

SZEWCAK ASSOCIATES
CONSULTING ENGINEERS

Richard M. Szevczak, P.E.
Alan R. Chardler, P.E.
Peter G. Celella, P.E.
Jason W. Kilty, P.E.

April 2, 2012

Town of Brimfield
23 Main Street
Brimfield, MA 01010

Attn: Ms. Carol DelNegro

Re: Structural Condition Survey
Town Hall Annex
Brimfield, Massachusetts

Dear Carol:

As requested, Szevczak Associates has completed a site visit to the existing Town Hall Annex Building located at 23 Main Street, in Brimfield, Massachusetts. The intent of our visit was to conduct a limited condition survey of the existing structural systems.

Based on our observations and subsequent analysis, we would like to offer the following comments:

1. The existing building consists of several connected segments. Closest to Main Street is a wood-framed, two story structure (also known as the Benjamin Salisbury House), constructed in 1819, with a full basement for the front portion running parallel to Main Street, and with a crawl space for the wing perpendicular to the front of the building. There is a one story, wood-framed addition on the parking lot side of the building with a steel and concrete framed handicapped ramp. A one story, wood framed structure connects the main building with a barn to the rear of the site.
2. There is significant evidence of distress in the First and Second Floor Framing in the original, 1819 building. The floors are out of level, and the stairway is sloped and distorted. In addition, some bulging of the central bearing wall in parallel to the stairs indicates distress in the stud framing. Although the stone foundation walls and sill and in good condition, significant dry-rot has taken place throughout the floor framing above the basement and the crawl space. At some point in the past, temporary shoring jacks were installed in an attempt to support the floors settling due the observed deterioration, but this attempt at remedial action has been ineffective. In addition, significant deterioration was observed in the timber girders supporting the bearing walls above, and no temporary or permanent shoring has been installed at these locations.
3. At one location, where the Second Floor Framing was exposed, significant distress was observed in the wood floor joist to girder connections due to the First Floor settlements, and at several locations, the floor decking has separated from the joists. In other areas, it should be noted that due to the presence of the existing plaster ceilings and walls, it was not possible to make direct visual observation of these members.

4. The sloped roof framing was in good condition with no observable evidence of distress or deterioration.
5. The one story addition on the parking lot side of the building was in good condition with no observable evidence of distress or deterioration.
6. The one story connector between the main building and the barn is in very poor condition. It appears that the foundations do not extend to the minimum frost depth of four (4'-0") feet below grade, and significant rot has occurred in the sill plate at the top of the foundation wall. In addition, the wall siding is in poor condition with evident cracking and joint separation.
7. The pole barn structure at the rear of the building is in very poor condition. The loose laid stone foundation has suffered significant deterioration and is crumbling away. The wood sills at the top of the foundation walls have also experienced significant rot due to water exposure, as has the First Floor Framing.

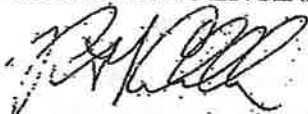
Our recommendations for the continued use and repair of the existing building are as follows:

- a. The barn has very limited structural integrity, and no occupied use of this building should be permitted. It is our recommendation that the barn be demolished as soon as possible.
- b. Given the condition of the foundations for the one story connector between the barn and the main building, it is our recommendation that this structure also be demolished. Continued use as storage is permissible in the interim, if the condition of the structure is regularly monitored.
- c. Repairs to the main building would be quite extensive, most likely requiring the evacuation and gutting of the entire space. In order to complete these repairs, the Roof and Second Floor Framing would need to be shored while the First Floor Framing is completely removed and reconstructed. The finishes would need to be removed from the central bearing wall parallel to the stairs in order to complete any repairs to the damage studs. In addition, the ceiling would need to be removed from the underside of the Second Floor in order to expose the framing, so that any additional repairs of deteriorated members or reinforcing of connections can be completed. Note also that jacking the floors back to level will most likely result in secondary damage to the finishes, doors, and windows, requiring repair or reconstruction of these items. It is our professional opinion that the probably construction cost to structurally repair the main building will be approximately Seven Hundred and Fifty Thousand (\$750,000) Dollars.

If you have any questions, or would like any additional information, please contact us at your earliest convenience.

Very truly yours,

SZEWCZAK ASSOCIATES
CONSULTING ENGINEERS



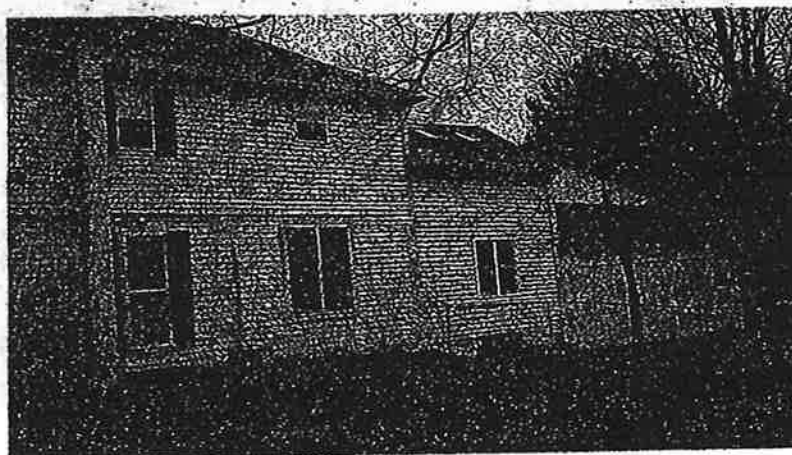
Peter G. Celella, P.E.
PGC:dhs

with Enclosures; Appendix A

Appendix "A"



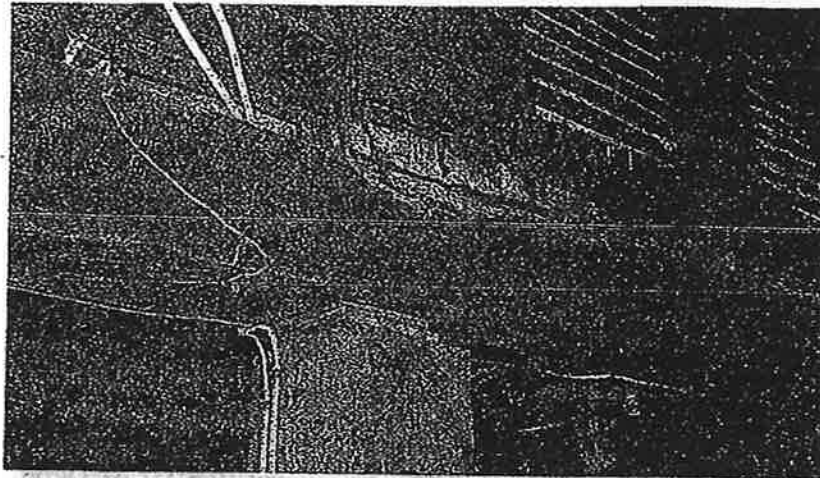
North Elevation - Main Building



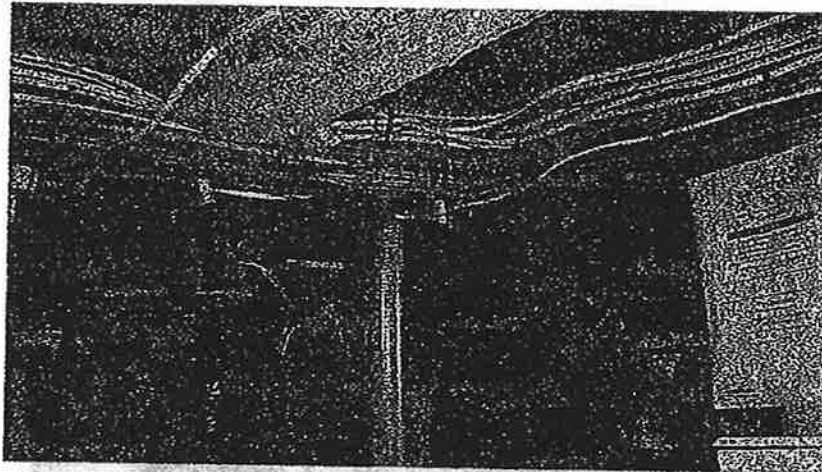
West Elevation - Main Building



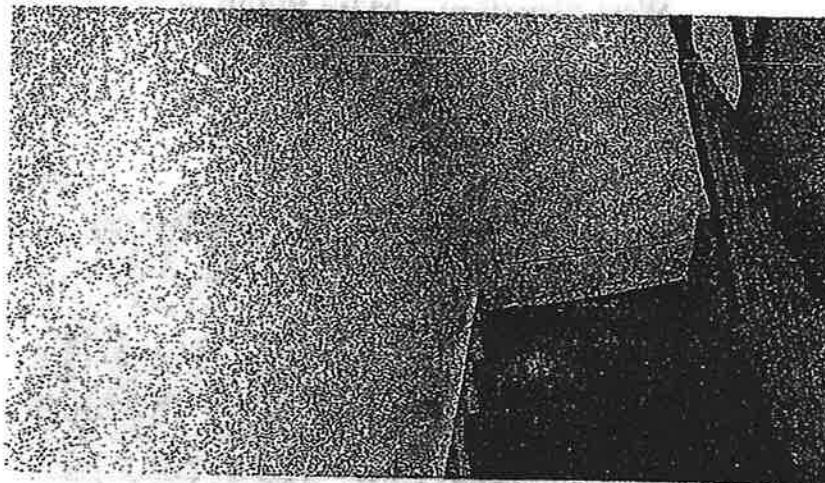
East Façade - Main Building



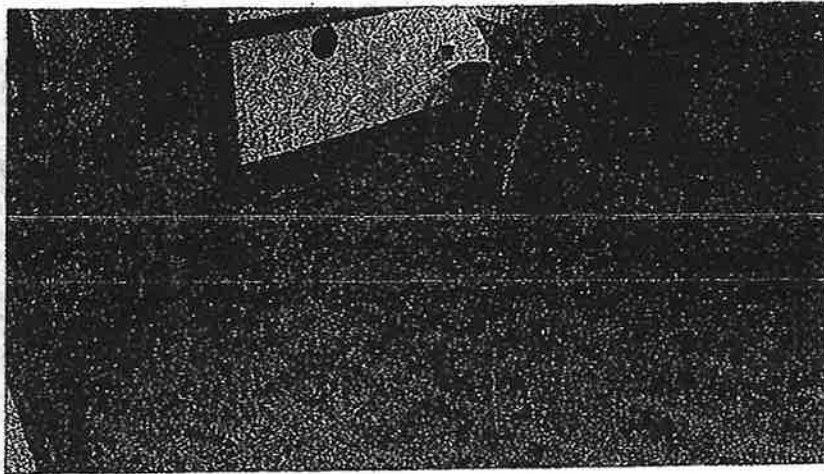
Dry Rot in Floor Girder



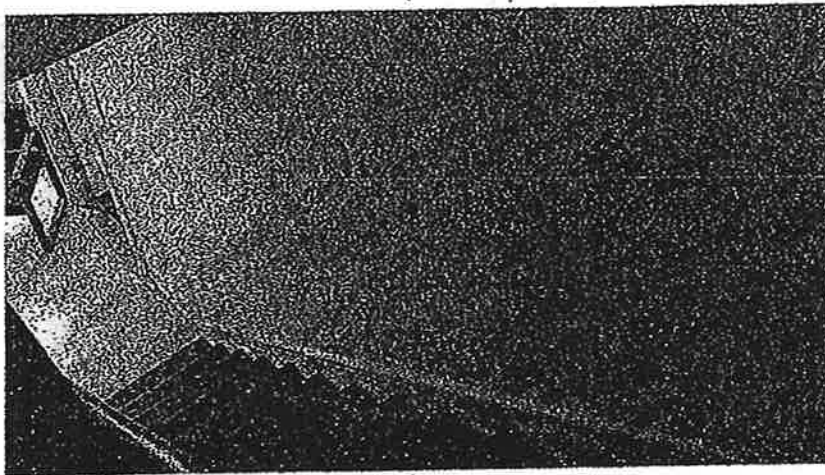
Dry Rot in Joists and Shoring Jacks



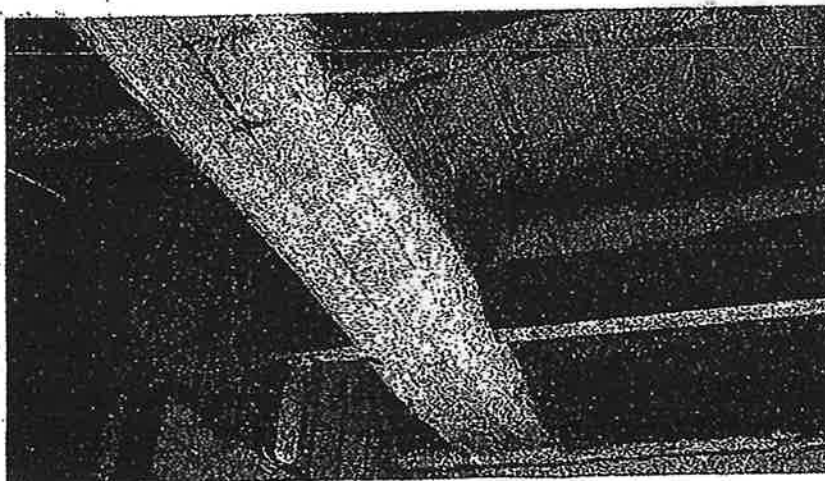
Distressed Stair Framing



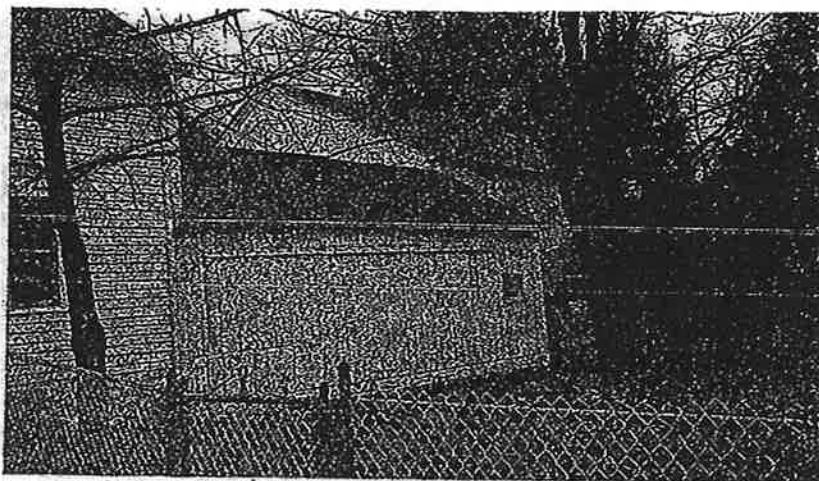
Typical Distress Second Floor Framing



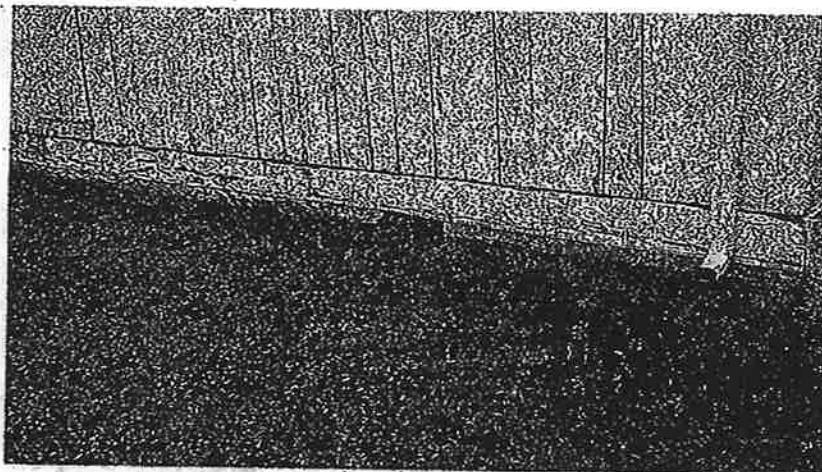
Distress in Central Bearing Wall



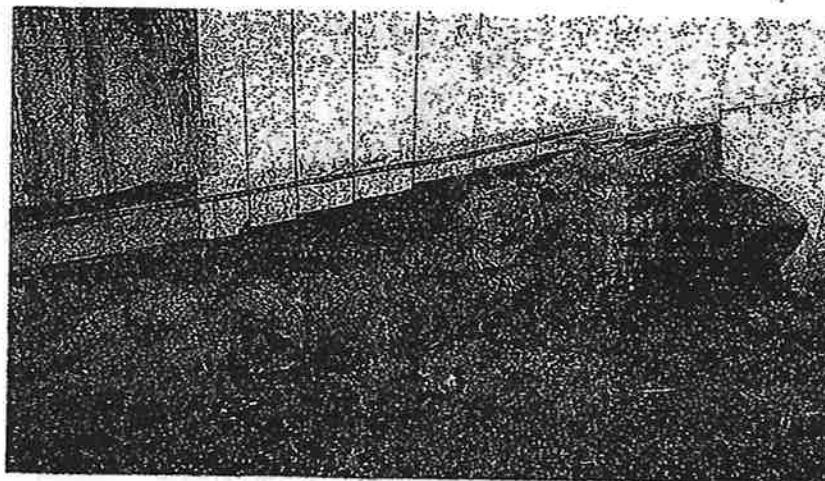
2nd Floor Connection Distress



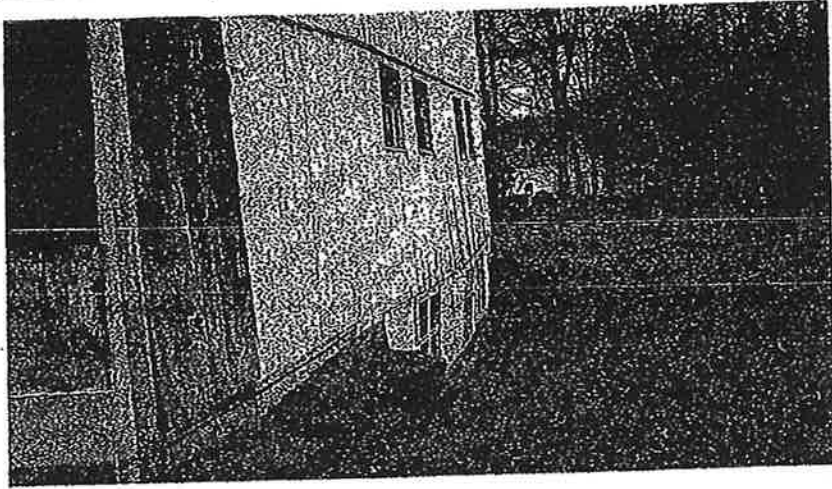
Connector Façade



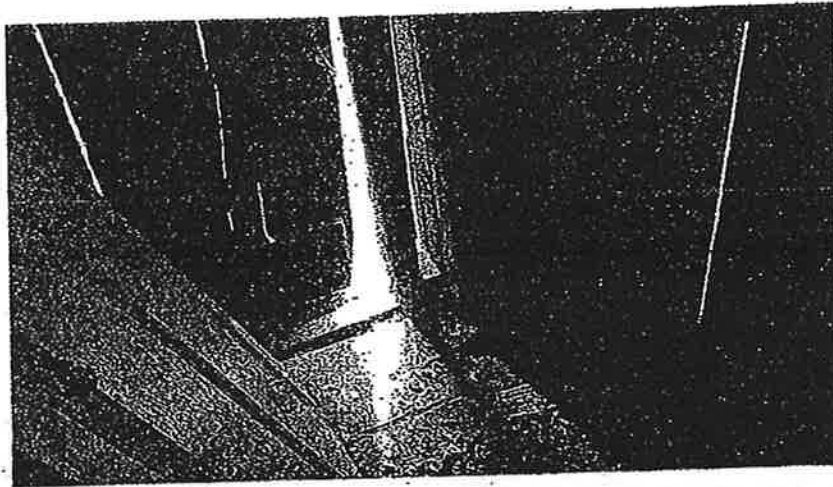
Deteriorated Connector Foundations and Sill



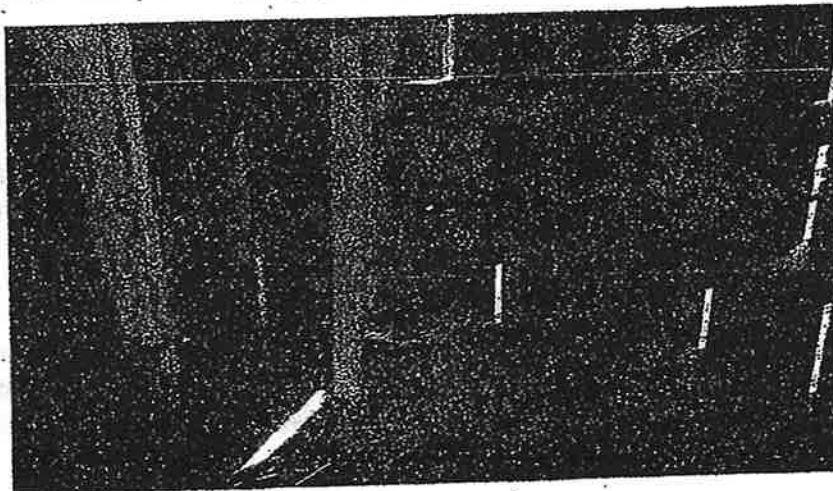
Crumbling Barn Foundation



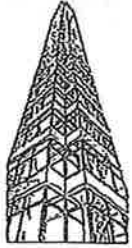
Barn Wall Deformation



Deteriorated barn Sills



Deteriorated Barn Sills and Sheathing



SZEWCZAK ASSOCIATES
CONSULTING ENGINEERS

RECEIVED MAY 03 2012
10:22 AM CMB

dmf

Richard M. Szewczak, P.E.
Alan R. Chandler, P.E.
Peter G. Celella, P.E.
Jason W. Kilty, P.E.

April 30, 2012

Town of Brimfield
23 Main Street
Brimfield, MA 01010

Attn: Ms. Carol DeNegro

Re: Structural Condition Survey
Existing Town Hall
Brimfield, Massachusetts

Dear Carol:

As requested, Szewczak Associates has completed a limited condition survey of the structural systems for the Existing Town Hall Building located at 23 Main Street in Brimfield, Massachusetts. Our survey has been based on observations of the accessible portions of the building that were visible during a site visit conducted by our office on April 27, 2012. Based upon our review and subsequent analysis, we would like to offer the following comments:

1. The existing building, which was constructed in the later portion of the 19th Century, is a two story structure with a full basement and a walk-up attic. The main meeting hall room is a two story high space over the majority of the footprint, with interstitial floor space area off to one side. The main structure of the building consists of post-and-beam timber framing with wood roof trusses spanning the width of the building.
2. The existing exterior foundation walls consist of solid brick masonry for the upper portion bearing on rough laid stone for the lower portion. The existing basement floor consists of a cast-in-place concrete slab on grade. The basement is connected to the first floor by an interior stairway and a 500 pound capacity personal lift, while the second floor is connected to the first floor by an interior stairway, and a steel-framed, exterior fire escape.

3. Recent repairs have been completed on the center roof truss and the top of the interior wood framing where deterioration had been caused by moisture penetration. The repairs consisted of reinforcing the existing framing with the addition of new steel plates and members. It appears that these repairs have been satisfactorily completed, and no further deterioration is evident in the roof framing. Some minor cracking of the wall plaster is visible, but this was most likely caused by the forces impacted to the structure by the jacking and repairs of the existing framing.
4. The majority of the roofs are sloped and shingled, and appear to be in good condition with no visible evidence of deterioration or moisture penetration. Where the second floor accesses the fire escape to the rear of the building, there is a small area of built-up roofing on a flat surface. This roof also appears to be in good condition with no visible evidence of deterioration or moisture penetration.
5. All the building windows consist of single pane glass, and they are broken or cracked in several locations.
6. The First and Second Floor wood framing is in good condition with no visible evidence of distress or significant deformations.
7. The bell tower at one corner of the roof appears to be in good structural condition, however, its interior is covered with avian waste that should be cleaned out and remediated as soon as possible.
8. The exterior façade consists of painted wood clapboard sheathing, and it is in good condition with no visible evidence of distress or significant deterioration.
9. The brick foundation wall above grade is in good condition, however the stone foundation wall is not impermeable to surface water infiltration. On the eastern façade, the grade is lower to allow for egress out of the basement, and a ground drain is in place, so there is little evidence of moisture infiltration on this side of the building. On the western side of the building though, significant moisture infiltration has taken place and is continuing to occur. Effervescence is visible on the interior of the stonework, and in some areas, the mortar has washed out. The finishes on the interior of the basement walls are stained by water, as are several areas of the floor. This water penetration has been caused by site surface runoff since the grade slopes relatively steeply from the Town Hall Annex parking lot directly to the face of the existing Town Hall Building. Although there is not presently any significant deterioration in the integrity of the foundation system, water infiltration will continue to take place with the attendant effect on finishes and occupancy suitability. In order to repair this situation the site to the north of the building should be regraded, creating a surface swale that will drain away from the building. A yard drain should also be installed at the low point of the revised draining in order to divert any standing water. Additionally, the mortar deteriorated mortar joints between the stones should be refilled, and a foundation drainage system should be installed to the exterior of the foundation consisting of perforated piping running to an open outfall, backfilled with a free draining material.
10. The rear fire escape on the south façade of the building is in good condition structurally; however, several treads are damaged and should be replaced. In addition, the paint is peeling off most of the members. The fire-escape framing should be cleaned and repainted to prevent rusting and deterioration.

If you have any questions, or would like any additional information, please contact us at your earliest convenience.

Very truly yours,

SZEWCZAK ASSOCIATES
CONSULTING ENGINEERS



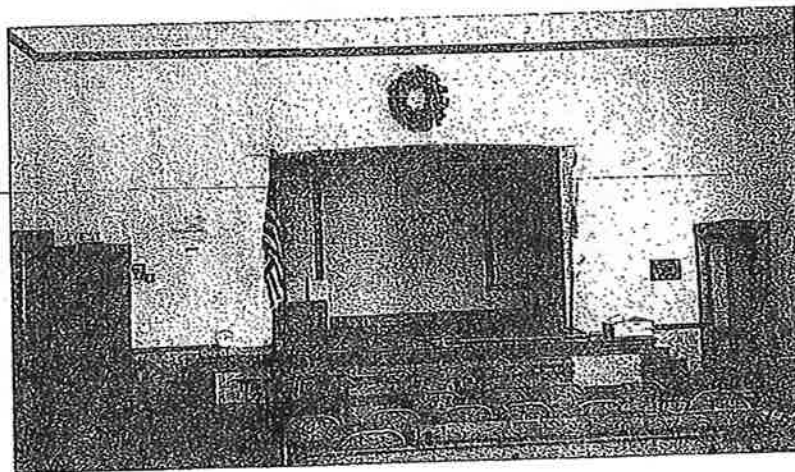
Peter G. Celella, P.E.
PGC:dhs

with Enclosures; Appendix A

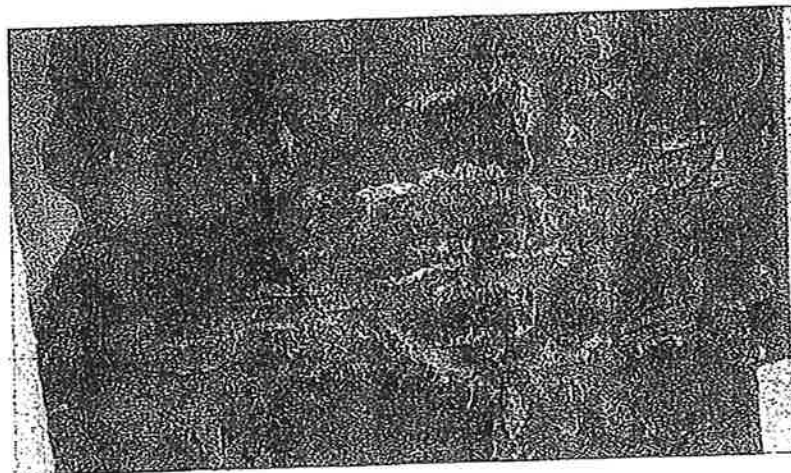
Appendix "A"



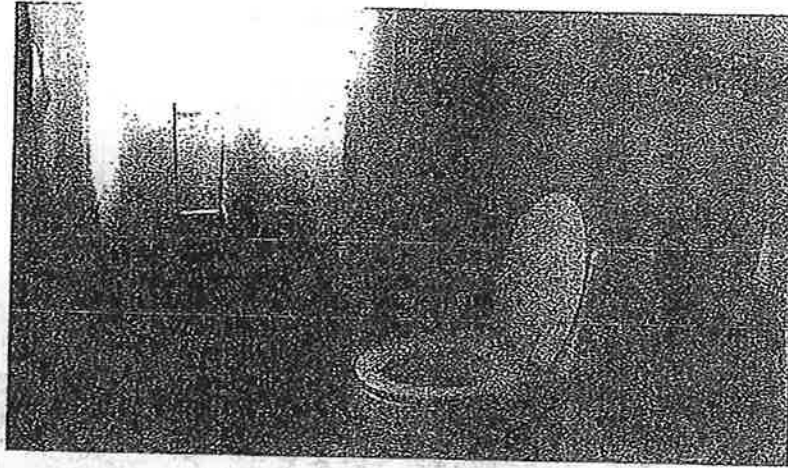
Front (North) Façade of Existing Town Hall



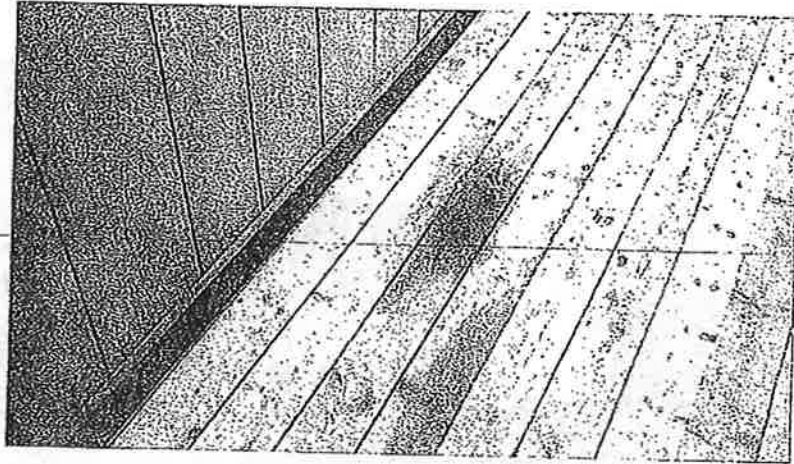
Interior of Two-Story High Meeting Hall Space



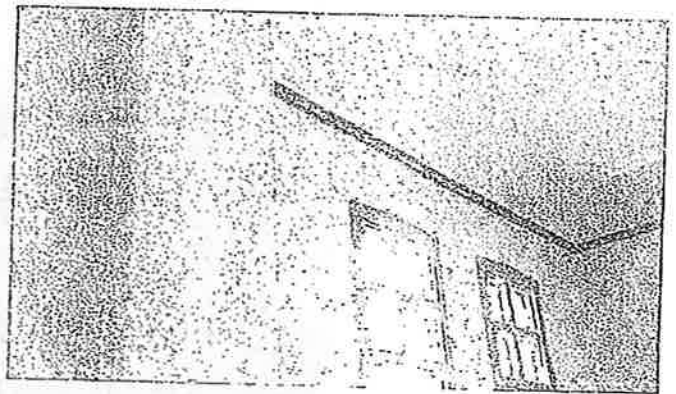
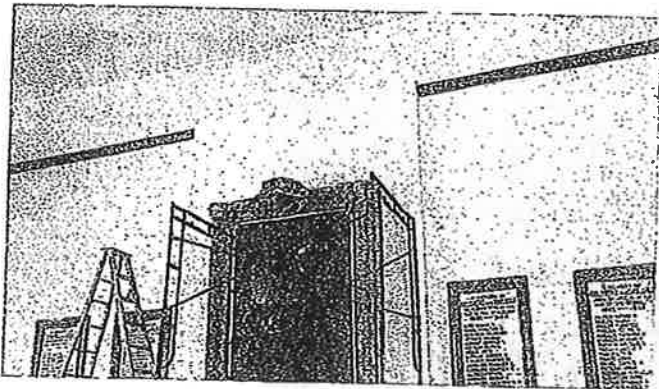
Stone Foundation with Efflorescence



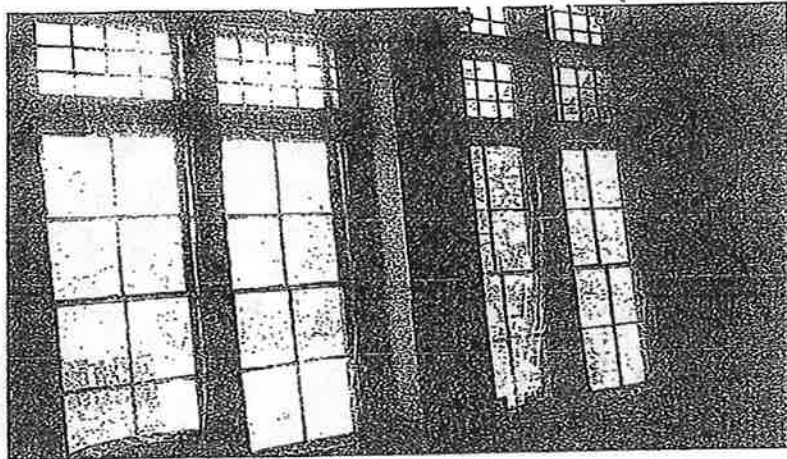
Moisture Damage in Exterior Walls



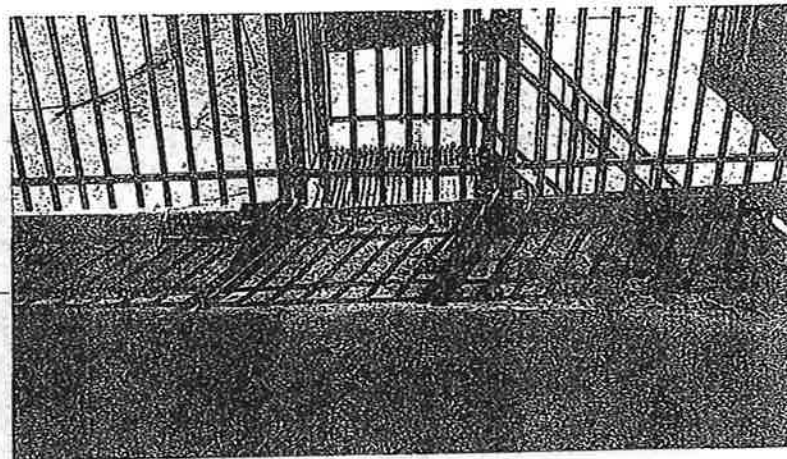
Floor Moisture Staining



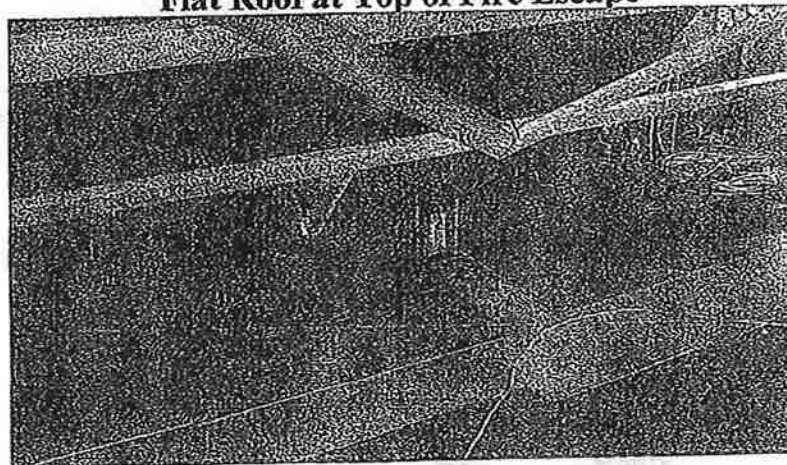
Minor Plaster Cracking in Meeting Hall



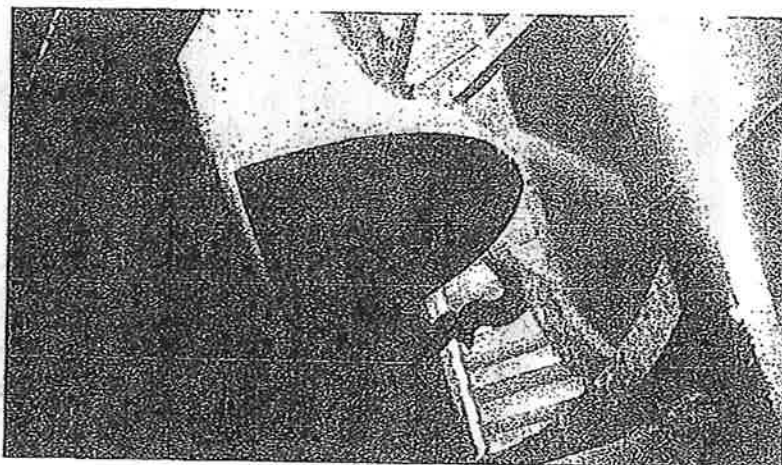
Typical Single Pain Windows



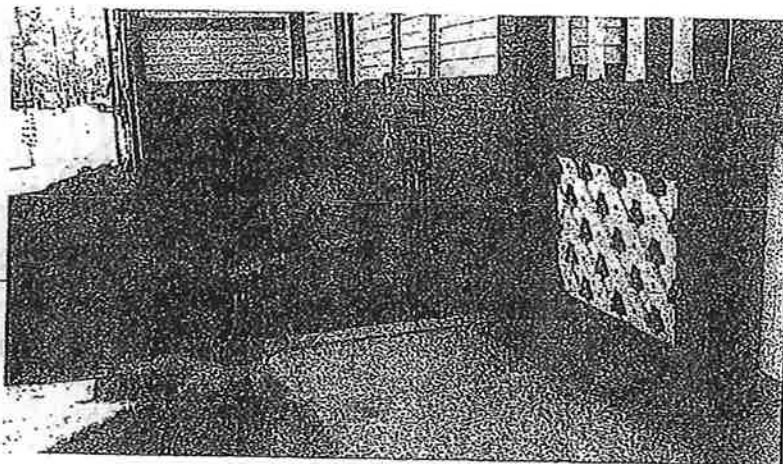
Flat Roof at Top of Fire Escape



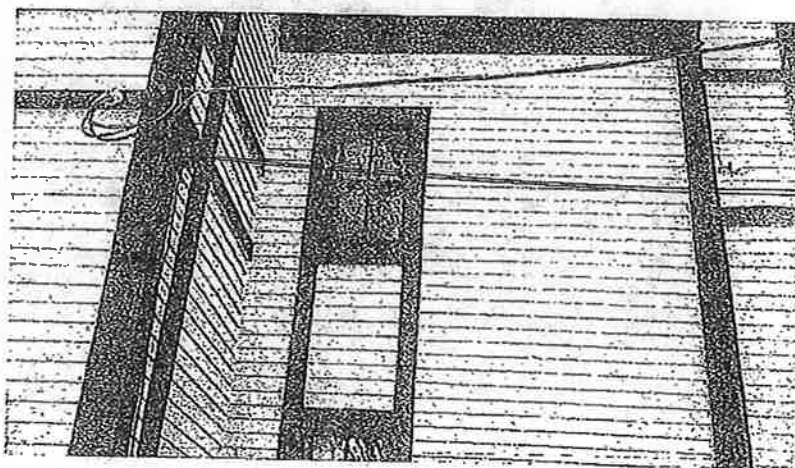
Completed Truss and Column Repairs



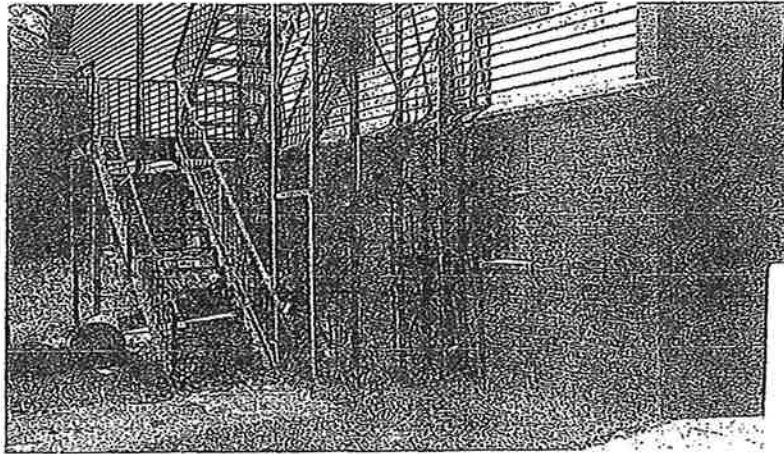
Interior of Bell Tower



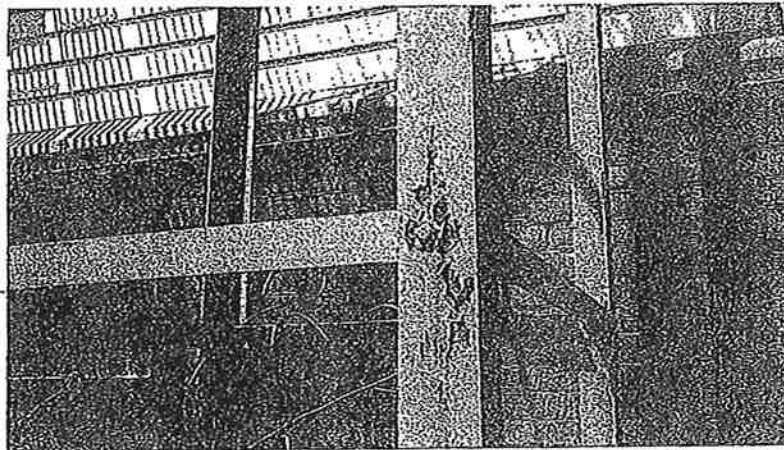
Surface Drain & Grading on East Side



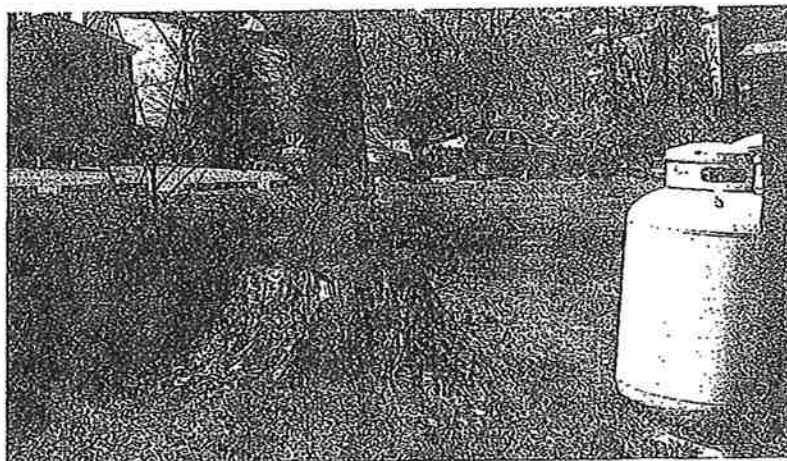
Broken Window on East Facade



Fire Escape on South Facade



Deteriorated Fire Escape Paint



East Side Surface Ground Sloping Toward Building

