill looking towards the woodworking shop entrance near the north of the mill.



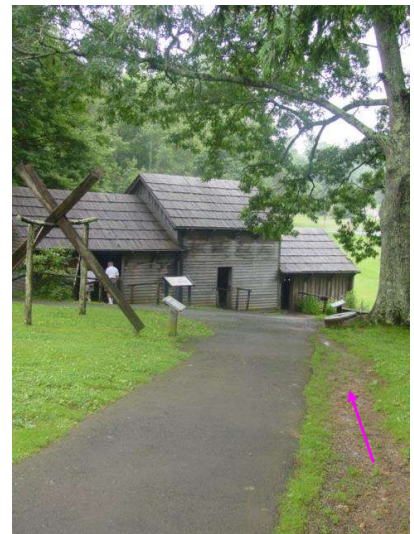
*Viewing west elevation;
note the information sign
in front of the façade and
handicap hand railing.*



*Viewing the surroundings in front
of the west elevation.*



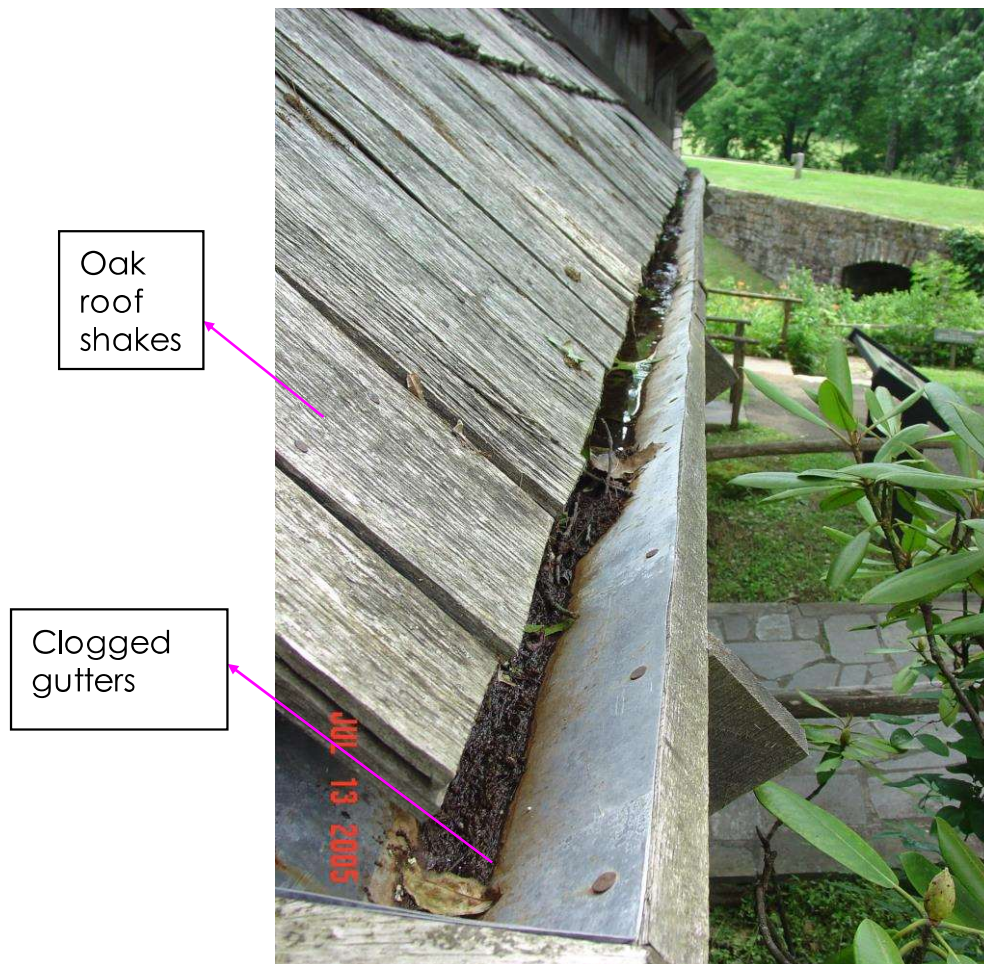
Erosion on the west elevation side near the carpenter shop entrance



This is a diagram showing the path of the water that leads to erosion on the west elevation looking towards the woodworking shop entrance of Mabry Mill.

- Drainage pipe coming from the north east corner of the building adds water to the stream under the flume. There should be no leaks from this pipe that will be damaging to the structure.
- On the west elevation there is some erosion nearest the furthest northern entrance. The land slopes at a downward angle causing water and erosion to interfere with the handicap accessible walkway. This water goes underneath the building to an open area under the gristmill and causes moisture problems. This problem starts all the way from an opening in a gate on the top of the hill near the road (Blue Ridge Parkway). We suggest that the slope should be regarded and should slope away from the building. Consult with a historical landscape architect regarding the implementation of the idea. No water penetration or erosion should be allowed to continue being a threat to this handicap accessible area.
- On the west elevation there is uneven asphalt near the handicap accessible walkway which is adjacent to the woodworking shop. This uneven surface could be dangerous to all handicap persons who want to enter the structure through the woodworking shop. The unevenness in the asphalt could be prevented by eliminating the erosion in this area and creating appropriate drainage in this area.

- There is vegetation touching part of the vertical boards creating moisture damage. Some of this vegetation is poison ivy. Either remove, or move the vegetation so that it is not directly touching the building.
- Gutters need to be cleaned out every 2-3 months to prevent water damage. Check the downspouts regularly for leakage.



Clogged gutters on the west elevation of the building.

South elevation:

- There is overgrown vegetation on the south elevation. This vegetation needs to be removed without damaging the original materials of the structure.



This photo is taken out of the south window of the woodworking shop, looking down toward the pond. Note the stone foundation.



Stone foundation on the south elevation.

North elevation:

- There is overgrown vegetation on the north elevation of the mill near the door creating moisture damage. This vegetation needs to be removed without damaging the original materials of the structure.



Overgrown
vegetation.

Door on the North elevation of the structure. This door leads to the sawmill shop.



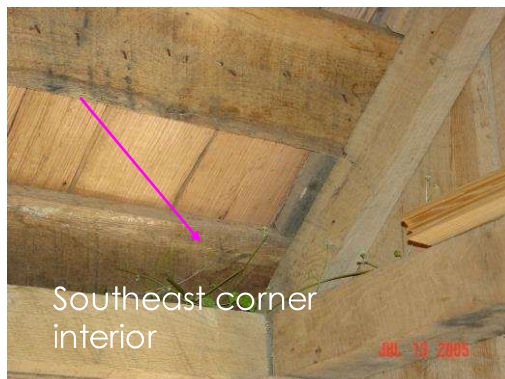
Overgrown vegetation on the north elevation.

Location to the right of the sawmill door on the north elevation

East elevation:

- There are no gutters on the east elevation of the building.
- There is vegetation on the east elevation that is creating water damage. This vegetation needs to be removed. It is damaging to the structure and takes away from the integrity and character of the structure.

This is a diagram that shows how the vegetation on the east elevation roof of the woodworking shop invades the interior of the structure.



Southeast corner interior



East roof interior

Overgrown vegetation in the upper corner of the east and south walls in the woodworking shop of the building.



Stone foundation

Small door on the east elevation near the flume.

Mill window; east elevation



Overgrown vegetation on the east elevation near the water wheel axle; note moisture on east elevation from splashing due to the water wheel.



Note the water damage from splashing of the water wheel.

Overgrown vegetation on the east and south elevations.

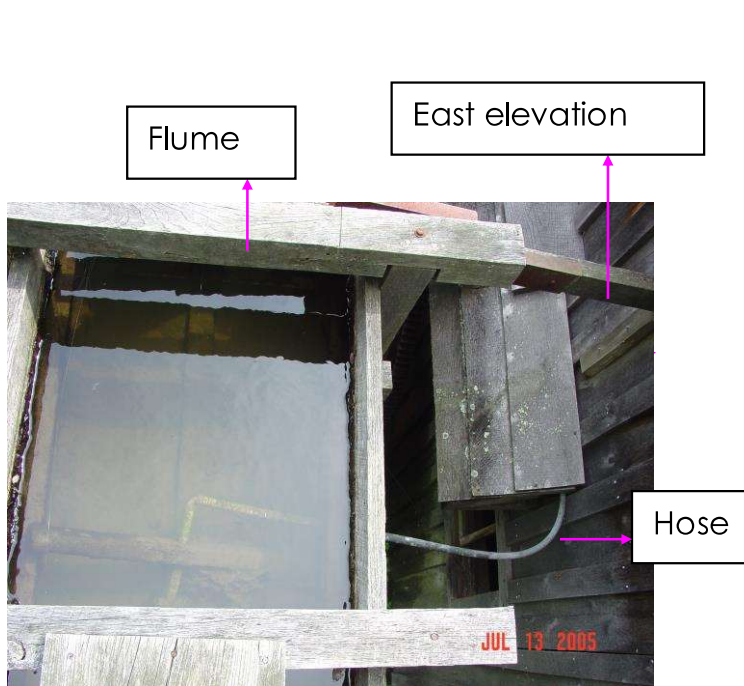
- There is a hose that leads from the west side of the flume that connects to the east elevation [right above window] in the mill section. This hose has been installed in order to keep the gears wet and lubricated for better performance. However, the hose is not sealed correctly and water flows down the exterior of the hose and wets the east elevation. This hose needs to be sealed/caulked to prevent the water from getting to the exterior and interior of the structure.



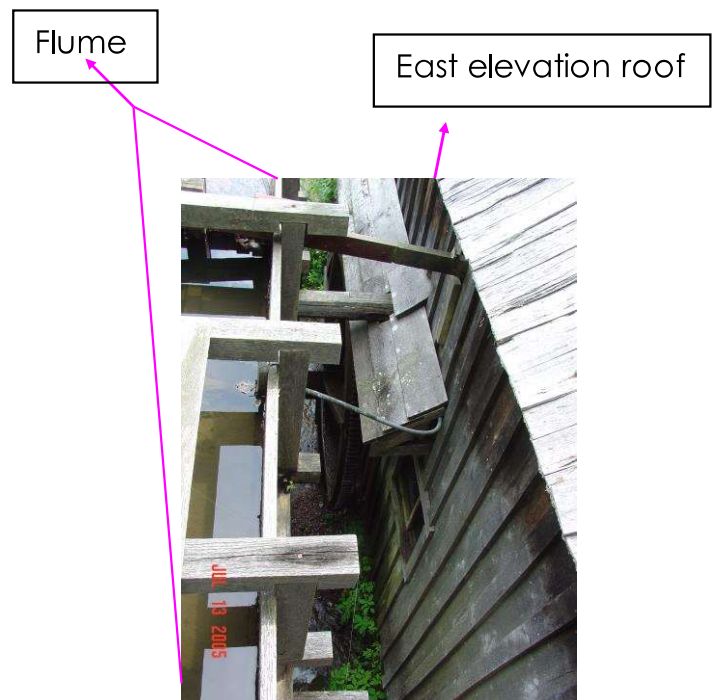
A: Water hose coming from the flume. B: Water hose going to interior of the building; connected from the east elevation.

Flume:

- There are leaks in the flume due to heavy silt buildup. Cleaning the flume regularly of silt and adding a catch basin would reduce the amount of silt and consequential leaks in the flume. This catch basin should be placed at the beginning of the flume, and again where the flumes start up after the concrete waterway section.



Viewing close up from the top of the flume looking down to the hose connection going from the flume into the mill on the east elevation.



Viewing close up from the top of the flume looking down to the hose connection going from the flume into the mill on the east elevation.



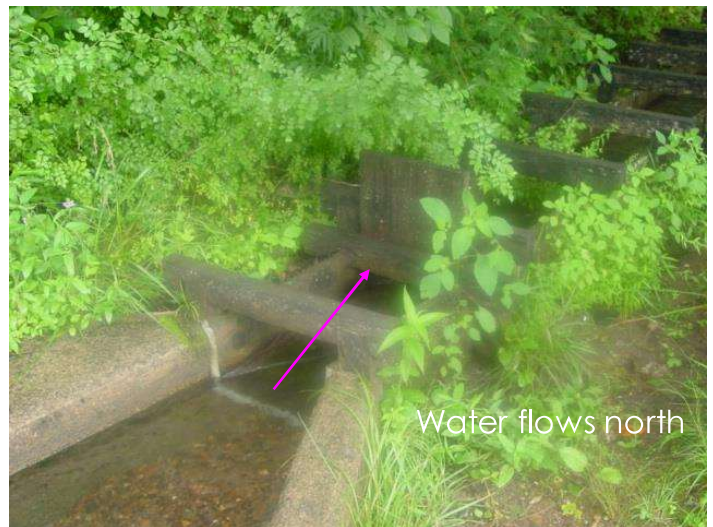
These two pictures show other angles of the connection of the hose to the east elevation; note the Mill section window on the east elevation.



Mill window; east elevation



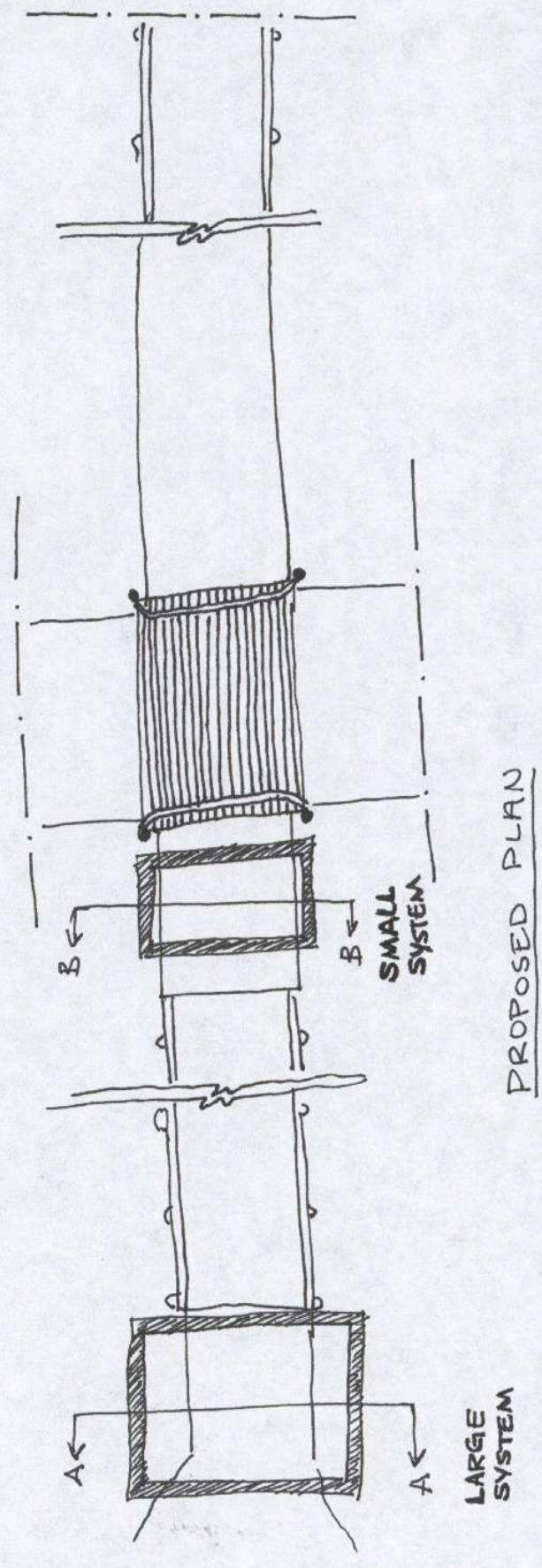
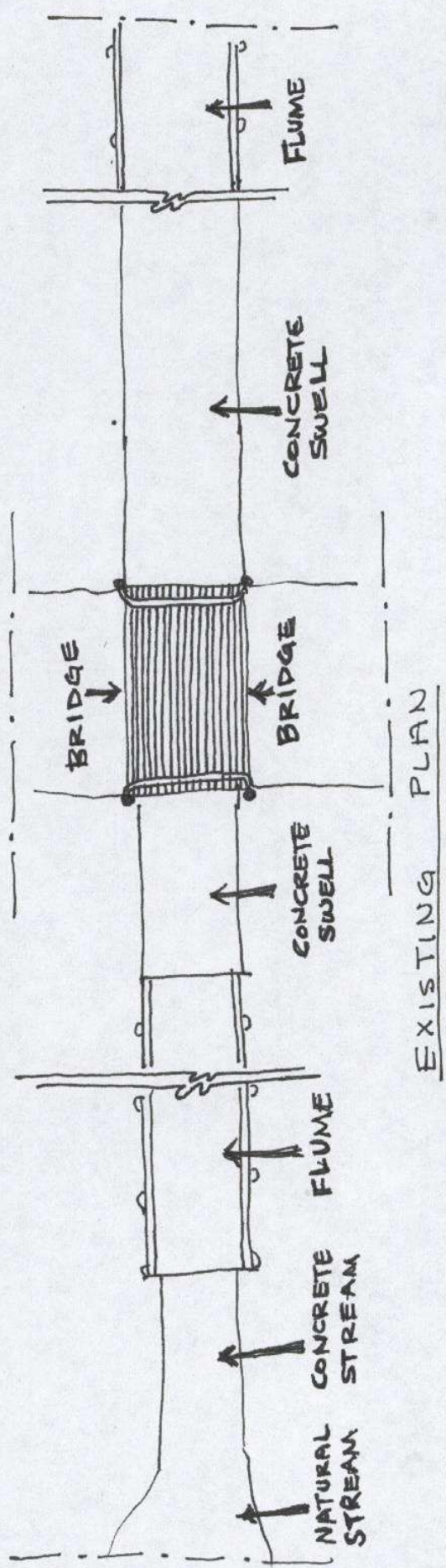
Concrete waterway between areas of the flume. This is another area where siltation from erosion invades the stream.



Water flows north

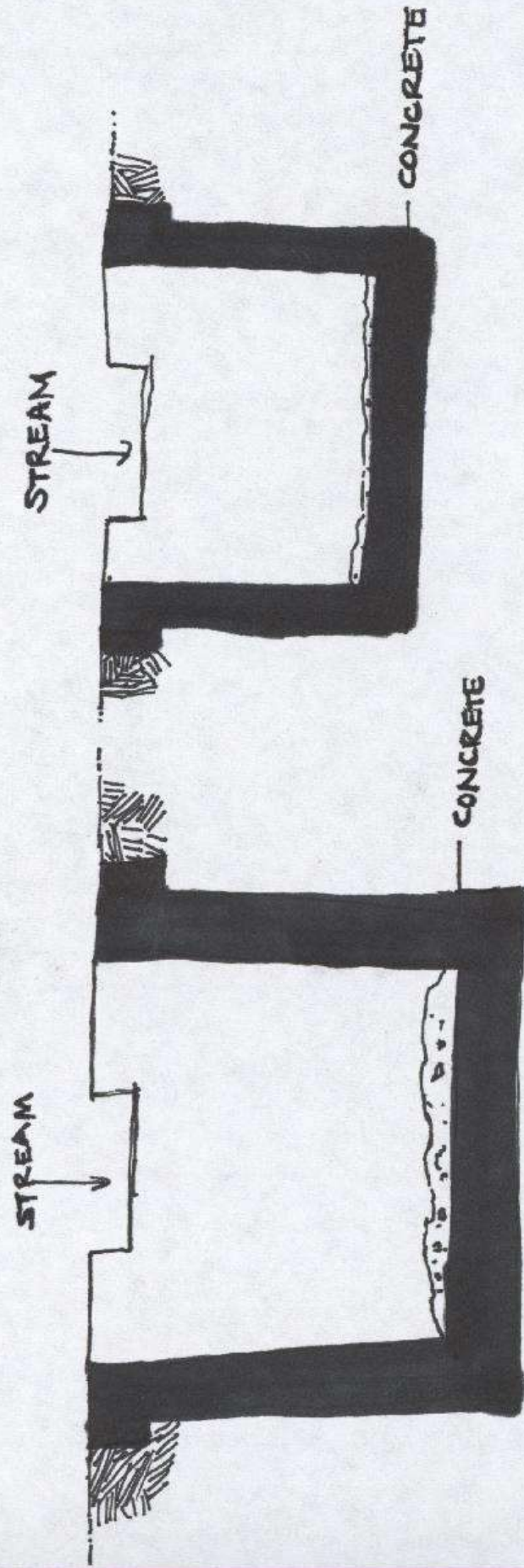
This is the concrete stream that sits between the natural stream and the beginning of the flume. The water here is very clear. However, the erosion and siltation increase as the water flows closer to the mill.

CATCH BASING SYSTEM: PLAN



DRAWINGS NOT TO SCALE

SECTION



LARGE SYSTEM
PROPOSED SECTION AA

SMALL SYSTEM
PROPOSED SECTION BB

*seek professional for dimensions. Use appropriate dimensions accordingly.

DRAWINGS NOT TO SCALE



*The end of the race
attached to the flume.*



*Connection of the flume
and race looking south.*

- There are overgrown shrubs and other vegetation on the flumes. The park staff should consult with SERO Historical Landscape Architects and /or with the Parkway Resident Landscape Architect to determine how this harmful vegetation should be removed in order to ensure the good condition and historical character of the flumes



*Clear water in concrete
waterway as it goes under a
wooden handicap walkway.*



*Concrete swell and flume
connection; view is from standing
on the wooden handicap
walkway, looking east.*



This is the overflow section of the flume and race. This overflow water creates a stream underneath the flume, which causes moisture damage and erosion near the east elevation of the building.

- Over flow sections in flumes create moisture that is damaging to the east elevation. It is suggested that the path of water underneath the flumes be redirected away from the structure and angled toward the pond. This action will decrease the likelihood of water damage to the mill's east elevation and create a much less harmful channel of water flowing directly into the mill pond.
- Flume needs to be cleaned regularly. In tandem with this cleaning, a catch basin system needs establishing in 2 areas of the path of the flume: one catch basin far from the mill where the flumes originate, much further east, behind the concession restaurant; and a second catch basin at the point where the wooden flumes start again after the concrete watercourse, closer to the mill. This catch basin system will lessen the amount of sand, silt, and debris that currently builds up in the flumes. However, leaves and other debris that collect in all parts of the flume will still need to be cleaned manually.
- Coins thrown in the flumes by well meaning visitors in a "wishing-well mode" actually detract from the mill scene and the mountain industry theme and should be discouraged. We

suggest that a sign be placed on the walkway/bridge requesting that visitors refrain from putting money into the flume.

- The flume overflow stream leading to the pond causes considerable and preventable water damages to the mill's east elevation. The park should periodically monitor this stream-caused damage to the east exterior foundation and exterior walls. Due to the proven damage caused by this stream, the water source should be redirected and angled towards the pond and away from the mill structure and flume piers.



Water stream under the flume.



Water from overflow leaves a stream under flume.



Siltation-clogged flumes overflow under the flume supports, sending sand/dirt/debris directly into the mill pond.



Flume structure, [which sits on underground concrete piers.



Viewing from the top of the flume, standing on the wooden handicap bridge/walkway; note that there are 2 overflow sections; mill is off to the left.



Water from the overflow goes under the flume and into the pond [near the east elevation].

Bridge/walkway [handicap accessible]:

- The wood that this bridge is made of is very slippery when wet. There needs to be an appropriate floor surface gripping material applied to the walkway structure
- There are other walkways throughout the complex that have fungus and are slippery when wet. After pressure washing, NPS should apply an appropriate floor surface gripping material to ALL of these walkways.



*Slippery walk way/bridge:
Stays wet during
rainy/snowy season.*



*Algae that form on wet wooden
walkways near the blacksmith shop.*



*Slippery walkways are located
near blacksmith shop and flume.*

Water Wheel:

- When the wheel is stopped the least amount of water should leak from the flume. There are also holes in the buckets of the water wheel. The flume should not leak water when the mill is off [shut down]. The door in the flume that keeps the water off when the wheel is off should work properly. Consult with a professional for correction of the problem.
- The wheel needs remain uniformly wet when not in use in order to stay balanced. See professional do determine the actions to be taken with the water wheel.
- Running the wheel only part time is not proper for the balance of the wheel. There is also an effect when the wheel is icy in the winter. The wheel needs to stay evenly wet at all times [unless the entire wheel is completely dried. Consult with mill professionals to find ways to keep the waterwheel evenly wet.

Description/dimensions:

- The water wheel was reconstructed in 1995 by the National Park Service.
- It has an approx. 20" [axle] and a total 30ft [wheel] diameter.

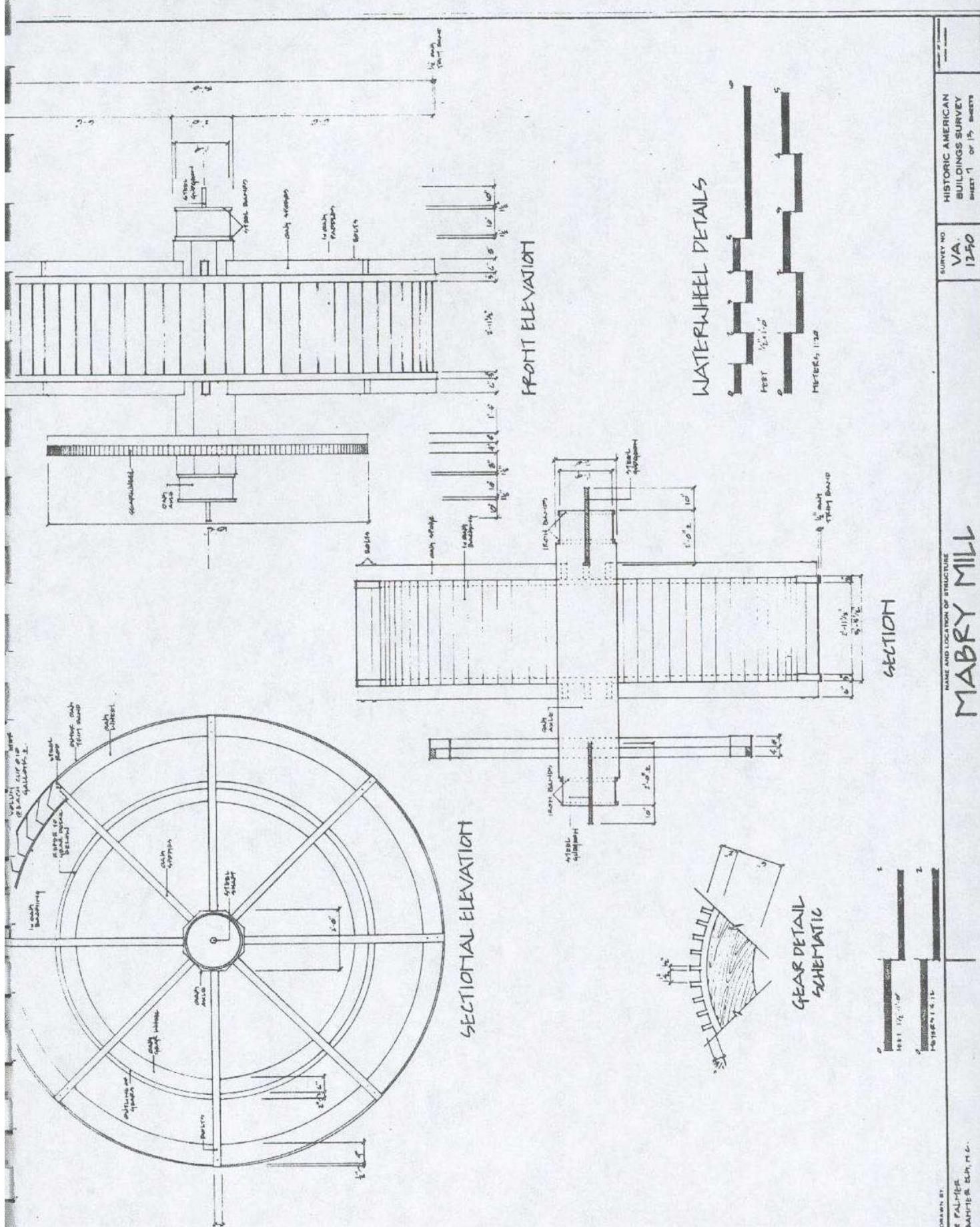


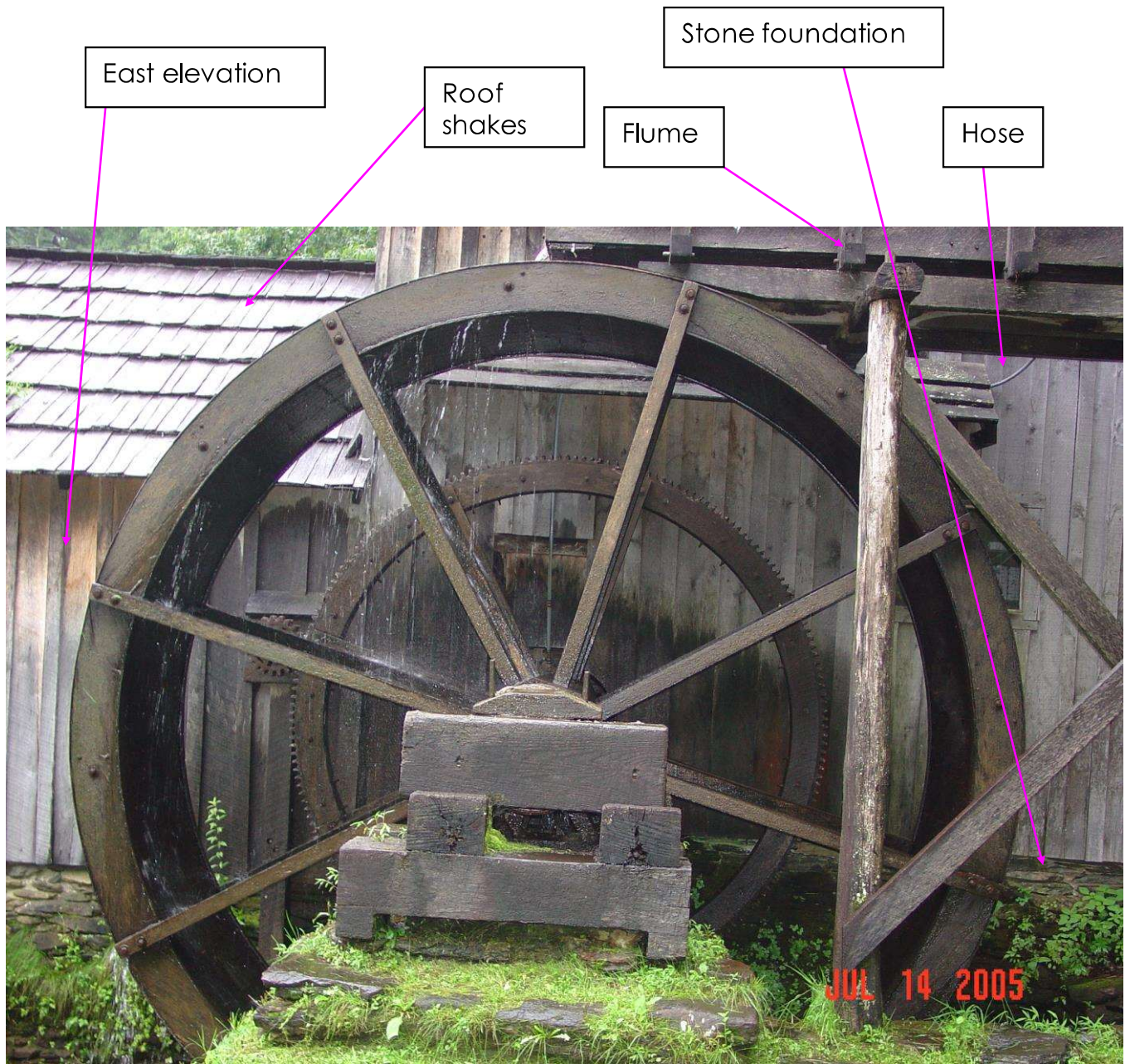
Wet water wheel: water wheel leaks, buckets inside of wheel need to be sealed; seek professional evaluation of the wheel leaks; water splashes on east elevation.

Moist east elevation gets splashed from water wheel and flume leaks.



Viewing east elevation; note the wet façade and leaking water wheel and flume; seek professional evaluation of wheel; consider using an appropriate clear sealant for the east façade wood.





Water wheel and flume on the east elevation: Note that the water wetting the wheel is only wetting half of the wheel and is also splashing the east elevation. The entire wheel must stay evenly wet in order to stay balanced. Consider seeking professional evaluation in order to determine an accurate solution for this problem.



Note that the east elevation in the background of the wheel is wet.

Just as in protection of the water wheel, the East exterior elevation of the building needs to be appropriately protected from possible water splashes; and water should not splash through the axle opening of the mill to the interior.



This photo shows that the wheel buckets are leaking.

Water Wheel Axle:



Water damage on case opening creates wood rot and needs to be replaced.



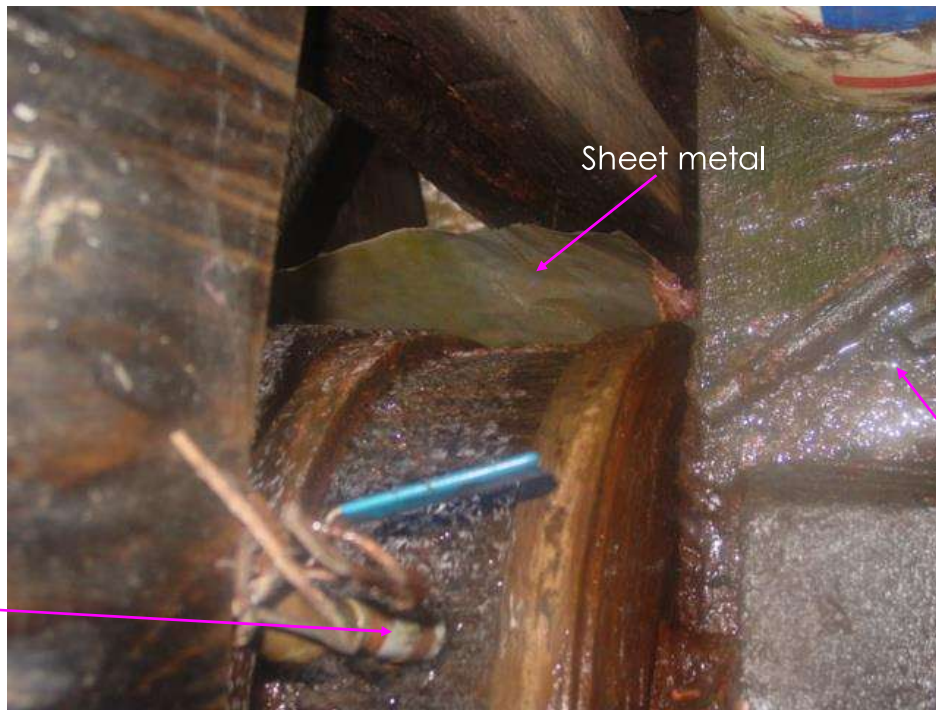
Water damage from splashes from water wheel through the case opening for the axle.



Water damage from splashes from water wheel through the case opening for the axle.



Hose that comes from the flume to the east elevation to the case opening for the wheel axle.

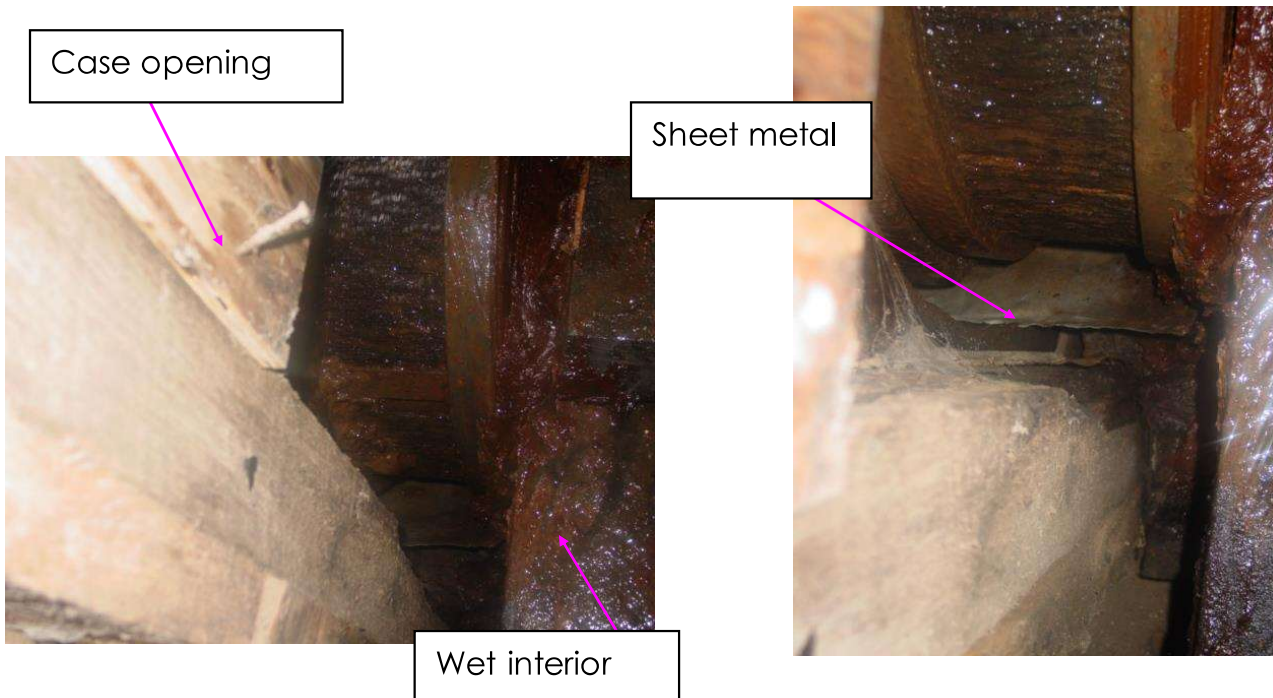


Water hose

Sheet metal

Wet interior due to splashing from wheel into case opening for axle

Sheet metal is placed to keep out moisture. Consider evaluation and recommendations for improvement by a professional; view is from the top of the axle and the case opening.



Case opening

Sheet metal

Wet interior

Water damage from splashes from water wheel through the case opening for the axle; note wet interior.

Water damage from splashes from water wheel through the case opening for the axle.



Viewing the wet axle, case opening and interior on the east wall of the interior.



Viewing water damage on case opening of water wheel axle.



Showing water stains on the east wall of the interior in the mill section of the building, above case opening for the clutch of the mill.

Case opening



Viewing the interior of the mill, standing underneath the grist mill, looking towards the case opening for the axle of the wheel.

Interior:

Sawmill section [North end]:

West wall:

- There are some water stains on the interior of this wall. However, the area does not appear to be wet, and no water was visible during the inspection.

North wall:

- Consider further evaluation to the north interior wall due to moisture from vegetation and the flume release spout located on the exterior of the north wall
- According to the Miller, water from opening where the water control lever enters the building encourages leaks into the interior of the east wall. However, there was no visible leakage during the time of inspection. Consider further evaluation of this area to confirm whether there is a leakage problem.
- There is water damage on the east interior wall which could be caused by water splashing from the wheel or from overgrown vegetation. The east wall should be protected using in-kind fabric materials from this water damage caused by the flume and water wheel.
- There is a spout that comes from a hose that is connected to the flume that wets the axle of the mill. Water splashes into the case opening of the mill. There should be sheet metal placed to keep water from splashing to the interior. It should look professionally done. Consider getting a contractor to install the sheet metal or another material to stop this water penetration.

Ceiling:

- Water stains on roof. Check for damages and leaks.

Door:

Sawmill
door



Sawmill
interior ceiling

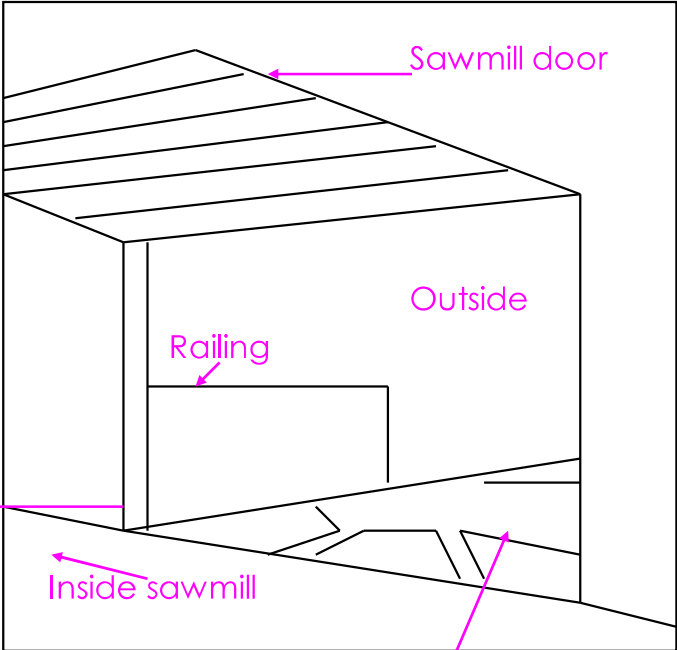
West
elevation
gutter

The entrance door to the sawmill.



Faux clapboard to blend door with the façade of the west sawmill section elevation; this is a photo of the raised door [from the side]; note the clapboard like finish.

Minor wood rot

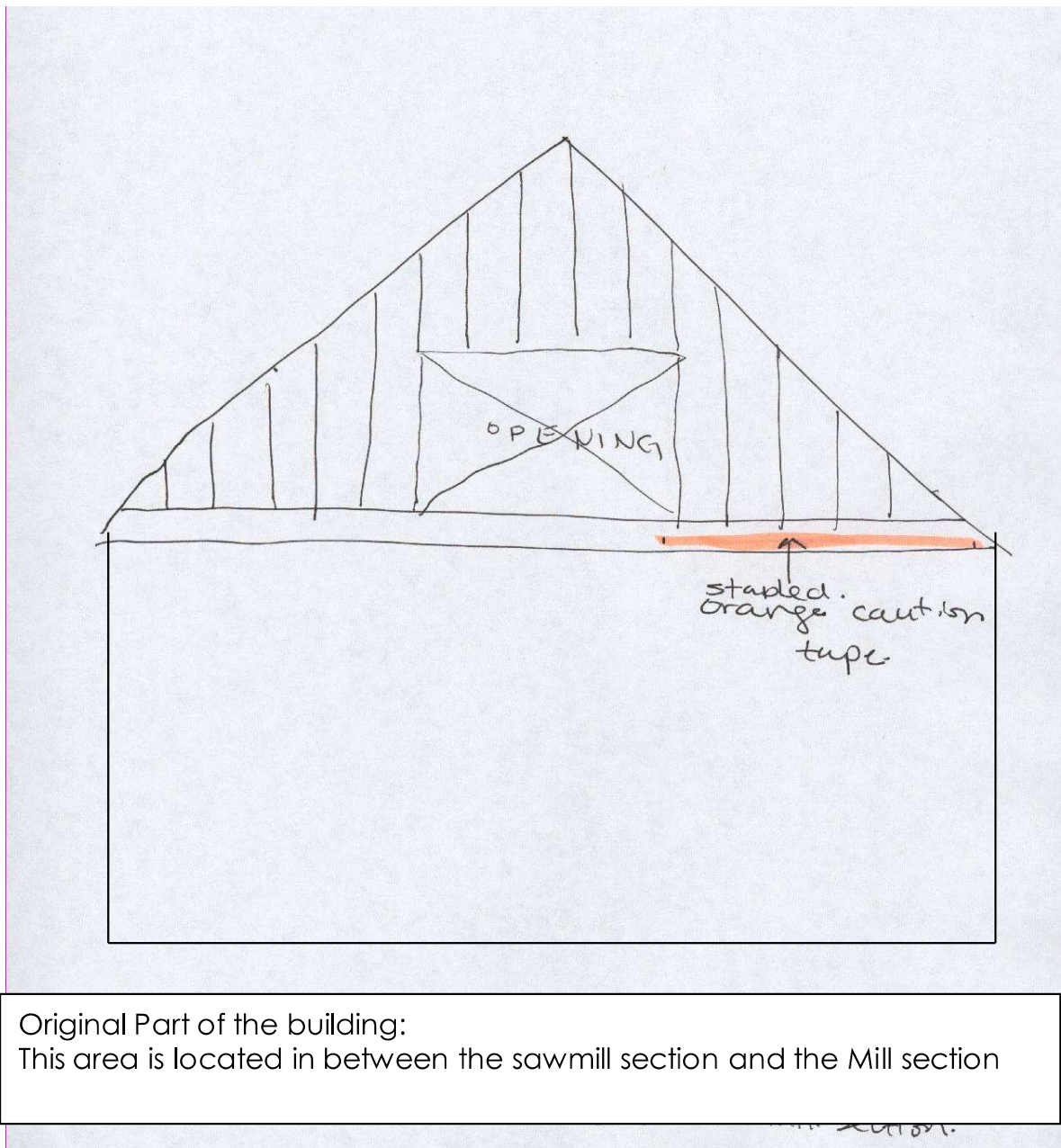


Viewing the sawmill entrance door, standing in the far north east corner of the sawmill section looking southwest through the door [located on the west façade].

Minor wood rot at the base of the door on the left lower corner
[standing on inside of the building looking out towards the west.]

Wall separation:

- There is a wall that separates the sawmill section and the mill section [this portion is original]. This wall has an opening that travels from the sawmill into the gristmill. The opening is low and there is orange tape stapled to the area as caution. This tape should be removed from the original material. Another more appropriate method of cautioning the visitors should be explored.



Mill section [Mid section]:

West wall:



West wall in the upper loft section of the mill.

East wall:

- The east wall is the same through out the whole interior of the mill.
- There is rotting wood on the interior of the opening for the water wheel connection [the axle] due to the water that splashes from the wheel. These pieces of wood should be repaired or replaced if necessary, in kind.
- The window [sash] on the east wall is attached by metal angle supports and needs to be repaired in kind.



Window [sash] to the mill on the east elevation of the mill section.

Floor:

There were pest droppings found on July 15, 2005 in the mill section of the structure. An appropriate pest control system should be conducted and with consideration to the structure's integrity and public safety.



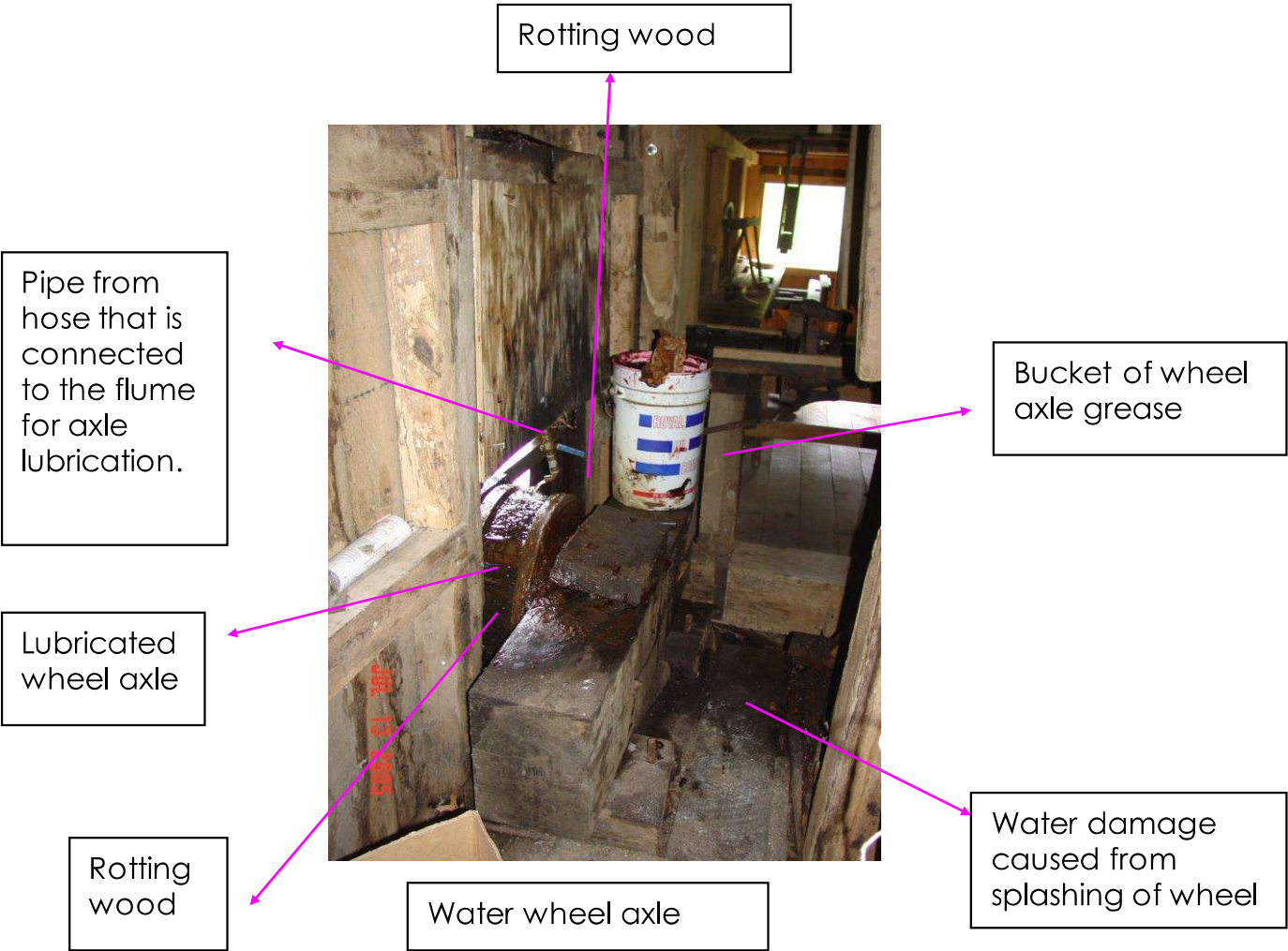
East wall in the
gristmill section

Gristmill clutch

Case opening for
clutch

This photo of the east wall shows the case opening for the wheel clutch as well as the supporting posts that serve as structure for this wall.

The opening for the axle connection from the mill to the gears allows water to enter the interior of the structure. This water is damaging to the structure. Consider using an appropriate sealer (in-kind) to protect the east wall.



Stairs:

- These stairs are original. The "employee's only" sign should be removed from the original structure.



A: Stairs from the ground level to mid level of loft. B: Stairs from the mid level to the upper landing of the loft. C: Stairs from the upper landing to upper level of the loft in the mill section of the structure.

Water damage on east elevation

Stair landing in the loft section of the mill; leads to upper loft

Extra belts for the pulleys

Mid loft stairs

Stone level [mid loft section] floor boards

East elevation water stains near upper loft landing in mill section of the building.

Pulley System:



This is one of the most important aspects of the mill. Because it is attached to the ceiling in the upper loft, check for leaks that may occur through the connections.

The pulley system for the gristmill as viewed from the woodworking shop looking up towards the loft area of the mill section; bright light comes from window in upper south elevation.



2.



This is the loft section 1. ground floor 2. Mid loft section 3. Upper loft section.

Supports used to stabilize the pulleys in the gristmill section of Mabry Mill.

Mid loft section:

- This is the section where the gristmill and cornmeal hopper are located.
- Stone level [mill stones; grinding level].
- Observe the moisture damage on the east wall

Buckwheat
hopper
(NOT
active).



Cornmeal hopper
(actively used for
demonstration
grinds only. No
products are
produced here for
visitor or employee
consumption

Mid section of loft used for storage.



*Floor boards of the stone level [mid loft
section] of gristmill section of Mabry Mill.*

Upper loft section:



Ceiling and attached pulley in the upper loft of the mill; check for leaks especially where the pulleys are attached to the ceiling. Pulleys are not original to Mabry's 2 milling efforts: cornmeal and chop animal feed. Pulleys shown in photos were installed in the late 1940s by concessionaires to allow the bolting processes required in order to produce buckwheat flour sold thereafter to visitors

Mill pulley

South interior wall of the upper loft section



Ceiling and rafters

Upper loft structure

Upper loft section of the mill section of Mabry Mill. Check for leaks in ceiling.

Woodworking shop section [South end]:

West wall:

- Consider evaluating this wall for water damage, due to the gutters being on the exterior of this wall.

South wall:

- There is vegetation growing in the corner of the south and east elevations. This vegetation should be removed without damaging the structure.



Open windows on the south interior wall of the woodworking shop. These windows are NOT original to Mabry's structure; they were installed by NPS in 1942.

There is water damage on the south wall. This damage is caused by overgrown vegetation and leaks through the wall. The vegetation needs to be removed and leaks sealed in kind. Consider applying a protective sealer in kind to prevent moisture absorption from the pond.

East wall:



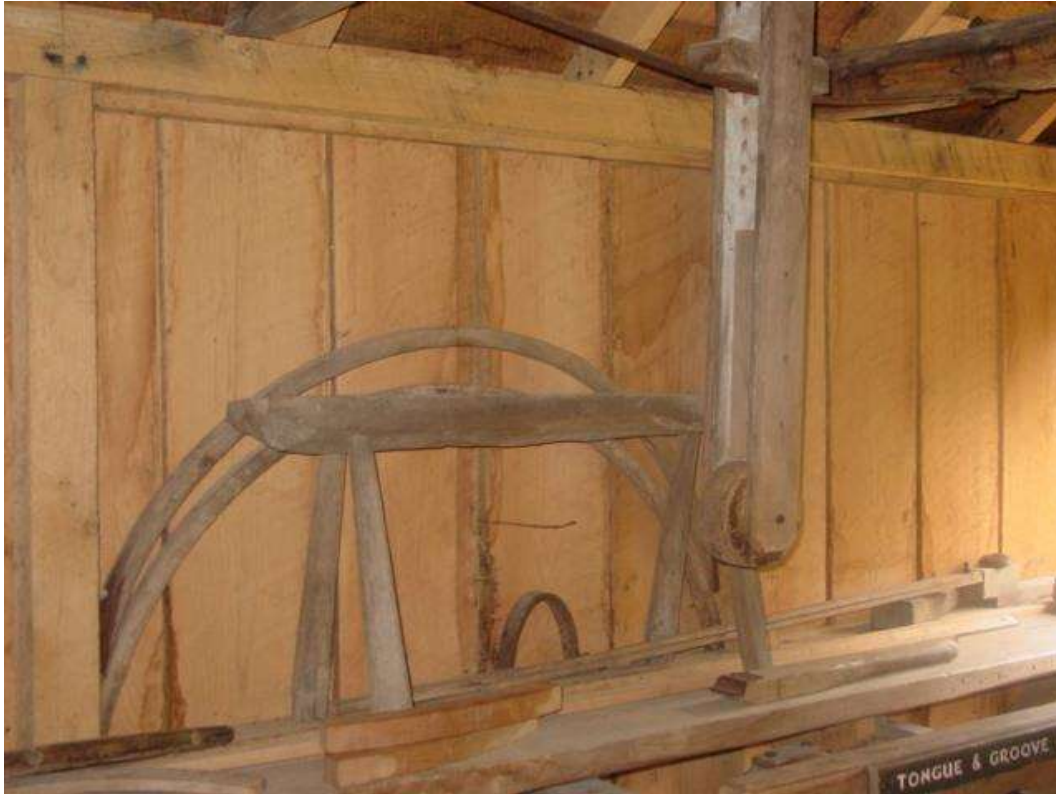
The east wall in the woodworking shop is shown here with tools similar to those of Mabry's time.

- There is vegetation intruding from the outside into the east interior wall. This vegetation must be removed in order to protect the wood from moisture damage.



East wall [in
woodworking shop]
water damage

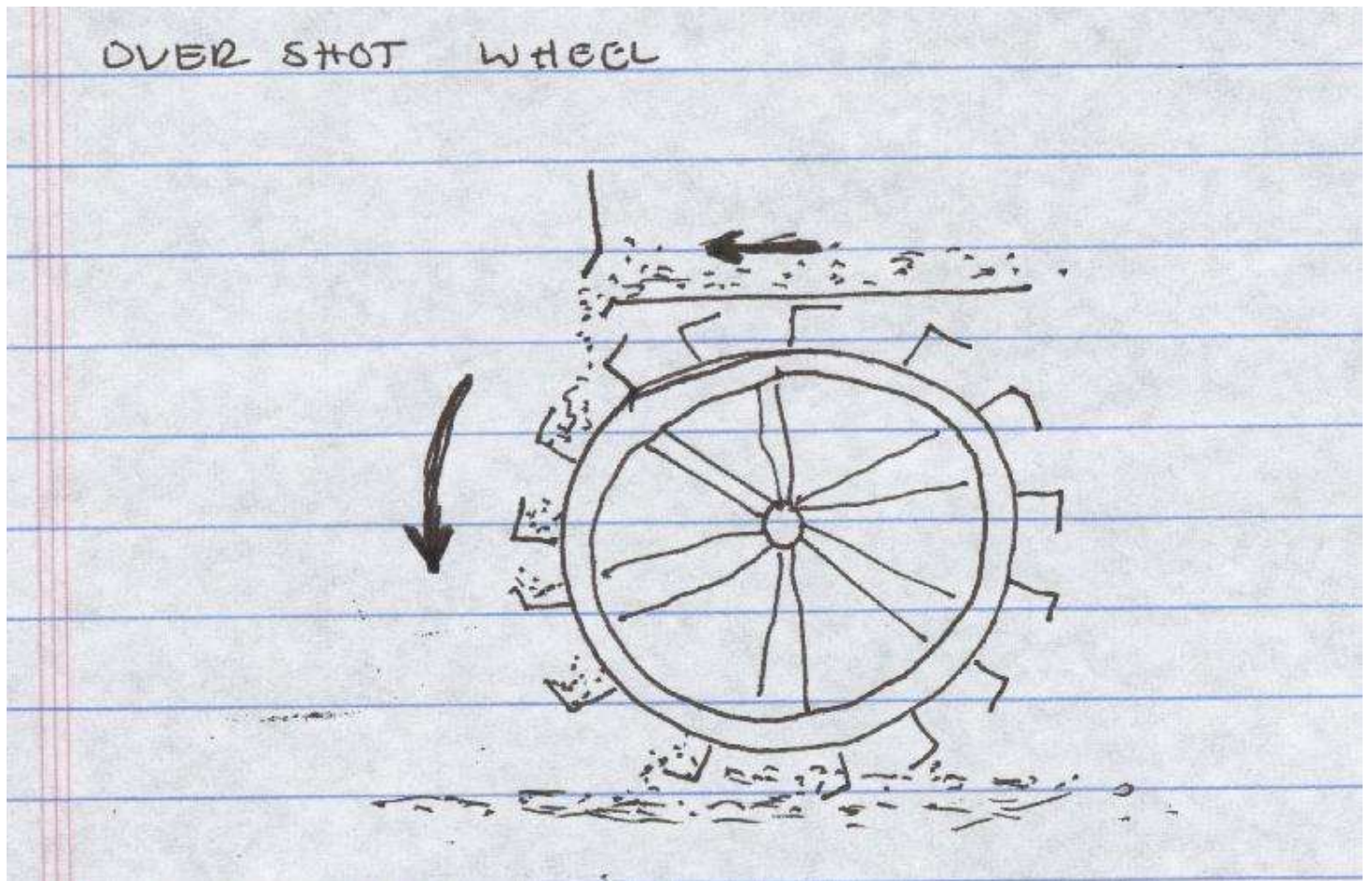
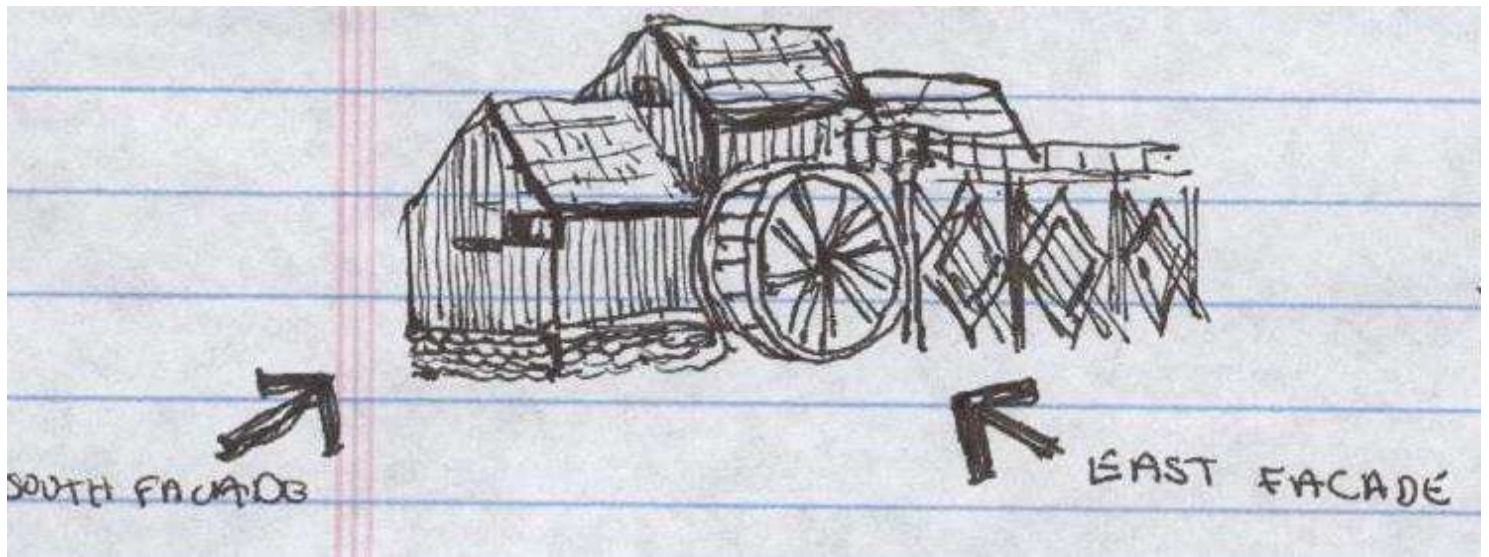
Work bench



This is the east wall in the woodworking shop showing various post that serve as the structure; this wall is in jeopardy of water damage due to splashing of the water wheel on its exterior. Also shown is the tongue and groove machine.

Sketches





Sources for Information



Sources for Information:

Document:

- Historic Resource Study: Mabry Mill, NPS. 1989
- Historic Structure Report: Mabry Mill, NPS. 1989

Document:

- Historic Structure Report: Mabry Mill, NPS. 2001

Image URLs:

- www.brptrails.com/brp1762.htm
- <http://www.blueridgemtns.net/map/tgmod.htm>
- <http://www.blueridgemtns.net/map/mabrymill.htm>

Format Type:

- Historic Structure Report: Wright Brothers National Memorial Visitor Center, NPS. 2002

Other suggestions:

To make the site more enjoyable for visitors:

- Add more benches for resting while on site.
- Add video (possible location in the restaurant gift shop).
Video could include: history of Mabry Mill, slideshow of photos and chronology of the development of the complex (or timeline); Interviews from millers, blacksmiths and other characters; demonstrations....etc. This could ensure that all visitors that visit during hours of operation will have the opportunity to get a full understanding of the complex.

