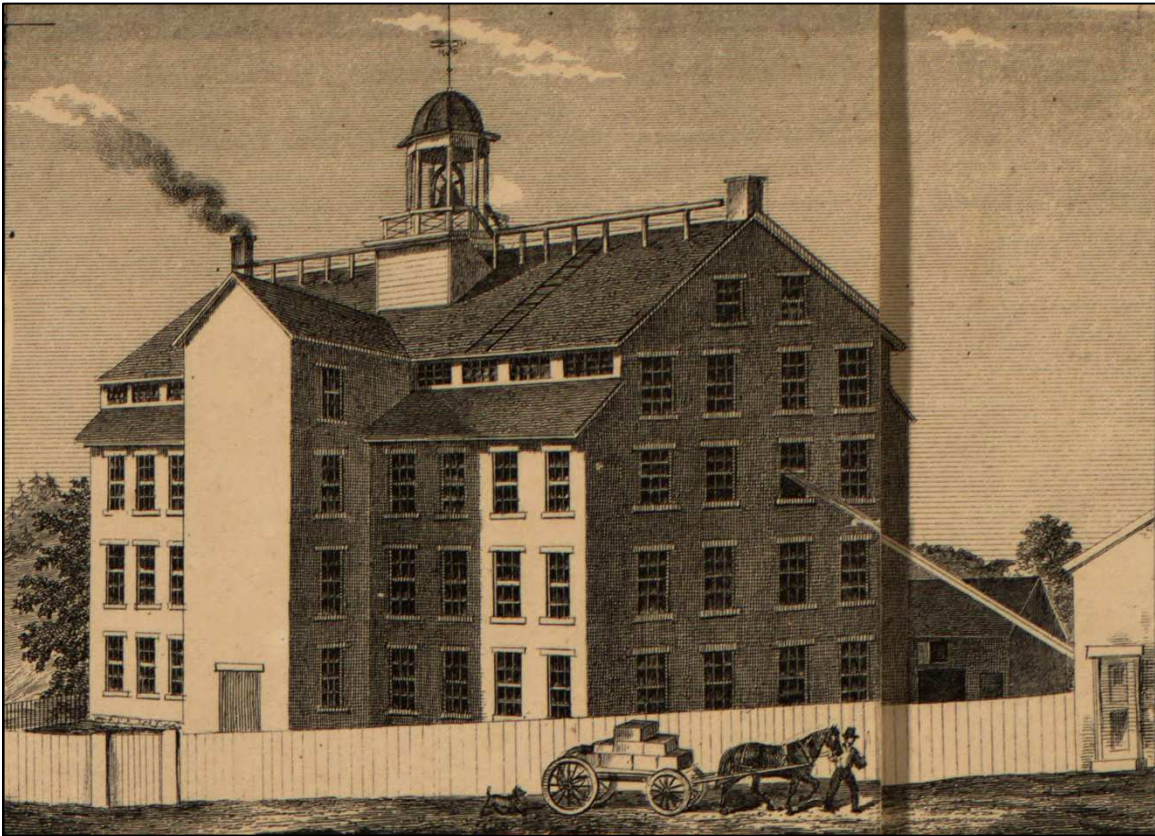


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# **Historic Building Assessment for the Belknap Mill**

**25 Beacon Street East, Laconia, NH 03246**

Conducted for the Belknap Mill Society

By

Mae H. Williams, Preservation Consultant & Misiaszek Turpin pllc

June 2017

Historic Building Assessment Report Funded by  
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## **Executive Summary/Introduction**



## **Executive Summary/Introduction**

### **Purpose:**

The historic building assessment of the Belknap Mill has been undertaken through a 2016 Land and Community Heritage Investment Program (LCHIP) grant. The Society plans to undertake a capital campaign to fund the necessary preservation and repairs, for which a Historic Building Assessment is a valuable and necessary part of its due diligence. The report will serve as a road map for the Society's work going forward and will outline potential changes to the building in response to changes in the needs of the Society and to develop a long-term building maintenance plan. This plan will lay out short, medium and long-term preservation goals and prioritize future fund-raising efforts.

Furthermore, the Assessment will establish the campaign financial goal and will assure potential donors of the Society's commitment to observe appropriate processes and its capacity for responsible management. As part of the capital campaign and in recognition of its ongoing preservation responsibility, the Society will establish a sustainability fund to provide resources for the future maintenance of the Mill. It is the Society's utmost priority to fulfill its mission to preserve and protect this historically significant community resource.

Recognizing that today's successful, sustainable historic sites must offer services which suit both their members' and consumers' current needs and expectations while taking advantage of cutting-edge technology, the Belknap Mill Society recognizes the balances between change and historic preservation. This study found that the Belknap Mill is in need of a building maintenance plan and has several areas of cyclical maintenance that are in need of attention (areas of failing paint, windows needing re-glazing, mortar that needs to be repointed, flooring that needs to be restored, and a leaky roof). Additionally, the report found several areas where the building's performance could be improved by introducing energy efficient measures and reconfiguring interior space to better meet the current facility needs and usage.

### **Methodology:**

In June 2016 Belknap Mill Society began contacting potential members of the Building Assessment team as they prepared their 2016 LCHIP grant application. Included in their proposal were Mae H. Williams, Architectural Historian; Sonya Misiaszek, Architect (Misiaszek Turpin pllc); Chad Montrose, Senior Project Engineer (Rist-Frost-Shumway Engineering), Keith McBey, Construction Manager (Bonnette, Page & Stone Corp.), and Dana Nute & Scott Maslansky, Energy Auditors (Resilient Buildings Group). After receiving the news that they had been awarded an LCHIP grant, the group held an initial meeting in December of 2016. Ms. Williams immediately began collecting a detailed history of the structure, assembling research from historic documents and images at the Belknap Mill Society, New Hampshire Division of Historic Resources, New Hampshire State Library, National Park Service and by consulting historic maps, reading available local histories, and reviewing files relating to recent historic preservation projects at the mill. Field inspections were held by each of the included contractors throughout January of 2017.

## Executive Summary/Introduction

### Summary:

The Belknap Mill (Belknap-Suloway Mill) was listed to the National Register of Historic Places by the National Park Service in 1971 as a rare example of an early and intact brick cotton mill of national importance. The Belknap Mill sits at the center of the City of Laconia, adjacent to the Winnepesaukee River. When Urban Renewal demolished most of the historic core of Laconia, the Belknap Mill and neighboring Busiel Mill were spared through one of the most contentious preservation fights in New Hampshire history.

This building assessment presents the historical context of the Mill, outlines the character-defining elements of the building, details the current building condition, and lays out the scope of work for a series of potential future renovation projects that would incorporate the current needs of the Belknap Mill Society while protecting the historic integrity of the structure. The study will ensure that the Society has a full understanding of the scope, cost and impact of necessary rehabilitation work prior to entering its *Industrial Evolution* capital campaign. The campaign has three primary goals:

- to preserve the historic Belknap Mill and fund interior and exterior renovations that will support more vigorous community programming;
- to establish a sustainability fund to secure resources for future maintenance and repairs to the Mill; and
- to hire a strong executive leader to lead the organization, implement programs that will increase revenue streams, engage the community, and develop opportunities to collaborate and partner throughout the region.

The Belknap Mill is deeply woven into the fabric of the regional community. It is not uncommon to hear young adults say as they enter the Mill, “I remember visiting in the fourth grade dressed up as a mill worker.” Visitors to the Mill's museum will sometimes share stories about their experience, or a family member's experience, as an employee of the Mill in the early and middle 1900's. As a community meeting place, Laconia Main Street held its inaugural meetings at the Mill. In earlier times, it provided nascent homes for Family Services Council, United Way and Belknap County Extension Services. In 2004, the Riverfront Action Committee first met at the Mill to begin work on River Walks and Rail Trails. Even now, the Mill is providing homes for tenants of the Main Street district who will be temporarily displaced during the restoration of the Colonial Theatre. Over the years, the Belknap Mill has been, and continues to be, a community center, cultural center, historical museum, a resource for industrial education, a meeting house for civic organizations and churches, and an incubator for emerging political and civic ideas. The completion of this historic building assessment and the subsequent capital campaign will not only restore the historic fabric of the facility, it will revitalize the organization, by bringing it to a level of operational sustainability that will allow the Society to continue to serve as the Lakes Region's center for the arts, education and community.

## Part I: History and Development of the Property

### History & Development of the Property:

The Belknap Mill in Laconia, New Hampshire was constructed in 1823 and is the oldest surviving unaltered brick textile mill in New England. The cotton mill spurred the industrial revolution of Laconia, and is a physical reminder of the nineteenth-century transition of New England from an agrarian to industrial economy. Laconia and the Lakes Region were completely transformed by the mill industry that spread along the shores of the Winnepesaukee River. The pastoral landscape of central New Hampshire was quickly transformed by the predominance of water-powered industry and the lifestyles of the local people changed dramatically with the predictability offered by factory work over the tenuous unpredictability of the farming life.

Further, the mill “represents a highly significant and almost vanished style of early nineteenth-century American mill architecture”.<sup>1</sup> It is the oldest surviving example of a masonry mill of its type and retains many of the architectural details of this early period. The mill was in continuous use through the iterations of several companies from shortly after its construction in 1823 until 1968. In the late 1960s and early 1970s, the Belknap Mill was the site of one of the most intense historic preservation fights in New Hampshire’s history as the Save the Mills Society wrestled the historic structure from the clutches of Urban Renewal. In 1974, the Save the Mills Society finally won the fight. The Society renovated the surviving brick Belknap Mill building and has operated it since, using some space for their museum and cultural center while utilizing sections of the building as rental offices.

### Early History of Laconia (ca. 1720 to ca. 1770)

The Belknap Mill is situated in the heart of the City of Laconia in Belknap County, New Hampshire. Located on both sides of the Winnepesaukee River, Laconia is bounded to the north by Meredith, to the east by Lake Winnepesaukee and Gilford, to the south by Belmont, and to the west by Lake Winnisquam. The City on the Lakes (as Laconia is also called) was the perfect location for early industry. The Winnepesaukee River has powered hundreds of mills and allowed mills along its banks to work day and night off of the natural power of the flowing water. The waters between Lakes Winnepesaukee and Winnisquam are linked by the Winnepesaukee River, Paugus Bay and Lake Opechee.

The land that is now Laconia was originally granted as portions of Meredith and Gilmanton. The area south of the Winnepesaukee River “was granted to one hundred and seventy-seven persons in 1727, as compensation for services in defense of their country, and was incorporated as part of Gilmanton.”<sup>2</sup> In 1736, a party of men cleared a path to The Weirs and constructed a fourteen-square foot blockhouse as shelter and defense from Indians.<sup>3</sup> Small parties of prospectors and hunters visited the area, but the only route to Gilmanton and Meredith from Epsom and Exeter prior to 1761 was a mere path, marked by blazed trees.<sup>4</sup>

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<sup>1</sup> Belknap Mill Society, “Heritage ’76 ‘Meeting House’ Proposal for New Hampshire: The Belknap-Sulloway Mill, Laconia.” (ND).

<sup>2</sup> Charles W. Vaughan, *The Illustrated Laconian: History and Industries of Laconia, N.H.* (Laconia, NH: Louis B. Martin, 1899), 4.

<sup>3</sup> Vaughan, 5.

<sup>4</sup> Vaughan, 5.

## Part I: History and Development of the Property

Permanent European settlement of Laconia did not occur until after the French and Indian Wars ended in 1763.<sup>5</sup> In 1761, the path to Gilmanton and Meredith had been widened into a cart-path.<sup>6</sup> In 1764, the first bridge over the Winnepesaukee River was built out of logs.<sup>7</sup> The early settlers had learned to harness the energy from running water and use it to power machinery from England's Industrial Revolution. Because of this, early settlements were often located along reliable sources of flowing water. The first log cabin was constructed in Laconia in 1766, the same year as the first sawmill was built in the Weirs.<sup>8</sup> In 1768, a brickyard was added and the upper side of the river was chartered by the Royal Governor John Wentworth as the new town of Meredith.<sup>9</sup>

### The Beginnings of Industrial Development in Laconia (ca. 1770-1823)

In 1770, John Wentworth ordered the Construction of the Province Road from Portsmouth to Canada.<sup>10</sup> This new road passed directly through Gilmanton and Meredith, at the site of what would become Meredith Bridge and is now downtown Laconia. The road opened up the Lakes Region, allowing farms to transport their equipment, supplies and produce and access the metropolis at Portsmouth utilize its seafaring ships to reach the world beyond. Soon after the construction of the road, mills and other businesses began to spring up in Meredith Bridge. The first were "built on the Meredith side of the river, and in 1775 were owned by Stephen Gale (1739-1813) of Gilmanton but were swept away by a freshet in the year 1779."<sup>11</sup> This land on the north side of the River was first owned by schoolmaster James of Exeter.<sup>12</sup>

In 1783, the land and privilege was purchased by Colonel Samuel Ladd (1744-1801).<sup>13</sup> At this time, the land ran from where the river empties into Lake Winnisquam to a point near the Church Street bridge, "and embraced all the land between this line and the river. Colonel Ladd also purchased all the land possible adjoining the property, and probably owned about all that the present village of Laconia covers north of the river."<sup>14</sup> Ladd rebuilt on the south side of the River. "Colonel Ladd lost his mill dam three years successively, and in 1788 his mill was burned, but it was immediately rebuilt."<sup>15</sup> That year, the first bridge across Mill Street was constructed, and a few years later the saw and grist mills were put into operation.<sup>16</sup> During this same period, Abraham Folsom constructed the saw and grist mills in Lakeport that came to be known as Folsom's Mills.<sup>17</sup>

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<sup>5</sup> Carol Lee Anderson, *A History of the Belknap Mill: The Pride of Laconia's Industrial Heritage* (Charleston, SC: The History Press, 2014), 19 and Vaughan, 5.

<sup>6</sup> Vaughan, 5.

<sup>7</sup> Duane Hamilton Hurd, *History of Merrimack and Belknap Counties, New Hampshire* (Philadelphia: J. W. Lewis & Co., 1885), 814. This bridge remained in this location, with occasional repairs, until 1810.

<sup>8</sup> Anderson, 20.

<sup>9</sup> Anderson, 20 and Vaughan, 4.

<sup>10</sup> Anderson, 20 and Vaughan, 5.

<sup>11</sup> Vaughan, 6.

<sup>12</sup> Hurd, 809.

<sup>13</sup> Hurd, 809; and Anonymous, "Find A Grave – Millions of Cemetery Records Online." Database. ([www.findagrave.com](http://www.findagrave.com)), Col. Samuel Ladd.

<sup>14</sup> Hurd, 809.

<sup>15</sup> Vaughan, 6.

<sup>16</sup> Hurd, 814.

<sup>17</sup> Vaughan, 6.

## Part I: History and Development of the Property

In about 1790, Daniel Avery (1769-1826) came to Meredith Bridge from Stratham, and opened a store near the bridge.<sup>18</sup> Soon after his arrival, in about 1795<sup>19</sup> or 1797,<sup>20</sup> he constructed the Avery Dam on the Winnepesaukee River, “just above the point where the Province Road crossed the river on the border with the neighboring town of Gilmanton.”<sup>21</sup> By 1800, a group of businessmen had constructed a paper mill, ticking, wool and linen mills in close proximity to the dam as well as a grist mill (for grinding grain) and a saw mill.<sup>22</sup> A carding mill was established by Samuel and Nathan Bean in about 1800 on the present site of the Busiel Mill<sup>23</sup> at the same time as Martin’s paper mill was constructed nearby.<sup>24</sup>

When Colonel Ladd died in 1801, his property was divided among the heirs with a large portion of the land (encompassing most of Meredith Bridge) inherited by the wife of Stephen Perley (1770-1855) (**Figure 1**).<sup>25</sup> Perley was born in Ipswich, Massachusetts and came to Laconia as a young man. He was a prominent citizen and successful farmer, “raising some years six hundred bushels of corn. He managed a general store, from which was a centre [sic] of trade, not only for the village but for those in the entire farming country around.”<sup>26</sup> Deeds show that in May 1804, Perley purchased water rights from Dudley Ladd in order to run a water wheel.<sup>27</sup> This allowed Perley to use the natural power of the waters of the Winnepesaukee River to kick-start the industrial development of Laconia. Eventually, Perley owned a number of sawmills and, “as the town increased, he established a nail factory, a starch factory, a cotton factory, and a linseed oil mill.”<sup>28</sup>



Figure 1: Stephen Perley from Vaughan page 162.

During this time, cotton production was just starting to take off in the United States as cotton began to replace wool and linen as the desired material for clothing. Prior to American independence from England, Mercantile Policy dictated that all raw materials be shipped to England and returned to the Americas as finished goods.<sup>29</sup> American had no mechanisms to independently produce finished goods for the fledgling nation and had grown to rely on foreign imports. The first cotton mill in America was founded in 1790 in

<sup>18</sup> Avery was a very prominent land-owner in Meredith Village and owned most of the village land and land along the Measly Pond Brook between Lake Waukegan and Lake Winnepesaukee, where he operated grist, saw, and fulling mills. In Meredith Village, Avery went into partnership with several years with John Bond Swasey (1781-1828). In 1816, he sold his last piece of land along the brook to Swasey, who in 1816 constructed the Waukegan Canal.

<sup>19</sup> Esther Peters, “Belknap Mill History” (Produced by Stephen F. Sena, 1987), 3.

<sup>20</sup> Belknap Mill Society Website.

<sup>21</sup> Anderson, 20.

<sup>22</sup> Peters, 3.

<sup>23</sup> Hurd, 819-820. This mill was torn down in 1882 to make way for the J. W. Busiel & Co. mill.

<sup>24</sup> Vaughan, 15.

<sup>25</sup> Hurd, 809.

<sup>26</sup> Vaughan, 162.

<sup>27</sup> Anderson, 21.

<sup>28</sup> Vaughan, 162.

<sup>29</sup> Peters, 3.

## Part I: History and Development of the Property

Pawtucket, Rhode Island by Samuel Slater.<sup>30</sup> The first cotton mill in New Hampshire was constructed in New Ipswich shortly afterward, in 1805 by one of Slater's former employees, Charles Barrett.<sup>31</sup> In the early 1800s a Wolfeboro lawyer named Henry Orne (ca. 1786-ca. 1861), is said to have "returned from the American south with the idea that American capitalists could make money by investing in cotton machinery."<sup>32</sup> The Lakes Region needed a mill to keep up with the new demand, and soon after constructed one of the first cotton mills in the country.

The Meredith Cotton & Woolen Manufacturing Company was organized in 1811, as supplies of British imported manufactured goods were cut-off by the disputes leading up to the war of 1812 and savvy businessmen saw the opportunity to build textile mills to create products to keep up with the demand. The first meeting of this company was called on July 1, 1811 with the warrant for the meeting signed by Stephen Perley, Daniel Tucker and John A. Harper.<sup>33</sup> Shares of stock were issued and sold to the citizens of Gilford and Meredith and land was purchased from Stephen Perley on which to erect a large wooden mill. A meeting was held on August 5<sup>th</sup>, and the soon set to work constructing a wooden mill on the site of the present Belknap Mill.<sup>34</sup> Much of the new mill's machinery was built in a machine shop near-by by John Chase.<sup>35</sup>

The Meredith Cotton & Woolen Manufacturing Co. mill was not in operation until 1813. Daniel Avery became its first agent,<sup>36</sup> and the mill was known as the Avery Mill. Co-owners included Daniel Avery, Daniel Tucker, Stephen Perley, and other leading citizens.<sup>37</sup> By this time, Meredith Bridge had become a very busy village and industrial center. According to Timothy D. Somes, who came to Meredith Bridge in 1813 and recorded his visit in 1884, there was one church but no settled minister in town, "there was a cotton-mill where the brick Belknap Mill now stands; this building was one of the same size on the ground in 1813 as to-day, and was called the Avery Mill. . . There was a clothing mill at the end of Mill Street bridge, on the site now occupied by J. W. Busiel & Co.'s dye house. This clothing Mill was operated by Samuel and Nathan Bean. . . There was an [linseed] oil mill a few feet above the clothing mill owned by Stephen Perley – a small mill, with one set of stones. The oil was sold and used for painting purposes."<sup>38</sup> The village also had a blacksmith's shop owned by Daniel Tucker (later replaced by the Estey Mills) which manufactured axes, scythes and other tools. The Holbrook family operated a bell foundry just below Tucker's shop, which cast the first bell rung out in town that was hung in the bell-tower of the Avery cotton factory.<sup>39</sup> There was also a sawmill (owned by Dudley Ladd) near the end of Mill Street bridge and a grist mill (owned by Jonathan Ladd) near the site of the Pitman mills. There were approximately thirty-four houses along both sides of the Winnepesaukee River at Meredith Bridge in 1813.<sup>40</sup> By the time the War of 1812 ended in 1814, Meredith Bridge was utterly transformed. Within a two-year period, Meredith Bridge

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<sup>30</sup> Peters, 3.

<sup>31</sup> Peters, 3.

<sup>32</sup> Peters, 3 quoting Gilbert S. Center from a talk on January 3, 1970.

<sup>33</sup> Hurd, 819.

<sup>34</sup> Peters, 3 quoting Gilbert S. Center.

<sup>35</sup> Hurd, 819.

<sup>36</sup> Hurd, 819.

<sup>37</sup> Vaughan, 8.

<sup>38</sup> Hurd, 809.

<sup>39</sup> Hurd, 809.

<sup>40</sup> Hurd, 809.

## Part I: History and Development of the Property

“went from being home to just over a dozen residential houses and several stores to well over thirty occupied homes and a substantial number of businesses.”<sup>41</sup>

As industry grew in Meredith Bridge, so did the infrastructure to support it. Shortly after the Avery Mill went into production, the townsfolk purchased a fire-engine in 1815 and constructed a suitable engine-house on Mill Street.<sup>42</sup> Several stores and mechanic shops were constructed, as well as additional houses.

Canals were also constructed to accompany the areas dams and create a more reliable source of water power. In 1815, Stephen Perley began construction of his own canal. The construction was delayed, as mill owners jockeyed to control the water privileges. The two textile mills thrived, with the woolen mill employing over thirty people and the Perley Mill approximately seventy workers.<sup>43</sup>

On February 13, 1823, the Meredith Cotton & Woolen Manufacturing Co. faced disaster when their wooden mill was destroyed by fire.<sup>44</sup> A fire broke out when a cotton “picker” machine burst into flame by a third-floor stair well. It spread rapidly throughout the building, forcing the girls in the upper loft to jump from the windows. Local legend tells the story of one woman:

Making her way to an open window, she stood on the sill choking from the smoke while firemen below prepared to catch her in a large blanket. She jumped as the men tugged at the blanket, ready for impact. Little was the necessity for such preparation, however, for as she leaped, the breeze lifted her hoop skirt and held it against her out-stretched arms and the woman floated gently into the blanket. The skirt had acted as a parachute and she landed without even a slight jolt.<sup>45</sup>

Other contemporary first-hand accounts tell a very different story, and relate the serious injuries suffered by women who jumped from the upper stories. One operative, Clarissa Bean, had all of her limbs broken. “They were amputated, but she did not recover.”<sup>46</sup> The large factory, factory store, and engine house on Mill Street were a complete loss.

The risk of fire in a cotton mill was extremely high. Cotton fibers and lint in the air created a very combustible environment. This combined with the oils used on the machinery and gas or kerosene lighting created an environment reminiscent of a tinderbox. Fires were quick to start and even quicker to spread (especially in wooden mills). The close proximity of neighboring buildings further exacerbated the threats, and no mill was immune. Another tale “tells the story of a man who regrettably smoked a pipe inside the cotton mill and was blown through a window into the river, with his chair reportedly following close behind.”<sup>47</sup>

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<sup>41</sup> Anderson, 21-22.

<sup>42</sup> Hurd, 814.

<sup>43</sup> Anderson, 23.

<sup>44</sup> Anderson, 23; Peters, 4; and Vaughan, 14

<sup>45</sup> Anderson, 23.

<sup>46</sup> Vaughan, 14.

<sup>47</sup> Anderson, 23.

## Part I: History and Development of the Property

### Leader of Laconia's Industrial Revolution: The Belknap Mill (1823-ca. 1900)

The Meredith Cotton & Woolen Manufacturing Company was quick to react and replaced the original wooden mill with the current Belknap Mill in 1823. They learned from the fate of the first mill and carefully designed the new structure to be fire-resistant. The new mill was primarily constructed of brick and featured a blend of wooden post-and-beam construction that duplicated the design of a brick mill in Waltham, Massachusetts, which is recognized as the mill where America's Industrial Revolution first began."<sup>48</sup> The bricks were made at a brickyard in the Weirs and transported to the building site on the Winnepesaukee River.<sup>49</sup> The timber was harvested from trees taken from the surrounding neighborhood on the south side of the river from what is now Union Avenue to the foot of Prescott Hill.<sup>50</sup> The wooden beams were hand-hewn from local spruce trees that were over 125 feet in height.<sup>51</sup> The beams of the new mill had the square corners shaved off (chamfered) to make them more resistant to fire and an exterior brick-encased stairway served as an early version of our modern building-code dictated fire-rated stairs.

One of the vital original features of the 1823 mill was its bell. A mill's bell was essential to its working life, serving as an important signal to the millworkers and surrounding community. The bell kept time for the operatives, with its ringing marking the beginning and end of the working day and the duration of the lunch hour. It also served the larger community as a means of alerting the fire department to fires that the mill's watchmen spotted in the mill's surrounding neighborhood.

The bell for the Meredith Cotton & Woolen Manufacturing Company mill had been destroyed by the fire. This first bell is reported to have been cast by Major George H. Holbrook (1767-1846). As a young man, Holbrook apprenticed to the Revere Foundry on Lynn Street in Boston and was trained as a machinist and clockmaker.<sup>52</sup> In 1797 he established his own foundry in Brookfield, Massachusetts, having learned to the art of manufacturing bells from an old English encyclopedia.<sup>53</sup> By 1812, Maj. George Holbrook gave up his career and moved to Meredith Bridge, where he purchased a small farm.<sup>54</sup> Shortly after his arrival, Holbrook seems to have continued to feel compelled back to the foundry life, and opened a small foundry in town near the Perley Mill. "The foundry produced doorknockers, sleigh bells, church bells and presumably a bell for Stephen Perley when he built his cotton mill."<sup>55</sup> He returned to East Medway, Massachusetts in 1816.

Colonel George Holbrook (1798-1875) joined his father in business in Medway in 1816.<sup>56</sup> Col. Holbrook was an eminent musician with an appreciation for the bell's tonal qualities. "After he joined his father in business, the musical quality of Holbrook bells greatly improved."<sup>57</sup> He took over the business in 1820 and continued to produce bells until 1871. During the years 1816-1820, the Holbrook bell foundry was the only

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<sup>48</sup> Anderson, 25.

<sup>49</sup> Anderson, 27 and Peters, 4.

<sup>50</sup> Peters, 4.

<sup>51</sup> Anderson, 27 and Peters, 4.

<sup>52</sup> Francis D. Donovan, "The Holbrooks and the Holbrook Foundry" (Medway Public Library Website, 1989), <http://medwaylib.org/History/Holbrooks/Holbrooks.htm>.

<sup>53</sup> Donovan.

<sup>54</sup> Donovan and Anderson, 30.

<sup>55</sup> Anderson, 31.

<sup>56</sup> Donovan.

<sup>57</sup> Anderson, 31.



## Part I: History and Development of the Property

establishment of its kind in America.<sup>58</sup> Col. George Holbrook is reported to have cast over 10,000 church and other bells, including the Belknap Mill bell. After Col. Holbrook died, his business remained in the family, “until the year 1880, when the proprietor accepted a position offered him in the Pension Office Department, Washington, D. C., and sold the valuable patterns and franchise to parties in San Francisco, California, who had long been endeavoring to acquire the same.”<sup>59</sup>

In 1823, Col. George Holbrook is said to have recast the Meredith Cotton & Woolen Manufacturing Company Mill bell from the metal of the bell used in the earlier mill.<sup>60</sup> Fifty silver dollars were collected from local citizens and cast into the bell in order to give it a distinctive tone.<sup>61</sup>

By 1828, the new Meredith Cotton & Woolen Manufacturing Company mill (now Belknap Mill) was in full operation.<sup>62</sup> The following year, in 1829, the mill was purchased by the Avery Factory Company and headed by Daniel Avery.

In December of 1833 the nearby paper mill, sawmill and grist mill were all destroyed by fire.<sup>63</sup>

By 1842, Meredith Bridge had evolved into a bustling industrial center. The *Belknap Gazette*, published in 1842 by Col. Charles Lane, writes of “three cotton-mills, a woolen-mill, grist-mill, saw-mills, shingle, clapboard, sash and door machinery, a large tannery and various other industries”<sup>64</sup> in the village at this time. It also reports

a large printing establishment operated by D. B. Allison, with waterpower press, and a bindery and book-store connected. There were 10 stores, two apothecaries, one jeweler and watchmaker, two barbers, two physicians, five lawyers, three clergymen, three taverns, three new churches, well furnished and painted, and one academy in a flourishing condition.<sup>65</sup>

In 1843, the Avery Factory Company mill was purchased at auction for \$12,000 by Joshua Dodge and Alan Tucker, Jr.<sup>66</sup> It was Dodge and Tucker that first began to operate their business under the name of the Belknap Manufacturing Company. The newly named Belknap Mill produced large amounts of textiles as it continued to grow with an ever-increasing number of operatives.

Manufacturing in Laconia really escalated after 1848 and the arrival of the Boston, Concord and Montreal rail service to Meredith Bridge. The railroad had reached Concord in 1842<sup>67</sup> and officially opened a new line between Concord and Meredith Bridge on August 8, 1848. This line was extended to Lake Village in 1849.<sup>68</sup> The arrival of the railroad allowed even larger businesses to be established and marked the

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<sup>58</sup> Donovan.

<sup>59</sup> Donovan.

<sup>60</sup> Richard M. Candee, “National Register of Historic Places Inventory – Nomination for the Belknap-Sulloway Mill, Laconia, NH.” (1971), 2 and Peters, 4.

<sup>61</sup> Peters, 4 and Anderson, 31.

<sup>62</sup> Anderson, 27; Belknap Mill Society Website; and Candee, Belknap Mill National Register Nomination, 2.

<sup>63</sup> Vaughan, 14-15.

<sup>64</sup> Hurd, 810.

<sup>65</sup> Hurd, 810. In October 1842, all of the public-houses in Meredith Bridge claimed to discontinue the sale of “ardent sprits,” despite being in a town that had not outlawed the sale of liquor. The following year, in 1843, one hundred and two citizens signed a declaration pledging themselves against the sale of liquor in the town. The sale of intoxicating drinks in the village ceased as the Meredith Bridge Washingtonian Total Abstinence Association was formed.

<sup>66</sup> Anderson, 33 and Peters, 5.

<sup>67</sup> Peters, 4.

<sup>68</sup> Vaughan, 9.

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beginning of a new Lakes Region industry: tourism. All of a sudden, the region was opened up to a wide range of opportunities with the easy flow of goods and people to and from the area. “The Winnepesaukee River Valley offered a plentitude of benefits: beautiful scenery; plenty of water power; railroad service; and operatives who were ready, willing and able to accept low-paying positions.”<sup>69</sup> Business boomed. In 1848, the Charles C. Randlet Car Manufacturing Company (later renamed the Laconia Car Company) was established to make railroad and trolley cars and quickly became one of the area’s biggest employers.<sup>70</sup>

While the Belknap Manufacturing Company was continuing to expand, John. W. Busiel constructed the brick mill just north of the Belknap Mill and today known as the Busiel-Seeburg Mill. In 1846, J. W. Busiel had moved to Meredith Bridge and begun working at the Strafford Mill (adjacent to the Belknap Mill).<sup>71</sup> “After a fire in 1853 destroyed the Strafford, he purchased the land and water privileges from the owners of the charred property.”<sup>72</sup> He purchased a nearby parcel of land from Dodge and Tucker in February 1853 for \$3,900<sup>73</sup> and constructed the Granite Hosiery Mills. Busiel quickly set to work manufacturing men’s, women’s and children’s hose. By 1885 this company employed one hundred and seventy-five hands.<sup>74</sup> A few years later, Lewis F. Busiel established the White Mountains Hosiery Mills, at first only manufacturing hosiery yarn.<sup>75</sup> By the mid-1800s, the Industrial Revolution had taken a firm grip of the Lakes Region with change emanating out of Meredith Bridge.

Seeing the explosion of interest and industry, the Massachusetts-owned Winnipissogee Lake Cotton and Woolen Manufacturing Company of New Hampshire (known locally as the Lake Company) began purchasing water rights along the Merrimack River.<sup>76</sup> In 1851, the company built a very contentious dam across the Winnepesaukee River in Lake Village, increasing the height of Paugus Bay and destroying the properties of several locals.<sup>77</sup> On September 25, 1852, they even purchased water right from the Belknap Manufacturing Company.<sup>78</sup> By 1856, the company had stealthily taken control of 103 square miles of New Hampshire waters, including Newfound, Winnisquam, Winnepesaukee and Squam Lakes.<sup>79</sup> The dam question came to a head on September 28, 1859 when farmers stormed the Lake Company offices in Lake Village (Lake Port) in what was known as the Lake Village Riot.

As Meredith Bridge continued to grow,<sup>80</sup> the distance between the village and the municipal centers of Meredith Village and Gilford came to the forefront. Partly in an attempt to solve the division of the town’s residents, a new town hall was built in Meredith Village in 1855.

On March 13, 1855, Meredith held its first fateful meeting in the new Town Hall. Approximately six to eight hundred people arrived to debate some hotly contested issues. “When a large number of voters surged

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<sup>69</sup> Anderson, 33.

<sup>70</sup> Anderson, 34.

<sup>71</sup> Anderson, 48 and Richard M. Candee, “National Register of Historic Places Inventory – Nomination Form for the Busiel-Seeburg Mill, Laconia, NH” (1971), 2.

<sup>72</sup> Anderson, 48.

<sup>73</sup> Belknap County Registry of Deeds book 20, page 532.

<sup>74</sup> Hurd, 819.

<sup>75</sup> Vaughan, 15 and Hurd, 819.

<sup>76</sup> Anderson, 34.

<sup>77</sup> Anderson, 34.

<sup>78</sup> Belknap County Registry of Deeds book 20, pages 89-92.

<sup>79</sup> New England Historical Society: <http://www.newenglandhistoricalsociety.com/winnepesaukee-water-wars-fighting-nh-property-rights>

<sup>80</sup> By 1855, Laconia’s population was 1,200 (Vaughan, 16).

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forward to take their ballots, the floor collapsed under their weight.”<sup>81</sup> One hundred and fifty men fell into the basement. In the chaos that ensued,

over sixty men were carried out seriously injured with broken bones, dislocated joints and internal injuries. Four of the injured men, James W. Durgin, Washington Smith, Benjamin D. Robinson, and Nathaniel Nichols, died in a short time, and others received injuries from which they never recovered, many being crippled for life.<sup>82</sup>

That same day, the people of Meredith Bridge declared their independence and proclaimed that their new town would be known as Laconia.<sup>83</sup> An act of incorporation of the Town of Laconia was approved and signed by Governor Ralph Metcalf on July 14, 1855.<sup>84</sup>

As Meredith Bridge became Laconia, the Belknap Manufacturing Company became the Belknap Mills Corporation. The Mill and adjoining blacksmith shop was purchased on November 13, 1858 by Robert M. Bailey and Kimball C. Gleason of Methuen, Massachusetts for \$7,300 from Thomas Eastman.<sup>85</sup> A few years later, in 1861, Bailey and Gleason sold the mill, along with several other parcels of adjacent land, to the Belknap Mills Corporation for \$50,000.<sup>86</sup> For just over \$3,000 the men also purchased “...the right to draw and use one half of the water from the flumes connected to the premises...reserving a passage over said land for the water from the Boynton Flume now owned [sic] Lewis F. Busiel.”<sup>87</sup> By 1856, Edwin A. Charlton described Laconia as:

...a flourishing manufacturing village, and the seat of much business. On the Meredith side are a large, well constructed and handsome hotel; a meeting house, belonging to the Congregational Society; a large car factory in which are employed about 75 men; a pail and bedstead factory; a cotton mill, in which 70 operatives are employed, the property of which is estimated at \$30,000; a woolen factory, in which 30 hands are employed; capital, \$10,000. There are also ten stores, two jewelers' shops, and two furniture warehouses.<sup>88</sup>

Both the Belknap Mill and the Busiel Mill were operating at full speed.

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<sup>81</sup> Anderson, 36.

<sup>82</sup> Vaughan, 12.

<sup>83</sup> Anderson, 36.

<sup>84</sup> Vaughan, 12.

<sup>85</sup> Belknap County Registry of Deeds Book 31, page 403.

<sup>86</sup> Boswell, 34-35 and Belknap County Registry of Deeds Book 35, page 209.

<sup>87</sup> Anderson, 37.

<sup>88</sup> Edwin A. Charlton, *New Hampshire As it Is* (Claremont, NH: Tracy and Sanford, 1856), 296.

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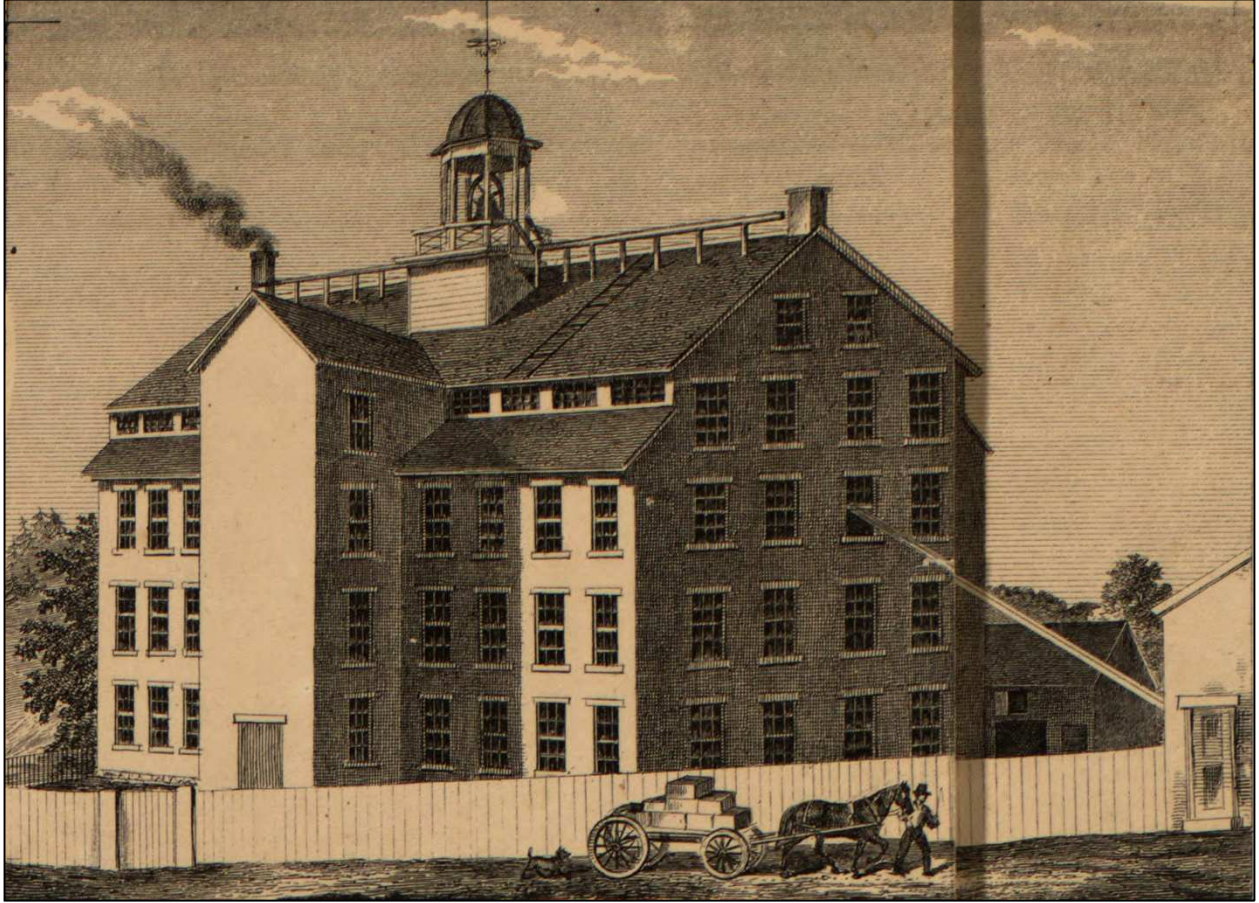


Figure 2: Belknap Mill as it appeared in 1860 from E. M. Woodford "Map of Belknap County, New Hampshire." (Library of Congress Website)

Laconia continued to expand and by 1860, Laconia's population had reached 1,806.<sup>89</sup> September of the same year, "the *Winnepesaukee Gazette* reported that sixty looms, namely the S. T. Thomas Fancy Loom, were in operation at the mill, and Bailey and Gleason had gained ownership of the patent on the loom."<sup>90</sup> The new looms allowed millworkers to weave both cotton and woolen cloth, instead of being limited to one type, and nearly four hundred yards of cloth were produced daily by the predominantly male workforce.<sup>91</sup>

Disaster struck the Village of Laconia on November 21, 1860. "Laconia's Great Fire of 1860" forever changed the character of the downtown area. A small fire broke out in the stable of the Cerro Gordo Hotel (at approximately the present site of Boot Legger's Footwear). The fire quickly engulfed the structure before sweeping down Main Street, and spreading east toward Mill Street (now Mill Plaza). Practically all of the downtown business district was destroyed. The *New York Times* tallied 25 buildings on four city blocks destroyed,<sup>92</sup> including the telegraph office and post office.<sup>93</sup> Though many of the buildings in the

<sup>89</sup> Vaughan, 16.

<sup>90</sup> Anderson, 38 and Boswell, "Documenting Laconia's Knitting Machines," 35.

<sup>91</sup> Anderson, 38 and Boswell, "Documenting Laconia's Knitting Machines," 35.

<sup>92</sup> Anderson, 37.

<sup>93</sup> Anderson, 37.



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Figure 3: Laconia Village immediately surrounding the Belknap Mills in 1860. From E. M. Woodford "Map of Belknap County, New Hampshire." (Library of Congress website)

immediate vicinity of the mill were destroyed, the Belknap Mill was spared. While the area rebuilt, several nervous factory owners and businessmen worked together to form Laconia's Fire Department.

The outbreak of the Civil War placed new demands on Laconia's industrial infrastructure. Northern mills found themselves picking up the pace to meet the new production demands of the union army and increased local demand as goods could no longer be imported from the south. The "area's factories revamped their production schedules in order to manufacture enough goods for the war effort. Cloth, hosiery, underwear, bags and blankets for union soldiers were being turned out at a furious pace."<sup>94</sup> The Belknap Mill converted their equipment from weaving to knitting under the tenure of Bailey and Gleason, installing circular knitting machines to manufacture

seamless hosiery and bags.<sup>95</sup> Though the Belknap Mills Corporation has never been proven to have been included on any official government vendor lists from the war years, various reports in the *Winnepesaukee Gazette* show that the mill was transitioning to hosiery during the year and increasing production to the point of turning out approximately two hundred dozen pairs of socks a day.<sup>96</sup>

By the mid-1860s, Laconia and the Lakes Region had become centers of textile production. At the end of the war, two other mills in Laconia were manufacturing hosiery and a third was running day and night to keep up with production. Gilford Hosiery Company was incorporated by John Carroll Moulton in 1864. This large mill was located on the south side of the Winnepesaukee River, to the southeast of the Belknap Mills Corporation and was reported to employ "about 125 hands in the manufacture of hosiery" by 1885.<sup>97</sup> These mills, in combination with the Pitman Manufacturing Company, the late J. S. Tilton hosiery industry, and the Abel Machine Shops created a huge number of jobs and bustling economy in Laconia.

Large-scale textile production was by no means limited to Laconia during this period of increased demand. A very thriving textile industry was also present further down the Winnepesaukee River in Franklin.

The second half of the nineteenth century was a period of rapid industrial and commercial expansion for the town [of Franklin]. The combination of easy access to market provided by the railroad, the power potential

<sup>94</sup> Anderson, 38.

<sup>95</sup> Belknap Mill Society Archives.

<sup>96</sup> Anderson, 38.

<sup>97</sup> Hurd, 819.

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of the Winnepesaukee River and the availability of raw materials and labor provided the ideal conditions for industrial development.<sup>98</sup>

Walter Aiken, who revolutionized the knitting industry after his 1850s inventions of circular knitting machines and latch needles, was one of the first to recognize Franklin's industrial potential. In 1864, Aiken constructed the Aiken Hosiery Mill (later Franklin Falls Mill).<sup>99</sup> His inventions, coupled with his decision to locate in Franklin Falls, stimulated the organization of several other Franklin-based manufacturing companies. The Franklin Mill on Smith Street was constructed in ca. 1860<sup>100</sup> and the Franklin Mill on East Bow Street in Franklin was added in c. 1864.<sup>101</sup> In 1865, A. W. Sulloway and Frederick H. Daniel entered a partnership and opened the Sulloway Mill hosiery manufacturing mill on the site of an earlier mill.<sup>102</sup> The Franklin Needle Company opened in 1874, and was, at one time, "the world's foremost manufacturer of latch needles."<sup>103</sup> Smaller industrial knitting industries evolved in the nearby towns of Ashland, Meredith, and Belmont.

Back in Laconia, the population reached 2,309 by 1870 as people flocked to the area to work in the ever-expanding mills.<sup>104</sup>

When the Civil War ended, so did the enormous orders for military supplies. During the war years, Bailey and Gleason, then owners of the Belknap Mill, had become exceedingly wealthy. At the end of the war, they were worth hundreds of millions of dollars and their mill was used to running in high gear.<sup>105</sup> With peace declared, their company began to falter as the war-time demand ceased. At the same time, the businessmen were entrenched in a lawsuit over a patent held on the Thomas Loom.<sup>106</sup> In an effort to save the business, the partners began to sell off properties. After a few years of struggling, Bailey and Gleason filed for bankruptcy.

At noon on November 10, 1873, the Belknap Mills Corporation was sold at bankruptcy auction. The assigns of the Estate of the Belknap Mills Corporation sold the brick mill, along with all of the personal property therein, to John Lynes of New York for a mere \$350.<sup>107</sup>

Laconia continued to develop around the Belknap Mill through the late 1800s, adding new factory buildings and additions between existing structures, new housing for millworkers, and new infrastructure and commercial buildings to cater to the millworkers. The result was a very compact downtown area. In 1875, the Pitman Manufacturing Company was established just across the Mill Street Bridge by Joseph P. Pitman and set to work manufacturing ladies' and children's' hose and employing about 150 hands.<sup>108</sup> Across Mill Street from the Belknap Mill the Busiel Mill added a new brick office building in 1874 and new Picker

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<sup>98</sup> Kathryn M. Kuranda, "National Register of Historic Places Inventory Nomination form for Franklin Falls Historic District, Franklin, NH" (1982), 45.

<sup>99</sup> Kuranda, 45.

<sup>100</sup> Kuranda, 42.

<sup>101</sup> Kuranda, 43.

<sup>102</sup> Kuranda, 35.

<sup>103</sup> Kuranda, 45.

<sup>104</sup> Vaughan, 16.

<sup>105</sup> Anderson, 53.

<sup>106</sup> Anderson, 53.

<sup>107</sup> Belknap County Registry of Deeds book 57, page 349.

<sup>108</sup> Hurd, 819.



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House in 1877.<sup>109</sup> Soon after, the western half of the main building was expended and a new stair tower was added to the south side.<sup>110</sup>

As the mills grew and evolved, so did other aspects of the Lakes Region Economy. In the late 1800s, the Lakes Region came to be seen as a tourist destination and people started to flock to the lakes and mountains by train during the summer months. This created a seasonal influx of work and increased employment in the hospitality industry. By 1880, the population of Laconia had reached 3,790.<sup>111</sup>

In 1880, the Belknap Mills ownership changed again. On June 2, 1880, James W. Johnson of Enfield, Luther A. Roby of Nashua, and George W. Armstrong of Brookline, Massachusetts granted the property to William C. Marshall (1843-1915) for \$75,000. The property included

all the Mill Buildings, Boarding Houses, and all other buildings thereon. And all the machinery of whatever kind of nature in said Mill Buildings, with all the rights, ways, easements, privileges, and appurtenances to the premises belonging, including all water privileges, water rights, water powers, canal rights, rights of way, and other rights, privileges, and things whatsoever appurtenant to said land or structures.<sup>112</sup>

The Belknap Mill became known as the Marshall Mill and ran successfully for a number of years. The Marshall Mill is shown in the 1883 Bird's Eye View of Laconia (**Figure 4**) in the center of the dense industrial landscape of Laconia. The Marshall Mill (#8) is surrounded by the Laconia Democrat (L), Geo. W. Riley, Sash, Door and Blind Manufactory (#15), L. F. Busiel's White Mountain Mills (4), Wm. H. Guy's Laconia Steam Laundry (#21), and the J. W Busiel & Co Granite Hosiery Mills (#3).

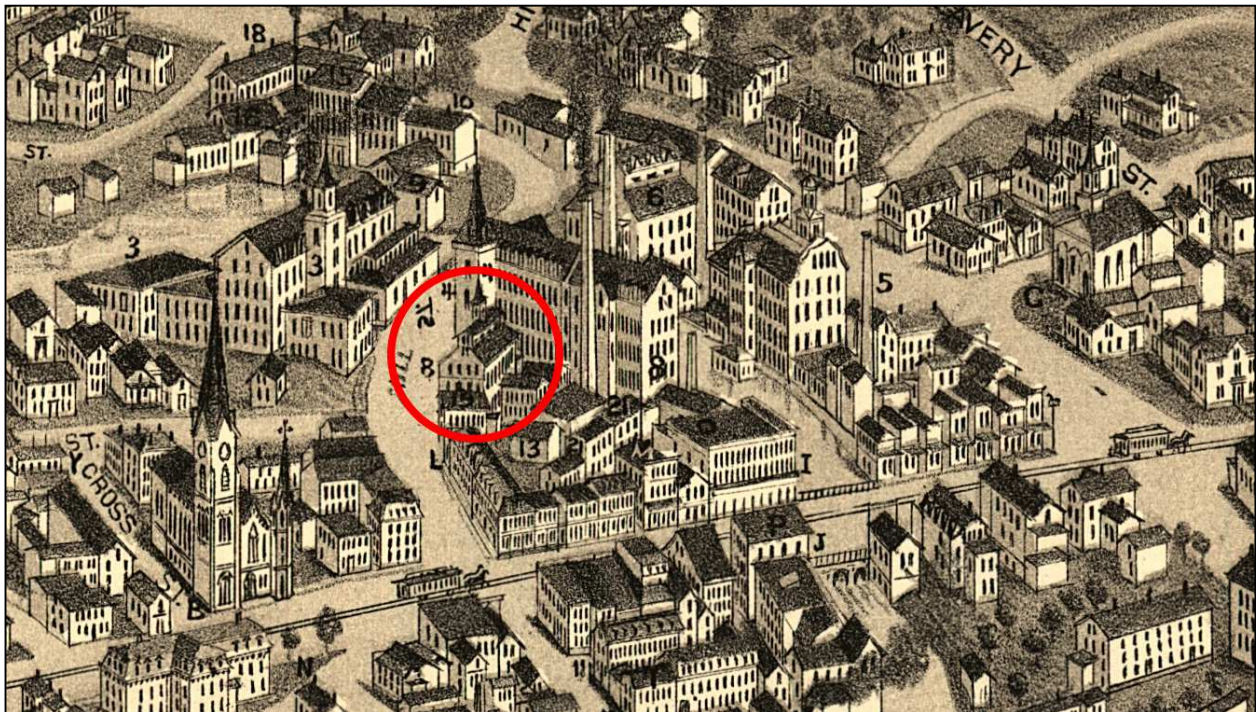


Figure 4: Bird's Eye View of Laconia in 1883 (from Library of Congress website)

<sup>109</sup> Candee, "National Register of Historic Places Inventory – Nomination from for the Busiel-Seeburg Mill," 2.

<sup>110</sup> Candee, "National Register of Historic Places Inventory – Nomination from for the Busiel-Seeburg Mill," 2.

<sup>111</sup> Vaughan, 16.

<sup>112</sup> Belknap County Registry of Deeds book 66, page 451.

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Up until this point, all of Laconia’s bustling downtown had relied on gas lighting. On December 6, 1884, the Laconia Electric Lighting Company was organized and established the first central electric lighting station in the State of New Hampshire.<sup>113</sup> This business was located in the basement of the brick Belknap Mill. For the first time, citizens of Laconia were introduced to public street lighting, and, more importantly, commercial lighting became available for the City. The company grew rapidly, remaining in the basement of the Mill until October, 1889 when they moved to more spacious accommodations at the lumber works of Gardner Cook & Son.<sup>114</sup>

In 1885, the Marshall Brothers Mills were surveyed for the Sanborn Fire Insurance Company Maps (**Figure 5**). At this time, the brick mill building was accompanied by a single-story free-standing office out front (north). Several wings were constructed off of the south side of the mill, including a Wheel House off the southeast corner of the building, Dye House off of the south, and Picker House (woolen) off of the center of the south side. A second-story walkway off of the west elevation connected to the Plummer Printing offices next door.

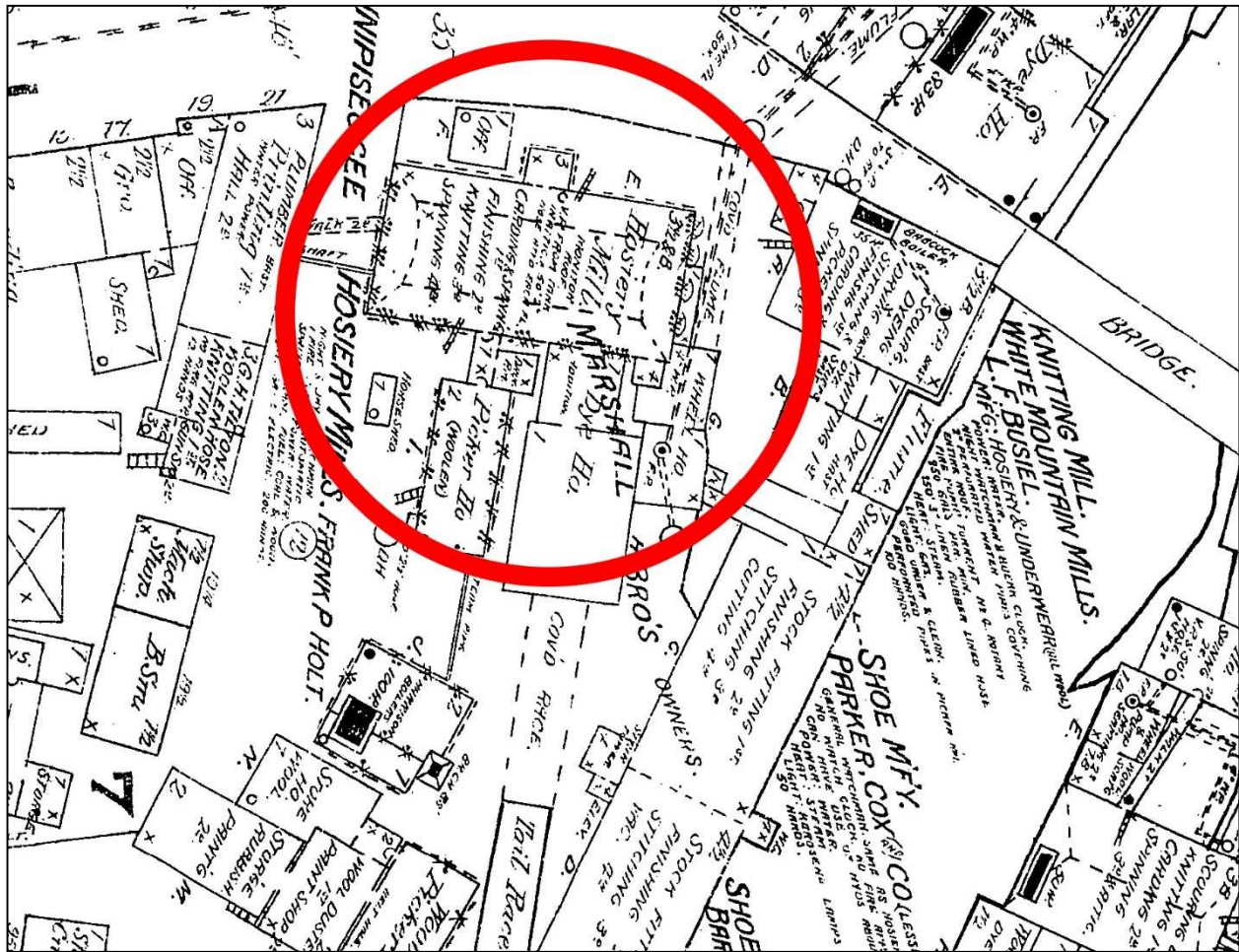


Figure 5: Marshall Brothers Mill from 1885 Sanborn Fire Insurance Map, Sheet 2

<sup>113</sup> Vaughn, 125.  
<sup>114</sup> Vaughan, 126.



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By 1890, Laconia’s population had reached 6,143<sup>115</sup> and the Lakes Region growing in popularity as a tourist destination and the wealthy mill owners began to show their pride for Laconia by giving back to the community. The Lake Shore link of the Boston & Main Railroad had been constructed in 1887, and formally opened on June 17, 1890.<sup>116</sup> Just two years later, on August 22, 1892, the Laconia Passenger Station was completed.<sup>117</sup>

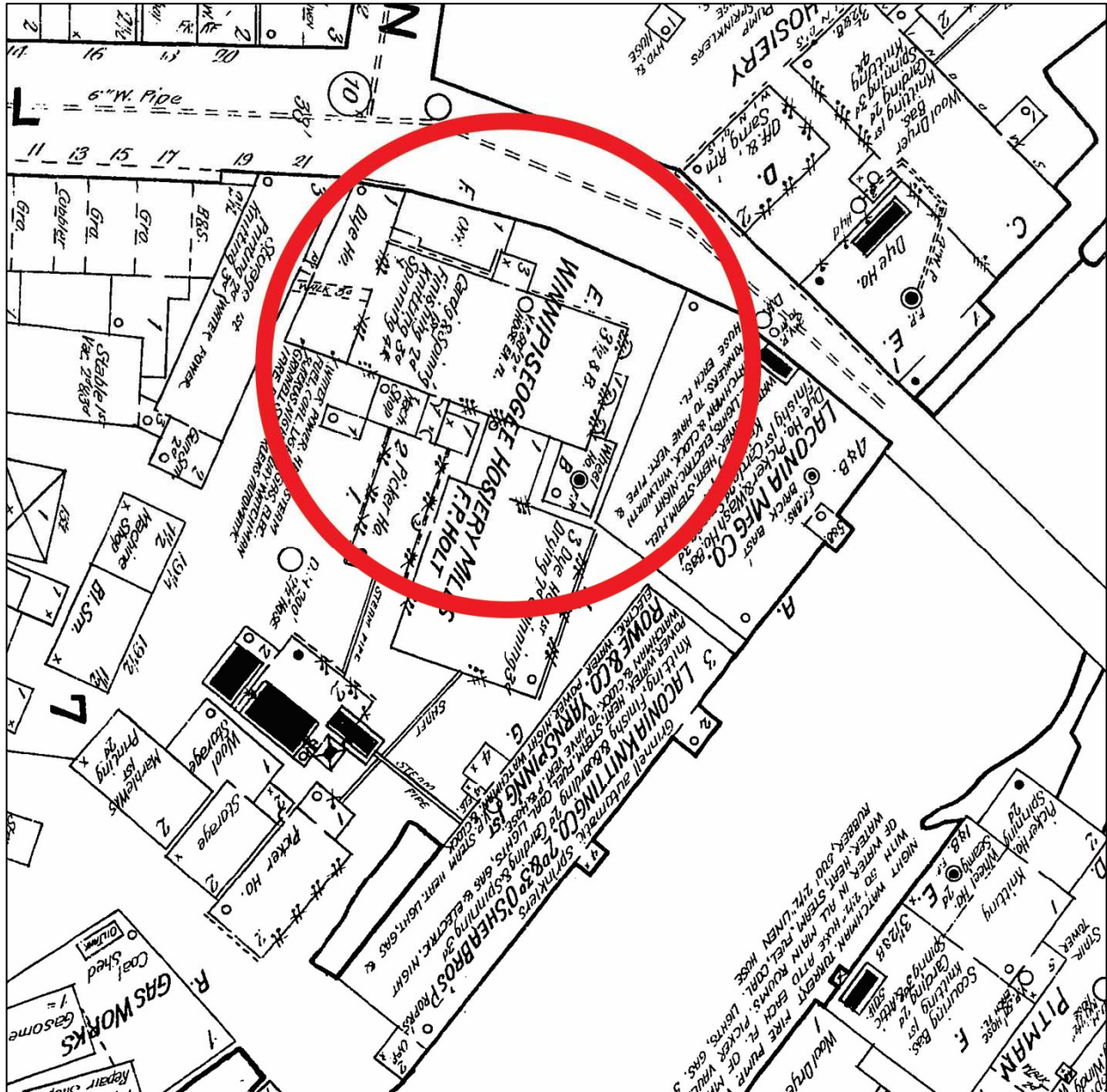


Figure 6: F. P. Holt’s Winnipiseogee Hosiery Mills from 1892 Sanborn Fire Insurance Maps, Sheet 4.

<sup>115</sup> Vaughan, 16.

<sup>116</sup> Vaughan, 17.

<sup>117</sup> Anderson, 54 and Vaughan, 17.

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The Sanborn Fire Insurance Company re-surveyed the mill complex in 1892 (**Figure 6**). By this time, the Marshall Brothers Mill had become the Winnipiseogee Hosiery Mills and was under the ownership of F. P. Holt. The office at the north side of the mill had grown in footprint, a single-story Dye House had been added off of the west elevation of the brick mill, the Dye House off of the south elevation had been rebuilt and a Machine Shop had been built off of the southwest corner of the building, adjacent to the Picker House. The White Mountain Mills (now Laconia Manufacturing Company) to the east of the Belknap Mill had been rebuilt as well.

March 24, 1893 the New Hampshire Legislature granted Laconia a City charter.<sup>118</sup> Dubbed, “the City on the Lake,” the municipality permanently secured the manufacturing center at Lake Village (now Lakeport). In 1874, Laconia had secured Lake Village from Gilford, only to lose the village two years later as it once again became territory of Gilford.<sup>119</sup> This prize annex also included the section of land that ran up to, and included, the popular tourist destination of the Weirs.<sup>120</sup>

When the Sanborn Fire Insurance Company next surveyed Laconia in 1897, the mill had again changed names (**Figure 7**). Now the Hodgson & Holt Manufacturing Company, the footprint of the Belknap Mill complex had changed little.

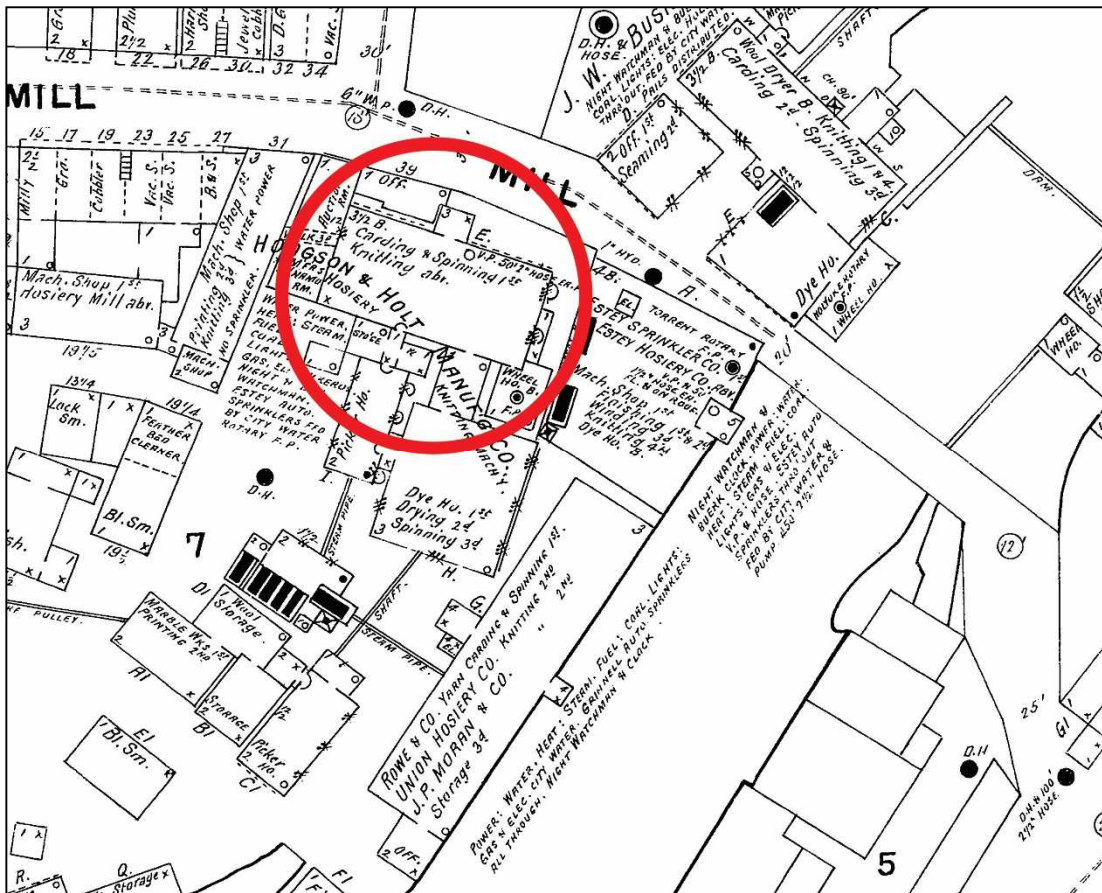


Figure 7: Hodgson & Holt Manufacturing Co. from 1897 Sanborn Fire Insurance Map, Sheet 3

<sup>118</sup> Vaughan, 14.

<sup>119</sup> Anderson, 53 and Vaughan, 13.

<sup>120</sup> Anderson, 53.



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By the time of the 1897 Sanborn Map (Figure 7), a portion of the old Belknap Mills property along the Winnepesaukee River was leased to an enterprising young man named Joseph Paul Morin (1860-1942). Originally from Quebec, Morin had come to the United States ca. 1870 and organized the Belknap Mills Corporation in Lakeport and purchased half interest in the mill in 1885.<sup>121</sup> According to the *Illustrated Laconian*, Mr Morin employed about “sixty people in his industry and his mill has a capacity of two hundred dozen hosiery per day,”<sup>122</sup> specializing in misses’ and infants’ medium and high grade goods.

### The Belknap Mill in the 20<sup>th</sup> Century (ca. 1900 to ca. 1965)

Under the eye of Joseph P. Morin, the old brick Mill began to modernize right around the turn of the twentieth century. In about 1900, the Picker House off of the south side of the brick mill was converted into an Electric Power Station and the former Dye House at the west elevation became home to electrical supplies. (Figure 8) The former office at the front of the building was used as storage. The Dye House at the southeast corner of the brick mill was now connected to the large outbuilding that was leased by Morin and used for Carding and Spinning on the first floor and knitting on the second.

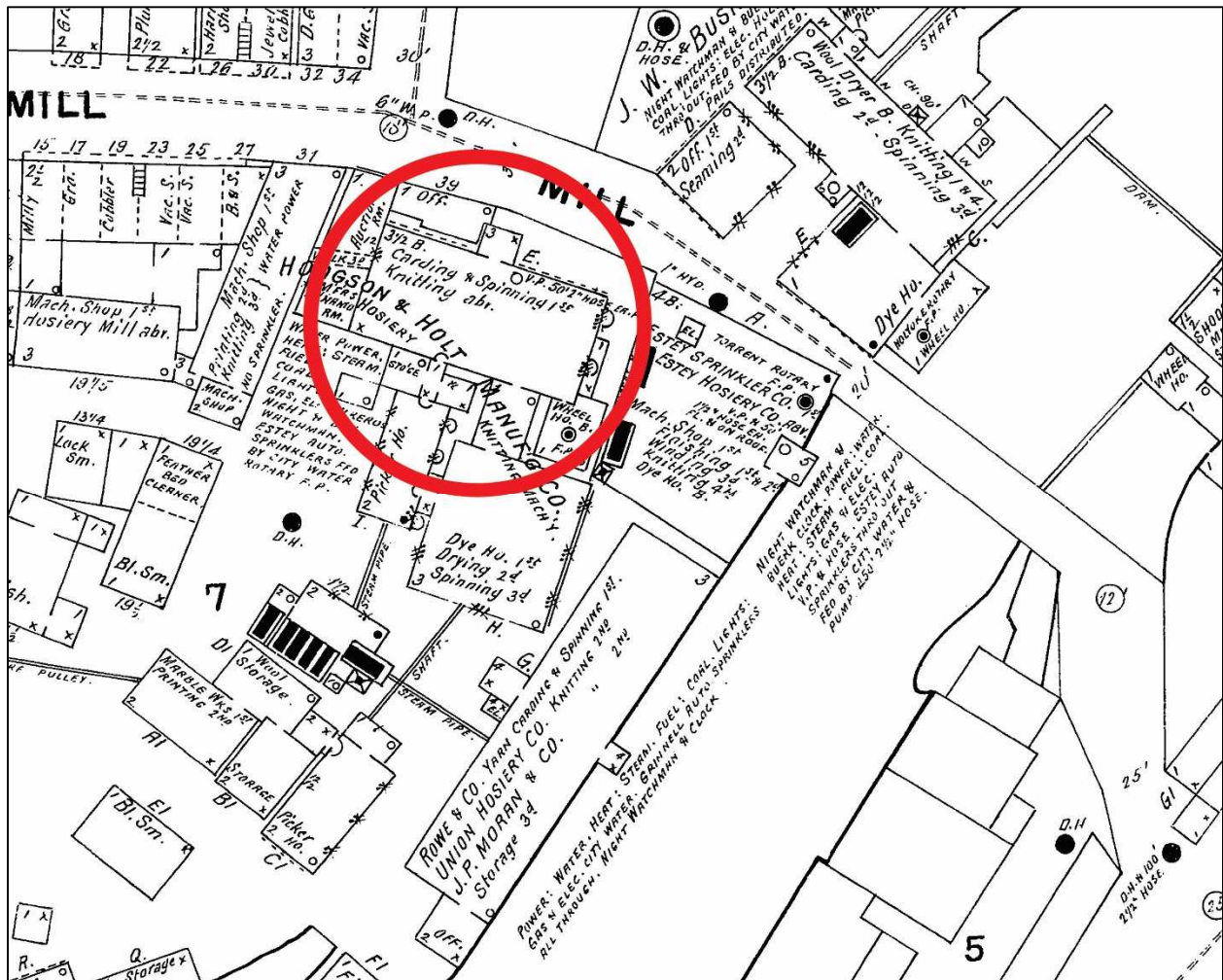


Figure 8: Belknap Mills from 1902 Sanborn Fire Insurance Map, Sheet 14.

<sup>121</sup> Peters, 6.

<sup>122</sup> Vaughan, 68.

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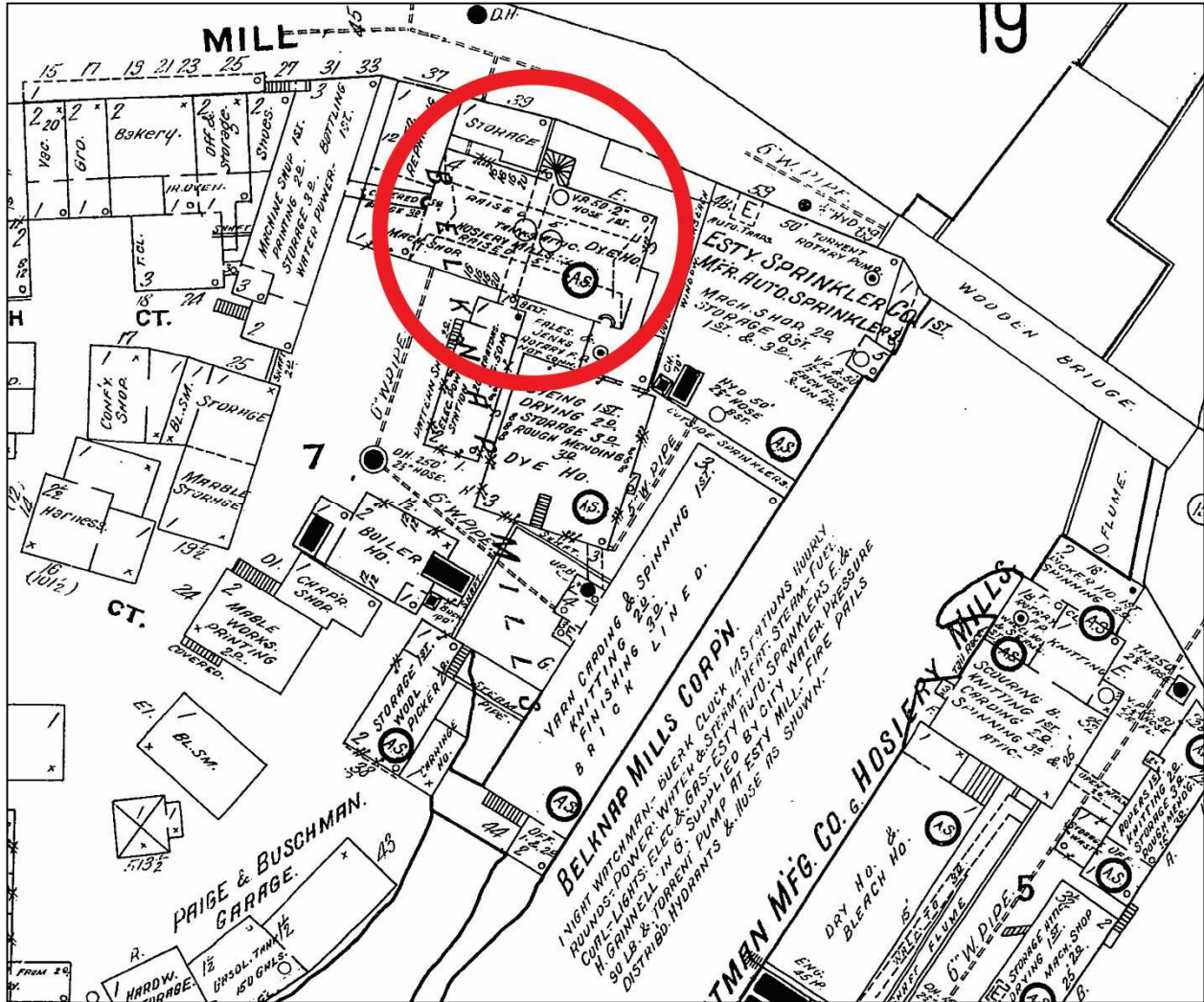


Figure 9: Belknap Mills from the 1911 Sanborn Fire Insurance Map, Sheet 28.

Within a few years, by 1905, J. P. Morin had become landlord of all the buildings owned by the Belknap Mills Corporation.<sup>123</sup> In 1909, the New England Investment Company of Manchester bought all of the Belknap Mills Corporation and the J.P. Morin Hosiery Company and combined their assets under the name of the Belknap Mills Corporation.<sup>124</sup> By 1911, J.P. Morin purchased the whole knitting factory plant including not just the brick mill, but the wooden buildings that had grown up around it, all of the land, and associated water rights.<sup>125</sup> The Mills were reorganized to better utilize the space of the buildings and create a better work-flow for a larger single entity. (Figure 9)

While the Belknap Mills Corporation expanded and reorganized their work-flow under Morin’s careful management, other supporting industries entered the Laconia scene, which had become a regional center for industrial knitting. Local entrepreneurs patented several knitting machines and knitting machine improvements. In 1907, Warren D. Huse and his two sons founded the Laconia Needle Company and in

<sup>123</sup> Anderson, 64.

<sup>124</sup> Anderson, 64.

<sup>125</sup> Peters, 6.



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1910 the Scott & Williams Company knitting machine manufacturers moved to Laconia from Philadelphia<sup>126</sup> and became Laconia's largest employer with 2,200 employees.<sup>127</sup>

In 1913, Joseph P. Morin purchased all of the remaining interests in the Belknap Mills corporation and became the sole-proprietor of the company, serving as general manager and treasurer until his retirement.<sup>128</sup> For the next fifteen-plus years, the Morin family would retain controlling interest in the company with J.P. Morin as president, his son Frank C. vice president and superintendent, and his other son Alphonse J holding the position of secretary and treasurer.<sup>129</sup> Joseph P. Morin is remembered as having been a compassionate leader for the company. He "cared deeply about those who worked for him, and he always considered their families as an extension of his own. The operatives at Morin's Mill, as they called it, never experienced what workers at much larger, big-city mills experienced: cold, uncaring mill owners who were never present at the facility.<sup>130</sup> Morin had worked alongside the nearly 150 people he employed, listening to them and catering to their needs.

Hosiery production once again became profitable with the US involvement in World War I. Realizing that he needed to upgrade the power system of the mill in order to keep up with the high hosiery demands of the war, in 1914 Joseph Paul Morin did something very unusual for a man of his time: "he decided to hire

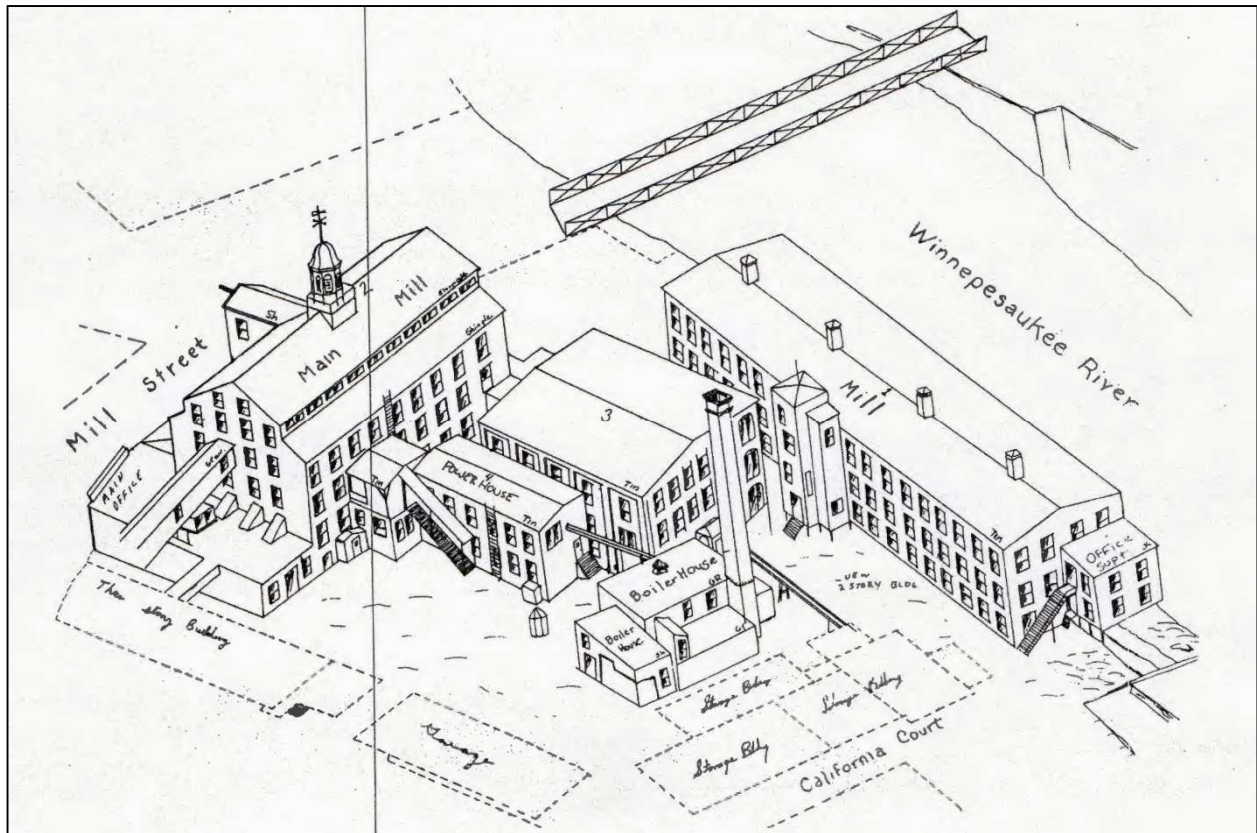


Figure10: The Belknap Mills Corporation as it looked according to 1913 insurance papers.

<sup>126</sup> Peters, 6.

<sup>127</sup> Belknap Mill Society Archives.

<sup>128</sup> Anderson, 64.

<sup>129</sup> Peters, 7.

<sup>130</sup> Anderson, 65.

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an engineering and architectural firm to perform an in-depth study of his mill to advise him of what changes needed to be made to create a state-of-the-art manufacturing facility.”<sup>131</sup> F. W. Dean, Inc. of Boston, Massachusetts completed their lengthy report on February 14, 1914.<sup>132</sup> The *Belknap Mills Corporation, Laconia, NH – Report on Value of Property with Scheme for its Further Development* went through the mill room by room evaluating ways to increase productivity and laid out an action plan for upgrading the structures.

In 1918, J. P. Morin installed the latest state-of-the-art hydroelectric power equipment into the Power House addition off of the middle of the south elevation of the brick mill. The equipment cost \$100,000 and powered the lights and machines of all of the Belknap Mills Corporation,<sup>133</sup> transferring its dependence on water for electricity. The three Rodney-Hunt McCormick water turbines each had a 100-horsepower capacity and were driven by the river water that was directed into a flume that ran under the mill.

The massive turbines then turned large gears located on a seventy-five-foot-long horizontal shaft. The system then turned pulleys, on which were belts that led directly to generators. The generators would then produce electricity, which was especially critical during periods of challenged water flow.<sup>134</sup>

The equipment was capable of producing more than enough power to run the entire mill complex.<sup>135</sup> This system remained in operation until 1969 and is reported to be still functional.

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<sup>131</sup> Anderson, 67.

<sup>132</sup> Anderson, 67.

<sup>133</sup> Anderson, 69 and Boswell, 35.

<sup>134</sup> Anderson, 69.

<sup>135</sup> Peters, 7. For a time the Belknap Mills Corporation sold the extra power to neighboring businesses.

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Many of the changes suggested by the F. W. Dean, Inc. report were implemented by the time of the 1923 Sanborn Fire Insurance Map. (Figure 11) By this time, the Power House and connecting wing to the Dye House had been rebuilt and condensed into the new Power House addition off of the south side of the brick mill (Identified in the Insurance Map as the Wheel Ho.). Additionally, changes had been made to several of the outbuildings at the south end of the Dye House and adjacent to the Boiler House.

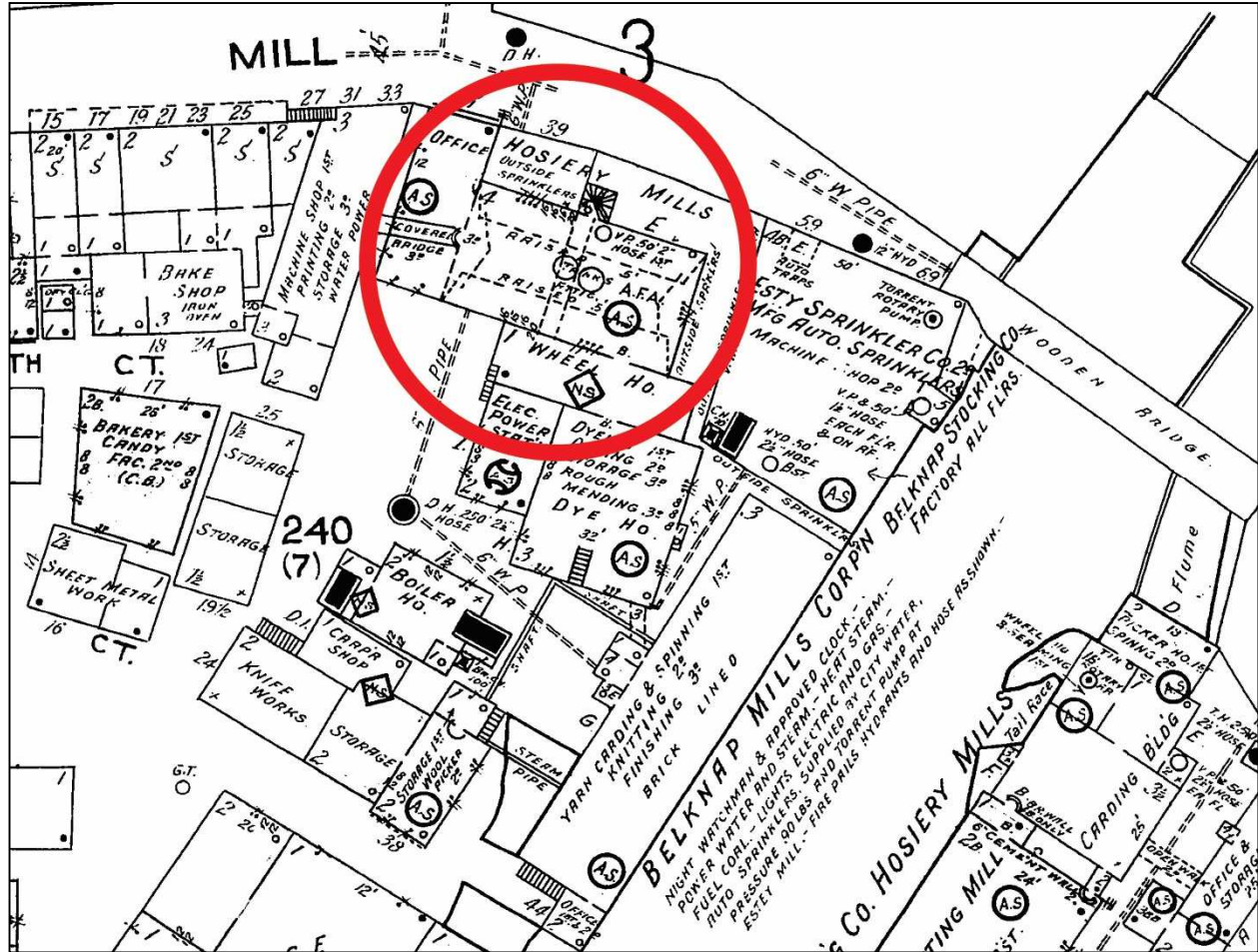


Figure 11: Belknap Mills Corporation from 1923 Sanborn Fire Insurance Maps, Sheet 5.

Change again came to the Belknap Mills Corporation in March 1929 when the Morin family's controlling interest in the Belknap Mills Corporation was sold to the Contoocook Mills of Hillsboro, New Hampshire.<sup>136</sup> J. P. Morin handed charge of the joint corporation over to the President of the Contoocook Mills, Willard Benjamin Weisblatt (ca. 1814-1966), but remained very heavily involved in the day-to-day operations of the mill. The Weisblatt family made minor changes to the Mill, such as the installation of two skylights in the Wheel House roof.<sup>137</sup> (Figure 12)

<sup>136</sup> Anderson, 77 and Peters, 7.

<sup>137</sup> Sometime after 1948, a third skylight was added to the east end of the Wheel House roof. These skylights were all removed during the 1970s rehabilitation of the Mill.



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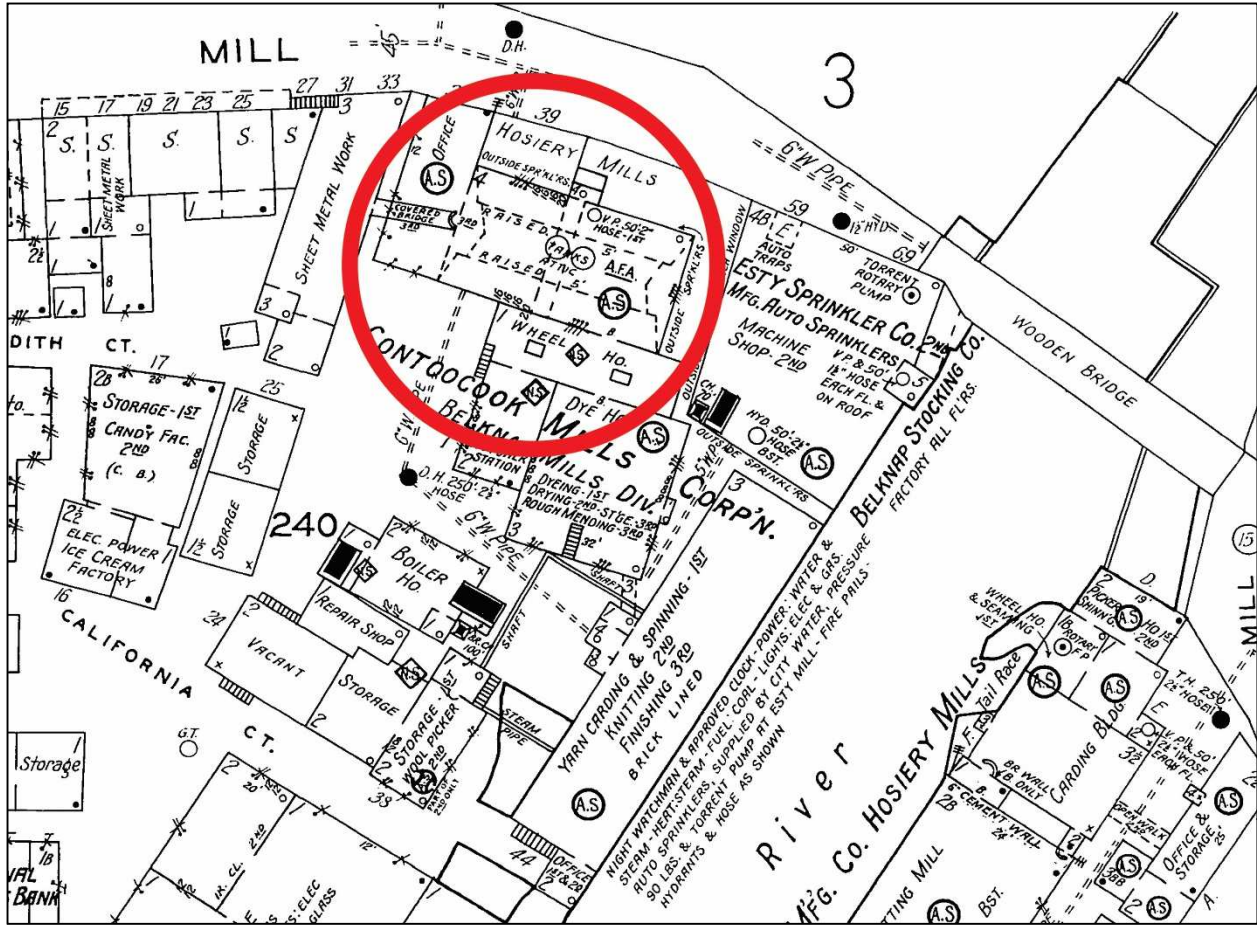


Figure 12: Contoocook Mills Corporation, Belknap Mills Division from 1929 Sanborn Fire Insurance Maps, Sheet 5.

The 1930s were a difficult time for the Belknap-Sulloway Mills Corporation. Following the stock-market crash of October 29, 1929 (Black Tuesday), production ground to a halt during the Great Depression and the Belknap Mill was shut town for over a year.<sup>138</sup>

By 1934, Joseph Paul Morin stepped down to the position of Treasurer of the mills and handed the position of president to his son, Frank C. Morin (1886-1948).<sup>139</sup> Frank had been involved in the hosiery business since he was eighteen and had slowly worked “his way up from chore boy at his father’s mill and learning all aspects of the business.”<sup>140</sup> Like his father, he was very involved with his employees. In addition to running the mill, he focused on the maintenance of the Sacred Heart Church and associated parish school. He also served as president of the Sacred Heart Cemetery Association, director of the Laconia Building and Loan Association and Laconia Federal Savings and Loan Association.<sup>141</sup>

By 1936, when W. B. Weissblatt conducted a general inventory of the premises, the Belknap Mills Corporation was over 76,000 square feet and included “the knitting mill, dye house, brick building, picker building, three storehouses, a barn, powerhouse the *Democrat* building and a newer, nameless building.”<sup>142</sup> The mill ran off of 141 Banner and Scott & Williams machines, 24 looping machines, and 423 Huse ribbers. In c. 1938, the leadership of the corporation changed when J. P. Morin fully retired and W. B. Weissblatt

<sup>138</sup> Anderson, 77.  
<sup>139</sup> Anderson, 77.  
<sup>140</sup> Anderson, 74.  
<sup>141</sup> Anderson, 75.  
<sup>142</sup> Anderson, 78.



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assumed the position of Vice President and Treasurer with Frank remaining President of the company.<sup>143</sup> Still, the company continued to grow, reaching 225 knitting machines by April 1939.<sup>144</sup>



Figure 13: Belknap Mill photographed from southwest ca. 1930. (Note skylights in Power House roof)

The 1940s marked the beginning of the end for the Belknap Mills Corporation and the decline of the Lakes Region as an industrial center. In 1942, J. P. Morin passed away. By the time of his father's death, Frank had been diagnosed by Alzheimer's disease. He quickly faded away and died only six years later in July 1948.<sup>145</sup> Meanwhile, Laconia's industrial sector was moving away. In 1899, Laconia had five hosiery manufactories, by the mid-1920s there were eight, by 1941 there were only three left.<sup>146</sup> The Great Depression and the short spike during World War II had taken their toll and as World War II drew to a close, many businesses closed or moved away as water-power became obsolete and they struggled to compete with the cheaper labor forces of manufacturers that were located abroad. What remained of domestic production shifted south.

<sup>143</sup> Anderson, 77

<sup>144</sup> Anderson, 79.

<sup>145</sup> Anderson, 80.

<sup>146</sup> Anderson, 108.

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In 1953, Richard Sulloway announced the closing of the Sulloway Mill in Franklin and the loss of several hundred jobs. The Mill was bought out by the Belknap Mills Corporation and the resulting conglomerate was named the Belknap-Sulloway Mills Corporation.<sup>147</sup>

### Urban Renewal and Post-Industrial Laconia (1965-present)

By the mid-1960s, much of Laconia's downtown core was abandoned. Nearly all of the mills had shut down and buildings that were once buzzing with activity stood silent and empty. In 1965, the Lakes Region was further subjected to an extended drought, eliminating the water-power that once ran the City's industries and forcing those that remained to rely solely on power generated by Public Service of New Hampshire.<sup>148</sup>

Given the current state of affairs, it is no wonder that the City adopted the Winnepesaukee River Urban Renewal Plan in 1965. This federally-sponsored program promised to improve the conditions of the downtown, reinventing the city center into a modern metropolis to attract shoppers and new businesses. "The state-of-the-art wisdom of those days decreed that 'old' was bad, should be torn down and removed to make way for 'new', which was modern and good and functional."<sup>149</sup> Much of the downtown area that was rebuilt after the Great Fire of 1860 was ripped out, reducing "the entire area of the old settlement known as Meredith Bridge from Water Street on the west to Mill Street on the east, all the way down to the river to smoldering rubble, save only the shops of the Laconia Car Company."<sup>150</sup> The area was rebuilt to include the Laconia Mall, Sunrise Towers, Stewart Park, City Hall, a parking garage and large open parking lots. Much of the canal was enclosed and efforts were made to clean up the river.

On February 8, 1968, the Belknap-Sulloway Mills Corporation (formerly Belknap Mills Corp.) sold their property to the Laconia Housing and Development Authority (LHRA),<sup>151</sup> the organization in charge of the city's urban renewal plan. Lionel A. Morin officially closed the mill for business when he locked the doors for the last time that day.<sup>152</sup> The mill sat empty while its fate was decided and quickly became the target of vandalism. (Figure 14)

Initial redevelopment plans saw places for both the Belknap and Busiel Mill in the City's future. The City Planner, Robert Kitchell supervised plans that called for the restoration of the two mills with the potential conversion of the Busiel into a new city hall and the Belknap into a community center. Though a small number of



Figure 14: East elevation of the Belknap Mill from site of Esty Mill ca. 1971. (From the Collection of the Belknap Mill Society)

<sup>147</sup> Peters, 7 and Anderson, 81-82.

<sup>148</sup> Anderson, 109.

<sup>149</sup> Warren D. Hughes in Peters, 1.

<sup>150</sup> Warren D. Hughes in Peters, 1.

<sup>151</sup> Belknap County Registry of Deeds Book 467, page 489.

<sup>152</sup> Anderson, 111.

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residents enthusiastically supported this plan, the majority “felt that the mills had reached the end of their usable lives and were not needed or wanted by a contemporary Laconia.”<sup>153</sup> To some, the mills were unsafe and ugly reminders of the ‘sweat shops’ they had once been.<sup>154</sup> In 1969 Robert Kitchell left his position as city planner and his deputy, David Lafond, was promoted to City Manager.<sup>155</sup>

In 1970, Donald Tabor was elected as Mayor of Laconia. With him came a new city council, and new plans for Urban Renewal. These new elected officials “made it very clear that their plan was to finally rid the city of its two remaining mill buildings. In their place, the city council wanted a new city hall and a parking lot. The total number of parking spaces to be gained with the new layout was fewer than a dozen.”<sup>156</sup> With the mills in serious danger, local businessmen Peter Karagianis, Norman Weeks, Richard Davis, and Lawrence Baldi banded together and formed the “Save the Mills Society.”<sup>157</sup> The Save the Mills Society envisioned the mills as a future cultural center for the community and needed to creatively convince the public of the importance of the mills before they were lost forever.

In a sense, the businessmen who founded the Save the Mills Society became crusaders in their own right in the field of preservation. Armed with a plethora of common sense and intuition, they forged ahead and created a template of innovative guidelines for future preservationists.<sup>158</sup>

To start their crusade, they needed to prove that the buildings were structurally sound and historically important. They started by reaching out to the most eminent architectural historians of their day.

One of the first people the Save the Mills Society contacted was Richard Candee, then a researcher of industrial buildings for Sturbridge Village in Massachusetts. Candee saw great potential in the two mills and advised the Save the Mills Society to have both structures individually listed to the National Register of Historic Places.<sup>159</sup> Demonstrating the national significance of the two structures would give further credence to their important place in history and would add clout to their arguments for the need to save them.

At Candee’s suggestion, the Save the Mills Society also reached out to architect Frederick “Tad” Stahl (1930-2013) of Boston, Massachusetts. With his firm, F. A. Stahl Associates, Stahl had already gained a national reputation for restoring and adaptively reusing old buildings. “Stahl came up, liked what he saw, and joined the battle to convince Laconians that the mills were indeed structurally safe and gifted with great potential for serving the community.”<sup>160</sup>

Robert M. Vogel, Curator of Mechanical & Civil Engineering for the Smithsonian Museum, was also contacted for a site visit to the mills. He declared the Belknap Mill “the oldest standing brick textile mill in New England (and thus virtually by definition the U.S.) that is essentially unaltered from its original construction.”<sup>161</sup> On the basis of his research, he stated that he had only found two earlier masonry mills that survived without heavy modification: a stone mill in Massachusetts built five years earlier than the Belknap Mill and one in Rhode Island built two years earlier.<sup>162</sup>

Meanwhile, Laconia’s Mayor and City Council remained adamantly opposed to the Save the Mills Society’s efforts. In May of 1970, *Life Magazine* sent a photographer to Laconia. “Mayor Tabor brazenly stated that

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<sup>153</sup> Anderson, 115.

<sup>154</sup> Peters, 8.

<sup>155</sup> Anderson, 117 and Peters, 8.

<sup>156</sup> Anderson, 117.

<sup>157</sup> Peters, 9.

<sup>158</sup> Anderson, 117.

<sup>159</sup> Anderson, 118 and Peters, 9.

<sup>160</sup> Peters, 9.

<sup>161</sup> “Smithsonian Curator Says Mill Building Last in New England” (*Laconia Evening Citizen*, May 16, 1970).

<sup>162</sup> “Smithsonian Curator Says Mill Building Last in New England” (*Laconia Evening Citizen*, May 16, 1970).

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he'd be more than happy to pose for the photographer standing next to the Belknap Mill donning a hard hat and holding a sledgehammer.”<sup>163</sup>

The *Life* article was published on September 4, 1970. In the article, the magazine observed that, though new Englanders are generally quick to save old houses and churches, “they are less eager to preserve the old mills that once made the Northeast the textile center of the U.S.”<sup>164</sup> They brought attention to the rapid demise of mills lining banks of rivers and canals all over the northeast and the valiant efforts of the Save the Mills Society. “An irate citizen’s committee has launched a vigorous campaign to save them, but the city officials would just as soon clear the valuable riverfront property. By the year’s end, Laconia may well have lost its mills – and gained a new asphalt parking lot.”<sup>165</sup>

Meanwhile, the Save the Mills Society proposed renaming the organization the “Lakes Region Heritage Association” and being authorized to act for the City of Laconia to obtain funds for preserving the two mills. A resolution was drafted by Major B. Donald Tabor and discussed at length by the City Council. In the end, the City decided to take no action.<sup>166</sup>

In the winter of 1970, Robert M. Vogel, Frederick Stahl and Richard Candee “attended a joint meeting and presented a strong case against the destruction of the two mills, citing that they were quite strong structurally, and historically valuable to the city.”<sup>167</sup> This presentation resulted in a slight shift in favor of the Society in October 1970. The LHRA accepted the Save the Mills Society as a tentative developer based on the condition that it met its court-ordered deadline of June 1, 1971 to determine the fate of the Busiel (Seeburg) and Belknap-Sulloway Mill Buildings.<sup>168</sup>

Despite the court-ordered deadline, the City was not backing down on their right to demolish the mills. December 22, 1970, Peter Karagianis, Norman Weeks, and Richard Davis filed an injunction to stop the city from demolishing the mills.<sup>169</sup> Peter Karagianis is quoted as describing the day’s events: “It was a cold and blustery, snowy day – a real doozey. The only judge who could grant the injunction that day was in Newport, so we ran out there. By the time we got back, the wrecking crew stood right behind the Belknap Mill.”<sup>170</sup> The Save the Mills Society was just in time to save the Mills themselves but not quick enough to save the outbuildings that were already destroyed.<sup>171</sup>

In late January 1971, the Save the Mills Society got a much-needed shot in the arm from the State of New Hampshire when the New Hampshire Review Board for Historic Preservation awarded the entire amount of Department of Resources and Economic Development funds for the year, totaling \$38,000, to the Society for the restoration of the mill.<sup>172</sup> At about the same time, the Belknap-Sulloway Mill was officially declared to be of national significance when it was listed to the National Register of Historic Places by the National Park Service with national significance for the pivotal role it played in the history of textile manufacturing and as an early example of a small brick textile mill.

The positive press stalled the opposition for just long enough for the court to come to a decision in the form of an injunction to prevent any aggressive action to demolish the mills in February 1971. The City and the Society were ordered by a judge to resolve their dispute and come up with some sort of agreement. To save the mills, the Society was to come up with some specific plans and the funds to cover \$110,000 of

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<sup>163</sup> Anderson, 118.

<sup>164</sup> *Life Magazine*, “Bleak Fate of the Yankee Mills” (*Life*, Vol. 69, No. 10, Sept 4, 1970), 59.

<sup>165</sup> *Life Magazine*, “Bleak Fate of the Yankee Mills” (*Life*, Vol. 69, No. 10, Sept 4, 1970), 59.

<sup>166</sup> *Manchester (NH) Union Leader*, “Right to Solicit Funds Sought for Mill Preservation At Laconia” (*Manchester Union Leader*, Mon. September 14, 1970).

<sup>167</sup> Peters, 9.

<sup>168</sup> *Manchester (N.H.) Union Leader*, “Deadline Set on Mills’ Fate” (*Union Leader*, Monday, October 26, 1970).

<sup>169</sup> Anderson, 119.

<sup>170</sup> Anderson, 119.

<sup>171</sup> Warren D. Huse in Peters, 2.

<sup>172</sup> Anderson, 125.



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renovations by September 1972.<sup>173</sup> The Save the Mills Society scrambled to come up with renovation plans and funding.

A meeting was scheduled for December 19, 1972 when members of the Society and Housing and Urban Development (HUD) could make a formal presentation to the City Council seeking their approval of a proposed easement on the building that would allow for federal funding.<sup>174</sup>

The Save the Mills Society had been struggling to come up with a renovation plan, City Hall had



Figure 15: Belknap Mill, ca. 1972.

decided that they were going to construct a new modern City Hall on a neighboring lot rather than renovate the historic Busiel Mill. The Busiel Mill's uncertain future was short, however, and it was quickly purchased from the LHRA by local attorney Arthur Nighswander. The good part of this was that the Save the Mills Society could now focus all of their attention on a single structure: The Belknap Mill.

In 1973, the Save the Mills Society stepped into high gear. They initiated a Capital Campaign to raise the price for a full restoration, which had leapt from \$70,000 to \$180,000, and a new due date was set of February 28, 1974.<sup>175</sup> The Society had good incentive to reach their monetary goal, as it would allow them to apply for almost \$95,000 in federal funds from the Department of Housing & Urban Development (HUD).<sup>176</sup> The Society drew the public's attention through celebrity endorsements. In the 1970s, Bob Montana called attention to the historic mill by featuring it in a Sunday *Archie* comic.<sup>177</sup> Christa McAuliffe, the first American civilian and educator selected to go to space as part of NASA's Teacher in Space program, visited the Society and pledged her support in 1985. One hundred and fifty replicas of the Mill's Holbrook Bell were cast to celebrate the mill's one hundred and fiftieth birthday and given to donors of \$2,000 or more.<sup>178</sup>

Everything seemed in order on the fateful morning of January 28, 1974. The funds had been raised, renovation plans had been drawn up by architect Paul Mirski (**Appendix B**), and the documents were drawn up to give the Society full position of the building and the ability to use federal funding were awaiting the signatures of city officials. At the last minute, a city solicitor with ties to the opposition demanded that nothing be signed because "a new city council, with new ideas and strategies for opposing the renovations would take office that evening. That night the city council passed a resolution rescinding its earlier agreement with the Society."<sup>179</sup> Laconia Housing & Redevelopment Authority (LHRA) stuck to the agreement despite the City's efforts, and sold the Save the Mill Society the mill for \$5,000.<sup>180</sup> The Save the Mill Society attempted to grant an easement to the City of Laconia to protect the preservation of the

<sup>173</sup> Anderson, 117 and Peters, 9.

<sup>174</sup> Anderson, 126.

<sup>175</sup> Peters, 10.

<sup>176</sup> Anderson, 121.

<sup>177</sup> Anderson, 120.

<sup>178</sup> Peters, 11.

<sup>179</sup> Peters, 10.

<sup>180</sup> Belknap County Registry of Deeds Book 627, page 33.

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exterior and structural integrity of the Belknop-Sulloway Mill later that same day.<sup>181</sup> (The easement was necessary to allow the Society to accept HUD funding for the preservation of the building.) The City refused to accept the easement and the Save the Mills Society revoked its offer on October 24, 1974.<sup>182</sup> On December 23, 1974, the Save the Mill Society went above the City of Laconia and granted an Historic Preservation Easement to the County of Belknop,<sup>183</sup> which was accepted later that day.<sup>184</sup>

The Winnepesaukee River Urban Renewal was officially completed in June 1975.<sup>185</sup> The Mill had been saved.



Figure 16: Belknop Mill (left) and Busiel Mill (right) ca. 1975 photographed from south at present location of Rotary Park.

In 1976, as part of the United States of America bicentennial celebration, the National Bicentennial Commission requested that each of the states designate an official state meetinghouse. The Belknop Mill received the honor of being designated as the permanent Official Meetinghouse of New Hampshire by Governor Meldrim Thomson, Jr.<sup>186</sup>

Shortly thereafter the Save the Mills Society officially changed its name to the Belknop Mill Society. The new organizations mission was “to strengthen and expand the cultural identity of the Lakes Region, based on our distinctive and unique heritage.”<sup>187</sup> The goal was to preserve the Belknop Mill and provide cultural programs and community services for the Lakes Region. The Society further welcomed “all who wish to widen their horizons, stretch their minds and share their experience.”<sup>188</sup>

The organization began to intensely study and plan the best possible use of the mill as they undertook a staged rehabilitation project. This had started in 1974, with the renovation of the first floor. In 1979, the Belknop Mill Society renovated the second floor of the mill.

<sup>181</sup> Belknop County Registry of Deeds Book 627, page 37.

<sup>182</sup> Belknop County Registry of Deeds Book 646, page 94.

<sup>183</sup> Belknop County Registry of Deeds Book 646, page 108.

<sup>184</sup> Belknop county Registry of Deeds Book 646, page 117.

<sup>185</sup> Peters, 1.

<sup>186</sup> Peters, 11. The Governor at the time was not Hugh Gallen as suggested by Anderson, 129.

<sup>187</sup> Peters, 12.

<sup>188</sup> Peters, 12.

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The fledgling organization began to receive recognition and gain esteem as a community leader. In 1981, the National Trust for Historic Preservation gave the Belknap Mill Society a national award ‘For recognizing the architectural, historical, and economic merits of restoring the Belknap and Busiel Mills in Laconia and for surmounting many legal obstacles to save these industrial buildings, primarily through a grassroots effort.’<sup>189</sup> In 1984, the Belknap Mill Society hired their first executive director, Judy Buswell. In 1987, Mary Boswell began transitioning into the position of executive director.

The Belknap Mill Society accomplished a great deal under Boswell. In 1991, the Society interviewed 130 mill workers to document their experiences at the mill. Using some of the information from this study, the Society opened the nation’s first permanent exhibit on industrial knitting, showcasing the operable hydroelectric power system and donated knitting machines.<sup>190</sup> The same year, the Belknap Mill was awarded an Excellence in Management Award as one of New Hampshire’s top three nonprofit institutions. A few years later, in 1994, the Society received an award from the American Association for State & Local History for their industrial knitting exhibit.

The restorations of the Mill were also ongoing as the Society continued to renovate sections of the structure and maintain the building as a whole. In 1991, a new asphalt shingle roof was installed on the Mill to match that which had been installed in the 1970s during Urban Renewal. Between May and June 1995, the fourth-floor offices were constructed by K R Brobst, builder. In 1996, Belknap Mill Society added a protective floor over the original floor on the third floor in order to protect the original building fabric and create a somewhat sacrificial surface.

In July 1996, the cupola was seriously damaged by lightning. The pine finial holding the weathervane was completely destroyed. Upon inspection, it was discovered that there was considerable weather damage to the inner framework that supports the cupola and holds the Holbrook bell.<sup>191</sup> The weathervane was salvaged, and a template of the finial was made by woodworker Andrew J. Cutney III.

In 1997, the Belknap Mill Society partnered with local businessmen, the City of Laconia and the Laconia Rotary Park to plan a park in the parking lot to the south of the brick mill. Architect Paul Mirski donated his time and designs for the project. Nearly \$200,000 was raised and the Riverside Rotary Park was dedicated in June 1997.

On November 4, 1998, First Lady Hillary Rodham Clinton presented one of three National Medals for Museum and Library Service to executive director Mary Boswell and Belknap Mill Society trustee Patrick Wood at the White House.<sup>192</sup>

The Belknap Mill suffered some serious damage to its historic masonry walls in 2000. In January, a sprinkler pipe burst, sending water out of the side walls of the mill and eroding the porous lime mortar (**Figure 17**). Most of the damage was confined to the north and east facades. In February, the local newspaper reported that the Society’s insurance would pay for all but \$10-\$15,000 of water damage.

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<sup>189</sup> Peters, 11 quoting the National Trust for Historic Preservation.

<sup>190</sup> Anderson, 130-131.

<sup>191</sup> *Belknap Mill News* Winter 1997.

<sup>192</sup> Other winners in 1998 were the Henry Ford Museum & Greenfield Village in Dearborn, Michigan and the New Jersey Historical Society in Newark, New Jersey.

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“However, repointing the bricks, needed as a result of the mishap, would be an additional expense, perhaps as much as \$250,000 dollars.”<sup>193</sup> The full extent of the damage would not be fully evaluated until spring. The Belknap Mill Society launched a Capital Campaign to raise \$500,000 with \$188,000 ear-marked for the masonry repairs. Brick conservator and mason, John Wastrom of Rollinsford, NH, was contacted. \$2,500 was expended to test the historic mortar and look into the feasibility of the historic brick and the project was planned for the summer of 2001.

Other restoration and maintenance projects were already underway at the time of the burst pipe. In 2000, the cupola restoration was completed by Paul Morin. The total project cost for the restoration and replacement of finial was \$18,000.<sup>194</sup> The landscaping of the Riverwalk was also completed in 2000. In 2001, the floors of the Rose Chertok Hall (3<sup>rd</sup> Floor) were refinished for \$8,135.<sup>195</sup> The same year the heating system was repaired for \$4,000; the security system was upgraded to limit access to the 2<sup>nd</sup> and 4<sup>th</sup> floors, and \$7,667 was spent to have Paul Morin renovate the lobby.

In April of 2001, the Belknap Mill Society applied for their first Land and Community Heritage Investment Program (LCHIP) grant to repair and repoint the four exterior masonry walls of the Belknap Mill. They asked for \$75,000 from LCHIP for what was projected to be a \$188,000 mortar restoration project. The project was funded and in the summer of 2002 John Wastrom was employed to head up the project with Bonnette, Page and Stone, Contractors and State Architectural Historian, James Garvin overseeing the project to ensure that it was done in compliance with the *Secretary of the Interior’s Standards*. Select repointing was to be done on all facades, especially around window openings. The grant specified that new mortar was to match the historic mortar joints in color, texture (sand grain size) and profile. All work was to be done manually with mortar joints cleaned out to at least  $\frac{3}{4}$ -1” deep prior to repointing. Initially, Wastrom suggested a mortar mix of 1 part lime, 1 part white Portland cement and 6 parts sand to “withstand New Hampshire’s acid rain without damaging the soft brick.”<sup>196</sup> Fearing that the resulting mortar would be too hard and not compatible with the historic fabric, Garvin had the contractor adjust this formula to 4 parts lime, 1 part grey Portland cement, and 11-15 parts sand.

In 2002, the exterior wood trim was repainted by Gene Caroselli and Lakes Region roofing replaced the roof on the main building and worked with Lakes Region Tradesmen to repair the Power House roof. According to Belknap Mill Society Records, during the fall 2000 cupola restoration project, Morin Contracting had observed that the recent (1991) roof shingles were visibly cracked, and that water was leaking into the fourth-floor rental space. A “Save America’s Treasures” grant was also received in 2003, providing funding to restore the portico at the southwest entrance to the building that had been removed during urban removal and enhance the powerhouse exhibits.



**Figure 17: Masonry damage to Belknap Mill following January 2000.**

<sup>193</sup> Ray Carbone, “Water Damage Top Concern at Belknap Mill: Pipe Burst May Cost Society as Much as \$250K” (*Fosters Sunday Citizen*, Feb 27, 2000).

<sup>194</sup> Belknap Mill Society archives.

<sup>195</sup> 2000-2001 Building Committee Report, Belknap Mill Society archives.

<sup>196</sup> Belknap Mill Society archives.



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On April 1, 2005, an Historic Preservation Easement with a 50-year duration was granted to the New Hampshire Division of Historic Resources (NHDHR) by the Belknap Mill Society.<sup>197</sup> The easement was the result of financial grants from LCHIP and the National Park Service Save America's Treasures grants.

In 2012, the Belknap Mill made another request to LCHIP's grant round 11. The Mill received \$12,000 for additional restoration to the cupola dome and bell tower. The consolidation work that was done following the lighting strike in 2001 was found to be failing. A third LCHIP grant in 2013 for \$12,085 helped complete the rehabilitation of the cupola dome, bell tower, and bell tower base and replacement of the flagpole. Work was done by contractor J P Paquette of Historic & Preservation Building Solutions in New London with Paul Mirski and Paul Morin overseeing the project.

Since 2012, the Belknap Mill Society has been attempting to tackle immediate problems with the structure of the Mill while hoping to develop a long-term plan. In 2014, an inspection and report of the condition of the windows on the Belknap Mill was performed by J. P. Paquette. In January 2015, Rist Frost Shumway prepared a structural report of the building, noting existing structural concerns and how they relate to the 2009 International Existing Building Code (**Appendix D**).

### Statement of Significance

The Belknap Mill is significant under National Register Criterion A and Criterion C.

The Mill is significant under Criterion A for the pivotal role it played in the development of Meredith Bridge/Laconia into a regional manufacturing center, and for the role it played in the New Hampshire textile industry. Unlike the later larger complex of industrial textile mills at Manchester and Nashua, the Belknap Mill represents the small scale more typical of rural manufacturing of the 1820s and reflects the development of textile mills that remained in operation from this early period through the mid-twentieth-century.

The Belknap Mills is also significant under National Register Criterion C as an early example of a small brick textile mill. It has been identified as the earliest surviving brick mill in the region. The mill is a rare survivor of a typical example of a form of industrial architecture that was once common across New England. Character-defining features such as the brick construction with chamfered wooden framing, large even window openings, and clerestory windows (as will be discussed further in Part II) have remained intact and date to the building's original construction in 1823. The large hydroelectrical turbines in the 1918 addition are also quite significant, as they illustrate the changes in the use of water power systems that allowed the mill to remain in continuous use into the mid-twentieth century.

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<sup>197</sup> Belknap County Registry of Deeds book 2156, page 513.

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## Part II: Architectural Description with Character-Defining Features

The Belknap Mill building is located along the shores of the Winnepesaukee River, near the center of the City of Laconia, at the intersection of Beacon Street and Mill Street (now a pedestrian way). The 1823 four-story brick mill has a four-story brick stair tower at the mid-point of the north elevation (front) and a single-story brick and wood Power House addition off of the south side.

Though much of the main structure of the Belknap Mill has been preserved, most of the associated outbuilding and immediate neighborhood have been lost. As a result, the historic mill neighborhood has been reduced to the surviving Belknap Mill, Busiel Mill, and a few outlying structures such as the Avery Dam and sections of remaining mills on the opposite bank of the Winnepesaukee River. In the 1970s, much of the mill complex was demolished as part of Urban Renewal and only the Belknap Mill main building, a portion of the Power House, and stair tower survived. Associated structures to the south were razed and replaced by a large parking area. This parking area was removed and replaced by Rotary Park in the 1997, as Laconia worked to create a more walkable community that integrated the Beacon Street buildings back in with the Main Street. The Busiel Mill is located directly to the northeast, and the City Hall is situated across a parking area to the north.

The identification of the character-defining features of historic properties like the Belknap Mill is a critical first step in planning for its future life. Before applying *The Secretary of Interior's Standards*, it is important to understand what physical features of the building help to tell the story of its history and architectural importance. The *Standards* recognize the importance of maintaining these original features and spaces while rehabilitating the property for a compatible use and future life. Recognizing that a property may have original features throughout that are all “character defining,” the *Standards* allow for the categorization of the features into primary and secondary spaces and features. Primary spaces and features are those that should not be changed or removed unless they are beyond repair (at which time they should be replaced to match the old in design, color, texture, and materials). Secondary spaces and features are those that can be altered *when necessary* to accommodate compatible change that allows new and continued use of the property. Further, the guidelines of the *Secretary of the Interior's Standards* state that “identification, retention, protection, and repair should be given first priority in every rehabilitation project. Interior spaces are not only defined by their finishes and features, but by the size and proportion of the rooms themselves and how they functioned in the historic use of the space. Distinctive features and finishes should be retained as much as possible in primary interior spaces, whereas extensive changes are more acceptable in the secondary interior spaces that service the primary or functional portion of the building. This does not mean that secondary spaces are insignificant or that all character-defining finishes can be removed from secondary spaces, it just means that more leeway is given for change needed to accommodate modern use in these areas.

## Part II: Architectural Description with Character-Defining Features

### Belknap Mill Site Description:

The Belknap Mill building is located on a 0.23-acre parcel of land, adjacent to the Winnepesaukee River. The parcel does not extend much beyond the footprint of the building itself. To the north it is bounded by Mill Street, which was converted to a pedestrian way during Urban Renewal. This City-owned street is paved in bricks and traverses a bridge over the Winnepesaukee River to the east of the Mill before connecting with Union Avenue. To the east and south, between the Mill and River, the parcel is bounded by Rotary Park. The west is bounded by Beacon Street.

During the nineteenth and early twentieth-centuries the area at the mill was the industrial heart of the City of Laconia. Very little of this historic fabric remains, as much of the area was completely rebuilt during Urban Renewal. Aside from the adjacent Busiel Mill, located to the northeast on the opposite side of Mill Street, and the Avery Dam that serviced both mills, everything else in the immediate vicinity was constructed in the 1970s.

There is a small patio at the southwest corner of the lot, adjacent to the Power House addition. The patio was constructed in the 1970s, during the mill renovations. There are also two wooden signs on the lot, one to the west of the Mill, along Beacon Street, and a second wooden sign to the north, near the building entrance along Mill Street. Prior to Urban Renewal, there was an exposed canal to the northeast corner of the Mill. This canal was filled in during Urban Renewal.

<i>Character-Defining Features of the Site</i>			
<i>Primary Features</i>	<i>Secondary Features</i>	<i>Contributing Non-Historic Features</i>	<i>Non-Contributing Non-Historic Features</i>
<ul style="list-style-type: none"> <li>• <i>Proximity to River</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Proximity to Busiel Mill &amp; Mill Street</i></li> </ul>		<ul style="list-style-type: none"> <li>• <i>Modern Signage</i></li> <li>• <i>Modern Patio</i></li> <li>• <i>Modern Plantings</i></li> </ul>



Figure 1: South elevation of Belknap Mill with Power House in foreground and Busiel Mill behind (right).



## Part II: Architectural Description with Character-Defining Features



Figure 2: Belknap Mill photographed from northwest with Mill Street bridge in background at left.

### Belknap Mill Exterior Description:

The main block of the Belknap Mill building is four-stories and ten by four bays. It is primarily constructed of hand-pressed brick that was made in the Weirs and transported to the site via the Winnepesaukee River. The brickwork of the mill and stair tower is arranged in common bond with five courses of stretchers to each course of headers. The mill's mortar is lime-based and is typical of a building constructed in the early nineteenth-century. Iron diamond-shaped anchor plates are visible on each elevation at the floor level and are very typical of mill buildings. These anchors connect to tie rods that run through the masonry structure and provide additional structural reinforcement.

The Belknap Mill sits on stone underpinning. The underpinning is below grade on the north and west sides and is visible at the east elevation of the building. The granite is plug-split and was left with a rough or quarry face.

The roof of the Belknap Mill was recently (2016) re-clad with asphalt shingles. The shingle profile was chosen to match that of earlier renovations in 1973 and 1991. The roof has a close eave (no overhang) above the third floor with several courses of decorative brickwork at the cornice. There is no overhang at the gable ends.

The roof is pierced at the fourth-floor level to allow for a row of large horizontal 10/10 sash clerestory windows on both north and south roof elevations. The eaves above clerestory windows have a narrow overhang with plain fascia, bed molding, and flat frieze. There is a single interior end chimney at either

## Part II: Architectural Description with Character-Defining Features

end of the roof with a very plain stack and single layer of corbelled brick at the top. The end chimneys are visible in the 1859 Map of Belknap County and were associated with stoves that provided heat to the building. The east chimney is historic and the west chimney is a reproduction that was installed in the 1970s.

A wooden cupola sits at the center of the roof and houses a large metal bell. The wooden base of the cupola is polygonal with an octagonal bell-tower above with louvered vents in each side, protecting the large bell inside. Historic images reveal that the sides of the bell tower were once open, then gradually the tower was enclosed to protect the interior from the elements. The cupola contains the original mill bell<sup>1</sup> and framework, as seen in the 1859 Map of Belknap County. This cupola was heavily damaged by a lightning strike in July 1996. Though the wooden finial above the dome was destroyed, care was taken to make a template. The finial was replicated and some conservation work was done to the cupola to stabilize the structure. The Belknap Mill Society received a 2012 LCHIP grant to have the cupola and dome rehabilitated. During this time, the bell tower and base were conserved.



**Figure 3: Belknap Mill photographed from northeast, near Mill Street Bridge.**

The fenestration of the Belknap Mill is regular throughout the structure. There are four windows at each floor along the east and west elevations. There are four windows on either side of the central stair tower at the north side. The first floor on the south is obscured by the Power House addition. The windows of the second and third floors are regular, above, with the exception of the easternmost opening at the south side, which has been bricked in on the second and third floors. The 6/6 wooden window sash dates to the 1970s-era mill renovations. 1970s exterior aluminum storm units have been installed over most of the mill's windows.

The main entry into the Belknap Mill is through the stair tower that is centered on the north elevation. The door itself is located below an original red-painted wooden lintel and was added in the spring of 2016. The wooden surround is flat, and the five-panel door is wood. The panels of the door are horizontal, and two have been inlaid with glass. The door and associated hardware is a modern reproduction and is similar to the door that was in this location in the 1970s, before the mill was renovated (See 1971 National Register Nomination, Appendix C). The door is flush with both the first floor and exterior grade.

<sup>1</sup> The bell is said to have been re-cast in 1823 by Col. George Holbrook from the remains of the earlier wooden mill bell.



## Part II: Architectural Description with Character-Defining Features



Figure 4: Evolution of the Belknap Mill stair tower (l to r): 1860, ca. 1885, ca. 1890 and 1971.

Historic images show that the stair tower did not always have the large openings along the north side (**Figure 4**). These large doors would have allowed materials to be hoisted into the building, by using a large block and tackle at the top of the tower. The 1860 image of the Belknap Mill shows the tower with a single opening in the north side, through a batten door at the first floor. By ca. 1880, double doors had been added to the second and third floors, and a cast-iron arm had been added at the fourth-floor level to allow for the hoisting of goods. These doors were replaced by paired inwardly folding doors with five horizontal panels between ca 1900 and 1940 (The present tower doors are 1970s reproductions of these).

A secondary entrance to the main Belknap Mill building is located at the southwest corner of the building. Here there is a large portico that covers a double set of stairs. One set rises from the exterior grade to the ground floor level, and a second set leads down to the basement. The portico was added in 2005 to replace elements that were removed in the 1970s during urban renewal and was funded by a “Save America’s Treasures Grant.”

The Power House addition off of the south side of the Belknap Mill was added in 1918 and represents a much more modern style of industrial construction. The new power-generating system replaced earlier systems and was cutting edge for its time. This addition and the equipment inside represents a significant period in the history of the mill and its continued use into the twentieth century. The walls of this addition are constructed of modern manufactured brick. The underpinning is concrete, and there is a decorative cornice at the top of the walls. The roof was restructured in the 1973 renovation work, with a slightly pitched roof of rolled asphalt shingles, built over the original Power House roof.

There is a large exterior entrance to the Power House at the south elevation. Here, two large fixed glass panels in metal frames are located to the west of a glass double door. These panels and doors were added in the 1970s, when the Power House was heavily renovated. At that time, the protruding east end of the Power House was significantly altered due to damage from the removal of the previously existing, connected out-buildings to the south. A new, lower volume was constructed with a roof height lowered significantly from its original position, and large glass panels inserted at the north and south elevations,

## Part II: Architectural Description with Character-Defining Features

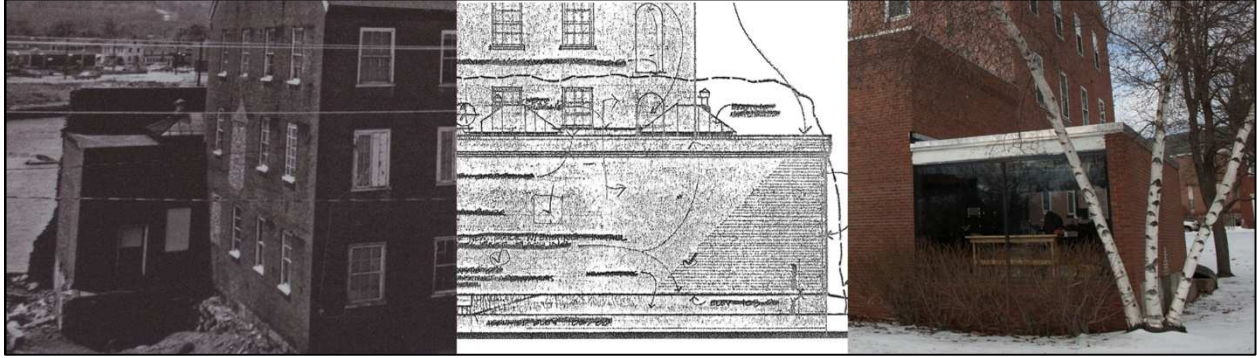


Figure 5: Evolution of the east end of the Power House (l to r): during demolition in ca. 1971, 1973 renovation plans, and as built in 2017.

with an egress door along the north face, where a wooden door and double-hung window historically had been located.

Prior to the renovations, the roof of the entire Power House was at one level and was pierced by a series of skylights that allowed natural light to infiltrate the power plant inside. The first two skylights were added to the roof ca. 1925,<sup>2</sup> with a third added over the east end of the addition after 1948. Though the reintroduction of the skylights was included in the 1973 Mirski rehabilitation plans, they were never reinstalled, and the east end was rebuilt to its existing, lower height.

<i>Character-Defining Features of the Building's Exterior</i>			
<i>Primary Features</i>	<i>Secondary Features</i>	<i>Contributing Non-historic features</i>	<i>Non-Contributing Non-Historic Features</i>
<ul style="list-style-type: none"> <li>• <i>Height &amp; massing of main building and its subsequent additions</i></li> <li>• <i>Roof pitch, &amp; interruption of the slope by clerestory windows &amp; decoration of ridge by cupola &amp; end chimneys</i></li> <li>• <i>Regular, symmetrical window and door locations (fenestration)</i></li> <li>• <i>Cupola with weathervane</i></li> <li>• <i>Exposed hand-pressed brick, laid in common bond</i></li> <li>• <i>Clerestory windows</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Simplified roof and chimney trim</i></li> <li>• <i>Anchor plates</i></li> <li>• <i>Entrance Door at southwest corner of main building</i></li> <li>• <i>Historic chimney (east)</i></li> <li>• <i>Historic bell (cupola)</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Reproduction multi-lite, double-hung window sash</i></li> <li>• <i>Reproduction front door (stair tower)</i></li> <li>• <i>Modern reproduction chimney (west)</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Modern entrance doors (power house)</i></li> <li>• <i>Modern portico at the southwest corner of the building</i></li> </ul>

<sup>2</sup> Though they may have been overlooked, the skylights were not recorded at the time of the 1923 Sanborn Fire Insurance Maps (Part I, Figure 11), but were present by the time of the 1929 Sanborn Fire Insurance Survey (Part I, Figure 12).



## Part II: Architectural Description with Character-Defining Features

### Interior Description:

The interior layout of the Mill is highly reflective of the renovations to the structure in the 1970s. At that time, careful consideration was given to preserve elements of the original structure while creating a usable interior space that was up-to-date with the current life-safety codes. What survives of the 19<sup>th</sup> century interior is predominantly utilitarian in nature, as would be expected of an industrial building.

The main entry to the Belknap Mill is through the base of the stair tower (**Figures 6 & 7**). The stair tower is open from the ground floor level to the fourth floor. The walls are brick and the ground floor is concrete. Sandblasting in the 1970s removed the historic whitewash finish to the brick wall surface. The wooden stairs are suspended, attached to the exterior walls of the tower by wooden planks that were laid into the brick when the tower was constructed. The stairs have utilitarian square starting and landing newels, connected by a solid railing constructed of vertical bead-board beneath a plain hand rail. This joinery has been painted red and dates to the 1970s, as is evidenced by the regular “chatter” marks left by modern machining. This 1970s bead-board reproduces what was in the tower by the 1970s, which may have been late nineteenth-century woodwork. There is no known detailed record depicting the stairwell interior prior to the renovations. The stairs themselves are made of unpainted wood (fur). There are heavy metal fire-rated doors at each landing of the stair tower that were added in the 1970s. The door surrounds are flat and plain.

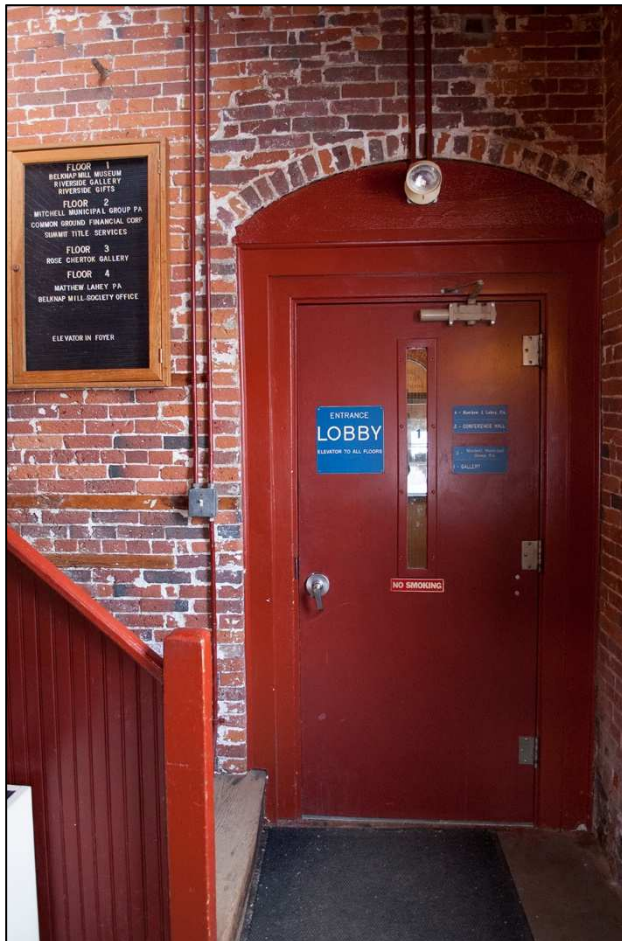


Figure 6: Stair Tower interior, first floor level.

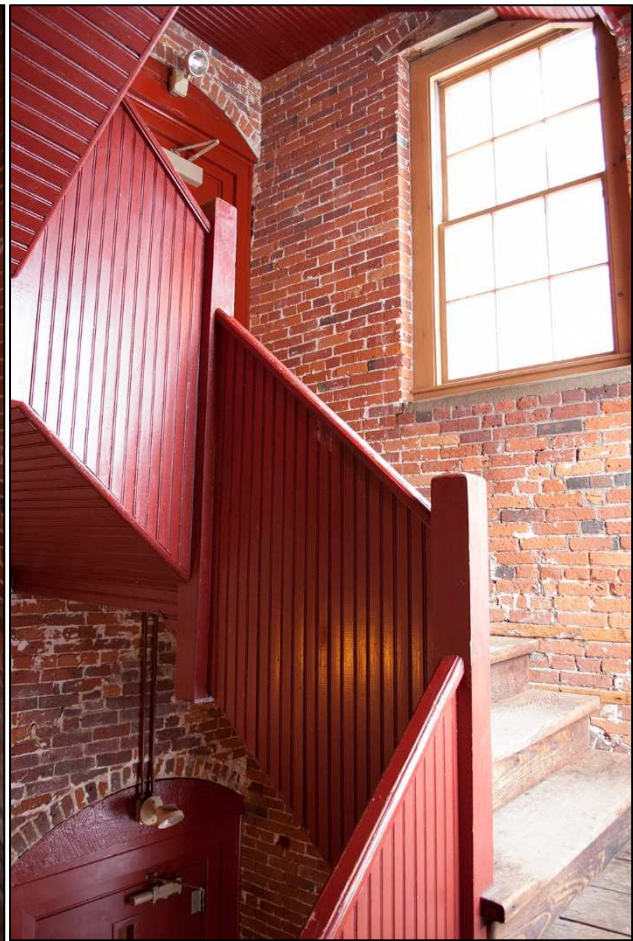


Figure 7: Stair tower interior.

## Part II: Architectural Description with Character-Defining Features

The interior treatments of the first floor of the Belknap Mill are representative of the rest of the building. Historically, each floor level was open, with regular wooden posts along the central axis. The joisted floor construction was left open, unlike the slow-burn construction common in almost all later mills.<sup>3</sup> The historic wooden flooring systems are extant throughout, with the exception of losses at the site of the interior stairwell and adjacent elevator shaft.

Generally, the historic wooden floors throughout the building are covered with carpeting. Ceilings have been left open in public spaces with dropped acoustical tiles added in offices in an attempt to provide noise reduction. Modern interior walls are constructed of gypsum board and have modern metal or wooden doors. Heat is provided by metal baseboard units that are located on exterior walls. Windows throughout the Belknap Mill are double-hung 6/6 divided-light wooden sash with exterior aluminum storms. The windows date to the 1970s.

There is a large open lobby inside of the main building at the first floor (**Figures 8 & 9**). This lobby area is separated from two gallery spaces at the east by a floor-to-ceiling gypsum board wall. To the west are a small gift shop, bathrooms, elevator, interior stair, freight elevator and narrow hallway to an alternate exit at the southwest corner of the building. All of the modern partition walls are of gypsum board with metal doors. The ceilings at the first-floor level have been left open to allow one to observe the floor joists for the second floor. Regularly spaced wooden posts are located along the central east-west axis, directly below the ridge. These posts historically allowed for a large open space at each floor. Though the surviving historic interior woodwork has been left unpainted, there is evidence of whitewashing throughout interior spaces. This original whitewash finish would have reflected natural light, enhancing the interior lighting provided by the large windows throughout the building.

The first-floor flooring is generally carpeted above a modern plywood base and dates to the modern era. There are two exceptions. A small portion of the floor at the north side is covered in tiles and another section of exposed historic wooden flooring, composed of narrow fur boards, is located in the southeast room that currently houses a knitting display. Mill buildings were high traffic areas, and the flooring was subject to extreme wear. Often, first generation flooring was pine or fur with later replacement flooring of more durable hardwood. With this in mind, it is unlikely that the exposed flooring in the knitting display room is original, however, it is contemporary with the mill's period of operation.



Figure 8: Lobby, facing north



Figure 9: Lobby, facing south

<sup>3</sup> Candee Belknap Mill National Register Nomination, 2.



## Part II: Architectural Description with Character-Defining Features



Figure 10: Second floor hallway, facing north.

The second-floor level has been divided into multiple offices. A long corridor is located at the center of the building (Figure 10). Almost the entire east side is occupied by a single large office, currently rented by Mitchell Municipal Group. A small room at the east side of the south end of the hallway leads into a very small archival storage space. The west side of the second-floor houses several small office or conference rooms, a bathroom, kitchenette, and the interior stair and elevator shafts.

The most well-preserved interior layout of space in the Belknap Mill is the third floor, where much of the space has been left open in the Rose Chertok Gallery. (Figure 11) This level is primarily used as a function hall. In 1996, a sacrificial covering was added to the floor to protect the historic fabric beneath. At the west side of the building, bathrooms, a small kitchenette, and storage spaces have been clustered near to the interior stair and elevator shafts. Clustering these modern rooms allows



Figure 11: Rose Chertok Gallery, facing west.



## Part II: Architectural Description with Character-Defining Features

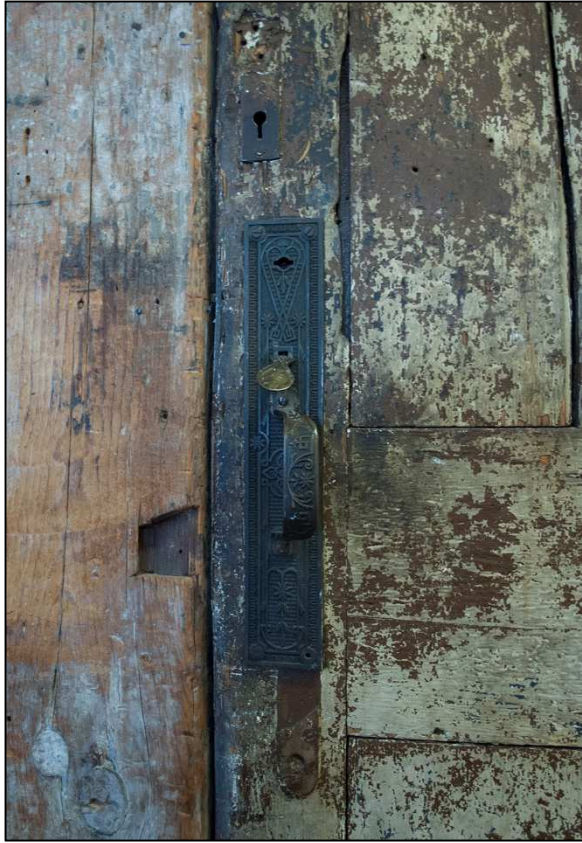


Figure 12: Door hardware at fourth floor.

example of the “aesthetic movement” that was popular in the 1880s to ca. 1900. Likely the latch was originally installed in a more formal, public setting (such as the single-story office that stood in front of the mill) and reused here in the early 20<sup>th</sup> century. The door once had an earlier thumb latch, the outline of which is visible below the current hardware.

Exposed framing at knee walls along the north and south sides of the fourth floor allow one to clearly see the building’s joinery. (Figure 13) Hand-tooled framing joints are held together by large wooden trunnels and each framing member has evidence of the hand-tooling that was necessary for such large timbers. Above the knee-walls are the clerestory windows, which create a nearly continuous narrow horizontal window along the length of the building. The historic sash are paired and composed of ten panes of glass set into each horizontal frame and separated by narrow wooden muntins. Analysis of

for a site line along the entire length of the building at the exterior walls.

The fourth floor of the Belknap Mill was not renovated until 1995, when it was converted for use as office space. This level has the highest level of architectural integrity and maintains historic features that are not found on the floors below. Again, this floor has a hall along the north-south axis at the approximate center of the building. There is a beautifully preserved historic panel door at the intersection of the top of the stair tower and fourth floor hall. The door has been secured *in situ* in an open position but is no longer functional, having been replaced by a modern metal fire door in a modern gypsum board fire wall slightly to its north. The door is notable for its remaining white paint and ornate Victorian thumb-latch and back plate. (Figure 12) The door hardware dates to the late 1800s and is an

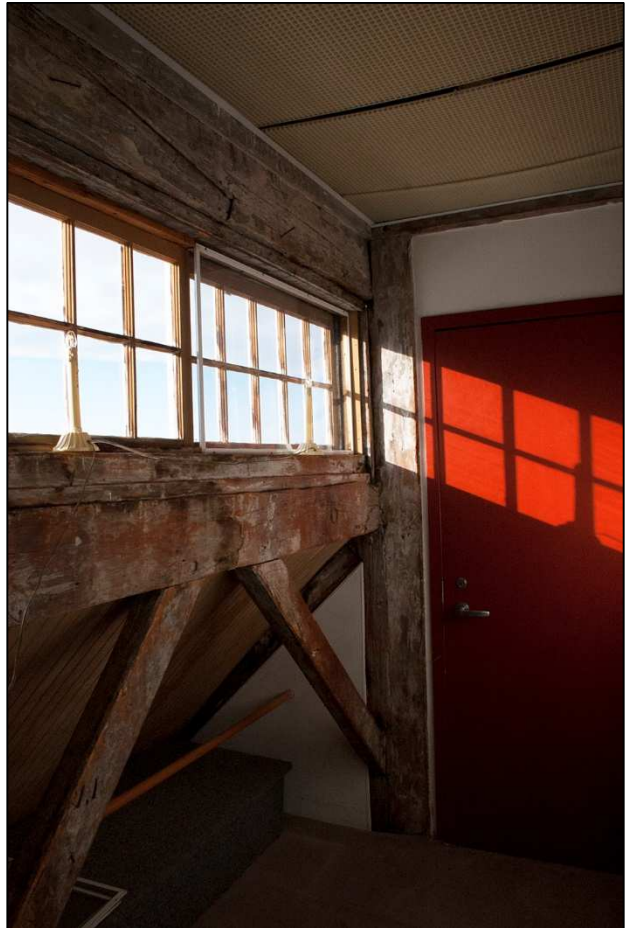


Figure 13: Knee walls & clerestory windows at fourth floor.

## Part II: Architectural Description with Character-Defining Features

the muntin profile and construction suggests that the sash dates to the original building construction in 1823, as the Federal style moulding profile was common between 1790 and about 1830.

The area to at the east end of the mill's fourth floor has been preserved as a single large space and is currently rented as an office to Matthew J. Lahey Attorney at Law. The space to the west is used by the Belknap Mill Society as their offices. This space has a modern gypsum dividing wall between the north and south sides of the space.



Figure 14: King post truss, attic.



Figure 15: Graffiti on attic strut.

The historic ceiling of the Belknap Mill Society offices has been removed, creating an open space into the attic above. Nail hole evidence in the ceiling serves as evidence to an historic ceiling that has been removed to create this open space. From the Belknap Mill Society Offices, one can observe the framing system of the roof, including the king post trusses and the purlin roof. (Figure 14) Many of the struts have “Watch Head” written on them, suggesting that mill operatives were, at one time, in the attic space, potentially servicing the building's elevator. (Figure 15)



## Part II: Architectural Description with Character-Defining Features



Figure 16: Elevator mechanisms, Belknap Mill attic.

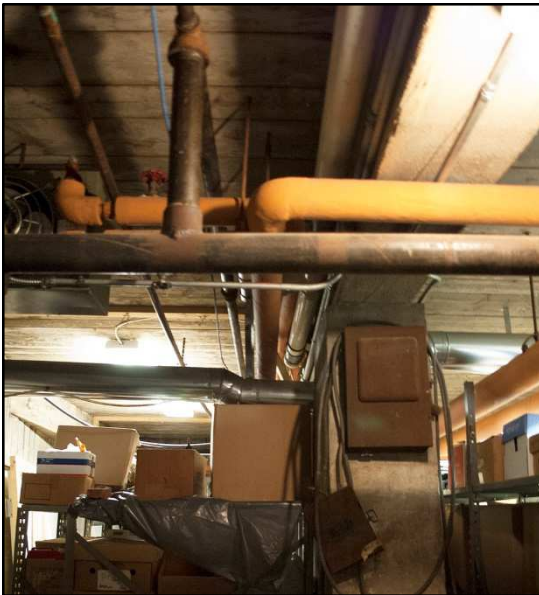


Figure 17: Flooring system of Belknap Mill



Figure 18: Modern flooring at southwest corner of Belknap Mill

At the center of the Belknap Mill Society offices is the historic Belknap Mill freight elevator and associated machinery. The elevator mechanisms are still intact and in place at the attic level, and visible from the Mill Society offices at the fourth floor (**Figure 16**). Large pulleys are located along the ridge, above the elevator, and a huge wooden wheel is located at the west end of the ridge, next to the chimney. Holes in the framing below would have allowed for the movement of large counter-weights.

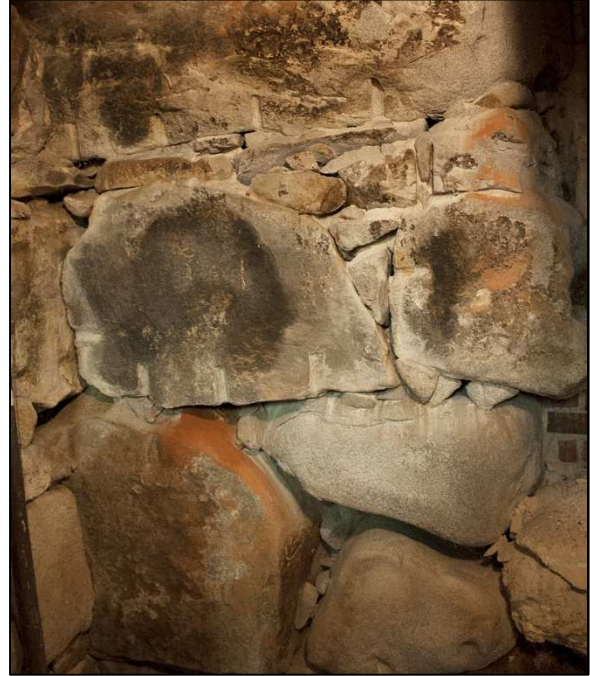
The basement of the Belknap Mill is largely open on the east end and has been broken down into several smaller rooms on the west end. Each of the modern interior walls is made of gypsum board.

The subfloor of the ground floor level of the Belknap Mill is supported by heavy girts. These girts are carried by a series of very large poured concrete piers that run along the central axis of the building. (**Figure 17**) The only floor joist system in the first floor of the building is at the southwest corner of the structure, where modern 2x6 joists have been added in an area that appears to have been destroyed by a fire at some point in the building's past (**Figure 18**). There is evidence of charring on nearby

## Part II: Architectural Description with Character-Defining Features

historic timbers and the sub-floor above the joists is made of plywood sheets).

From the interior of the basement, one can clearly observe the stone underpinning that supports the brick walls of the Belknap Mill. This underpinning was all split with very large gauge plug-and-feathers. The foundation walls below are a mix of plug-and-feather-split granite and fieldstone. **(Figure 19)** The use of the method of splitting the stone using plug-and-feathers is highly significant, as this represents one of the earliest known uses of plugs and feathers for stone splitting in New Hampshire. Prior to ca. 1830, large drills were commonly used in quarries. A single hole was drilled close to the center of a stone, filled with gunpowder, and exploded with a fuse to split the stone. It was then further split with flat wedges. It appears that the masons of the Belknap Mill used these drills in series in combination with small feathers to split the underpinning in 1823, before the introduction of standardized smaller diameter plug bits.<sup>4</sup>



**Figure 19: Basement wall of Belknap Mill, showing stone-splitting marks.**

Some areas of the foundation have been mortared, some seem to be dry-laid. There are many different generations of rusty metal pipes sticking through the walls of the foundation. Some areas in the foundation walls have been infilled with brick. These openings may represent former windows or water channels through the basement of the mill.

The basement floors are concrete. There is a deep ditch in the concrete along the east wall. This wall is sheathed in vertical wood boards. A tunnel is located at the southeast corner of the basement, leading to the area under the Power House.

There is a small mechanical room at the southwest corner of the building. This room houses the boiler that provides steam heat throughout the building. There is a sump pump in the southwest corner of the mechanical room.

The mechanical room is located next to the exterior entrance. The entrance door is a modern metal fire door. There is a large safety glass side light window next to the door. Both the window and door have metal frames.

<sup>4</sup> James L. Garvin, former state architectural historian, confirms the use of this method and has only seen similar splitting methodology in one other location, at the roughly contemporary stone Mill No. 1 in Newmarket, New Hampshire.



## Part II: Architectural Description with Character-Defining Features

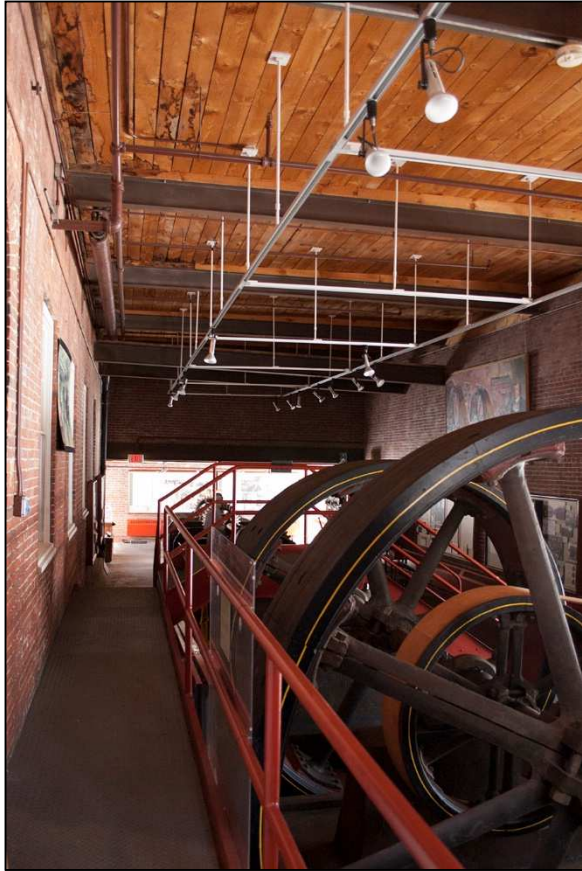


Figure 20: Power House, facing east



Figure 21: Power House, facing northeast

The Power House addition is entered through an arched opening in the south wall of the main level, that was recreated in the 1970s. Historic photographs show that by 1919, shortly after the Power House was constructed, the opening had been bricked up. This suggests that this doorway predates the Power House and once allowed access between the Belknap Mill main building and an earlier outbuilding on this location. The current entrance is through a modern glass door with semi-circular arched transom window above and set within a steel frame. The walls of the Power House are brick and the floors concrete. The flat

roof is supported by metal beams. The ceiling is unpainted wood and steps down significantly at the east end of the structure, where it was altered in 1973. There is a triplicate window in the west wall made up of three 6/6 wooden sash windows. All other windows to the Power House are large fixed glass panes set into steel frames. All of the windows date to the 1970s renovations.

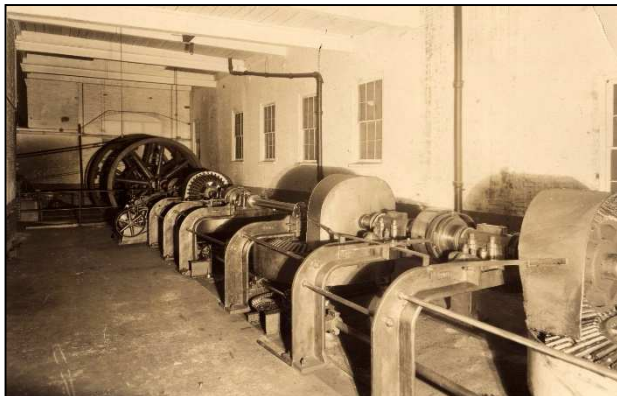


Figure 22: Facing west in Power House shortly after completion, 1919.



Figure 23: Facing west in Power House, present day.

## Part II: Architectural Description with Character-Defining Features

There is a long observation deck along the north wall of the Power House with steps down toward the east end of the room and a bridge up over the mechanical equipment and steps down onto the other side (**Figures 20 & 21**). Like the re-opened brick doorway, this observation deck was added in 1973 to facilitate public access to the new museum space. The room houses the 1918 machinery that was used to harness hydroelectric power and run the mills, and maintains access into the canal sluiceway where the hydroelectric power process began.

<b>Character-Defining Features of the Building's Interior</b>			
<b>Primary Features</b>	<b>Secondary Features</b>	<b>Contributing Non-Historic Features</b>	<b>Non-Contributing Non-Historic Features</b>
<ul style="list-style-type: none"> <li>• <i>Historic wood floor, 1<sup>st</sup> &amp; 3<sup>rd</sup> floors</i></li> <li>• <i>Exposed wood floor framing &amp; columns, throughout</i></li> <li>• <i>Configuration of the stair tower and historic design of finish woodworking</i></li> <li>• <i>Open plan, Power House</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Open plan, 3<sup>rd</sup> floor</i></li> <li>• <i>Historic interior window trim, including sills and headers</i></li> <li>• <i>Historic wooden door &amp; hardware, 4<sup>th</sup> floor</i></li> <li>• <i>Historic elevator &amp; associated equipment, 4<sup>th</sup> floor</i></li> <li>• <i>Exposed framing, attic level</i></li> <li>• <i>Historic turbines &amp; power-equipment, Power House</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Modern-reproduction stair tower railing/bead board</i></li> <li>• <i>Modern reproduction utility doors at north elevation of tower</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Gypsum board walls</i></li> <li>• <i>Floating-floor, 1<sup>st</sup>, 2<sup>nd</sup>, &amp; 4<sup>th</sup> floors</i></li> <li>• <i>Modern metal observation deck and stairs, Power House</i></li> </ul>

## Part II: Architectural Description with Character-Defining Features

The Belknap Mill is typical of a small, rural cotton mill of the early nineteenth-century. The structure was modeled after the Boston Manufacturing Company Mill in Waltham, Massachusetts. Incorporated in Waltham in 1814, and led by Francis Cabot Lowell, the Boston Manufacturing Company built the first integrated water-powered spinning and weaving factory soon after. The factory he created spearheaded the American Industrial Revolution. The iconic building (**Figure 24**) served as the prototype for buildings like the Belknap Mill.



Figure 24: Boston Manufacturing Company from early 19th century.

The Belknap Mill retains many standard features of a mill of this type. The clerestory windows in the monitor roof, derived from early European church architecture, was adapted for use in the early New England textile mills because it allowed for the use of the attic story by utilizing all of the building's interior space. Natural lighting was extremely important to manufacturing before the advent of gas and electric lighting, and mills like the Belknap were designed to allow passive lighting of the interior. The clerestory windows, combined with the tall windows on all four sides of the mill, combined with the north-south orientation of the structure, allowed for the maximum utilization of natural light.

Fire was a real danger in the early textile mills, and mills like the Belknap took precautionary measures to lower the risk of fire. In order to help mitigate these dangers, textile mills were typically constructed of locally-sourced brick with a center brick-encased stair tower. Iron rods held the structures together at each floor level, giving the structures additional lateral strength to withstand the vibrations of the knitting machines. An additional tower usually held a water closet. The supporting timber-framing of the Belknap Mill, particularly in the roof frame and attic, is also typical of the first phase of mill construction. Further, the Belknap Mill is noteworthy as an example of an early wood and brick mill, prior to the adoption of the "slow-burn" interior framing that is seen in later mills. Shortly after the construction of the Belknap Mill, most American textile mills changed their method of floor construction. In earlier examples, like the Belknap Mill, thin wooden floorboards were laid across rows of narrow floor joists, set between parallel beams. To minimize the number of exposed wooden edges, lower the risk of fire, and create a flooring system that would contain a fire for a longer period of time (by burning slowly), a new floor construction method was adopted between 1820 and 1840 where the beams were set about five feet apart with a double-floor above with an underfloor, composed of planks three inches thick, and an upper floor of one inch board.

Another standard feature of mills from this period was the mill cupola and bell. In many ways, this was one of the most important features of an early nineteenth-century mill, as it functioned not only as a time-keeper for the mill-workers, but as a public time-keeper and alarm.



## Part II: Architectural Description with Character-Defining Features

The Belknap Mill is unique as a survivor from this period. The early iteration of the Boston Manufacturing Company building in Waltham, Massachusetts upon which the Belknap Mill was modeled, is no longer recognizable as such and was heavily renovated through later building phases. More locally, the Belknap Mill can be compared to the slightly later Belmont Mill in nearby Belmont, New Hampshire. The Belmont Mill, constructed in the 1830s, has a similar overall layout, proportion, and mass (and also has a similarly important role in New Hampshire's preservation movement with several threats of demolition stopped through local grassroots efforts). Constructed at a slightly later date, the Belmont Mill employs the later "slow-burn" interior framing, had an original brick stair tower, and, instead of clerestory windows, had a series of gable-dormers at the fourth-floor level (**Figure 25**).



Figure 25: Belmont Mill, Belmont New Hampshire ca. 1870 (Courtesy of the Belmont Historical Society).



## **Part II: Architectural Description with Character-Defining Features**

## Part III: Assessment of Condition

By Misiaszek Turpin pllc

### *Summary:*

Today, the Belknap Mill stands in poor estate along the banks of the Winnepesaukee River in downtown Laconia, New Hampshire. In the 1973 renovation, completed when the Mill was saved from demolition in the city's efforts of urban renewal, the entirety of the exterior of the building was cleaned, repaired and in the case of the eastern end of the Power House, modified. Since this time, the main roof and the roof of the Power House have both been replaced, some of the brick masonry was repointed in the early 2000s, the cupola has been restored after being damaged in a lightning storm, and a new flag pole installed. Besides the most recent re-roofing of the main building (completed in 2016) the last exterior alteration was the construction of a portico over the southwestern egress doors connecting the main and basement levels to the exterior in 2005.

Most of the interior of the building, has not been touched since these 1973 renovations. Aside from small programmatic changes to the main level lobby and gift shop, the only substantial interior modifications have taken place on the second floor, where a series of small offices, conference rooms, a kitchenette and restroom have been constructed on the western side of the floor. The basement has a few small rooms constructed in its southwestern corner for mechanical equipment and the interior egress stair, but remains otherwise intact. Periodic water infiltration occurs in several different locations along the walls of the basement, and the old canal sluiceway under the eastern side of the building and under a portion of the Power House generally has a few inches of standing water.

All of the systems within the building are aging and are far from energy efficient. The mechanical system is well beyond its lifespan, with replacement and repair parts non-extant, is composed of non-energy efficient components and imposes a financial hardship on the organization. As part of this system, the building's central elevator is quickly approaching the end of its useable life and frequently breaks down. Similarly, the electrical system within the building is outdated and no longer meets code requirements as a system. The restroom facilities on each floor are not adequate in size for the capacity of each level or use, nor do they meet accessibility code required as a public meeting house.

Overall, there are substantial areas of required upgrades and restoration efforts to increase the vitality of the Mill and maintain it as a cultural and historic icon of the region.

### *Belknap Mill Site Conditions Assessment:*

The main entrance to the Belknap Mill is located on the north side of the building directly off of Mill Street (now pedestrianized) within the central stair tower. Mill Street is composed of now uneven hand-laid bricks, and connects the Belknap and Busiel Mills with the footbridge crossing the river. At the front entrance to the Mill, the brick pathway slopes down and creates a slight bowl at the foot of the door. This space quickly pools with water, and in the winter, becomes a solid patch of ice (**Figure 1**). Not only does this effect the individuals attempting to enter the building, but it is also slowly damaging the entrance door, surrounding brick walls and causing water to periodically seep into the stair tower entrance space.

There are three signs on the site; one directly attached to the building and the other two standing in the ground some ways off the building. Along the southern face of



Figure 1: Main entrance to Belknap Mill

## Part III: Assessment of Condition

By Misiaszek Turpin pllc

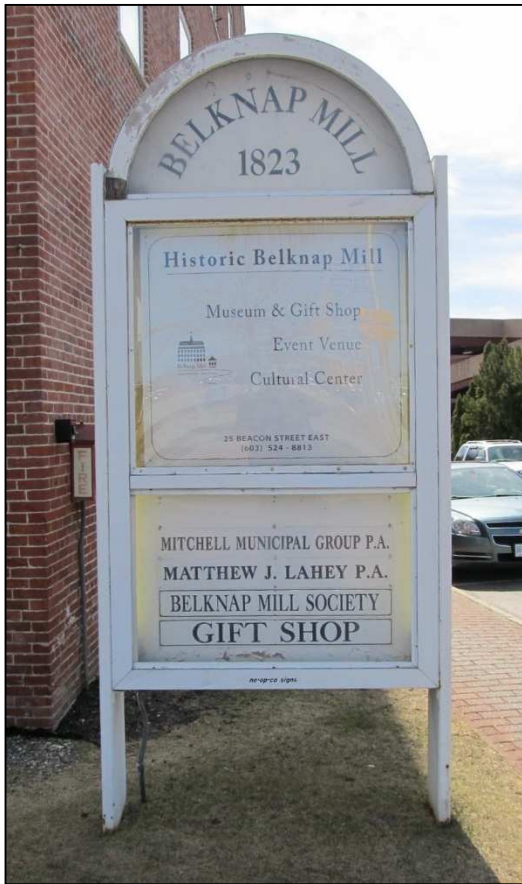


Figure 2: Belknap Mill sign.



Figure 3: Mortar loss near the entrance door.

the Power House, a black linear sign is located with gold lettering depicting the building's name, is in fair condition. The next sign is to the northeast of the stair tower. It has two large granite legs that puncture into the ground and support a solid wood sign connected with wrought iron chains. This sign was installed in 2012 and is in good condition. Lastly, a large, white painted, wooden sign with a central, plexiglass lettering case and arched top sits along the northwestern edge of the building directly off from the sidewalk and Beacon Street East. This sign is in poor condition having received no regular maintenance since its installation (**Figure 2**).

A single, gooseneck light is mounted over the main entrance, and four gooseneck lights are mounted above the black linear sign on the Power House's southern face. Additionally, the cupola is illuminated on four sides by mounted flood lights. These along with the gooseneck lights have not recently been upgraded and are not energy efficient fixtures. There are two lamp posts on Mill Street that illuminate the walkway, and there are a handful of scattered lamp posts within Rotary Park, to the south that light the park paths; however, none of these lamp posts are located on the property of the Belknap Mill. Overall, the building's exterior, particularly the entrance, is under lit, leading to security and accessibility concerns.

### *Belmont Mill Exterior Conditions Assessment:*

The four-story brick mill building is in generally sound condition, and maintains its unique and identifiable profile. As is typical of masonry buildings over one hundred years old, the Belknap Mill is exhibiting some degradation of the brick façade and the soft lime mortar is in need of repointing at many locations (**Figure 3**). Generally, these areas are confined to the 1823 main mill building and not on the Power House addition. In 2002, some lower portions of the Mill's exterior brick walls were re-pointed; however, some of these areas are once again, experiencing degradation, as it is believed that an improper mortar mixture was used. There are also some areas of dirt and staining along the base of the building.

The brick walls of the building continue below grade until they connect with the stone foundation underpinning. It is difficult to fully assess the condition of this brick using non-invasive techniques, as it can only be partially seen from the interior; however, due to its age, location underground, and what is visible from the interior, this brick is in overall fair

to poor condition. The rough and uneven stone underpinning is in overall fair condition; however, there are the occasional leaks into the basement.



## Part III: Assessment of Condition

By Misiaszek Turpin pllc



Figure 4: Typical 6/6 wood window.

tops the white painted finial which caps the dome of the cupola. As this architectural element experiences the full force of the natural elements, a closer inspection should occur to evaluate its integrity and paint quality, along with the louvers that vent the bell cavity.

The character-defining fenestration pattern remains in great condition on all four sides of the building. The 1970s replacement 6/6 wooden double-hung windows are in poor to fair condition, as many of them are experiencing deteriorating putty and poor weather sealant. Many of these windows have exterior aluminum storm windows that are not properly performing in energy efficiency and in operation, due to the age of the units and minimal maintenance efforts. (Figure 4). All of the window trim is in very poor condition as most of the paint has peeled off, causing some of the wood to begin rotting and/or splitting. This degradation is most notably seen along the historic clerestory windows of the fourth floor, whose linear façade is entirely wood. These clerestory windows, which are original to the building's construction, are in extremely poor condition with glazed panels very near to falling out (Figure 5). Additionally, window sills around the building have begun rotting, most notably on the east side of the fourth floor, where several have fallen off completely (Figure 9).

Three of the exterior egress doors are glass and are in good condition; two from the Power House and one from the basement. The main entrance door was replaced in the spring of 2016 with a fir replica that has two horizontal panels of glass. The door is painted a beige and has its original wooden header that was painted red at some point. This door is beginning to experience damage to



Figure 5: Typical clerestory window.

The two interior end chimneys are in sound condition and do not appear to have any condition issues at this time. The cupola crowning the center of the building is in good condition, as it was restored first in 1996 and again in 2012, after severe damage from a storm in July 1996. Within the cupola resides the original bell. A new gold weather vane sits



Figure 6: Southwest door to Belknap Mill.



## Part III: Assessment of Condition

By Misiaszek Turpin pllc

its lower portion, as there is no kickplate or door stop, and from pooling water from the brick entry path. The final egress from the building is the horizontally paneled, wooden double door in the southwest corner of the main level. This is in fair condition with paint that is beginning to fail (**Figure 6**). The recent energy audit, performed by Resilient Buildings Group, found the insulation and weather-stripping of this door to be insufficient (**Appendix E: EEM #88**)

There is an exterior entrance to the basement of the Belknap Mill at the southwest corner of the building, to the east of the horizontally paneled wooden double doors. This basement access is reached down a set of poured concrete stairs. The door to the basement is metal and has a single reinforced side-light window. The glass is cracked across the center of the window (**Figure 7**). Both this basement door and the wooden double-door are located under a portico. This portico addition was constructed in 2005 to protect both doors from the elements. As part of this construction, some new partial height brick walls were constructed, encasing the concrete stairs and providing a base to the white painted columns supporting the roof. The roof is additionally structured with white painted, wooden trusses. The ceiling is bead-board stained to match the horizontal structural components (**Figure 8**).



**Figure 7: Basement door with cracked sidelight**



**Figure 8: Portico at southwest corner of Belknap Mill**

During the summer of 2016, the main roof of the Mill was fully replaced with new, dark grey, asphalt roof shingles that matched the shape and color of the Urban Renewal-era shingles. Prior to this replacement, there had been a few areas of water leakage and the shingles were beginning to completely peel off and fall to the ground, exposing the surface beneath. This was most heavily seen on the southern roof planes. Alongside the peeling window trim, the eaves and soffits of the roof are peeling, with large portions of their wooden surface exposed to the natural elements (**Figure 9**). The Power House roof, is in fair condition; however, there have been instances of leaking and the roof drains may be blocked; however, their condition was not fully inspected (**Figure 10**). The roof of the 1970's lowered east end volume of the Power House,

### Part III: Assessment of Condition

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Figure 9: Peeling Paint at eaves/soffits



Figure 10: Looking down onto the Power House roof, with large areas of water pooling.

experiences large pooling at the center; however, no active leaks have been observed. Both the original and the lower portion of the Power House roof are in poor condition and are not properly weather sealed.



## Part III: Assessment of Condition

By Misiaszek Turpin pllc

### *Belknap Mill Interior Condition Assessment:*

#### **Basement:**

The Belknap Mill is a timber framed structure with load-bearing brick exterior walls that rest on a stone foundation wall. Full, habitable, basement space is located under the majority of the main Mill building, and is used as a storage space. The two, easternmost structural bays have a slightly deeper basement space, which was originally utilized as the canal sluiceway connecting into the Power House. The western portion of the Power House, where the three large wheels are located, is slab-on-grade, whereas the rest of the volume



**Figure 11: Sluiceway beneath east portion of Belknap Mill**

has a full height basement space where the water from the canal originally occupied. Existing mechanical elements for the operation of the turbines and historic equipment are still located within this basement chamber (**Figure 11**). This space, and the sluiceway regularly maintain a couple inches of standing water, and are accessed via an access door in the floor of the eastern side of the Power House. At this entrance, a metal ladder is attached to the concrete wall, providing access into the space. This ladder has severe corrosion.



**Figure 12: Example of checking in beam**

The typical floors are constructed with 15" x 13 1/2" timber beams spaced at approximately 8'-0" on center that support 4" x 6" timber floor beams spaced at 1'-8" on center which in turn support the floor decking. The main beams span the width of the building and are supported by exterior masonry walls and 8" x 8" timber columns at the mid-span of the beams. In general, the existing timber framed structure is in fair condition; however, there are several members that have large splits running through them, becoming structural insufficient. (**Figure 12**). The floor structure is out of level, although not a structural concern, due to unevenness in differential settlement. This unevenness is most

notably seen on the fourth floor. The steel framing and columns within the sluiceway, that support the southeast portion of the first floor, have started to corrode and deteriorate, and are structurally unsound. What appear to be early to mid-20<sup>th</sup> century steel columns are centered on concrete pads, and modern steel columns from a later, unknown date, have been installed at each original column to provide additional support. All four columns are severely corroded.

## Part III: Assessment of Condition

By Misiaszek Turpin pllc



Figure 13: Belknap Mill boiler

In general, the mechanical system throughout the entire building has reached the end of its lifespan and requires extensive replacement. Current equipment does not meet regulations for energy efficiency, nor is it financially sustainable, as parts have become extremely limited (**Figure 13**). The existing boiler was installed in 1968 and is a natural gas fired boiler. The unit is in poor condition, with spare replacement parts becoming rare and costly and does not meet current efficiency standards

During the 1973 renovations a modern elevator core was installed near the center of the building, that travels between the first floor and the fourth floor, with its machine room located within the basement. This elevator has severely passed the end of its life and has begun to breakdown and occasionally not properly function nor meet current building code. Additionally, a larger freight elevator was installed at the same time, connecting the first floor and the basement. This is located to the southwest of the main elevator and is also in poor condition.

The plumbing system throughout the building is in overall poor to fair condition, and the majority of the distribution piping is beyond serviceable life. An existing electric water heater is located in the mechanical room in the basement and is in good condition. The fire protection system is an automatic

sprinkler system, parts of which contain glycol for freeze protection. Additionally, there are numerous areas that appear to have inadequate coverage due to obstructions or existing construction such as beam pockets, closets, etc. Though the accompanying fire alarm system is functional, it is dated and in need of additional equipment, stations and notification devices. Most of the electrical equipment throughout the building is believed to be approximately 30+ years old, and is in fair to poor condition. The panels seem to be in fair to good condition; however, some water distribution piping is located above some of these panels, in violation of Life and Safety and Building Code.



## Part III: Assessment of Condition

By Misiaszek Turpin pllc

### *First Floor:*

The main lobby and reception space of the building is located along the north side of the central structural bay. This lobby is defined by dividing walls on either side, closing it off from the exhibit space to the east, and the building's core of egress stairs, restrooms and elevator to the west. The space has tiled flooring installed in the 1973 renovations. From this space, the rest of the building can be accessed; however, there is a lack of a security system in place. The solid metal fire door with very narrow glass panel does not allow the receptionist to monitor people entering and exiting the building. There are no surveillance cameras within the space or anywhere in or around the building.

The orientation of space within the building's core is not conducive to efficient traffic flow or usage and creates a warren of small spaces that are difficult to navigate. Located within the first structural bay to the west of the center, is the building's core that was constructed as part of the major renovations in 1973. Access to the women's restroom is located along the north side. The gift shop is located within the last structural bay, utilizing the western wall of the core; however, there are no openings or access into any of the spaces of the core from this side. The entrances to the freight elevator, men's restroom, storage closet, and egress stairs are all located along the south side. Besides the exterior door or the freight elevator, this is the only means of access into the basement. These stairs also connect each of the five floors, and lead directly to exterior egress doors in case of an emergency. In general, the stairs are in good condition; the walls are in need of repainting as are the railings. There are a few spots where the railings need to be reattached, as they do not meet Life and Safety code for distance off from the wall, and fingers can easily get caught. The lighting within the egress stair could also benefit from upgrading to more energy efficient fixtures and illumination levels (**Figure 14**). Along the eastern wall of the core on each floor, is the door into the elevator. These doors are dated and do not have modern sensory equipment or closing mechanisms.



**Figure 14: Emergency lighting**



**Figure 15: Transition of floor from gallery to knitting room, first floor Belknap Mill**

During the 1973 renovations, efforts were taken to preserve the historic hardwood floor on this level. To achieve this, a “floating” or raised floor of approximately 1½” was constructed across the entire main level except for the southeast corner, where today, a knitting exhibit is located (**Figure 15**). Within this southeast corner, the historic hardwood floors are still visible and showcase limited damage. It is believed that the remainder of the original wood floor was left in place and sensitively covered over with the floating floor, which is all carpeted, minus the tile in the lobby and the restrooms. These modern floor surfaces are in poor to fair condition with ground-in stains, fraying, and some cracking.

### Part III: Assessment of Condition

By Misiaszek Turpin pllc

Each window unit is left unpainted on the interior – compared to its exterior, white painted face. Above each unit is a wooden, semi-circle header, that are generally in fair condition; however, many have substantial aging and splitting. Similarly, most windows have a thick wooden interior sill; however, there are a few sills throughout the building that have been replaced with poured concrete sills. All of the wooden sills have splitting, in some cases, extensive splits (**Figure 16**).

Both the men's and women's restrooms are in fair condition. Each have tiled floors, aged partition and divider walls, and plumbing and light fixtures that were installed during the 1970s renovations and are not energy efficient. The plumbing system is also in need of repair in both spaces. Additionally, neither restroom complies with accessibility code required for all buildings with assembly occupancy and public use (**Figure 17**).

The entire first floor is heated by fin tube radiation along the perimeter brick walls. Although this system is in fair condition, it is approaching the end of its useful life. The floor is air conditioned by a fan coil unit with direct expansion refrigerant system. This refrigerant component is located outside the building along the southwest wall, and is poor to fair condition. There are no mechanical ventilation units for this floor, as the floor receives natural ventilation from its operable windows.

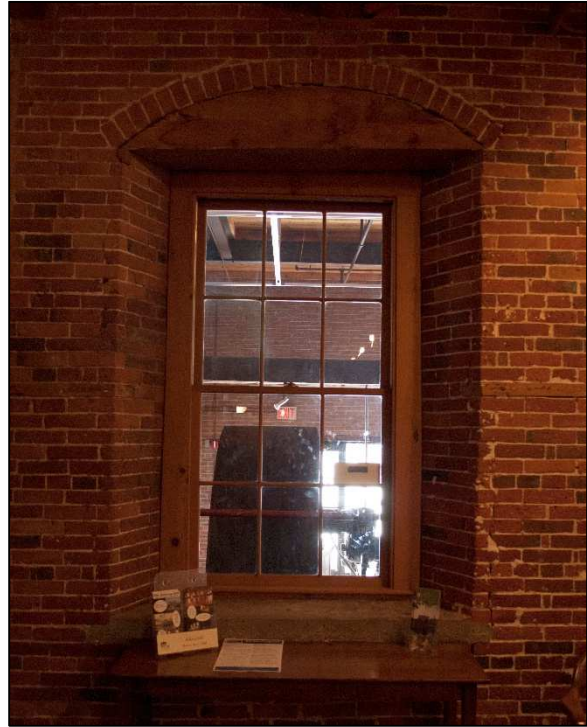


Figure 16: Typical interior window



Figure 17: First floor men's room

## Part III: Assessment of Condition

By Misiaszek Turpin pllc

### *Second Floor:*

The second floor is programmatically different from the first floor; the originally open floor plan has been divided up by the incorporation of multiple office spaces and the 1970's central core. A central hallway provides access to the office spaces from the elevator and stair tower. The entire eastern portion of the floor has been dedicated to one office tenant except for a small office space at the south end of the central hall. The small office space has been dedicated for the archives of the Belknap Mill. This small space has direct southern exposure, no climate control and houses most of the Belknap Mill Society archival storage on open metal shelving and in piles on the floor (some additional collection items are mixed with operational items in the basement and on the fourth floor or in publicly-accessible hallways.).

The west portion of the second floor has three offices, a reception space, a conference room and shared break room and restroom. The original white-wash on the columns, beams and ceiling is still heavily intact across the entire floor, with the darker wash at the bottom of the columns.

Besides the main brick exterior walls, all interior walls are of gypsum board with wooden doors and are in good condition. The restroom is in good condition; however, it is not compliant with accessibility regulations, as the entrance is too tight to navigate through (**Figure 18**). The layout of this floor has been addressed since the 1970's renovations when tenants moved in. Carpeting has been laid across the entire floor except in restrooms. This carpet is in good condition.



**Figure 19: The hall lighting on the second floor is typical of the Belknap Mill**

to all fixtures would be beneficial for energy efficiency and performance. Typically, public spaces are lit by inefficient overhead fluorescent lighting that dates from the 1970s (**Figure 19**). The second floor of the building has the same mechanical system arrangement as the first floor, with fin tube radiant heating along the brick exterior walls and an air conditioning unit with a refrigerant component located outside. This system is also nearing the end of its useful life.



**Figure 18: Narrow entrance to second floor restroom**

Similar to the rest of the building, the electrical system is in fair condition. Past electrical upgrades have been made as needed without a holistic upgrade plan that addresses the lighting and equipment of the entire facility. There are a few fixtures that utilize LED lamps; however, upgrades



## Part III: Assessment of Condition

By Misiaszek Turpin pllc

### *Third Floor:*

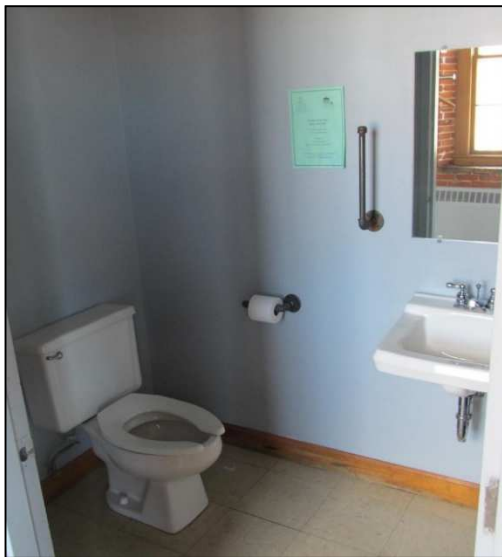
Capturing the full central and eastern portion of the floor, the Rose Chertok Meeting Hall, remains in its original, open configuration, with the columns running through the center of the space. The original white-wash finish to the columns, beams and ceiling still remains; however, it is severely aged. At some point, a plumbing shaft was installed near a column at the center, moving pipes from the fourth floor down below. This is the only obstruction to the quality of the space.

The building's elevator and egress stair core continues to this floor, and provides a western edge to the event hall. The north, west and south walls of the core have all been held off from the brick exterior walls for circulation and further programming. The women's restroom is located along the north side of the core. A kitchenette has been positioned along the northern end of the west wall. The fixtures and cabinetry at the kitchenette have not been upgraded recently, and showcase extreme wear and damage (**Figure 20**). The men's restroom is located adjacent to the south wall of the women's restroom, near the center of the core and is accessed via a hallway through the center of the east side of the core. This restroom is difficult to locate for users. A large storage room and a series of smaller closets, including an A/V closet, are located along the south wall of the core.



**Figure 20: Kitchenette, 3rd Floor Belknap Mill**

Sacrificial wooden floors have been laid across the entire third floor to protect the original wood floors from damage. This work was done in the 1973 renovations. Though some repairs were made in 2001, this sacrificial floor is in need of major repairs and restoration, as slivers of the boards dislodge while cleaning or moving furniture around the floor.



**Figure 21: 3rd floor bathroom**

Both the men's and women's restrooms are in fair condition. Each have tiled floors and plumbing and light fixtures that were installed during the 1970s renovations and are not energy or water efficient. The plumbing system is also in need of repair in both spaces. Additionally, neither restroom complies with accessibility code, as there is inadequate turning space within the restroom and the fixtures do not have the proper hardware. Furthermore, neither restroom has the correct number of fixtures for assembly occupancy building classifications, as mandated by Life and Safety code (**Figure 21**).

Fin tube radiators have been installed along the entire perimeter of the floor, and ductwork is hung along the north and south walls from the ceiling, leading to three large air conditioning units that are located within the storage closet, all of which have surpassed their lifespan. The air conditioning system has direct expansion refrigerant system, which is located outside the building along the southwest wall,

and is poor to fair condition. Additionally, there are no mechanical ventilation units for this floor, as the floor receives natural ventilation from its operable windows.



## Part III: Assessment of Condition

By Misiaszek Turpin pllc

### *Fourth Floor:*

Similar to the second floor, the fourth floor is used as office space, and has had its original open floor plan divided up. A central hallway with a wooden ceiling, dissects the floor, as seen on the second floor, providing access from the elevator and stair tower, into the office spaces. The eastern portion of the floor is dedicated to one tenant and has a wood ceiling and new, gypsum board walls with wood and glass doors. The west portion of the floor has been divided in half by a new gypsum board wall that encases the building's original, historic elevator. Both sides of this office space are occupied by the Belknap Mill Society offices, and are accessed through metal doors.



Figure 22: Checked beam, 4th floor



Figure 23: Clerestory window

This western portion of the floor has its entire roof structure fully exposed through the ceiling beams, as the original wooden ceiling was removed at some unknown date. Some of the original operating equipment for the elevator is visible within the rafters and appears to be in fair to good condition. The majority of the exposed structure is in good condition, with a few locations of minor splitting (**Figure 22**). Further evaluation of the structure will need to occur, as the structure was only evaluated from the floor level and only from within this western portion; the condition of the central and eastern portion of the roof structure is concealed above a wooden ceiling and was not evaluated. All of the exposed roof structure is visibly differentiated from the ceiling joists, as the roof structure was never whitewashed, and its untreated wood surfaces contrast the white surfaces of the lower structural elements.

The columns supporting the roof are located alongside the clerestory windows and are in good condition, still showcasing the original white-wash paint treatment, with only minor areas of splitting. The clerestory windows, which are original to the building, are in poor condition, with the putty and weather-stripping in extreme decay, no longer securely holding the glazing (**Figure 23**). In general, this entire space is not energy efficient, as there is massive heat loss and gain through the uninsulated roof structure and single-pane glazing, which is experienced year-round. This area was highlighted as a much-needed area for improvement by the March 31, 2017 Resilient Buildings Group "Belknap Mill Society Comprehensive Energy Improvement Plan for the Future (**Appendix E**). The west side of the 4<sup>th</sup> floor is entirely uninsulated, whereas the east side has some rigid foam board insulation and fiberglass batts, both of which are underperforming due to improper sealing and compression.

The fourth floor is heated by two cabinet unit heaters on the west end of the floor and by a fan coil unit on the east end, within the tenant space, all of which are in poor condition. The fan coil also provides cooling for the tenant space. As previously noted, this entire floor has an uneven slope to it caused by differential settlement of the building's foundations. The floor remains structurally sound; however, in combination with the structural load distributed from the roof structure, any alterations to the usage of this floor should

## Part III: Assessment of Condition

By Misiaszek Turpin pllc

be consulted and evaluated by a structural engineer, as noted in the RFS Structural Assessment report (**Appendix F**).

### *Belknap Mill Stair Tower Conditions Assessment:*

The main, central stair tower located along the north side of the Belknap Mill, expresses many of its original and historic features. The stair treads and risers are unfinished and are in need of some repair and restoration, and are of varying riser height. The treads and risers appear to be historic, however, the bead-board with simple stock railings and newel posts were recreated in the 1970s and are in good condition. This woodwork was painted red during the 1973 renovations and is not the original finish. The main floor is concrete, which is in fair condition; however, the thresholds are in need of repair.



**Figure 24: Stair tower window**

photographs. In the 1970s, double-doors were installed at these locations to replicate the most recent generation of doors (**Figure 24**). They are in fair condition but express some damages and alterations; at the upper level set, they have been hinged together and fold to the west side of the opening. At both openings, the sills are rotting and the paint is heavily chipped (**Figure 25**). The west wall of the tower has a 6/6 double-hung window located at each floor level. These 1970s windows are in similar condition to the rest of the building's windows.

The four walls of the stair tower are exposed brick that matches the rest of the building. Originally, these walls were all white-washed, but they were sand-blasted during the 1973 renovations (to the chagrin of the project architect).

Each level has a metal, fire-rated door installed in the north wall of the main mill building, with a sliver of fire-rated glass, and has been painted red. These are modern doors that were installed in the 1970's and are in fair condition. The four doors are all showing signs of wear, use and damage.

Along the north wall of the stair tower, there are three apertures; the main entrance at the ground level, a large picture window in between the first and second floor and an identical picture window between the second and third floor. These apertures (now occupied by single wooden sash windows) were originally large openings, with no glazing, through which equipment and products could be lifted into the building to a specific floor. Historically, each aperture had a set of operable hinged doors. The doors were changed out multiple times over the course of the building's manufacturing life, as evident through historic



**Figure 25: Rotten sill, stair tower**

## Part III: Assessment of Condition

By Misiaszek Turpin pllc

The stair tower lighting is inadequate with fixtures located near each landing. The fixtures themselves are dated and do not provide the proper illumination nor comply with modern energy efficiency standards. A sprinkler system has been installed within the stair tower, running along the underside of the stair and at the main ceiling location. Similar to the sprinkler system throughout the entire building, this is in fair condition.

### ***Belknap Mill Power House Conditions Assessment:***

An arched brick opening connects the reception and exhibit space into the Power House, through a modern, metal storefront door added during the 1973 renovations (**Figure 26**). This arched opening appears to be original to the building; however, it did not always provide access into the Power House (as late as 1948, it was sealed). The entire original opening was reopened during the 1970s renovations, with no apparent alterations to the form of the opening, and is in good condition.

The Power House interior floor plan retains much of its architectural integrity and has very limited areas of damage. The main floor of the Power House is concrete, and is in good condition. The metal walkways, stairs and railings, which were added in 1973 as part of the enhanced exhibit space, are also in good condition. The metal observation platform does not meet the width requirements for current accessibility standards, and the open nature of the railing does not provide adequate public protection from the machinery beyond, with a lower rail that impacts the visual field for patrons and does not properly address safety concerns around operable equipment. Because of this, visitors with mobility issues can only visit the Power House by traveling outside of the building and re-entering the space through the south entrance, limiting visitation to summer months.

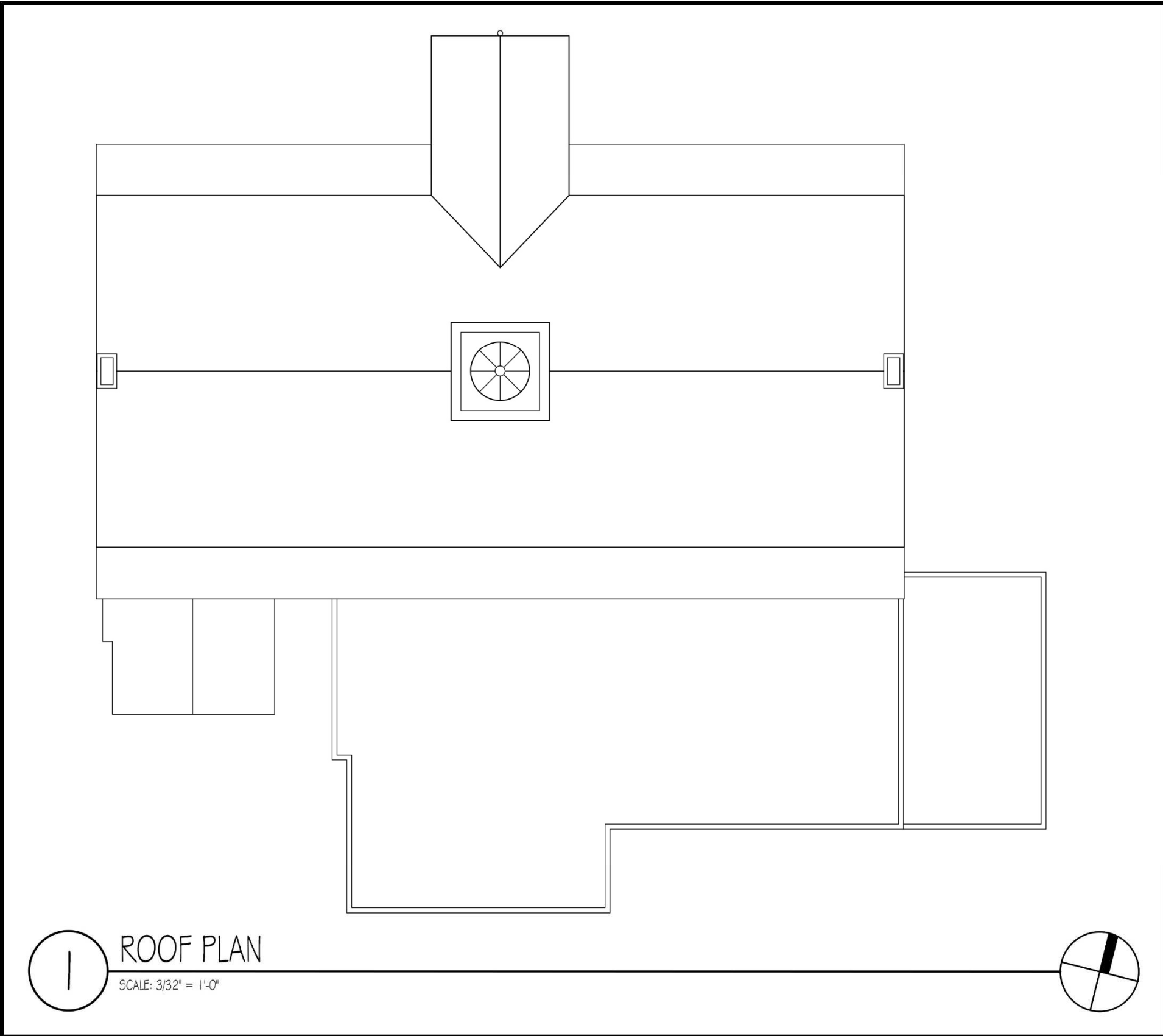
During the 1973 renovations, the overall volume of the Power House was altered due to extensive damage to the east end from the demolition of neighboring and connecting buildings. This resulted in the construction of a lower volume that maintains a solid brick wall at the east and plate glass, storefront windows on the north and south walls. These large portions of glazing are in fair condition; however, they have begun to fail, with surfaces becoming noticeably foggy. A brick wall fills the void between the lower volume ceiling and the original ceiling. The main ceiling showcases its original wooden planks, and salvaged or similar wood planks cover the ceiling of the lower, east volume. Similarly, salvaged wood is presumed to have been used in the patchwork to this main ceiling when the skylights were sealed up during the 1973 work. The wooden ceilings are in fair to good condition, with a few areas of water damage. The structural beams within this volume are in good condition. Fin tube radiators are located in several areas throughout the Power House, and similar to the rest of the building's mechanical system, is in need of upgrades.



**Figure 26: Door between Belknap Mill and Power House**



**Part III: Assessment of Condition**  
By Misiaszek Turpin pllc



1 ROOF PLAN  
SCALE: 3/32" = 1'-0"

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Existing Construction  
**ROOF PLAN**

DATE 10 MARCH 2017  
SCALE AS NOTED  
DRAWN BY JAG  
PROJECT NUMBER 1643

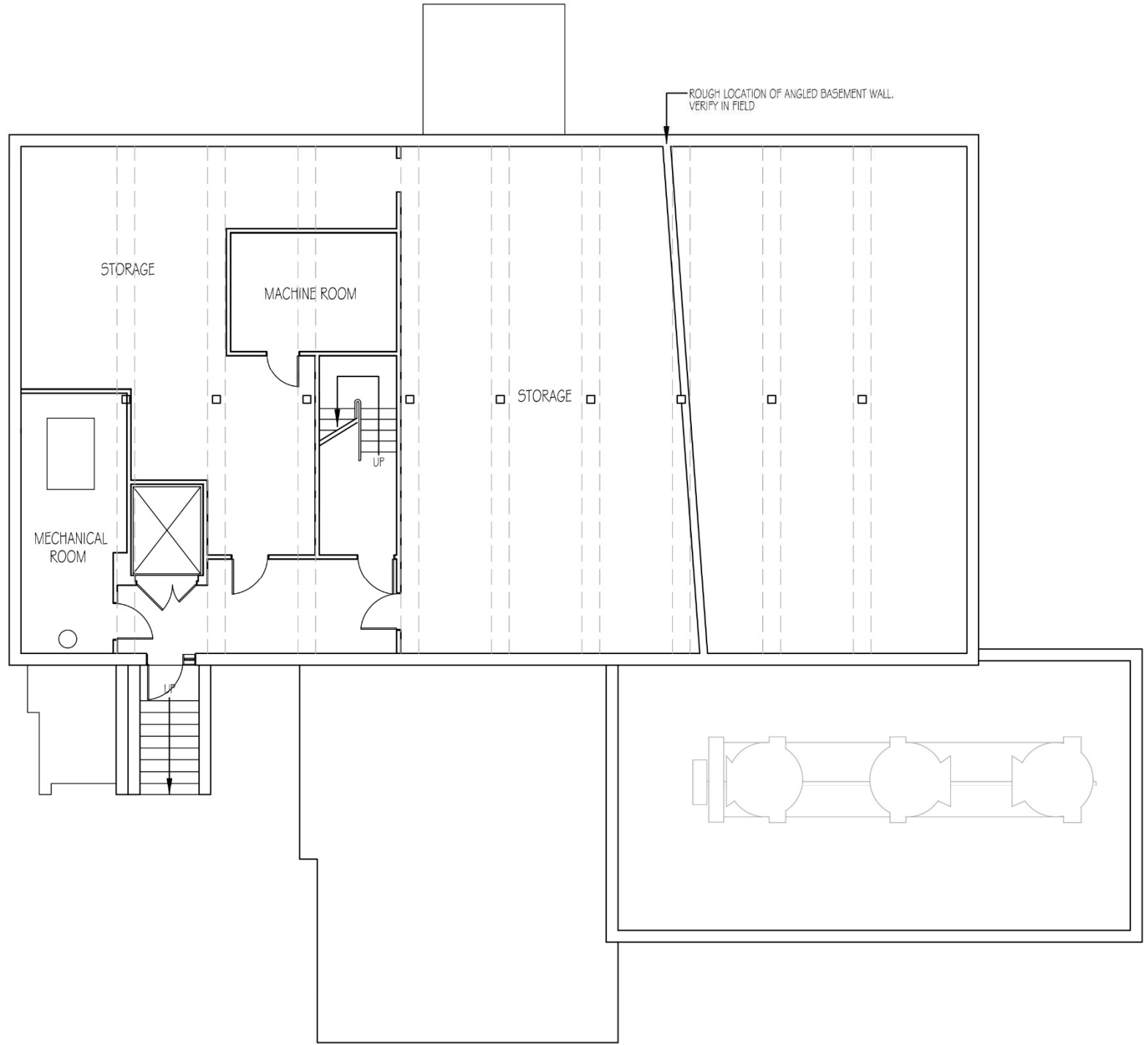
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**Part III: Assessment of Condition**  
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GENERAL NOTES

A. -



**BASEMENT FLOOR PLAN**  
SCALE: 3/32" = 1'-0"

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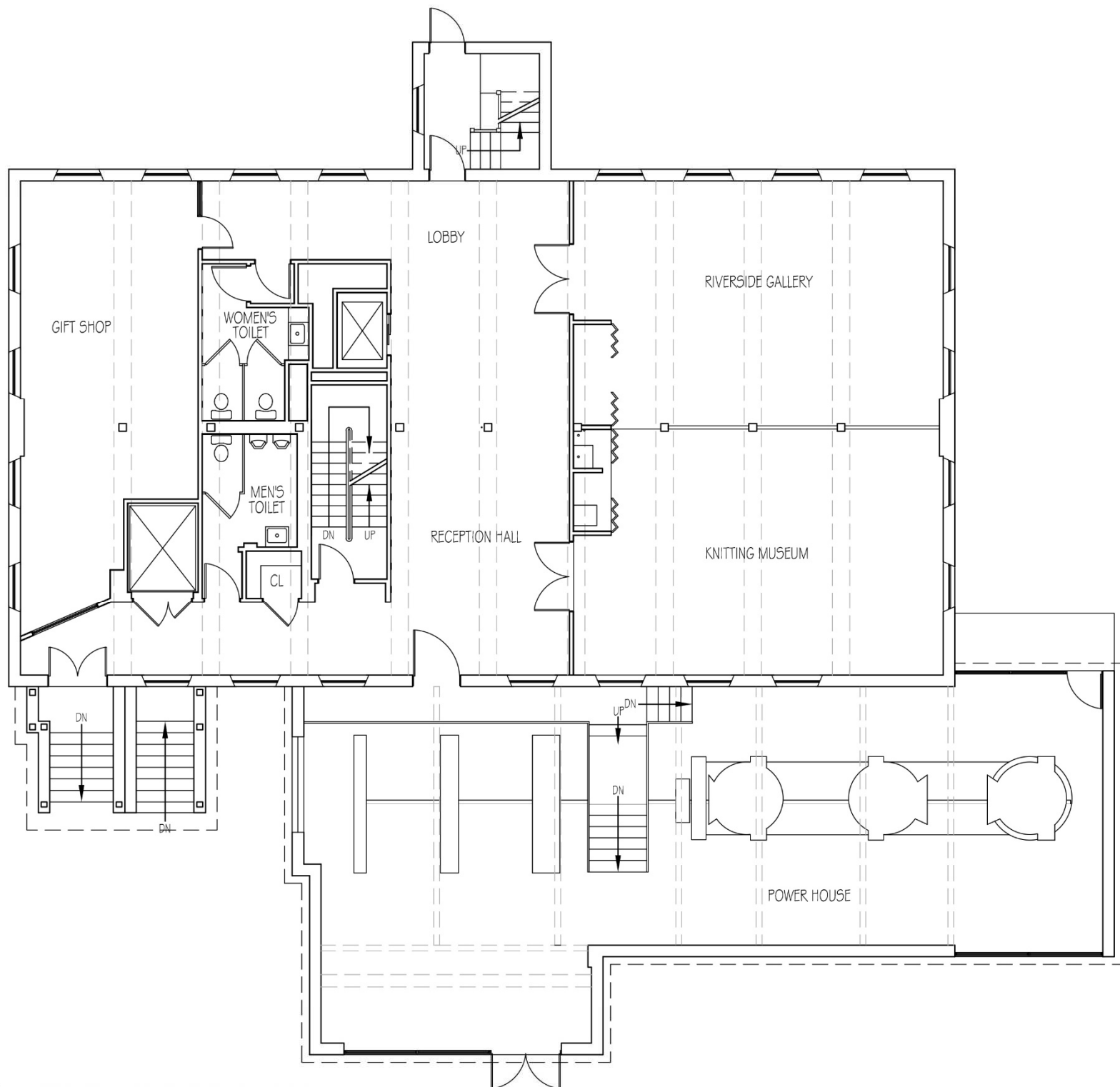
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FLOOR PLAN**

DATE	10 MARCH 2017
SCALE	AS NOTED
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PROJECT NUMBER	1643

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**FIRST FLOOR PLAN**  
SCALE: 3/32" = 1'-0"

**GENERAL NOTES**

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Existing Construction  
**FIRST  
FLOOR PLAN**

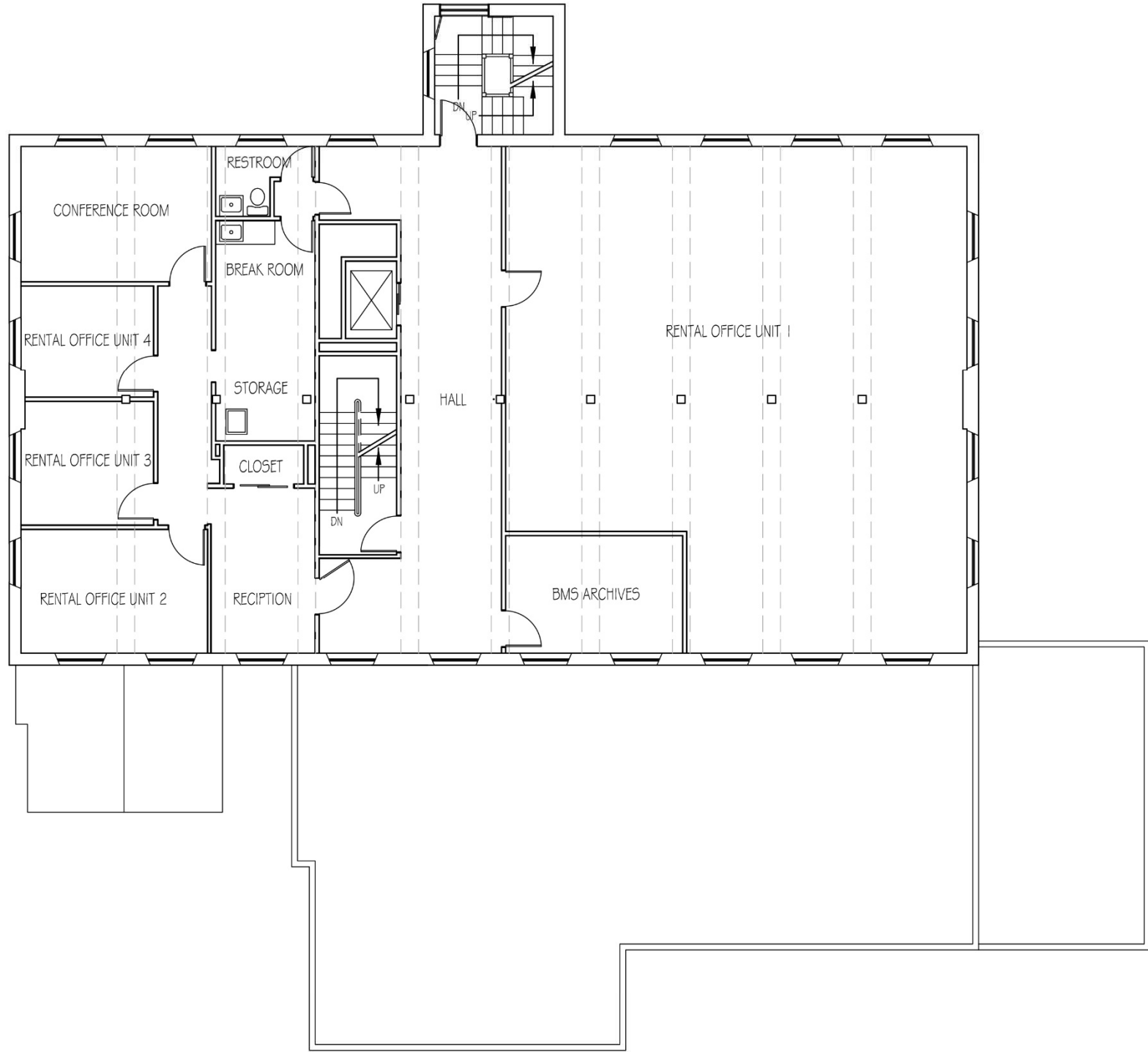
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PROJECT NUMBER	1643

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Existing Construction  
**SECOND FLOOR PLAN**

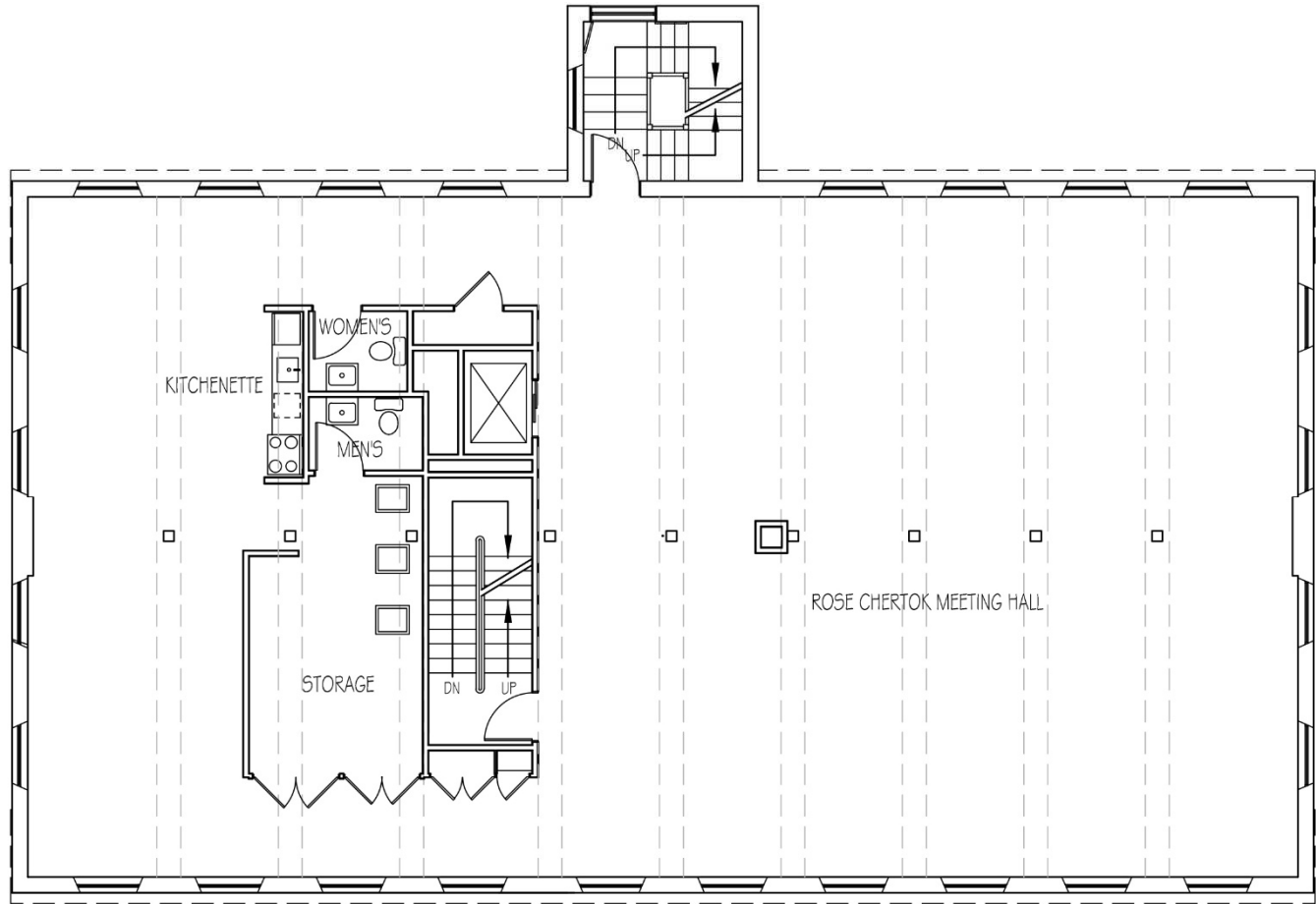
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SCALE	AS NOTED
DRAWN BY	JAG
PROJECT NUMBER	1643

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**1 SECOND FLOOR PLAN**  
SCALE: 3/32" = 1'-0"

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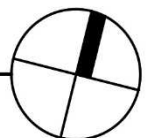
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DATE 10 MARCH 2017  
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PROJECT NUMBER 1643

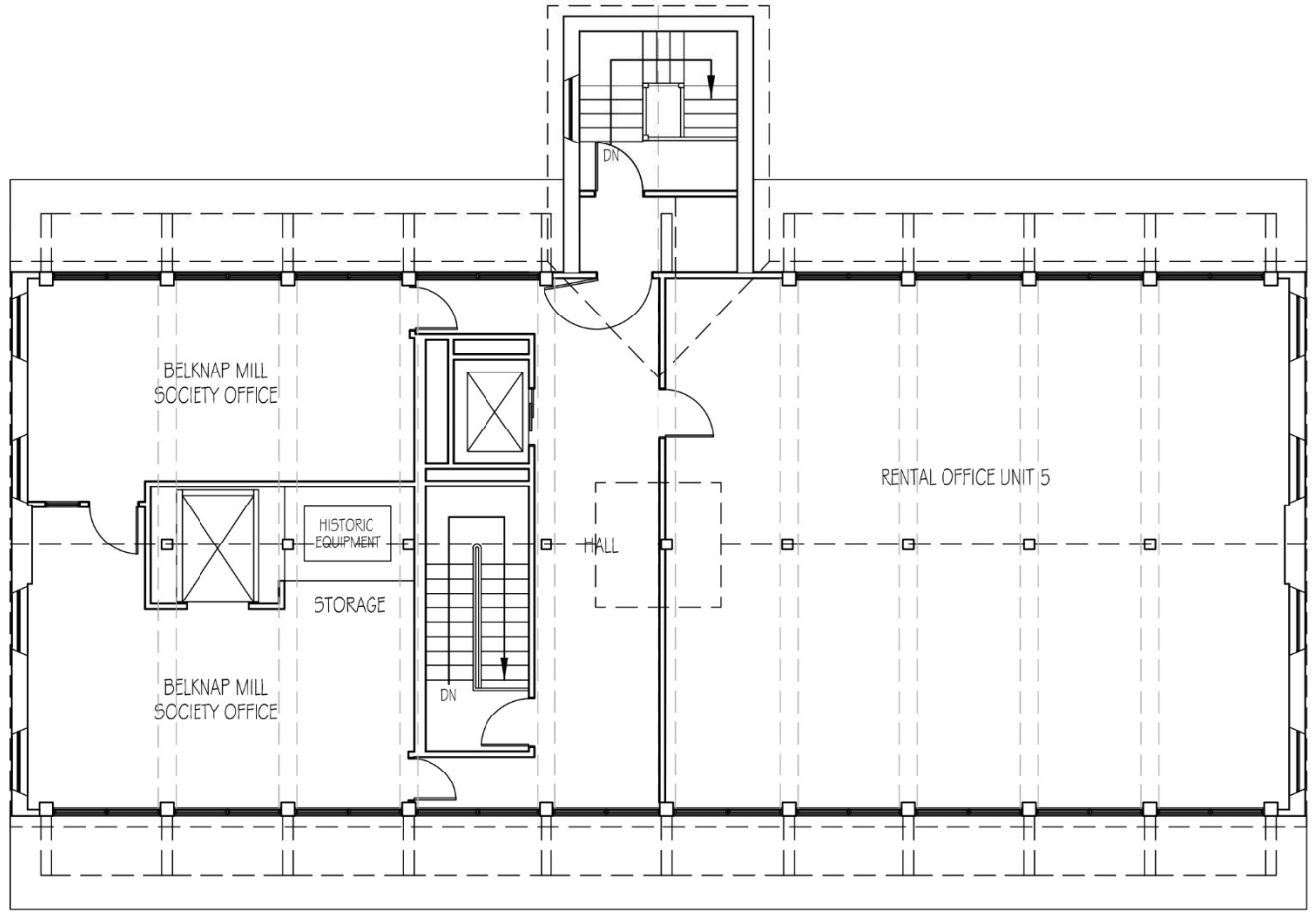
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**THIRD FLOOR PLAN**  
SCALE: 3/32" = 1'-0"



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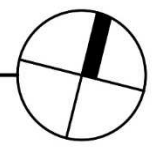
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FLOOR PLAN**

DATE	27 FEB 2017
SCALE	AS NOTED
DRAWN BY	JAG
PROJECT NUMBER	1643

**X1.04**

Existing\1643 x1.01.dwg

**FOURTH FLOOR PLAN**  
SCALE: 3/32" = 1'-0"



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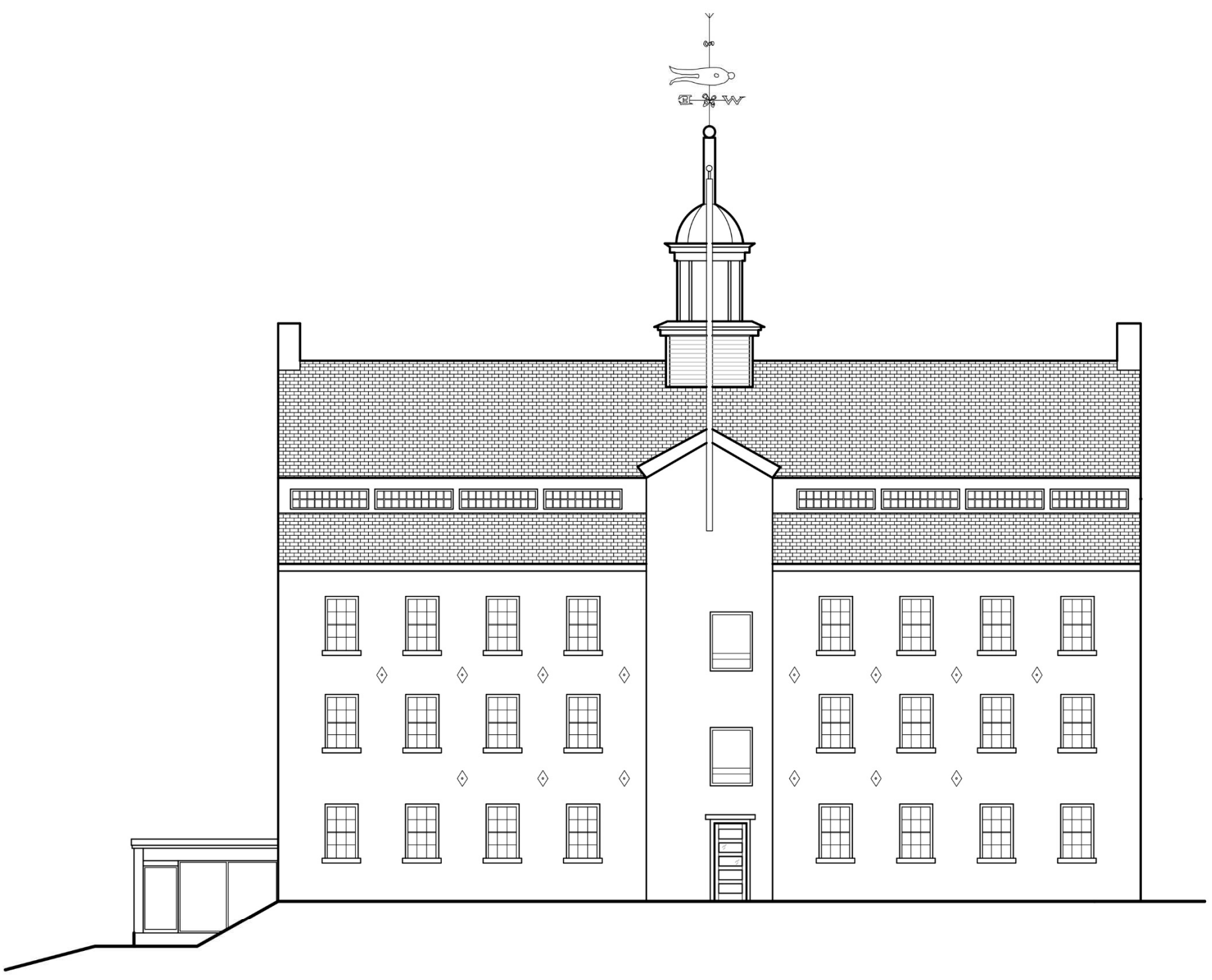
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Existing Construction  
**NORTH  
ELEVATION**

DATE 27 FEB 2017  
SCALE AS NOTED  
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PROJECT NUMBER 1643

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**NORTH ELEVATION**  
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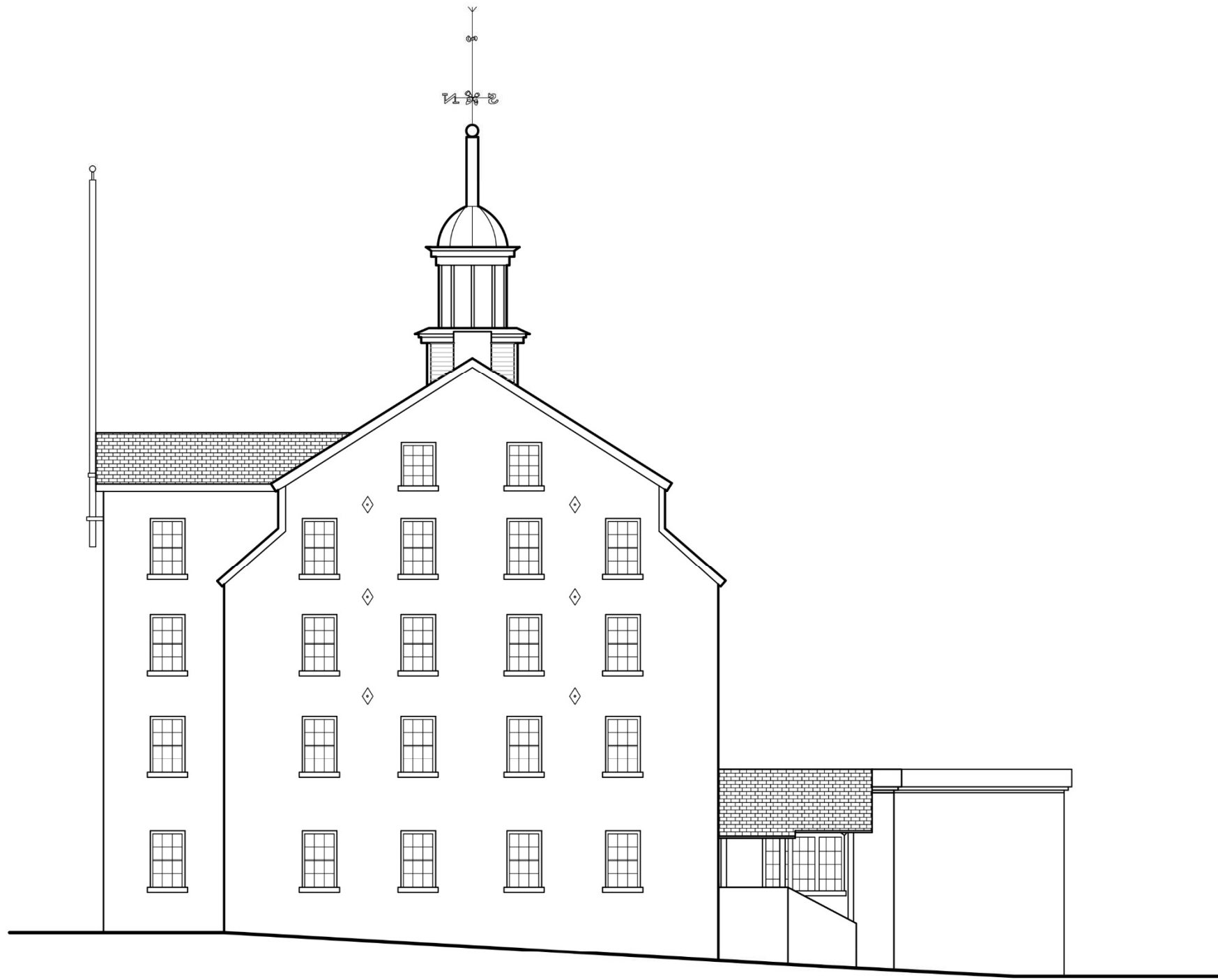
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Existing Construction  
**WEST  
ELEVATION**

DATE 27 FEB 2017  
SCALE AS NOTED  
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PROJECT NUMBER 1643

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**WEST ELEVATION**  
SCALE: 3/32" = 1'-0"

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Existing Construction  
**SOUTH  
ELEVATION**

DATE 27 FEB 2017

SCALE AS NOTED

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PROJECT NUMBER 1643

**X3.03**

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**SOUTH ELEVATION**  
SCALE: 3/32" = 1'-0"

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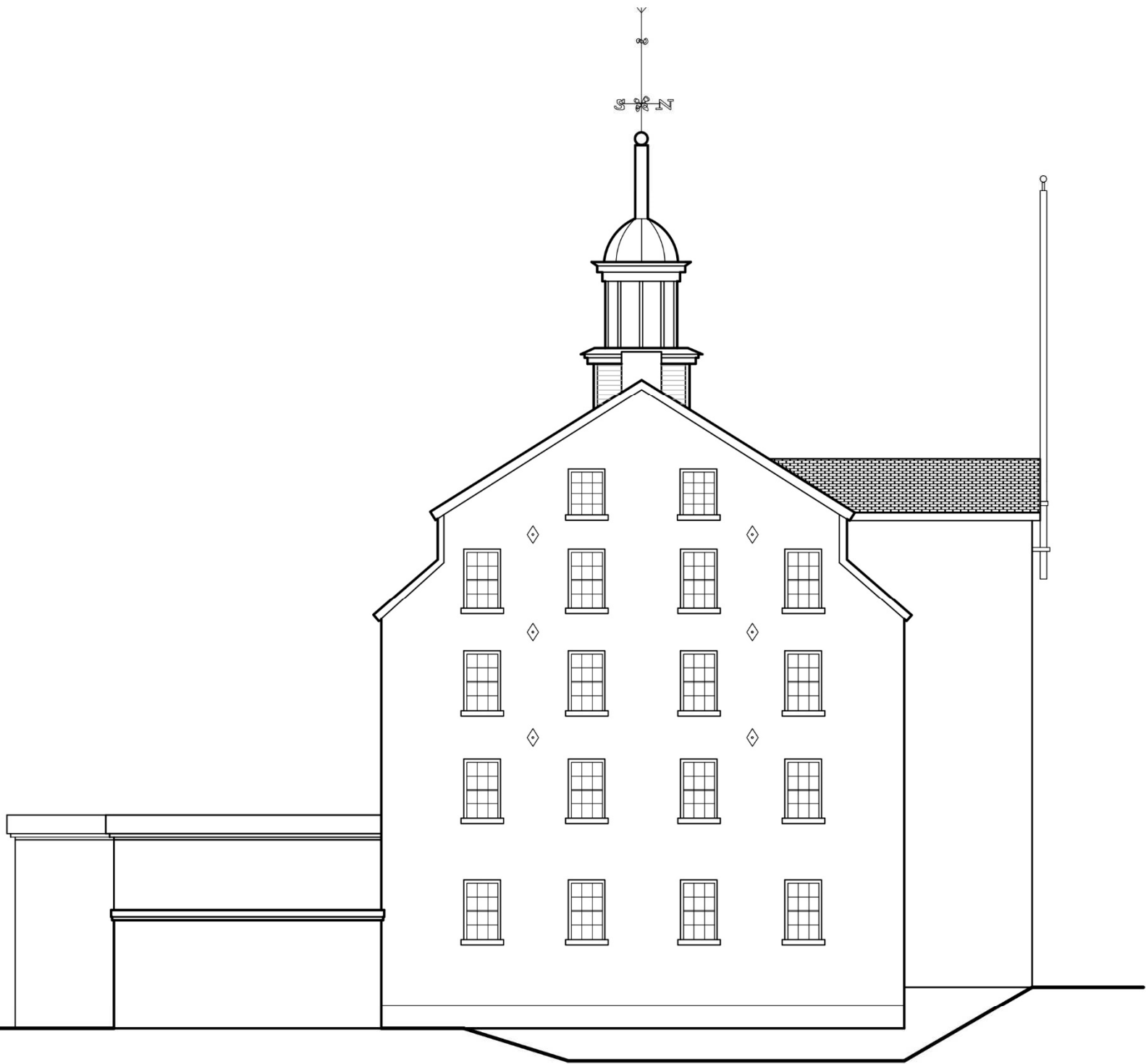
ISSUE DESCRIPTION DATE

Existing Construction  
**EAST  
ELEVATION**

DATE 27 FEB 2017  
SCALE AS NOTED  
DRAWN BY JAG  
PROJECT NUMBER 1643

**X3.04**

Eastng\1643 X3.01.dwg



**EAST ELEVATION**  
SCALE: 3/32" = 1'-0"

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**BUILDING SECTION**

DATE 27 FEB 2017

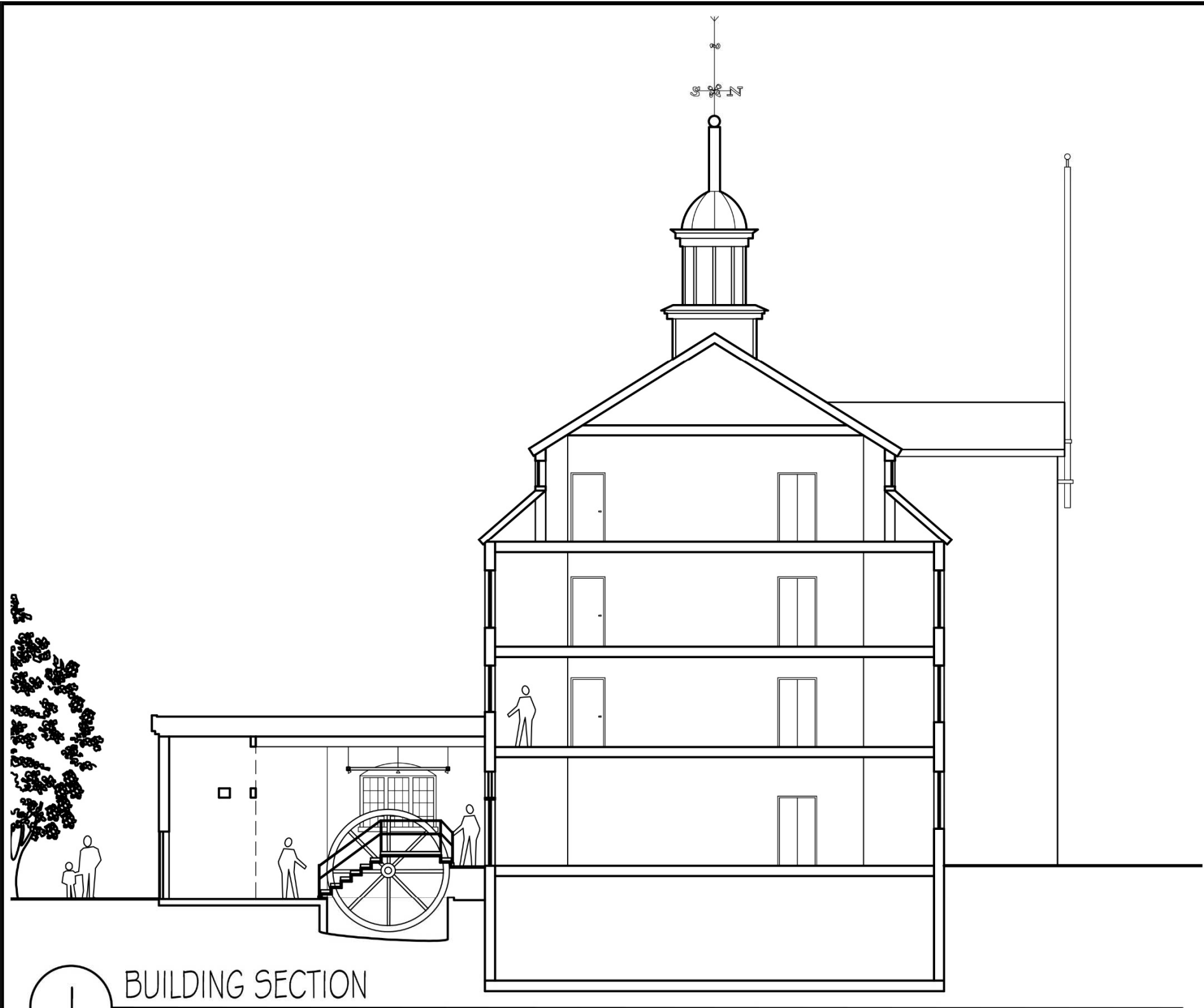
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PROJECT NUMBER 1643

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**BUILDING SECTION**  
SCALE: 3/32" = 1'-0"



**Part III: Assessment of Condition**  
By Misiaszek Turpin pllc

## Part IV: Treatment and Work Recommendations

By Misiaszek Turpin pllc

The Belknap Mill suffers from overall age-related condition issues both to the interior and exterior of the building. These overall conditions are described in Part III of this report.

The treatment approach that is recommended is that of rehabilitation in accordance with the *Secretary of the Interior's Standards*. As this is a building that has evolved over time, with multiple additions and connecting buildings, it is not recommended that the structure be returned to a specific date in its history. The structure has maintained its prominence in the Lakes Region community, acting as a cultural stimulator and beacon.

In addition to being guided strongly in the rehabilitation approach by the *Secretary of the Interior's Standards*, the Belknap Mill treatment is also bound by both the Historic Preservation Easements held by the County of Belknap and the State of New Hampshire, Department of Cultural Resources, acting through the Division of Historical Resources.

The easement held by Belknap County was entered in on December 23, 1974 and is held in effect through the economic life of the Belknap Mill. This easement stipulates that no changes to the “exterior architectural features”<sup>1</sup> may be made without the prior written consent of the County.

The 50-year Historic Preservation Easement held by the State of New Hampshire, Department of Cultural Resources was entered into in 2004 in consideration of the financial grants the Belknap Mill Society received from the New Hampshire Land and Community Heritage Investment Program (LCHIP) and the federal Save America’s Treasures Program. In addition to requiring that all work on the building be undertaken in accordance with the *Secretary of the Interior's Standards*, the easement has specific language relating to the treatment of the building itself and property as a whole. For instance, the easement restricts any above-ground utility lines on the property, and the construction of any other permanent buildings or structures on the property. The easement also prevents the Belknap Mill Society from changing the height of, making additions to, changing the exterior construction materials or finishes of, moving, improving or altering the façade including fenestration and roof of the building. The easement further prevents the erection of any new external signs or advertisements or substantial regrading of the site. The easement also requires that the property continue its use as a museum, gallery, and commercial office rental space. Any construction, alteration, repair, or maintenance to the Belknap Mill must be preceded by a written request to the Division of Historical Resources and include plans, specifications and designs identifying the proposed activity and allow sufficient time for the Grantee to monitor the activity and approve the work.

The recommendations put forth in this Historic Building Assessment provide a list of needed building improvements, a suggested phasing according to the immediacy of the condition issues and programmatic needs of the Belknap Mill Society, and a starting-point for the creation of architectural and engineering drawings and specifications for each item. As funding becomes available, the Belknap Mill Society will want to create more detailed architectural and engineering drawings and specifications for each item, based on National Park Service recommendations and in compliance with the building Preservation Easement, and get the approval of the NH Division of Historical Resources and NH Land and Community Heritage Investment Program prior to beginning any construction.

Through these efforts, very little will be programmatically changed from its current use, but in multiple instances, it will be enhanced and strengthened by the work done in the rehabilitation. The museum and exhibit space will be emboldened by restorative efforts, as will the third-floor meeting hall. Existing accessibility issues and code upgrades will be undertaken in the most sensitive manner as practicable. At the onset of this assessment, it was a desire to evaluate the basement space of the Mill as potential habitable

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<sup>1</sup> The easement defines Exterior Architectural Features as: “general architectural style, general design and general arrangement of exterior of the Mill, including the surface aspect of the land and including the color, kind and texture of the building material, and the type and style of the doors, windows, light fixtures, signs and other appurtenant fixtures. (Belknap County Registry of Deeds Book 646, page 108.)

## Part IV: Treatment and Work Recommendations

space. A perimeter site drainage system was outlined that would make this lower level fully inhabitable and stop minor water infiltration. This design, which is outlined in the Engineers report, became too costly, at which point the society decided it would no longer pursue these efforts and leave the lower level as basement storage. The water leakage does not affect the integrity of the building's structure and no mitigation is necessary for the current use.

The proposed scope of the Belknap Mill rehabilitation is being presented in three phases. The first phase represents work that addresses areas that require immediate building maintenance and items that will bring the building and Society to operational sustainability, by focusing on primary revenue generating spaces and elements. Work involved in this phase incorporates accessibility and infrastructural upgrades and rehabilitation of the exterior elevations and the historically intact third floor. This initial phase focuses on the short-term efforts that would bring the building to a higher functioning level of operations, allowing the remaining phases to focus on long-term maintenance and continued restoration efforts. Construction contractor Bonnette, Page & Stone worked closely with the project architects while they were developing the scope of work to generate accurate estimates for each aspect of the initial phase. The second phase scope focuses on continued efforts of rehabilitation on the interior of the Mill, specifically on the first floor and within the stair tower, as well as developing a more functional configuration of primary office space on the second floor. The scope of the third phase includes final efforts of rehabilitation on the interior and exterior of the Mill, specifically work on the fourth floor to increase archival capabilities and to improve insulation at the roof level, and the remaining long-term maintenance issues that do not require immediate attention to bring the building back to operational sustainability, such as the integrity of the 1970s windows and masonry walls.

### PROPOSED PHASE 1: SCOPE OF WORK

*As funding becomes available, the Belknap Mill Society will want to create more detailed architectural and engineering drawings and specifications for each item, based on National Park Service recommendations and in compliance with the building Preservation Easement, and get the approval of the NH Division of Historical Resources and NH Land and Community Heritage Investment Program prior to beginning any construction.*

#### **Exterior:**

***Entry Drainage*** – Initial efforts will be taken to work with the City of Laconia, to address drainage issues at the main entrance to the building and along Mill Street, on the northern side of the Belknap Mill. These efforts would involve re-working the existing grade within this location, and would require working with some of the city's infrastructural systems including electrical and sewage. If this preferred public-private partnership does not prove to be feasible, an aluminum architectural grille will be installed within the bricked entrance walkway. The existing bricks will be taken up and the ground will be moderately re-graded to properly shed water away from the entrance, and a drainage pit will be centrally installed below grade and within the walkway and adjacent to the historic mill. The aluminum grill will be laid over the drainage pit, and serve as the new walking surface. The new grill will be clearly differentiated from the nearby historic fabric. The salvaged bricks will be re-laid, with excess bricks being saved. Prior to any ground-disturbance, an historic archaeologist will be contacted to ensure that no archaeological evidence remains at the site.  
*Estimated Cost: \$15,000.00*

***Brick work*** – The brick exterior walls of the Belknap Mill need to be addressed. Prior to any repointing efforts, existing mortar samples will be taken and evaluated to determine cause of extensive wear and to generate a proper mortar formula. Once evaluated, the walls will be repointed from the ground up to the sills of the second-floor windows for this initial phase. This work will be performed in accordance with *National Park Service Preservation Brief 2 (Appendix H)* by a

## Part IV: Treatment and Work Recommendations

By Misiaszek Turpin pllc

mason with experience working on historic brick buildings. The failing mortar will be removed with the use of hand tools. Chemical mortar analysis will need to be performed to make sure that any new mortar matches the chemical makeup and color of the existing and that it properly bonds with the historic mortar in order to ensure the longevity of the repairs. There are multiple locations along the brick surfaces of staining from grime, water, or paint, which will all be carefully cleaned with non-abrasive cleaners in accordance with *National Park Service Preservation Brief 1 (Appendix G)*. Further, it is advised that the health of the brick mortar be re-evaluated approximately every ten years to keep up with the maintenance of the mortar.<sup>2</sup> *Estimated Cost: \$17,500.00*

**Exterior Trim and Woodwork** – All exterior trim will be repaired where required, stripped of existing and flaking paint, and repainted in accordance with *National Park Service Preservation Brief 10 (Appendix K)*. This includes; window sills and casing, door headers and trim, the clerestory windows and their associated frames and woodwork, roof eaves and soffits, and fascia board. The building's cupola will also be touched up and cleaned to bring all of the exterior paint to the same maintenance schedule. All paint will be a white paint that matches the existing, original color. Additional woodwork at the 2005 constructed portico will be cleaned and touched up where necessary. *Estimated Cost: \$57,100.00*

**Clerestory Windows** – All of the clerestory windows will be re-glazed and re-puttied, and will be securely re-installed back into their historic frames. Each window will be stripped of all flaking paint, and repainted to match the existing color. Window repair shall be done in accordance with the *National Park Service Preservation Brief 9 (Appendix J)*. *Estimated Cost: \$46,400.00*

**Entrance Door** – Although recently installed, the new entrance door will be repainted to match the existing white trim and woodwork and painting maintenance schedule of the building exterior. Additionally, a brushed stainless steel kickplate and foot-stop will be installed on the interior face of the door to prevent further damage to the door. Any of the current damage to the base of the door will be repaired prior to installation of the kick plate. Though the present door is non-historic, the installation of the kickplate will be reversible. The existing, original wooden door header, which is painted red, will be stripped, repaired where necessary, and painted white to match the entire trim and woodwork of the building. This work, along with some minor repair at the base of the door, is required due to recent damage caused by the poor drainage at the brick entrance walk connecting to Mill Street. *Estimated Cost: \$1,000.00*

**Building Sign** – The existing, white building sign along Beacon Street East will be removed. A modern sign will be installed, at the same location. This sign will be of metal and wood and will have an acrylic protected message display board. *Estimated Cost: \$9,000.00*

**Site Lighting** – New energy-efficient light fixtures will be installed at the exterior of the Belknap Mill. New fixtures will be installed at each of the existing locations: above the main entrance door, illuminating the sign on the south face of the Power House, and illuminating the cupola. Additional lighting will be provided at the southwest exterior egress portico for security and safety purposes. *Estimated Cost: \$7,500.00*

**Power House Roof** – The entire Power House will be re-roofed. Existing layers of EPDM, membrane will be removed, and a new EPDM surface will be installed. There will be a new layer of ½" rigid insulation installed below the new rubber membrane, to increase energy efficiency and decrease heat-loss. This insulation layer will be added in compliance with the recommendations of *National Park Service Preservation Brief 3 (Appendix I)*. The addition of insulation between

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<sup>2</sup> When the mortar was repointed in 2002 with the help of LCHIP, the mason (Bonnette, Paige & Stone) advised that the brickwork be put on a 10-year maintenance plan.



## Part IV: Treatment and Work Recommendations

the layers of the roofing will not be visible above the small parapet of Power House roof from any public vantage point, and will only change the relationship of the roof surface and the rear of the parapet by ½". This change will not affect the form and integrity of the property. The addition of insulation will minimally effect the rear of the parapet and only be visible from inside of the building, but will increase the thermal efficiency of the Power House. All of the new materials will be added in such a manner that, if removed in the future, the essential form and integrity of the historic property would be unimpaired. New, bronze metal flashing will be installed along the roof's perimeter where existing flashing is located to replicate the old in design, color, and texture. *Estimated Cost: \$12,800.00*

**Power House Skylights** – Two, new skylights will be installed on the Power House roof at the original locations of the skylights from ca. 1929. From non-intrusive analysis of the current structure and conversations with the architect of the 1973 renovations, it is believed that the framed roof openings for the original skylights remain below the built-up roof of the Power House. The new skylights will be installed at the same location of the original, by re-using these framed openings. If the framed openings no longer exist, we will locate the skylights as near the original locations as practicable, based on the 1970s drawings showing three skylights. The installation of the skylights has been included within phase one, as it would be both extensive and costly to install these in the original framed openings once the entire Power House has been re-roofed. Due to the lowered east volume of the Power House, which represents the effects of Urban Renewal, the more recent set of three skylights cannot be installed, as the location of the most eastern unit is split by the change in roof elevation. A weather-tight seal will occur at the curbing and connection of each skylight to the roof, to prevent water infiltration. The low-profile design of the new skylights will bring a subtle modern look to these elements so as not to replicate extant historic fixtures. Neither of these new skylights will be visible from the public right of way. *Estimated Cost: \$70,000.00*

### Basement:

**Fire Alarm System** – A fire alarm system will be installed throughout the entire building. This work will also include the installation of fire extinguisher cabinets on each floor. The existing sprinkler system will be repaired and addressed where necessary, to make sure that the system fully complies with Life and Safety code. Once a code approved glycol mixture is established and tested, the existing glycol mixture within the system will be replaced. The existing mixture will not be permitted by the National Fire Protection Association (NFPA) in 2022. *Estimated Cost: \$35,000.00*

**Columns and Structural Timber** – There are several floor beams of the first-floor structure (visible from the basement) that require repair as they have severe splitting. This repair would consist of adding either steel plates or steel channels to each side of the beam and connecting them with through bolts. This method will be employed to minimally effect the historic frame of the mill and will comply with the *Standards* as it will be theoretically reversible. The two modern, corroded, metal columns in the sluiceway below the eastern end of the main building will be removed and new metal columns will be installed. The two, presumed, original metal columns will remain in place. *Estimated Cost: \$33,000.00*

**Boiler** – The existing boiler will be removed and replaced with a new unit that is energy efficient. This new unit will be located within the same room. *Estimated Cost: \$25,000.00*

**Elevator** – Major repairs and replacement of parts will occur for the entire elevator system. A large portion of the mechanical and electrical system of the elevator will be replaced with modern parts, with efforts to bring a level of energy efficiency to the unit. The interior of the elevator cab will be stripped of all existing finishes, light fixtures and operating panel, and be replaced with new pieces.

## Part IV: Treatment and Work Recommendations

By Misiaszek Turpin pllc

New call buttons will be installed outside at each level, and a level indicator will be installed at the first floor. New modern elevator doors will be installed at each floor. *Estimated Cost: \$65,350.00*

**Power House** – The steel ladder leading from the floor access hatch into the canal and sluiceway below the Power House will be removed and a new steel ladder, matching the old in design, color, texture, and materials, will be installed in its place. Additionally, a new sump pump will be installed within the sluiceway to control the amount of standing water within this space. *Estimated Cost: \$1,500.00*

**Hazardous Material** – Any defined locations of asbestos shall be identified and remediated, prior to any additional work within the basement of the Belknap Mill. During this assessment, small portions of asbestos pipe wrapping were noted associated with the existing boiler system. *Estimated Cost: cost factored into the boiler estimate.*

### **Third Floor:**

**Event Hall** – The Rose Chertok Meeting Hall will remain fully intact. The existing gypsum board plumbing shaft that abuts one of the central columns will be removed, with the plumbing lines redirected, to return the eastern space to total open concept. The configuration of the 1970s-era central core will be updated to provide a higher quality of useable space and functionality, and update the restrooms to provide increased accessibility and conform with current building code. A new catering kitchen will be created along the southwestern side of the core. Wooden cabinets with durable granite countertops and backsplash and stainless steel appliances will be installed along the gypsum board wall to create a visually appealing kitchen that is durable and easy to maintain. A small storage closet will be located along the northern end of the kitchen with a service sink and shelving. The large, existing storage closet will be slightly reformed, but remain in the same location, with new wooden doors. A new fire-rated steel door will be installed at the interior egress stairs to echo the design of the new horizontal paneled doors at the stair tower, creating a design palette that is compatible with the historic fabric of the building, while addressing Life and Safety code. New wooden baseboard trim will be installed on all gypsum board walls. The entire floor will receive electrical upgrades, with new energy efficient fixtures installed. *Estimated Cost: \$85,400.00*

**Floor** – The entire sacrificial wooden floor will be repaired and refinished to match existing finish. Due to continued usage and age, the floor is heavily damaged and will need to have spot repairs, and in some instances, replaced floor boards. New board, where required, will match existing wood type and grain as best as practicable. *Estimated Cost: \$16,500.00*

**Restrooms** – Two new restrooms will be created along the northern side of the central core, with the women’s room to the east, and the men’s to the west. The wooden doors to the new restrooms will be side-by-side on the northern wall. The restrooms will have matching finishes. The floors will be modern wood styled tiles to preserve the underlying wood floors from water damage. A white ceramic, pedestal sink will be positioned directly below a large, wooden framed mirror. The walls will have white-washed bead-board wainscoting with stained wooden cap and baseboard. The toilet stalls will be white-washed bead-board with metal pipe framing. New light fixtures will be energy efficient, sinks will be low-flow and toilets dual flush. *Estimated Cost: \$47,500.00*

**Mechanical System** – A new mechanical unit will be installed throughout the third floor. The unit will be located within the large storage closet, replacing the three existing units. Ductwork will be kept as minimal as possible, and be left unpainted, with the galvanized steel surface exposed. Existing fin tube radiators will be removed, and new units will be installed, and will be designed to be compatible with the historic materials and massing to protect the integrity of the space. *Estimated Cost: \$102,500.00*

## Part IV: Treatment and Work Recommendations

### Stair Tower:

*Windows (Historic Doors)* – The two large picture windows that were installed in the 1973 renovations will be removed. These existing windows are in poor physical shape and do not conform to the *Secretary of the Interior's Standards*. Additionally, these large openings have visually impacting wooden planks, protecting individuals from falling through the opening, as the vertical dimension of the opening from the landing requires a guard by Life and Safety Code. The existing double-doors, hinged at these locations will be removed. A new wooden unit will be installed at each location that replicates the look of the double-doors and their five horizontal panels. A portion of these horizontal panels will be glazed allowing light into the stair tower, with the rest remaining opaque, and painted white to match the existing aperture finish around the building. The new units will conform to the *Secretary of the Interior's Standards* as they will not destroy historic materials, features, or special relationships, and be differentiated from the old, and use materials that are compatible with the historic materials without creating a false sense of historical development. These units will be fixed and non-operable, but will have the appearance of double-doors that have been documented in these openings for much of the building's history. The amount of glazing will be reduced from the existing picture window eliminating the ability for an individual to fall through the opening, thus meeting Life and Safety Code for openings at higher elevations. *Estimated Cost: \$10,700.00*

## Part IV: Treatment and Work Recommendations

By Misiaszek Turpin pllc

### PROPOSED PHASE 2: SCOPE OF WORK

*As funding becomes available, the Belknap Mill Society will want to create more detailed architectural and engineering drawings and specifications for each item, based on National Park Service recommendations and in compliance with the building Preservation Easement, and get the approval of the NH Division of Historical Resources and NH Land and Community Heritage Investment Program prior to beginning any construction.*

#### **First Floor:**

**Museum and Exhibit Space** – The 1970s dividing wall to the east of the existing reception space will be removed. This includes the two closets along the eastern side of the wall. The southern closet houses a service sink and the floor's mechanical unit. Both of these will be removed, with the new mechanical unit being relocated to the basement. The removal of the non-historic walls will return as much of this space back to its original openness (as seen on the third floor) as is practically possible. To do this, the dividing wall will be removed as noted, and the central core will be reconfigured to minimize its footprint on the floor. A new reception desk will be located within the central bay, facing the entrance, and will maintain the industrial character of the building. The freight elevator will remain, and be cleaned and repaired where necessary, and still be accessible from the southern face of the core. The gift shop will be relocated along the remainder of the southern wall of the core. With new modern millwork and display cases, the gift shop will engage this hallway with the rest of the floor. The interior egress stair door will be relocated to the eastern face of the central core, and echo the design of the new horizontal paneled doors at the stair tower, creating a design palette that is compatible with the historic fabric of the building, while addressing Life and Safety code. This relocation will improve usage of the stairwell as well as provide increased compliance with the Life and Safety code for egress in the case of an emergency. A new wooden base will be installed on all gypsum board walls to act as a baseboard and help prolong the lifespan of the gypsum board. The entire floor will receive electrical upgrades, with new energy efficient fixtures installed.

The non-historic existing glass and metal door leading from the main building into the Power House addition will be removed. The original arched brick opening will be cleaned and repaired and remain open with no door installed within the arched opening, increasing flow and access into the Power House. A secondary entrance will be created at the eastern end of the Mill's southern wall, providing a new access point into the Power House. The brick infill from an historic opening that once allowed access between the main building and connected outbuildings, will be reopened and cleaned to create this new access point. Though there is no known documentation of the doorway prior to the 1970s, the extent of the original opening is clearly distinguishable from the surrounding brick, and care will be taken to maintain the width and height of the original opening.

The existing observation deck and stair system within this Power House will be removed, and a new system will be constructed that is compatible and differentiated from the historic fabric. This new, observation deck will connect the two entrance thresholds and will continue to cross over the equipment to provide access to the floor, and will have a new railing system. The new observation deck will be held off from the existing brick walls, except at the two entrance points. The new railing system will provide required safety from this elevated platform so no visitors and patrons fall through, while allowing unobstructed views to the historic equipment below. The new entrance configuration and observation deck will provide a greater level of access to the Power House, allowing people with limited mobility to view and experience the historically significant space, furthering the educational directive of the Belknap Mill Society. The existing platform is non-historic and dates to the 1970s, and the new material will more strictly conform with the *Secretary*



## Part IV: Treatment and Work Recommendations

*of the Interior's* Standards as it will be more easily identified as new construction and will be done in such a way as to be theoretically removable.

**Floor** – The entirety of the 1973 “floating” floor will be removed and the original character-defining wood floors exposed. The wood floors will be repaired of any damages from the “floating” floor or from wear, and will be refinished to match the existing exposed historic floor.

**Columns and Beams** – The columns, beams and ceiling boards will be white-washed as they historically were, and as seen on the second, third and fourth floors. Chemical paint analysis on base of the columns will be used to restore the paint to its original darker color, with the remainder of the column white-washed.

**Restrooms** – The non-historic restrooms will be removed and two new restrooms will be created along the western side of the central core, with the women’s room to the north, and the men’s to the south. All demolition will be limited to non-historic elements and further impact on the historic building fabric will be avoided. Both of the new restrooms will be accessed through new wooden doors on the western wall. The two central structural columns in this area will be embedded in the new gypsum board wall. The restrooms will have matching finishes. The restroom floors will be modern wood textured tiles to preserve the original wood floors from water damage. A white ceramic, pedestal sink will be positioned directly upon entering, below a large, wooden framed mirror. The walls will have white-washed bead-board wainscoting with stained wooden cap and baseboard. The toilet stalls will be white-washed bead-board with metal pipe framing. Fixtures will all be energy efficient.

**Mechanical System** – A new mechanical system for the first floor will be installed within the basement, and be brought up to this level through ductwork. This new unit has been relocated from a central closet in the middle of the floor to the basement to allow for the first floor to return to as open a floor plan as practicable. All of this work will be designed to limit the disturbance to the historic building fabric by utilizing existing openings within the floor, and working with the pre-disturbed space within the floor’s central circulation and plumbing core.

**Security System** – A complete security system will be installed with cameras, entrance monitors and systems monitoring, with care taken in the layout and installation in order to minimize effect on historic building fabric and character-defining spaces.

### **Second Floor:**

**Office Space** – The non-historic arrangement of small offices and conference rooms at the western portion of the second floor will be reconfigured to create a more-efficient use of code-compliant space. Where appropriate, the existing 1970s and later gypsum board walls will be left in place; however, there are several areas where reconfiguring will take place. In these instances, gypsum board walls will be built. A new wooden base will be installed on all gypsum board walls. The central hall will remain with access to both the west and east office units and elevator and egress stair access. A new steel door will be installed at the interior egress stairs to echo the design of the new horizontal paneled doors at the stair tower, creating a design palette that is compatible with the historic fabric of the building, while addressing Life and Safety code. A reception space, break room and accessible restroom will be constructed along the perimeter of the core, with offices and a conference room connected off from an inner hall. The entire floor will receive electrical upgrades, with new energy efficient fixtures installed.

**Floor** – The existing carpet that is installed on the entire floor will be removed and new carpet will be installed. The restrooms will have simple tile floors and modern energy-efficient bathroom and lighting fixtures.

## Part IV: Treatment and Work Recommendations

By Misiaszek Turpin pllc

**Mechanical** – A new mechanical system will be installed, replacing the existing unit. This new system will be energy efficient, and will be designed to be compatible with the historic building fabric and to protect the integrity of the spaces.

### Third Floor:

**Columns and Beams** – The columns, beams and ceiling boards will be cleaned and the existing white-wash finish restored where necessary. Again, chemical paint analysis on the base of the columns will determine the original paint color, and prior to restoring the column bases to their original darker paint, with the remainder of the column white-washed.

### Stair Tower:

**Doors** – All four of the existing metal, red painted, 1970s fire-rated doors on the tower's southern face will be removed and replaced with new doors. There is no known evidence of the design of the historic doors between the mill and stair tower, and it is likely that they were similar in design to the exterior tower doors. The four new doors will be metal fire-rated door, with five horizontal panels; the top three panels would be glazed and the bottom two would remain solid. This would replicate the 20<sup>th</sup> century front entrance door's horizontal paneling as evidenced by historic photographs, but bring a more modern interpretation to the design and create a heightened level of security for the building, by allowing the receptionist and those within the building to see into the tower and monitor traffic entering and exiting the building. The four doors will be painted to coordinate with the selected two-toned stair tower finish schedule.

**Floor** – The main floor of the stair tower is concrete. A new weather mat will be inlaid into the concrete directly inside of the exterior door, and the remainder of the floor will be polished to provide additional protection to the floor, reducing future maintenance. The floor mat will have a brushed aluminum frame. Brushed aluminum thresholds will be installed at both the interior and exterior doors.

**Walls** – The existing, exposed brick walls will be white-washed as historically and physically documented. Care will be taken in the painting process so as not to damage the brick or mortar. During the 1970s renovations, this space was sandblasted to remove the whitewash that had been applied to the brick.

**Stairs and Railings** – The original wooden stair treads and risers will be repaired where necessary and finished with a light stain that returns the original coloring to the wood and provides a protective layer to the original feature. The existing bead-board and stock railing with newel post will be stripped of the 1970s red paint, repaired where necessary and refinished. A new color palette will be introduced and consist of a two-toned, light color scheme, appropriate for the historic use and character of the space. The existing red paint will be stripped and changed to a lighter hue in order to brighten the interior of the stairwell and make up for the loss of natural lighting that has been reduced by the changes to the door openings along the north side.

**Mechanical** – A new cabinet unit heater will be installed within the stair tower, replacing the existing 1970s-era unit. This unit will be energy efficient.

**Electrical** – New, energy efficient light fixtures will be installed above each entrance, and surface mounted fixtures provided on the east and west walls to illuminate the landings and treads.

## Part IV: Treatment and Work Recommendations

### PROPOSED PHASE 3: SCOPE OF WORK

*As funding becomes available, the Belknap Mill Society will want to create more detailed architectural and engineering drawings and specifications for each item, based on National Park Service recommendations and in compliance with the building Preservation Easement, and get the approval of the NH Division of Historical Resources and NH Land and Community Heritage Investment Program prior to beginning any construction.*

#### **Exterior:**

**Brick work** – Repoint portions of the brick exterior walls of the Belknap Mill where required, and provide any additional necessary maintenance to the lower portion of the walls, which were completed during phase one. In conjunction with the foundation work, repoint all brick below grade. This work will be done in accordance with *National Park Service Preservation Brief 2 (Appendix H)*.

**Windows** – Each of the 1970s windows of the Belknap Mill will need to be individually assessed as funding for window-restoration becomes available to determine the exact extent of repairs needed on each sash. At the time of the evaluation, the ability to re-glaze and repair each window will be weighed against the option of complete replacement of all windows (excluding the historic clerestory windows). Should re-glazing and repairing the windows prove more feasible, this should take place in accordance with *National Park Service Preservation Brief 9 (Appendix J)*. Additionally, any chipping paint on the window's exterior surface will be repaired and refinished, and any chipping or rotting trim in the window opening will be repaired and refinished. All existing aluminum-frame storm windows will be removed and replaced with wood-frame storm windows (preferably with insulated low-e glass) in accordance with *National Park Service Preservation Brief 3 (Appendix I)* to provide increased energy efficiency at the windows as well as protect the restored windows from the intensity of the elements. The updated storm windows will need to be tight-fitting, include a sealing gasket around the glass, align with meeting rails on the primary sash, match the color of the sash, and be caulked around the frame to reduce infiltration without interfering with any weep holes. Care must be taken to make sure that the interior window is the tighter of the two units to avoid condensation between the two windows. If complete replacement of all window units was pursued, the new windows should match the 1970s window sash in design, color, texture, and materials. Furthermore, these new units should be as energy efficient as practicable, allowing for no new storm windows to be installed.

**Interior Window Sills**– The damaged, splitting and/or rotting windows sills throughout the Belknap Mill will be repaired, restored and refinished to match the old in design, color, texture and materials. Where a sill cannot be salvaged, a replicated wooden sill will be installed. In the several locations where a modern concrete window sill has been installed, this will be removed and replicated wooden sills will be installed.

#### **Basement:**

**Trash Room** – A small trash room will be installed to the east of the interior egress stairs. This will have gypsum board walls, and be painted to match the surrounding gypsum board walls. The new gypsum walls will not destroy historic materials, features or special relationships and will be differentiated from the old so as not to be confused with the original building fabric.

#### **Fourth Floor:**

**Office Space** – The eastern portion of the floor will remain as rentable office space. A new steel door will be installed at the interior egress stairs to echo the design of the new horizontal paneled doors at the stair tower, creating a design palette that is compatible with the historic fabric of the

## Part IV: Treatment and Work Recommendations

By Misiaszek Turpin pllc

building, while addressing Life and Safety code. The entire floor will receive electrical and mechanical upgrades, with new energy efficient light fixtures installed. The sprinkler system on this level will require upgrades to meet Life and Safety and Fire code. This includes removing the existing glycol mixture that is in the system, as it will not be permitted by NFPA by 2022, replacing this with an approved, new glycol mixture.

**Archives** – The western portion of the floor will be slightly reconfigured with some modern walls removed to return some of the open nature of the space. Currently, the historic elevator is located at the center of the room, with gypsum board walls surrounding it. These gypsum board walls will be removed and a new system of glazed walls will surround the historic elevator, allowing it to be visible within the entire space. The steel doors leading from the hallway and elevator, will be removed, as will a portion of the dividing gypsum board wall, and new, security gates will be installed. This will allow the floor to become as open as possible due to the elevator and egress stair core, while maintaining the ability to control the flow of traffic through the space during non-museum hours. The Belknap Mill Society archives will be fully located into this space, with new storage units and art racks. The new storage facility will not only better protect the museum artifacts, but will also allow the collection to be more accessible to researchers. This space will also become a conference and research space, and will be able to be fully incorporated into the tours and educational programming of the Mill.

**Roof Structure** – The exposed roof structure of the attic above the east end of the fourth-floor is currently un-insulated, and causes a massive amount of energy fluctuation. A cost/benefit analysis of this space should occur that further evaluates the energy efficiency versus the desired functioning and programmatic use of the space. At that time, two design options can be further studied. The first option would explore an effort to preserve the open ceiling with exposed structure and equipment, and provide no additional insulation, relying instead on a new mechanical system. The second option would provide complete insulation within the roof structure and re-instate the historic ceiling as visible throughout the rest of the floor. With this second option, the currently exposed roof structure would no longer be visible and preserved *in situ*. Regardless of which option is selected, the beams and additional structural elements that have any splitting should be repaired and restored.

**Floor** - The existing carpet that is installed on the entire floor will be removed and new carpet will be installed, as the floor is too sloped to receive proper wood floor treatment.

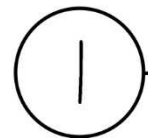
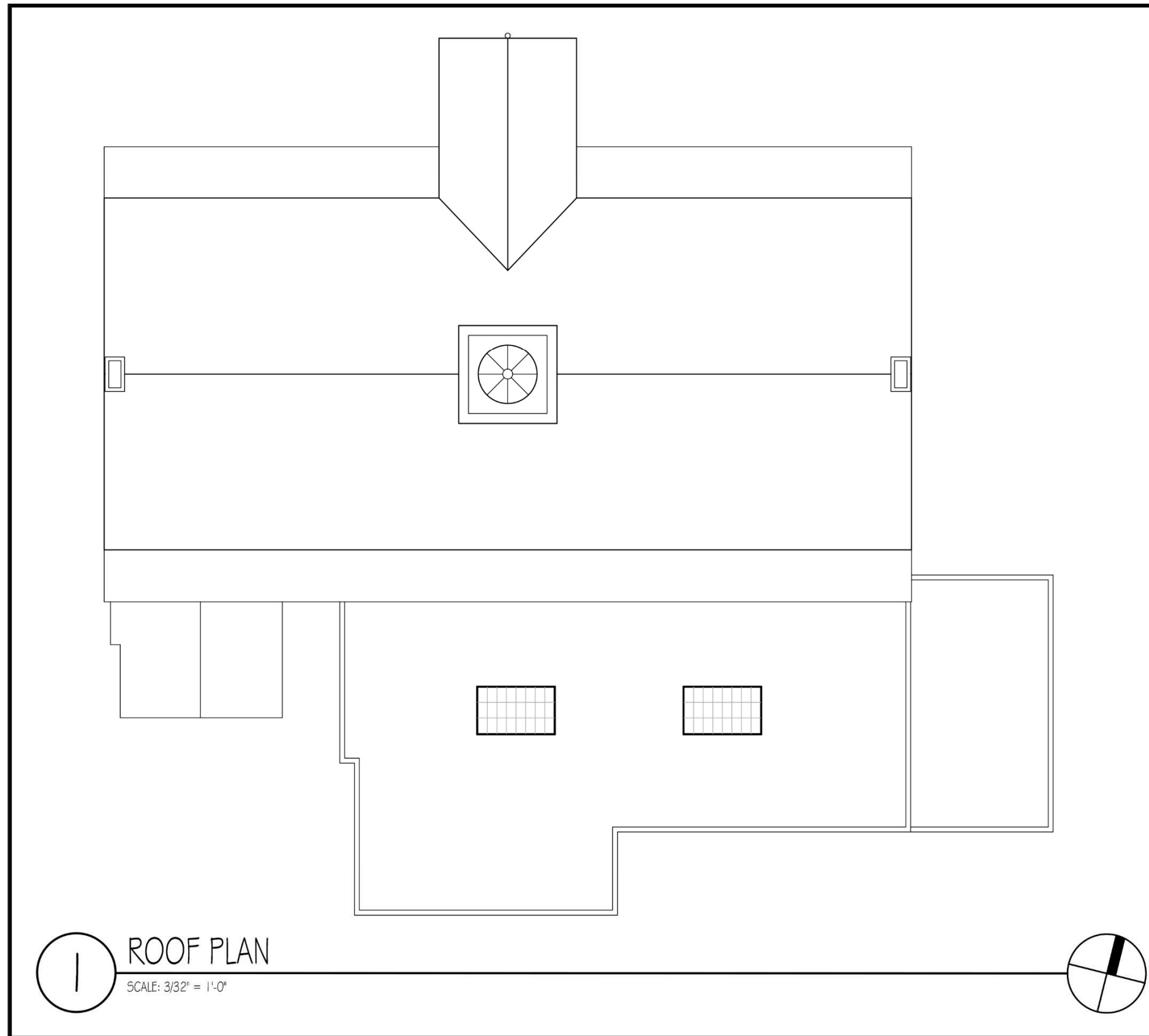
**Mechanical** – A new mechanical system will be installed. The existing cabinet unit heaters and fan coil radiators will be removed. The new system will be designed to be compatible with the historic building fabric and massing to protect the integrity of the space, and will be energy efficient. This system will include both heat and cool the space to keep the floor as climate controlled as possible



## **Part IV: Treatment and Work Recommendations**

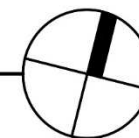
**Part IV: Treatment and Work Recommendations**

By Misiaszek Turpin pllc



**ROOF PLAN**

SCALE: 3/32" = 1'-0"



**GENERAL NOTES**

- A. INSTALL NEW WEATHER GRATE AT BRICK ENTRYWAY. METAL GRATE AND DRAINAGE PIT TO BE COORDINATED WITH SITE DRAINAGE. REMOVE AND RESET EXISTING BRICKS AT ENTRY PATH AS PART OF WEATHER GRATE INSTALLATION.
- B. REPOINT THE EXTERIOR BRICK FACADE TO THE BOTTOM OF THE WINDOW SILLS OF THE SECOND FLOOR.
- C. REPAIR, STRIP AND REPAINT ALL EXTERIOR WOOD SURFACES. THIS INCLUDES WINDOW AND DOOR FRAMES, ROOF EAVES, THE ENTIRE CLEARSTORY LEVEL, AND THE CUPOLA.
- D. INSTALL NEW EPDM ROOF AND RIGID INSULATION ON THE POWER HOUSE SECTION OF THE BUILDING.
- E. TWO NEW SKYLIGHTS INSTALLED ON THE POWER HOUSE ROOF. COORDINATE INSTALLATION WITH NEW ROOFING AND PROVIDE WEATHER-TIGHT BOND.
- F. REPAIR EXISTING WINDOW GLAZING AND PUTTY AT ALL CLEARSTORY WINDOWS.
- G. NEW METAL KICK-PLATE AND DOOR STOP AT FRONT ENTRANCE DOOR. SECURE DOOR IN FRAME AND REPAINT AS SCHEDULED.
- H. NEW EXTERIOR BUILDING SIGNAGE INSTALLED ALONG BEACON STREET EAST.
- I. INSTALL NEW, ENERGY EFFICIENT LIGHTING FIXTURES AT BUILDING ENTRIES, BUILDING SIGNAGE AND CUPOLA.
- J. REPOINT ALL REMAINING PORTIONS OF THE EXTERIOR BRICK WALLS AND PROVIDE MAINTENANCE TO ALREADY COMPLETED AREAS.
- K. REPAIR EXISTING WINDOW GLAZING AND PUTTY AT ALL WINDOWS OF THE BUILDING.
- L. NEW ENERGY EFFICIENT STORM WINDOWS INSTALLED AT THE EXTERIOR OF THE EXISTING WINDOWS.

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**BELKNAP MILL**  
Belknap Mill Society  
25 Beacon Street East  
Laconia, New Hampshire

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ISSUE	DESCRIPTION	DATE

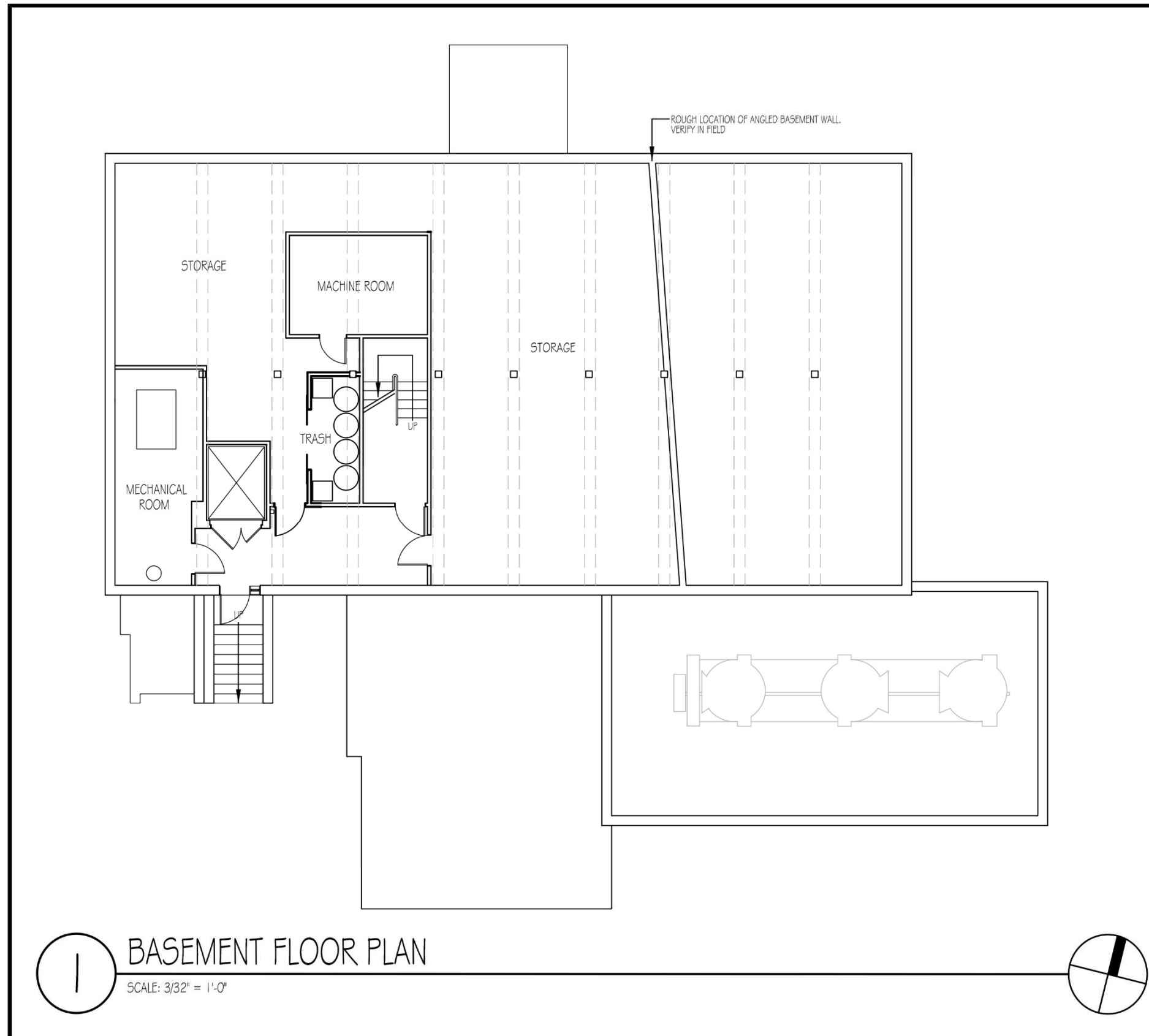
New Construction  
**ROOF PLAN**

DATE	05 JUNE 2017
SCALE	AS NOTED
DRAWN BY	JAG
PROJECT NUMBER	1643

**A1.00**

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Part IV: Treatment and Work Recommendations



GENERAL NOTES

- A. SELECTIVE TIMBER BEAM REPAIRS AND REPLACE STEEL COLUMN IN SLUICEWAY. REFERENCE RFS STRUCTURAL ASSESSMENTS FOR REQUIRED UPGRADES AND ADDITIONAL INFORMATION.
- B. INSTALL NEW BOILER TO SERVICE THE ENTIRE BUILDING. REFERENCE RFS MECHANICAL ASSESSMENT FOR REQUIRED UNIT INFORMATION.
- C. UPGRADES TO THE EXISTING ELEVATOR TO BE COMPLETED. THIS INCLUDES, BUT IS NOT LIMITED TO, MAIN CONTROLS, DOOR OPERATOR EQUIPMENT, REALIGNMENT OF HOIST RAILS, CABLE REPLACEMENT, CAR OPERATING PANEL, SHAFT AND CAB DOOR REPLACEMENT, AND INTERIOR UPGRADES TO THE CAB. COORDINATE WITH SPECIFICATIONS PROVIDED BY ELEVATOR SPECIALIST. DESIGN OF THE INTERIOR OF THE CAB AND THE DOORS TO BE PROVIDED BY THE ARCHITECTS.
- D. REPLACE DAMAGED SIDELIGHT GLAZING AT EXTERIOR EGRESS DOOR.
- E. REPLACE CORRODED STEEL LADDER BELOW THE POWER HOUSE, LEADING INTO THE CANAL AND SLUICEWAY, WITH A MATCHING STEEL LADDER.
- F. NEW TRASH ROOM CONSTRUCTED. GYPSUM BOARD WALLS TO MATCH EXISTING, SURROUNDING WALLS. INSTALL A PAIR OF SLIDING STEEL DOORS.

M i s i a s z e k  
T u r p i n  
P L L C

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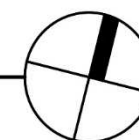
New Construction  
**BASEMENT  
FLOOR PLAN**

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PROJECT NUMBER	1643

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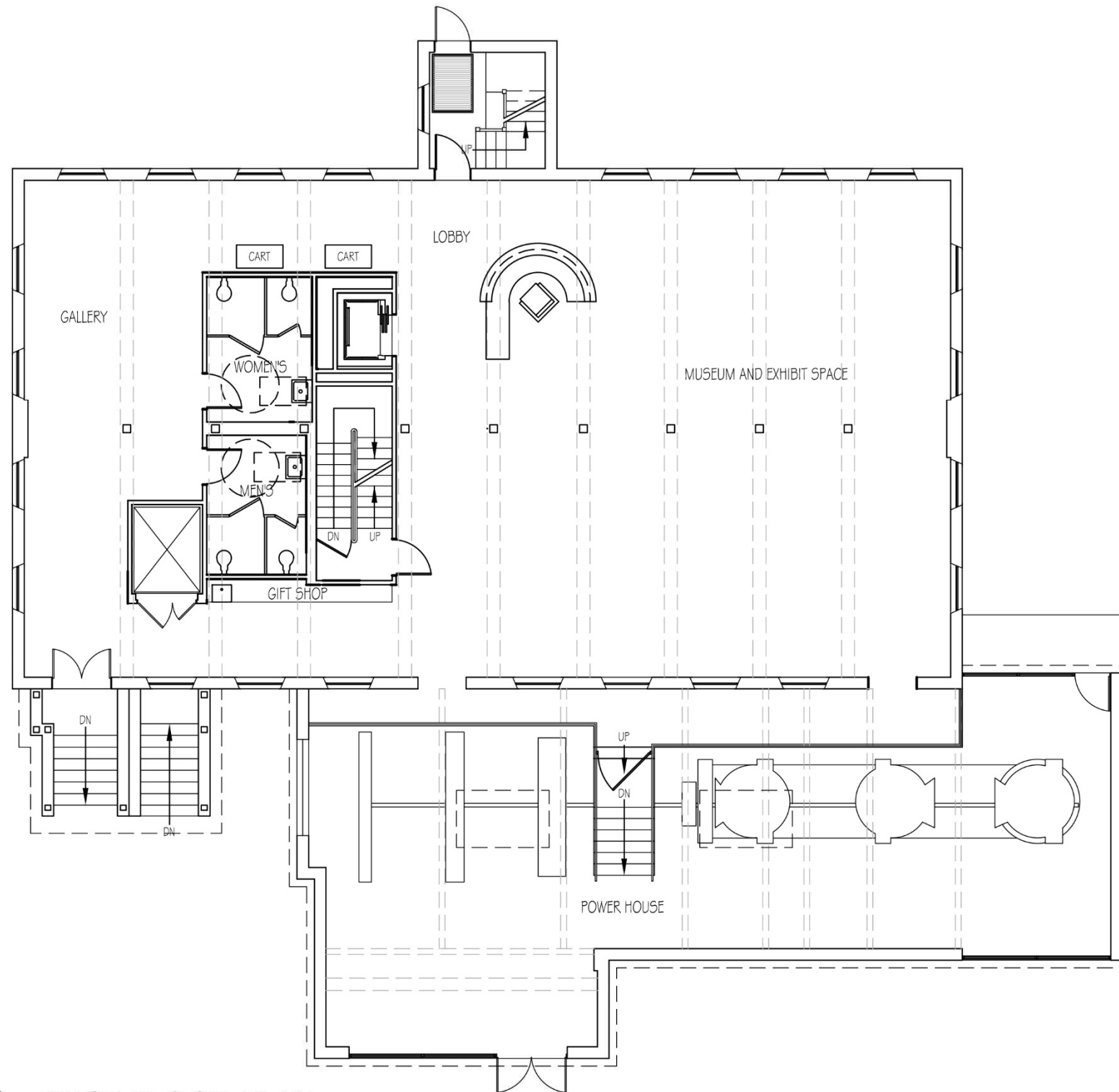
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**1** BASEMENT FLOOR PLAN  
SCALE: 3/32" = 1'-0"



**Part IV: Treatment and Work Recommendations**

By Misiaszek Turpin pllc



**FIRST FLOOR PLAN**  
SCALE: 3/32" = 1'-0"

**GENERAL NOTES**

- A. DEMOLISH INDICATED MODERN GYPSUM BOARD DIVIDING WALLS AND PORTION OF THE GYPSUM BOARD WALLS AROUND THE RESTROOMS AND CORE.
- B. NEW EMBOSSED STEEL, FIRE RATED DOOR FOR INTERIOR EGRESS STAIRS, AT NEW LOCATION ON EAST WALL.
- C. ALL INTERIOR, GYPSUM-BOARD WALLS TO HAVE NEW STAINED WOODEN BASEBOARD WITH REFINISHED, PAINTED WALL SURFACE.
- D. NEW WOOD AND GLASS SECURED CABINETS INSTALLED AND NEW WOOD AND GLASS MOVEABLE CARTS FOR GIFT SHOP PRODUCTS AND DISPLAY.
- E. NEW SOAPSTONE WASH SINK WITH LOCKABLE CABINETS BELOW.
- F. NEW RECEPTION DESK, DESIGNED TO MAINTAIN AND EMBOLDEN THE INDUSTRIAL CHARACTER OF THE BUILDING.
- G. NEW OPENING IN MASONRY WALL WHERE AN ORIGINAL OPENING HAS BEEN CLOSED. SALVAGE BRICK IF POSSIBLE.
- H. NEW OBSERVATION DECK INSTALLED THE LENGTH OF THE NORTH WALL OF THE POWER HOUSE. NEW GUARD RAIL INSTALLED THE ENTIRE LENGTH OF DECK AND STAIRS. INSTALL NEW INTEGRATED METAL GATE AT STAIRS.
- I. THE ENTIRETY OF THE 1970S FLOATING FLOOR IS TO BE REMOVED USING CARE TO NOT DAMAGE EXISTING, ORIGINAL WOODEN FLOORS BELOW. REPAIR AND REFINISH THE ENTIRE FLOOR TO MATCH THE ORIGINAL FLOOR STAIN.
- J. MEN'S AND WOMEN'S RESTROOMS TO HAVE MUSEUM-GRADE FINISHES AND FIXTURES. PEDESTAL LAVATORY; LARGE, FRAMED MIRROR; WHITE-WASHED BEAD-BOARD PARTITIONS WITH METAL ACCENTS; AND A WOODEN RESTROOM DOOR.
- K. NEW STEEL AND GLASS, FIRE RATED DOOR CONNECTING ORIGINAL STAIR TOWER INTO THE MILL.
- L. INSTALL NEW INLAID WEATHER MAT IN STAIR TOWER CONCRETE FLOOR, AND POLISH EXPOSED CONCRETE.
- M. STRIP AND REPAIR ALL BEAD-BOARD, RAILINGS, AND NEWEL POSTS WITHIN THE STAIR TOWER, AND REFINISH AS SCHEDULED.
- N. REPAIR ALL TREADS AND RISERS WITHIN THE STAIR TOWER, AND REFINISH AS SCHEDULED.
- O. INSTALL NEW SECURITY SYSTEM. TYPICAL FOR ENTIRE BUILDING.
- P. REFERENCE RFS ELECTRICAL AND MECHANICAL ASSESSMENTS FOR REQUIRED UPGRADES FOR THIS FLOOR.

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**FIRST  
FLOOR PLAN**

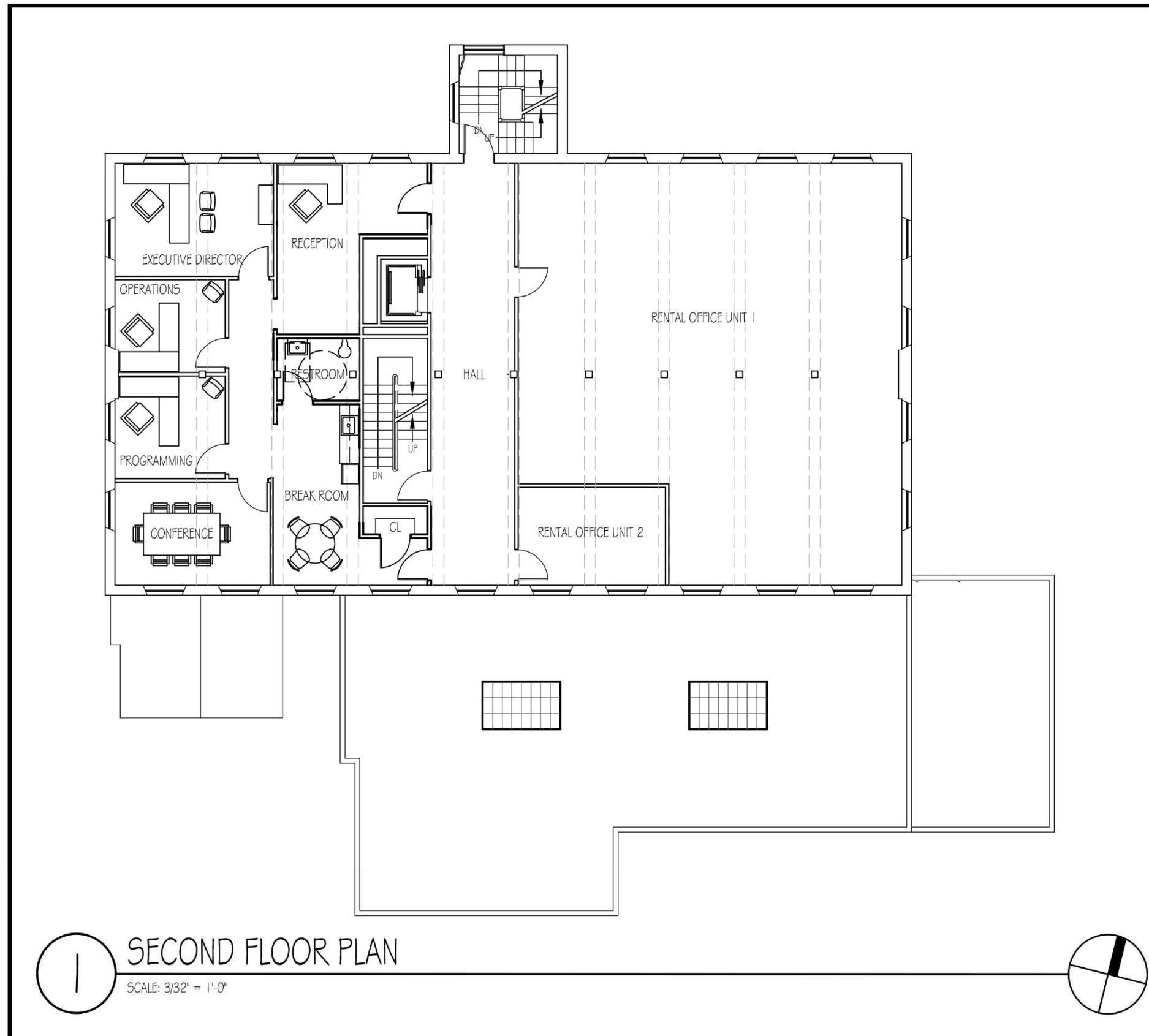
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**Part IV: Treatment and Work Recommendations**



**SECOND FLOOR PLAN**

SCALE: 3/32" = 1'-0"

**GENERAL NOTES**

- A. NEW ELEVATOR DOORS; TYPICAL FOR EACH FLOOR.
- B. INSTALL NEW FIXED DOUBLE-DOORS AND REMOVE LARGE PICTURE WINDOW WITHIN THE STAIR TOWER. DOORS TO BE STYLED SIMILAR TO HISTORIC REPLICATIONS WITH FIVE HORIZONTAL PANELS EACH, WITH INTEGRATED GLAZING.
- C. TWO NEW SKYLIGHTS INSTALLED ON THE POWER HOUSE ROOF. COORDINATE INSTALLATION WITH NEW ROOFING AND PROVIDE WEATHER-TIGHT BOND.
- D. REPAIR ALL DAMAGED WINDOW SILLS. WHERE AN ORIGINAL SILL IS BEYOND REPAIR OR IS MISSING, REPLACE WITH MATCHING WOOD SILL AND FINISH TO MATCH SURROUNDING, EXISTING SILLS.
- E. NEW EMBOSSED STEEL, FIRE RATED DOOR AT INTERIOR EGRESS STAIRS AND AT ORIGINAL STAIR TOWER.
- F. NEW CODE COMPLIANT SINGLE-OCCUPANT RESTROOM WITH INSTITUTIONAL-GRADE FIXTURES AND FLOOR TILES.
- G. NEW KITCHENETTE WITH WOODEN CABINETS AND LAMINATE COUNTERTOP. INSTALL NEW STAINLESS STEEL SINK AND FAUCET, AND PROVIDE NEW REFRIGERATOR.
- H. ALL INTERIOR, GYPSUM-BOARD WALLS TO HAVE NEW STAINED WOODEN BASEBOARD WITH REFINISHED, PAINTED WALL SURFACE.
- I. ALL EXISTING MODERN CARPET TO BE REMOVED. NEW INSTITUTIONAL-GRADE CARPETING TO BE INSTALLED.
- J. REFERENCE RF5 ELECTRICAL AND MECHANICAL ASSESSMENTS FOR REQUIRED UPGRADES FOR THIS FLOOR.

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**SECOND FLOOR PLAN**

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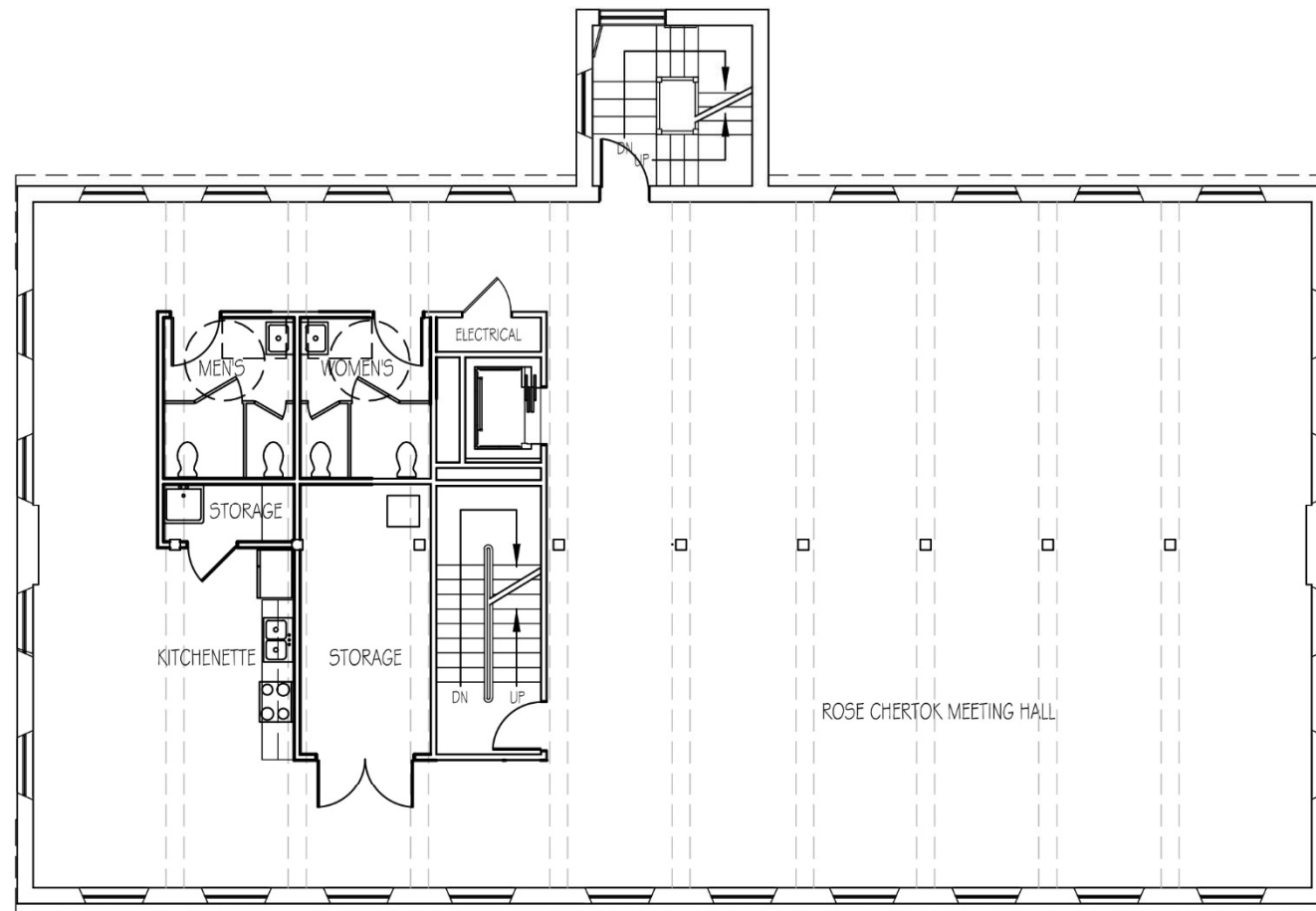
PROJECT NUMBER 1643

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**Part IV: Treatment and Work Recommendations**

By Misiaszek Turpin pllc



**GENERAL NOTES**

- A. DEMOLISH INDICATED MODERN GYPSUM BOARD DIVIDING WALLS AND PORTION OF THE GYPSUM BOARD WALLS AROUND THE RESTROOMS AND CORE.
- B. ALL INTERIOR, GYPSUM-BOARD WALLS TO HAVE NEW STAINED WOODEN BASEBOARD WITH REFINISHED, PAINTED WALL SURFACE.
- C. NEW EMBOSSED STEEL, FIRE RATED DOOR AT INTERIOR EGRESS STAIRS AND AT ORIGINAL STAIR TOWER.
- D. NEW CATERING KITCHENETTE. MID-LEVEL APPLIANCES TO INCLUDE REFRIGERATOR, WARMING OVER, COOK-TOP, MICROWAVE AND INDUSTRIAL STAINLESS STEEL SINK. WOODEN CABINETS AND GRANITE COUNTERTOP.
- E. EXISTING STAINED WOOD FLOOR TO BE STRIPPED, REPAIRED WHERE REQUIRED AND REFINISHED TO MATCH ORIGINAL.
- F. MEN'S AND WOMEN'S RESTROOMS TO HAVE MUSEUM-GRADE FINISHES AND FIXTURES. PEDESTAL LAVATORY; LARGE, FRAMED MIRROR; STAINED BEAD-BOARD PARTITIONS WITH METAL ACCENTS; AND A STILE-AND-RAIL DESIGNED RESTROOM DOOR.
- G. INSTALL NEW FIXED DOUBLE-DOORS AND REMOVE LARGE PICTURE WINDOW WITHIN THE STAIR TOWER. DOORS TO BE STYLED SIMILAR TO HISTORIC REPLICATIONS WITH FIVE HORIZONTAL PANELS EACH, WITH INTEGRATED GLAZING.
- H. REFERENCE RFS ELECTRICAL AND MECHANICAL ASSESSMENTS FOR REQUIRED UPGRADES FOR THIS FLOOR.

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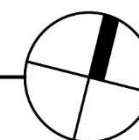
New Construction  
**THIRD  
FLOOR PLAN**

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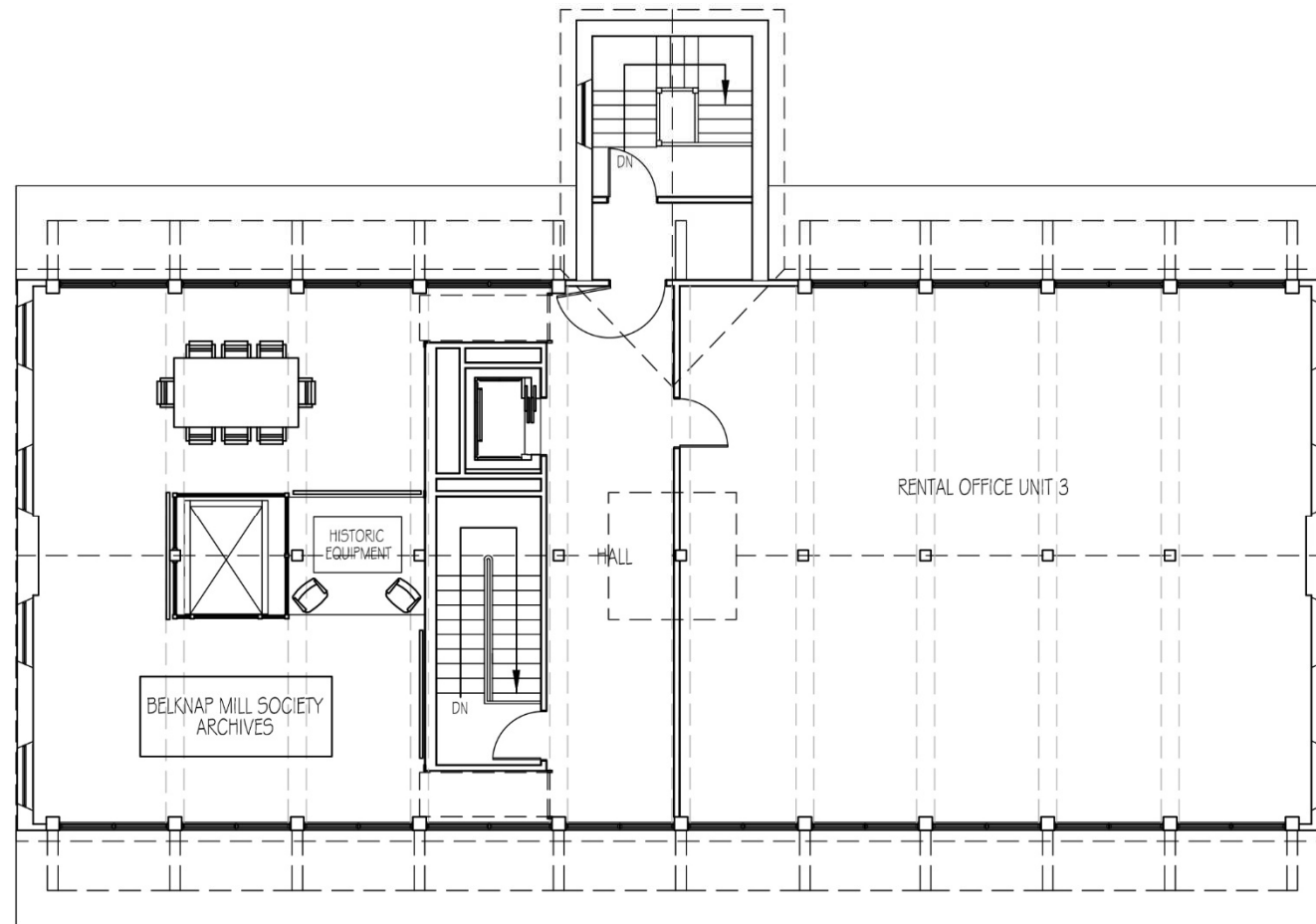
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**THIRD FLOOR PLAN**  
SCALE: 3/32" = 1'-0"



Part IV: Treatment and Work Recommendations



GENERAL NOTES

- A. DEMOLISH INDICATED MODERN GYPSUM BOARD DIVIDING WALLS AND STEEL DOORS.
- B. NEW EMBOSSED STEEL, FIRE RATED DOOR AT INTERIOR EGRESS STAIRS AND AT ORIGINAL STAIR TOWER.
- C. UPGRADED AUTOMATIC SPRINKLER SYSTEM AND FIRE ALARM SYSTEM, REMOVING AND REPLACING ENTIRE SYSTEM UTILIZING A GLYCOL SYSTEM.
- D. ALL EXISTING MODERN CARPET TO BE REMOVED. NEW INSTITUTIONAL-GRADE CARPETING TO BE INSTALLED.
- E. ALL INTERIOR, GYPSUM-BOARD WALLS TO HAVE NEW STAINED WOODEN BASEBOARD WITH REFINISHED, PAINTED WALL SURFACE.
- F. NEW GLASS WALL SYSTEM INSTALLED AROUND THE PERIMETER OF THE HISTORIC ELEVATOR. A SINGLE OPERABLE PANEL LOCATED ALONG THE SOUTH FACE.
- G. NEW ARCHIVAL SHELVING AND STORAGE UNITS INSTALLED FOR BELKNAP MILL SOCIETY ARCHIVES.
- H. TWO NEW METAL GATES INSTALLED AT THE EASTERN WALL OF THE ELEVATOR CORE, PROVIDING SECURITY FOR THE ARCHIVES.
- I. EVALUATE THE POTENTIAL INSTALLATION OF NEW ENERGY EFFICIENT INSULATION WITHIN THE ROOF STRUCTURE.
- J. REFERENCE RF5 ELECTRICAL AND MECHANICAL ASSESSMENTS FOR REQUIRED UPGRADES FOR THIS FLOOR.

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New Construction  
**FOURTH  
FLOOR PLAN**

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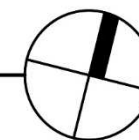
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**FOURTH FLOOR PLAN**  
SCALE: 3/32" = 1'-0"





**Part IV: Treatment and Work Recommendations**

By Misiaszek Turpin pllc

**GENERAL NOTES**

- A. REPOINT THE EXTERIOR BRICK FACADE TO THE BOTTOM OF THE WINDOW SILLS OF THE SECOND FLOOR.
- B. REPAIR, STRIP AND REPAINT ALL EXTERIOR WOOD SURFACES. THIS INCLUDES WINDOW AND DOOR FRAMES, ROOF EAVES, THE ENTIRE CLERESTORY LEVEL, AND THE CUPOLA.
- C. REPAIR EXISTING WINDOW GLAZING AND PUTTY AT ALL CLERESTORY WINDOWS.
- D. NEW METAL KICK-PLATE AND DOOR STOP AT FRONT ENTRANCE DOOR. SECURE DOOR IN FRAME AND REPAINT AS SCHEDULED.
- E. NEW EXTERIOR BUILDING SIGNAGE INSTALLED ALONG BEACON STREET EAST.
- F. INSTALL NEW FIXED DOUBLE-DOORS AND REMOVE LARGE PICTURE WINDOW WITHIN THE STAIR TOWER. DOORS TO BE STYLED SIMILAR TO HISTORIC REPLICATIONS WITH FIVE HORIZONTAL PANELS EACH, WITH INTEGRATED GLAZING.
- G. INSTALL NEW, ENERGY EFFICIENT LIGHTING FIXTURES AT BUILDING ENTRIES, BUILDING SIGNAGE AND CUPOLA.
- H. REPOINT ALL REMAINING PORTIONS OF THE EXTERIOR BRICK WALLS AND PROVIDE MAINTENANCE TO ALREADY COMPLETED AREAS.
- I. REPAIR EXISTING WINDOW GLAZING AND PUTTY AT ALL WINDOWS OF THE BUILDING.
- J. NEW ENERGY EFFICIENT STORM WINDOWS INSTALLED AT THE EXTERIOR OF THE EXISTING WINDOWS.

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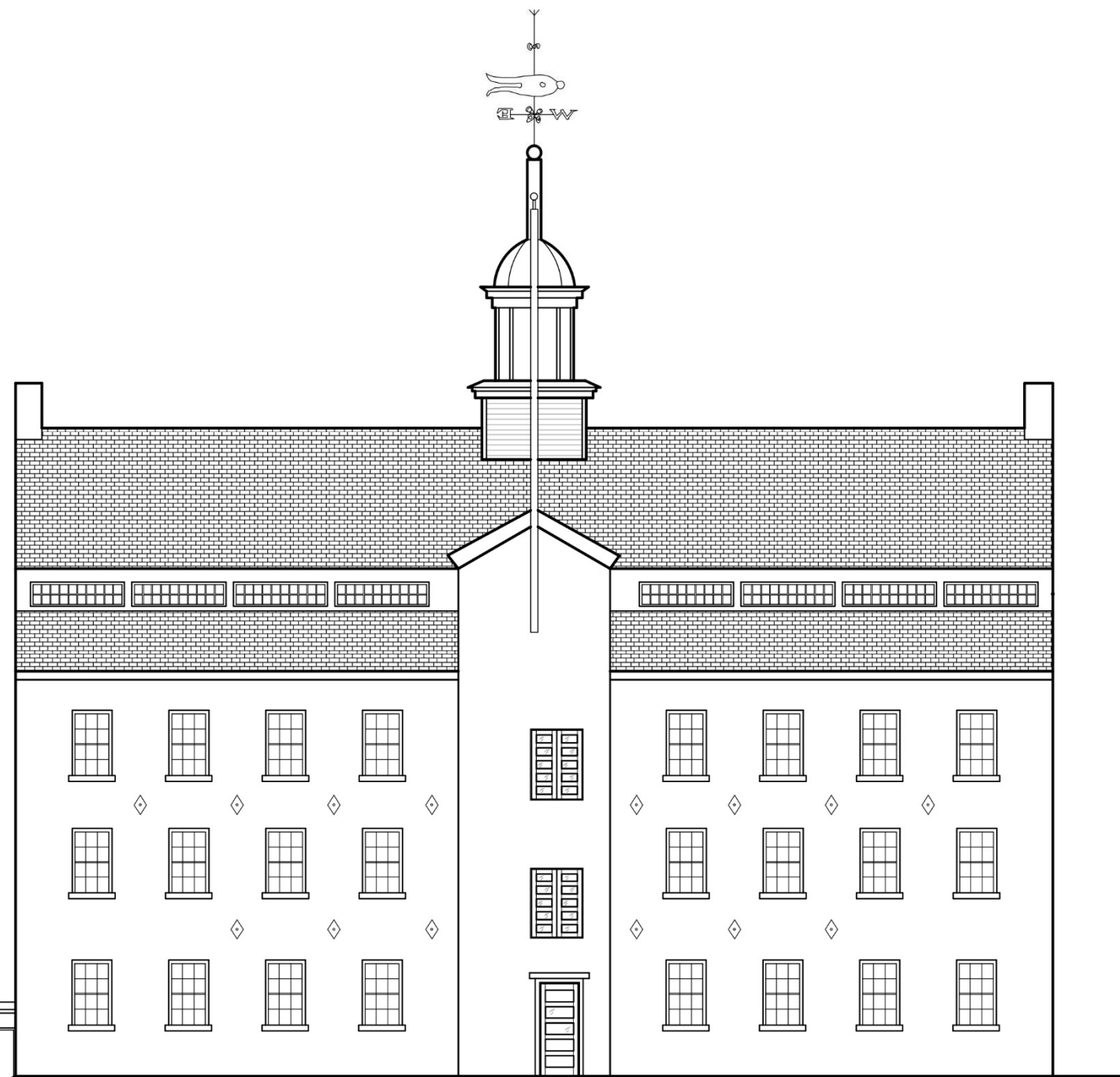
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New Construction  
**NORTH  
ELEVATION**

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**NORTH ELEVATION**  
SCALE: 3/32" = 1'-0"



Part IV: Treatment and Work Recommendations



WEST ELEVATION  
SCALE: 3/32" = 1'-0"

GENERAL NOTES

- A. REPOINT THE EXTERIOR BRICK FACADE TO THE BOTTOM OF THE WINDOW SILLS OF THE SECOND FLOOR.
- B. REPAIR, STRIP AND REPAINT ALL EXTERIOR WOOD SURFACES. THIS INCLUDES WINDOW AND DOOR FRAMES, ROOF EAVES, THE ENTIRE CLERESTORY LEVEL, AND THE CUPOLA.
- C. NEW EXTERIOR BUILDING SIGNAGE INSTALLED ALONG BEACON STREET EAST.
- D. INSTALL NEW EPDM ROOF AND RIGID INSULATION ON THE POWER HOUSE SECTION OF THE BUILDING.
- E. TWO NEW SKYLIGHTS INSTALLED ON THE POWER HOUSE ROOF. COORDINATE INSTALLATION WITH NEW ROOFING AND PROVIDE WEATHER-TIGHT BOND.
- F. INSTALL NEW, ENERGY EFFICIENT LIGHTING FIXTURES AT BUILDING ENTRIES, BUILDING SIGNAGE AND CUPOLA.
- G. REPOINT ALL REMAINING PORTIONS OF THE EXTERIOR BRICK WALLS AND PROVIDE MAINTENANCE TO ALREADY COMPLETED AREAS.
- H. REPAIR EXISTING WINDOW GLAZING AND PUTTY AT ALL WINDOWS OF THE BUILDING.
- I. NEW ENERGY EFFICIENT STORM WINDOWS INSTALLED AT THE EXTERIOR OF THE EXISTING WINDOWS.

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<b>WEST ELEVATION</b>		
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**A3.02**

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**Part IV: Treatment and Work Recommendations**

By Misiaszek Turpin pllc

**GENERAL NOTES**

- A. REPOINT THE EXTERIOR BRICK FACADE TO THE BOTTOM OF THE WINDOW SILLS OF THE SECOND FLOOR.
- B. REPAIR, STRIP AND REPAINT ALL EXTERIOR WOOD SURFACES. THIS INCLUDES WINDOW AND DOOR FRAMES, ROOF EAVES, THE ENTIRE CLERESTORY LEVEL, AND THE CUPOLA.
- C. REPAIR EXISTING WINDOW GLAZING AND PUTTY AT ALL CLERESTORY WINDOWS.
- D. INSTALL NEW EPDM ROOF AND RIGID INSULATION ON THE POWER HOUSE SECTION OF THE BUILDING.
- E. TWO NEW SKYLIGHTS INSTALLED ON THE POWER HOUSE ROOF. COORDINATE INSTALLATION WITH NEW ROOFING AND PROVIDE WEATHER-TIGHT BOND.
- F. INSTALL NEW, ENERGY EFFICIENT LIGHTING FIXTURES AT BUILDING ENTRIES, BUILDING SIGNAGE AND CUPOLA.
- G. REPOINT ALL REMAINING PORTIONS OF THE EXTERIOR BRICK WALLS AND PROVIDE MAINTENANCE TO ALREADY COMPLETED AREAS.
- H. REPAIR EXISTING WINDOW GLAZING AND PUTTY AT ALL WINDOWS OF THE BUILDING.
- I. NEW ENERGY EFFICIENT STORM WINDOWS INSTALLED AT THE EXTERIOR OF THE EXISTING WINDOWS.

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**SOUTH  
ELEVATION**

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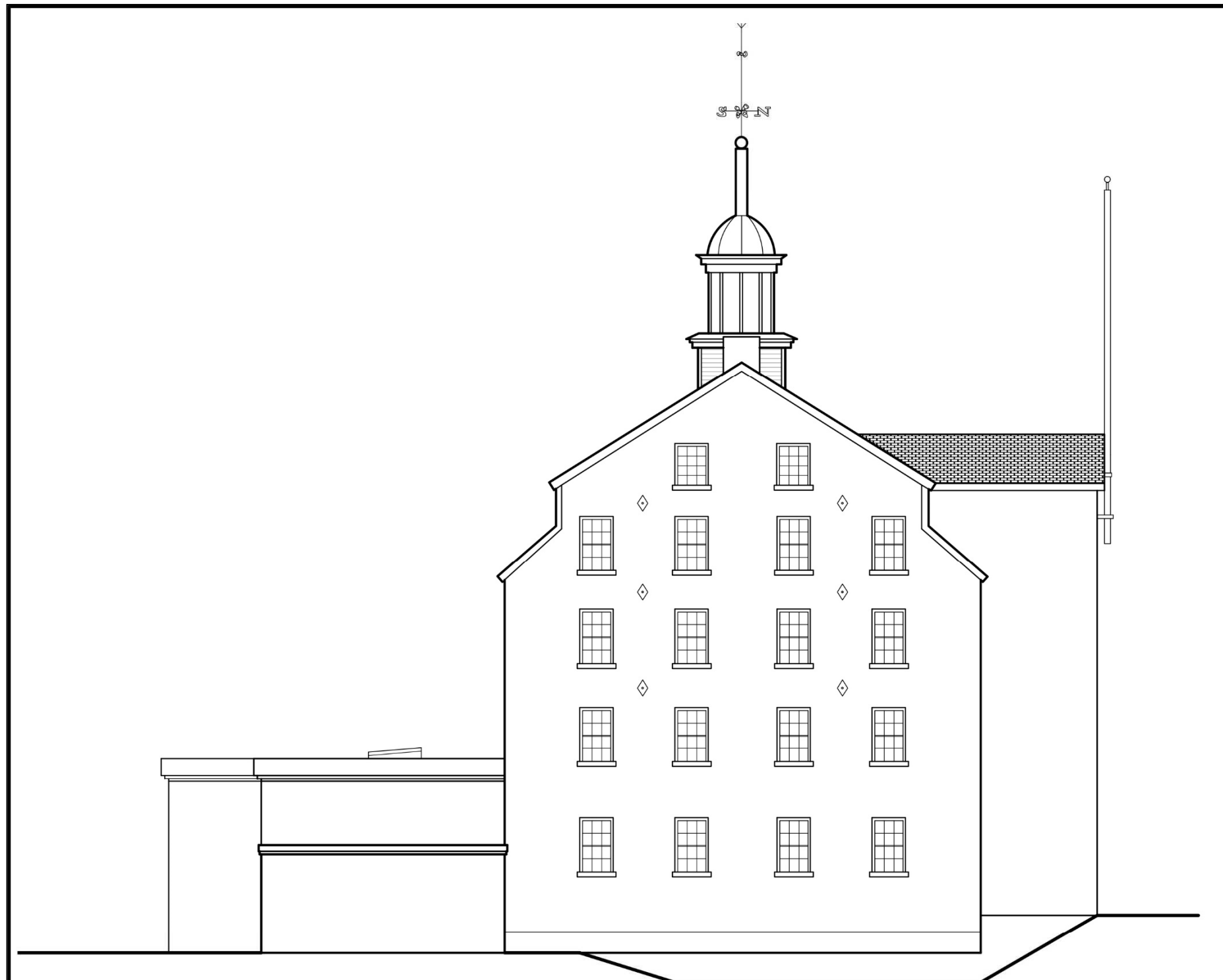
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**SOUTH ELEVATION**  
SCALE: 3/32" = 1'-0"

Part IV: Treatment and Work Recommendations



GENERAL NOTES

- A. REPOINT THE EXTERIOR BRICK FACADE TO THE BOTTOM OF THE WINDOW SILLS OF THE SECOND FLOOR.
- B. REPAIR, STRIP AND REPAINT ALL EXTERIOR WOOD SURFACES. THIS INCLUDES WINDOW AND DOOR FRAMES, ROOF EAVES, THE ENTIRE CLERESTORY LEVEL, AND THE CUPOLA.
- C. INSTALL NEW EPDM ROOF AND RIGID INSULATION ON THE POWER HOUSE SECTION OF THE BUILDING.
- D. TWO NEW SKYLIGHTS INSTALLED ON THE POWER HOUSE ROOF. COORDINATE INSTALLATION WITH NEW ROOFING AND PROVIDE WEATHER-TIGHT BOND.
- E. INSTALL NEW, ENERGY EFFICIENT LIGHTING FIXTURES AT BUILDING ENTRIES, BUILDING SIGNAGE AND CUPOLA.
- F. REPOINT ALL REMAINING PORTIONS OF THE EXTERIOR BRICK WALLS AND PROVIDE MAINTENANCE TO ALREADY COMPLETED AREAS.
- G. REPAIR EXISTING WINDOW GLAZING AND PUTTY AT ALL WINDOWS OF THE BUILDING.
- H. NEW ENERGY EFFICIENT STORM WINDOWS INSTALLED AT THE EXTERIOR OF THE EXISTING WINDOWS.

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ELEVATION**

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**EAST ELEVATION**  
SCALE: 3/32" = 1'-0"

## **Appendices/Supplemental Information:**

The following appendices have been assembled as supplementary information to accompany the Belknap Mill Historic Building Assessment. The information is added for any reader who wishes to read further into reports and discussion points raised by this report, and for use in creating finalized plans for implementing the recommendations. This report aims to create a general list of recommendations for future work on the Belknap Mill building, to be further explored as funding becomes available. Because the report does not include Specifications for the future work, the information from appropriate National Park Service guiding documents has been included here for use in helping to create the Architectural & Engineering Specifications ahead of specific construction projects.

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