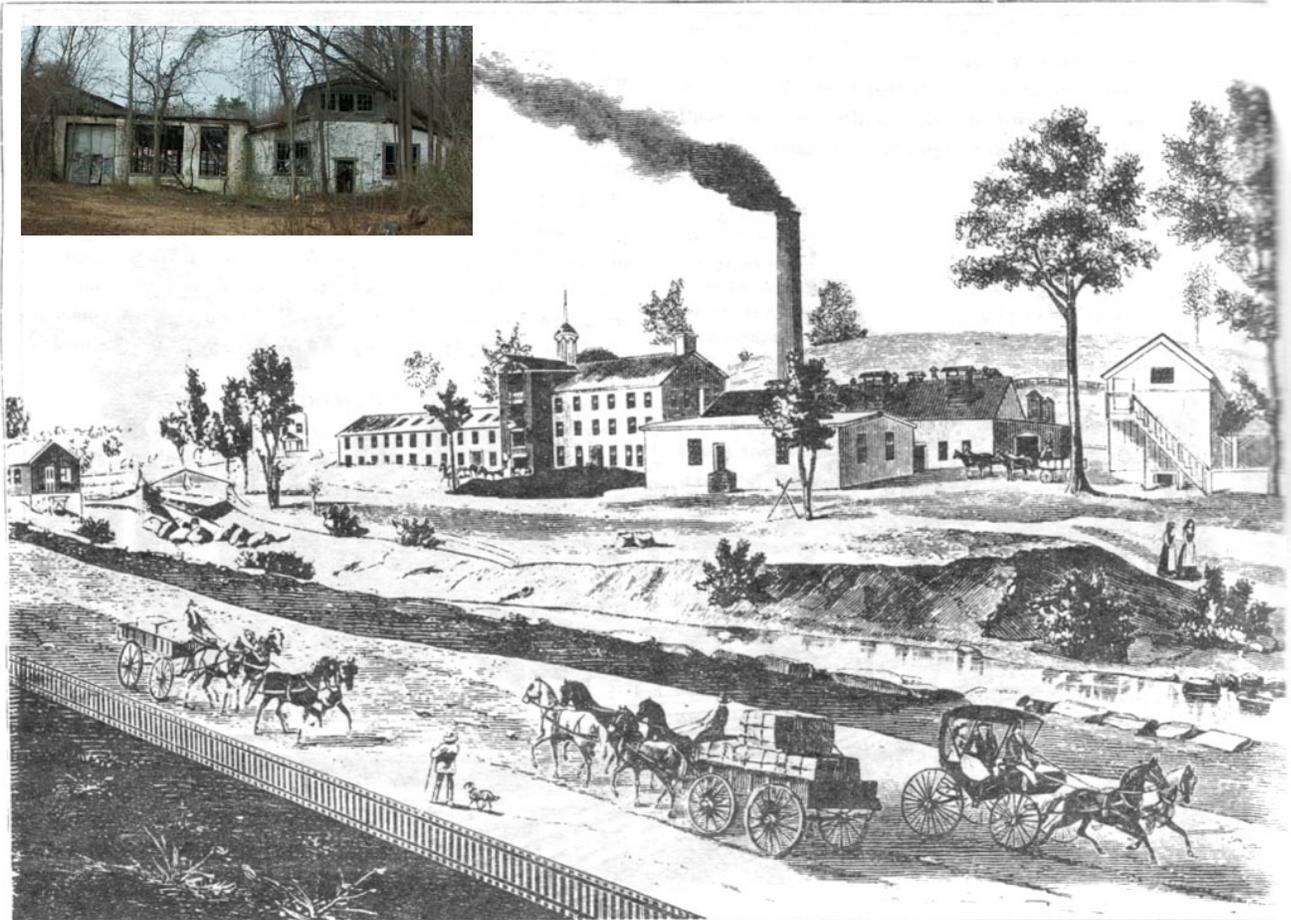


HISTORIC RESOURCE REPORT

PRELIMINARY FINDINGS



JAMES C. ROBERTS' WOOLEN-MILLS. NEAR DOWNINGTOWN.

Bondsville Mill, adapted from Futhey & Cope's History of Chester County, Pennsylvania, with current inset.

BONDSVILLE MILL

**Submitted to East Brandywine Township
And the Bondsville Mill Committee**

December 20, 2006



WISE PRESERVATION PLANNING
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Executive Summary

East Brandywine Township engaged Wise Preservation Planning to investigate and prepare a preliminary report on the historic resources comprising the former Bondsville Mill. The township acquired the 25-acre mill property in 2004 with the intention of developing it into a passive recreation park. The Bondsville Mill, a collection of 19th and 20th century industrial buildings comprising one large factory complex, is located near the north end of the property. The main scope of the project was to examine the property, briefly document the extent of the mill complex and related resources, and make recommendations for preservation and reuse. The report is to be submitted to the Bondsville Mill Committee.

The mill complex has been abandoned for approximately 40 years and is in a ruinous and dangerous state. Our findings revealed that no buildings are worthy of restoration or reuse, short of developing a specific need that justifies the expenditure of considerable restoration costs. To that end a few buildings with restoration possibilities will be discussed. The ruinous state of the buildings aside, much about the complex is worthy of preservation and reuse as part of the proposed park. These elements and reuse can help tell a larger and very important story: the important place of Bondsville Mill in the history of East Brandywine Township. Saving various elements of the complex for interpretive purposes and general interest can tell the story of the factory and the people who worked there. This report will suggest elements that should be preserved for this purpose.

Here is a summary of our general recommendations regardless of the final plan for the property:

1. Secure the property.
2. Determine the township's needs and requirements for the property.
3. Prepare an intensive level site survey.
4. Retain a structural engineer experienced with historic buildings to determine if any buildings are salvageable.
5. Retain a highly qualified landscape architect / site planner.
6. Develop an interpretive plan.
7. Determine if the property, along with the adjacent properties containing mill-related resources, is eligible for the National Register of Historic Places.
8. Investigate grant sources.

With the information above, consider the following options:

1. Create a historic active / passive recreation park by preserving as much of the historic fabric including selected buildings as reasonably possible.
2. Reduce the historic resources, leaving some key portions as an interpretive element of the larger passive recreation park.



3. Clear the mill, leaving only the non-building infrastructure (retaining walls, bridges, etc.) and minor mill elements.
4. Clear the debris, stabilize the ruin.
5. “Do Nothing” (secure site from intruders only)

Of course, the options may be combined. Stabilizing various components of the mill for future rehabilitation should be carefully considered. It is a relatively inexpensive means of keeping options open for the future. The property possesses certain historic elements which may be preserved regardless of the options or ultimate plan. To that end, the Township should continue to involve not only professionals but citizens and members of the various township boards, including the Historical Commission, to develop the most appropriate plan.



Project Background

Location

The Bondsville Mill property is located near the southern boundary of the township, south of Guthriesville at 1641 Bondsville Road. The road runs roughly northwest to southeast along the west side of Beaver Creek. The mill complex is located on the east side of the road and creek. The tax parcel is 30-5-151, and the mill is resource #87.1 on the East Brandywine Township Map of Historic Resources.

Property Information

The 25-acre parcel is owned by East Brandywine Township, which acquired the property on October 25, 2004. Spanning Beaver Creek, the property is mostly wooded with the former mill complex located near the northern end of the property. The complex is in a ruinous state, although several infrastructure elements appear to be structurally sound. The township plans a passive recreational park on the property. The property is historically associated with several other extant buildings adjacent to the property, including the former employee housing on the west side of Bondsville Road, the former Bondsville Store and Post Office, the Bondsville Schoolhouse, all located on the west side of Bondsville Road, and the mill owner's house and mill pond located on the property immediately north of the mill on the east side of Bondsville Road.

Purpose of Historic Resource Study

The study was undertaken to examine the Bondsville Mill complex and provide recommendations on its re-use and preservation. The report also provides a brief history and photographic and site documentation.

Personnel

This study was conducted by Robert J. Wise, Jr., Principal Planner, Wise Preservation Planning, and Seth Hinshaw, Senior Preservation Planner, of the same firm. Wise Preservation Planning is a historic preservation consulting, planning and research firm based in Chester Springs, Pa. Messrs. Wise and Hinshaw exceed the federal 36 CFR 61 regulations for architectural historians.

Project Note: This report is not a technical structural analysis. Architects and structural engineers were not retained for this investigation.

Dates of Investigation

The project was undertaken in November and December, 2006.

Historic Narrative

Note: This historic narrative is based on information provided by the township and from Barbara Paul’s book *A History of East Brandywine Township* (East Brandywine Township Historical Commission, 1992). In addition, township resident and former employee Jack Williams accompanied the investigators on a site visit on November 20, 2006. Mr. Williams lived in one of the mill worker’s units across the street from the mill and worked there in the early 1950s. Interspersed with the historic text are illustrations of the construction chronology of the mill complex. Wise Preservation was not contracted to undertake historic research.

Overview

The Bondsville Mill was first opened by Abraham Bond in 1841. Throughout its history, the mill has had highly profitable years interspersed with years of inactivity. The older sections of the mill complex date to the mid 19th century. The building sections along the creek mainly date to the early 20th century, and the section in the southwest corner dates to c. 1940. The mill has been vacant since 1969 and has been deteriorating since that time. Today it is in a ruinous state.

Early History

Abraham Bond opened the Bond Woolen Factory in 1841 and produced Kentucky jeans. This first mill burned on September 10, 1844, and it is not clear if any buildings remain from his original mill. Barbara Paul estimated the fire damage at \$7,000. Bond apparently repaired the damage and resumed operations; the Painter and Bowen *Map of Chester County* (1847) shows the mill with the mill pond and race, identifying it as “Bonds Factory.” In 1848, William D. McFarland purchased the woolen factory at a sheriff sale and rebuilt the facility. Figure 1 shows the sections thought to date to the McFarland rebuilding of the mill.

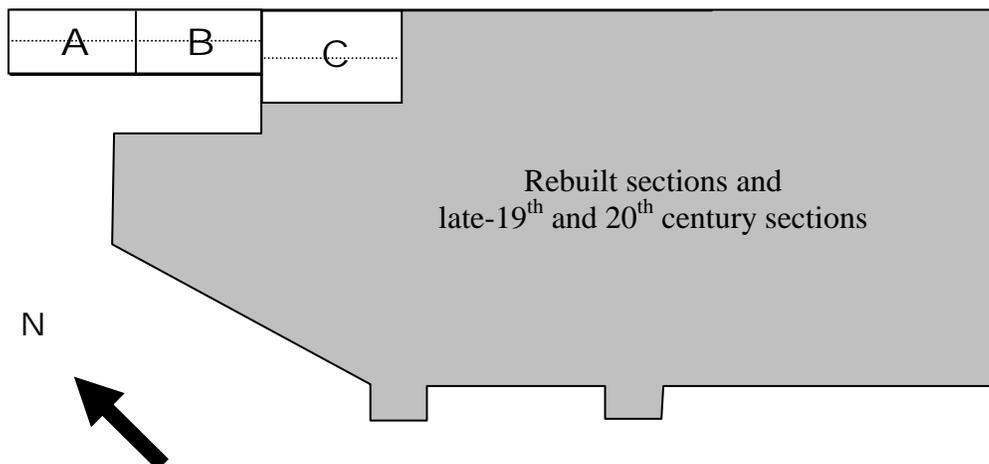
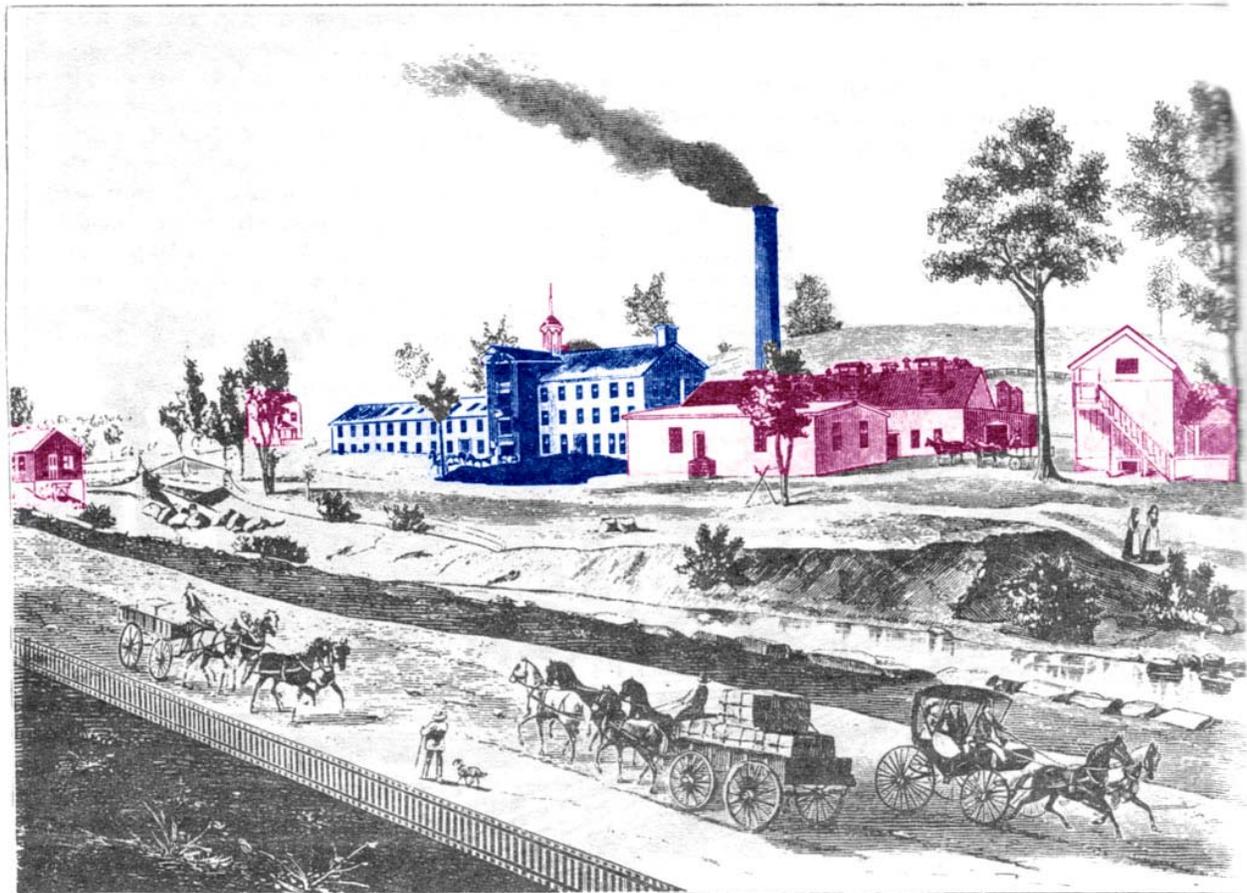


Figure 1. Illustration of the Mill complex c. 1860 inside the current footprint.

In 1864, James C. Roberts purchased the mill. Roberts had worked as manager of the mill for two years before purchasing it. He renamed it Beaver Mills (after the adjacent creek), and he produced Kentucky jeans, cassimere, beaver cloth and buckskin. During his ownership, Roberts had more millworkers' houses constructed and enlarged the mill. When Roberts died in 1872, his son James C. Roberts Jr. took over the mill operations. The mill had economic trouble in the late 1870s, when it operated under the name of "Roberts & Bros." The business is listed in Breou's Atlas of Chester County (1883) as "James C. Roberts Estate" with a "Woolen Factory." The younger Roberts extended the mill complex to the south, including a pickerhouse, where the wool was initially processed.



James C. Roberts Sr.



JAMES C. ROBERTS' WOOLEN-MILLS. NEAR DOWNINGTOWN.

Figure 2. Bondsville Mill, adapted from J. Smith Futney and Gilbert Cope, *History of Chester County, Pennsylvania* (Philadelphia: Louis H. Everts, 1881). A black and white version appears on the cover of this report. The blue buildings here represent sections of the mill which are extant; red buildings have been removed and/or rebuilt.

Additional information about the mill during this time is provided by the U.S. Census Bureau. At that time, the Census had an Industry and Manufacturing Schedule. The 1870 schedule lists “Beaver Mills by Jas. C. Roberts,” which is described as a “woolen factory.” The capital invested was \$75,000. It was powered by water (estimated at 16 horsepower) and steam (estimated at 18 horsepower). Roberts had 49 employees, who he paid a grand total of \$21,500 in the year 1879 (or \$438.78 per employee). Five different types of products were produced in the preceding 12 months: 24,000 pounds of wool for jeans, valued at \$13,520; 90,000 pounds of mingo, valued at \$15,300; 40,000 pounds of cotton, valued at \$10,400; 41,000 pounds of cotton warp, valued at \$18,860; and 450 pounds of “coal,” valued at \$2,700.¹

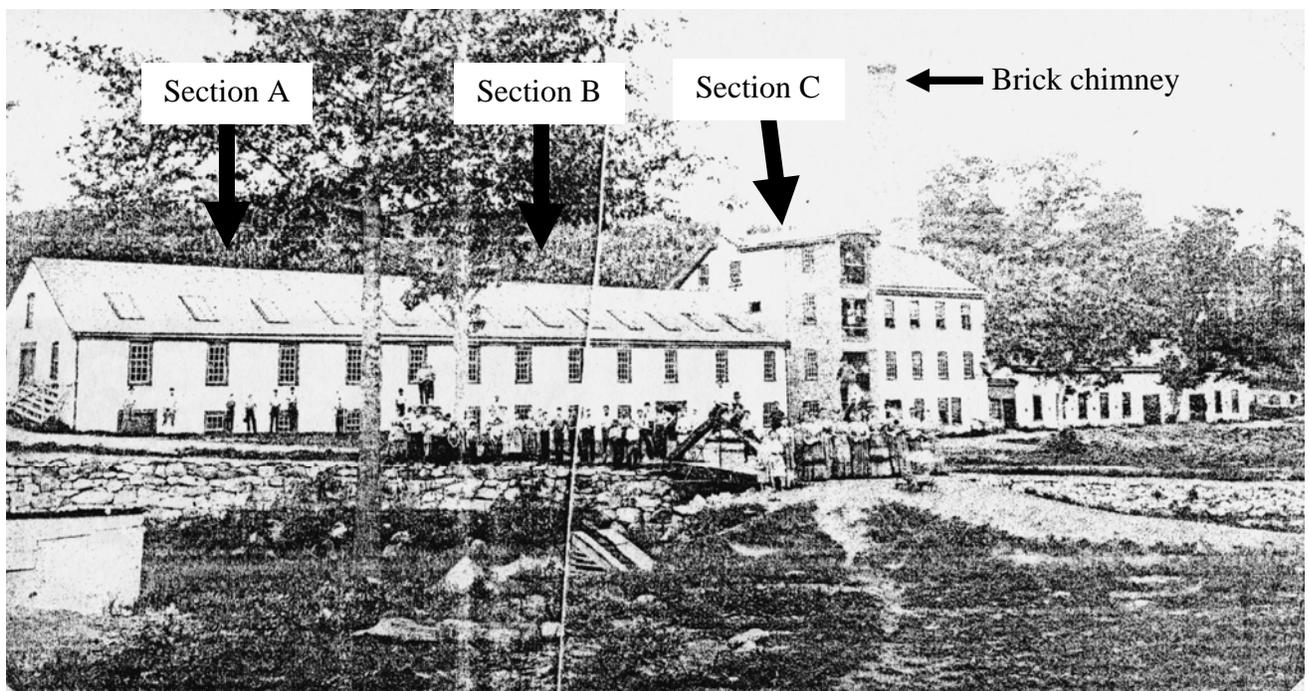


Figure 3. Photo of the Bondsville Mill, located in the clipping file of the Chester County Historical Society. While undated, the photo shows the mill as it appeared c. 1880. Sections to the right of Section C were later rebuilt.

In the 1890s the mill was not fully operational. Paul reports the water level in the creek dropped noticeably and was unable to power the mill sufficiently. Although its buckskin jeans were among the most popular on the market, the distance from the mill to the nearest railroad station increased transportation costs. Rising costs of materials further reduced the profitability of the mill. After a fire in 1894, the mill temporarily ceased operations. On October 23, 1894, the *Daily Local News* ran an article entitled “The Deserted Village” about Bondsville village. Later that year however, the Patton Trading Company purchased the mill

¹ U.S. Census Bureau, Industry and Manufacturing Schedule for Census of 1870, East Brandywine Township, Chester County, Pennsylvania.

and resumed operations, but closed it again after just two years. In that short time, Patton may have constructed the section of the mill with the monitor roof system (Section F), as this section has the typical appearance of a late 19th century mill. In 1906, after ten years of inactivity, the Patton Trading Company sold the machinery.

Twentieth Century

In 1906, Fred Pearson, “plush manufacturer” of Kensington, purchased the “old knitting mill.” Pearson desired a location with very pure water for the type of dyeing he planned. Pearson purchased “twenty-six dwelling houses, a large factory, a store, a large mansion, and one hundred and twenty acres of good land.” Pearson had some of the old mill buildings demolished and rebuilt others, according to a series of newspaper reports in the *Daily Local News*.² The section of the mill that appears to date to Pearson’s ownership is Section H.

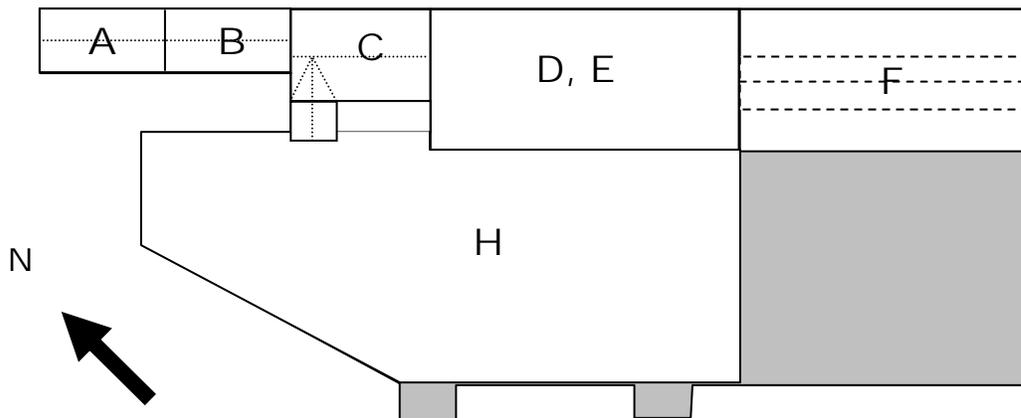


Figure 4. Mill complex, c. 1910, with later sections shaded.

In 1927, the Collins & Aikman Corp. purchased the mill and operated it until 1954. Collins & Aikman produced cloth for automobile upholstery, with the Fisher Body Works being their main customer. The business constructed Section G (southwest element of the complex) where 64 Dobby looms were located, rebuilt and enlarged the original bridge over the creek, and added a second bridge south of the mill complex. The two stone restrooms attached to the exterior wall along the creek date to the Collins & Aikman ownership as well. During World War II, the factory produced “Cavel” velvets and “Candalon” woven nylons. It also produced mohair frieze, foam rubber backing for carpeting, and lining for Air Force or “Eisenhower” jackets. At this time the row of millhouses on the east side of Bondsville Road and a building which served as offices in the mid-20th century were demolished for parking. After the war, a veterans’ memorial was erected north of the parking area.

² *Daily Local News*, February 12, 1906; February 28, 1906; May 17, 1906; June 27, 1906; June 30, 1906; and September 11, 1907.



Figure 5. Photo of Bondsville Mill in the possession of Jack Williams, printed in Barbara Paul, *A History of East Brandywine Township* (East Brandywine Township Historical Commission), p. 50. This view shows the mill complex from a point in Bondsville Road. The existing mill sections are mostly obscured in the photo by sections (now demolished) on the west side of the creek.

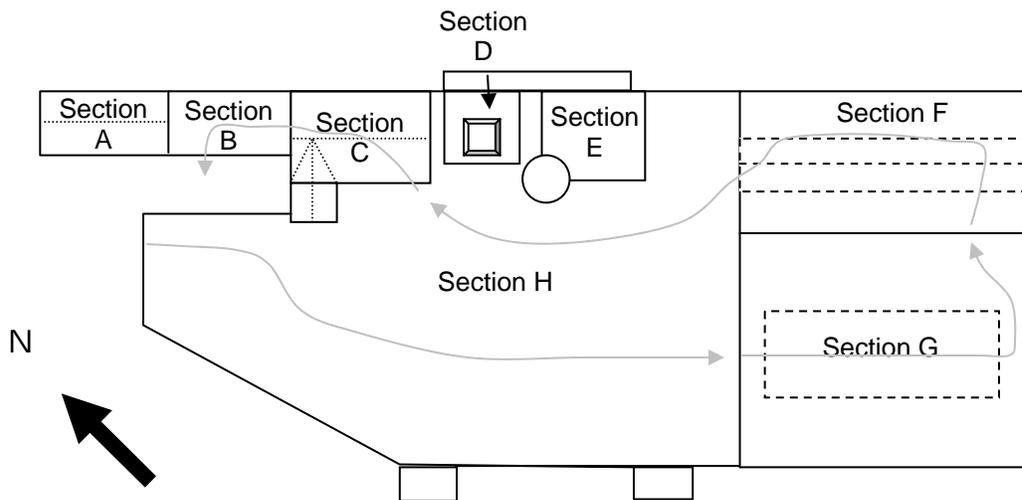


Figure 6. Mill complex after additions of c. 1940. The gray arrow indicates the flow of processed material through the mill.

The following information describes a typical day at the mill in the mid-20th century, based on the memory of Jack Williams: Trucks delivered raw materials over the main bridge. The



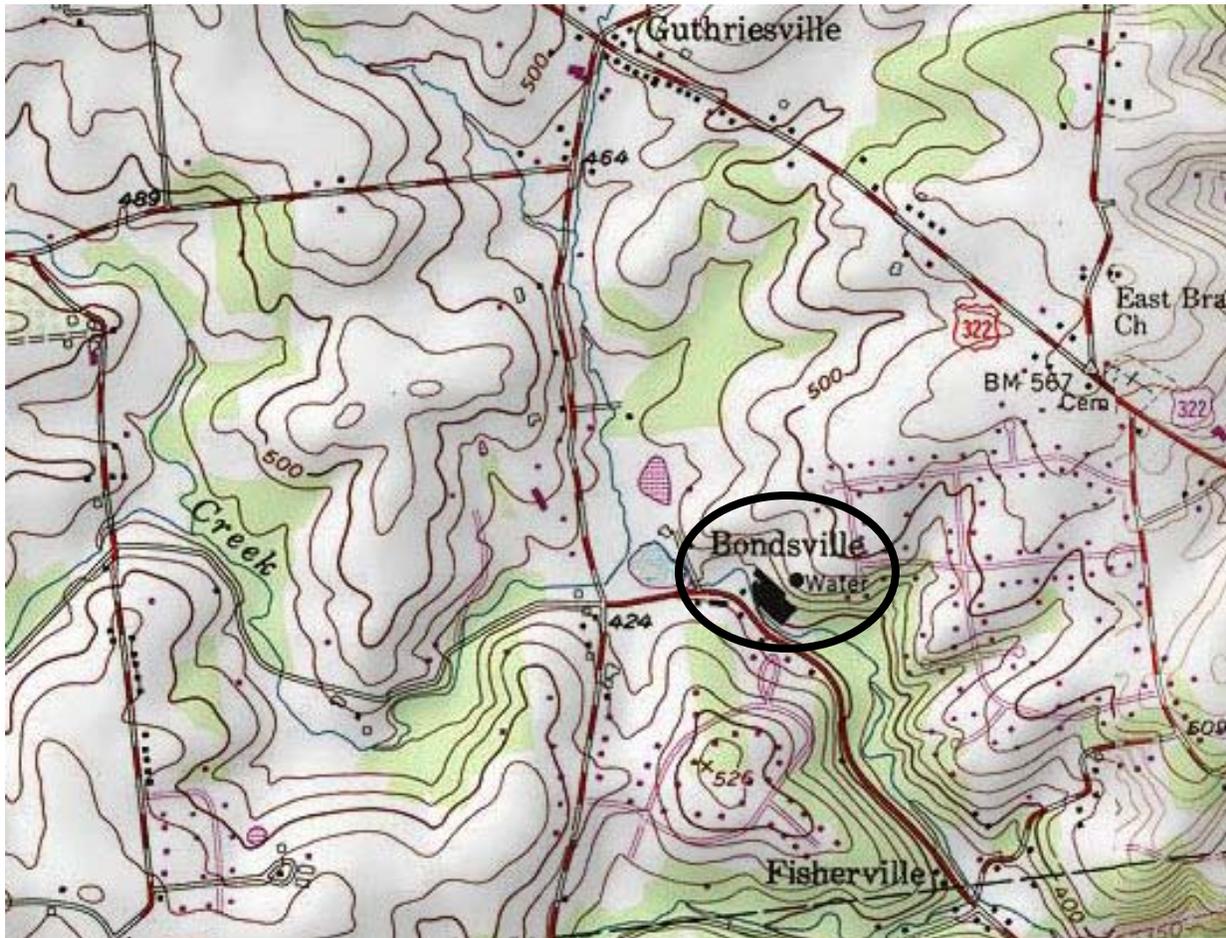
raw materials were unloaded through the large door on the north end of Section H. This material was placed along the side walls to await the next available loom. The initial processing took place in Section H, where the large looms were located. As the material was completed on a particular loom, it was moved counter-clockwise through the mill. The final milling took place in Section G. Here, four banks of 16 “Dobby” looms (total of 64 looms) processed the material. Once the production was complete, the material was moved into Section F; in this space, called the “mending room,” employees inspected the material for defects. Material which passed inspection was then moved into the first floor of Sections A, B, and C, where it was stored. Delivery trucks which had unloaded raw materials into Section H then backed into the space between Section B and Section H and loaded the finished material to be trucked to its next destination. Offices were located in the upper level of Section C, overlooking the mill complex. Additional office space was located in a building (now demolished) on the west side of the creek near the bridge (see Figure 5).

After World War II, upon the completion of several federal contracts, the company closed the Bondsville location. It relocated the plant to the southern United States and removed all equipment. The mill was owned briefly by Bondsville, Inc., from 1959-1960. In 1960, Castro Realty Corp. purchased the mill and produced chairs and “davenport” couches (sofa beds) from 1960-1965. Charles L. Tabas, a local businessman, purchased the mill in 1965 and leased it for warehousing. The mill was used to store molds for cast iron figures until 1969.

The mill building has been abandoned since 1969. On October 25, 2004, the Township issued a condemnation notice, and on that same day it purchased a tract of 25 acres including the mill ruin from Oxford Associates. The Township is now examining options for reusing the property.

Physical Description

The Bondsville Mill is located on the northwest portion of a narrow 25-acre parcel near the southern border of East Brandywine Township and on the east side of Bondsville Road. Two tributaries of Beaver Creek converge just northwest of the site and meander southeast along the southwest border of the property. A parking area is located on a bend along Bondsville Road at the northern end of the property. A stone monument honoring the Bondsville Mill employees who served during World War II is located in this area. Two bridges lead northeast across the creek, one opposite the mill complex, and one to the south. The mill complex is a large, nearly rectangular collection of connected buildings on the northeast side of the creek and is oriented northwest to southeast. Located on a rise east of the complex is the mill's large steel water tower. This description will first cover the landscape features, then proceeds to the mill complex.



Map 1. Detail of the Wagontown U.S.G.S. Quad Map (1983), showing the mill complex, water tower, and housing.



Map 2. Aerial view of the Bondsville Mill complex, adapted from Google Maps. The Mill complex is indicated.

The mill is situated along the Beaver Creek valley. The creek meanders northwest to southeast, east of Bondsville Road. Much of the creek bed near the mill complex is lined with stone retaining walls, presumably to channel water away from the complex and to prevent bank erosion. The older sections of the mill complex were constructed at the base of the hill, with later sections constructed on the small flood plain east of the creek. The mill's water tower is located on a hill just east of the floodplain. The hill rises about 30 feet above the grade of the mill. The creek banks and the hillside surrounding the water tower are wooded although historically they were cleared.

The parking area is located on the northeast side of the road. This was formerly the location of a second row of mill worker's houses which faced the existing row on the southwest side of the road. Remnants of the foundation walls are visible in the parking area. North of the parking area is a stone veterans' memorial.



Site plan of the Mill complex environs.

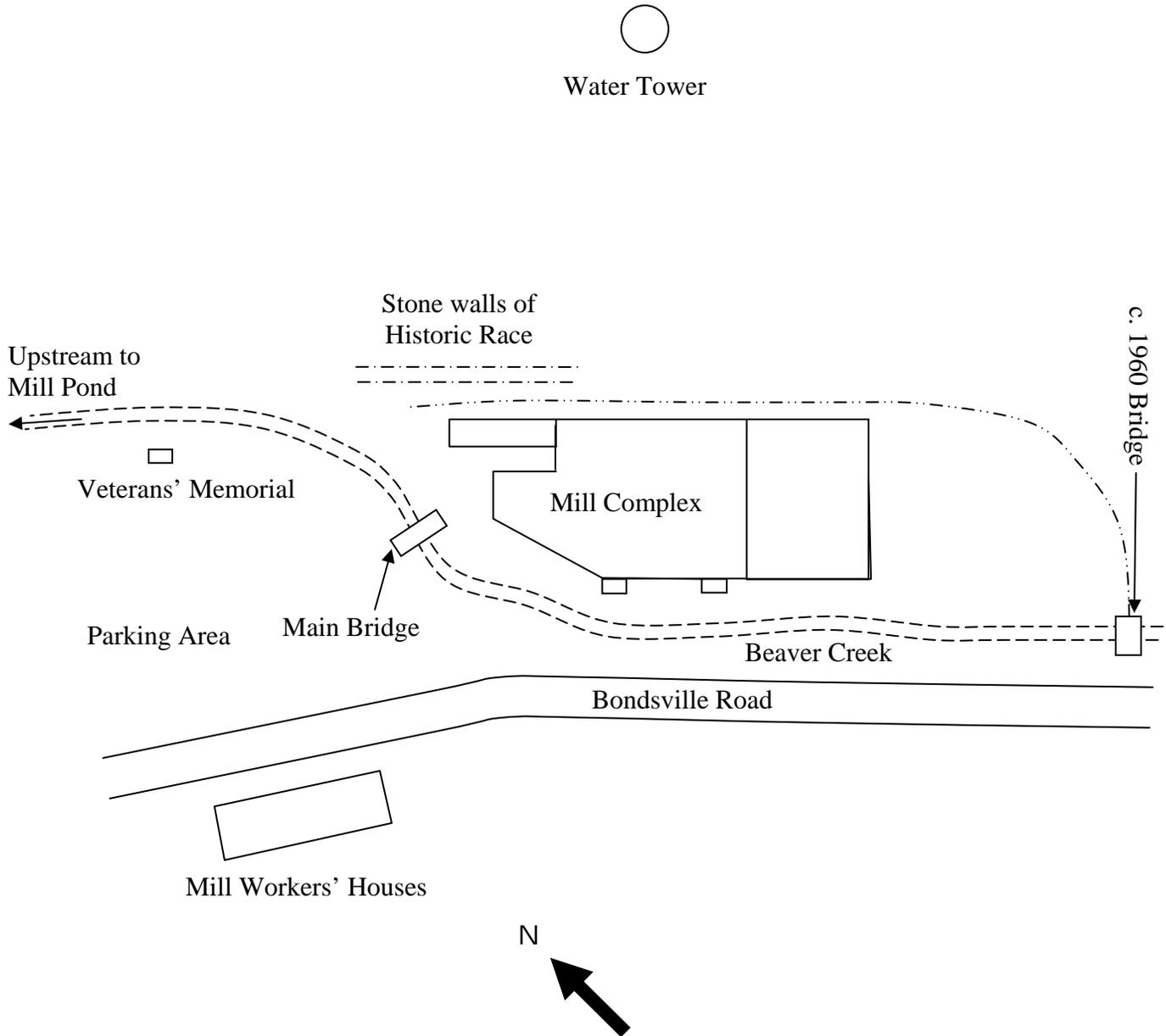




Photo 1. Photo of the foundation ruins of the mill workers' houses on the northeast side of the road, currently the parking area.



Photo 2. Veterans' Memorial, facing northeast.



Photo 3. Main Bridge, facing southeast. The northwest corner of the mill is visible on the left.

Main Bridge (c. 1890, c. 1940)

The mill complex connects to Bonds Mill Road by two bridges spanning Beaver Creek. The western, or main, bridge is the primary access to the mill. It has long stone abutments and wing walls which incorporate the stone wall system along the creek. It is a continuous span bridge with a mid-20th century decking. (A photograph taken c. 1890 shows a smaller bridge with a king’s post truss suspension system spanning the creek. See Figure 3.) Concrete balusters with pyramidal caps line the sides of the cartway and are connected by iron railings. A centered, rubble stone pier stands on the west side of the creek.

A guard house stood adjacent to the bridge on the west side of the creek. Today a cement pad indicates its location. A fire hydrant is located on the opposite end of the bridge.



Photo 4. New Bridge, facing northwest.

New Bridge (c. 1960)

The New bridge over Beaver Creek is located south of the mill. A lane leads across the bridge, then angles north to the mill complex and runs northeast of the mill. The bridge is a single span concrete structure. The abutments, wingwalls, and the cartway are reinforced concrete. An iron pipe railing lines the sides of the bridge. This bridge appears to have replaced an earlier bridge in this location.



Photo 5. Stone wall lining the old mill race, facing southeast.

Millrace (c. 1840)

An old mill headrace is located northwest of the mill site. The headrace, now dry, originally carried water from the mill pond (northwest of the current property) to the northeast side of sections A-C of the mill. The headrace is mainly lined with earth banks, although the portions lined with stone have some of the finest stonework on the mill site. A small stone bridge leads over the mill race near its northern terminus to the ruins of a garage. The race arcs southeast and ends in a small square area north of Section C of the mill.



Photo 6. Water tower, facing northeast.

Water Tower (c. 1940)

The water tower is located northeast of the mill ruin. The topography rises northeast of the mill, and the tower stands on a small plateau 30 feet above the grade of the mill. The gravity feed water tower consists of a reservoir supported by four cross-braced steel legs and the central pier. It rises to a height of approximately 45 feet. A valve to control the water is located on the northeast side of the mill and is pictured here. The valve is set at “open” currently.



Photo 7. Water valve, facing northeast. This valve was used to control the flow of water to the mill.

Mill Complex (c. 1840, c. 1890, c. 1910, c. 1940)

The Mill was constructed in at least eight building campaigns, as shown in the site plan below. For ease of description, the sections are given letters beginning at the north end and proceeding clockwise.

An overview of the condition of individual sections is provided later in this report. The physical description includes information on the condition of some architectural elements. Terms used to describe condition are defined in the condition assessment. Some elements are described as “failing,” a term which denotes the feature which is in the process of deteriorating or becoming architecturally unstable.

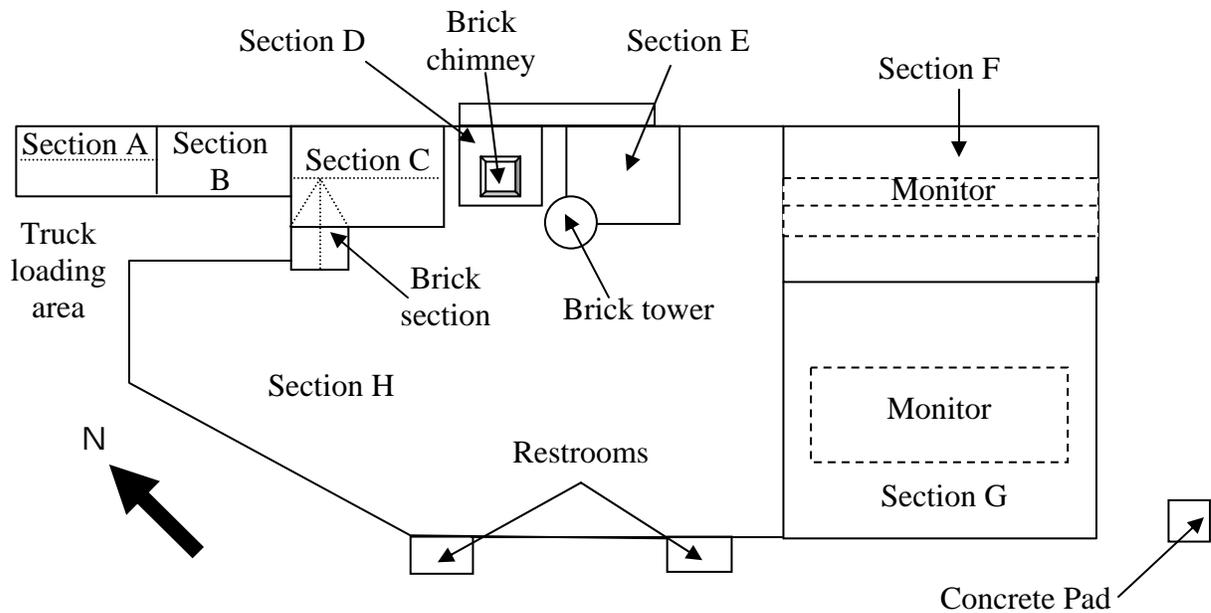


Figure 7. Mill complex.



Photo 8. Northwest end wall of Section A.

Section A (c. 1841)

Section A is a two-story, four-bay stone bank section on the north end of the mill complex. It is one of the earliest sections of the mill and was used for storage of finished material in the mid-20th century. The building measures approximately 30'x50'. It opens onto grade on two elevations, with the upper level accessible on the northwest elevation (shown here) and the lower grade opening into the southwest side elevation. The section has a standing seam tin roof which remains in place but is in failing condition. The stone walls are partially stuccoed, which has helped maintain the structural integrity of the walls. The northwest end wall has a wide overhead garage door between two windows; the window to the left is a greatly enlarged window in poor condition, and the window to the right is a replacement 1x1 double hung sash window in failing condition. The roof slopes down to grade on the northeast elevation. The southwest elevation has four second floor windows, all in failing condition, over a first floor window band.

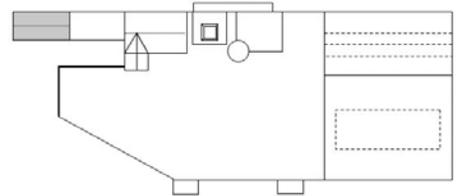




Photo 9. Interior of Section A, upper level, facing southeast. The open area in the center is Section B, looking through to Section C.

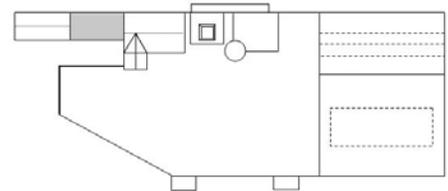
The interior of Section A consists of large storage areas on each floor. The second floor is accessed from the door on the northwest end of the section. Its interior has a plastered ceiling and walls and a hardwood floor with narrow boards nailed diagonally on the floor joists. A frame partition wall created office space overlooking the approach across the main bridge.



Photo 10. Section A (stuccoed, left), and Section B (stone ruin, right), as viewed from the Main Bridge.

Section B (c. 1850)

Section B is a two-story, four-bay section between Sections A and C. This section, one of the three oldest sections of the mill, was used for storage of processed material in the mid-20th century. The stucco treatment makes it difficult to determine which of the three sections was first built, but it appears that Section B is newer than Sections A and C. (Historically, sections A-C were lit by skylights on the roof, all of which have fallen in.)



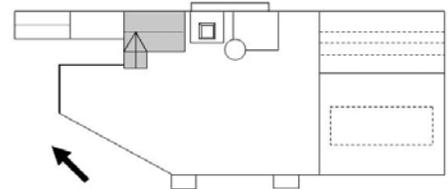
Section B measures approximately 30'x50'. It was a two story bank building, four bays wide. The section is in poor condition, resulting from the collapse of the roof and interior framing. The stucco-over-stone walls are also in poor condition. Little remains of the windows; few frames and panes are extant. Like Section A, a window band is located on the southwest elevation which was used to naturally light the storage areas there in the mid-20th century.



Photo 11. Section C, rear elevation. Trees are growing out of the mill race between the mill and the stone retaining wall.

Section C (c. 1850)

Section C is located on the southeast end of Section B. In the 20th century, the upper floor was used for offices and the lower floor was used for storage of processed material. This section appears to have been the main processing section in the late 19th century, as the stone-lined headrace runs along its northeast side. This section is shown in Futhey & Cope with a prominent cupola.



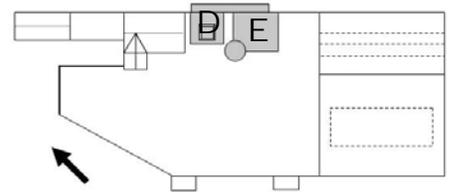
The two-story, five-bay section measures approximately 50'x40'. It has an end-gabled roof clad with standing seam tin; a square brick chimney is located at the southeast end of the ridge. The ridge of Section C is much higher than that of Sections A and B. The stone walls were historically stuccoed, but only small areas of stucco remain intact and the walls appear in imminent danger of collapse. The upper level of the section was accessed from a bridge over the adjacent race on the northeast elevation, leading to the door in the northern bay. The lower level was accessed from the lower grade on the southwest elevation. In the late 19th century, a four-story brick cross-gabled addition was constructed on the southwest elevation, which appears on the historic photographs in this report. The cross-gable faces the center of the mill complex; its ridge is higher than the ridge of the stone portion of this section.



Photo 12. View of the main elevation of Section E, showing the heavy metal door in the brick wall.

Sections D and E / Power Plant (c. 1890)

Two rectangular sections are located between Section C and Section F. They are the only elements of the mill which are not exactly aligned on the northeast elevation, due to a brick addition over the old race. Because the two sections have a similar exterior appearance, they are described together here. The power plant is located in these two sections, as indicated by the large square and round brick chimneys.



Together, Sections D and E measure approximately 90'x50'. Each section has a flat roof and stone walls, but the height was raised when a third floor was added. The third floor, which is brick, has metal-framed windows. Windows on the northeast exterior wall were sealed when the brick addition over the old race was constructed. A heavy metal door leads over the race into Section E. Section D has a small frame extension over the mill race. Both sections have brick chimneys; Section D has a tall square stack just southwest of the center of the section, and Section E has a round chimney in its corner pointing west.

Note: Sections D and E each have a chimney. Further study is necessary to determine exactly how the boiler system operated with the two chimneys.



Photo 13. View of the interior of Section E, facing southwest from a point on the hillside.

Interior – Section E

The interior of Section E is comprised of the boiler room and the space under the historic passage over the race. The area under the passage was historically the location of the race, which was later excavated to provide additional storage; this space is now partially filled with the debris from the collapse of the passage. A large brick arch on the south wall marks the exit of the former tailrace of the mill.

The main room of Section E is the historic boiler room. This space measures 30 feet by 35 feet, and the ceiling is 35 feet high. The boiler is located in the northeast corner. This metal and brick object was made by Coatesville Boiler Works, according to wording located above the two doors (see photo on next page). The boiler was vented by a large round brick chimney near the northwest corner of the section (see photo). A cleanout is located near the base of the round chimney.

The brick walls of the space have some interesting features. The southwest wall of the boiler room has a large opening which looked out into the interior of Section H, the main section of the mill. This opening is lined with steel I-beams. A double “man door” located near the round chimney opens into the main section of the mill complex. The northwest wall, which is the party wall with Section D, has a steel I-beam installed vertically; it may have been installed to help hold the brick wall in place and prevent or discourage corbelling or horizontal settling of the stone walls.



Photo 14. Interior of boiler room, Section E, facing north. Note the large round chimney in center.



Photo 15. Boiler, located in the northeast corner of boiler room, Section E. Note the word "Coatesville" on the upper right.



Photo 16. Steam pipes, boiler, located in Section D.

The interior of Section D was not accessed due to poor building condition. Large pipes and control valves for the steam works are located here, just northwest of the boiler in Section E. Also located here is the large square brick chimney remaining from the steam powerplant of the 1870s.

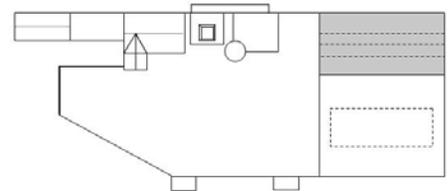


Photo 17. Section F, facing northwest. Note the monitor roof, which runs the length of the section.

Section F (c. 1890)

Section F, occupying the southeast corner of the mill complex, appears to date to the end of the 19th century. It was the main section of the mill in the early 20th century. By the mid-20th century, its interior was used to inspect processed material for flaws.

The one-story, three-bay section has an overall measurement of approximately 50'x120'. Its main feature is its monitor roof system running from one end to the other.³ The monitor is an elevated center bay running under the ridge, flooding the interior with natural light through the use of clerestory windows on all sides. This probably was erected because the northeast side of the section is built into the hill, thus reducing natural light. The monitor's roof is clad with standing seam tin, and the monitor's walls are clad with narrow clapboards. The monitor has a band of nine-light clerestory windows on all four elevations, but many of the sashes have failed. The walls of the section are stucco over stone. Two paired 9x6 windows are located on the southeast elevation, each of which is failing (with missing panes and sashes). A "man door" is centered on the southeast elevation between the windows.



³ A "monitor" is "A raised section of a roof, usually straddling a ridge; has openings, louvers, or windows along the sides to admit light or air." Cyril M. Harris, ed., *Dictionary of Architecture and Construction*, (New York City: McGraw-Hill Book Company, 1975), p. 321. This type of monitor roof was common on mills in the mid- to late-19th century.

The interior of Section F is one large clearspan room. It is lit by the monitor, which has windows on all sides. A complicated Queen’s post truss system made of wooden beams frames the monitor; above the Queen’s posts is a raised King’s post truss which gives the entire truss a hexagonal appearance. The hexagonal framing elements stand on a corner above iron posts (see photos below); the sides of the hexagons support the framing for the clerestory windows, and the upper two angles support the monitor’s roof. Tie beams run from side wall to side wall as part of the Queen’s post truss system; iron posts with pillows support the center of the tie beams. The interior walls are plastered, and the floor is concrete. Parts of the truss woodwork is in excellent shape, while other areas are failing.



Photo 18. Interior of Section F, facing northwest. Note the column-free space and monitor roof above.



Photo 19. Detail of the complicated monitor truss system. Some of this framing is in excellent shape; other areas have collapsed.

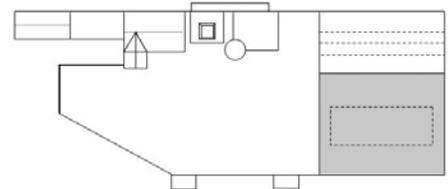


Photo 20. Section G, facing northwest.

Section G (c. 1940)

Section G is a large steel-framed section which forms the south corner of the mill complex. Sixty-four “Dobby” looms were located here, where the last phase of processing took place. It was constructed just prior to World War II.

Section G measures approximately 100’x120’, making it the second largest section (smaller than Section H). It is a one-story building, though its large monitor makes it in effect a two-story building. The monitor, which is much wider than that on Section F, is a raised area in the center which lights the interior by clerestory windows. The overall height is 18 feet. The roof is failing, particularly along the northwest end, where all that remains of the roof is the framing of the monitor. The section has stone walls with large multi-light windows running parallel to the creek on the southwest side. The southeast wall has a series of large window openings. The former main door was originally an overhead garage-type door, now partially sealed with sheet metal. It provides the only exterior entrance into the section.



The interior is a single space with restrooms near the south corner. Portions of the framing for the monitor are intact, although the monitor itself is in poor condition. The steel interior framing system remains in place, consisting of the truss system and two rows of steel posts supporting the monitor. Counting the steel supports for the monitor, four rows of vertical steel I-beams divide the interior into five aisles. Steel rafters supporting the lower slope of the roof are attached to the steel uprights. Metal light fixtures hang by long chords from the steel rafters. The section has a concrete floor and plastered walls.



Photo 21. Interior of Section G, facing northwest, showing the large monitor roof system. Note the steel framing system and the lighting.



Photo 22. Ruins of Section H, facing southwest. Note the remnants of the monitor of Section G on the left and the wall of Section E on the right.

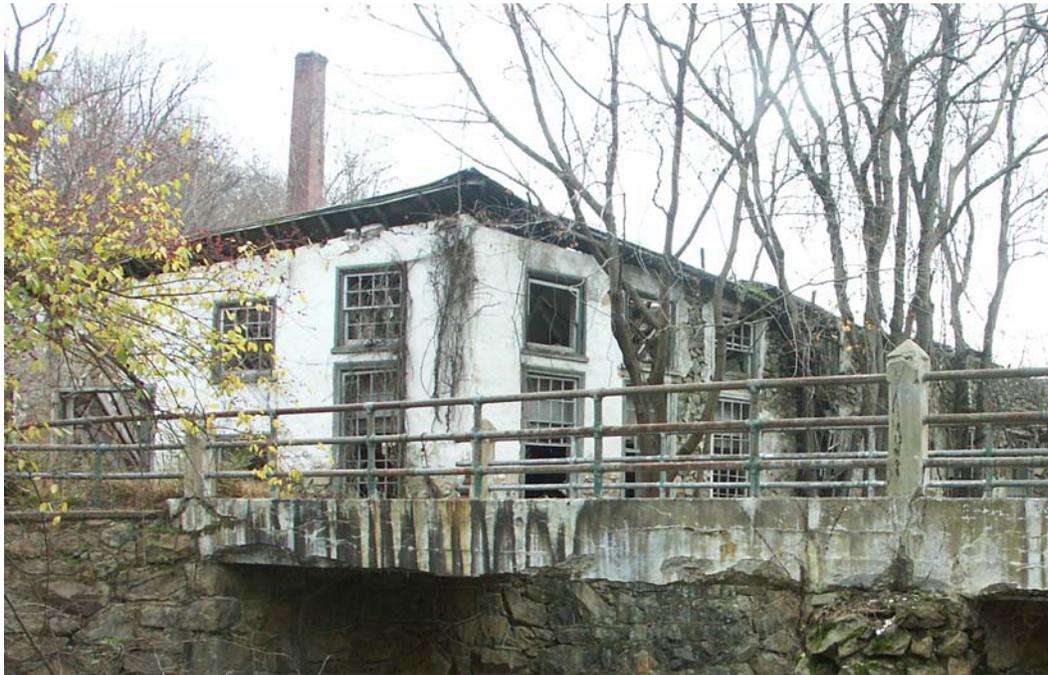
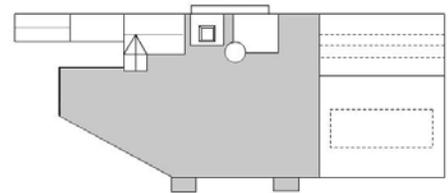


Photo 23. Section H, the main section of the mill complex, facing east from a point across the creek.

Section H (c. 1910)

Section H is the largest section of the mill complex, measuring approximately 250'x120'. After its construction c. 1910, it was the location of the first stage in the production process, where the initial processing of materials took place.

Section H is a two-story structure with an irregular footprint resulting from a bend in the creek. As originally constructed, the section had a nearly flat roof, which has entirely collapsed into the interior. The original exposed rafter tails are visible on the northwest and southwest elevations. The section has stone walls, stuccoed to the north. Much of the upper portion of the stone work has failed due to the collapse of the roof and subsequent pulling in of the masonry walls. Two stone, windowless rectangular elements along the creek are restroom additions; they were accessed from the interior with cleanouts along the creek. The northwest elevation was the location of the main entrance, where a large garage door leads into the interior. Windows on this narrow main elevation are mainly intact, with 8x8 windows on the second floor and larger 8x8 units on the first floor. The southwest wall has windows of various sizes and shapes, many of which are multi-light units in poor condition.



The interior was not closely documented due to safety concerns. The main entrance, on the northwest elevation, opens into an aisle. Stairs led up along the northwest wall from the

main entrance to a mezzanine level, which was lit by the band of 8x8 windows. The walls and ceiling were plastered (now collapsed onto the floor), and the floor is concrete.



Photo 24. Privy attached to the exterior of Section H. The arrow points to one of the cleanouts.

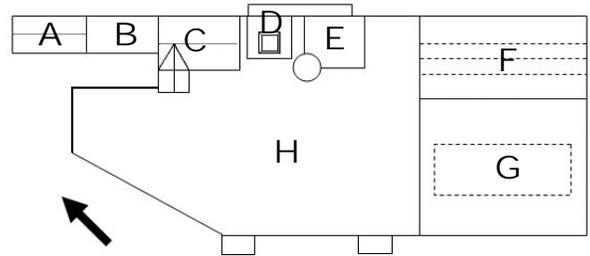


Photo 25. West wall of Section H, lining the east side of the creek.

Condition Analysis

The condition of the mill complex was assessed on a five-part scale ranging from excellent to good, fair, poor, and ruinous. Only the two lattermost categories are applicable to the mill. “Poor” denotes sections which need immediate attention to prevent structural failure or collapse. “Ruinous” indicates sections which are either in the process of collapsing or have collapsed.

The various buildings comprising the mill complex are in poor to ruinous condition. No section is inhabitable, and all appear to be in the process of, or in imminent danger of, collapse. The roof in most sections has failed, often bringing parts of the walls down as they collapse. Perhaps most critical is that the complex is not secured; anyone can enter the complex and be in physical danger. The following are specific conditions of the various sections.



Section A condition: Poor. The roof is failing, which is allowing the interior framing system to deteriorate. Water infiltration is a growing problem. Wall openings are in poor condition, and the stucco is progressively failing. Much of the interior plasterwork has failed, partially in conjunction with the failure of the roof of Section B. Water infiltration precipitated a failure of the framing system in the northwest corner also, where a large hole is evident in the floor.

Section B condition: Ruinous. The section is entirely unsafe due to the total failure of the roof and interior framing system.



Photo 26. Damaged stone wall of Section C, northeast elevation. Much of the stone above the second floor window has fallen out.

Section C condition: Poor. Water penetration is becoming a major problem because the roof is beginning to fail and windows and doors are already missing. The brick cross-gabled addition is in fair to poor condition, having also lost its windows and doors.

Sections D and E condition: Poor to Ruinous. Both sections exhibit structural failure, although the walls have not collapsed and the roof is somewhat intact. Due to the roof height and other concerns, this area is highly dangerous to enter.



Photo 27. Detail of the monitor roof of Section F, as viewed from the hillside east of the section.

Section F condition: Poor. Water penetration is becoming more prevalent. Roof failure, however, has been minimal and much of the wooden truss system appears to be intact. Missing windows and doors represent the current sources of structural failure.

Section G condition: Poor. Roof failure has precipitated deterioration of the framing system. The interior steel structural system, however, does not appear to be in danger of imminent collapse.

Section H condition: Ruinous. The section is quite dangerous due to the collapse of the roof and the resulting damage to the remaining interior framing. In addition, the stone wall along the creek shows signs of structural weakness; parts of the walls crumbled as the roof collapsed. The two stone-walled restrooms appear in fair condition.

National Register Evaluation

The Bondsville Mill was evaluated for its National Register significance as well as its local significance. The National Park Service has established four Criteria for assessing the National Register significance of historic resources:

Criterion A – Properties or buildings “associated with events that have made a significant contribution to the broad patterns of our history” on the national, state, or local level.

Criterion B – Properties or buildings “associated with the lives of persons significant in our past” on the national, state, or local level.

Criterion C – Properties or buildings which “embody the distinctive characteristics of a type, period, or method of construction or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components lack individual distinction.”

Criterion D – Properties or buildings which have “yielded, or [are] likely to yield, information important in prehistory or history.” This Criterion is generally reserved for archaeological sites.

In order for a property to be determined eligible for the National Register, it must meet at least one of these Criteria and also retain architectural integrity. Due to the declining condition of the mill, with several sections collapsed into ruin, the mill itself does not possess the integrity to be individually eligible. The property, however, should be considered locally significant.

Though not individually eligible, the mill may be eligible as a “contributing” resource if the mill property became part of a larger Bondsville Mill Historic District. The larger district would include the mill owner’s house and barn, located north of the mill near the mill pond, the former general store and post office, the row of mill worker’s houses, and the Bondsville School. This district could possibly meet Criterion A for industry and Criterion C for architecture. The Pennsylvania Historical and Museum Commission (PHMC) evaluates potential historic districts to determine if they are eligible for the National Register. It may find that 20th



Photo 28. Detail of large brick arch over original tailrace on south wall of Section E.



BONDSVILLE MILL – PRELIMINARY FINDINGS

century changes in the mill site as well as the condition of the mill compromise its integrity and thereby prevent it from meeting National Register criteria. These changes might include the increasingly wooded landscape, the loss of the row of mill worker's houses on the east side of the road, and the potential loss of the mill owner's house.



Resource Reuse: Recommendations and Options

This section examines the reuse of the complex and associated landscape within the context of a municipal park. The site presents several opportunities and challenges for both recreation and historic interpretation. Interpreting the mill could make it an extremely interesting place to visit. This can be accomplished by saving parts of the building complex, as much infrastructure as possible, or creating such things as interpretive paths and signage. The complex should be carefully documented with a HABS⁴ quality structural survey. Although the buildings are in a ruinous or near ruinous state, the reuse of certain elements of the complex should be carefully considered, with the understanding that any reuse will involve a major cost. In the final analysis, we believe that telling the story of the mill through its ruins is extremely important given its social and economic significance to the township and as an extremely worthwhile place to visit.

The following eight general recommendations for the mill are followed by six preservation / reuse options for Township consideration.

General Recommendations

1. Secure the property; at the very least, post “No Trespassing” signs and warning signs given the dangerous condition of the property.
2. Determine the township’s needs and requirements for the property. What does the Township need in a passive recreation park? Will there be a need for buildings? If so, should the township consider restoring one of the mill sections or construct a new building? How will any preserved elements of the park interfere with its use and safety requirements? Once open for public use, will any preserved historic features be subject to vandalism?
3. Prepare an intensive level (HABS quality) site survey and documentation of the complex. This report should serve as an outline for such a report. The report would include taking measured drawings of all building sections, specific architectural descriptions for each building element, specific descriptions for major site elements (such as the boiler and chimney stacks), and extensive photography. Such a HABS-quality report should be the basis for all resource preservation or demolition activities, as well as a general documentation of the site.

Note: The Historical Commission should also consider holding a public history day at the mill site. Former workers would be interviewed on video, describing the operations at the mill. An oral history could also be developed by the Historical

⁴ Historic Architectural Building Survey, per National Park Service guidelines.



Commission. This information would be kept on file at the Township and the Chester County Historical Society.

4. Retain a structural engineer experienced with historic buildings to determine the failure levels of all building sections and to what extent, if any, buildings can be reasonably rehabilitated. This report should be prepared when the intensive level survey is underway.
5. Retain a highly qualified landscape architect / site planner with an appreciation for historic preservation and experience in incorporating historic elements into a municipal park, whether designed for active or passive recreation use.
6. Develop an interpretive plan that would be implemented regardless of the specific plan (see below) chosen for the property. This would consist of signage, pathways, results from an oral history (possibly undertaken by the Historical Commission) and other information that would be designed to tell the story of the Mill. Elements of the interpretive plan would change with the specific use chosen for the property. The landscape architect / site planner (#6 above) should be instrumental in developing the plan.
7. Investigate grant sources for any of these recommendations and options. Matching grants may be available now through the Pennsylvania Historical and Museum Commission (PHMC) Technical Assistance Grant Program.
8. Determine if the property is eligible for the National Register. Using information in the report, plus an additional documentation on the mill manager's house, workers' housing, and other resources, prepare a Pennsylvania Historic Resource Survey Form for a Bondsville Mill Historic District. Such a determination of eligibility for the National Register can help qualify the mill for grant funding.

Preservation and Re-use Options

The following are six preservation / reuse options for the historic resources on the property. Wise Preservation Planning provides these options with the acknowledgement that the buildings on the property are in a nearly ruinous state and thus does not necessarily advocate rehabilitation. Rehabilitation of any building would depend on specific needs, existing physical condition, interpretation expectations, and costs. Other concerns include security and clearing the site of debris. Additional ways of using the various architectural elements of the site for interpretive purposes are also addressed. The options begin with considerations for preserving as much architectural fabric as reasonably possible and move towards preserving the least architectural fabric possible while still allowing for the interpretation of the site. None of the options necessarily stand alone; it may be best to develop a plan that incorporates a combination of options. Finally, rehabilitation in at least



one building – Section A – need not necessarily occur now.⁵ Such a building can be stabilized and secured for future use requirements and funding opportunities.

1. Create an interpretive park by preserving as much of the historic fabric as reasonably possible.

This option explores the possibility of rehabilitating one or more buildings, or parts thereof, for township use and historical purposes. Such rehabilitation would be a major undertaking given the physical condition of the existing resources. Nevertheless, rehabilitating any building on the site would be one of the best means of interpreting the site while providing a continuing use.

Building sections (or parts thereof) that may be candidates for reuse include:

- Section G, a masonry and steel building constructed c. 1940. The steel framing and supports appear reasonably intact although the roof and cladding of the section would need total reconstruction. This is a large building and thus may not be suitable for use in a passive recreational park setting.
- Section F, a stone and frame building constructed into the hillside, c. 1890. This section has the wall-to-wall monitor roof system which provides an interesting architectural backdrop. Though only ½ the size of Section G, it is still a large building and may be suitable for park use.
- Section E, the power plant area. This high ceiling section is perhaps the most interesting part of the complex. It opens to the plant boiler (Section D) and the large round brick chimney. The section may be difficult to rehabilitate and maintain due to its size, height, and current condition.
- Section A, one of the older sections of the mill (with B and C). One advantage of rehabilitating this section is its small size and its historic value. This building could also be stabilized with limited funds now (new roof and secure entrances) with the hope of actually rehabilitating in the future once funding is available.

Option 1 assumes a need can be established and the buildings are physically sound enough to be reconstructed and or rehabilitated. Such reuse would require a major rehabilitation or complete rebuilding of some structures at considerable cost. Over the long term, the building(s) would have to be maintained. Rehabilitation should occur only if there is a specific need that justifies the cost.

If a building(s) cannot be rehabilitated due to safety, costs, or use requirements, determine what can be done with the ruins. Some elements may be worth saving for general interest

⁵ During the preparation of this report, it was brought to our attention that some citizens would like to conduct general repairs and stabilization to a portion of Section F. Insurance and other administrative considerations aside, this approach seems reasonable given the low costs.



and interpretive purposes, such as the boiler, round chimney stack, square chimney stack, monitor roof element, and various stone walls.

Unlike the mill complex, the associated infrastructure would be easily incorporated into a plan for a larger park. The walls lining the creek, the race walls, the war memorial, and the bridges could be retained as landscape elements of a proposed park system. The water tower, not a likely candidate for rehabilitation, could be retained as a component of the historic landscape.

2. Reduce the historic resources, leaving some key portions as an interpretive element of the larger passive recreation park.

In this option, the mill complex would be mostly demolished and removed to enhance the passive recreation area. Remnants of the mill would remain to help interpret the site and provide an interesting destination. Depending on condition, preservation costs and safety considerations, such remnants may include infrastructure elements (retaining walls, bridges etc.) and specific elements of the complex itself, such as the boiler area. The larger walls of the mill could be reduced to a height of one to two feet to show the outline of the complex, with the interior available for recreation use. The remaining wall system might include one of the large stone restrooms along the creek as an interesting feature of the current mill complex.

For both options 2 and 3, closely examine the power plant area of the complex for restoration purposes. This area, with its tall stacks, boiler, and high roof element, may be worthy of preservation for interpretive purposes.

One possible scenario in this option would be to stabilize Sections A through F with the intention of future rehabilitation to the appearance of the mill c. 1900.

3. Clear the mill, leaving only the non-building infrastructure (retaining walls, bridges, etc.) and minor mill elements.

In this option, only small remnants of the mill complex would remain. The most likely candidates for retention would be portions of the mill constructed into the hillside, which might remain as minimal ruin areas for interpretation. This option would provide a large lawn area along the creek for recreation purposes.

Because most of the infrastructure is landscape-based, such as the stone walls lining the creek and the bridges, it should remain. Interpretive signage could include photos of the mill to convey a sense of its historic appearance and describing what activity took place there. Landscape planners should design a trail system that connects the subject tract's trails to other Township trails.



A possible interpretive trail under this option could begin at the main bridge, pass through the area of the current Section H, past the boiler room (either saved for interpretation or removed), and continuing south to the new bridge. A loop off the trail could begin south of the mill complex, proceed north uphill around the mill complex, and then return to the loop north of the main bridge.

4. Clear debris / stabilize ruin

This option clears the existing debris from the site and removes or stabilizes remaining elements, such as stone walls etc. This removal down to the cement floor, could enable the Township to conduct events, such as concerts, in a unique setting, with the wall ruins etc. as a back drop.

5. Secure mill, then “Do nothing.”

This option would allow the mill to continue to exist as a ruin. Such an option would require the mill to be secured, with interpretation trails going around the complex. The advantage of this option is it would be much less expensive than the other options; the disadvantage is the increasing physical and environmental liability resulting from the continued collapse of mill sections, not to mention its unsightly appearance and security liabilities.

6. Any combination of the above.



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