

# Pioneer Mills, part 1

*September 2017*



Archaeologists from Thunderbird Archeology are now excavating to the east of the building at 2 Duke Street. There, they are beginning to uncover the imposing remains of Pioneer Mills.



Built in 1854, Pioneer Mills was six stories tall, made of brick, stone, and slate, and dominated the Alexandria waterfront for more than 50 years until it was destroyed by fire in 1897. One of the most iconic 19th-century photographs of the waterfront, seen here, was taken from the top of Pioneer Mills looking north up the waterfront.

Several weeks before the mill's opening in 1854, the following was published in the Alexandria Gazette:

*The Alexandria Steam Flour Company have now erected their splendid Steam Mill in this place, and it being nearly completed and ready for the commencement of operations, we have taken great pleasure in going through it, and examining its capabilities.*

*The Mill, built of brick of the best and most durable materials, slate roof and fire proof, is situated on the Strand at the foot of Duke Street. It fronts on the Potomac River 122 feet – the main the main building being 80 feet deep - and the engine room 32 - making a total depth of 112 feet. It is six stories high, and the roof 77 feet above high water mark, or 73 feet from the first floor. It has 12 run-of-burr mill stones and splendid steam engine of 250 horse power. The Mill is capable of turning out eight hundred barrels of flour per day, and of consuming, per day, four thousand bushels of wheat. Attached to the Mill is an elevator for taking grain from the holds of vessels, and carrying it directly into the building. Large vessels can be loaded directly at the door of the Mill. A wharf has been constructed on the north side of the building on which a*

*switch from the track of the railroad on Union Street will be laid - so that grain from the cars will be brought, also, directly to the Mill.*

*This establishment is the largest Steam Flour Mill in the United States – and second only in extent to the Gallego Mills in Richmond. All the appurtenances and machinery are of the best kind, and the most modern improvements have been introduced.*

*Mr. William H. Fowle, is the General Agent, Mr. James C. Nevett, the Clerk and Treasurer, and Mr. R. F. Roberts, Chief Miller.*

*The Mill will be entirely finished throughout in the course of four or six weeks and operations commenced soon afterwards.*

(Alexandria Gazette March 11, 1854)

While the large mill could produce large quantities of flour, this was also a liability. Without a constant supply of grain to mill into flour, the mill would sit idle and empty and would actually cost its owners money. The surrounding Virginia countryside could not meet the mill's demand for grain, so shipments were brought in from throughout the mid-Atlantic. The mill struggled to make a profit and by 1859, the owners of the Alexandria Flour Company advertised that Pioneer Mills and its coopers shop were for sale. During the Civil War, the mill was taken over by the Union Army and used as a commissary storehouse and its docks were used to load and unload supplies for the war. After the Civil War, the owners of Pioneer Mills continued to struggle to make the mill profitable. In 1874, millstones and other machinery were sold in order to pay outstanding taxes. The next year, the entire property was ordered to be sold to pay outstanding local and state taxes.

Throughout the rest of the 19th century, Pioneer Mills continued to see a variety of uses and owners. It was used as a grain warehouse, and was owned or leased by the Potomac Manufacturing Company which then became the Virginia Iron Ship Building Company, the J.C. Herbert Bryant Fertilizer Company, and the Haskins Wood Vulcanizing Company. Because of these subsequent uses of the building and periods of vacancy, archaeologists do not expect to find much direct evidence of the milling operations intact and in the ground.

The mill was badly damaged during a "cyclone" in 1896 and was finally destroyed during the 1897 fire that started across the street at Herbert Bryant's fertilizer plant. The partial remains of Pioneer Mill stood for the next decade as ruins, and in 1910 the Emerson Engine Company machine shop was built on the footprint of the old Pioneer Mills. This in turn was demolished by 1937 in order to build the Robinson Terminal South warehouses which stood on the site until recently.

### ALEXANDRIA IN A CYCLONE.

Death and Destruction in its Path-- Houses Demolished and others Unroofed--W. D. Stewart and Mrs. Louisa Holt Killed Outright--Chimneys, Fences, Telegraph, Telephone and Electric Wires Prostrated--Trees Uprooted and others Stripped of Limbs and Branches--A Fearful Midnight Scene--Narrow Escapes from Death--Scenes and Incidents of the Worst Storm Ever Experienced in this City.

Alexandria passed through an experience last night which will be remembered so long as the present generation lives—a midnight scene creating a consternation and panic which threw women into hysterics, caused children to cry out in alarm and strong men to stand aghast at the devastation of the elements. Death, too, was following in the wake of the disturbance, and in two instances at least bricks and debris had crushed out human life.

The easterly wind of yesterday had several times assumed a velocity which caused some apprehension, and those who watched the antics of the weather

knocked out by the debris from the church.

Schuler's Hall, on the south side of King street, between Patrick and Henry, had the entire southern end blown out. The stage was crushed into kindling wood by the falling bricks. The roof was torn off and in its flight struck and demolished the chimney on the residence of Mr. J. Rector Smoot, opposite.

The southern portion of the Pioneer Mills collapsed from the wind, as did also that of the cooper shop on the opposite side of the Strand. The east end of the Vulcanizing works, at the foot of Wolfe street, was demolished, and the frame buildings at Agnew's shipyard, except the office, were crushed. The roof of Capt. Herbert Bryan's storehouse, on Duke street, running from Union to the Strand, was badly damaged.

The roof of Mr. John Heisley's residence on the east side of Fairfax street, between King and Prince, was blown off and the entire third story demolished. Mr. Heisley's family had a thrilling experience, and three of them at

ing on a porch in Dr. Fawcett's crushed it.

The roof of Isaac Eichberg & S dry goods house was carried away.

The residence of the late E Snowden, on lower Lee street, damaged considerably by the storm. The chimneys were blown down falling upon the roof crushed it in several places. The force of the wind be comprehended when it is stated that the chimneys on this house of the most massive build and evidently as strong as any in existence.

The Virginia Glass Works in V End, apart from the chimneys furnaces, are about eliminated. structure, most of which was of wood was demolished. The loss is a \$1,500.

Two houses belonging to Mr. George T. Baker, on Franklin street, were roofed, as was also the store and residence of Mr. James McCuen, south corner of Alfred and Gibbon streets house in course of erection by Mr. O'Brien on Patrick street, between Union and Franklin, was blown down and a frame house belonging to I

## ALEXANDRIA GAZETTE

### AN EXTENSIVE CONFLAGRATION.

An Entire Block Destroyed--The Pioneer Mills a Mass of Ruins--The Most Destructive Fire Ever Known in Alexandria--A Desolate Spectacle.

A sorry picture was presented to early risers this morning. Over a square of the river front was a mass of smoldering ruins—impending walls and stacks of tottering chimneys told the story—there had been a fire and it had burned over a section at one time the busiest in Alexandria's history—the space on the Strand from Duke to Prince street. Nothing but charred piles were left of wharves which in times gone by were the receptacles of shiploads of West India sugar and molasses, and upon which direct importations of articles from nearly every clime had been deposited. The "big mill," as it was called, erected at a cost of \$50,000, which had stood a silent monument for years to the prosperity which at one time animated the section—a time when commission stores were south of the mill—was no

ing crew from the Southern Railway yard. Huge chains were fastened to the walls and attached to the locomotive, and it required but little exertion on the part of the iron horse to pull down the dangerous walls. Large crowds viewed with interest the process.

The following were the buildings destroyed:

- The Pioneer Mills.
- Capt. Bryant's mill and two warehouses and sheds.
- W. S. Moore & Son's Old Dominion Machine and Brass Foundry.
- D. W. Aitcheson's wood and coal office and three warehouses.
- The Old Dominion Boat Club's house and contents.
- A. D. Brockett's warehouse with nearly all its contents of provisions, &c.
- N. Lindsey & Co.'s warehouse with the greater portion of its contents, a number of barrels of coal oil only having been saved.
- Aitcheson & Bros.' warehouse, containing blinds, sash, boxes, &c.
- The building occupied by the Virginia Beef Extract Company.
- Messrs. Aitcheson & Bros.' planing mill, on the west side of Union street, was slightly damaged.
- Mr. Richard S. Wattles's warehouse,

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In order to expose the mill's foundations, archaeologists must first dig through layers of rubble related to the destruction of this structure. Pictured here are pockets of brick, stone, and slate debris, all of which were used to build Pioneer Mills, as well as the burn layer related to the 1897 fire.



Here is an exposed section of the mill wall and floor with the USCGC Eagle in the background. Note the robust stone foundations with brick walls above as well as the worn brick floor. The walls needed to be thick in order to support the massive brick building above as well as the weight of the grain and machinery inside.



While exposing the mill's foundations and floor, archaeologists also uncovered several of these iron tools whose purpose is not immediately clear. Additional research into the workings of the steam mill or the later manufacturing operations may tell us what these were used for.



Thunderbird archaeologists will continue to expose and document the rest of the mill's foundation located at the end of Duke Street.

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## Pioneer Mills, Part 2

November 2017



The remains of Pioneer Mills have been fully uncovered and archaeologists are at work documenting the foundations and carefully disassembling the ruin. The mill's foundations measure 122' x 112' and in some places are more than 6' deep. This photo was taken next to the building at 2 Duke Street, looking east toward the Potomac River.



Pioneer Mills can be seen just above and to the right of the sailboat in this detail of an 1861 sketch by *New York Illustrated News* special artist Alfred Waud. Drawings like this one and historic photographs of the mill building can help us better understand some of the archaeological and architectural features being uncovered here at Robinson Landing.

## Stone support piers



These larger, regularly-spaced flat stones in the center of the mill are actually just the tops of stone piers that extend several feet underground. On top of these piers would have sat vertical wooden posts that would have carried the weight of the heavy mill, including its 12 pairs of millstones, machinery, barrels and sacks of flour and wheat, interior floors and walls, and slate roof.

## Brick engine pad and wheel pit

This large, heavy brick feature probably supported the mill's locally-made Smith and Perkins steam engine. While only barely uncovered in this photograph, additional excavations have revealed a slot or trench in the center of this brick pad that would have housed the engine main wheel, which would have been connected to a large shaft that would have supplied the rest of the mill with power through a series of wheels and belts.





## Small support piers

One interpretation of these two parallel rows of flat stones and narrow channel leading away from the wheel pit is that they could have supported this rotating shaft. Belts would have connected this shaft to each of the pairs of mill stones as well as any other mechanical equipment in the mill such as hoists, lifts, and baggers.



## Additions

The smaller brick rooms seen along the northern and western edges of the mill structure (here along the left and bottom of this photograph) are early-20<sup>th</sup> century additions to the mill. Added sometime between 1912 and 1921, they were used by the Safety First Manufacturing Company as a cleaning room, a core room (for storage of metal casting supplies?), and an office.



## Archaeology

Sharp-eyed observers will also note these two darker, parallel features cutting diagonally across the mill site (running up and down in the center of this photo). These are back-filled archaeology trenches originally opened in the summer to confirm the mill's location prior to uncovering it.



## Photogrammetry

The strange black and white pattern seen here is actually a photogrammetry target. Photogrammetry is a technique that uses many, overlapping images of the same subject in order to create a three dimensional model of that object. If you look closely at the other photos of the mill here, you can see several more of them placed strategically across the mill foundations. These targets are similar to each other, but not identical.



The differences in the patterns help aid archaeologists from Thunderbird Archeology to align over 2000 photographs of the ruins in order to create a photogrammetric model.

## Excavated foundation stones



After careful documentation and excavation, archaeologists are removing and stacking the Pioneer Mills foundation stones for potential reuse in future projects.

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