ST. JAMES FIREHOUSE
CONDITIONS ASSESSMENT REPORT

533 NY-25A
ST. JAMES, NY 11780

PREPARED FOR:
ST. JAMES FIRE DISTRICT
221 Jefferson Avenue
St. James, NY 11780

PREPARED BY:
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ISSUED:
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APS PROJECT NO:
20-018

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TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Executive Summary

Architectural Preservation Studio, DPC (APS) was retained by the St. James Fire District in April 2020 to perform a conditions assessment of the St. James Firehouse located at 533 NY-25A, St. James, NY 11780. The intent of this Report is to describe the existing conditions and deficiencies observed, document those findings, and provide recommendations for a proposed scope of work with preliminary construction costs. A site visit and inspection were completed in June 2020 to document and observe the Firehouse in its current condition. The building elements surveyed include the slate-tile roofs, modified-bitumen roofs, asphalt-shingle roofs, gutters and downspouts, exterior masonry and wood, windows and doors, and interior finishes. No conditions affecting life safety were observed.

The St. James Firehouse is located on the north side of North Country Road (NY Route 25-A) near the intersection of Lake Avenue in the hamlet of St. James, New York. St. James is part of the Town of Smithtown in Suffolk County. The Firehouse has served the St. James Fire District since approximately 1925 and is within the historic Saint James District (added to the National Register of Historic Places in July 1973). A detached garage structure is located at the northeast corner of the building lot but is not within the scope of this report. In 1970, the St. James Fire District constructed a second firehouse at Jefferson Avenue and Woodlawn Avenue to supplement the Firehouse and house additional fire-fighting apparatus.

In general, the architectural and building systems are in good-to-fair condition (see Section 1.2 for definitions of evaluation criteria). The exterior masonry, coatings, openings, and interior finishes have generally been well-maintained but all roofs are in poor condition and require full replacement. Failing remedial repairs and inadequate flashing systems were observed across the roofs, likely leading to water infiltration that, if unaddressed, can severely deteriorate the building's interior finishes and wood roof structure. Mechanical, electrical, and plumbing system deficiencies were not within the evaluation scope and are not included in this report.

The preliminary estimated construction cost is approximately $997,000 to $1,415,000, including recommended roof replacement, façade repairs, and interior repairs. If performed separately, the preliminary estimated construction cost for roof replacement is approximately $500,000 to $700,000. The preliminary estimate does not include costs related to project phasing. Hazardous-materials testing was not undertaken as part of this report.

This assessment and the future restoration of the St. James Firehouse is in keeping with the Town of Smithtown's *Comprehensive Plan Update: Volume III Draft Natural and Cultural Resources Study* (prepared in August 2007), which notes "the need to preserve the few remaining [historic] structures within the Town" (p. 42) and lists the Firehouse among the historic sites on the historic North Country Road corridor. Additionally, the Firehouse's proximity to other local historic resources, including the St. James General Store and the Long Island Railroad Station, provides a great opportunity to highlight the building's significant history and its contribution to the surrounding community.

1.2 Examination Method

Architectural Preservation Studio, DPC performed visual surveys of the interior spaces and exterior envelope of the St. James Firehouse in June 2020. The inspections were performed "hands-on" and up close. Access to survey roof conditions was provided by the St. James Fire Department via a fire-truck ladder. Visible forms of existing deterioration were observed and documented with digital photographs, which are reproduced in this report. Historic photographs, maps, and drawings were secured at a variety of locations and were consulted to determine the original appearance of the building, as an aid to recommend appropriate repair measures and to determine and evaluate historic significance.

When an existing condition is evaluated, it is based on the criteria listed below. The criteria were established by the Center for Architectural Conservation at the Georgia Institute of Technology for the Preservation Assistance Division of the National Park Service.

An element is evaluated as **Good** when:
1. The element is intact, structurally sound and performing its intended purpose.
2. There are few or no cosmetic imperfections.
3. The element needs no repair and only minor routine maintenance.

An element is evaluated as **Fair** when:
1. There are early signs of wear, failure, or deterioration, though the element is generally structurally sound and performing its intended purpose.
2. There is failure of a sub-component of the element.
3. Replacement of up to 25% of the element or replacement of a defective sub-component is required.

An element is evaluated as **Poor** when:
1. The element is no longer performing its intended purpose.
2. The element is missing.
3. Deterioration or damage affects more than 25% of the element and it can't be adjusted or repaired.
4. The element shows signs of imminent failure or breakdown.
5. The element requires major repair or replacement.

A **Minor** deficiency of an element exists where:
1. Standard preventive maintenance practices and building conservation methods have not been followed, and / or
2. There is a reduced life expectancy of affected or related building materials and / or systems, and /or
3. There is a condition with long-term impact beyond 5 years.

A **Serious** deficiency of an element exists where:
1. There is deterioration which, if not corrected within 2-5 years, will result in the failure of the building element, and / or
2. A threat to the health and / or safety of the user may occur within 2-5 years if the deterioration is not corrected, and / or
3. There is deterioration of adjacent or related building material and / or systems as a result of the element's deficiency.

A **Critical** deficiency of an element exists where:
1. There is advanced deterioration which has resulted in the failure of the building element or will result in the failure of the building element if not corrected within one year, and / or
2. There is accelerated deterioration of adjacent or related building material as a result of the element's deficiency, and / or
3. There is a threat to the health and / or safety of the user, and / or
4. There is a failure to meet legislative requirements.

1.3 Project Directory

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2.0 BUILDING HISTORY & DESCRIPTION

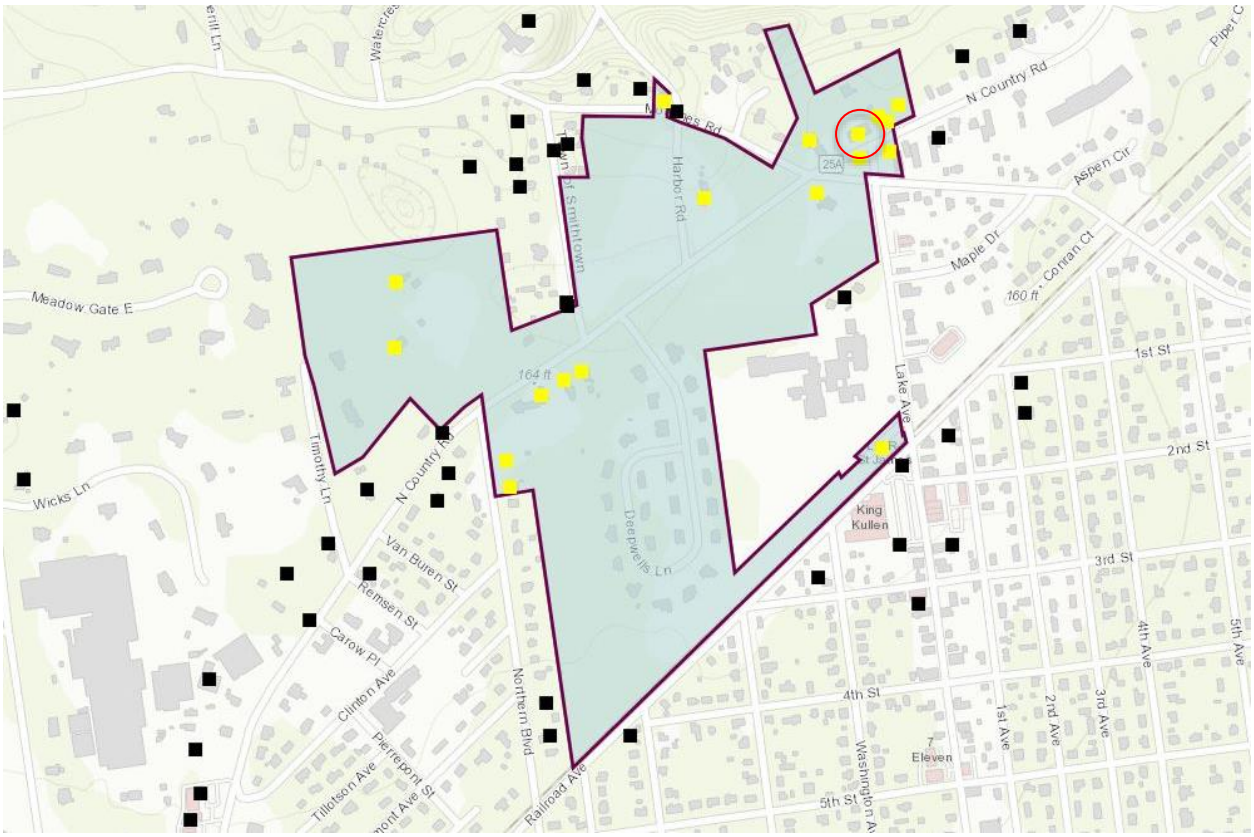

Figure 2-1
Site plan of the Saint James District [obtained via NYS Cultural Resource Information System]
○ St. James Firehouse

2.1 Statement of Significance

The St. James Firehouse is within the Saint James District, a historic district that was added to the U.S. National Register of Historic Places in July 1973. The building dates to ca. 1925 and was designed by Lawrence Smith Butler, a prominent local architect and descendant of Richard Smith for whom Smithtown is named. The original structure had elements of the Italian Renaissance Revival and Spanish Revival architectural styles, many of which remain. The building has been significantly altered since 1925, including a ca. 1967 addition designed by local architect Leon S. Barton, but continues to be a significant historic resource for the Town of Smithtown.

2.2 Contextual History

Present-day Long Island was once inhabited by numerous Native American tribes, including the Canarsie, Rockaway, Matinecock, Merrick, Massapequas, Nissaquogue, Secatogue, Setauket, Unkechaug, Shinnecock, Corchaug, Mannansett, and Montauk. In July 1659, Wyandanch, the chief of the Montauk tribe and grand sachem of Long Island, gifted a portion of present-day Smithtown to Lion Gardiner, an early English settler of New England. In 1662 the Nissaquogue tribe, who also claimed this land, released their rights to Lion Gardiner. Gardiner later conveyed this land to English settler Richard Smith in 1663 (Thompson, p. 366).

Long Island was claimed by the Colony of Connecticut until 1664, when the English captured New Amsterdam from the Dutch and established the Province of New York. The Shire of York – or Yorkshire – was created soon after and divided into three jurisdictions: East Riding, West Riding, and North Riding. The Dutch reclaimed control of New York in August 1673, but this was short lived as the English regained the territory by February 1674 with the Treaty

of Westminster. A general assembly organized by New York Governor Thomas Dongan in November 1683 developed the Charter of Liberties and Privileges, under which the twelve original counties of New York were established and the East Riding of Yorkshire became present-day Suffolk County. The Charter referred to the land within Suffolk County owned by Robert Smith as "Smithfield," later known as Smithtown (Thompson, p. 367).

Within the Town of Smithtown are various incorporated villages and hamlets including St. James, named after the St. James Episcopal Church founded in 1852. The hamlet grew primarily as a farming and agricultural community. The first firehouse that served the area was the Eagle Hook and Ladder Company. Hook and ladder companies were named for the tools and methods used to fight fires at the time – hooks to pull down the walls or roof of a burning building and ladders to provide closer access to the fire. In *Images of America: St. James*, Fleming writes (p. 15):

> *"The first fire protection company for St. James was constructed on the south side of Woodlawn Avenue near the present Lutheran church. Its cornerstone was laid on July 2, 1910, with Mayor William J. Gaynor and Congressman W.W. Cocks presiding. Though dedicated in 1910, it was not until 1913 that the building was completed. A wooden structure, it was quite alone on the road when it was first erected. It still stands today as the Full Gospel Assembly of God Church on Woodlawn Avenue."*

The structure at 184 Woodlawn Avenue has since been altered and serves as the New Jerusalem Church as of the date of this report. Fleming further writes (p. 16):

> *"After many years of service, Eagle Hook and Ladder Company became insufficient for the needs of St. James residents. A disastrous fire on January 1, 1922, led to the expansion of the fire department. A new, fireproof building was designed by local architect Lawrence S. Butler and erected on the other side of town on North Country Road near O'Berry's (later Penney's) Garage. The firehouse was enlarged several times after its initial construction, including an addition in 1939 and enlargement in 1950 (which was designed by Leon Barton, another local architect), but the style, with its large decorative brackets, remained the same."*

The North Country Road referenced by Fleming is present-day New York State Route 25A, or NY-25A. The architect of the original structure, Lawrence Smith Butler, was a descendant of Robert Smith. His firm, Ford, Butler & Oliver, was responsible for designing many other public buildings in Smithtown including the Smithtown Town Hall (ca. 1911), the Old Smithtown Library (ca. 1912, now the children's wing of the present-day library), and numerous private residences.

2.3 Construction Chronology

2.3.1 Original Construction (ca. 1925)

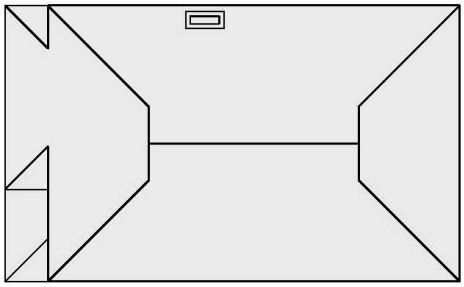

Figure 2-2
Schematic Roof Plan (not to scale)

The original Firehouse structure dates to approximately 1925 (Fleming, p. 16). A building-inventory form dated May 1978 includes a newspaper clipping of *The Smithtown News* from June 1972. The article includes a photo from 1925, which shows the Fire Department and band in front of the Firehouse. Additionally, an image included in *Images of America: St. James* (p. 16) shows the Firehouse as viewed from the southwest.

A Sanborn Fire Insurance Map from 1927 indicates the original structure was two stories constructed of tile with a slate or tin roof. A portion of the structure on the southwest corner is indicated as one story and a water well is shown near the southeast corner of the building. A basement is not noted. Early photos indicate a stucco finish on the building's exterior. The roof of the two-story building volume had a gable-on-hip configuration, also known as a Dutch gable, with a deep overhang supported by wood brackets. Triangular wood vents with horizontal slats sat within the east and west gable ends. The roof of the one-story volume had a hipped configuration with a slight overhang. The roofs were fitted with gutters along the wood roof-eave fascia and downspouts.

The 1st floor of the south façade was composed of three truck bays with outswing wood double doors – paneled on the lower half with 20 divided lites on the upper half (4 across x 5 tall). A single wood door – paneled on the lower half with 6 divided lites on the upper half (2 across x 3 tall) – marks the main entrance on the south façade. Plans of later additions show that the main entrance provided access to the 1st-floor interior truck storage area and to the stairway leading to the 2nd-floor auditorium. The 2nd floor of the south façade was composed of three ganged wood windows with a 6/6 configuration centered above the middle truck bay, and two sets of outswing wood double doors with semi-circular metal balconies centered above the left and right truck bays. The windows were likely double-hung. The wood double doors were paneled on the lower third with 4 divided lites on the upper two-thirds (1 across x 4 tall). The metal balconies were supported by single brackets centered below the platforms. The 1967 plans by Leon Barton indicate a sign reading "St. James Fire Co." was located below the ganged windows.

The image included in *Images of America: St. James* (p. 16) shows a wood window centered on the 2nd floor of the two-story portion of the west façade. This window was likely double-hung, though the lite configuration is not visible. This image also indicates that a window or double doors were located on the 1st floor of the north elevation and a chimney is visible on the north roof slope. Historic images found by the date of this report do not show the north or east façades, but a Sanborn Fire Insurance Map from 1937 includes marks denoting 1st- and 2nd-floor windows on each of these façades.

2.3.2 Original Construction to 1967

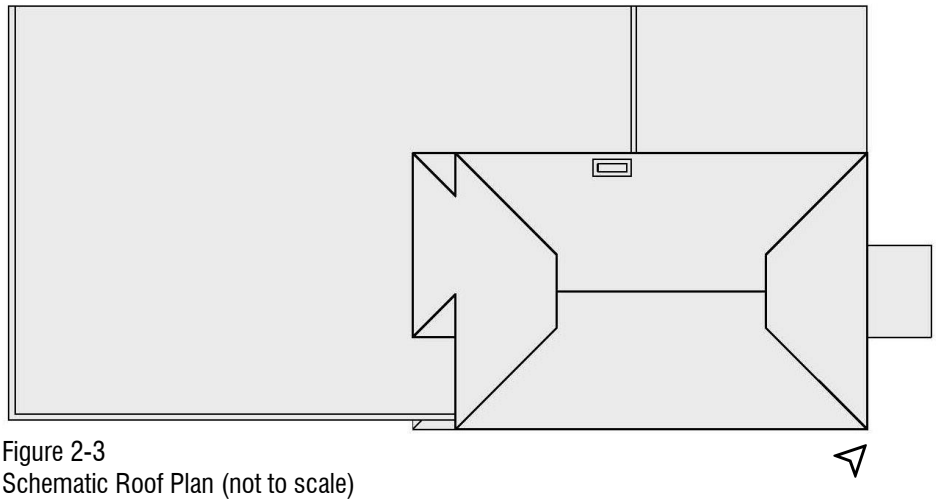

Figure 2-3
Schematic Roof Plan (not to scale)

The date of the first addition to the Firehouse is unclear. In *Images of America: St. James* (p. 16), Fleming writes of an addition in 1939 and enlargement in 1950 designed by Leon Barton. The 1978 building-inventory form lists similar dates. However, the plans by Leon S. Barton and Associates are dated March 1967 – see Section 2.3.3 of this report for further analysis. A property card obtained from the Town of Smithtown Building Department lists permits and Certificates of Occupancy from 1947 to present. According to the Building Department, the Town Ordinance did not require Certificates of Occupancy prior to 1947. The first addition is not included on the property card so the date of the first addition is estimated to be pre-1947, though the 1967 Barton plans also note a 1950 addition. It is possible that smaller alterations not requiring a permit were completed prior to 1967.

A photo on display in the Firehouse auditorium shows a portion of the Firehouse as viewed from the southwest, with a caption reading "Firehouse and Equipment – Early 1960's." Analysis of this photo and the 1967 Barton plans indicate that the first addition consisted of a one-story extension to the west and north of the original structure, constructed of concrete-masonry unit (CMU) exterior walls with a low-sloped roof pitched to the north. The 1967 plans note the low-sloped roof to be asphalt-shingle. Gutters and downspouts were installed along the north roof perimeter and north façade. A small reveal on the east façade marks the juncture between the original structure and the CMU addition.

The CMU addition appears to have housed additional truck bays and a small break room. The original wood stair and main entrance on the south façade remained, though the truck bay wood double doors were replaced with roll-up doors by the date of the early 1960s photo. The majority of the original hipped roof over the main entrance was replaced by the low-sloped roof of the west extension – a small portion of the hipped roof remained. The original 2nd-floor wood windows and doors are visible on the south and west façades and the chimney is visible on the north roof slope. The 1967 plans indicate a truck bay door was located on the north façade and the basement and exterior basement stairs along the north façade were existing. The plans also note that the emergency electrical generator room – a one-story lean-to addition – was present on the east façade of the original structure.

2.3.3 1967 to present

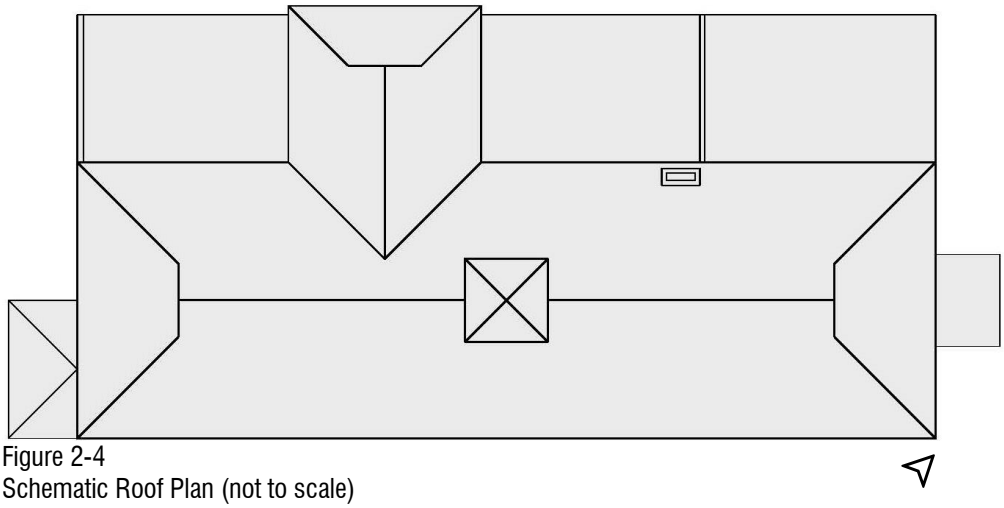

Figure 2-4
Schematic Roof Plan (not to scale)

The addition designed by Leon Barton, as outlined in plans dated March 1967, includes an extension of the 2nd floor and a new stair tower on the north side of the building. The original interior wood staircase was removed and a bathroom and janitor's closet constructed in its place. The new stair tower and metal stair provided access to the enlarged 2nd-floor auditorium space, new men's and women's bathrooms, and a new office and conference room. The rostrum and dressing room at the east end of the auditorium are noted as existing. A new vestibule and exterior metal stair were added along the east façade. The wood-frame and slate-tile roof was extended to the west in keeping with the original gable-on-hip configuration. A wood-framed cupola with a hipped slate-tile roof was added at the center of the roof ridge. A one-story radio-control room was added along the west façade, constructed of CMU walls with a seamed copper roof in a hipped configuration. This roof is currently slate tile.

The 1st-floor interior spaces have been altered since Barton's 1967 plans. The kitchen space remains but the dining room has been renovated as a bar area. From east to west, truck bay #1 and truck bay #2 have been enclosed to create a dining and lounge space. The roll-up doors have been removed and the openings filled in with masonry and metal windows. Truck bay #3 houses a historic fire truck that is sometimes displayed in front of the Firehouse. The remaining truck bays are still utilized for fire trucks and to store gear and equipment.

Various windows along the north façade were removed to accommodate the new addition and installed elsewhere. The truck bay on the north façade was filled in with CMU and a steel window relocated from the west façade. The 1967 plans indicate the 2nd-floor original windows and doors on the south façade were existing to remain; however, these have since been replaced. All other double-hung windows with divided lites have been replaced with aluminum windows with 1/1 configurations. The wood door at the main entrance on the south façade has also been replaced with a metal door.

2.4 Building Description

2.4.1 Exterior

The overall building form is rectangular with a lean-to addition along the east façade and a lean-to addition along the west façade. The two-story portions of the building are covered with intersecting gable-on-hip slate-tile roofs with deep overhangs supported by open wood brackets painted in a white finish. The overhang soffits are clad with beadboard painted in a white finish. The roof perimeter fascia boards are fitted with 8-inch half-round copper gutters, installed with bronze brackets, connected to square aluminum downspouts. Roof valleys are open and employ copper flashing. No flashing is visible at the roof ridges or hips. Triangular wood vents with horizontal slats sit within the gable ends of the slate roof and employ copper flashing along the gable-to-hip juncture. Metal snow guards are installed at the roof perimeter, staggered between the second and third courses of slate tiles. A chimney located on the north slope is rendered with stucco painted in a white finish. Copper skirt flashing is visible around the base. The chimney coping material is not discernable and has been coated in a white finish. The active chimney flues are topped with metal vents and caps. Four cast-iron vent pipe penetrations are visible on the north slope of the slate-tile roof.

The wood-framed cupola is centered on the high roof ridge and in line with the main entrance along the south façade. The cupola is covered with a slate-tile hipped roof with boxed overhangs supported by solid wood brackets painted in a white finish. No gutters are installed and no flashing is visible at the roof hips. Copper skirt flashing is visible along the north and south base of the cupola and copper cap flashing is visible at the cupola ledge. The cupola walls are clad with horizontal wood siding and fixed wood shutters painted in a white finish.

The one-story portions of the building are covered with SBS modified-bitumen low-sloped roofs pitched toward the north roof perimeter. The west roof perimeter is enclosed by a low CMU parapet topped with cast-stone coping. Metal flashing is visible but does not appear to be through-wall. The one-story roof to the east of the stair tower is bisected by a low parapet wall with metal coping. The east roof perimeter is unenclosed and instead employs a metal roof edge. Metal counter-flashing at roof-to-wall junctures appears to be regletted. The north roof perimeter is fitted with k-style aluminum gutters connected to square aluminum downspouts. The aluminum gutters appear to be surface-mounted. Two vent-pipe penetrations are visible – one is metal and one is polyvinyl chloride (PVC).

The lean-to addition along the east façade is covered with an asphalt-shingle shed roof with exposed wood rafters and wire mesh installed between. No gutters are installed on this roof. No flashing is visible at the roof-to-wall juncture – instead, the joint appears to have been covered with stucco painted in a white finish. The lean-to addition along the west façade is covered with a slate-tile hipped roof with overhangs supported by open wood brackets painted in a white finish. The overhang soffits are clad with wood painted in a white finish. The roof perimeter fascia boards are fitted with half-round copper gutters, installed with bronze brackets, connected to a square aluminum downspout. Stepped metal flashing is visible at the roof-to-wall juncture and appears to be regletted, but no flashing is visible at the roof hips. The small roof over the main entrance on the south façade is covered with a slate-tile hipped roof with boxed overhangs painted in a white finish. No gutter is installed and no flashing is visible at the roof hips. Stepped metal flashing is visible at the roof-to-wall juncture and appears to be regletted. A sign above the entrance appears to be missing.

Exterior walls appear to be constructed of structural clay tile and concrete masonry units (CMU) rendered with stucco painted in a white finish. Sanborn maps and a small stucco spall on the southeast corner of the building indicate the original foundation and/or structural walls were possibly constructed of extruded terra-cotta block. Windows appear to be aluminum with different configurations, including double-hung, awning, fixed, and sliding. All windows have a white finish and appear to have cast-stone sills, with the exception of the truck-bay infill windows that have a black finish and brick-masonry sills. A number of window openings have been filled-in with masonry but the cast-stone sills are still visible. The roll-up doors and exterior entrance doors are metal painted in a red finish with glass vision lites. A door at the lean-to addition along the east façade appears to be metal painted in a white finish with horizontal louvers in the lower portion. Two semi-circular metal balconies, supported by single brackets centered below the platforms, are located on the 2nd floor of the south façade. A metal frame and fabric awning is installed above the entrance to the stair tower on the north façade.

A sub-grade stairway leading to the basement is located along the north façade. The retaining walls are concrete – possibly CMU with a cement render – with concrete coping. A metal fence with diamond chain-link is installed above the coping. The steps leading to the sub-grade basement entrance are concrete, and a roof drain is installed at the areaway. A metal emergency stair is located along the east façade and provides direct access to the 2nd-floor auditorium. The stair structure is composed of vertical posts on concrete piers with metal-angle cross bracing. The upper landing appears to be secured to the masonry wall and the foot of the stairs is secured to a concrete pad.

2.4.2 Interior

The main entrance on the south façade consists of a vestibule with doors to the east and west. The 1st-floor area to the west of the entrance vestibule includes three truck bays and a storage area for gear and equipment. A bathroom, a janitor's closet, and the stair tower are accessible from this space. The 1st-floor area to the east of the entrance vestibule includes a single truck bay, typically used to store a historic hook-and-ladder truck. A janitor's closet and the kitchen are accessible from this space.

The entrance on the north façade opens into a vestibule within the two-story stair tower. The truck bays, kitchen, basement, and stairs to the 2nd floor are accessible from this space. The two eastern-most bays have been altered to create a dining and lounge space. This area appears to only be accessible through the kitchen. A separate sub-grade entrance on the north façade provides access to the basement.

The 2nd floor of the Firehouse consists of a large auditorium space with a rostrum, small dressing room, and coat closets. A vestibule in the northeast area of the auditorium provides access to the exterior metal emergency stair on the east façade of the building. The ceiling of the auditorium space is slightly vaulted. Wood roof rafters are exposed along the north and south portions of the ceiling while the central portion of the ceiling is flat. To the west of the auditorium is a corridor to bathrooms and a conference room. The attic space and cupola are accessed by a ceiling hatch in the corridor.

Figure 2-5
South Elevation

Figure 2-6
South Elevation

Figure 2-7
Northwest Elevation

Figure 2-8
North Elevation

Figure 2-9
East Elevation

Figure 2-10
Slate-tile roof and cupola, view from the southeast

Figure 2-11
Chimney, view from the south

Figure 2-12
Cupola, view from the south

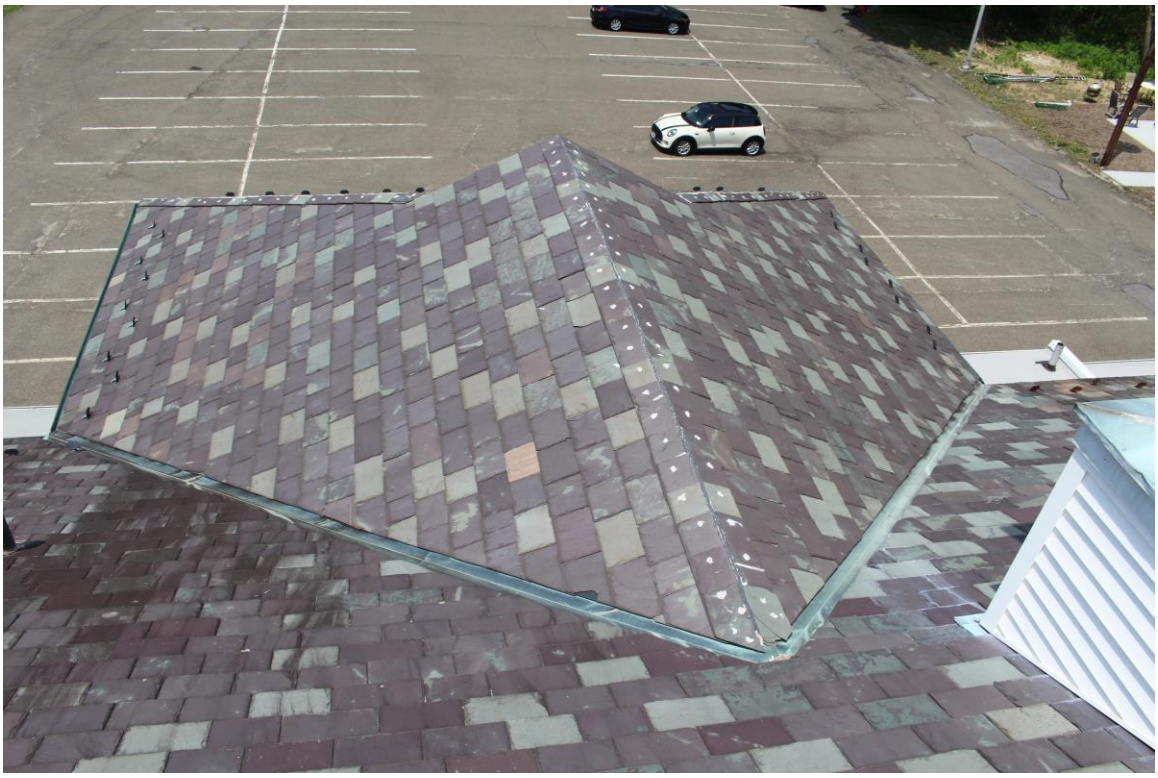

Figure 2-13
Slate-tile roof over the stair tower, view from the south

Figure 2-14
Slate-tile roof over the south entrance, view from the south

Figure 2-15
Slate-tile roof and cupola, view from the southwest

Figure 2-16
Slate-tile roof over the lean-to addition on the west façade, view from the northwest

Figure 2-17
Slate-tile roof, view from the northwest

Figure 2-18
Slate-tile roof, view from the northeast

Figure 2-19
Low-sloped roof, view from the northeast

Figure 2-20
North-facing roofs, view from the north

Figure 2-21
Slate-tile roof over the stair tower and cupola, view from the northwest

Figure 2-22
North-facing gable end and cupola, view from the north

Figure 2-23
Cupola, view from the north

Figure 2-24
North-facing roofs, view from the northwest

Figure 2-25
North-facing roofs, view from the northwest

Figure 2-26
Low-sloped roofs, view from the northwest

Figure 2-27
Slate-tile roof and chimney, view from the northwest

Figure 2-28
Asphalt-shingle roof over the lean-to addition on the east façade, view from the east

Figure 2-29
2nd-floor auditorium, view looking east

Figure 2-30
2nd-floor auditorium, view looking west

3.0 OBSERVATIONS, ANALYSIS & RECOMMENDATIONS

The introductory paragraph of the Secretary of the Interior's *Standards for Rehabilitation* provides the nucleus of our preservation philosophy for this project. The *Standards* state that "Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of a historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon ongoing maintenance and repair of historic materials and features rather than extensive replacement and reconstruction." APS subscribes to this compact statement of philosophy for our work and promulgates it to our clients. We have excerpted the eight (8) Standards below:

1. The property will be used as it was historically or be given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.

2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alterations of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically compatible, identifiable upon close inspection, and properly documented for future research.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of the deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to the historic fabric will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

In the case of the St. James Firehouse, a values-based approach to managing resources, wherein the identification of significance guides interventions and enhancement of the main elements conveying cultural values, is appropriate. This approach is exemplified by the *Burra Charter* of Australia ICOMOS and the *Nara Document on Authenticity* is also applicable. Additionally, the National Park Service's *Preservation Brief 29: The Repair, Replacement, and Maintenance of Historic Slate* is relevant for any work to be done on the roofs.

Sites accumulate layered significance over time, a concept known as progressive authenticity. The evaluation of authenticity, integrity, and significance, balanced with the management context of a site, leads to responses that are realistic and cost-effective, as well as sensitive to the site.

In general, the St. James Firehouse is in good-to-fair condition and has been well-maintained. Damage caused by roof leaks, due to improper flashing, was evident at various interior locations, including the auditorium ceiling and stair-tower ceiling. The existing gutters and downspouts appear to be inadequate for the building and require replacement. Water damage was also evident on the concrete walls of the exterior sub-grade entrance and on the interior concrete-masonry unit (CMU) walls of the basement stair. Minor conditions were visible on the exterior masonry and stucco coating, likely due to deteriorated steel lintels and un-flashed penetrations.

3.1 Roofing – Slate-Tile

3.1.1 Existing Conditions

See Figure 3-1 to Figure 3-18.

The 1967 plans by Leon Barton note the eastern portion of the slate-tile roof as existing to remain. For the western addition slate-tile roof, Barton included a note to salvage the original tiles on the west-facing hipped roof to be re-installed on the new south-facing roof slope. Survey of the attic interior did not reveal any obvious demarcations between the original roof structure and the addition, so it is unclear if any remedial or repair work has been performed in the attic space since the 1967 addition was constructed. The attic space of the stair tower was not accessible.

Broken, displaced, and missing slate tiles were observed across the various roofs and the metal snow guards have rusted. Areas of rust-colored and white-colored water staining were visible on the north and south roof slopes. The roof ridges and hips are fitted with paired slate tiles. No flashing is visible. Sealant has been applied over the nail attachment locations and along the joint where the paired tiles meet. Additional applications of remedial sealant were observed at various roof tiles across the roof.

Copper skirt flashing is visible at the north and south bases of the cupola and around the base of the chimney. No cricket is installed at the high side of the chimney. Copper flashing is also installed along the roof valleys and bases of the gable ends. The gable ends have small overhangs and the edge of the wood tongue-and-groove roof decking is exposed. No flashing is visible at the gable-end rakes. The white paint coating on the triangular wood vents is highly deteriorated and the exposed wood appears to be severely aged and damaged. Flashing is visible at the roof-to-wall junctures at the roof above the south entrance and the roof above the lean-to addition along the west façade, but the flashing appears to have aged and is deteriorated.

3.1.2 Analysis & Recommendations

The slate-tiles roofs appear to be nearing the end of their service life. Broken and displaced tiles are hazardous and a safety issue. The slate tiles installed along the roof ridges and hips appear to be failing and are likely allowing water infiltration, causing damage to the wood roof decking and structural roof frame. The ceiling damage at the east end of the auditorium, around the rostrum, appears to be at the location of the east-facing gable end. Flashing is not installed at this location. The ceiling damage at the stair tower appears to be at the location of the north-facing gable end. The small overhangs and lack of proper flashing appear to contribute to the water infiltration that has caused this ceiling damage.

The CMU construction of the later additions prevents through-wall flashing at the roof-to-wall junctures. Instead, regletted flashing is employed in these locations. Regletted metal flashing typically has a shorter lifespan and should be replaced.

Due to the age of the building's construction, it should be assumed that asbestos-containing materials are present in the existing roofing materials.

Recommended work includes, but is not limited to, the following:

1. Remove slate tiles, copper flashing, membrane flashing, snow guards, and other roofing components down to the tongue-and-groove wood deck. Abate as required. Discard roofing components and slate tiles.

2. Repair or replace deteriorated areas of the existing tongue-and-groove wood deck, as required.

3. Replace wood gable-end vents to match existing configuration.

4. Install new ice-and-water shield membrane, extended down the face of the existing wood fascia.

5. Install new copper drip edge at roof eaves, extended down into the gutter, and at gable-end roof rakes. Coordinate with new gutter installation. Provide rosin paper at all overlaps between copper drip edge and ice-and-water shield.

6. Install new copper flashing at roof valleys, secured with copper cleats and mechanically fastened to wood decking. Provide rosin paper at all overlaps between copper valley flashing and ice-and-water shield.

7. Install new copper base and stepped flashing at chimney, cupola, vent-pipe penetrations, gable end, and roof-to-wall junctures. Prepare, prime, and paint exposed surface of all vent pipe penetrations.

8. Install a new copper cricket on the high side of the chimney.

9. Install new slate tiles, in the proper size to provide adequate 3-inch overlap and to match the existing exposure, with a double starter course.

10. Install new copper snow guards, staggered between two courses on the lower end of the roof slopes.

11. Install new copper flashing and slate saddle ridges and hips.

3.2 Roofing – SBS Modified-Bitumen

3.2.1 Existing Conditions

See Figure 3-19 to Figure 3-25.

The 1967 plans by Leon Barton note the one-story low-sloped roofs as existing to remain. A photo on display in the Firehouse auditorium shows the first addition to the Firehouse – a one-story extension to the west and north of the original structure with a low-sloped roof. The 2nd-floor western extension and stair tower addition outlined in the 1967 plans were built over this low-sloped roof. On the roof plan, Barton includes a note to "Repair existing built up flat roof. Flash, cap flash, etc. into new masonry construction with copper flashing and copper cap flashing."

The low-sloped roofs are covered with SBS modified-bitumen membrane pitched toward the north roof perimeter. The roof to the west of the stair tower employs one-piece regletted counter-flashing. The counter-flashing is attached to the masonry wall at various locations. The west roof perimeter is enclosed by a low CMU parapet topped with concrete coping. Metal flashing is visible but does not appear to be through-wall. The roof to the east of the stair tower is bisected by a low parapet wall with metal coping and employs one-piece regletted base flashing. The east roof perimeter is finished with a metal roof edge. Two vent-pipe penetrations are visible – one is metal and one is polyvinyl chloride (PVC).

Areas of biological growth were visible on the modified-bitumen roofs. The regletted flashing appears to be deteriorating and is improperly installed at termination points. Saddle flashing at the low parapet wall is improperly installed, and no saddle flashing is present above the coping at the CMU parapet wall. Metal edge flashing was not visible at the north roof perimeter. It is also unclear if a roofing or stripping ply was installed over the roof edge and extended down the fascia.

3.2.2 Analysis & Recommendations

The modified-bitumen roofing membranes appear to be in good condition but the regletted metal counter-flashing appears to be at the end of its service life. Failing counter-flashing and improper flashing termination can allow water infiltration, though no active leaks were reported at these locations. Flashing at the pipe penetrations appears to be in good condition.

Due to the age of the building's construction, it should be assumed that asbestos-containing materials are present in the existing roofing materials.

Recommended work includes, but is not limited to, the following:

1. Remove roofing assembly, metal flashing, metal roof edge, and other roofing components down to the structural deck. Abate as required. Discard roofing components. Scarify the existing concrete deck and repair any defects.

2. Install new two-ply, cold-applied roofing assembly over new tapered insulation and new cover board (approved by the roofing manufacturer).

3. Install stripping ply at the roof edge, extended down the face of the existing wood fascia, as required along the north and east roof perimeters.

4. Install new copper metal edge at the east roof perimeter.

5. Install new copper drip edge at the north roof perimeter, extended down into the gutter. Coordinate with new gutter installation.

6. Install new fluid-applied flashing and copper regletted counter-flashing at roof-to-wall junctures, minimum 8" vertically above the finished roof. Terminate new flashing minimum 6" around building corners.

7. Remove existing coping at the parapet wall and retain for reinstallation. Install new fluid-applied flashing and copper through-wall flashing at the CMU parapet wall. Reinstall coping anchored to parapet and new backer rod and sealant at transverse joints.

8. Install new copper cap flashing at low parapet wall.

9. Install new copper saddle flashing at parapet walls.

10. Install new flashing at roof penetrations. Prepare, prime, and paint exposed surface of metal vent pipe penetration.

3.3 Roofing – Asphalt-Shingle

3.3.1 Existing Conditions

See Figure 3-26 to Figure 3-27.

The 1967 plans by Leon Barton note the lean-to addition along the east façade as existing to remain. The roof plan indicates this addition had a hipped roof, though the existing configuration is a shed-style roof pitched to the east perimeter. Historic photos obtained by the date of this report do not show the entire east façade and Sanborn Fire Insurance Maps from 1927 and 1937 do not indicate this addition.

The lean-to addition along the east façade is covered with an asphalt-shingles with exposed wood rafters and wire mesh installed between. No flashing is visible at the roof-to-wall juncture – instead, the joint appears to have been covered with stucco painted in a white finish. No drip edge is installed at the roof edge or rakes. The wood rafter tails of the roof framing are exposed. Wire mesh is installed between the rafters on the interior side, possibly to provide ventilation for the addition. No roof penetrations are present.

3.3.2 Analysis & Recommendations

The asphalt shingles appear to be in good condition but the lack of flashing at the roof-to-wall juncture can allow water infiltration. No active leaks were reported at this location, but this portion of the structure houses the emergency generator and should be properly protected. The wire mesh does not appear to be attached properly and should be replaced with a more durable ventilation system.

Due to the age of the building's construction, it should be assumed that asbestos-containing materials are present in the existing roofing materials.

Recommended work includes, but is not limited to, the following:

1. Remove stucco at the roof-to-wall joint. If metal flashing is present, remove and discard. Remove roofing assembly and other roofing components down to the wood deck. Abate as required and discard.

2. Repair or replace deteriorated areas of the existing wood deck, as required.

3. Install new ice-and-water shield, extended down the face of the existing wood fascia.

4. Install new copper drip edge at roof eaves and rakes. Trim eave drip edge and bend around the corners to form proper closures. Provide rosin paper at all overlaps between copper drip edge and ice-and-water shield.

5. Install new regletted copper base flashing at the roof-to-wall juncture.

6. Install new slate tiles, to match the size and exposure of other roofs, with a double starter course.

7. Install new mesh panels between rafters, in compliance with code requirements for ventilation.

3.4 Gutters & Downspouts

3.4.1 Existing Conditions

See Figure 3-28 to Figure 3-39.

Historic photos of the Firehouse indicate the original structure employed copper gutters and downspouts throughout. The 1967 plans by Leon Barton note existing copper gutters and downspouts to remain in various locations, but also new copper gutters and downspouts to match existing at the 2nd-floor and radio-control room additions. On the north façade, an existing gutter was removed to accommodate the new stair tower. A new 5" gutter is specified for the low-sloped roof to the east of the stair tower. New 2" x 4" copper downspouts from the two-story roofs to the one-story roofs are also noted.

The roof perimeters of the two-story roofs are fitted with 8-inch half-round copper gutters, installed with bronze brackets, connected to square aluminum downspouts. Along the north roof perimeter, the downspouts are extended to connect to the gutter along the north perimeter of the one-story roof. The north perimeter of the one-story roof is fitted with k-style aluminum gutters connected to square aluminum downspouts. The aluminum gutters appear to be surface-mounted.

The roof perimeters of the lean-to addition along the west facade are fitted with 6-inch half-round copper gutters, installed with bronze brackets, connected to a single square aluminum downspout on the north façade. No gutters or downspouts are installed at the roof above the main entrance, the roof at the lean-to addition along the east façade, or at the cupola roof.

3.4.2 Analysis & Recommendations

The brackets of the half-round copper gutters have aged and no longer provide adequate support. The gutters are not flush against the wood fascia or integrated into the roof edge, which allows water to pass through and cause deterioration to the fascia. The size of the k-style gutters and downspouts on the north roof perimeter are not adequate for the amount of roof area that drains to this area.

The installation of aluminum downspouts with copper gutters is improper. The connection of these dissimilar metals can cause galvanic corrosion and significantly affect proper drainage from the roofs. Additionally, the downspout strap hangers are loose in various locations.

Due to the age of the building's construction, it should be assumed that lead-based paint was used across various building components.

Recommended work includes, but is not limited to, the following:

1. Remove existing copper half-round gutters and discard. Remove existing aluminum k-style gutters and downspouts and discard.

2. Remove the existing wood fascia. Remediate as required. Install new wood fascia and paint to match exterior wood elements.

3. Install new copper half-round gutters with support brackets integrated into the new roofing assembly at the two-story and lean-to roofs. Coordinate with new roof and drip edge installation.

4. Install new copper half-round gutters with support brackets, sized for adequate drainage, at the north roof perimeter. Extend gutter minimum 6" beyond the north façade of the stair tower. Coordinate with new roof and drip edge installation.

5. Install new round copper downspouts with strap hangers and mitered elbows, where necessary. Solder the connections between the gutters and downspout outlet tubes. Coordinate locations with existing and historic photos.

6. Install new concrete splash block at every downspout termination.

3.5 Exterior Masonry, Coatings & Wood Brackets

3.5.1 Existing Conditions

See Figure 3-40 to Figure 3-59.

Horizontal and stepped cracks in the exterior stucco finish were visible at various locations across the façades. The long horizontal crack visible from the main entrance to the southwest building corner appears to be at the location where the 2nd-floor addition was constructed above an existing CMU wall. Other cracks were visible at window-infill locations, window headers, and the foundation of the lean-to addition along the east façade.

The coping on the chimney has been patched with a cementitious material. The chimney flues have metal vent caps.

Conduit, wiring, and mechanical penetrations through the exterior walls were observed at various locations across the façades and roof overhang soffit. No flashing was visible at these penetrations. Various wiring was enclosed in aluminum downspouts.

The 1967 plans by Leon Barton do not label each existing wood bracket, but the majority are noted as new to match existing. One bracket on the south façade was noted to be reset to accommodate the new west extension.

Since the 1967 addition, a metal frame and fabric awning has been installed above the entrance to the stair tower on the north façade. No flashing was visible.

The cementitious coating on the walls of the exterior basement stair is cracked and highly deteriorated. Biological growth was observed at many locations along the concrete stairs. The roof drain at the areaway was reported to not drain properly and is missing a drain cover.

Lastly, the exterior metal stair along the east elevation is showing signs of rusting and is missing a cross brace. The steel balconies on the 2nd floor of the south façade appear to be in good condition.

3.5.2 Analysis & Recommendations

The horizontal crack on the south façade appears to be at the juncture of the 2nd-floor addition. This crack does not appear to be substantial but should be more closely evaluated. The 1967 plans received from the client do not include structural details of the tie-in between the one-story structure and the 2nd-floor addition, so any structural deficiencies or design flaws are unclear. The cracks at masonry infill locations are due to infill masonry that was not properly toothed into the existing surrounding masonry. The cracks at the window headers are the result of deteriorating or rusting steel lintels. The horizontal crack at the base of the lean-to addition along the east façade appears to have been caused by foundation settlement and should be further evaluated for any structural deficiencies.

The cementitious patching material on the chimney coping is deteriorated and failing. The metal chimney caps are rusting and deteriorating, likely causing the rust-colored staining on the slate roof tiles below.

Penetrations through the exterior walls require proper flashing to prevent water infiltration. Holes in exterior walls where penetrations have been removed should be filled in and patched. Aluminum downspouts do not provide the proper protection for wiring as the metal can corrode. Proper conduit in compliance with the most up-to-date edition of the National Electrical Code should be installed.

The wood brackets supporting the two-story roofs appear to be in good condition. Each wood bracket and beadboard soffit should be evaluated more closely and repaired as required. The white paint finish also appears to be in good condition and should be maintained to provide adequate protection from water damage.

The metal frame and fabric awing on the north façade requires metal flashing at the awning-to-wall juncture, to divert water from the frame and awning anchors.

The retaining walls of the exterior stairs leading to the basement are likely constructed of CMU. The cementitious coating is highly deteriorated and cracked across the surface, possibly due to water damage or building settlement. The drainage issue at the areaway is likely caused by blockages in the roof drain, which further exasperates the deterioration of the retaining walls and spurs biological growth.

Rusting of the exterior metal stair is due to the aged protective paint coating and deferred maintenance. Lack of ongoing maintenance can result in extensive rusting that will significantly diminish the structural capacity of the code-required exit stair.

Due to the age of the building's construction, it should be assumed that lead-based paint was used across various building components.

Recommended work includes, but is not limited to, the following:

1. Remove existing stucco finish to evaluate the horizontal crack on the south façade. Remediate as required. Repair the back-up masonry as required. Apply new stucco finish to match adjacent finish in texture and color.

2. Remove existing masonry infill. Install new infill, toothed into masonry surround. Apply new stucco finish to match adjacent finish in texture and color.

3. Remove existing stucco finish and evaluate extent of deterioration at steel lintel(s). Remediate as required. Remove one course of concrete masonry above to expose the steel lintel. Prepare, prime, paint, and waterproof steel lintel and install new metal drip edge. Install new masonry to match in material and size. Apply new stucco finish to match adjacent finish in texture and color.

4. Remove existing chimney caps, cementitious patching materials and concrete coping. Discard. Install new concrete coping and a new copper chimney cap.

5. Install flashing at pipe penetrations at exterior walls.

6. Patch holes in exterior walls at locations where penetrations have been removed.

7. Remove aluminum downspouts around wiring and discard. Install new conduit in compliance with the most up-to-date edition of the National Electrical Code. Flash penetrations at exterior walls and overhang soffits.

8. Evaluate each wood bracket for deterioration. Repair or replace as required. Remediate as required. Prepare, prime, and paint to match existing.

9. Evaluate beadboard soffit for deterioration. Repair or replace as required. Remediate as required. Prepare, prime, and paint to match existing.

10. Install surface-mounted metal flashing at the awning-to-wall juncture on the north façade.

11. Remove the cementitious coating at the retaining walls of the exterior stairs leading to the basement. Remove all biological growth. Repair or replace back-up concrete or CMU as required. Apply new cementitious coating to match existing in texture and color.

12. Remove coping and metal fence at the retaining walls of the exterior stairs leading to the basement. Discard. Install new copper through-wall flashing, new cast-stone coping, and new surface-mounted metal fence with gate.

13. Clean out the existing areaway drain for a minimum of thirty (30) feet. Install new cast-iron drain cover.

14. Reinstall missing steel-angle cross brace at exterior metal stair. Prepare, prime, and paint all stair components. Remediate as required.

15. Prepare, prime, and paint 2nd-floor balconies on the south façade. Remediate as required.

3.6 Windows & Doors

3.6.1 Existing Conditions

See Figure 3-60 to Figure 3-68.

Based on historic images, the windows and doors of the original Firehouse were likely wood with true divided lites. The image on display in the Firehouse auditorium indicates that the original truck bay doors had been replaced by

the early 1960s. The 1967 plans by Leon Barton notes various existing wood windows and doors to remain, and other that were relocated to accommodate the 2nd-floor addition. A few locations indicate door or window openings to be filled in with masonry. Since the 1967 addition, the windows and doors have been replaced with metal types.

3.6.2 Analysis & Recommendations

The existing doors and windows appear to be in good condition, though the configurations are not historically accurate. At a few locations, the new windows are not the proper size and sit within a wood infill within the original masonry opening. This design is improper and can allow water infiltration. The sealant around window and door openings is deteriorated and requires replacement.

Two truck-bay openings dating to the original construction have been filled in with a low masonry wall topped with a brick-masonry sill and metal windows.

Recommended work includes, but is not limited to, the following:

1. Replace windows and doors on all façades with new wood windows and doors to match the historic configurations, in compliance with the most up-to-date edition of federal, state, and local building codes. Replace fire-rated openings with an assembly of the same or higher fire rating.

2. At the south façade, remove windows and masonry infill at two truck bays. Install a new infill to match the historic door configuration.

3.7 Interior Finishes

3.7.1 Existing Conditions

See Figure 3-69 to Figure 3-83.

The majority of interior finishes are in good condition, though water damage was observed in various locations. The ceiling of the 2nd-floor auditorium, the ceiling of the stair tower, and the wall and ceiling finish of the interior basement and stair all showed signs of water infiltration and deterioration. Water damage was observed at the acoustical ceiling tiles of the truck bays and a few ceiling tiles were missing.

3.7.2 Analysis & Recommendations

The water damage at the ceiling of the 2nd-floor auditorium and stair tower appears to be the result of improper flashing at the roof, at the juncture of the gable end and hipped roof. The deteriorated wall and ceiling finish in the interior basement stair could be the result of rising damp and a damp environment in the sub-grade spaces. The water damage at the acoustical ceiling tiles in the truck bays is likely caused by leaks in mechanical ductwork in the concealed spaces of the dropped ceiling.

Due to the age of the building's construction, it should be assumed that asbestos-containing materials and lead-based paint were used across various building components.

Recommended work includes, but is not limited to, the following:

1. Repair or replace the deteriorated portions of the auditorium and stair tower ceilings. Remediate as required. Paint to match the existing finish.

2. Remove the wall and ceiling finish of the basement spaces. Remediate as required. Repair ceiling back-up as required. Apply new breathable wall and ceiling finish, color to match existing.

3. Remove water-damaged acoustical ceiling tiles and backer board. Abate as required and discard. Evaluate concealed ductwork for any leaks and repair or replace as required. Install new ceiling backer board as required. Install new acoustical ceiling tiles as required to match existing in size, texture, and color.

3.8 Materials Testing & Analysis

3.8.1 Existing Conditions

The existing roof materials and paint finishes date to as early as 1925. The last addition to the building was completed in the 1960s, so it is very likely that various building components contain asbestos and/or lead-based paint.

3.8.2 Analysis & Recommendations

Recommended building repairs include roof replacement, re-coating of the exterior steel staircase and 2nd-floor balconies, and repair and replacement of exterior and interior finishes. Testing for hazardous materials should be performed prior to any work to determine which materials contain asbestos and/or lead.

Recommended work includes, but is not limited to, the following:

1. Test for lead-based paint at locations of recommended repairs.

2. Test for asbestos-containing materials at locations of recommended repairs.

Figure 3-1
Slate roofing – South roof slope. Deteriorated hip and ridge tiles, broken and displaced tiles, deteriorated snow guards.

Figure 3-2
Slate roofing – Masonry chimney. Deteriorated copper skirt flashing, missing cricket at high side, deteriorated tiles.

Figure 3-3
Slate roofing – Cupola. Deteriorated hip tiles, broken tiles.

Figure 3-4
Slate roofing – Cupola. Deteriorated copper skirt and cap flashing, deteriorated ridge tiles.

Figure 3-5
Slate roofing – Cupola. Deteriorated copper cap flashing.

Figure 3-6
Slate roofing – South roof slope. Deteriorated ridge tiles.

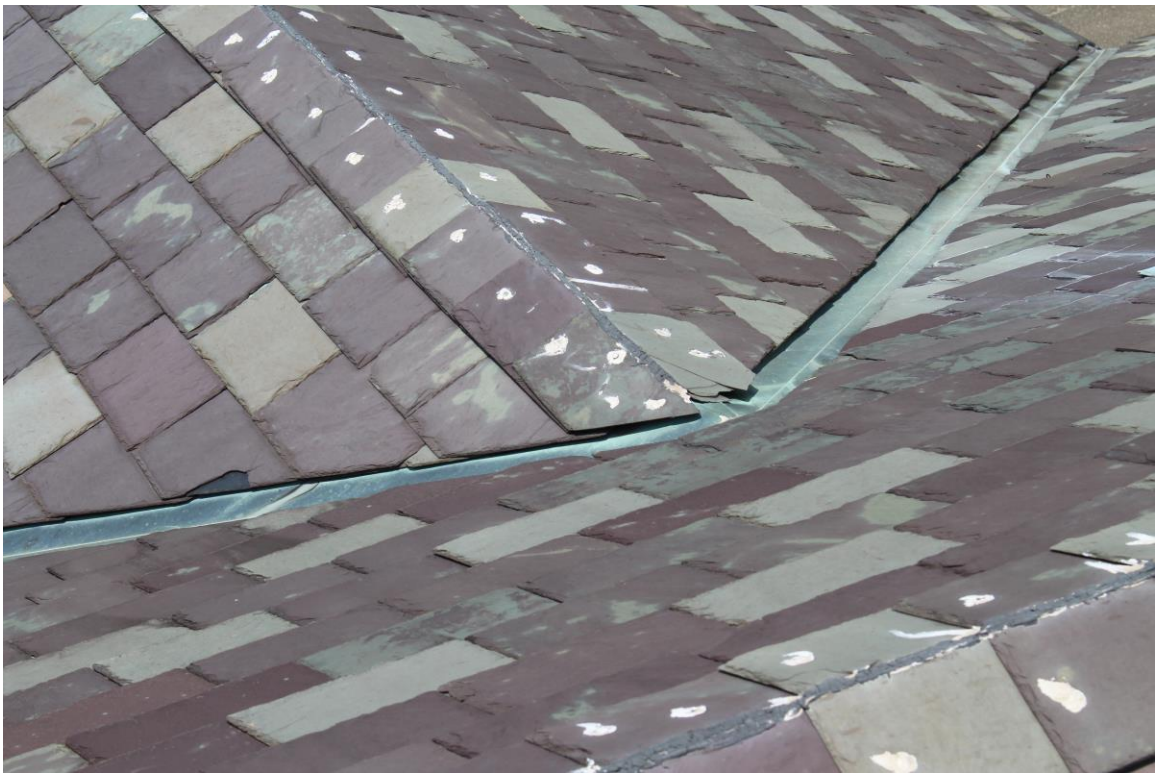

Figure 3-7
Slate roofing – North roof slope. Deteriorated ridge tiles, deteriorated copper valley flashing, broken tiles.

Figure 3-8
Slate roofing – South roof slope and cupola. Deteriorated copper cap and skirt flashing, water staining.

Figure 3-9
Slate roofing – South roof slope. Deteriorated tiles.

Figure 3-10
Slate roofing – West-facing gable end. Deteriorated wood vent and copper flashing, missing flashing at rake, deteriorated hip and ridge tiles.

Figure 3-11
Slate roofing – North slope. Aged and broken tiles, deteriorated penetration flashing.

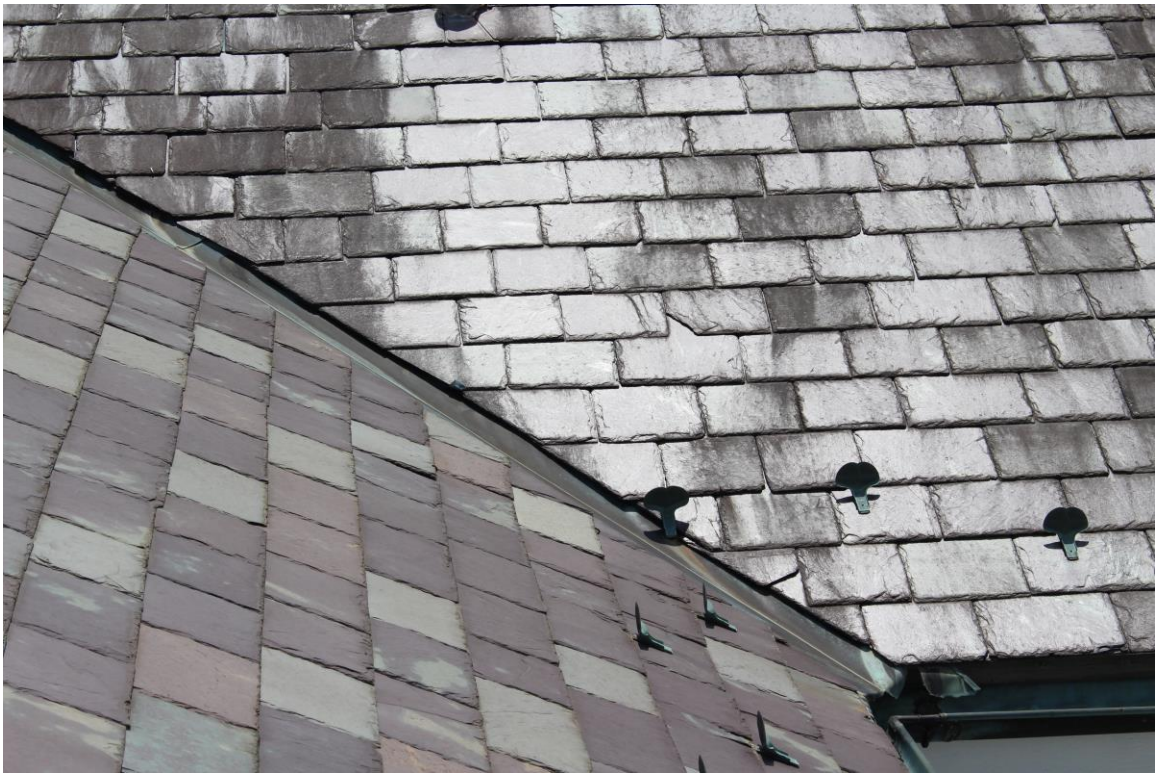

Figure 3-12
Slate roofing – North roof slope. Broken tiles, deteriorated snow guards, deteriorated copper valley flashing.

Figure 3-13
Slate roofing – North-facing gable end. Deteriorated wood vent and copper flashing, missing flashing at rake, deteriorated tiles.

Figure 3-14
Slate roofing – Masonry chimney. Deteriorated copper skirt flashing, deteriorated tiles, deteriorated snow guards.

Figure 3-15
Slate roofing – East-facing gable end. Deteriorated wood vent, missing flashing, deteriorated tiles.

Figure 3-16
Slate roofing – Lean-to addition along the west façade. Deteriorated hip tiles, deteriorated stepped flashing.

Figure 3-17
Slate roofing – Roof above main entrance. Deteriorated hip tiles, deteriorated stepped flashing.

Figure 3-18
Slate roofing – Roof above main entrance. Deteriorated hip tiles, deteriorated stepped flashing.

Figure 3-19
Modified-bitumen roofing – West of the stair tower. Deteriorated counter-flashing, improper flashing termination, lack of integration of roof edge with gutter.

Figure 3-20
Modified-bitumen roofing – West of the stair tower. Deteriorated counter-flashing.

Figure 3-21
Modified-bitumen roofing – West of the stair tower. Deteriorated counter-flashing, improper flashing termination.

Figure 3-22
Modified-bitumen roofing – East of the stair tower. Deteriorated base and cap flashing.

Figure 3-23
Modified-bitumen roofing – East of the stair tower. Deteriorated base flashing, improper saddle flashing.

Figure 3-24
Modified-bitumen roofing – East of the stair tower. Deteriorated metal edge and sealant.

Figure 3-25
Modified-bitumen roofing – East of the stair tower. Deteriorated base flashing and metal edge, improper flashing termination.

Figure 3-26
Asphalt-shingle roofing – Missing flashing.

Figure 3-27
Asphalt-shingle roofing – Deteriorated mesh-wire infill between rafters.

Figure 3-28
Copper gutter – Deteriorated copper gutter, deteriorated gutter hanger, unprotected wood fascia.

Figure 3-29
Copper gutter – Deteriorated copper gutter joint, deteriorated gutter hanger, unprotected wood fascia.

Figure 3-30
Copper gutter – Deteriorated copper gutter, improper aluminum/copper connection.

Figure 3-31
Copper gutter – Deteriorated copper gutter, deteriorated gutter hangers, improper aluminum/copper connection.

Figure 3-32
Aluminum gutter – Deteriorated aluminum gutter, improper gutter/downspout connection.

Figure 3-33
Aluminum gutter – Deteriorated aluminum gutter.

Figure 3-34
Aluminum gutter – Deteriorated aluminum gutter, improper gutter/downspout connection.

Figure 3-35
Aluminum downspout – Deteriorated aluminum downspout extension, improper aluminum/copper connection.

Figure 3-36
Aluminum downspout – Deteriorated aluminum downspout extension, deteriorated copper gutter.

Figure 3-37
Aluminum downspout – Deteriorated aluminum downspout extension, deteriorated copper gutter.

Figure 3-38
Aluminum downspout – Deteriorated aluminum downspout extension, deteriorated copper gutter.

Figure 3-39
Aluminum downspout – Deteriorated aluminum downspout, missing splash block.

Figure 3-40
Masonry – Continuous horizontal crack.

Figure 3-41
Masonry – Continuous horizontal crack.

Figure 3-42
Masonry – Continuous stepped crack.

Figure 3-43
Masonry – Continuous horizontal crack.

Figure 3-44
Masonry – Foundation crack.

Figure 3-45
Masonry – Deteriorated coating at foundation.

Figure 3-46
Masonry – Un-flashed pipe penetration.

Figure 3-47
Masonry – Un-flashed pipe penetration.

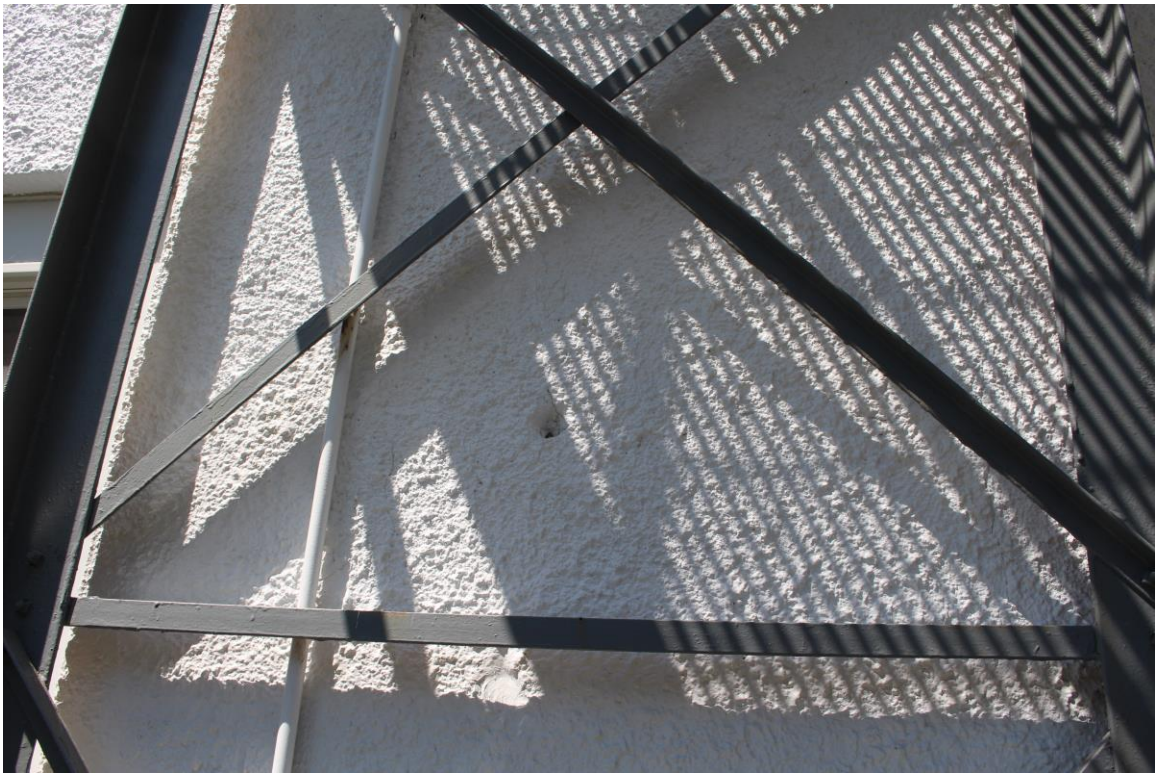

Figure 3-48
Masonry – Abandoned pipe penetration.

Figure 3-49
Masonry – Wiring in aluminum downspout.

Figure 3-50
Wood bracket – Typical open wood brackets.

Figure 3-51
Wood bracket – Typical open wood bracket and beadboard soffit.

Figure 3-52
Awning – Missing flashing at awning-to-wall connection.

Figure 3-53
Cement coating – Deteriorated cementitious coating at exterior basement stair.

Figure 3-54
Cement coating – Deteriorated cementitious coating and biological growth at exterior basement stair.

Figure 3-55
Cement coating – Deteriorated cementitious coating, deteriorated coping, and biological growth at exterior basement stair.

Figure 3-56
Cement coating – Deteriorated cementitious coating, deteriorated coping, and biological growth at exterior basement stair.

Figure 3-57
Areaway – Backed-up drain and missing drain cover.

Figure 3-58
Balcony – Typical metal balcony.

Figure 3-59
Exterior metal stair – Deteriorated paint coating, missing cross brace.

Figure 3-60
Windows – Replacement window in larger masonry opening.

Figure 3-61
Windows – Former window opening with masonry infill.

Figure 3-62
Windows – Replacement windows in larger masonry openings.

Figure 3-63
Windows – Replacement window in balcony door opening.

Figure 3-64
Windows – Replacement windows with non-historic configurations.

Figure 3-65
Doors – Masonry and window infill in truck-bay opening.

Figure 3-66
Doors – Replacement roll-up door in truck-bay opening.

Figure 3-67
Windows – Deteriorated sealant.

Figure 3-68
Windows – Deteriorated sealant.

Figure 3-69
Attic – Typical wood roof framing.

Figure 3-70
Attic – Typical wood roof framing and wood tongue-and-groove deck.

Figure 3-71
Auditorium – Water damage at ceiling (refer to Figure 3-15 for related exterior condition).

Figure 3-72
Auditorium – Water damage at ceiling (refer to Figure 3-2 and Figure 3-14 for related exterior conditions).

Figure 3-73
Auditorium – Water damage at ceiling (refer to Figure 3-15 for related exterior condition).

Figure 3-74
Auditorium – Water damage at ceiling (refer to Figure 3-15 for related exterior condition).

Figure 3-75
Basement – Deteriorated finish at ceiling.

Figure 3-76
Basement – Deteriorated finish at ceiling.

Figure 3-77
Basement – Deteriorated finish at ceiling.

Figure 3-78
Basement – Deteriorated finish at walls.

Figure 3-79
Stair tower – Water damage at ceiling (refer to Figure 3-13 for related exterior condition).

Figure 3-80
Stair tower – Water damage at ceiling (refer to Figure 3-13 for related exterior condition).

Figure 3-81
Truck bay – Water damage at ceiling.

Figure 3-82
Truck bay – Water damage at ceiling.

Figure 3-83
Truck bay – Missing tiles at ceiling.

4.0 PRELIMINARY COST ESTIMATE

The following cost estimate is based on the various components of the project. The estimate was prepared as accurately as possibly, but it does not necessarily represent the real costs that will be incurred when the actual work on this project is performed.

In general, the work described below should be phased over the next five years with the most urgent repairs being performed within the next two years. These items include:

- Installation of new slate-tile and SBS modified-bitumen roofs
- Installation of new copper gutters and downspouts
- Flashing of the building envelope (i.e. awning, penetrations, etc.).

The preliminary estimated construction cost of all recommended repairs, not including costs related to project phasing, is approximately $997,000 to $1,415,000. If performed separately, the preliminary estimated construction cost for roof replacement is approximately $500,000 to $700,000.

5.0 HISTORICAL DOCUMENTATION

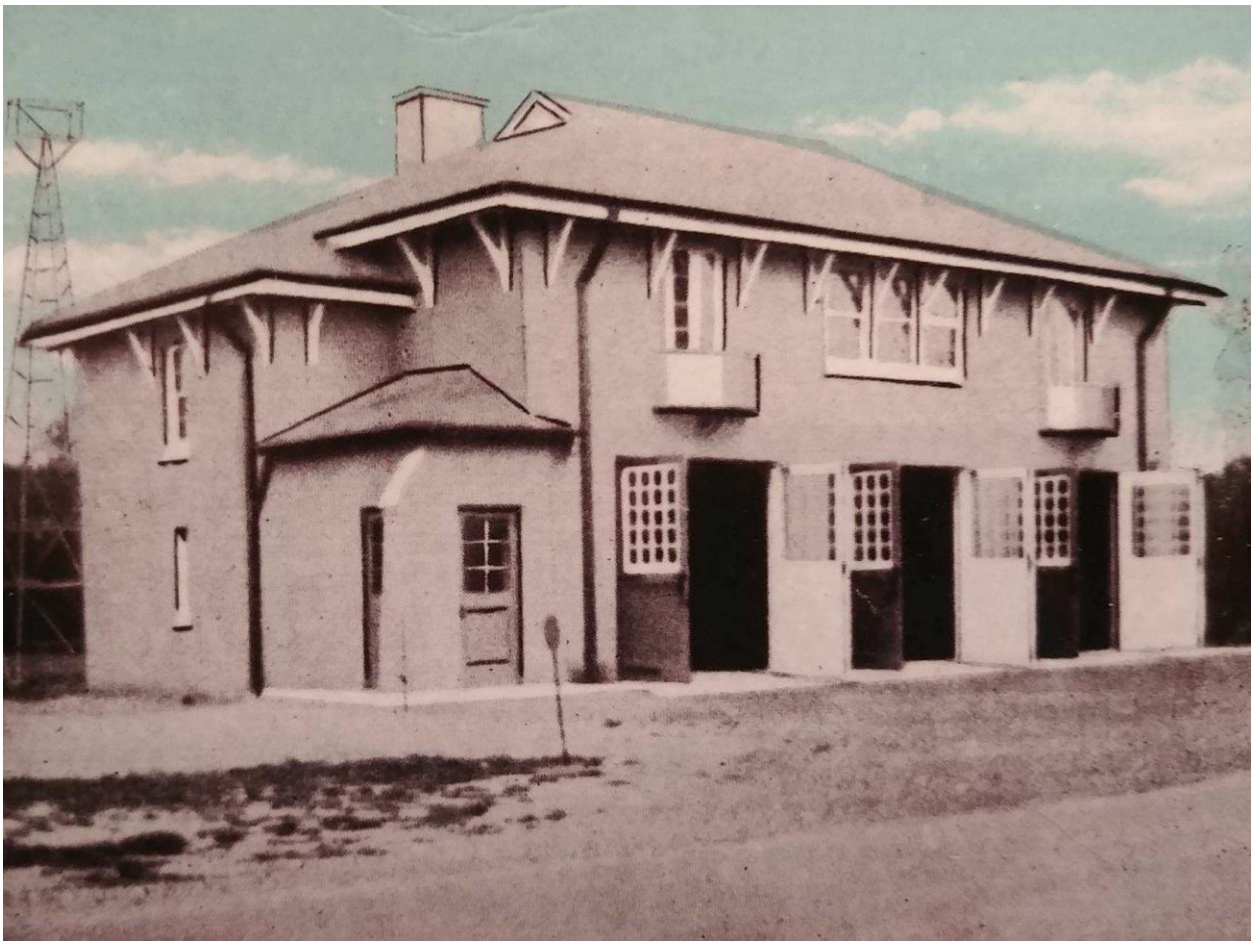

Figure 5-1
Postcard of the St. James Firehouse, undated. [obtained from the client]

The above postcard shows the Firehouse as viewed from the southwest. The postcard was obtained from the client and is undated, though the lack of paving and landscaping in front of the structure indicates this image was created soon after the building's construction was completed. See Figures 5-2 and 5-3 for comparison.

Figure 5-2
Town of Smithtown (1978). Building Structure Inventory Form, NCR 21. [obtained from the client]

The above photo was printed as part of an article in *The Smithtown News* (dated June 8, 1972). A clipping of the article was included in the Building Structure Inventory Form completed by the Town of Smithtown in May 1978.

Figure 5-3
Suffolk County (N.Y.) Board of Supervisors (1939). *Suffolk County's Ten Great Townships of Long Island*, p. 157. [obtained via maggieblanck.com]

The above image shows the Firehouse as viewed from the southwest. The image was included in the Building Structure Inventory Form completed by the Town of Smithtown in May 1978. The image is undated but appears to be from around 1925, see Figure 5-2 for comparison.

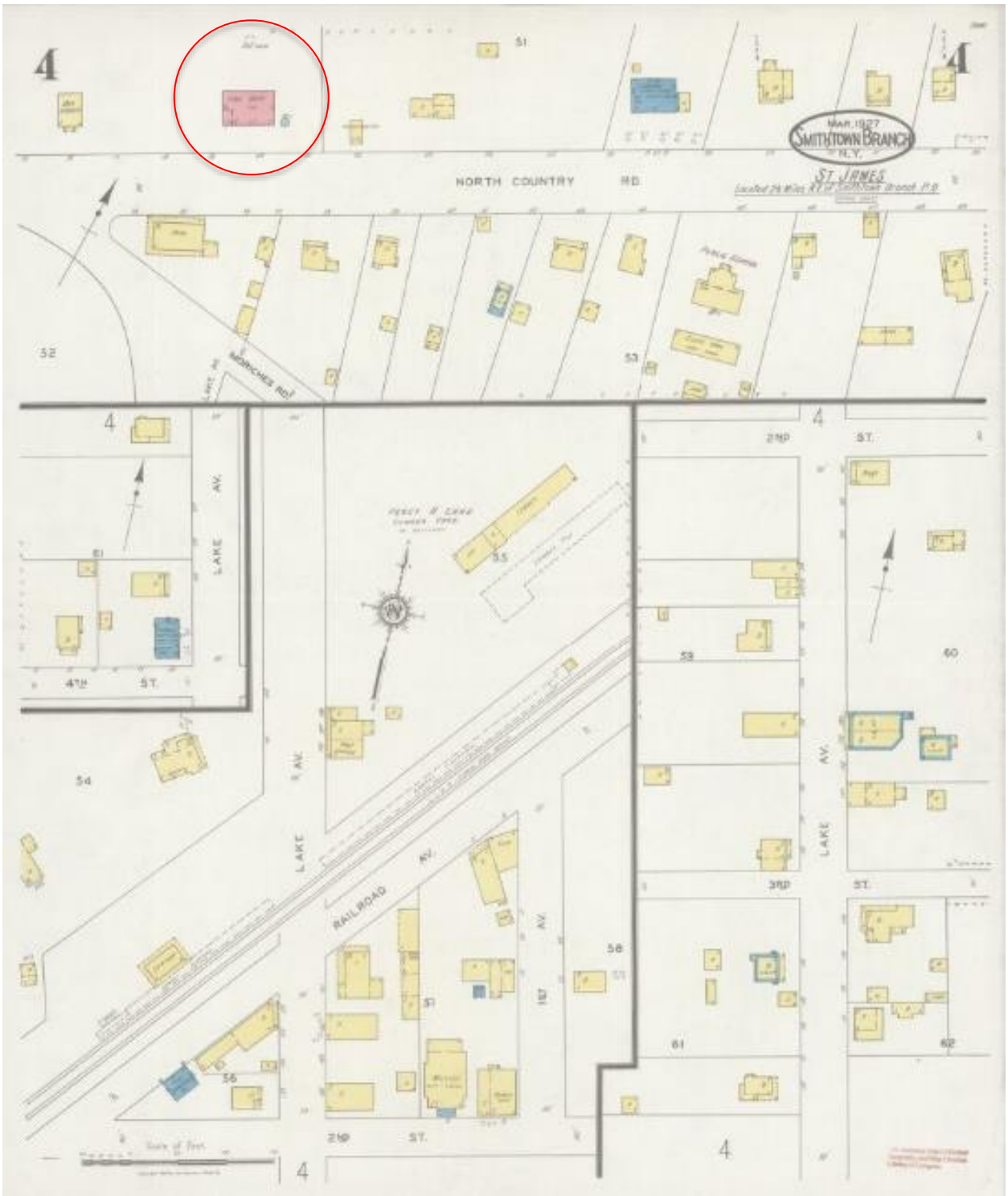

Figure 5-4
Sanborn Fire Insurance Company (1927). *Sanborn Fire Insurance Map from Smithtown Branch, Suffolk County, New York*, Sheet 4. [obtained via Library of Congress Geography and Map Division]

The above map shows a portion of St. James in 1927. The area circled in red marks the location of the Firehouse. See Figure 5-5 for a zoomed-in view.

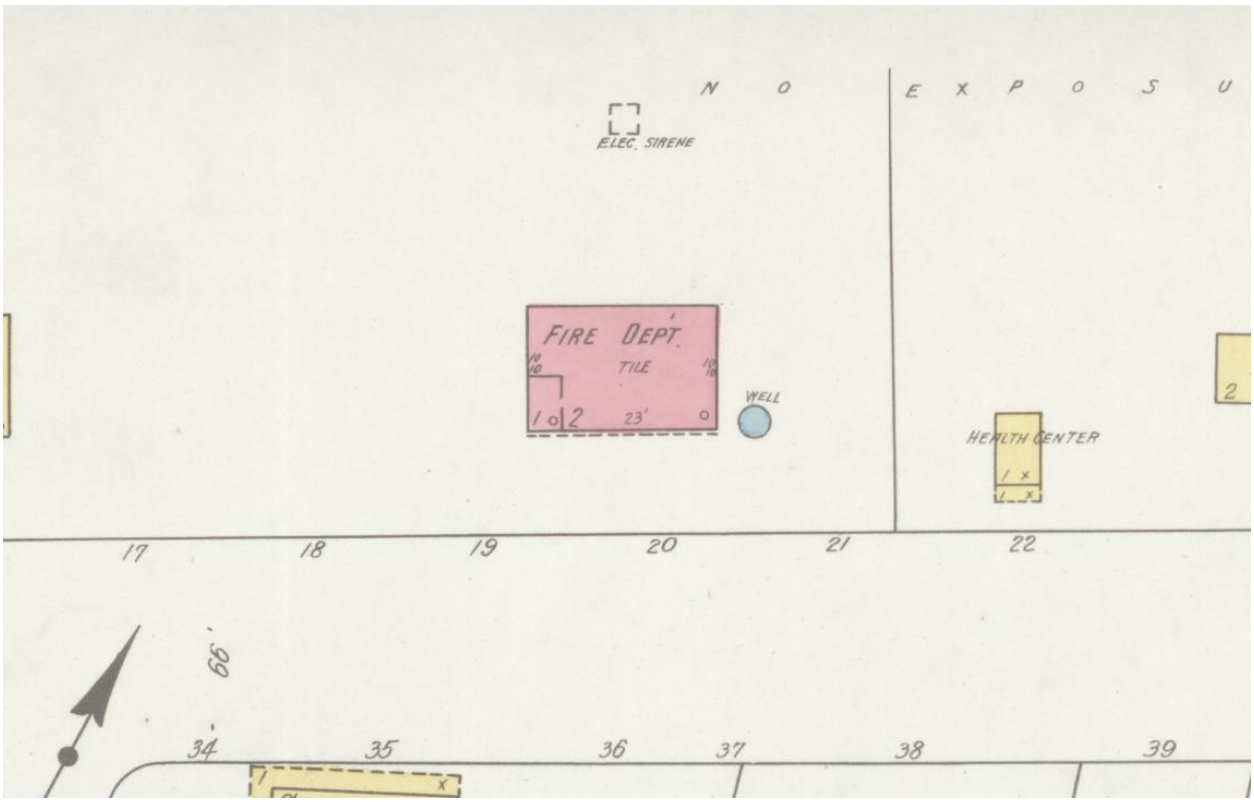

Figure 5-5
Sanborn Fire Insurance Company (1927). *Sanborn Fire Insurance Map from Smithtown Branch, Suffolk County, New York*, Sheet 4. [obtained via Library of Congress Geography and Map Division]

The above map shows the location of the Firehouse in 1927. The map key indicates the building is one and two stories, constructed of structural tile with a slate or tin roof. A small overhang is indicated along the south roof edge. A water well is shown to the east of the building, possibly constructed of stone. Openings and a chimney are not indicated.

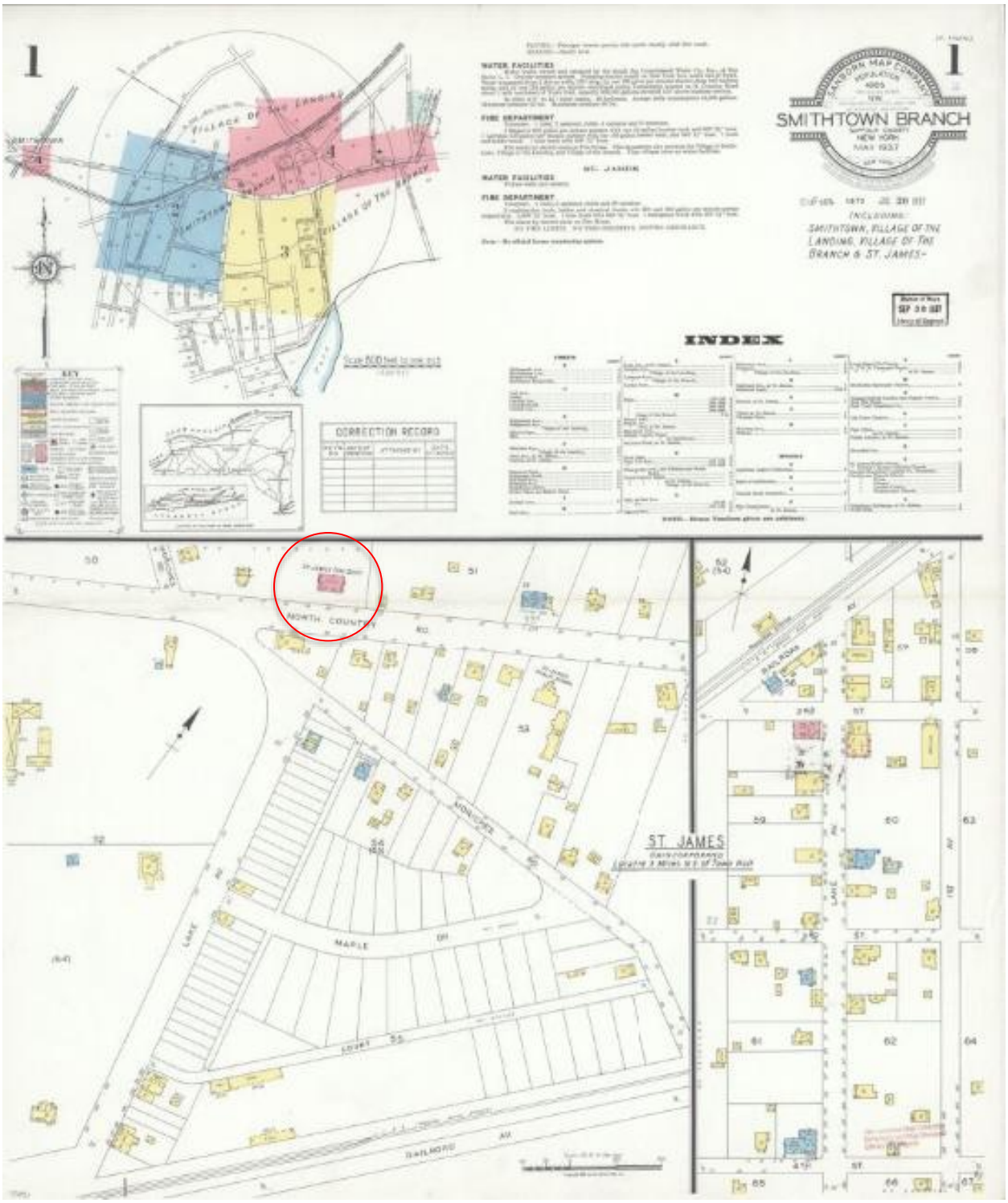

Figure 5-6
Sanborn Fire Insurance Company (1937). *Sanborn Fire Insurance Map from Smithtown Branch, Suffolk County, New York*, Sheet 1. [obtained via Library of Congress Geography and Map Division]

The above map shows a portion of St. James in 1937. The area circled in red marks the location of the Firehouse. See Figure 5-7 for a zoomed-in view.

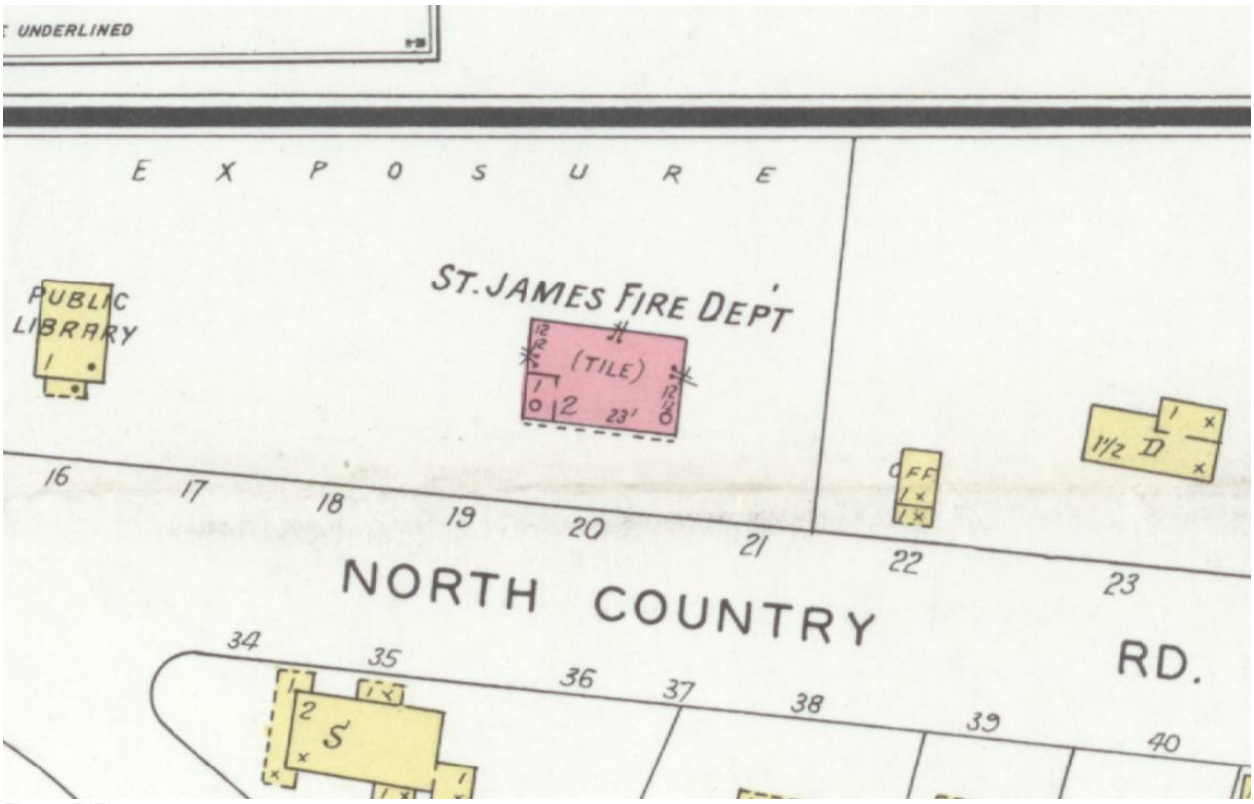

Figure 5-7
Sanborn Fire Insurance Company (1937). *Sanborn Fire Insurance Map from Smithtown Branch, Suffolk County, New York*, Sheet 1. [obtained via Library of Congress Geography and Map Division]

The above map shows the location of the Firehouse in 1937. The map key indicates the building is one and two stories, constructed of structural tile with a slate, shingle, or metal roof. A small overhang is indicated along the south roof edge. The water well is no longer shown to the east of the building. 1st- and 2nd-floor windows are indicated on the east, north, and west façades. A chimney is not indicated.

Figure 5-8
Image of the St. James Firehouse, undated. [obtained at the project site]

The above image shows the Firehouse as viewed from the southwest. The image is on display in the Firehouse auditorium and is undated, though the caption indicates this image was taken in the early 1960s before the 2nd-floor addition was constructed.

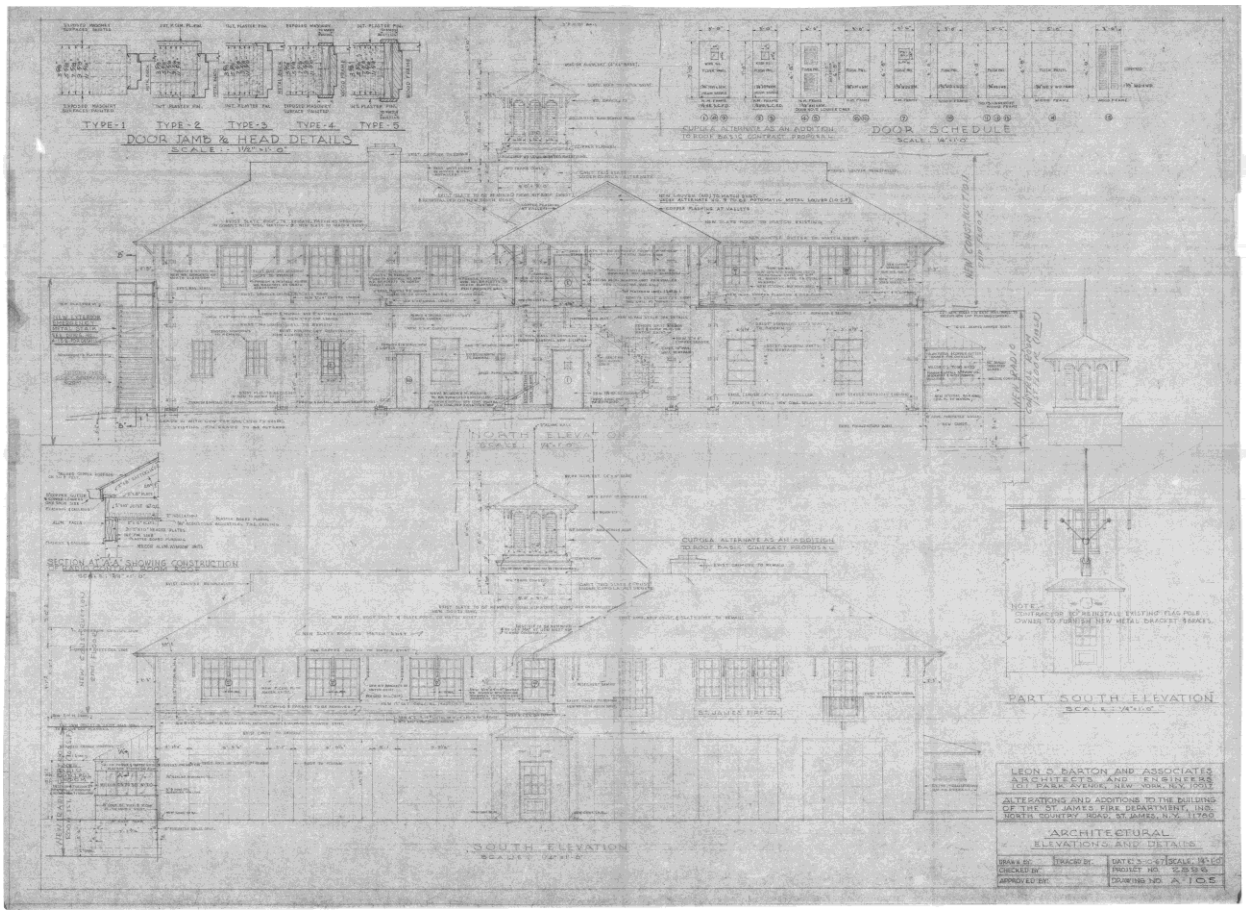

Figure 5-9
Plans by Leon S. Barton & Associates, dated March 1967. [obtained from the client]

The above drawing is one sheet in a four-sheet plan set by Leon S. Barton & Associates. The set outlines the design of the 2nd-floor addition, including elevation drawings, floorplans, wall type details, stair details, and door type details. See Section 2.3 for further analysis.

Figure 5-10
Town of Smithtown (1978). Building Structure Inventory Form, NCR 21. [obtained from the client]

The above image shows the Firehouse as viewed from the southeast. The image was included in the Building Structure Inventory Form completed by the Town of Smithtown in May 1978.

6.0 BIBLIOGRAPHY AND REFERENCES

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