

CURATORIAL REPORT NUMBER 106

The Robertson Building: An Archaeological and Architectural Survey

by Laura A. de Boer



CURATORIAL REPORTS

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1. Introduction

The Robertson Building is a large wood and brick structure that houses the offices and several exhibits of the Maritime Museum of the Atlantic at 1675 Lower Water Street in Halifax. The structure represents two separate buildings that were combined around 1880 by infilling a broad alleyway between them. The ship chandlery and hardware store that once operated here has since been recreated as a museum exhibit, and the rear or warehouse section now exists as office and exhibit space. This report details the results of a thorough archaeological building survey conducted in 2011 and 2012, coupled with a series of scaled drawings and with previous archival research as well as 2012 dendroarchaeology testing. The results of the project provide insight into the building's history and its evolution over time, from original construction to modern day use.

2. Methodology

Detailed archival records of the Robertson Building were previously assembled by talented researchers in the 1970s and 1980s, resulting in several reports on file at the museum that were frequently consulted during the course of this research. The key historical information related to the structure itself has been presented below in an effort to aid interpretation. Limited supplementary research was conducted, but due to the thoroughness of the previous work, very little new information was uncovered in written form. Details not directly pertinent to the building's history have not been reiterated. Kathy Mugridge's 1980 report on the building and its associated people has been relied upon heavily for this historical summary, and can be consulted on file at the museum for excellent business and biographical details.

A thorough building survey and interpretation has been conducted, detailed in this report and supported by a series of scaled drawings reproduced as an appendix to this report. The survey consisted of a detailed photographic record along with field notes and measurements produced using a Leica Disto laser distance measure. Measurements were taken in Imperial units rather than metric, as feet and inches were the units of choice during the building's construction. Scaled drawings of each floor have been produced, and a reconstruction of the historic ground floor has also been created. Unfortunately, both archival information and structural details did not yield enough evidence to create accurate historic reconstructions of the upper floors, though some speculation on layout and function is provided below. All drawings have been compiled by hand for the dual purpose of providing details on building materials and as a means of conducting detailed analysis of the structure as the drawings came together.

Additional information was provided by Stephen Archibald, who was heavily involved in converting the building to a museum, and by Dan Conlin, who made notes and took photographs during a major renovation in 2010 carried out to strengthen the floors of the library on the third and fourth floors of the front portion of the building. During this time, and again in 2012, dendrochronology testing was carried out in the building.

3. Historical Background

The exact origins of the Robertson Building's front portion, which is the oldest portion of this structure, are not known. Dendrochronology indicates that the building was constructed around 1829,¹ but the building's exact use is not clearly known until seventeen years later.

There are some hints about the structure's previous use as provided by documentary records, oral history, and the building itself. In a 1980 interview, H.B. Robertson noted that fireplaces used to be found up through all floors of the front building on its south wall, and that he suspected there had been living quarters on the upper floors.² In addition, an 1899 article on the building notes, "It is said that it was used as a storehouse for grain for years before Mr. Albro fitted it up as a hardware establishment."³ It is entirely possible that these two uses were combined: grain storage on the lower levels and domestic space on the uppers. Other local buildings, including Mitchell House on the opposite side of Lower Water Street, were at least partially residential space in their earliest years.

In 1845, Edward Albro and his partner Joseph Weir purchased from Andrew Mitchell Uniacke a wooden store on Lower Water Street at the head of Mitchell's wharf.⁴ Their intention was to use it as the site for a new branch of their existing hardware business. The building itself measured 40'3" east-west and 58'10" north-south. An open area behind the shop measured 10'5" wide and was the same north-south length as the building. Included within this area was an "L"-shaped shed.⁵

The following year, Albro and Weir acquired the warehouse property that lay behind their shop and bordered the open area of land. The warehouse lot was 70'1" east-west by 58'9" north-south. The building itself was 70'1" by 46'3".⁶ At this time, the warehouse was likely constructed out of wood.

¹ Robichaud, Young and Laroque 2011.

² Robertson 1980:3.

³ Maritime Merchant and Commercial Review 1899:20.

⁴ Mugridge 1980:3.

⁵ Mugridge 1980:4.

⁶ Survey of Charles W. Fairbanks, 20 August 1846, cited in Mugridge 1980:4.

Sometime prior to 1878, documentary records indicate that Albro replaced the wooden warehouse with the current building, which would become known as “Albro’s Brick Store,” and in this instance “store” referred to a storehouse or a warehouse rather than a shop.⁷ The Brick Store was soon stocked full with a wide variety of wares, including cordage, naval stores, cables, chains, anchors, and tools for a wide variety of trades.⁸

Stephen Archibald has suggested that the rear building post-dates 1861, as the brick construction, granite cornice, and iron window shutters all match the Halifax fire code that was enacted in this year. The district surrounding the Robertson Building was subsequently known as the “brick district” as a result of the fire code-compliant buildings erected along the waterfront.⁹ Dendrochronology testing completed in 2012 is consistent with a construction date of 1862 or 1863.¹⁰

In April of 1878, Albro was reported to have “failed in business” due to a variety of factors, and Albro’s Brick Store was retained by Joseph Weir while the stock was acquired for sale and auction by the firm Shad, Ferguson and Clay.¹¹ The official partnership between Albro and Weir had been dissolved four years prior due to Weir’s poor health.¹²

In the same year of the business’ failure, Hopkins’ Atlas of Halifax shows very clearly the difference between Albro’s Brick Store and the wooden hardware shop built against Water Street (Figure 3-1). G. P. Mitchell is clearly seen to occupy not only the wharf and warehouses to the east, but also the brick building to the west, which is now the registered heritage property known as Mitchell House.

In the fall of 1878 William Robertson purchased the wooden frame building “formerly occupied by Edward Albro & Co.” which fronted on Water Street, moving his business from Upper Water Street to this new location on Lower Water and opening for business by April of 1879.¹³ It has been speculated that Robertson rented out the southern part of the shop to another business during his early years on Water Street.¹⁴

⁷ Mugridge 1980:4 and Archibald c.1979:2.

⁸ White 1876, cited in Mugridge 1980:5.

⁹ Archibald c.1979:2.

¹⁰ Maillet et al. 2012:9.

¹¹ Archibald c.1979:1 and Mugridge 1980:6.

¹² Mugridge 1980:5.

¹³ Mugridge 1980:12.

¹⁴ Archibald c.1979:1.

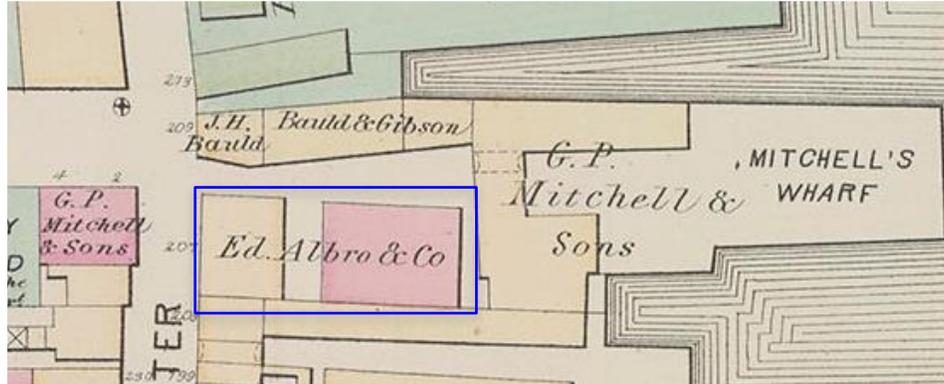


Figure 3-1 – Detail of Hopkins' Atlas from 1878, showing the Robertson Building (blue) at the head of Mitchell's Wharf. Yellow shading indicates wood construction, while pink indicates brick or stone. Image courtesy Library and Archives Canada.

The precise date of the bricking-in of the alleyway between the wooden store and the brick warehouse is unknown. Kathy Mugridge cleverly speculates that it took place in 1880, after Robertson signed an agreement placing his rear or eastern property boundary in the middle of the western brick wall of the warehouse. In drawing this line, Robertson likely gained over four feet on his rear property boundary, extending from the original 10'5" area to the 15" gap that exists today. Also in 1880, Robertson's ledgers note expenses for "the new addition" paid to an architect, a builder, a painter and glazier, and a mason.¹⁵

The expenses also include a payment for "Mantle, grate and marble."¹⁶ In addition to the infilling, it is possible that new interior fireplaces were added. There is currently no marble in the building, as both remaining fireplace mantles on the third floor are rough historic brick. However, marble fireplace mantles seem to be an excessive expense for a hardware store office, even if they were removed before the mid-twentieth century. Therefore, this speculation is presented as very tentative at best.

At the end of 1887, Robertson notes a relatively small expense for a "2 storey addition" with no additional details provided. The most likely use of this money was to modify the wooden store from a three-and-a-half storey building to a four-storey building by flattening the roof.¹⁷ The outline of a sloped roof was present in the stone southern wall of the building during the late 1970s.¹⁸

The first available fire insurance plan for the city of Halifax is dated to 1889 (Figure 3-2). It shows the Robertson Store and the infill portion as 4 storeys tall

¹⁵ Mugridge 1980:19. Weir is listed as "an insane person" in the 1880 indenture, suggesting that it was specifically declining mental health that led to the Albro & Weir partnership dissolving. Weir had two guardians at this point in his life, John Smith and William E. Weir.

¹⁶ Mugridge 1980:19.

¹⁷ Mugridge 1980:23.

¹⁸ As observed and photographed by Stephen Archibald.

with a flat patent roof (reflecting the possible 1887 renovations). The warehouse, meanwhile, is a 3 ½ storey building with a sloped roof of shingle, tile, or metal. A saloon closely borders the store on the south side, along with a complex of warehouses on the south and east sides of the building.

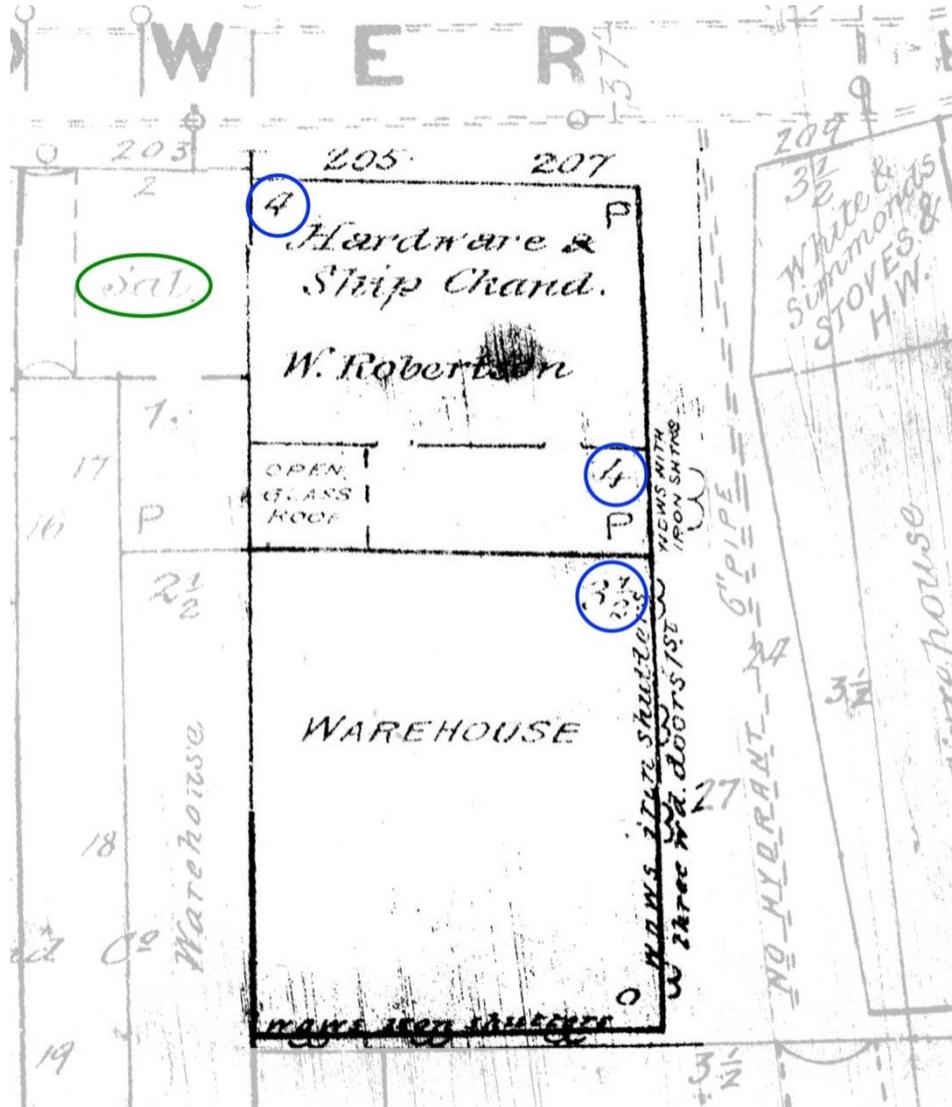


Figure 3-2 – The Robertson Building in 1889.¹⁹ Note the number of floors to each structure (blue), and the neighbouring saloon (green). The infill portion also features a glass roof at its southern end. North is to the right.

In 1889, Robertson purchased 7/12ths of Albro’s Brick Store behind his shop, while George Mitchell & Sons (Archibald and James Mitchell) purchased the remaining 5/12ths. The following year, the second and third floors of the brick warehouse were leased to Burrell-Johnston, an iron foundry based in

¹⁹ FIPCH 1889: Sheet 6.

Yarmouth.²⁰ A sketch plan attached to Burrell-Johnston's lease shows a hoist in the middle of the building allowing goods to be lifted to the third floor (Figure 3-3), along with the 5/12ths partition and two other unidentified and otherwise unreferenced internal partitions. There was also an unmapped "enclosed stairway leading from the western door off the building to the second floor."²¹ A wooden partition dividing Robertson's and Mitchell's sections of the brick warehouse was put up sometime after 1889, probably by 1905. Although both parties signed an agreement to build a brick partition "one brick in thickness," this never seems to have come to fruition.²²

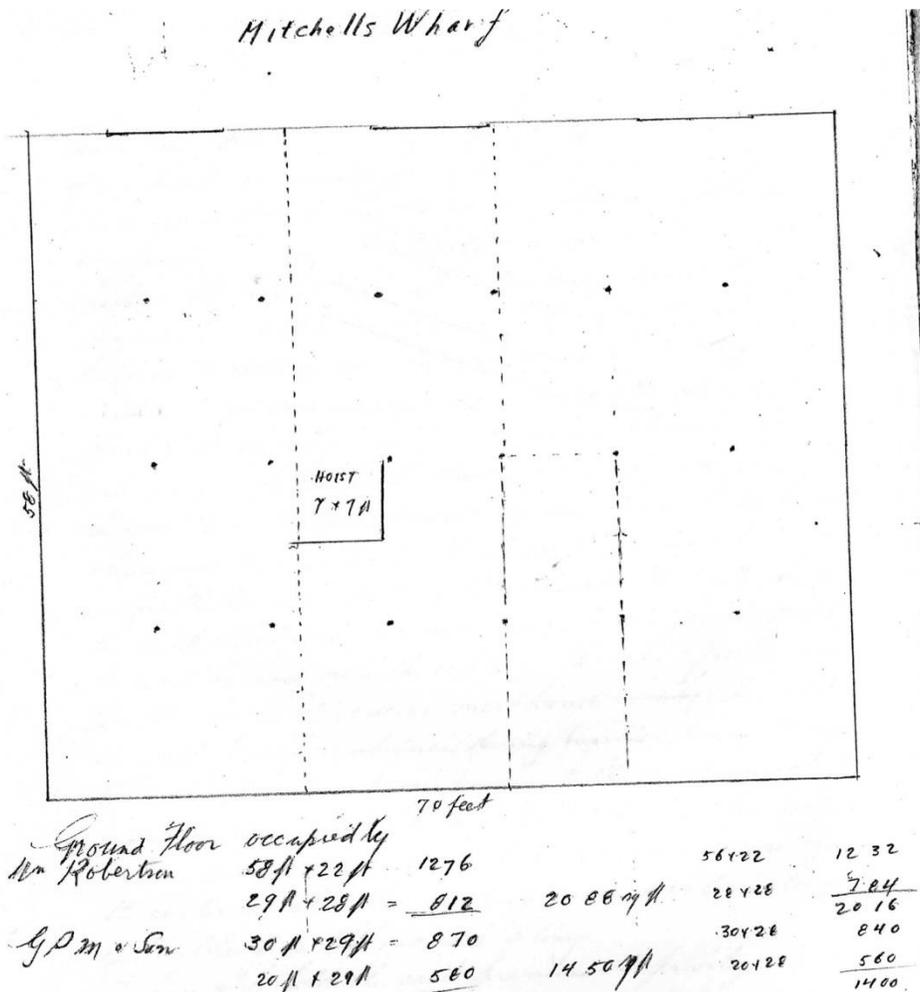


Figure 3-3 – A sketch plan showing the location of the hoist in 1905.²³

A circa 1893 plan of sewer outlets in Halifax shows that the space between Robertson's store and Albro's brick store was not, but this time, an open

²⁰ Archibald c.1979:2 and Mugridge 1980:13.

²¹ Mugridge 1980:13, 28.

²² Archibald c.1979:3.

²³ Dalhousie University Archives 1905.

alleyway. Instead, the space on the property's northern edge is shown as infilled with one unidentified building and two highlighted privies. The city sewer outlet at this time appears to have terminated near the privies, and an extension into the harbour was proposed (Figure 3-4).

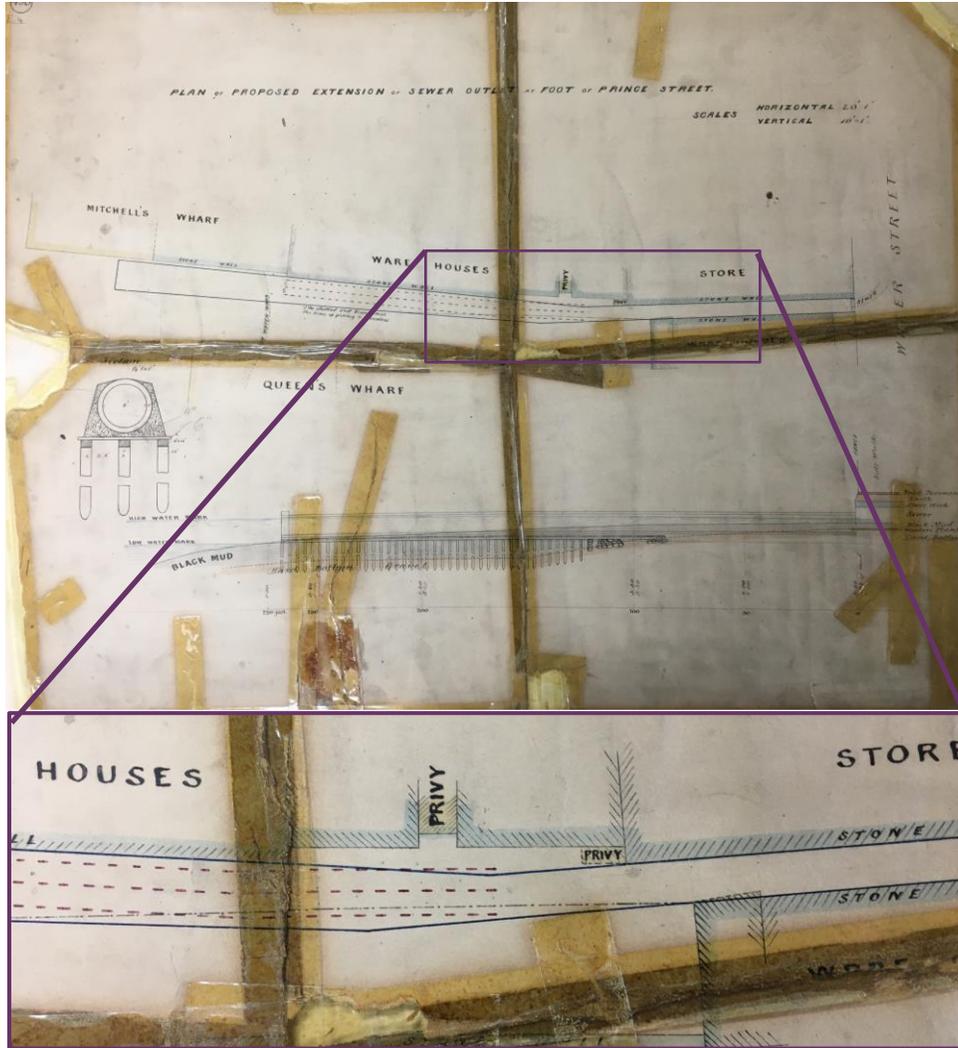


Figure 3-3 – A plan (top) and detail (bottom) showing a proposed sewer extension (red dotted lines) along the north edge of Albro's brick warehouse.²⁴ Note the two privies and unidentified building between Albro's warehouse ("houses," left) and Robertson's Hardware ("store," right). North is to the bottom.

Between 1895 and 1899, a window was cut into the stone of the southern wall of the store on the ground floor, where the business offices were located. This allowed William Robertson and his son William Gordon Robertson a view of the neighbouring anchor yard, which had previously been a two-storey saloon.²⁵

²⁴ Halifax Municipal Archives c.1893.

²⁵ Mugridge 1980:26.

Robertson's Hardware officially became known as William Robertson and Son after the two men drew up an agreement in January of 1895.²⁶

Assuming that it was not omitted in the 1889 insurance plan, a hoist was added inside the front of the shop sometime between 1889 and 1895, allowing for easier access to goods stored on the second through fourth floors above the public area of the storefront. The hoist is shown on the 1895 fire insurance plans for the city, which also notes that the warehouse's sloped roof has been truncated to create a 3-storey structure with a patent roof (Figure 3-5). Fire damage appears to have erased this hoist from the building today.

On August 15th, 1898, a letter from the Nova Scotia Board of Fire Underwriters approved William Robertson and Son's store for electric lighting.²⁷ Oral history indicates that this earliest phase of wiring was exposed along the walls, and that the lights were stationary fixtures on the ceiling.²⁸

On July 22nd 1899, a building permit application was made to install a brick front onto the Robertson Store, as well as to brick in the wooden northern wall of the store. The work appears to have been completed that summer and fall.²⁹ An 1899 illustration in the *Maritime Merchant and Commercial Review* shows the building much as it appears today, with one very notable exception: a sloped roof adds an additional half-storey above the third floor of the brick warehouse (Figure 3-6). Fire insurance plans indicate the sloped roof had been removed at least four years prior (Figure 3-5) but conversely, dendrochronology suggests the slight pitch of the patent roof was created around 1902.³⁰

²⁶ Mugridge 1980:15.

²⁷ Nova Scotia Board of Fire Underwriters 1898.

²⁸ Mugridge 1980:35.

²⁹ Mugridge 1980:26-27.

³⁰ Maillet et al. 2012:6.

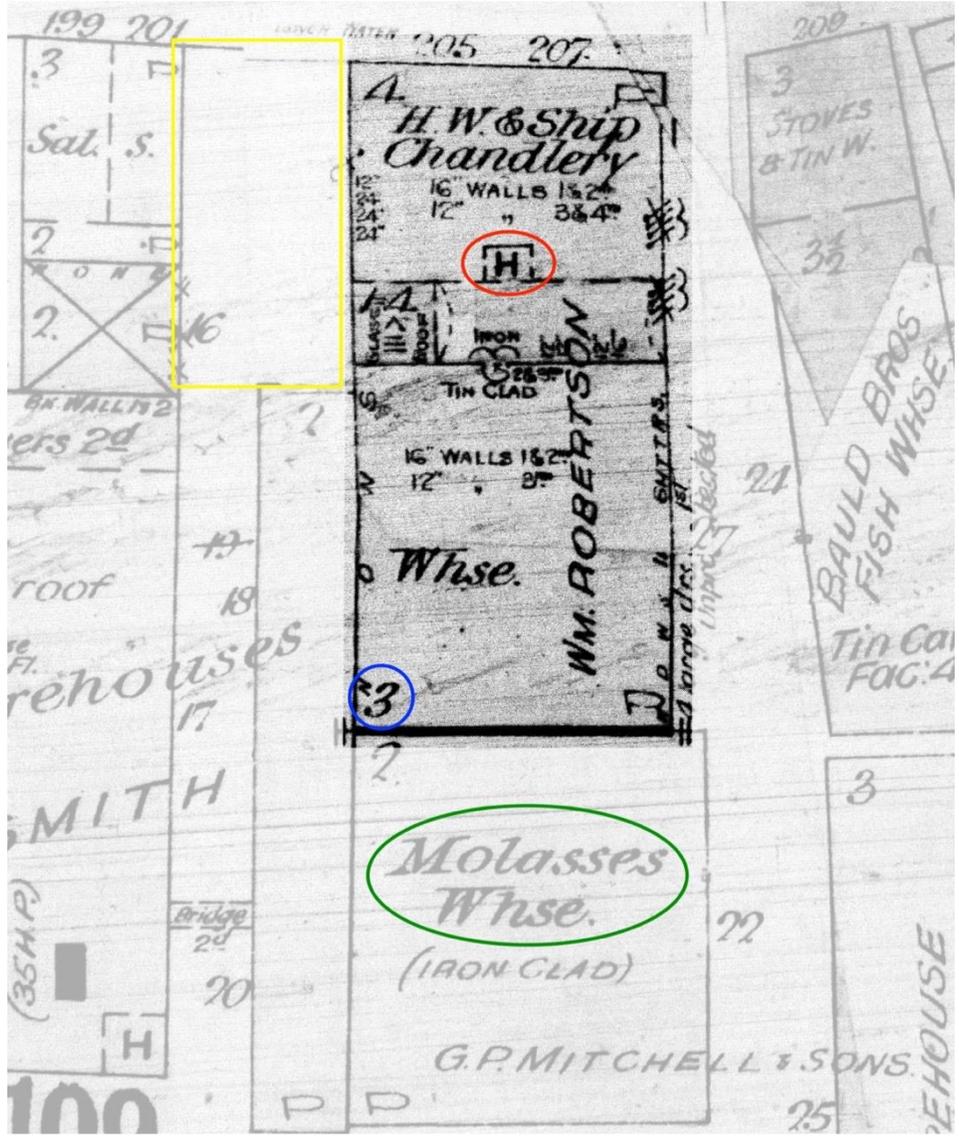


Figure 3-5 – The Robertson Store in 1895.³¹ Notable changes over the previous six years include a hoist at the rear of the shop (red), the removal of the sloped roof from the warehouse (blue; the building is now 3 floors rather than 3 ½), the demolition of the saloon (yellow), and the addition of G. P. Mitchell & Sons’ iron-clad molasses warehouse (green).

³¹ FIPCH 1895: Sheet 6.

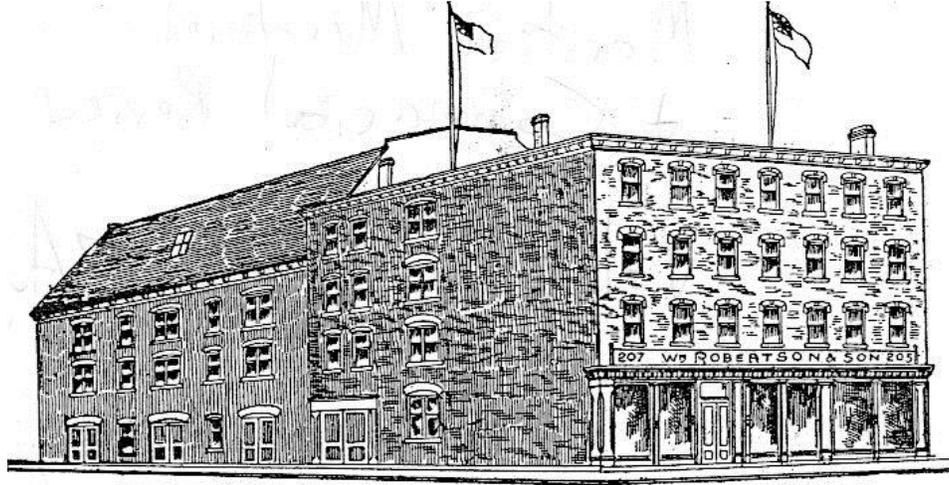


Figure 3-6 – An illustration from August of 1899 shows “Wm. Robertson’s building as it will appear when remodeled.”³²

Because this 1899 illustration is a conceptual drawing, it seems most likely that the roof had been flattened already, as shown in the fire insurance plans, but was not shedding water efficiently. Perhaps there were intentions in 1899 to reinstate the sloped roof, but instead a slight pitch was added around 1902 using the beams still found along the ceiling of the third floor.

The article associated with this 1899 illustration provides insight into the builder’s methods:

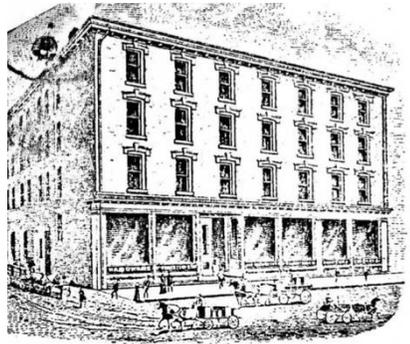
While the work is in progress, the firm is still doing business at the old stand, for instead of moving into temporary quarters until a new building could be erected on the site of the old, they preferred to remain in the old building and have the new one practically built up about it. The way in which the work is done, is very simple. While the floors which it supports are propped up securely, one wall is torn down and a brick one put in its place. When this work is satisfactorily finished another wall is tackled in the same way until all the walls that used to be wood are brick. The floors and all the joists supporting them will be the same in the new building that served the purpose in the old.³³

There are at least three different illustrations of the building from letterheads and receipts dated between 1891 and 1906, with an additional 1973 receipt with what appears to be a period illustration as well (Figure 3-7). All of these images have at least one major flaw, including triangular pediments over the brick warehouse loading doors, incorrectly placed or missing chimneys, and most notably, all show the building at a consistent four storeys in height from

³² Unknown 1899:20.

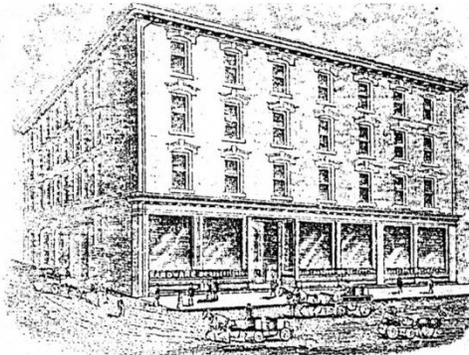
³³ Unknown 1899:20.

front to back. One even appears to show the entire building in stone blocks. None show a sloped roof over the brick warehouse.



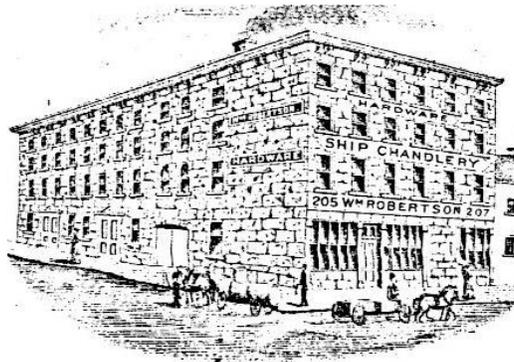
EAD MITCHELL'S WHARF
205 & 207 LOWER WATER ST

c.1903



HEAD MITCHELL'S WHARF
205 & 207 LOWER WATER ST.

c.1906



c.1891



c.1973 (Historical re-use?)

Figure 3-7 – Four historic images of the Robertson Building, all appearing to be at least slightly inaccurate.³⁴ The top right and top left are likely two different print runs of the same illustration.

November of 1904 saw Robertson signing a lease for the second and third floor rear portions of the brick warehouse, which was then owned by the Mitchells. By 1895, the Mitchells had constructed their own two-storey iron-clad warehouse for storing molasses immediately adjacent to the eastern wall of the former Albro's Brick Store (refer back to Figure 3-5).³⁵ The Mitchell portion of Albro's Brick Store was also used to store molasses by 1914 (Figure 3-8).

³⁴ Dalhousie University Archives 1891, 1892, c.1903, 1906, 1973.

³⁵ Mugridge 1980:15.

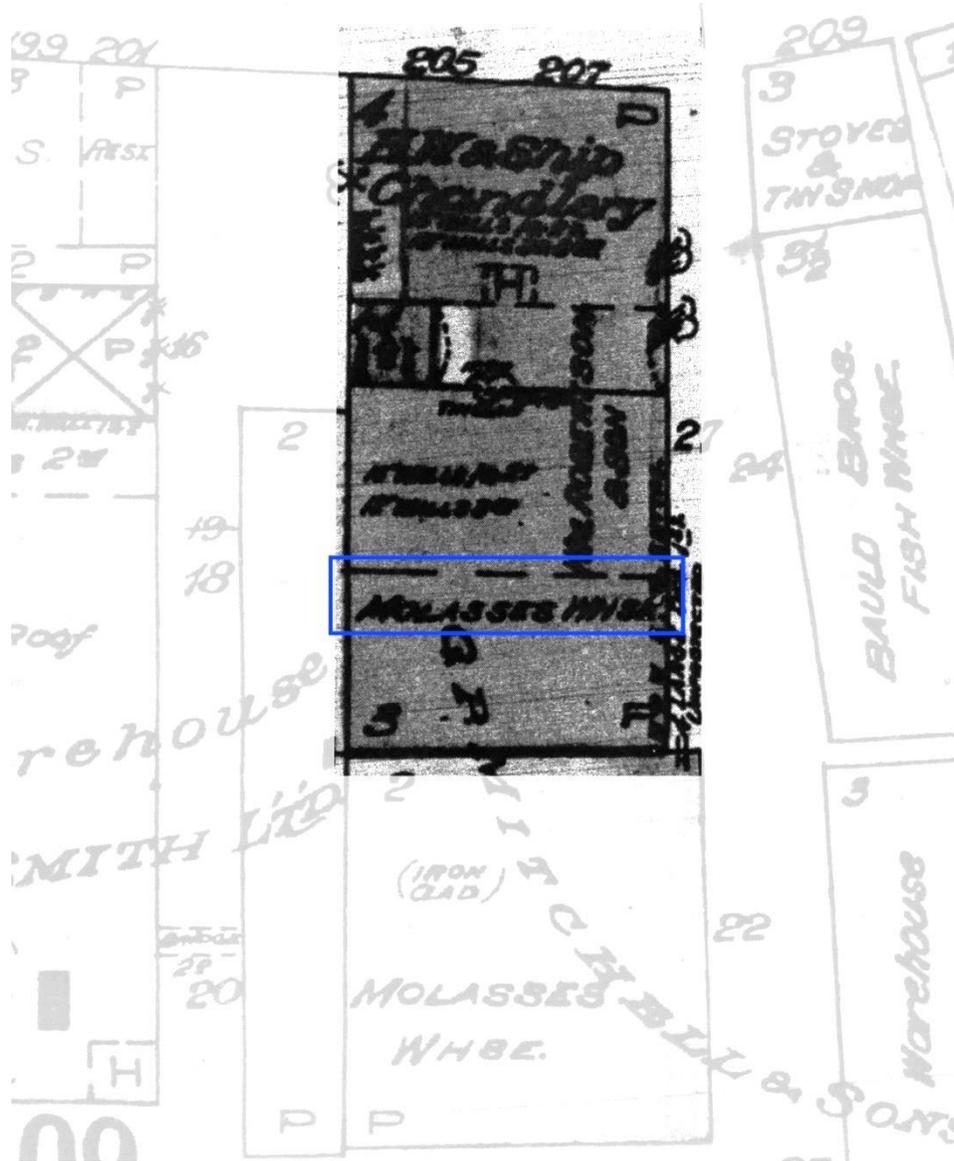


Figure 3-8 – The Robertson Building in 1914, showing the Mitchel portion of the warehouse divided from the rest with a dotted line and the notation “MOLASSES WHSE” (blue).³⁶

By January 1917, William Robertson had acquired the entire Brick Store from George P. Mitchell. Mitchell continued to rent the ground floor of his old 5/12ths space for an additional two years.³⁷

William Robertson died on April 30th 1919, after which the Robertson Building came into the hands of his son and business partner William Gordon

³⁶ FIPCH 1914: Sheet 6.

³⁷ Mugridge 1980:15.

Robertson.³⁸ William's death marked the end of notable changes to the building's structure for the next several decades.

During the depression of the 1930's, the hardware store was reportedly overstocked with copper and galvanized nails. In an effort to be thrifty, the extra nails were used to re-shingle the store's roof. The copper and zinc in the nails soon electrolyzed the building, and the following day the doors to the building could not be opened. The galvanized nails were eventually removed and the building was re-shingled again.³⁹

A historic photograph shows that a distinct bracketed wooden cornice was in place at the top of the shop portion of the building on Water Street by 1934 (Figure 3-9). Sometime after this it was replaced with several extra courses of brick, presumably after the two damaging fires of the 1940s.⁴⁰



Figure 3-9 – *The Robertson Building in 1935.*⁴¹ Note that the three southern windows all appear to be taken up by offices rather than display space (blue). Note also a secondary chimney on the north wall (red).

Robertson's hardware store saw very little change in business style and organization until during and after the Second World War, when two damaging fires in the building saw the need to renovate the building itself as well as making changes to the company.⁴² The first major fire took place on the night of April 30th, 1943, affecting the front portion of the building facing Lower Water

³⁸ Mugridge 1980:16.

³⁹ Black Books c.1982.

⁴⁰ Archibald c.1979:3 and Mugridge 1980:29.

⁴¹ Maritime Museum of the Atlantic c.1934

⁴² Mugridge 1980:2.

Street (Figure 3-10). The damage appears to have been chiefly to the retail and office space, suggesting that the fire was mostly limited to the ground and second floors.



Figure 3-10 – *The 1943 fire roars through the ship chandlery and hardware store.⁴³ Note the presence of fire shutters on the north wall, where fire erupts from the ground and second floor windows but not the third or fourth floor. The front façade is affected on all floors. The secondary chimney in the north wall is still present at this time (red).*

The infill and warehouse portions do not appear to have been significantly affected by the fire. Repairs to the brickwork on the west wall (the façade facing the street) were made in the fall of the same year. In addition, a “new elevator shaft” was installed,⁴⁴ suggesting that this marked the addition of the freight elevator that once stood inside the northwest corner of the brick warehouse. It was not present during the 1943 fire (Figure 3-10), but is included in the 1951 fire insurance plans for the city (Figure 3-11). Before the freight elevator was added, pulleys had been used to haul goods between floors.⁴⁵

⁴³ Nova Scotia Archives 1943.

⁴⁴ Mugdrige 1980:29.

⁴⁵ Unknown n.d. and Robertson 1980:3.

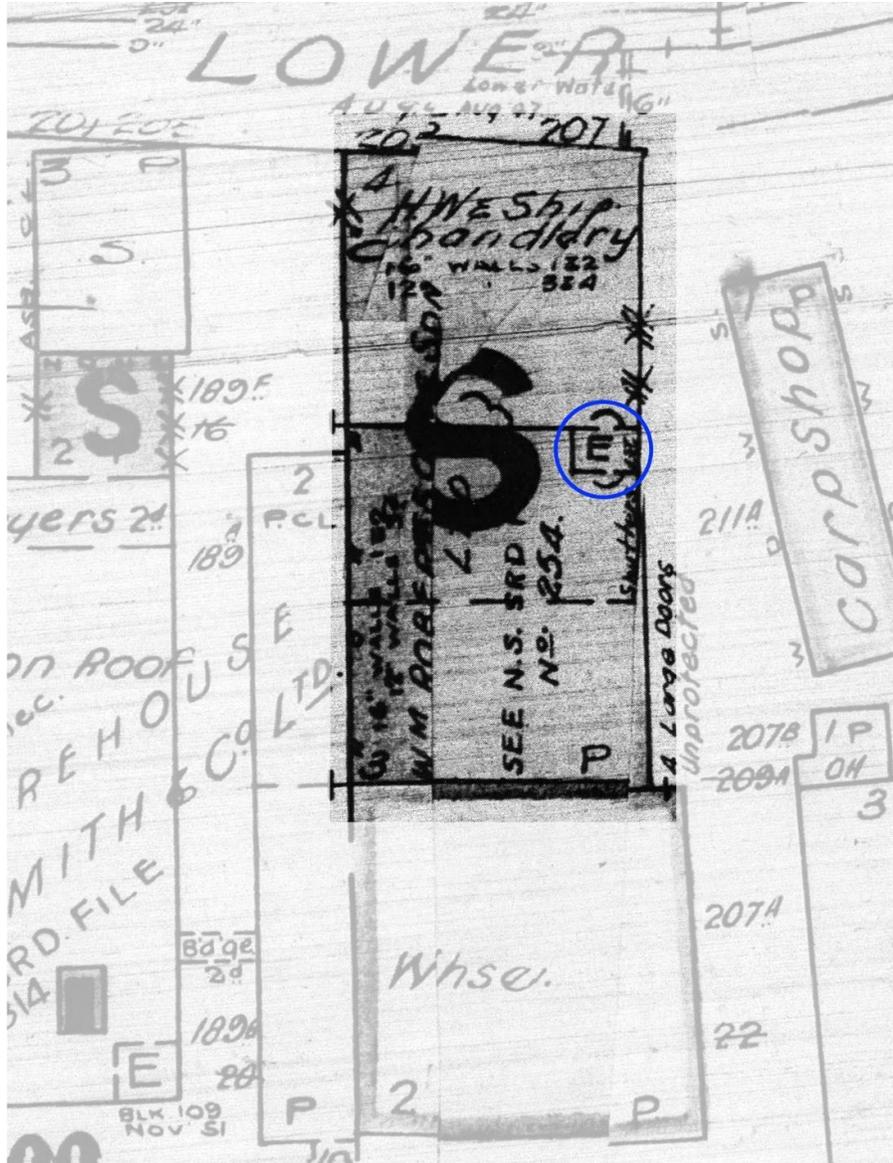


Figure 3-11 – *The Robertson Building in 1951, showing the new freight elevator (blue).*⁴⁶ Note that no hoist is indicated at the rear of the store as in previous plans.

A second fire occurred on June 5th, 1945, thought to have been caused by overheated steam pipes just like the 1943 fire. Robertson had been heating the store using steam channeled from the nearby A & M Smith's.⁴⁷ Neither fire resulted in significant modifications to the exterior of the building.

⁴⁶ FIPCH 1951. Opta's FIPs are artistic and/or literary works in which copyright subsists under section 3 of the *Copyright Act*. The named authors were employees of The Underwriters' Survey Bureau, who therefore owned the copyright under s. 13(3) of the *Copyright Act*. The Underwriters' Survey Bureau registered the copyright in these FIPs at the Canadian Intellectual Property Office. Since Opta is the successor company to the Underwriters' Survey Bureau, it owns the copyright in these FIPs. Under the *Copyright Act*, Opta therefore enjoys the sole right to produce, reproduce, sell, offer for sale or distribute its FIPs.

⁴⁷ Mugridge 1980:29.

Following the first fire, the interior of the building came to resemble the museum reconstruction that we see today. Display methods including shelves and counters were modified, but only insofar as the addition of better materials. A relocation of much of the office space from the ground floor to the second floor resulted in increased retail space. The walls and ceiling were finished with Douglas fir, and as of 1980 the beams of the shop had never been exposed within living memory. The hatchways above the shop floor do not appear to have been exposed during this period; Mugridge speculates that they date to Edward Albro's ownership. Severe damage to the upper floors of the front portion was also repaired.⁴⁸ An iron gate was fitted across the shop's front doors during closing hours.⁴⁹

Prior to the 1940s fires in the store, the ground floor of the Robertson Store portion of the building had included three offices as well as the adjacent shop space. The main office was occupied by William Robertson (prior to his death in 1919) and by his son William Gordon Robertson. This office was found along the southern wall of the building, encompassing the two ground-floor fireplaces and (after 1895) the window opening onto an adjacent anchor yard. Walls and ceiling were covered in dark-stained fir, and the eastern wall included wooden cupboards with a sink and a mirror similar to those found in a captain's shipboard quarters.⁵⁰

In the southwest corner of the building was the office of the company's accountant, Col. Henry J. Stech, as early as 1912 and probably earlier. His office occupied the two windows south of the brick pillar in the front façade. A bookkeeper (Stech's assistant Freddie Saltman) and one or two stenographers also occupied this space. By the early twentieth century this office was heated by a small stove just inside the door,⁵¹ suggesting that a stovepipe fed over to one of the two south wall chimneys.

A third office, taking up the third window from the south-west corner of the building, was occupied by Mr. Weir and Mr. Crowell, who completed costing, pricing, and invoicing. Their glass office was located outside the main office and was much less private.⁵² One wall was formed by the outer glass of the west wall of the building, a second wall by Col. Stech's office, and the remaining two were wood and glass partitions dividing the office from the retail shop.⁵³

At the rear of the store portion of the building, kerosene oil, raw oil, boiled oil, and turpentine could be accessed by means of pumps from barrels stored in the basement. The north wall in this area included a small shipping office, which was heated with a very small stove and had a window overlooking "the alley," presumably meaning the alley between the Robertson Building and another

⁴⁸ Mugridge 1980:32-33, 35.

⁴⁹ Mugridge 1980:51.

⁵⁰ Mugridge 1980:37, Robertson 1980:2.

⁵¹ Mugridge 1980:37-38.

⁵² Robertson 1980:3 and Kline c.1980.

⁵³ Mugridge 1980:38.

building to the north. This shipping office had easy access to the freight door, which was the main opening at the northern end of the infilled alleyway. The door did not fold as modern garage doors do, but instead could be pushed straight up to the second floor. An iron rack for the storage of iron, steel, and brass was also found here, as was a large scale.⁵⁴

The second floor of the front shop included the hardware room where nails, boat nails, screws, and similar materials were stored.⁵⁵ Also found on this floor (prior to the relocation of the ground floor offices after the 1943 fire) was a packing room and a cutlery room, as well as storage of cotton oil clothes. The oil clothes had to be checked regularly in hot weather by the workers for fear of spontaneous combustion.⁵⁶ The packing room was heated with a stove attached to one of the fireplaces at the south wall of the building.⁵⁷

At one point the fourth floor provided storage for large quantities of canned lobsters, and was also regularly used for storing fishing nets, a relatively light material suitable for storage on an upper floor. Skylights in the ceiling of this floor allowed the workers easy access to the roof in order to take scenic photographs.⁵⁸

The ground floor of the rear brick warehouse was used for the storage of the heaviest goods, except for chain, which was stored on the ground floor in the infill building or former alleyway. Canvas and rope were also on the warehouse ground floor, towards the back (either the east or the south) of the building. Axes and similar implements were kept on the second floor.⁵⁹

By the 1970s, the store was deteriorating. The ground floor could be seen through holes in the floor of the second storey, and small pieces of tin or other metal were being used to fill the larger holes. Wharf rats had begun to run rampant in the building, and no cleaners were being hired to keep the shop looking its best.⁶⁰ William Robertson and Son Limited officially went out of business in 1976, and in the same year the property was purchased by the Halifax Waterfront Development Corporation and the Provincial Government of Nova Scotia as a prospective site for the new Maritime Museum of the Atlantic.⁶¹

Most of the late 1970s and early 1980s renovations are obvious in the building as it appears today. What could not be observed was that a new foundation was necessary to support the new brick façade over the south wall. The façade was necessary due to the historical ironstone of the original wall, which leaked water

⁵⁴ Mugridge 1980:39 and Robertson 1980:2.

⁵⁵ Mugridge 1980:34.

⁵⁶ Mugridge 1980:39-41.

⁵⁷ Kline c.1980.

⁵⁸ Mugridge 1980:39-40.

⁵⁹ Mugridge 1980:40.

⁶⁰ Black Books c.1982.

⁶¹ Unknown n.d.

and could not be sealed efficiently. Excavations for the foundation went down very deep, eventually coming to old wharf timbers from sometime prior to the infilling of this area of the Halifax shoreline.⁶²

⁶² Jannasch, Archibald and Richard 1993:14.

4. Building Survey

4.1 Basement

The basement of the Robertson Building is a partial basement, found only below the front or Robertson's Store section. The absence of a basement level in the rear portion is unsurprising, as much of it has been built on top of fill beyond the original shoreline. The existing basement is in fact subject to extremely high tides, particularly in the spring, when water seeps up through the mud floor (Plate 1).⁶³ High water marks are visible on the stone walls, up to approximately a foot and a half (45cm) from the rough floor (Plate 2). A mid-twentieth century oil spill appears to have made these marks even stronger.

The walls of this level and therefore the foundation of the building are rough slabs of ironstone in random or rubble coursing. Ironstone is a form of slate that was commonly used in Halifax construction until health concerns became known in relation to its high arsenic content. The stone is mortared but bears no distinct sign of its age in any stylistic elements. Salt and mineral deposits are present, resulting from almost two centuries of tides and dampness.

Brick has also been used to form quoins or cornerstones wherever the stone comes to a 90° angle (Plate 3), a common practice in many historic Halifax basements to make a neater edge. The brick is relatively fine-grained but is of mixed firing quality, with some bricks crumbling and degrading. Dating of brick is difficult in Nova Scotia where maker's marks were uncommon, but the quality suggests they are nineteenth century bricks.

⁶³ Dan Conlin, personal communication May 2011.



Plate 1 – Tidewater seeping into the basement, approximately 20 minutes before a moderate high tide.



Plate 2 – Marks on the walls (left) and on a granite slab (right) from decades of high tides.



Plate 3 – Mineral and salt build-up over two of the brick quoins that form almost all of the corners in the basement. East wall, north-east corner.

The basement is divided into two main areas by a stone partition that runs north-south down the middle of the level (#1, Figure 4-1). The partition corresponds with the central running beam on each of the upper floors, allowing the building's weight to transfer down onto the ironstone below. Three openings in this central wall allow access to the front or west half of the basement. It appears that at one point it may have been possible to close these three openings, as three wrought iron pins meant for hinges are still present in the walls on the north side of the middle opening.

Twentieth century concrete has been added as shoring to form beams and pillars, as well as the low ceiling in the northeast corner, where the new concrete supports the modern fire stairs that run from the ground floor to the fourth floor (#2, Figure 4-1).

In the southeast corner, two pillars rise up from a horizontal concrete beam (Plate 4), supporting the weight of the concrete vault on the second floor (#3, Figure 4-1). Although there is no obvious difference in the concretes, it is likely that the vault supports were poured sometime between 1943 and 1976, after the first major fire but before Robertson's Hardware went out of business. In contrast, the stair supports almost certainly date to the late 1970s during the building's conversion to a museum, as plans show that the pre-museum staircase was much smaller and would not have needed extra support.

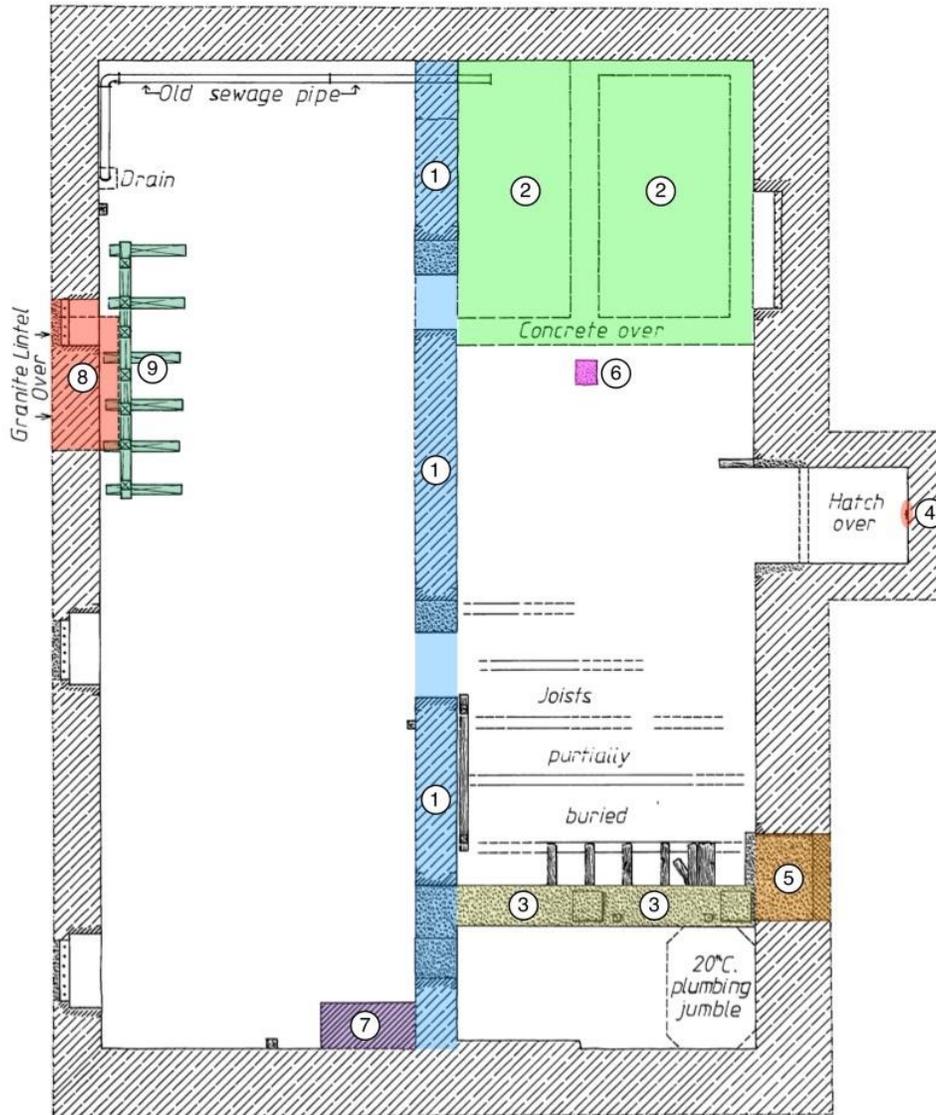


Figure 4-1 – An annotated copy of the basement floor plan. North is to the top.

The eastern or rear wall of the basement features three different recesses or alcoves. The purpose of the northern-most recess (refer back to Plate 3) is still unclear; perhaps it was some type of drop-chute accessed from the room above, but any evidence of how the top of the recess once looked has been erased by the modern fire stairs above. The recess itself allows access to a ground-level opening under the stairs that is not accessible from the rest of the ground floor (Plate 5). This area, positioned above the concrete ceiling, has formed a 1970s “time capsule,” as some construction debris and even an empty package of “Export A” cigarettes are still preserved in this space.



Plate 4 – A concrete beam supports two concrete posts rising up beneath the second floor vault. Looking south.



Plate 5 – An open space below the main staircase, accessible only from the basement through a niche or recess in the eastern wall. Looking east.

The middle recess of the eastern wall serves a clear purpose: it allows access from the infilled alleyway above into the basement by means of a hatch in the

floor. The stone walls have been capped with granite as a finishing material, and a large wrought iron tie ring has been drilled or driven into the eastern end of the recess (#4, Figure 4-1) (Plate 6). The granite would have protected the stone walls from damage during loading and unloading material from the basement. It is not clear what the iron ring was used for. A very tentative conjecture suggests that it could have been part of a rope and pulley system used for moving goods that would not be damaged by the basement's wet conditions, such as the barrels of oil that were stored here in the early twentieth century.



Plate 6 – *The central recess in the eastern wall provides access to a hatch above, Looking east.*

The southern recess in the eastern wall of the basement provides an even greater level of mystery. Partially blocked by a concrete beam, its eastern wall is formed not by stone or brick but by modern cinderblock (#5, Figure 4-1) (Plates 7 and 8). Did this recess open onto a corridor leading towards the waterfront or the previous warehouse on the site of Albro's brick store? Such a corridor would almost certainly be waterlogged on a regular basis. Was it simply a second hatch location like the middle recess? If that had been the case, why bother to block it with cinderblock? Unfortunately, it is not likely that the purpose of this recess will be known unless the floor of the alleyway is someday taken up and conventional archaeology is used to determine the extent of this feature.



Plate 7 – *The southern recess in the east wall, looking east.*



Plate 8 – *The southern recess in the east wall, showing modern cinderblock at the back.*

Also visible in the eastern half of the basement are floor joists and the remains of planking spread across the joists (Plate 9). This would seem to suggest a storage surface at one time, perhaps for the barrels of oil that were hooked to pumps servicing the ground floor. Class-A gravel has been added to the floor in the western half of the basement, making it impossible to determine if a finished floor was ever part of that area unless the floor is excavated at a future date. Some areas of the mud floor are also obscured by broken brick and mortar debris.



Plate 9 – *Half-buried joists in the mud and dirt floor of the basement. Note the remains of planks over them at the top of the frame, below the concrete beam. Looking south.*

Two 4"x4" posts have been placed against the central partition near the middle of the basement, with a similarly sized sill beneath. The repair adds extra support to this portion of the building, though it is not clear why extra support for the upper floors would have been needed in this area.

An abandoned granite lintel stands upright in the eastern half of the basement (#6, Figure 4-1) (Plate 10). Its rough edges show that it was not ready to be incorporated into the building, but no cracks or flaws are present to indicate why it was not used. Watermarks from various high tides over the years are clearer on the granite than on the surrounding ironstone and brick.



Plate 10: A free-standing granite lintel abandoned in the basement. Looking north.

The western half of the basement features a brick chimney base immediately west of the central partition along the south wall (#7, Figure 4-1) (Plate 11). There is no such chimney base on the east side, only a stepped thickening of the stone wall. This would seem to suggest that the western chimney and fireplaces were more heavily used than the eastern ones on this wall. The north wall provides no indication of a base for the chimney on the floors above.



Plate 11 – *The brick chimney base below the western chimney on the south wall.*

The western wall features three barred windows that have been blocked with concrete on the outside (Plate 12). The placing of the small northern window is slightly awkward, as it is placed almost directly below the granite lintel and main shop entrance above (#8, Figure 4-1). This suggests that when the window was open to the street, the shop entrance was in a different location.



Plate 12 – *The southernmost blocked window in the west wall.*

All three windows are significantly below the modern street level. It is likely that they were placed partially inside “wells” in the sidewalk not unlike those seen on several mid-nineteenth century buildings on Hollis Street today. The tops of the windows are finished with granite lintels, suggesting they were meant to be seen by the public from the outside. It is also likely that the street level is one or two feet higher than it was at the time of the building’s original construction. Many buildings in downtown Halifax share this characteristic, one of the most notable being the Masonic Hall on Barrington and Salter Streets, where an ordinary window appears to be positioned some three feet below the modern street.

The remains of a 6” cast iron pipe are still found along the northern wall, starting above a small drain at the northwest corner where the end joint has rotted away (Plate 13). From there it runs close to the ceiling through a hole punched through the central partition of the basement. On the eastern side, the pipe ends abruptly, and a section of pipe lies discarded on the floor below. The 1977 architectural plan notes that this was a storm drain.⁶⁴

⁶⁴ Hettema 1977.

In addition to the concrete mentioned above, modern wooden supports (8"x6" beams) have been added in the northwest corner of the basement (#9, Figure 4-1) (Plate 14). They are located directly below the historic entrance to the hardware store, just inside a granite slab that forms the doorstep. The bottom of the granite slab is visible from inside the basement, resting mostly on the ironstone foundation. The lack of aging on the modern wood supports indicates they date to the building's conversion into a museum in the late 1970s, or possibly during more recent repairs.



Plate 13 – *The storm drain at the northern wall, looking west.*



Plate 14 – *Late twentieth century wooden supports below the main shop entrance on the west wall.*

Other modern additions to the basement include foil (vapour barrier or insulation) and lighting on the ceiling, as well as a jumble of modern plumbing in the southeast corner. Some repair to the wooden floor joists is clear above the plumbing in this area.

4.2 Ground Floor

Front Portion (Robertson's Store)

The front or Robertson's Store portion of the ground floor is dominated by the reconstructed Robertson's Hardware and Ship Chandlery, designed to resemble the store in the 1950s (Plate 15). The shop floor features shelves stocked with hardware, display windows, and a woodstove in the center of the floor with a long stovepipe running along the ceiling to a chimney on the north wall. The floor is oiled wood while the ceiling is white-painted wainscoting that disguises the beams and joists above. Five steel posts support a central north-south running beam, which is also encased in white-painted wainscoting (#1, Figure 4-2). The posts include welded tops, making it clear that they are twentieth century additions, most likely following one of the fires in the mid-twentieth century. The posts were carefully painted with an artificial wood grain during the late 1970s reconstruction project.

The southern end of the shop consists of a glassed-in office area, also reconstructed to its 1950s appearance (#2, Figure 4-2) (Plate 16). The office features the original safe, and a metal Robertson & Sons Hardware sign in the front window (#3, Figure 4-2). The metal sign appears relatively solid and opaque when viewed from the outside, but from the inside is almost completely transparent. Around the time of the Second World War, many women would use the large glass office window in front of the sign as a mirror, checking that the rear lines of their stockings were straight. Unbeknownst to the ladies, they were providing a "show" for the men inside the office, who would then stand up over the top of the sign to cheekily greet the surprised women.⁶⁵

⁶⁵ Dan Conlin, personal communication January 2013.



Plate 15 – *Part of the Robertson Store reconstruction, looking east.*

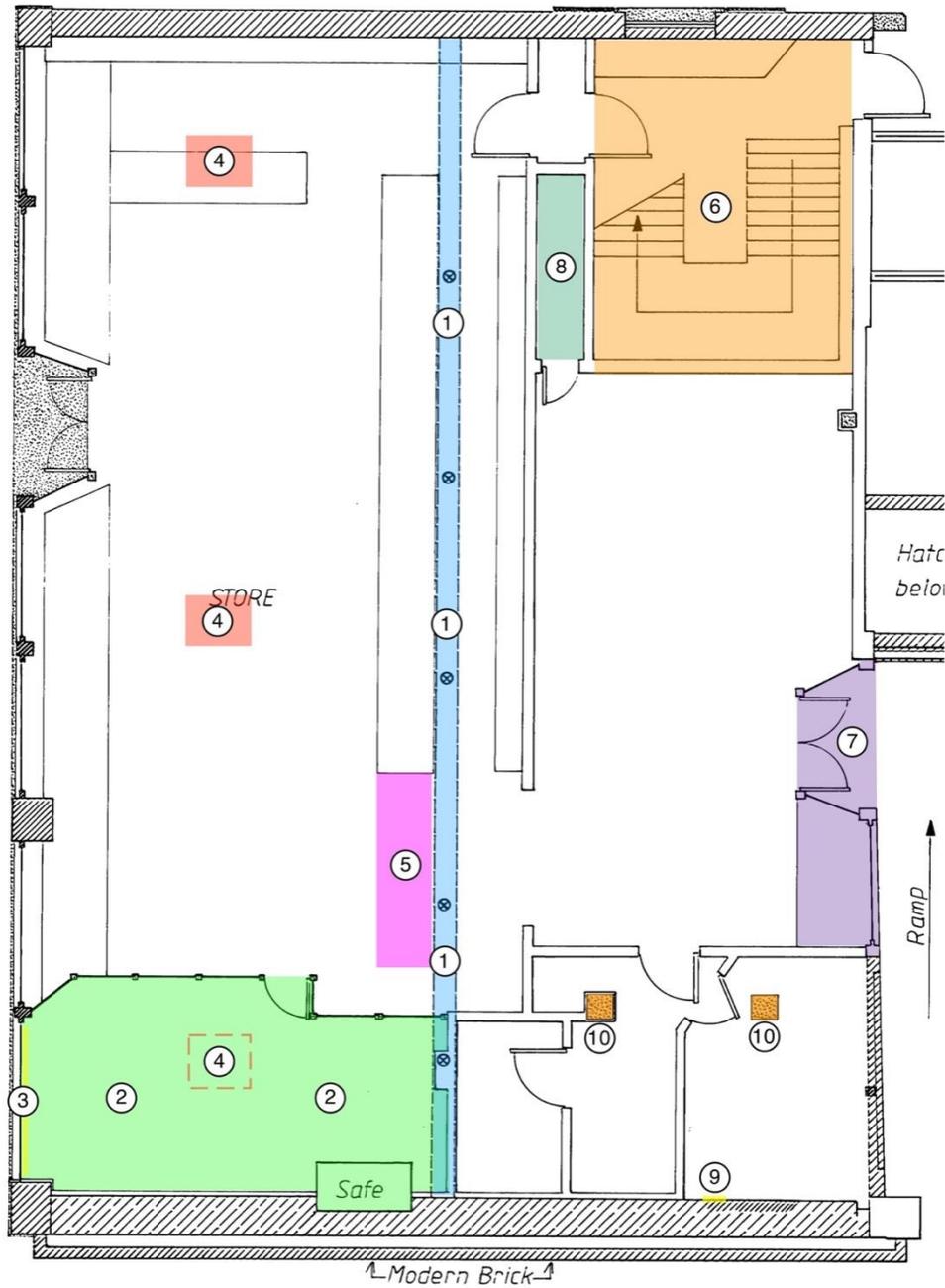


Figure 4-2 – An annotated copy of the ground floor plan, front portion. North is to the top.



Plate 16 – *The office end of the Robertson Store reconstruction, looking south.*

Photographs on file in the museum library show that during the building's conversion to a museum, two blocked hatches were exposed in the ceiling over the shop floor (#4, Figure 4-2). It is not clear at what point during the nineteenth century these hatches were closed off, but while in use the hatches would have provided access for goods from the storage on the upper floors down to the waiting customer on the ground floor.

During renovations in 2010, the presence of a third hatch was noted between the second and third floors closer to the southern wall (see Section 4.4 below). In her report Kathy Mugridge also notes a third hatch near the southern wall, over what is now the office space (#4, outline only, Figure 4-2). This hatch may have serviced a secondary shop that Stephen Archibald postulates occupied the southern third of the ground floor in the early years of Robertson's occupation.⁶⁶ Presumably this hatch was subsequently blocked when Robertson began using this section of the building as office space.

A worn area of the floor next to the shop's long counter provides physical evidence of changes during museum renovation in the late 1970s (#5, Figure 4-2) (Plate 17). To allow access from inside the museum out into the store, part of the counter was cut off and moved to the north end of the building, where it was rotated 90°.

⁶⁶ Archibald c.1979:4

Behind the shop front, the ground floor is partitioned into a series of smaller rooms. Against the north wall, a modern staircase has been installed above concrete reinforcements in the basement (#6, Figure 4-2). Towards the middle of the building is an open area used for visible storage and a few historic tool displays. This area is also the way that the public now enters the storefront. An approximate replica of the main Water Street entrance to the store has been built on the west or rear wall of this section of the building (#7, Figure 4-2), allowing public access from the infill section near the main entrance to the Maritime Museum of the Atlantic. Charred timbers were visible in the ceiling of this room during the 2010 renovations.⁶⁷



Plate 17 – *Worn floorboards show the original length of the shop's counter.*

A long narrow room running between the staircase and the shop front is accessed through a slim door from this area (#8, Figure 4-2). Currently, the

⁶⁷ Conlin 2012:2.

closet-like room serves no purpose, but consultation with pre-renovation plans from 1977 show that this room was part of a corridor and staircase that allowed access to what was probably the packing room in the heyday of travelling salesmen for Robertson & Son.



Plate 18 – Charred timbers above the visible storage area behind the Robertson Store reconstruction. Image courtesy Dan Conlin, Maritime Museum of the Atlantic.

Against the south wall are three smaller rooms with no public access: an electrical and service room, a staff washroom, and an open area between the two rooms. The southern wall of the building is of rubble ironstone like the basement, but it is exposed on the ground floor in only one location, the electrical room. Some twentieth century brick repair is visible in this wall (Plate 19), as well as a sandstone thimble overhead that likely serviced a second woodstove for the rear packing area until the early to mid-twentieth century (#9, Figure 4-2) (Plate 20). The second fireplace is presumably blocked and disguised behind drywall installed below the sandstone thimble. It is not clear

which stove ran to this thimble and at what time; perhaps it was connected to a stove in the unnamed room that included oil pumps and a scale for the adjacent packing room.

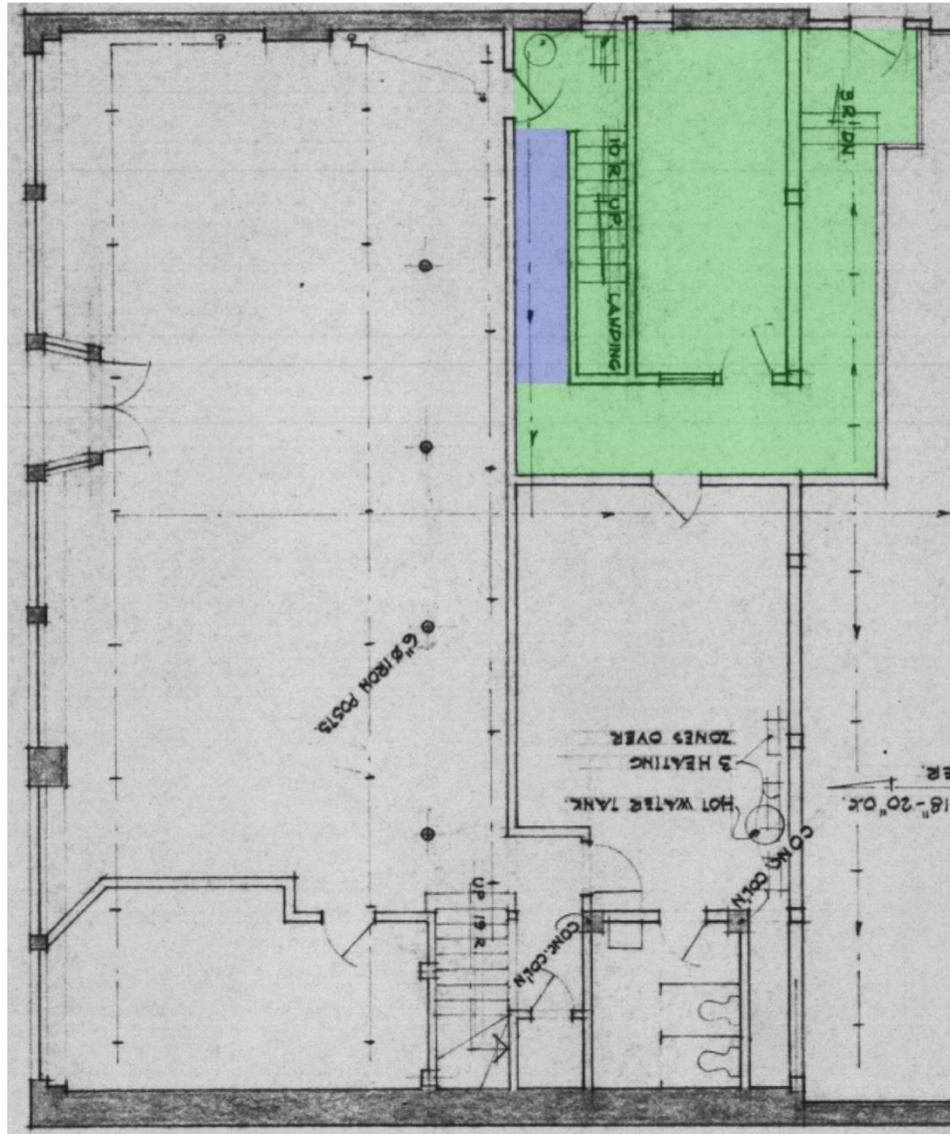


Figure 4-3 – Detail of a 1977 architectural plan, showing the remnant corridor (blue) as part of the larger packing area (green).⁶⁸

Two concrete pillars are found in this area, one in the service and electrical room and the other just outside it disguised by drywall (#10, Figure 4-2). Both are positioned directly over pillars in the basement and below the northeast and northwest corners of the concrete vault on the second floor, allowing the weight to be borne from the second floor straight down into the basement footings.

⁶⁸ Hettema 1977, Sheet 1 of 4.



Plate 19 – *The south wall of the electrical room, showing twentieth century brick repair partially behind a drywall sheet.*

A blocked window is also disguised somewhere along the southern wall, though it was clearly exposed during 1970s renovations of the building (Plates 21 and 22). This window was opened sometime after 1895, when the saloon abutting the southern wall was demolished. The window allowed office occupants to view the adjacent anchor yard throughout the late 1890's.



Plate 20 – A blocked sandstone thimble above the drywall sheet in the electrical room.



Plate 21 – A photograph taken during the building's transformation into the Maritime Museum, showing a blocked window in the southern wall of the store (blue). Image courtesy Stephen Archibald.

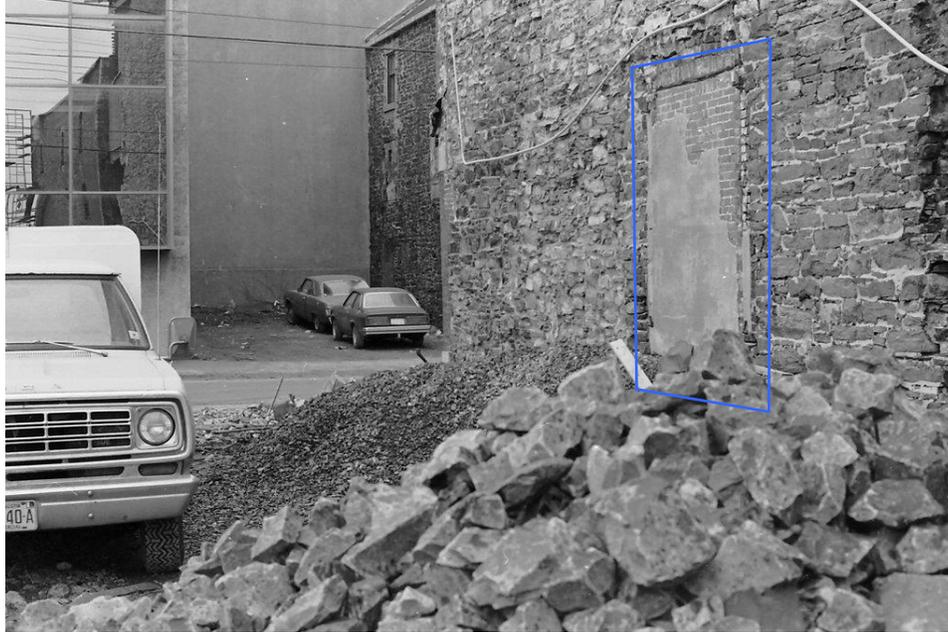


Plate 22 – A second photograph taken during renovations, showing the blocked window (blue) from the southeast. Image courtesy Stephen Archibald.

Infilled Portion (Alleyway)

On the ground floor, the formerly external west face of the brick warehouse is very obvious, with two windows and a door facing the alley (#1, Figure 4-4) (Plate 23). The hinge pins for iron shutters are still present on all three openings in this wall (#2, Figure 4-4). Such security and fire safety measures would have been in place on all accessible external windows on a warehouse building like this one.

No part of the pre-infill façade from the rear or east wall of the Robertson Store remains. Instead, the length of this wall incorporates an enlarged historic photo framed by modern brick, the replicated front entryway to the hardware store, and a replica sign for Wm. Robertson & Son (Plate 24). The tiled floor of the alleyway slopes downward to the north, and therefore a ramp allows access to the hardware store entrance. The hatch to the basement level is disguised beneath a wooden platform used for a slocum and display of barrels and boxes marked with the Robertson name (#3, Figure 4-4) (Plate 25).



Plate 23 – *The east wall of the infill portion was once the external side of the west wall of Albro’s Brick Store.*



Plate 24 – *The infill portion of the ground floor, looking north.*

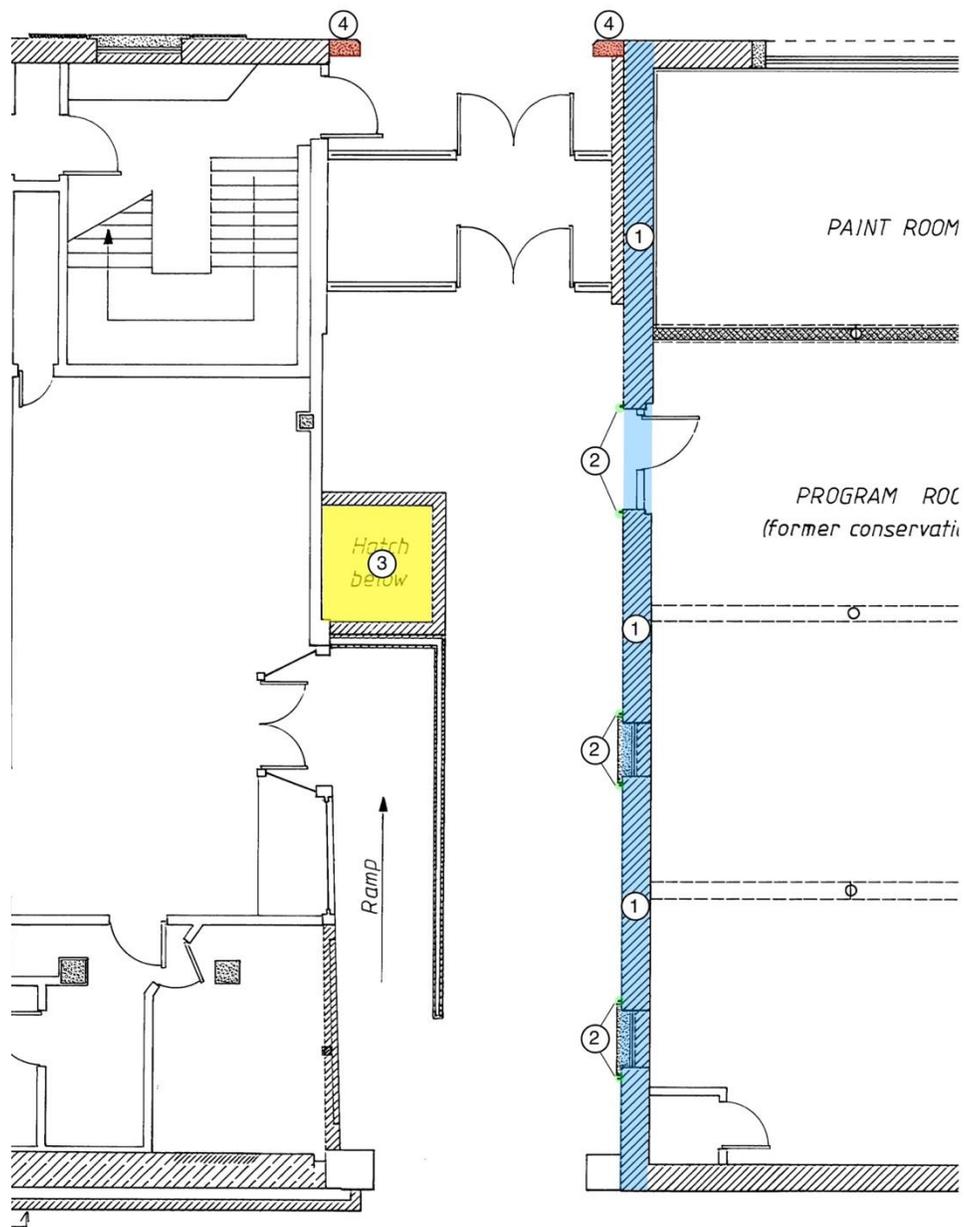


Figure 4-4 – An annotated copy of the ground floor plan, infill portion. North is to the top.

At its north end, the alleyway features two modern sets of glass doors, leading outside to a partially enclosed space bordered by two granite posts (#4, Figure 4-4). Both posts are chamfered, and were likely placed to prevent damage to the brick walls when heavy loads of cargo were brought in or out of the historic loading door at this location. Overhead, a large wooden lintel can be seen from the inside. Some Roman numerals were visible, but it is not clear if this timber is contemporary with the 1880s infilling or if it is a much later addition (Plate 26). Roman numerals were more typically used to help carpenters assemble pre-

made sets of mortis and tenon joints, which are not present on this timber. It may, in contrast, be a mark made by the sawmill where it was cut. The circular saw marks on the beam indicate it was cut after 1870, when technology to run large circular saws for cutting large slabs of wood had arrived in Nova Scotia.⁶⁹



Plate 25 – *The opened hatch leading to the basement.*

⁶⁹ Robertson 1986:50.



Plate 26 – *Roman numerals carved into the lintel above the north entrance to the alleyway.*

At the southern end the alleyway is open to the modern museum lobby, with the entryway framed only by modern tile-covered pillars.

Rear Portion (Brick Warehouse)

The ground floor of the brick warehouse is divided into three large rooms, with a smaller office and washroom built into the largest of these rooms. Occupying most of the west wall is an open program room (#1, Figure 4-5), housing children’s activity materials as well as chairs and tables. A small electrical closet is found at the northeast corner, while a closet not accessed during the survey is positioned at the southwest corner, presumably used for materials storage. The north and east walls of the room are modern painted cinderblock.

The room encompasses the door and two windows visible from the infilled section. Recesses in the brickwork and iron straps indicate that a set of wooden inner doors was coupled with the external iron shutters at what is now a modern glass door into the room (#2, Figure 4-5) (Plate 27).

The room also includes four cast iron posts supporting two wooden running beams that are partially hidden by a dropped tile ceiling. Unlike the welded posts in the Robertson Store, these posts feature cast tops (Plate 28). The posts are likely original to the building, and resemble a common style of construction in the mid-nineteenth century United Kingdom: cast iron posts were used on the ground floor to provide superior strength under compression compared to wooden posts. Upper floors, which bore less weight, could be of cheaper wood. The style was probably common in Halifax as well, so long as cast iron posts were available, but to the author’s knowledge no other examples survive today.

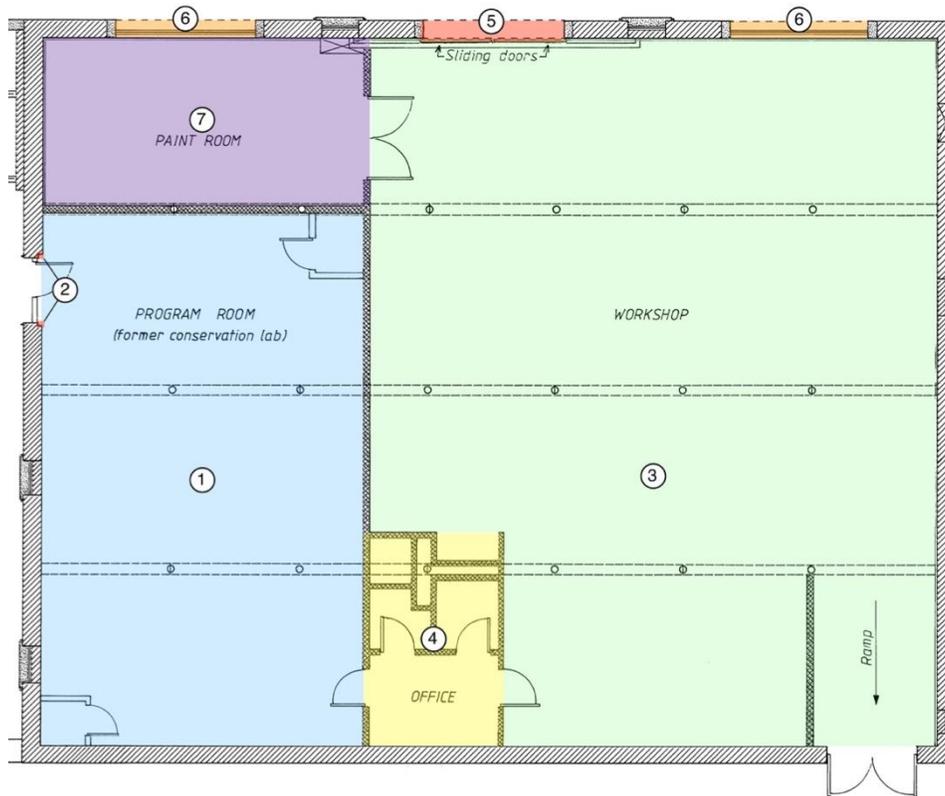


Figure 4-5 – An annotated copy of the ground floor plan, rear or warehouse portion. North is to the top.

The second and largest room of the warehouse ground floor is an open carpentry workshop (#3, Figure 4-5) (Plate 29). The workshop takes up just under two thirds of the building on its eastern end, and is completely open except for a small office, shower, and washroom constructed from cinderblocks in the southwest corner (#4, Figure 4-5).

Like the program room, the dropped tile ceiling in this area partially obscures the long east-west running beams. The bottoms of the beams are visible, and it is easy to see that each individual timber is just over twenty feet long, meeting in hooked (or notched splay) scarf joints that are staggered over every second iron post.

The main door into the workshop from the museum gallery is found at the southeast corner of the building. The square cut of the opening, topped by a steel beam, makes it clear that this entrance was added during the 1970s renovations. The same is true on the second and third floors directly above this door, where a long corridor connects each floor to the new museum building to the south.



Plate 27 – *The arched doorway at the northwest corner of the program room, showing mortared recesses and iron straps (inset) suggesting an inner set of doors was once present. Looking west.*

The floor is modern concrete, and a set of sliding wooden doors allows access to the outside on the north wall (#5, Figure 4-5). One other opening that was originally an arched door is now partially blocked to form a window (#6, Figure 4-5). Smaller arched windows are found between each old door.

The final area of the ground floor is a long and somewhat narrow paint room in the northwest corner of the brick warehouse (#7, Figure 4-5) (Plate 30). Two cast iron posts have been disguised behind wooden planks and a cinderblock wall, while the other walls are plain painted drywall. A third warehouse door has been converted into a window in this room (#6, Figure 4-5).



Plate 28 – *The cast iron top of one of the posts in the program room.*



Plate 29 – *The workshop, looking northeast.*



Plate 30 – *The paint room, looking west. Note the boxed-in cast iron beam inside the cinderblock wall (red).*

4.3 Second Floor

Front Portion (Above Robertson's Store) and Infilled Portion

Much of the front half of the second floor has been heavily renovated for museum use and now bears little resemblance to its historic layout. A meeting room and two storage rooms line the front of the building overlooking Lower Water Street. All of these rooms are finished with modern drywall and a dropped ceiling, disguising the stone, brick, and wood of the old building. The kitchen attached to the meeting room is likewise finished in modern materials.

Two steel posts with welded tops are exposed in the meeting room, identical to those on the ground floor except that they are plainly painted. Their presence seems to suggest that fire damage on the ground and second floors in the 1940s was enough to merit the replacement of the posts on both floors. The running beam above cannot be seen, and attempts at raising the ceiling tiles during the survey provided only a limited view of the beam and floor joists above.

During the 2010 renovations, the ceiling above the meeting room (also the floor of the library above) was exposed, revealing at least one joist that has clearly been reused, given its Roman numeral and the pockets cut into the board for no apparent purpose in its current location (Plate 31). A blocked hatch near the southern wall was also exposed, as was a second possible hatch immediately east of the central running beam. Evidence of one or both of the 1940s fires was present on a heavily charred wooden lintel above a meeting room window (Plate 32).⁷⁰

⁷⁰ Conlin 2012:2.



Plate 31 – *A reused joist in the ceiling of the second floor meeting room. Note also the new reinforcement beams and the heavy charring on the old beam at the bottom of the photo. Image courtesy Dan Conlin, Maritime Museum of the Atlantic.*

The second floor also includes a washroom and a small theatre, as well as a coatroom, projector room, and another small room (these latter three were not accessed during the survey, and measurements were estimated based on existing plans). Again, much of the original building is disguised behind modern materials. Eight wooden posts have been left exposed along what was once the back of the Robertson Store facing the infilled alleyway. Of these, two are modern replacements that are sympathetic to the original building style (Plate 33, left), while the rest are historic. Two of the posts have been painted (Plate 33, right) (#1, Figure 4-6), suggesting either that they have been reused from another building or that this portion of the building was more finished than other areas at a previous time. Most likely they represent reuse from another building after one of the fires damaged the original posts.



Plate 32 – A heavily charred lintel above a west-facing window in the second floor meeting room. Image courtesy Dan Conlin, Maritime Museum of the Atlantic.

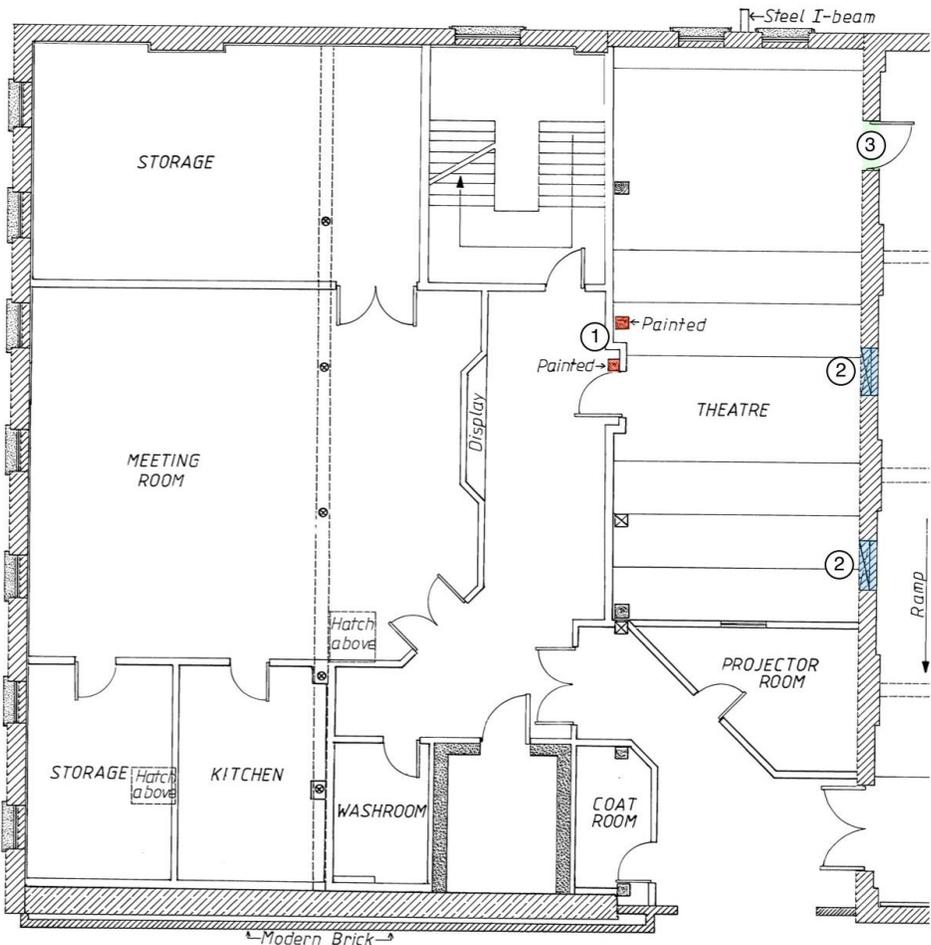


Figure 4-6 – An annotated copy of the second floor plan, front portion. North is to the top.



Plate 33 – A new wooden post in the theatre (left) and one of two grey-painted posts bordering the theatre’s west wall.

The concrete vault, though not accessed during the survey, was most likely installed during renovations following one of the mid-twentieth century fires in the building, when most of the office space was moved up to the second floor. The fine quality of the concrete on the pillars of the ground floor and basement below the vault support this hypothesis, as pre-1940s concrete was generally more coarse and non-uniform.

Like the ground floor, the exterior face of the brick warehouse on this level is very clear, forming the east wall of the theatre and projector room in the infilled section. Two exterior windows have been bricked in, leaving no trace on the western side (#2, Figure 4-6), while a third has been converted to a door leading from the theatre out into the Days of Sail gallery in the brick warehouse (Plate 34) (#3, Figure 4-6). The floor joists in this room, and in the room above, are secured to what was once the exterior of the brick warehouse using a running beam bolted into the brick.



Plate 34 – A door leading from the theatre into the northwest corner of the Days of Sail Gallery, where the freight elevator was once located.

Rear Portion (Brick Warehouse)

Most of the second floor has been left open to form the Days of Sail gallery, a museum exhibit that makes excellent use of the historic character of the building. Creaking wooden floors add to the atmosphere, though given the complete absence of internal hatches, lifts, or staircases on this floor it is presumed that part or all of this floor was added during the 1970s renovations.

The interior of this storey is entirely wooden, with wood floors and ceiling joists as well as wooden posts rather than cast iron supporting the wooden running beams. Hooked scarf joints are again present (Plate 35), staggered so that a joint on this floor lays over a solid beam on the ground floor.

In the northwest corner, new ceiling joists and slight staining on the brick walls clearly illustrate the old location of the freight elevator, which was removed during the 1970's museum renovations (Plate 36) (#1, Figure 4-7). The elevator seems to have been a substitute for internal staircases in the warehouse, as there are none present on the 1977 architectural plans of the building.



Plate 35 – One of the hooked scarf (or notched splay) joints in the middle running beam. Note the dramatic reduction in post size from the second to the third floors (the base of the third floor post is visible resting on top of the joint).

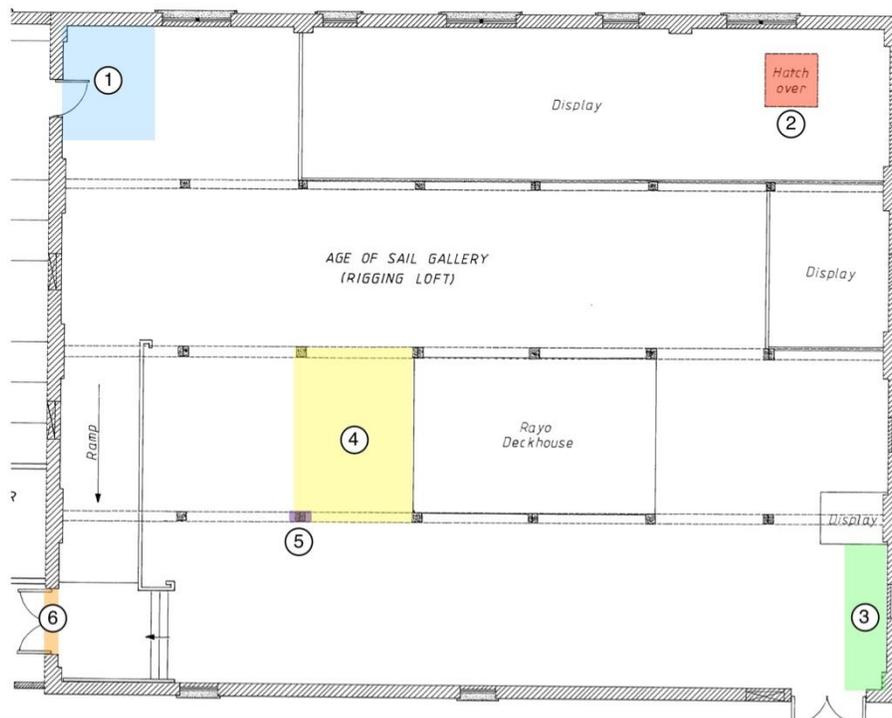


Figure 4-7 – An annotated copy of the second floor plan, rear portion. North is to the top.



Plate 36 – *Slight staining beside the window (blue) and new floor joists above clearly show where the freight elevator was located until the late 1970s. Northwest corner, looking north.*

A blocked hatch in the ceiling of this level is present in the northeast corner, within an enclosed museum display (Plate 37) (2, Figure 4-7). It is suspected that another hatch is found in the floor directly below, but raising the ceiling tiles on the ground floor revealed only some replaced beams suggesting but not confirming that a hatch could have been present. The known hatch would have allowed George Mitchell to move goods around his 5/12ths of the building without using any part of William Robertson's western 7/12ths.

In the southeast corner, a modern joist and metal joist hanger connected to a historic crosspiece suggest that the second- to third-floor stairs could have been located here (Plate 38) (3, Figure 4-7). The eastern 10' of both the middle and the northern running beams just north of this location appear to have been

replaced with beams reused from another building, as they have been partially painted and include late 1970s graffiti while the beam portions adjacent have no such paint traces. The need for replacement may have been due to a fire in the neighbouring molasses warehouse, or to water or salt damage from the nearby shoreline.



Plate 37 – *A blocked hatch in the northeast corner, inside an enclosed glass display area.*



Plate 38 – *An extra crosspiece and a new joist near the southeast corner suggests the former presence of a staircase. Looking north.*

Some fire damaged and notched joists are present near the center of the building (Plate 39) (#4, Figure 4-7). The fire damage and repair is obvious, but

one notched beam is not so easy to explain. Perhaps it was to allow clearance for some equipment related to the central hatch for moving goods prior to the installation of the freight elevator. Documentary evidence points to this area as the location of the central hoist,⁷¹ but the pattern of notches and joist truncations does not appear to be consistent with this. Evidence on the third floor suggests that this hatch was located some ten feet to the north of this area of damage. The second-floor joists in the area where the hatch may have been located unfortunately show no sign of modification, but it is possible that they were replaced due to more significant fire damage.

Immediately to the south of this fire-damaged area, a joist, the top of a post, and a section of the running beam are saturated in an oily substance, though the oil stops abruptly at the hooked scarf joint of the running beam (Plate 40) (#5, Figure 4-7). This indicates either that some stored oil was spilled in this area, or that machinery of some kind was stored on the floor above and the lubricating oil seeped down into the wood below. The running beam on the east side of the scarf joint, untainted by oil, was therefore probably replaced due to the nearby fire damage.

The door used to enter the Days of Sail gallery is wide and arched (Plate 41), initially suggesting that it could have been a “taking-in door” for goods rather than a window that was converted after the infill building was added (#6, Figure 4-7). However, it is more likely that this door was added and purposely replicated the distinct brick arch during the 1970’s museum renovations. The 1977 plans show no sign of an opening in this area prior to renovations. The strap hinges are of nineteenth century make and have been reused from elsewhere.⁷²

Nails and spikes have been partially driven into many of the joists all around this floor, suggesting that certain areas of the second floor were used to stockpile material that was stored in a hanging position. The nails follow no particular pattern and may represent different phases of goods storage, and so unfortunately their exact purposes may never be known. Oral history indicates that in the early twentieth century, this floor was used to store axes and similar implements that may have been best stored in a hanging position.⁷³

⁷¹ Dalhousie University Archives 1905.

⁷² Stephen Archibald, personal communication April 2012.

⁷³ Mugridge 1980:40.



Plate 39 – *Modified and truncated beams near the middle of the warehouse. Top and middle: Looking east. Bottom: Looking north.*



Plate 40 – *Oil-saturated wood on the southern running beam, looking northeast.*

The spikes that hold the post caps to the running beams appear to be hand-wrought, with heads that have been beaten into faceted shapes by a blacksmith.

Because the height of the floor in the Robertson store and infilled sections of the building do not match with the brick warehouse, a ramp and a short set of stairs have been added to allow access from the infill portion into the Days of Sail gallery.

The external brick walls become thinner by one brick-width (approximately 4") near the ceiling on this floor (Plate 42). This serves the dual purpose of creating a ledge on which the upstairs floor joists rest, as well as reducing the weight of the building where less load-bearing capacity is needed on the top floor. One width of brick in additional thickness has been added to the sections of wall where the running beams rest, as well as to all four corners of the building, channeling excess weight downwards while minimizing brick usage on the second and third floors.



Plate 41 – *The main doors to the Days of Sail gallery, looking east.*



Plate 42 – *The south wall at the top of the second floor, showing a step back by one brick width to allow the floor joists to rest above it.*

4.4 Third Floor

Front Portion (Above Robertson's Store) and Infilled Portion

This floor and the floor above are occupied chiefly by the museum's library and archive, along with an adjacent office and a boardroom that can be accessed from either the library or the offices in the warehouse portion of the building.

Recent renovations in the library include the addition of six new wooden posts along the central running beam (Plate 43) and two more at the library entrance (#1, Figure 4-8). Steel brackets have also been added to secure the posts to the running beams above and below, as they had on the modern wood posts on the second floor. The extra posts allow the weight of the books and archival material on the fourth floor to be borne down onto the stronger steel posts of the first and second floors below. The floor joists forming the base of the fourth floor above have also been increased in number to support the extra weight.



Plate 43 – *Old and new posts along the central running beam in the library. Looking southwest.*

The northern wall has been covered in drywall, but it is still possible to see the outline of the chimney for the ground floor stove, as well as a thickening of the brick wall to support the central running beam. The running beam itself has been strengthened with planks on either side of its length, disguising the presence of any scarf joints in the long beam.

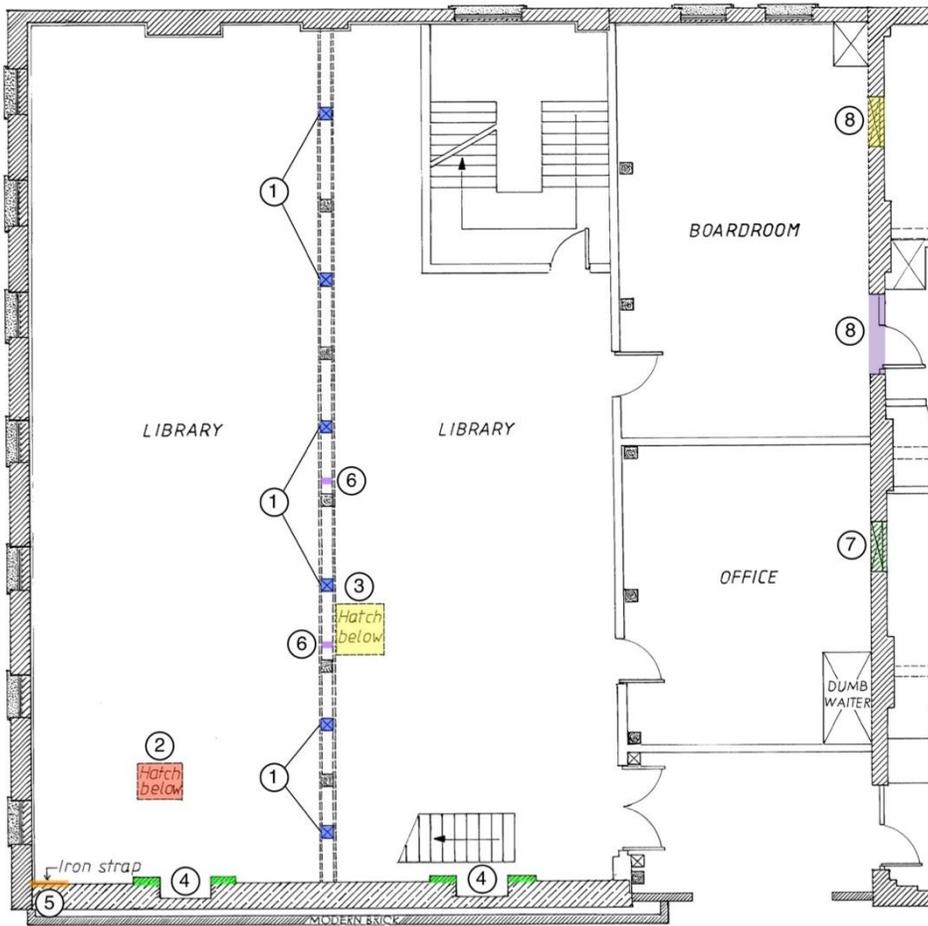


Figure 4-8 – An annotated copy of the third floor plan, front portion. North is to the top.

One of the wood posts along the running beam features four bolted metal straps, possibly to prevent the cracked post from splitting any further (Plate 44). The caps for the posts are secured to the running beam with nails that appear to be hand-wrought, judging from their irregular heads.

The 2010 renovations of this area revealed planked flooring with wire nails, beneath which hundreds of older square nails had been hammered flat (Plate 45). Also exposed at this time was a blocked hatch in front of the western fireplace (Plates 46 and 47) (#2, Figure 4-8). A second possible hatch, similarly blocked, was noted adjacent to the wooden post with metal straps (Plate 48) (#3, Figure 4-8). Unfortunately, it was necessary to remove the hatch framework in order to further strengthen the floor.⁷⁴

⁷⁴ Conlin 2012:3.



Plate 44 – One of the iron straps on the second original post from the south wall, looking west.



Plate 45 – Nail samples collected from the oldest floor layer remaining in the third storey library. Image courtesy Dan Conlin, Maritime Museum of the Atlantic.



Plate 46 – The blocked hatch (red) noted near the western fireplace in the south wall. Image courtesy Dan Conlin, Maritime Museum of the Atlantic.



Plate 47 – Detail of one of the mortis and tenon joints used to support the hatch crosspieces. Image courtesy Dan Conlin, Maritime Museum of the Atlantic.



Plate 48 – A second possible blocked hatch, again carefully jointed, adjacent to the central running beam (bottom of frame). South is to the top. Image courtesy Dan Conlin, Maritime Museum of the Atlantic.

The south wall of the building has been left exposed in the library, displaying the random-coursed ironstone wall, which appears to have been repointed sometime in the twentieth century (Plate 49). Three stringcourses of modern brick have also been embedded into the wall. This was perhaps where wood was originally mortared in to allow for a surface to nail into. Brick facades are found on the two open fireplaces on this level (#4, Figure 4-8), though the flues are blocked by plywood and spray-foam insulation.

Renovations in 2010 also revealed that these fireplaces also concealed historic ash and charred wood, which had been covered by a new layer of brick and were underlain by a much older brick floor for the hearth. Samples were collected but to date have not been analysed.⁷⁵

At the southwest corner, an iron strap is visible against the wall, extending from the front of the building (Plate 50) (#5, Figure 4-8). This strap is likely one of several spaced up the height of the structure, used to help secure the newer brick façade of the building to the older stone wall behind it.

⁷⁵ Conlin 2012:3.



Plate 49 – *The eastern end of the exposed south wall, showing new brick stringcourses and the historic brick fireplace mantle.*



Plate 50 – *A 32" iron strap extending along the south wall from the southwest corner, likely helping to secure the brick façade to the main building.*

An interesting bit of graffiti is found on the north ends of two post caps along the central running beam (Plate 51) (#6, Figure 4-8). Both are clearly drawn in ink by the same artist and depict a busty woman with chin-length hair and a pouting or slightly opened mouth. The woman's short hair seems to suggest she was drawn in the 1960s or 1970s, after the fires and before the hardware store

went out of business. The woman's very ample breasts also suggest she was the fantasy of the graffiti artist, presumably a worker who had time to spare while on the third floor retrieving or storing goods. A second, geometric sketch appears on the post with the metal straps (Plate 52). A series of cut marks in the wood suggests it may have been an improvised target for throwing knives or other sharp objects.



Plate 51 – Two nearly identical pieces of graffiti from the north ends of two post caps along the central running beam.



Plate 52 – A geometric design on the south side of one of the posts supporting the central running beam. Looking north.

A final and particularly racy set of drawings is found just under the staircase from the main library to the fourth floor mezzanine. Three people have been drawn in black ink, the first a man with glasses and a goatee shown with a speech balloon: "See! What a feat" (Plate 53). Beside him, a woman stands in a short dress that has been unzipped to reveal her very large breasts (Plate 54). Beside her, a second woman in a short dress stands with her hands behind her hips (Plate 55). Unfortunately the personalities behind these caricatures may never be known, though it seems likely based on the style of drawing and the clothing that they were created in the 1970s or later.



Plate 53 – *A small drawing of a man with a speech balloon, saying "See! What a feat".*



Plate 54 – *A racy sketch of a woman with the front of her short dress unzipped.*



Plate 55 – *A third figure takes the form of a woman in a short dress.*

Inside the library office, fresh mortar and clean brick are the only sign of a blocked window along the exterior wall of the brick warehouse (Plate 56) (#7, Figure 4-8). From the inside of the warehouse, the blocked window still retains its original outline. In the boardroom, another blocked window retains most of its outline on both sides of the wall (Plate 57) (#8, Figure 4-8).



Plate 56 – A blocked window is evidenced on the western side only by the cleanliness of the brick and the new mortar.



Plate 57 – *A blocked window in the boardroom retains much of its original outline. Looking northeast.*

Also notable is a door leading from the boardroom, which is found in the infilled portion, into the brick warehouse (Plate 58) (#9, Figure 4-8). The lack of an arched top indicates it is not original to the building, but there are iron hinge pins for security shutters on either side of the opening. The 1977 architectural plans show that this was the only third-floor access between the front and back of the building, and that a short ramp was necessary to bridge the height difference between the slightly higher infill portion and the lower third floor of the warehouse (Figure 4-9). Both inner and outer metal doors were still in place at this time.

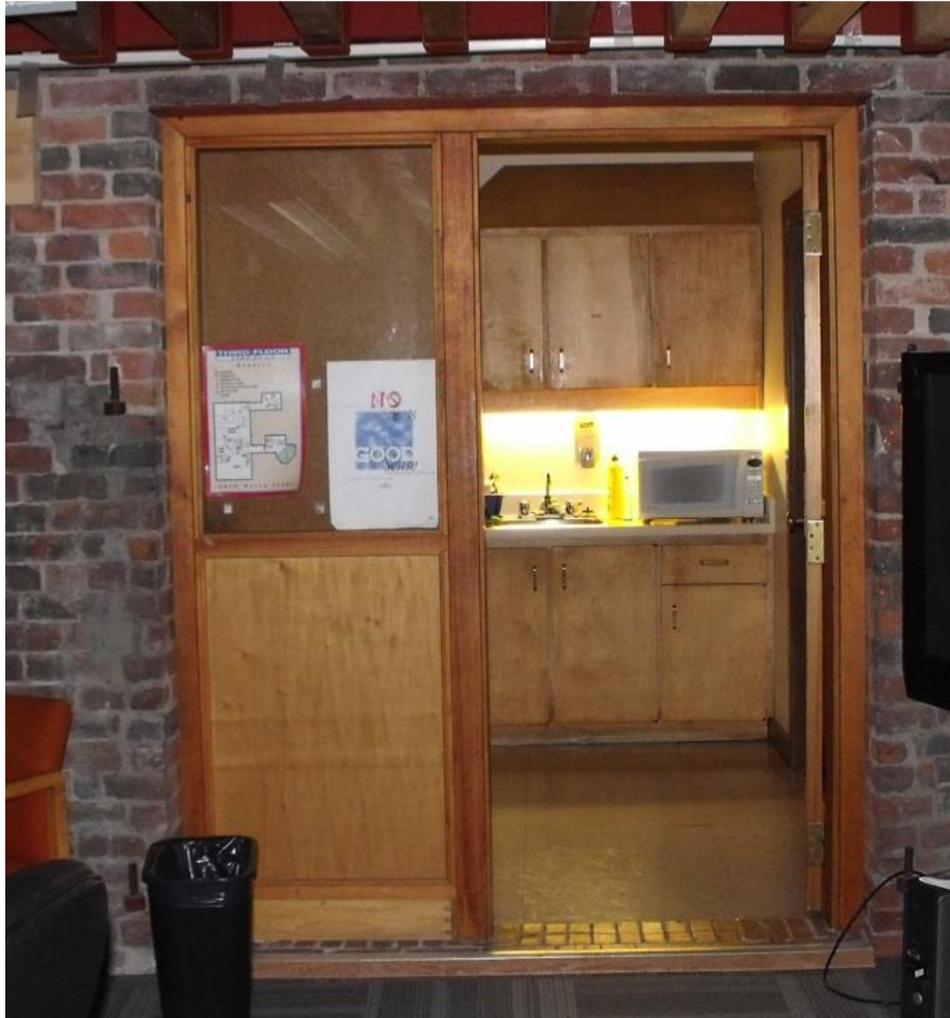


Plate 58 – *A door between the infill portion and the brick warehouse, with brackets meant for a set of iron doors.*

The same architectural plans show that an identical opening and sets of doors were found almost directly below these ones, on the second floor. However, physically the second floor shows only a blocked window and no obvious signs of repair or blocking of a door.

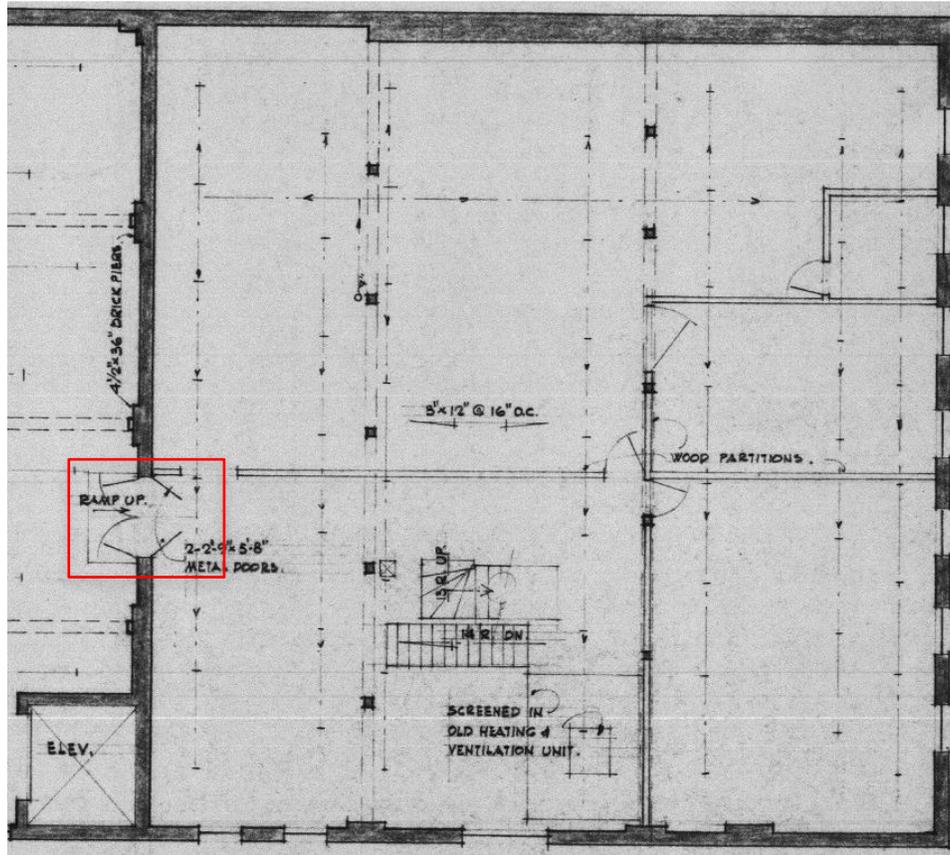


Figure 4-9 – Detail of a 1977 plan, showing the existing doorway between the front and rear portions of the building.^{75 76} Note that north is to the bottom.

Rear Portion (Brick Warehouse)

The outer walls of the top floor of the brick warehouse are used as open office space for museum staff and administration. The central area of the floor has been enclosed into a separate room. Three formal offices are found in the northeast corner, while a kitchen, washroom and electrical room are found along the west wall. The doors to the three enclosed offices on this floor were reportedly salvaged from another nearby waterfront building at the time of its demolition.

Historical documents have indicated that this floor may originally have featured a sloped or mansard roof until sometime before 1895.⁷⁷ Modification of the roof's pitch is very clear on this floor, as each of the three east-west running beams feature a second set of short posts supporting a smaller running beam

⁷⁵ Hettema 1977: Sheet 2 of 4.

⁷⁶ Maritime Merchant and Commercial Review 1899 and FIPCH 1895.

above (Plate 59). The posts are tallest over the southern running beam, becoming about 3” shorter on the middle beam and dropping a further 3” on the northern beam. The entire structure supports a roof that slopes downwards to the north side of the building, presumably for the purpose of efficient drainage before flat patent roofs became efficient at shedding rain and snowmelt. A dendrochronology sample taken from the smaller beam above the southern running beam suggests this change in pitch was constructed around 1902.⁷⁸



Plate 59 – *The southern running beam, showing a secondary set of short posts and a smaller beam on top. Shorter posts are found over the other two running beams, creating a downward slope to the north. Looking northeast.*

Like the floor below, all three main running beams have had their easternmost ends replaced to the nearest post, where a hooked scarf joint attaches them to the older beams (Plate 60) (#1, Figure 4-10). The replacement of these beams could have been due to changes in the roof pitch, or due to water or salt damage, or perhaps most likely in relation to the fire that destroyed the Mitchell & Sons molasses warehouse that was once built against the rear or eastern side of the brick warehouse.

⁷⁸ Maillet et al. 2012:6.



Plate 60 – The exposed eastern scarf joint in the northeast corner, showing a replaced (lighter) section of the beam.

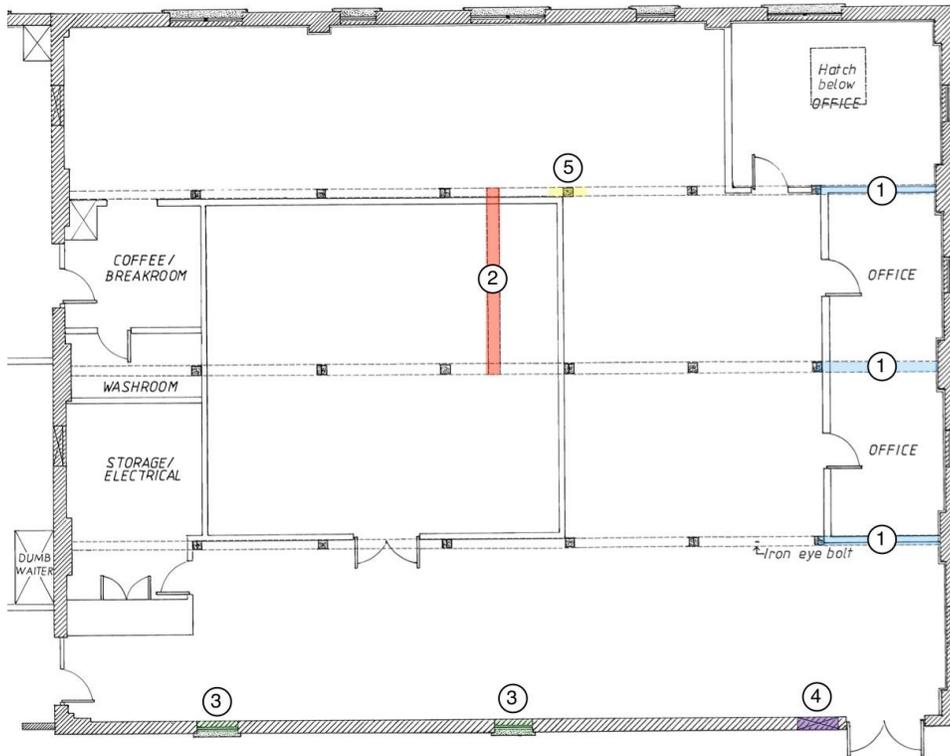


Figure 4-1 – An annotated copy of the third floor plan, rear portion. North is to the top.

Inside the large central room, a large beam has been set crossways, spanning the gap between the northern and middle running beams and resting on top of both (#2, Figure 4-10). It is possible that this beam was placed to provide extra stability or roof support, but it seems more likely that it provided support for a hoist system prior to installation of the freight elevator. Unfortunately, there are no clear signs of a hatch on the floor below to support this hypothesis.

Modern fire shutters have been installed over two of the southern windows that face into the modern portion of the museum (#3, Figure 4-10), while the third has been blocked with brick (#4, Figure 4-10).

One of the post caps and part of the north running beam above have been notched on their north faces, indicating that clearance was needed for machinery or more likely for an internal structure of some sort (Plate 61) (#5, Figure 4-10). The neighbouring post to the west has a single notch of similar depth.



Plate 61 – *Notches carried faintly through from the post cap to the running beam suggest the presence of an internal structure rather than reuse of the wood. Outside the northeast corner of the central room, looking southwest.*

4.5 Fourth Floor

Front Portion (Above Robertson's Store) and Infilled Portion

While the brick warehouse stops at the third floor, the front portion of the building continues to a fourth floor. This floor is entirely taken up by the upper portion of the library, and the middle section of the floor has been cut out to create a mezzanine effect overlooking the main or third floor of the library. A modern open-concept wooden staircase has been installed just off the southern wall, leading from the third to the fourth floors.

The posts and running beam on this level are much lighter than those of the lower floors, reflecting the need for less weight-bearing capacity (Plate 62). Unlike the lower floors and the warehouse, the post caps on this level are beveled rather than smoothly rounded, and secured with wire nails. This is likely related to the conversion of this level from a sloped to a flat roof. The joints of the running beams are square rather than hooked scarf joints, and occur over all but one of the posts. Drywall now disguises the southern stone wall, but photographs from the late 1970s show the outline of the sloped roof in the angle of the stone at the top front of the building (Plate 63).⁷⁹

More graffiti is present on this level, but in this case all of it consists of names and phone numbers written in pencil or marker (Plate 64) (#1, Figure 4-11). Almost all are written on the smooth western faces of the post caps, which appear to have been cut by a band saw. This graffiti likely dates to the 1950s through 1970s, and may be related to hardware store workers who reportedly used this floor to access the roof for taking scenic photographs.

⁷⁹ Stephen Archibald, personal communication May 2012.



Plate 62 – *The fourth and third floors, showing the dramatic difference in post size from the lower to the upper floor. Looking northwest.*



Plate 63 – *The front façade of the building, showing the remains of a sloped roof at the top west corner of the southern wall (red). Image courtesy Stephen Archibald.*

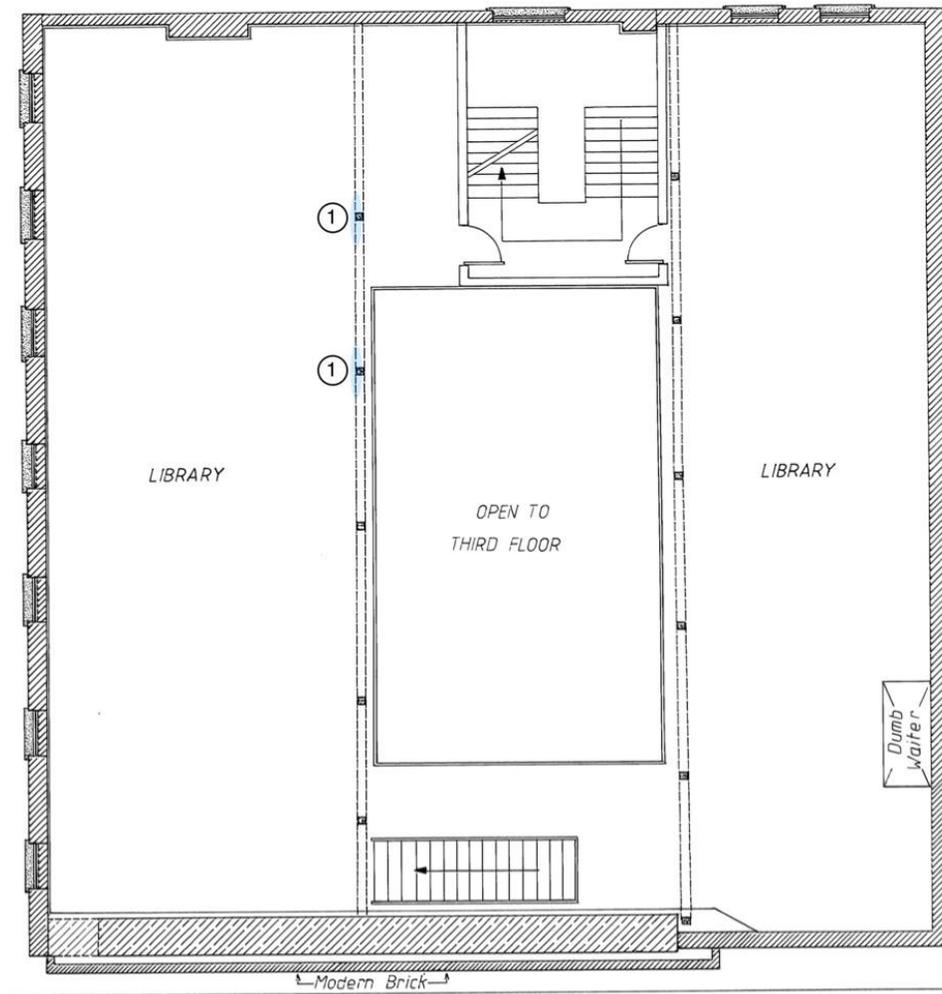


Figure 4-11 – An annotated copy of the fourth floor plan. North is to the top.

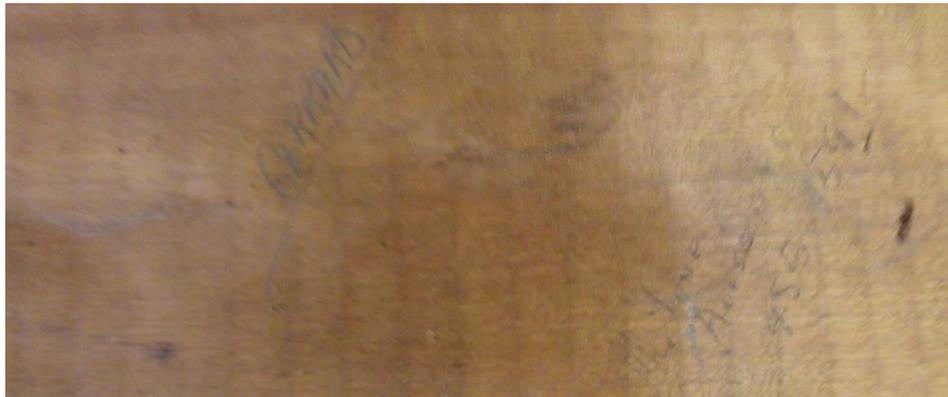


Plate 64 – *Graffiti on the post caps of the fourth floor, west-facing surfaces.*

4.6 Exterior

From the outside, the entire Robertson building is visually unified as a brick structure with granite accents (Plate 65). Beyond this, the three separate phases of construction remain distinct due to the height difference from front to back and differing shades and weathering patterns in the brick.



Plate 65 – *The Robertson Building viewed from the northwest corner of Lower Water and Prince Streets.*

The front façade of the building, which faces Lower Water Street, is comprised of the newest and best quality of the historic brick in a plain stretcher bond (with their long sides facing out). The shop front on the ground floor is almost entirely glass, supported by decorative cast iron pilasters painted in two shades of green. Granite is found along the foundation, as cornerstones and capstones at the northwest and southwest corners, as a slab at the main front door, and as sills, corners, and keystones on the seven windows of each of the upper three floors.

When viewed from the northwest as it is most commonly seen in historical illustrations, the spacing of these windows appears even or nearly even. In fact the spacing is a slight optical illusion, as measurements show that the windows at the near or northern end of the building are spaced closer together than those at the southern end. Whether this was an intentional spatial effect used in the 1899 façade or whether the spacing reflects allowances for internal walls prior to renovation is not clear.

A dental-pattern cornice is found along the top of the façade, wrapping around to the northern side of the building as well. Notations on the 1977 architectural

plans reveal that the cornice disguises several courses of new brick at the top of the building. The cornice appears newly-constructed during the late 1970s renovations, as it is shown as fresh wood in photographs taken by Stephen Archibald.

On the ground floor, the shop front is in itself symmetrical, with two large windows on each side of the door. A brick pillar differentiates the shop space from the office space on the south end of the building, which now takes up only one window but prior to the 1940s fires took up both windows, with a glass office installed later against a third window.

Painted brass rails are found barring all of the windows at approximately waist height. These rails served a practical rather than decorative purpose: with twenty-four bars, saloons, or pubs on Water Street at one point in Halifax's history, the danger of drunks falling through or smashing the expensive shop windows was a distinct possibility.⁸⁰

A small cornice appears above the shop windows, incorporating a rain gutter and a fabric awning into the copper and wood decorative elements.

No surficial signs of the three basement windows remain along the granite blocks forming the base of the front façade.

All three sections of the brick northern face of the building incorporates an American bond of five courses of stretchers (bricks with long sides facing out) and one row of headers (bricks with short sides facing out). The only windows in the Robertson Store portion of the building are found at the northeast corner, where they open onto each floor of the modern fire stairs. Immediately west of this window on the second floor, new mortar indicates the infilling of another set of two narrow windows (Plate 66, red). The 1977 architectural plans reveal that this set and a matching set on the ground floor were present when the building was being converted to a museum (Figure 4-12). The ground floor repairs are no longer distinguishable with the naked eye.

The brick of this wall is of a poorer quality than the brick on the main western façade, with more variation in colour and texture, though still consistent with a late nineteenth century manufacturing date. None of these smaller pairs of windows were present in photographs from 1935 (Figure 3-5) and 1943 (Figure 3-6).

All of the remaining windows in the front portion of the building include pairs of brackets for iron shutters, though the ground-level shutters are the only pair remaining in place. All four floors still had their shutters during the 1943 fire (refer back to Figure 3-6). The windowsills are made of granite, but the top arches are of plain brick as this face of the building was less prominent to the public eye.

⁸⁰ Kline c.1980.

The chimney top for the flue servicing the stove in the front store is visible rising 15 brick courses above the cornice. There is no sign of the secondary chimney over the infilled portion of the building, as seen in historic photos and illustrations until 1943 but not in the 1977 plans or the later renovation plans. Internally there is no clear sign of the chimney. All of this suggests that the extra chimney was removed and replaced with an alternate heating method (or perhaps, no heating) following the 1940s fires.



Plate 66 – *The northern side of the Robertson Store portion of the building. Note the new mortar at the site of two blocked windows (red) and the hint of the ironstone foundation (yellow).*

The sidewalk level drops slightly at the rear of the Robertson Store section, revealing a small area of rougher stonework not originally meant to be seen by the public (Plate 66, yellow).

The infilled section is of a slightly darker and more brownish brick, and its quality is clearly late nineteenth century in origin (Plate 67). The use of American bond in the brick is continued, though not aligned with the neighbouring store wall. A few reddish bricks at the windows and in the top eastern corner suggest repair during the late 1970s. The brackets for the iron shutters are missing at each of these repair points, one on each floor (Plate 65, red). Like the neighbouring windows in the front section, these windows have granite sills and plain brick arches.

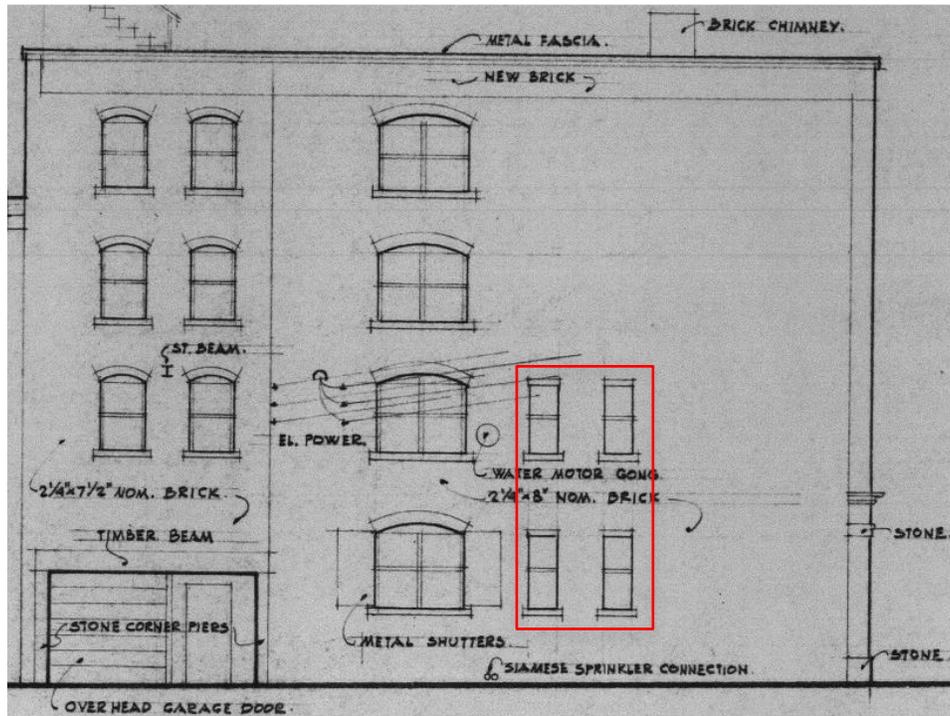


Figure 4-12 – Detail of a 1977 architectural plan, showing four windows now blocked (red).⁸¹

Between the two windows on the second floor of this section, a steel I-beam juts out from the brick. Its position over the wide granite-lined opening on the ground floor suggests it was part of the vertical door described by one of the former store employees,⁸² or part of a hoist used for loading and unloading goods.

In the rear or brick warehouse portion on the north face, granite has been used as jambs to frame the three main loading doors, protecting the brick from damage during rough loading or unloading of goods (Plate 68). The sills are likewise granite, and granite keystones are found above the three largest openings of each floor. At the top floor, the keystones are also brackets paired with granite fascia and capped by copper sheeting to form a decorative cornice.

⁸¹ Hettema 1977: Sheet 4 of 4.

⁸² Mugridge 1980:34.

The brickwork is a modified American bond, consisting of three stretcher courses and one header course until the middle of the second floor, when it changes to the standard five stretchers to one header. The extra header rows on the lower floors would have made for stronger walls to bear the weight of the upper floors and the stored goods.



Plate 67 – *The infilled section on the building’s north face. Note missing brackets for iron shutters at repair points (red).*

A hint of shadowing is still present where a downspout is marked on the 1977 architectural plans (Plate 68, blue). Due to 1970s repair (Plate 68, red), the marks from the downspout on the northeast corner are no longer present.



Plate 68 – *The north (right) and east (left) faces of the brick warehouse. The shadow or “ghost mark” or an old downspout can be seen (blue), as can one of the areas repaired in the late 1970s (red).*

The rear or east face of the brick warehouse is much more plain, though it follows the same modified American bond as the northern wall (Plate 68, left side). Based upon fire insurance plans, visibility of this side of the building would have been minimal due to other buildings standing in very close proximity to this wall. The northernmost ground floor window remains blocked, and it appears that by 1977 all six of the windows original to this face were blocked with brick (Figure 4-13). The museum renovations appear to have included the addition of a small window at the southeast corner of the ground floor, as well as a set of four windows on the third floor directly over those on the second floor.

The type and condition of the brick on this face varies much more highly than on the other walls. The pre-renovation plans indicate that much repair was necessary, as a sloped line of flashing was present in 1977 dividing old brick from new (Figure 4-13). A bad crack was also noted stretching the height of the third floor near the middle of this wall. The level of disassembly during museum renovations is clear in one of Stephen Archibald’s photographs of this wall (Plate 69). Most of the iron brackets for shutters are also missing following repair to the brick walls. None are present on the third floor, as these windows were not original to the period when metal security or fire shutters were necessary.

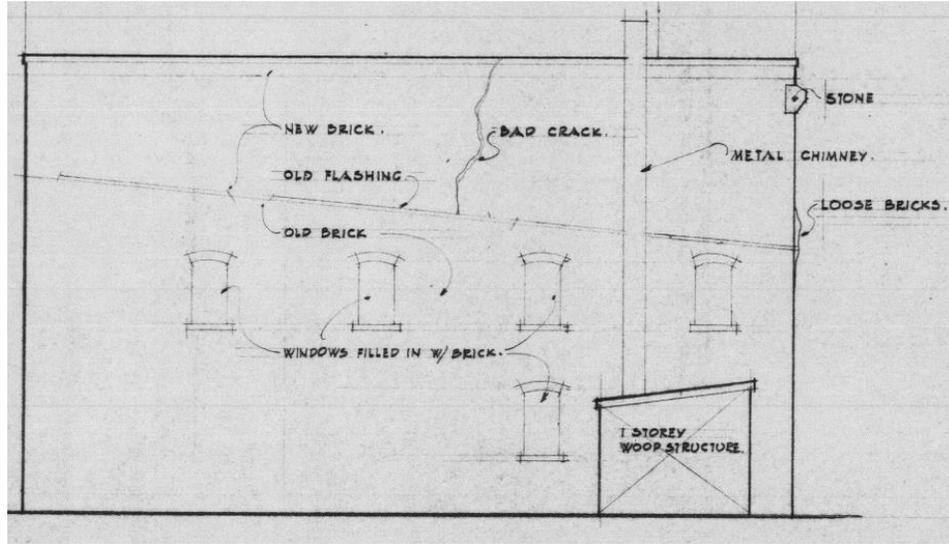


Figure 4-13 – Detail of a 1977 illustration showing the rear or east façade of the building, with all windows apparently blocked.⁸³



Plate 69 – The eastern and northern faces of the building, showing partial disassembly of the third floor brick and northern cornice. Image courtesy Stephen Archibald.

⁸³ Hettema 1977: Sheet 3 or 4.

The top of this wall is very plain, with simple copper flashing placed flat over the brick, which rises by approximately twelve courses above the north and south walls.

The south wall of the entire building is now almost completely protected from weathering by outside elements. The south face of the brick warehouse forms the northern wall of a glass-topped gallery at the main entrance to the museum. Four windows overlook the gallery, while two more at the southeast corner have been blocked.

There is a discernable change in the brick approximately one-third of the way up on the third story windows. Hints of additional shadowing near the southwest corner indicate the edge of the two-and-a-half storey wooden structure that stood adjacent until construction of the modern museum, and therefore the line across the third floor windows likely represents the top edge of this building (Plate 70). The top floor windows do not appear on the 1977 plans (Figure 4-14, red), suggesting that these too were either added or unblocked during museum renovations.

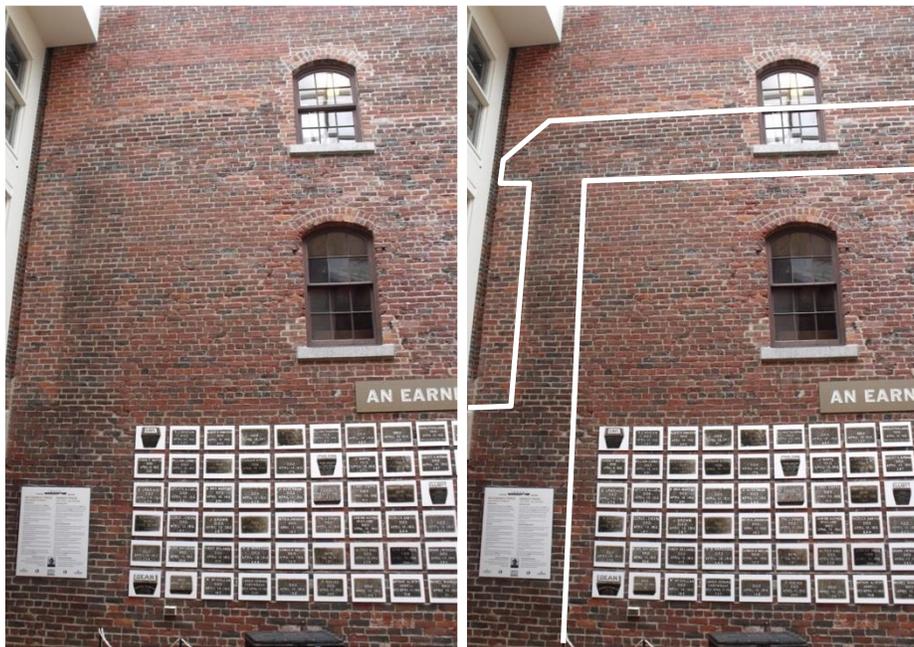


Plate 70 – *The western end of the brick warehouse’s southern face, as it appears (left) and with the shadowing from the adjacent building outlined in white (right).*

There is no longer any form of southern wall for the infill portion of the building; three floors open directly to the modern museum building while the fourth is faced with plain stretcher bond in modern brick.

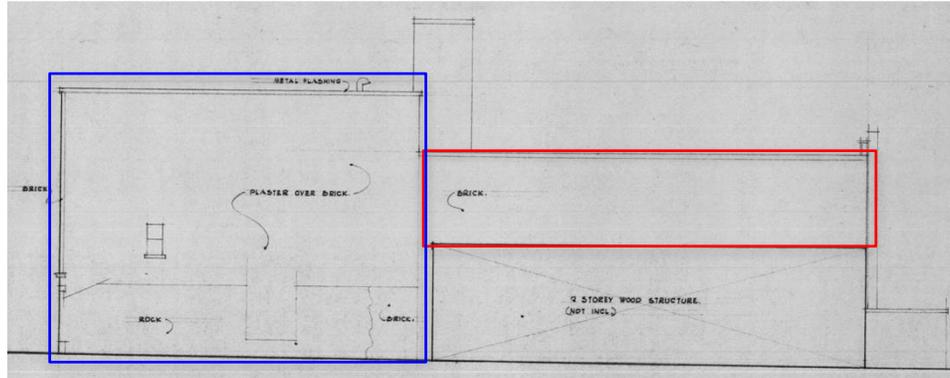


Figure 4-14 – Detail of a 1977 illustration, showing no windows along the southern face of the brick warehouse (red).⁸⁴

The stone southern wall of the store is now entirely hidden behind a modern vapour-proof brick facing (Plate 71). Pre-renovation plans indicate that the stone behind it was plastered down to the first floor, almost certainly because this area of the building was visible to the public for some time (Figure 4-14, blue). A small window appears in the second floor, in very close proximity to where the western chimney would have been positioned.



Plate 71 – Modern brick completely covers the southern stone face of the Robertson Store. Looking northeast.

⁸⁴ Hettema 1977: Sheet 4 of 4.

The ground floor was not plastered and included a large window with iron brackets for shutters, as indicated both on the 1977 plans (Figure 4-14) and the photographs taken by Stephen Archibald (refer back to Plates 21 and 22). This window would have been put in place sometime between 1895 and 1899, when the neighbouring saloon was demolished in favour of an anchor yard.

A small window appears in the second floor, in very close proximity to where the western chimney would have been positioned. This window is also present in a 1979 photograph of the building prior to renovations (Plate 72) showing a second-floor window on the south side was still in use (blue).



Plate 72 – A window in the southern elevation of the building is unblocked and visible in this 1979 photograph (blue).⁸⁵

⁸⁵ Nova Scotia Museum c. 1979.

5. DENDROCHRONOLOGY/ DENDROARCHAEOLOGY

Dendroarchaeology is defined as “the application of tree-ring analysis to the dating of old wooden buildings.”⁸⁶ The technique results in very little damage to the structure, and is able to yield the cut dates of timber beams to within one year, so long as the external ring and preferably some tree bark remain on the beam that is sampled. Long cores are taken from the wooden timbers and beams of a building, and their rings are matched to existing chronologies in order to determine a cut date.

The first round of dendrochronology testing was carried out by the Mount Allison Dendrochronology (MAD) Lab on 28 May 2010, during renovations of the front building’s interior designed to strengthen the library floors.⁸⁷ Nine samples were taken, of which eight were viable for testing. All but one were found to be spruce, while the remaining sample was white pine.

Two samples were taken from the ceiling of the ground floor shop, and four were taken from the second floor meeting room (Plate 73), bathroom, and “phone room.” All but one of these samples yielded cut dates from the late 1820s, and indicated that the building had been constructed sometime during or shortly after 1829. One sample taken from the “phone room” in the front portion had been cut sometime after 1805, suggesting it was reused from another building.

Samples on the third floor were taken not from the front or infill portions of the building, but from the washroom and office area of the brick warehouse. These beams yielded a dramatically earlier date, the washroom beam from just after 1799 and the office area beam from 1808.

The startlingly early results of the testing of these beams prompted a new theory: was the brick warehouse actually the same building that Albro originally purchased, bricked over in the 1860s to adhere to the fire code? In order to test this hypothesis, a second round of sampling was undertaken on April 23rd, 2012.⁸⁸

⁸⁶ Robichaud, Young and Laroque 2011:2.

⁸⁷ Robichaud, Young and Laroque 2011.

⁸⁸ Maillet et al. 2012.

Thirteen samples were taken, of which four were too deteriorated to be viable for testing. Three were taken from the ground floor workshop, five from the second floor Days of Sail gallery (Plate 74), four from the third floor office area, and a final sample from the third floor of the library, since the previous testing had not included a viable sample from this area (Figure 5-1).



Plate 723 – MAD Lab technician Amanda Young takes a core sample in the phone room. Image courtesy Dan Conlin, Maritime Museum of the Atlantic.



Plate 734 – MAD Lab technician Colin Laroque takes a sample in the Age of Sail gallery in 2012.

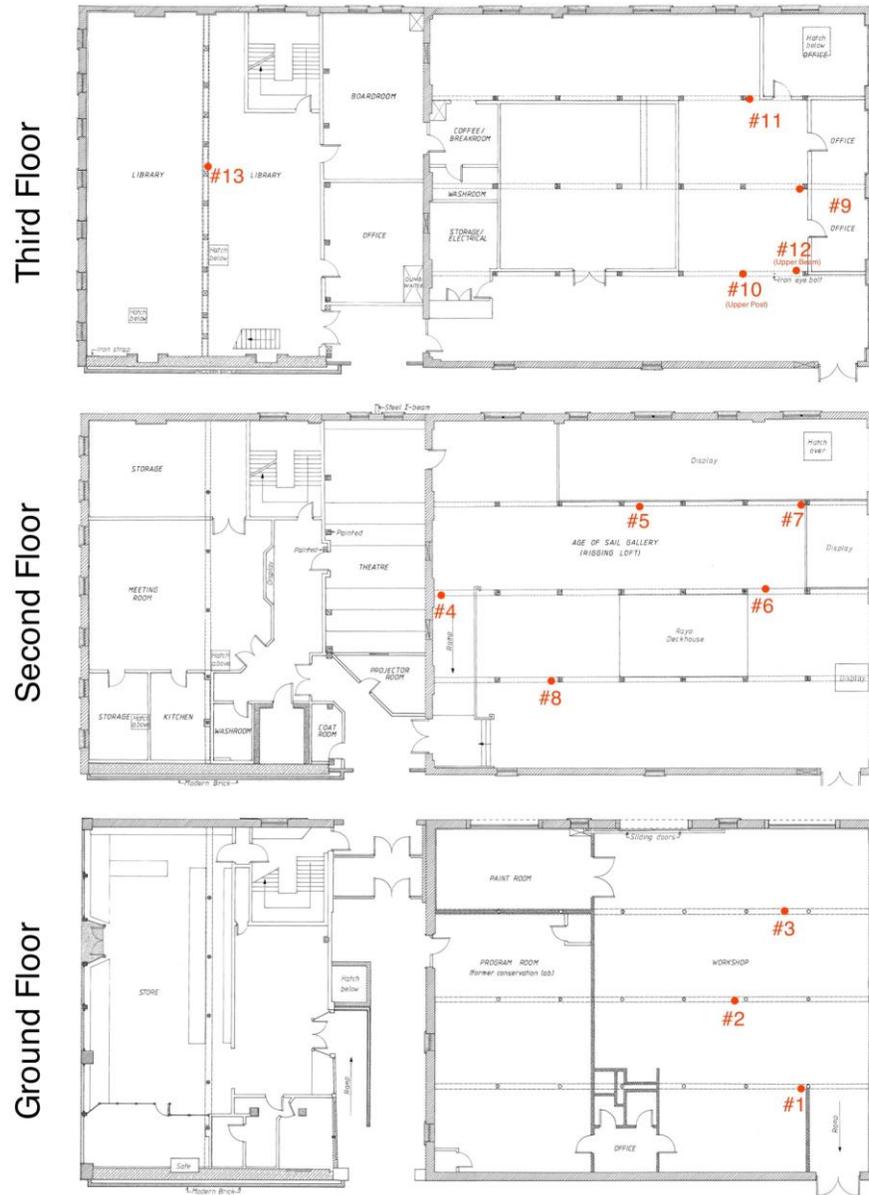


Figure 5-1 – Annotated plans of the ground, second, and third floors showing 2012 dendrochronology sample locations.

All samples taken from the brick warehouse were dated to the 1850s and early 1860s, putting the previous hypothesis to rest: the entire building must have been constructed by Edward Albro around 1861.

The modification to the roof's pitch over the brick warehouse took place sometime around 1902, based upon the single viable sample taken from one of the smaller added running beams above the third floor (Plate 75).



Plate 74 – Colin Laroque takes a sample from the smaller running beam supporting the roof's slope on the third floor.

The single sample taken from the third floor library yielded a very startling result: a cut date of 1733, sixteen years before the founding of Halifax. The beam has obviously been reused, but what was its source? It is possible that the beam was brought here from a French settlement such as Louisbourg or Port Royal, or that it came as a “prefabricated” piece of a house from New England or elsewhere and was subsequently reused when that structure was taken down. Perhaps new running beams of this size were difficult to locate for replacement after the 1940s fires, prompting reuse from another building being dismantled. No matter what its origin, the presence of a beam nearly 100 years older than the rest of the building is a testament to the longevity of wooden post-and-beam construction.

6. RESULTS AND DISCUSSION

Although many small anomalies remain, a clear chronology and pattern of use at the Robertson Building has emerged. The front portion of the building is the oldest, dating to about 1829. Originally it was likely built as a grain warehouse on its lower floors with living quarters on the upper floors. After 1845, it was transformed into a hardware store and ship chandlery, and this use continued until 1976.

The rear or brick warehouse portion was built around 1861, and was used for much the same purpose of storing hardware and ship chandlery materials from its completion until 1976, as well as molasses in the early twentieth century. For the main three floors, the only major changes over time were the internal divisions according to ownership and leased space for storage.

The two separate buildings were most likely connected with an infill building in 1880. Both buildings originally had sloped roofs, but the front building's roof was converted to a fourth floor around 1887, while the roof above the third storey of the brick warehouse was removed between 1889 and 1895, and the building lowered to only three floors. The slight slope of the roof was likely added around 1902.

Fire damage appears to be the main cause of reuse of wood from other buildings, most notably in the floor and upright posts of the library on the third floor. Reuse is also found in the eastern and western ends of the large running beams in the brick warehouse, possibly also due to fire damage when adjacent buildings caught flame.

Few traces of internal partitions remain, except on the ground floor of the front building. At least one partition was once found dividing the brick warehouse, and internal partitions would have been present on the second floor of the front store for office and packing room space. The upper floors of the front store may have been divided long ago, but all trace has since been removed in favour of open storage space.

It is not clear at what point internal plumbing became available at the store. It may have been as late as the renovation after the 1940s fires, as there is no sign of truly antique plumbing except a storm drain pipe in the basement. However, some cast iron pipes in the southeast corner of the basement may date to the early twentieth century.

Visible fire damage is at a minimum, despite records and photographs of two major conflagrations in the 1940s. Much of the damage is concealed behind walls, ceilings, and floors. An explanation for the lack of visible damage on exposed posts and running beams may be that the charring was surficial to these elements, and a harsh sanding or even trimming with a circular saw (skill saw) was enough to remove the blackened material.⁸⁹

⁸⁹ This solution was suggested by a man in the audience at a lecture I presented to the Heritage Trust of Nova Scotia in January of 2012. He pointed out that fire ratings for solid wood suggest a burn rate of only a quarter-inch or so an hour. Unfortunately, this insightful gentleman did not provide his name, and so I am unable to provide full credit here.

7. CONCLUSIONS

This report has been compiled with a great amount of detail in an effort not only to interpret its history, but also to preserve the building in its current state for future researchers. The value of this structure is found not just in its origins, which provides only a snapshot of Halifax's past, but also in the many changes, renovations, adaptations, and human influences on the building that enrich our understanding of Halifax's waterfront heritage in the nineteenth and twentieth centuries. The longevity of the Nova Scotian shipping and fishing industries is reflected in the supporting business of the hardware store and ship chandlery, which was present in one form or another in this building for over 130 years.

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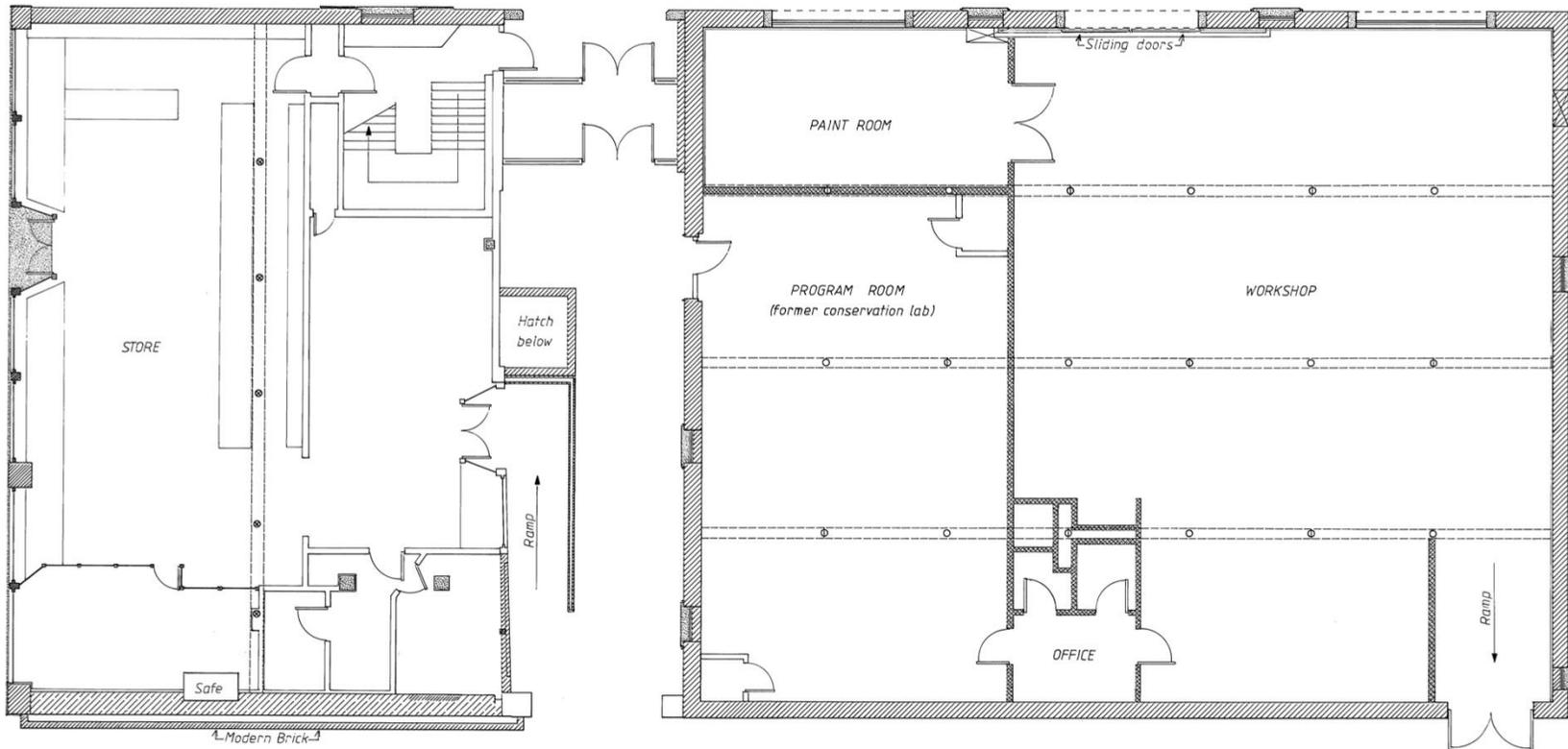
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APPENDIX: 2012 PLANS AND GROUND FLOOR RECONSTRUCTION

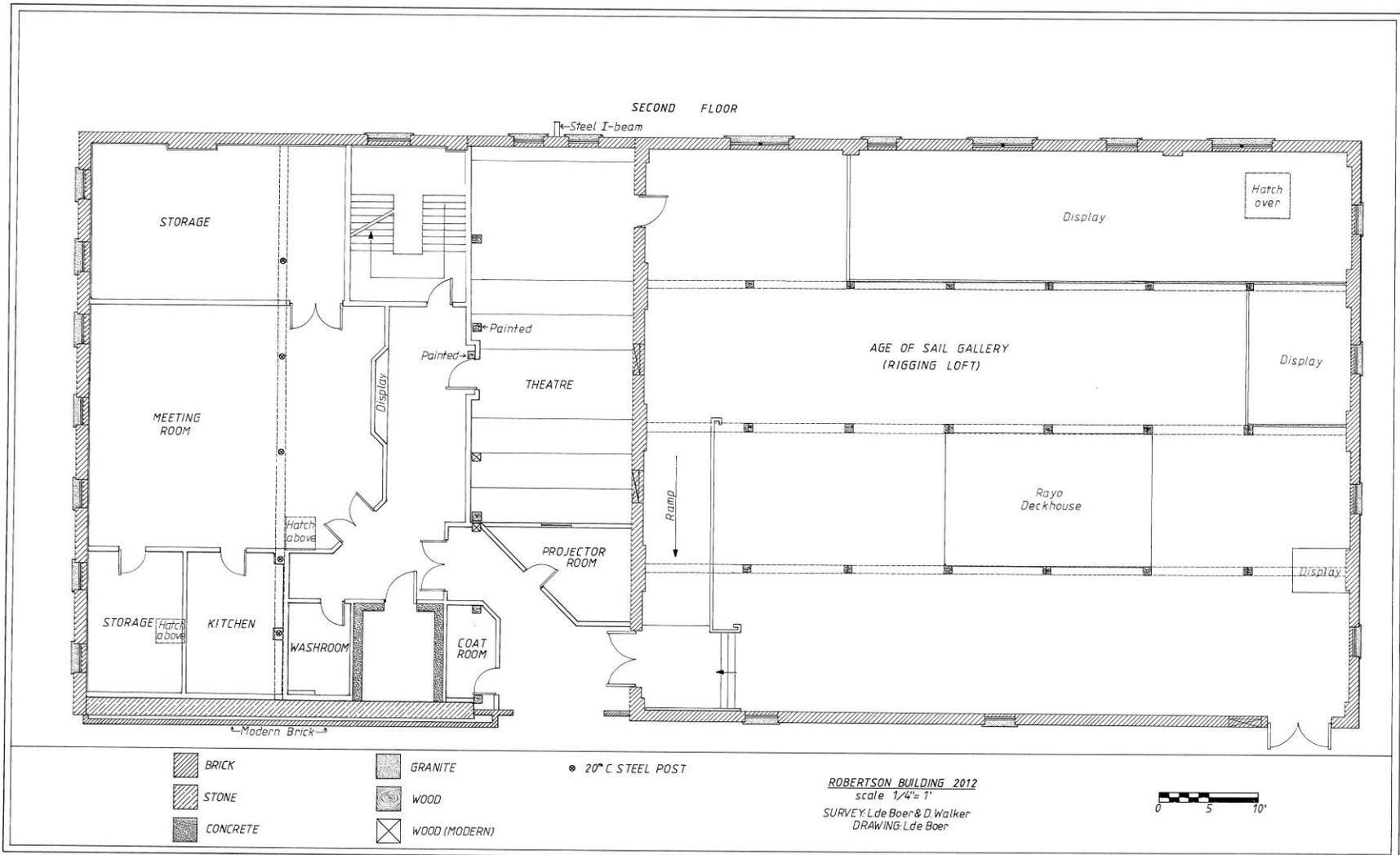
GROUND FLOOR

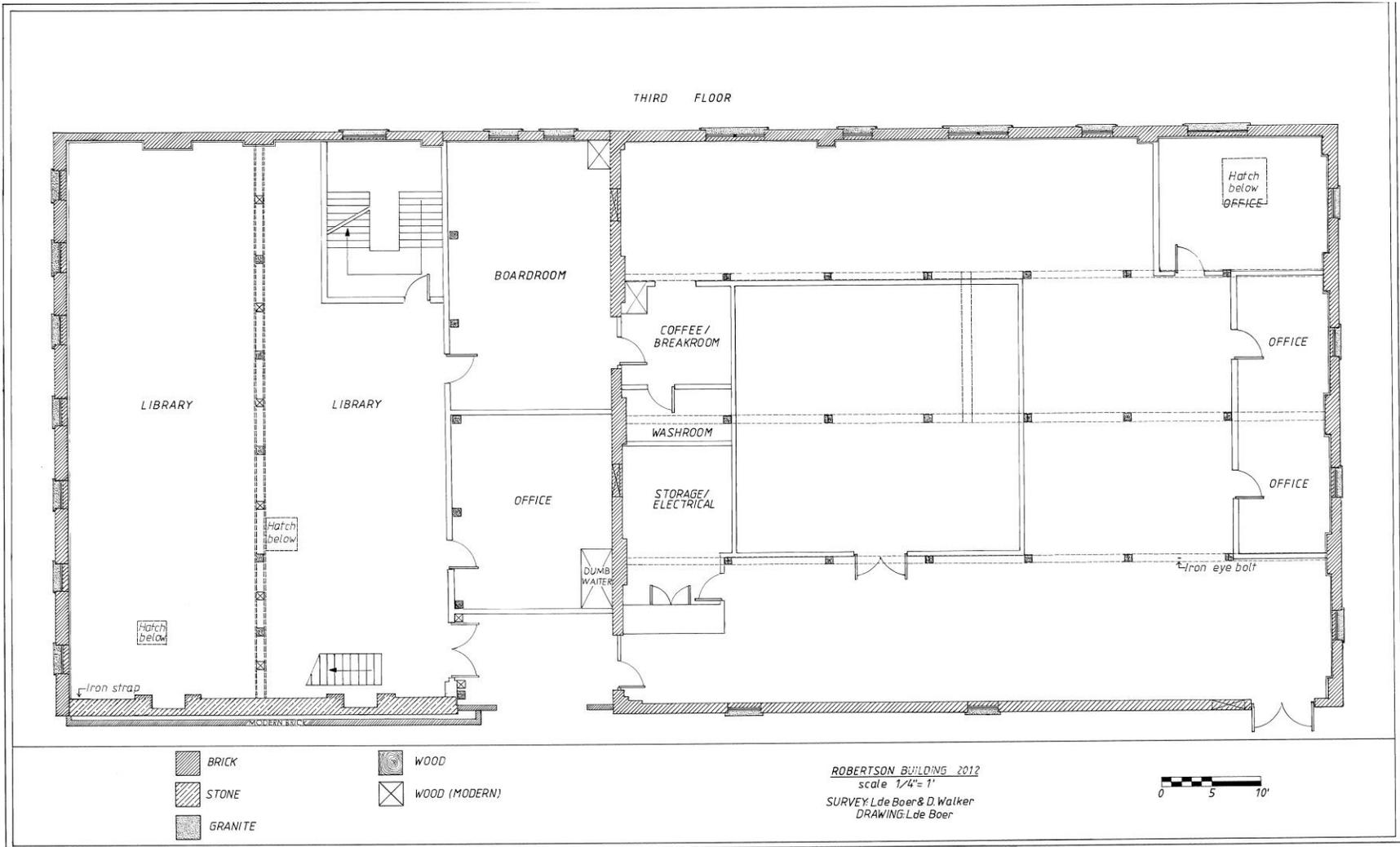


- BRICK
- STONE
- CONCRETE
- GRANITE
- CAST IRON
- CINDER BLOCK
- 20" C. STEEL POST
- CAST IRON POST

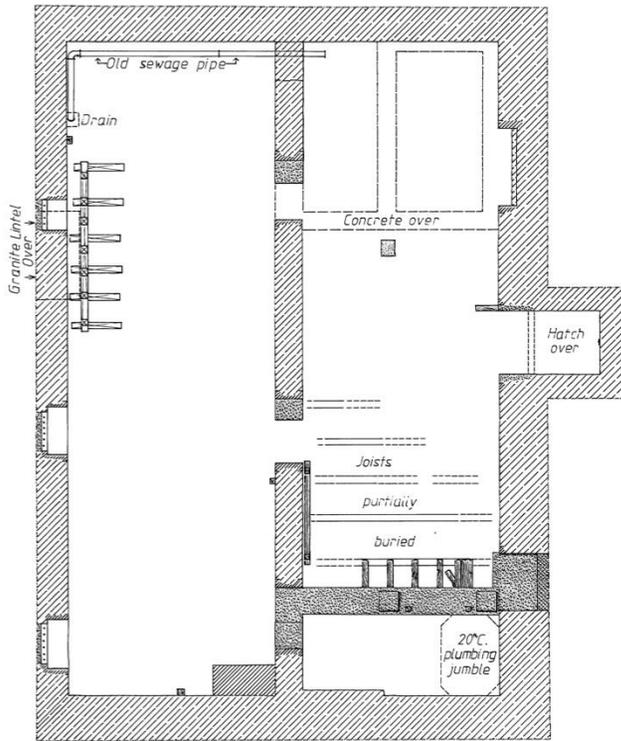
ROBERTSON BUILDING 2012
 scale 1/4" = 1"
 SURVEY: L de Boer & R de Boer
 DRAWING: L de Boer



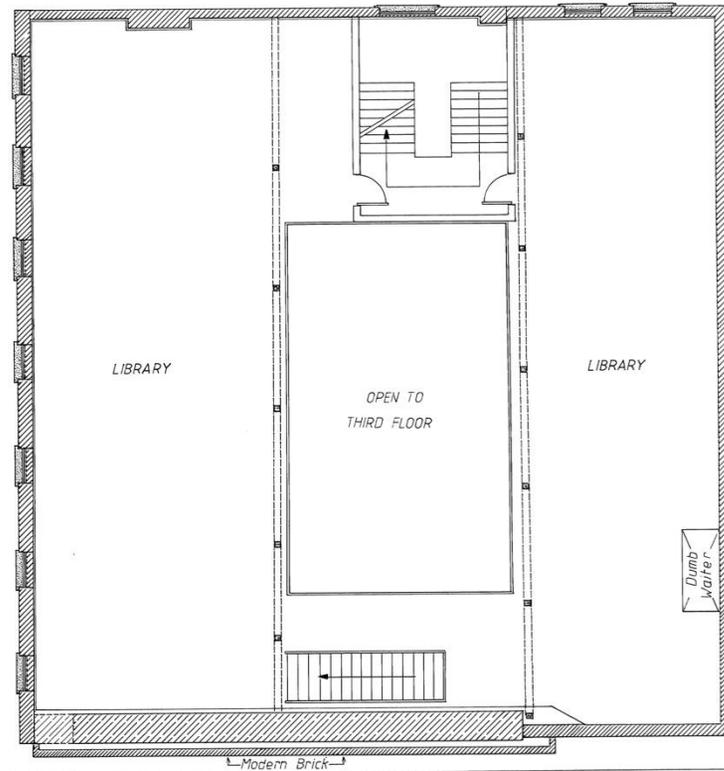




FRONT BASEMENT PLAN



FRONT FOURTH FLOOR PLAN



- | | | |
|--|---|--|
|  BRICK |  WOOD |  GRANITE |
|  STONE |  WOOD (LENGTHWISE) |  CINDER BLOCK |
|  CONCRETE |  WOOD (MODERN) | |

ROBERTSON BUILDING 2012
 scale 1/4" = 1'
 SURVEY: L.de Boer & R.de Boer
 DRAWING: L.de Boer



RECONSTRUCTED GROUND FLOOR - LATE 19th/EARLY 20th CENTURIES

