

**BUILDING ENVELOPE EVALUATION
FOR
THE TOWN OF SOUTHAMPTON POLICE STATION
8 EAST STREET, SOUTHAMPTON, MA
MI-2516-001**



FINAL DRAFT

January 2021

Executive Summary

Hill-Engineers, Architects, Planners, Inc (Hill) services were engaged to review building envelope deficiencies and report findings for the building known as the Town of Southampton Police Station, 8 East Street, Southampton, MA.

In general, the building envelope and its various components range from fair to good condition. The upper and lower levels of the building continue to be occupied and used by the police department. The building was originally built to be used as the Town Hall in 1904. The building also had a large community auditorium that has since been concealed by new construction to provide the upper level offices in the early 1960's.

This report is not a Chapter 34 code review in accordance with the Massachusetts State Building Code. Current conditions may/may not conform to building codes. Any proposed alterations governed by the building code may necessitate more/less substantial improvements. If the building is to be repurposed or substantially altered (and depending upon the determination of 'public' and 'staff' use), additional accessibility accommodations may be necessary.

Introduction

On Tuesday, September 22, 2020, Hill personnel performed a cursory review of the building.

Hill Personnel:

Architectural

Jamie Reinhardt

Guide:

Members of the Police Department

The circa 1904 Colonial Revival style brick-faced building also has miscellaneous stone finish components as well as wood trim and 'dental' trim details on the roof eaves. There is parking on the west and south sides of the building with one point of entry and exit.

The following evaluation contains observations witnessed in the review of the building. No operational testing was performed. No destructive/non-destructive testing was performed. No investigations of concealed conditions were performed.

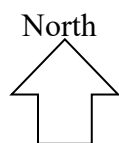
Opinion of Probable Cost

The opinion of probable cost for the item(s) state in this report are presented in a range. There would be a greater economy for the work if multiple items are grouped together as a larger project as mobilization and management costs are more effective. The costs do not reflect A/E (architectural and engineering) fees or abatement of regulated materials.

Architectural

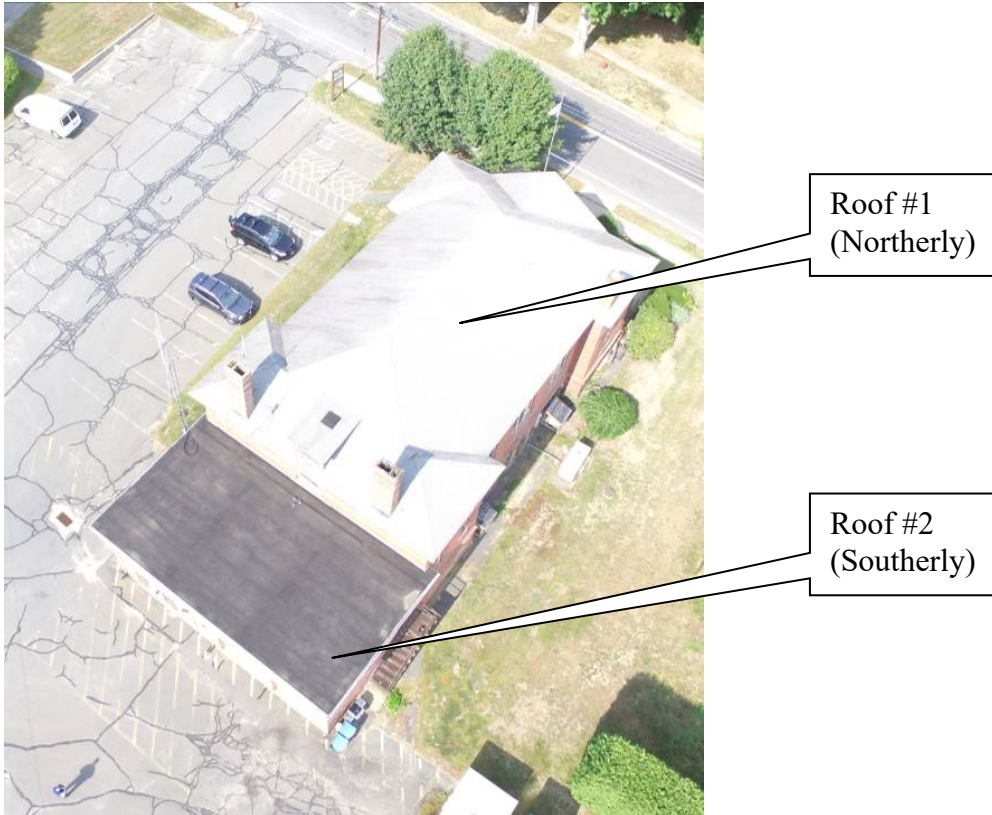


Locus Plan
(Excerpt from Google Maps)
No Scale



Roofs

The building has two (2) major separate roofs, the sloping roof (Roof #1), atop the upper original building, and the flat roof (Roof #2), atop the lower building addition on the south side.



Aerial View of Roof

Roof #1 (Main Roof – Original Building)

(Condition: Fair/Good) – The existing roofing appears to be a 3-tab asphalt shingle product and is in reasonably good condition. It was reported that the roof was installed around 1989 (approximately 32 years ago). Asphalt shingle roofs installed at times during this period typically has a 20-25 year life expectancy. The shingle roof is beyond its useful life.



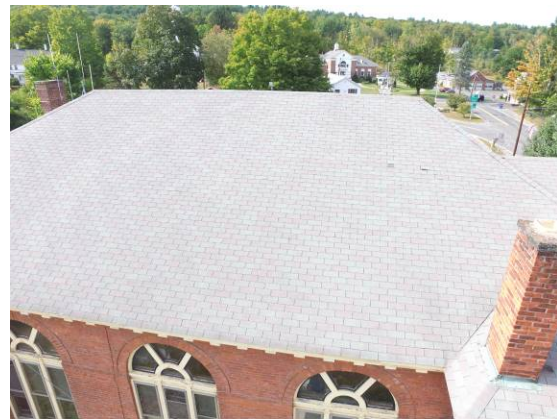
North



East



East



West

The original roofing was slate. (This is supported by a report by the Massachusetts Historical Commission) The slate was removed and replaced with a more economical solution, asphalt shingles. It is not known if there is one (1) or two (2) layers present. The edge profile should be examined and/or shingles removed to determine how many layers are present. The Code permits two (2) layers of shingles before a complete tear off is required. Research and recommendation for roof insulation should also be discussed prior to installing a new roof. The original valleys were likely copper and were replaced by woven asphalt shingles when the roof was replaced.

There were few missing shingles observed. There are a few 'wrinkled' tabs but the shingle remains whole and intact.

The following deficiencies were observed and should be addressed:



Step flashing at chimney requires repair.



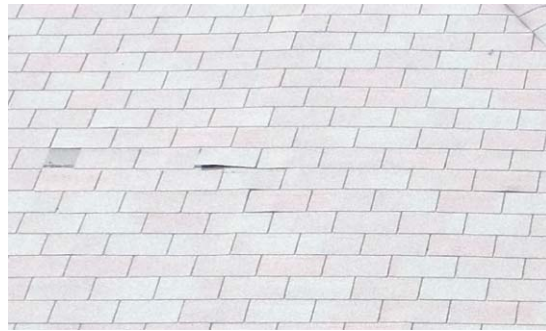
Deteriorated masonry around chimney cap.

Note:

The north chimney on the north side of the building is constructed differently from the two (2) on the south side of the building. The south chimneys have more brick corbel detail at the top. It is possible that the north chimney was reconstructed at some point in the building history. (The 1970 historic photo shows slightly more detail at the top in comparison to what is present today.)



Lichen growth on the northerly and westerly roof slopes. (Little concern.)



Missing and wrinkled shingles (east side)



South Chimneys – vegetation, support
(Examine cricket and flashing behind each chimney.)



Remove vegetation
(Review lateral supports for chimneys.
Paint supports to retard rust and staining.)



Southerly Shed Dormer
(Possible Roof Access Scuttle, black.)



Dormer Elevation
(Repair Flashing)

Note: The roof eaves and louver are described in the elevation narrative of this report.

Opinion of Probable Cost

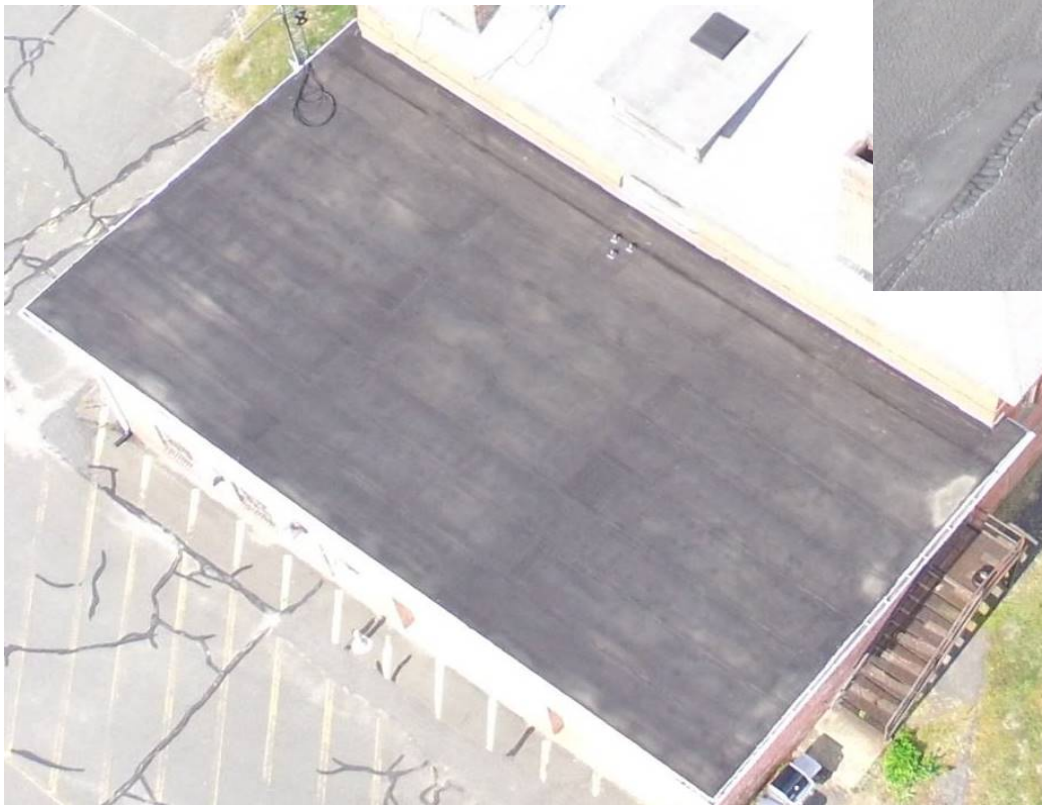
Roof #1: Over-roof (Assuming the roof substrate, sheathing or plank, is sound)	\$ 70,000 - \$ 85,000
Full tear-off, new underlayment and shingles	\$100,000 - \$120,000
Gutters and downspouts	\$ 4,000 - \$ 5,000
Miscellaneous carpentry (Repairs for small roof over the north entrance)	\$ 2,900 - \$ 3,500
Chimneys (Roof #1, one chimney and Roof #2, two chimneys) There would be economy in performing work on all three chimneys as one project.	\$ 9,000 - \$ 11,000

Roof #2 (Building Addition)

(Condition: Fair/Good) – According to historic records, the southerly addition was constructed in the early 1970's for two (2) garages and a meeting-voting room above. Based upon appearance, this is likely the original roof. The existing roofing appears to be a built-up torch-down roofing system. The general field appears in good condition. Due to the age, it is showing evidence of chalking and breakdown at seams. This is a common effect as the membrane ages and wears.

There are no roof drains or interior drainage. The roof is sloped to the exterior roof edges where gutters and downspouts are present for drainage.

Sign of wear (below)

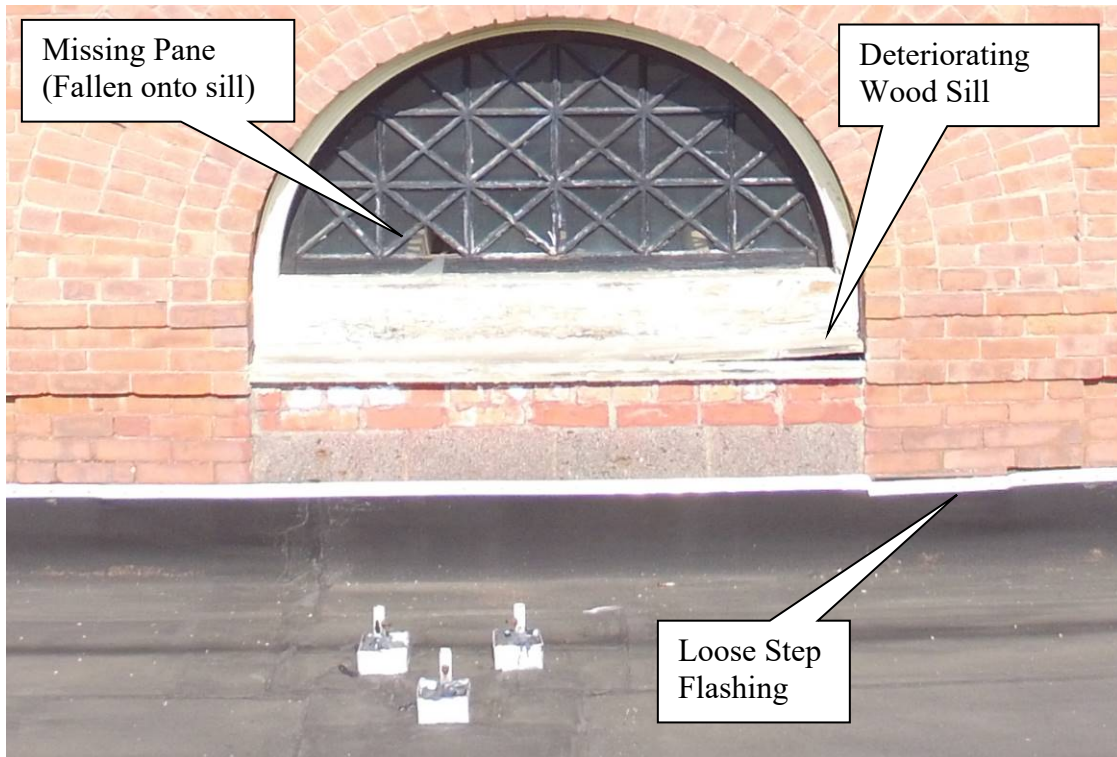


South



View from West to East

It was reported that a leak had occurred above the ceiling in the upper level meeting room. The location is in the vicinity of abandoned antenna mounts. It is possible the flashing around the antenna mounts has failed and requires patching. Other possible points of water infiltration are the broken window pane, deteriorating window sill, or loose flashing. This window is located in the 1904 building.



The following deficiencies were observed and should be addressed:



Minor evidence of debris/ponding
(Research depression in insulation)



Abandoned antenna mounts
(Remove with next roof replacement)



Stretched membrane - Westerly
(Review)



Stretched membrane - Easterly
(Review)



Coiled cable
(Provide roofing mat or additional layer of
roofing below cable for a wear layer.)



Damaged roof metal edge trim/fascia



South Chimneys



Review chimneys for repointing
(Being used for support of antennas)

Note: The roof eaves are described in the elevation narrative of this report.

Opinion of Probable Cost

Roof #2: Demolition, removal	\$10,000 - \$12,000
New insulation	\$10,000 - \$12,000
New membrane roof	<u>\$32,000 – \$40,000</u>
	\$52,000 - \$64,000
Option to over-roof	\$18,000 - \$22,000
Add insulation	<u>\$ 6,000 - \$ 7,000</u>
	\$24,000 - \$29,000
Gutters and downspouts	\$ 8,000 - \$10,000
Ornamental window sill repair (carpentry, paint) (located in the 1904 building)	\$ 3,150 – \$ 3,750
Roof mat under cables	\$ 500 - \$ 700
Roof flashing repairs	\$ 500 - \$ 700
Roof eave carpentry repairs	\$30,000 - \$36,000
Chimneys (presented under Roof #1)	

Exterior Elevations

(Condition: Good)

General

The building is a three-story structure (including the basement). The northerly portion of the lower level contains the boiler/mechanical equipment room.

The perimeter cornice is in good condition. The wood dentil detail along the roof eaves is in need of repair and/or replacement where missing. Repainting is necessary. Bird screen/spike deterrents are suggested for remote shelf-like locations atop the projecting cornices.

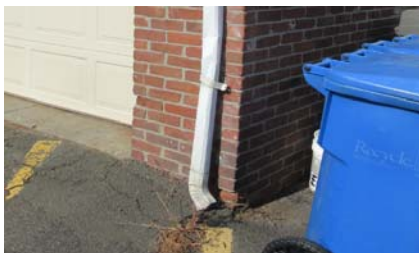
Painting of all of the exterior wood components is highly recommended. Further postponement of the work will result in damage and rotting of the wood. Cleaning and repainting of steel components is also recommended to retard rust streaking on finish material (i.e., steel lintels above windows and doors, window air-conditioners.)

It is likely that construction components contain regulated materials (i.e., asbestos, lead paint). A material evaluation should be performed by an environmental consultant to determine any presence of materials and to inform contractors performing work on the building.

Overall, the majority of the brickwork is in good condition. Some areas have been repaired (poorly) and a few locations require repointing. If repointing is not performed within 2-years, the elevation should be monitored for further deterioration.

The greatest brickwork deficiency is around the bottom 3'-4' perimeter of the building. The grout is exhibiting evidence of deterioration. There is also moss, lichens and algae growth present that indicates excessive moisture and possibly shaded areas not exposed to sunlight for drying. Some of this may be attributed to the impervious paving that was installed along the ground 2'-3' outward from the building. It is likely that the paving (installed on the west, north and east sides of the building) was installed with the thought of keeping moisture away from, and out of, the basement. The roof water is running off of the roof eave, to the ground, and then splashing up the bottom face of the building, thus saturating the brickwork.

There are gutters and downspouts present. The components on the 1904 are not period historic (3" round copper), but rather painted aluminum. Damaged downspouts should be repaired or replaced.



Repair or replace damaged downspouts



Paving added along the perimeter of the building (West Side)



Paving added along the perimeter of the building (East Side)

If/when the building is repointed, consideration should be given to applying a clear sealer. This will repel water and extend the life of the exterior finishes (brick, stone, grout). A recoating of sealer would be recommended in 5-7 year intervals after a light power wash.

The photographs of the effected brickwork conditions appear under the individual elevation headings in this report.

The presence of moisture and the deteriorating effect on the foundation and brickwork is also visible in the unfinished walls of the boiler room. The walls exhibit moisture and the bricks and grout joints are deteriorating to a sand-like consistency.



Foundation deterioration

At a point in the near future (the sooner, the better for the building and indoor air quality) consideration should be given to fully excavating the perimeter of the building and seal/waterproof the subsurface exterior walls. Consideration should also be given to a wall drainage system and footing drains to evacuate groundwater.

Opinion of Probable Cost

Perimeter excavation, damp proofing, grading and repointing to 1'-0" above grade	\$100,000 - \$120,000
General painting of the roof fascia/soffit and trim (Excluding windows)	\$ 25,000 - \$ 30,000

North Elevation

(Windows and doors reported in a separate section.)



The front doors are aluminum and not original to the building. A historic photograph taken in 1970 shows the aluminum doors present. **The front entrance porch is in need of repair/replacement.** The doors are dated and in need of repair/weather-stripping or possibly replacement. More 'period-looking' doors would be more appropriate on this historic structure.

Gutters are installed on the left and right sides of the front entrance. They appear to be in good condition.





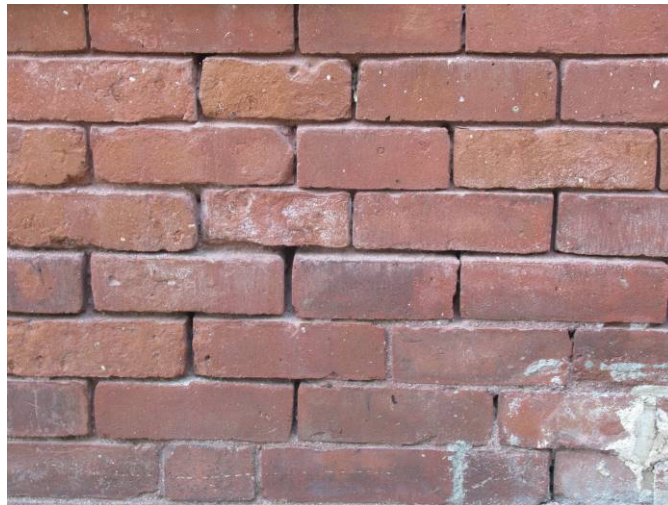
Metal trim (brown) was added above the front main entrance. It was likely added to project water away from the main entrance without installing a continuous gutter. The front fascia is not flush across the front and has projections (2 smaller photos above) making it difficult to install a continuous gutter.



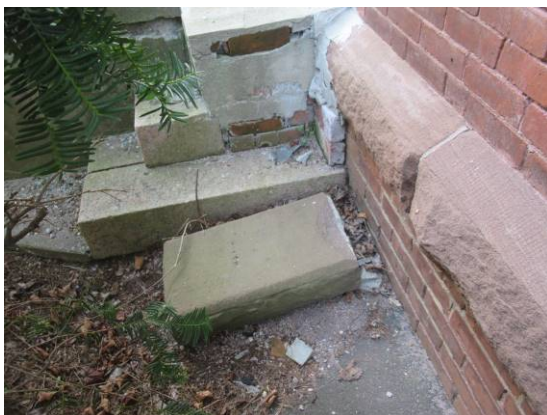
The presence of a metal strap may give indication that a gutter was present across the front, fell into disrepair or damaged, and since been removed.

The following deficiencies were observed and should be addressed:

The greatest amount of brick veneer damage is along the base of the north elevation. There has been significant grout degradation and noteworthy voids are present. Further deterioration will result in moisture migration into the building.



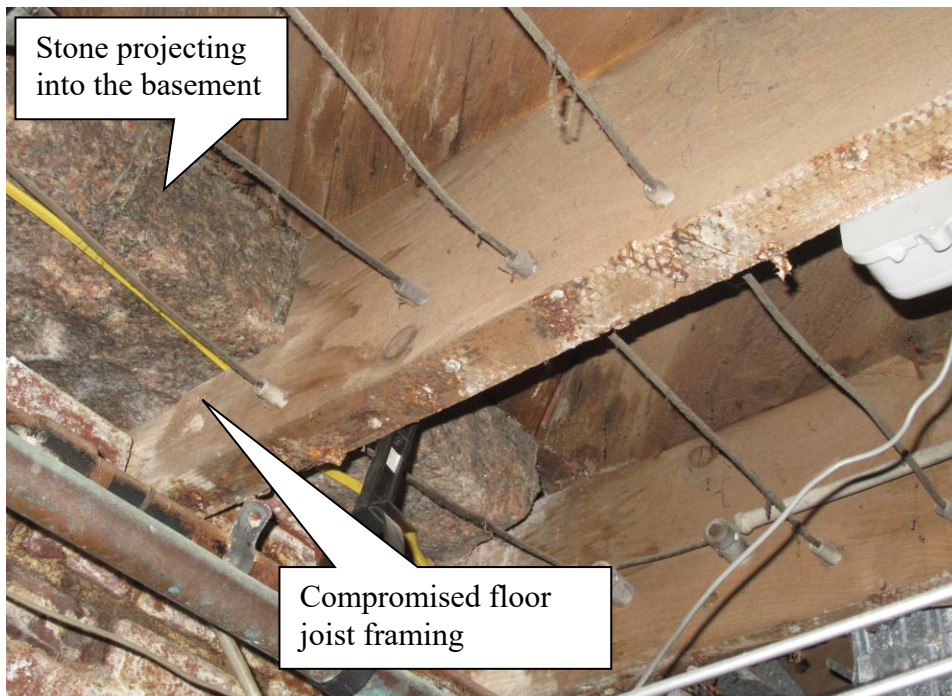
The front entrance stairs and porch assembly has undergone uneven settlement that has moved several major components. It was reported that the present condition has been the same for many years.



Removed stone

The stone that was originally used for the construction of the front porch projects into the basement (in the boiler room) and the wood framing had been 'notched', weakening the floor framing. It appears that the poured concrete ramp and porch alteration encapsulated what appears to be granite stone.

It was reported that water infiltrates the basement in this area. A new solution should be employed to make the basement watertight and keep the construction for the front porch solely on the exterior.



Compromised floor joist framing and lack of waterproofing of building envelope.

The compromised framing is most noticeable on the upper level near the front entrance with significantly sloped floors.



Sloping floor



Sloping floor



Miscellaneous projecting items (nails) should be removed and the grout joints repaired.



Wall penetrations should be weatherproof and vermin proof.



Wall penetrations should be sealed.



The 'TOWN HALL' lettering should be professionally lettered.



The overgrown vegetations should be kept clear of the building so surfaces will dry.

Opinion of Probable Cost

Front porch	\$20,000 - \$25,000
Interior carpentry alterations	\$10,000 - \$15,000
Front ramp	
Exterior	\$75,000 - \$80,000
Seal miscellaneous wall penetrations	\$ 2,000 - \$ 2,500
Repointing	\$ 7,000 - \$10,000
Miscellaneous carpentry (Ornamental woodwork)	\$ 3,000 - \$ 5,000
‘Town Hall’ sign	\$ 3,000 - \$ 3,600

West Elevation

(Windows and doors reported in a separate section.)



The following deficiencies were observed and should be addressed:



Moisture damage and algae growth on base of wall



Moisture damage and algae growth on base of wall



Brick damage



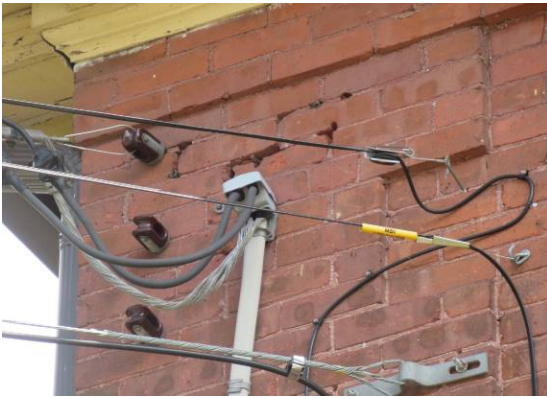
Brick damage and grout degradation



Moisture damage and algae growth on base of wall



Moisture damage and algae growth on base of wall (1960 Addition)



Abandoned penetrations should be grouted.



Repair/replace rotted/damaged woodwork.



Broken glass blocks should be replaced or the entire window assembly replaced.



Broken glass blocks should be replaced or the entire window assembly replaced.



Repair/replace rotted woodwork.



Repair/replace rotted/damaged woodwork.



Repair/replace rotted woodwork.



Repair/replace rotted/damaged woodwork.

In future interior alteration(s) consideration should be given to routing cables inside of the building to lessen vulnerability of damage on the outside. A large securing barrier should also be constructed around the base of the antenna to secure the antenna cables connected to the interior equipment from damage or harm.



Note: The accessible ramp is described in a separate narrative report on accessibility.

Opinion of Probable Cost

Repointing	\$10,000 - \$12,000
Miscellaneous carpentry (Ornamental woodwork)	\$ 5,000 - \$ 6,000

South Elevation

(Windows and doors reported in a separate section.)



Original building beyond – 1960 building addition in foreground.

The following deficiencies were observed and should be addressed:

The upper wall of the original building is in good condition.



Minor repointing is required.



Dormer sides and louver require repair.

The soffit and fascia require repair due to rotted wood and missing components.



The bricks along the base of the wall are beginning to exhibit degradation. It is possible that the use of snowmelt products are having an effect on the brickwork. If future alterations are scheduled, perhaps the use of armor glazing could be installed in lieu of the metalwork barriers applied to the exterior of the windows. The exterior doors should be prepared and painted. The cabinet of the through-wall air conditioner should be prepared and painted to retard the white chalky discoloration of the brickwork below the unit.



It was reported that ice forms in the driveway from roof water run-off. When the repaving/resurfacing of the parking lot is to occur, consideration should be given to altering grade away from the building and possibly subsurface drainage for the roof water.

Opinion of Probable Cost

Repointing	\$ 4,000 - \$ 6,000
Miscellaneous carpentry (Ornamental woodwork)	\$ 5,000 - \$ 7,000

East Elevation

(Windows and doors reported in a separate section.)



The following deficiencies were observed and should be addressed:



Moisture damage and algae growth on base of wall



Moisture damage



Moisture damage



Moisture damage



Moisture damage



Moisture damage



Brickwork and mortar deterioration



Mortar deterioration



Mortar deterioration



Mortar deterioration



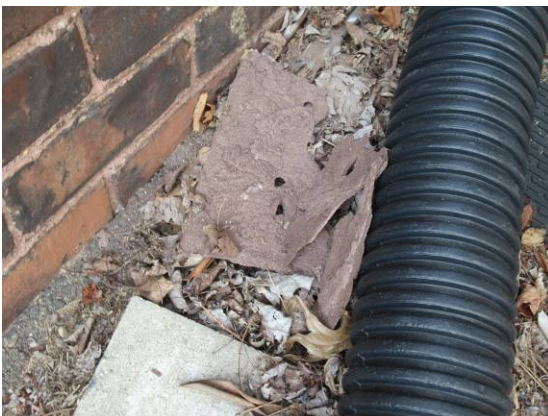
Mortar joint deterioration



Stone spalling/deterioration



Stone spalling/deterioration



Spalled face of stone on the ground



Repair/replace rotted/damaged woodwork.



Seal penetration



Seal penetration



Seal penetration



Seal penetration



Seal joint between 1904 and 1960 buildings.
(Irregular building settlement)

Opinion of Probable Cost

Repointing	\$10,000 - \$12,000
Miscellaneous carpentry (Ornamental woodwork)	\$ 3,000 - \$ 5,000

Fire Escape

(Condition: Fair)

There is one fire escape assembly from the upper level meeting room to grade. It is located on the east side of the building. It requires minor repairs and repainting for weather protection. There are egress obstructions (plastic bucket with sand, gas grille and trash containers) that should be removed to provide a clear path of travel to grade. There is no emergency egress lighting present on the exterior of the building to illuminate the egress to grade and it should be added.



Fire escape



Pathway obstructions



Irregular steps at the bottom should be consistent with the steel treads and handrails for the full length of the stairs.

Note: Fire escapes require review by an engineer on a 5-year basis.

Opinion of Probable Cost

Fire escape improvements

\$ 5,000 - \$ 8,000

Windows and Doors

(Condition: Fair)

There are a variety of window types and door types present. All of the windows, on both buildings, are assumed original. They have single pane glass (non-insulated) in fair/good condition but require painting and possibly weather-stripping and hardware. The single pane windows are performing poorly for retaining heat. Storm windows have been installed to the exterior of the window in occupied rooms to increase heat retention.

The ornamental windows and transoms do not have storm windows. The wood trim surrounding the windows are in need of maintenance. The original woodwork and transoms appear to have been retained.

Some of the glass block window blocks on the original building are broken. It is not known for certain if these are original to the building or replacement, possibly due to water damage on the west and east building elevations.

North Elevation



North Elevation



(2-Units)



(2-Units)



(1-Unit)



(2-Units)



(1-Unit)

Doors



(1-Unit)

Opinion of Probable Cost (windows and doors)

The costs presented below are per unit.

2-rectangular

Restore (*1)	\$1,000 - \$1,300	Replace (*2) (*3)	\$ 2,000 - \$ 2,500
--------------	-------------------	-------------------	---------------------

2-rectangular

Restore (*1)	\$1,500 - \$1,800	Replace (*2) (*3)	\$ 2,000 - \$ 2,500
--------------	-------------------	-------------------	---------------------

1-arch window assembly with detailed muntins

Restore (*1)	\$2,000 - \$3,000	Replace (*2) (*3)	\$10,000 - \$15,000
--------------	-------------------	-------------------	---------------------

2-rectangular with detailed muntins

Restore (*1)	\$1,500 - \$2,000	Replace (*2) (*3)	\$ 2,000 - \$ 5,000
--------------	-------------------	-------------------	---------------------

1-round

Restore (*1)	\$ 750 - \$1,000	Replace (*2) (*3)	\$ 2,000 - \$ 3,000
--------------	------------------	-------------------	---------------------

(*1) Remove and reinstall existing storm windows

(*2) Windows with historic detailed muntins will cost more

(*3) Excludes abatement cost

Doors and hardware

\$10,000 - \$12,000

West Elevation



West Elevation



(2-Units)



(1-Unit)



(2-Units, should match)



(1-Unit)



(2-Units)



(1-Unit)



(1-Unit)



(6-Unit, 5 same, 1 custom)



(4-Units, 2 with security bars) – 1960 Building

Opinion of Probable Cost (windows)

The costs presented below are per unit.

2-rectangular with detailed muntins

Restore (*1)	\$1,500 - \$2,000	Replace (*2) (*3)	\$ 2,000 - \$ 5,000
--------------	-------------------	-------------------	---------------------

1-rectangular

Restore (*1)	\$1,500 - \$1,800	Replace (*2) (*3)	\$ 2,000 - \$ 2,500
--------------	-------------------	-------------------	---------------------

2-rectangular

Restore (*1)	\$1,500 - \$1,800	Replace (*2) (*3)	\$ 2,000 - \$ 5,000
--------------	-------------------	-------------------	---------------------

1- rectangular

Restore (*1)	\$ 1,500 - \$2,000	Replace (*2) (*3)	\$1,500 - \$2,000
--------------	--------------------	-------------------	-------------------

2-arch top and window assembly (tall)

Restore (*1)	\$10,000 - \$13,500	Replace (*2) (*3)	\$18,000 - \$21,500
--------------	---------------------	-------------------	---------------------

1-arch top and window assembly (short, modified)

Restore (*1)	\$ 9,000 - \$11,500	Replace (*2) (*3)	\$15,500 - \$18,500
--------------	---------------------	-------------------	---------------------

1- glass block assembly

Restore (*1)	\$ 1,000 - \$1,500	Replace (*2) (*3)	\$1,500 - \$2,500
--------------	--------------------	-------------------	-------------------

6- glass block assembly

Restore (*1)	\$ 1,000 - \$1,500	Replace (*2) (*3)	\$1,500 - \$2,500
--------------	--------------------	-------------------	-------------------

4-rectangular

Restore (*1)	\$1,500 - \$1,800	Replace (*2) (*3)	\$ 2,000 - \$ 2,500
--------------	-------------------	-------------------	---------------------

(*1) Remove and reinstall existing storm windows

(*2) Windows with historic detailed muntins will cost more

(*3) Excludes abatement cost

South Elevation



South Elevation



(1-Unit) 1904 Building



(6-Units, 2 with security bars) – 1960 Building

Doors



(1-Unit)



(1-Unit)



(1-Unit)

Opinion of Probable Cost (windows and doors)

The costs presented below are per unit.

1-louver assembly (1904 building) \$ 5,000 - \$ 6,000

1-arch
Restore (*1) \$ 4,000 - \$5,000 Replace (*2) (*3) \$ 10,000 - \$ 15,000

6-rectangular
Restore (*1) \$1,500 - \$1,800 Replace (*2) (*3) \$ 2,000 - \$ 2,500

- (*1) Remove and reinstall existing storm windows
- (*2) Windows with historic detailed muntins will cost more
- (*3) Excludes abatement cost

Doors and hardware \$ 1,000 - \$ 3,000

Garage door (good condition) \$ 0.00

East Elevation



East Elevation



(2-Units)



(1-Unit)



(2-Units, should match)



(3-Units)



(6-Unit, 5 same, 1 custom) (This photo is from west elevation, the east is similar but has too many obstructions for a single photograph.)



(2-Units) – 1960 Building

Door



(1-Unit) – 1960 Building

Opinion of Probable Cost (windows)

The costs presented below are per unit.

2-rectangular with detailed muntins

Restore (*1)	\$1,500 - \$2,000	Replace (*2) (*3)	\$ 2,000 - \$ 5,000
--------------	-------------------	-------------------	---------------------

1-rectangular

Restore (*1)	\$1,500 - \$1,800	Replace (*2) (*3)	\$ 2,000 - \$ 2,500
--------------	-------------------	-------------------	---------------------

2-rectangular

Restore (*1)	\$1,500 - \$1,800	Replace (*2) (*3)	\$ 2,000 - \$ 5,000
--------------	-------------------	-------------------	---------------------

3-arch top and window assembly (tall)

Restore (*1)	\$10,000 - \$13,500	Replace (*2) (*3)	\$18,000 - \$21,500
--------------	---------------------	-------------------	---------------------

6- glass block assembly

Restore (*1)	\$ 1,000 - \$1,500	Replace (*2) (*3)	\$ 1,500 - \$ 2,500
--------------	--------------------	-------------------	---------------------

2-rectangular

Restore (*1)	\$1,500 - \$1,800	Replace (*2) (*3)	\$ 2,000 - \$ 2,500
--------------	-------------------	-------------------	---------------------

(*1) Remove and reinstall existing storm windows

(*2) Windows with historic detailed muntins will cost more

(*3) Excludes abatement cost

Doors and hardware	\$ 1,000 - \$ 3,000
--------------------	---------------------

Building Plans