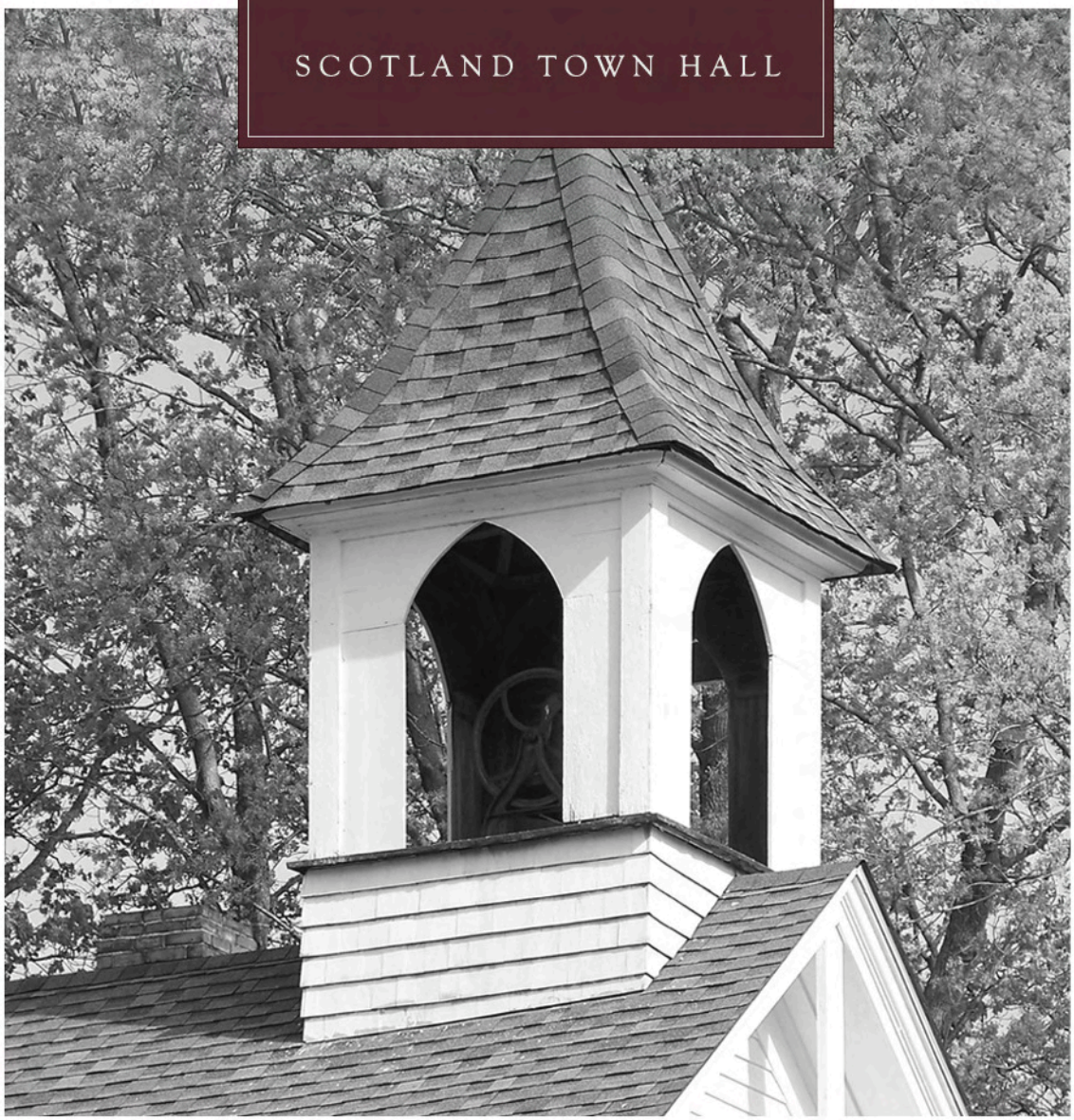
SCOTLAND TOWN HALL



CONDITIONS ASSESSMENT STUDY

Town of Scotland

July 22, 2009

Nelson Edwards Company Architects, LLC
1156 Main Street
Branford, CT 06405

GNCB Consulting Engineers, Inc.
130 Elm Street PO Box 802
Old Saybrook, CT 06475

NELSON
EDWARDS
COMPANY
ARCHITECTS LLC

July 22, 2009

Mr. Clark W. Stearns, First Selectman
Town of Scotland
9 Devotion Road
P.O. Box 288
Scotland, CT 06264

Re: Conditions Assessment for Town Hall

Dear Clark,

The following report is the final copy of the Conditions Assessment Study for the Town Hall building prepared by NEC Architects and GNCB Engineers. We have revised the draft copy you previously received to include the action plan discussed at our meeting on July 21st, and the suggested ramp design.

Jim and I will research the amount of funds available in the next round of grants for the Connecticut Commission on Culture and Tourism's Historic Restoration Fund (HRF). Once we have this information we will finalize our suggestion for the package of work suitable for a HRF application. In the meanwhile GNCB will prepare a proposal for Contract Documents through Contract Administration for the immediate work related to the Center School attic framing.

We appreciate the opportunity to be of continued service,

Sara O. Nelson, AIA

1156 Main Street Branford, Connecticut 06405 Phone 203.481.6611 Fax 203.481.1992 info@nec-architects.com

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INTRODUCTION

Nelson Edwards Company Architects, LLC

INTRODUCTION

Over the past year Town of Scotland employees observed increased deflection of a beam above the ceiling in the First Selectman's office. The increased deflection coupled with the known need to identify and plan for capital maintenance work on the Town Hall building, lead the Town to apply for and receive a grant from the Connecticut Trust for Historic Preservation for a Capital Needs Assessment study.

The award of the Connecticut Trust HPTAG grant was based on the historic nature of the building, the existing condition of the Town Hall, the Town's intention to plan for and make the required repairs, and the experience of the Town's consultant team (architect and engineer) with historic properties.

Prior studies of the Town Hall included a Report on Existing Conditions by Tuthill and Wells in August, 1997, and an Asbestos and Lead Inspection Report by EnviroScience Consultants in September, 1998. The purpose of the current Capital Needs Assessment study is not to duplicate the work of earlier studies but to provide a current appraisal of building condition, required repairs and an opinion of probable costs. The specific charge to the team included an assessment of the condition of the Town Hall structure and foundations, exterior building envelope (windows, doors and visible siding), and interior finishes. The team was asked to develop a prioritized list of building repair items and an opinion of probable costs to facilitate planning for capital expenditure. Additionally, the consultant team was asked to propose a design for a front ramp and stair that would be more appropriate for the historic nature of the building.

Consultant team members included Nelson Edwards Company Architects, LLC of Branford, Connecticut and Gibble Norden Champion Brown Consulting Engineers, Inc., of Old Saybrook, Connecticut. The consultant team worked on this project from April through July, 2009.

During the course of the structural investigation the deflection of the beam over the First Selectman's office was found to present an immediate hazard. Once discovered GNCB Engineers notified the Town that immediate shoring was required to make the office area safe, and must remain in place until a permanent repair can be affected.

The Conditions Assessment of the building was based on a review of visible surfaces and building elements. The Team's work did not include investigative demolition.

With regard to the condition of the Town Hall, the findings of the consultant team are based on visible information on hand at the time of their work. Given that the timeframe for the identified repairs is

unknown, no guarantee, express or implied, can be made that the documented condition of the structure may not change.

METHODOLOGY

Nelson Edwards Company Architects, LLC

STRUCTURAL ASSESSMENT

The structural review of the Scotland Town Hall was conducted by Gibble Norden Champion Brown Consulting Engineers and began with detailed field measurements that formed the basis of measured drawings for all building levels including basement / crawl space areas, and first and second floor levels. Once completed the measured drawings were annotated for framing member size, orientation, location and condition. The size of the framing members as well as their location and condition formed the basis of a structural analysis to compare existing framing capabilities against the requirements of the State of Connecticut Building Code. Safety hazards and areas of inadequacy were identified and recommendations for repair prepared.

NON-STRUCTURAL ASSESSMENT

Nelson Edwards Company prepared a Conditions Assessment for non-structural systems, i.e. windows and doors, visible exterior wood siding (east façade) and interior finishes. The Conditions Assessment does not include review of electrical, mechanical, plumbing, water supply and waste systems as these items were addressed in the 1997 report by Tuthill and Wells. The Conditions Assessment was based on a review of visible surfaces in July, 2009, as well as a review of Town files for a listing of work previously performed on the building. Town files gave Nelson Edwards Company specific information on the age of the roof or the last date of exterior painting.

The information contained in the Conditions Assessment is intended for general information, planning and budgeting. It is not an exhaustive "board by board" analysis.

PRIORITIZATION

In undertaking the Conditions Assessment the project team recognized that repair work on the Town Hall needs to be prioritized as the Town will not be in the financial position to simultaneously repair all items at one time. To help the Town prioritize the required repairs the work items are ranked as follows:

Immediate: needs to be done immediately to prevent future deterioration or to correct a safety hazard
Urgent: needs to be done in one year to maintain integrity
Necessary: needs to be done within a three to five year period
Maintenance: needs to be done within the next ten years
Cosmetic: needs to be done to restore general building aesthetics.

COST ESTIMATES

An opinion for probable costs for the listed items was prepared in current construction dollars using a combination of regional construction indices (Means) or supplier bids (window replacement costs.) The cost for work items delayed beyond the current construction season will require escalation tied to inflation in order to remain relevant.

RAMP AND STAIR DESIGN

The consultant team was asked to review the existing entry ramp and stair on the east side of the Town Hall and suggest a design that was more appropriate to the historic nature of the Town Hall. The design proposed is conceptual in nature and is intended to suggest a design approach.

Before any design can be finalized the Town will need the exact location of the east property line, spot elevations around the front of the Town Hall building, and a clearly defined agreement vis-à-vis the Town's use of the State D.O.T. right-of-way.

SUMMARY FINDINGS AND RECOMMENDATIONS

Nelson Edwards Company Architects, LLC

The Scotland Consolidated School Building (current Town Hall) is a wonderful example of late nineteenth century architecture sitting on the west side of the Town of Scotland green. The building incorporates the earlier Centre District School as a real ell. Over the years the Consolidated School building has served as a school, the Town Library and Town offices. The building is listed on the State Register of historic places as part of the Scotland Center Historic District.

The structural and architectural condition assessment studies indicate that the Scotland Town Hall is currently in poor condition. The present condition is not the result of any one circumstance but a combination of elements including:

- Years of deferred maintenance (siding and windows)
- Poor initial construction (structural connection of the trusses above the first selectman's office)
- Routine maintenance not well executed (exterior painting)
- Decisions made with the best of intentions but not understanding the long term consequence on the building structure (artificial siding over deteriorated wood siding.)

The Conditions Assessment study is the first step in carefully addressing the current condition of the building, and planning for refurbishment. The work that needs to be performed has been prioritized on an individual line item basis. However, the amount of work that needs to be performed, coupled with the interrelationship of the work items suggests that for efficiency of capital spending the Town should plan for larger renovations (whole building or sequential renovation of specific areas) rather than isolated repairs.

The next phase of work includes identification of all available funding sources including the State of Connecticut Historic Restoration Fund or State of Connecticut economic stimulus money in addition to Town funds. Timelines need to be established, and the work items analyzed for suitability for funding. Regardless of how many grants are available the Town needs to commit to financing the repairs. The current condition of the building can no longer justify an "as-needed" approach.

Both GNCB Engineers and NEC Architects are happy to help the Town analyze and establish cost-effective frameworks for work, and to assist in additional grant applications and the development of bid packages suitable for the historic nature of the structure.

Tentative Plan

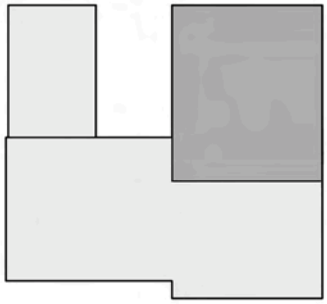
Based on the meeting between the Town and GNCB Engineers and NEC Architects on July 21, 2009 the following tentative plan was identified:

- Work listed as "Urgent" repairs to the Centre School Attic in the GNCB structural report will be undertaken by the Town before winter of 2009-2010. GNCB will have additional cost estimate for the work prepared, and will prepare bid level documents this summer.
- Work listed as "Necessary" repairs to foundation wall, basement, crawl space areas and first floor framing in the GNCB report will be combined with some degree of exterior envelop stabilization work identified as "Urgent" and "Necessary" in the NEC report, and will form the basis on a grant application to the Historic Restoration Fund in October, 2009.
- Economic Stimulus money available through the State of Connecticut for energy efficiency will be used to fund "Urgent" replacement of exterior doors. Any additional funds will be used for other energy efficiency items such as insulation.

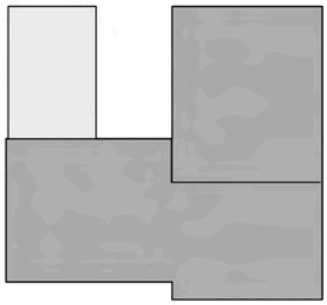
BUILDING AREA DIAGRAMS

Nelson Edwards Company Architects, LLC

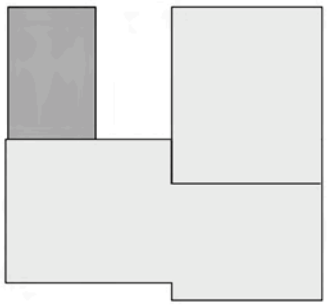
CENTER SCHOOL BUILDING
c. 1840



FIRST CONSOLIDATED
SCHOOL BUILDING
c. 1896



VAULT
c. 1980



ARCHITECTURAL CONDITION ASSESSMENT OF TOWN HALL

Nelson Edwards Company Architects, LLC

GENERAL

The following pages and photographs document deficiencies in the building envelope and finishes. A combined list of prioritized architectural and structural repairs is found in the Appendix.

While the list of repairs may seem long and extensive it is important to remember that most architectural deficiencies are due to deferred maintenance. Any building, of any age and construction type, needs to be periodically maintained. When maintenance work is not a priority, or performed as a "band-aid" approach, deterioration ensues. With the exception of pressing structural issues related to original construction, the Town Hall is essentially a sound building. Once proper repairs are made the building will serve the Town well for many years to come.

ROOF

The current roof was installed in 2006. At the time of installation all prior roof surfaces were removed and new roofing system installed that included ½" CDX plywood sheathing, ice and water shield product, roofing felt, ridge vent, drip edge and 50-year Architectural Composition Shingles. It is not clear from Town records if new step flashings was installed. Given that flashing is not called out on work tickets, and three sides of the building were previously covered in vinyl siding, we presume that the old flashings remain.

The roof system shows no signs of failure and we assume will last for many years. The weak element in the roof system will be the flashings which typically wear out before the roof surface.

Given the relatively recent installation of the roofing system we recommend inspection of the roof every five years. We recommend that the inspection be done from a lift or aerial boom to minimize damage to the roof from ladders and walking. Town Fire apparatus may have booms of sufficient reach to provide visual access. If water is observed in the building a more detailed inspection will need to performed on roof / wall intersections, valleys and eaves.

EAVES and SOFFITS

The eave and soffits on the front (east side) of the building are visible and appear to be in good condition. All other eaves and soffits are concealed behind aluminum soffit trim and we are unable to judge their condition.

Our concern is that building siding (and we presume trim) was observed to be deteriorated prior to the installation of the artificial siding on the north, south and west sides of the building. Any eave / soffit element that was deteriorated before artificial siding application will continue to deteriorate behind the siding.

SIDING

As mentioned above the north, south and west sides of the building are covered in vinyl siding. The siding was installed in the fall of 2007 and includes 3/8" insulation board on the exterior of the wood clapboard siding.

Siding Condition

Anecdotal remembrance indicates that the wood siding was in poor condition prior to application of the vinyl siding. A small area of wood siding is visible under the south exterior doors in the Town Clerk's and First Selectman's office. The exposed wood shows evidence of rot along the sill line (photo 1, 2, and 3). If deteriorated wood was covered by artificial siding it will continue to deteriorate with time. The danger is that deterioration is not longer visible. Deterioration of sill plates will often happen from the outside (area of water infiltration) to the inside. The fact that a visual inspection of the first floor framing does not indicate damaged sills does not necessarily mean that the sills are in good condition. It just means that any damage is not yet visible to the interior. This represents a very real and unquantifiable hazard to the integrity of the building. We cannot ascertain the extent of prior and current damage, and we cannot make any guarantees for timeline.

The siding on the front (east) façade of the building is exposed wood clapboard siding. A portion of the siding and watertable boards on this side are concealed behind the concrete platform at the top of the entry door steps and ramp (photo 4). We cannot determine the condition of the boards but note that the existing detailing allows water to get between the siding and concrete (photo 5). This type of detail accelerates deterioration along the sill line.

Siding Recommendation

The deteriorated siding on the north, south and west sides must be replaced. This requires complete removal of vinyl siding and aluminum trim in order to determine extent of repairs and to actually make the repairs. We understand that the Town may not be in a financial position to do routine siding repair. Rather than cover the siding with artificial siding consideration should be given to replacing the siding with one of composite siding materials currently available.

When the Town replaces the front stairs and ramp the detailing between the building face and should be changed to minimize damage to the wood sills.

Paint Condition

The east façade siding was painted in May of 2007. There is significant failure of the paint film and large areas are observed to the peeling away from the clapboard surface. This condition is known as "bond failure" (photo 6). A quality paint job on wood siding should last at least seven years. The premature failure of the current paint can be attributed to the

following:

- Incomplete removal of prior paint layers
- Application of paint by spray equipment rather than brush
- Application of paint over wood that not properly dry (staff remembrance was that the paint was applied during a very wet period.)

Each of the above items, individually, can cause failure of paint film. Collectively, as they appear to have occurred, there is a certainty that the paint job will not last for a standard length of time.

Additional reasons for paint failure in older buildings include a high amount of water vapor in building interior spaces due (in this case) to earth floors in unventilated basement and crawl space areas. The structural engineers make recommendation to install a concrete "rat slab" in basement and crawl space areas elsewhere in the report. Prior to installation of any slab a vapor barrier should be placed underneath the slab to prevent the migration of moisture into the interior of the Town Hall.

Paint Recommendation

We recommend that the paint on the east side of the building be removed, and a new paint system applied, using "best practice" techniques. We also recommend that a vapor barrier be installed in the basement prior to repainting.

WINDOWS

The existing windows are double hung units of various age. Of the 26 windows in the building, 25 windows are 6 over 6 design and 1 window is 4 over 4 design. The windows have at least three different muntin profiles which range from 5/8" thick to 1" thick. All windows are single glazed, and all have triple track storm and screen panels on the exterior. Eleven of the triple track systems were replaced in November, 1999.

Condition

The windows are in a various state of condition. The observed conditions include the following:

- Of the 154 individual panes of glass, 53 panes, or 34%, are broken. The breaks typically occur in the corners of the glass panes and are caused by a buildup of paint along with muntin and glazing putty lines which prevents the glass from moving in response to thermal expansion and contraction (Photo 7 and 8).
- Sashes are hard to operate which presents a problem as the windows are the only source of ventilation for the building. Some windows have sashes that have been painted shut, some windows have so many layers of paint on the frame that the sash can no longer move freely, some windows with sash weights have broken sash cords, and some windows have racked.

- The sills and frames are mostly in fair to good condition. Deterioration of poorly maintained windows begins on the horizontal surfaces and at joints where water can collect. There are a few windows on the west side that exhibit deterioration of the sill, or the sill and frame intersection (photo 9).

A schedule of windows is included at the end of this section for reference.

Routine maintenance to return double hung wood windows to good condition includes the following steps:

- Removal of interior and exterior paint to bare wood
- Removal and repair of sash (if required) and re-glazing
- Repair of frame (if required)
- Weather-stripping and reinstallation of sashes
- Repainting

If portions of a window show signs of deterioration (checks, splits or rot), additional steps are required to stabilize the decaying wood and return the wood to sound condition. These steps include:

- Drying the wood
- Treating decayed areas with fungicide
- Waterproofing the wood with two to three applications of boiled linseed oil
- Filling cracks with putty
- Additionally deteriorated wood areas can be strengthened with semi-rigid epoxies.

Repairs to wood windows are not technically difficult though they are time consuming. Historic wood windows are made with denser wood than current windows. Returned to sound condition and properly maintained, these windows can last another hundred years.

Repair versus Replacement

In lieu of maintenance there is a lot of interest in replacing old windows. The two most often cited reasons are energy efficiency, and proper operation – both legitimate and understandable concerns. There is a lot of advertisement indicating that new, energy efficient windows will save building owners hundreds of dollars in heating costs.

Essentially, energy efficient windows include the following advancements:

- Double or triple glazing with low-e and argon gas fill
- Integral weather-stripping

These features limit the infiltration of cold air around the sashes and limit the conduction of cold from the surface of the glazing into interior spaces.

Window manufacturers sell three different types of replacement units.

- The first option, "window insert", is touted as the most economical replacement option. In this system a new window unit (frame and sash) is placed within the opening created by the removal of the existing window sashes. The addition of a new frame within the existing frame makes the effective window and glazing areas smaller and significantly alters the proportions of the façade. We do not recommend this option as it will visually alter the architectural character of the building and does not address frame deterioration.
- The second option, "sash replacement", allows the existing window frame to remain in place and new sashes are installed in place of the old sashes. The new sashes come with weather-stripping kits and insulated glazing. While the insulated glazing removes the need for storm sash the fact that operable windows in this climate need screens means that new screens need to be made for the windows. Most of the time building owners end up leaving the existing triple track system in place to keep the screen feature. As with the first option, any frame deterioration is not addressed by the simple replacement.
- The third option is "full unit replacement". In this option the complete window frame is removed and a new window unit built to the size of the original unit installed. The new unit comes with weather-stripping, insulated sash, and window screens. This option does not require triple track storm/screen panels on the exterior and is desirable as the full size of the window opening is fully visible from the building exterior. Additionally, a building owner does not have to separately contract for, or deal with, deterioration of the window frame. A downfall of this type of replacement is that historic wood windows with their durable hardwood frames and telltale glazing are lost.

  When planning for full unit replacement for windows a building owner has to commit to removing the exterior siding. If part of a building renovation involves work to exterior walls as well as replacement of the windows this option may be practical. Otherwise this option increases the cost of window replacement beyond the reach of owners who want a simple, inexpensive solution.

Considerations

In evaluating the pros and cons of window replacement in any building one has to consider the following:

1. Are building walls and attics properly insulated? If the walls and roof are not insulated, more of the building's heat may be escaping through the walls and roof than through the windows.

2. Do the existing windows have storm panel systems? The comparisons advertised by new window manufacturers typically compare single glazing with no storm panel to insulated glass. The presence of a storm panel limits the conduction of cold and reduces that apparent savings for new windows.

3. What is the cost of window repair (including weather-stripping) versus cost of window replacement, including related carpentry work such as removal of artificial siding and existing wood siding?

4. What percentage of the building envelope is window area?

5. What is the actual energy savings per window?

6. Is additional work planned for the building exterior that would reduce the cost of window replacement?

Recommendation

Clearly there are a lot of interrelated issues that factor into the final recommendation. Many of the required pieces of information such as energy studies are beyond the scope of this report.

From our experience with historic buildings we recommend that capital outlay be first placed towards building insulation and doors, and that existing windows be properly repaired. The issue regarding window replacement can and should be revisited as the scope of the Town Hall refurbishment is defined.

DOORS

There are a total of seven exterior doors in the Scotland Town Hall; four doors on the first floor, two on the second floor and one in the basement. Given pictorial evidence we know that the front door is not original to the building. Hardware on the door suggests that the door dates to the mid 20th-century. The other first and second floor exterior doors match the front entry door.

Condition

All of the doors are judged to be in poor condition and need replacement (photo 10, 11, 12).

Recommendation

To strengthen the historic appearance of the building we strongly suggest that the design of the replacement exterior doors match the four and six panel style of the original doors. Dimensions for the door panels can be taken from the interior doors that are original to the Consolidated School Building.

EXTERIOR STEPS / RAMP

The exterior steps from first floor areas to grade are poured-in-place concrete. We know from a newspaper article that the front steps and

ramp were constructed in 1980. We do not know the date of construction for the steps from the Town Clerk's office of the First Selectman's office.

Condition

The concrete shows evidence of spalling at each of the step locations. The reasons for spalling include:

- Use of chloride based de-icing products in the winter (photo 13)
- Poor initial concrete mix
- Rusting of embedded metal causing fractures in the concrete (photo 14, 15, 17)

Additionally, portions of handrails are missing (in addition to being non-code compliant). See Photo 16.

Recommendation

Concrete work needs to be replaced. The condition shown in photo 14 presents a safety hazard.

Winter di-icing products should be switched to non-chloride products.

FIRE ESCAPES

The Scotland has two fire escapes from second floor areas. One escape is located on the south side of the building and the other on the north side. We do not know the age of these escapes.

Condition

The north fire escape appears to be in better condition than the south side escape. The south side fire escape (photo 18) is in poor condition and shows evidence of welded joints that have come apart.

Recommendation

The fire escapes need to be repaired. Fire escapes need to be periodically reviewed by qualified professionals, and repairs made.

INTERIOR FINISHES

Interior finishes date from a variety of periods and encompass many different materials such as plaster, wood paneling, gypsum wallboard, wood, and fiber.

Condition

All of the interior finishes are tired and in need of refinishing. Ceiling areas in the first and second floor that show extensive evidence of water damage from prior roofing issues need to be repaired / replaced and repainted (photo 19, 20, 21, 22). Wood floors have lost their protective finishes and are susceptible to increased damage (photo 23, 24). Wall areas in various state of condition.

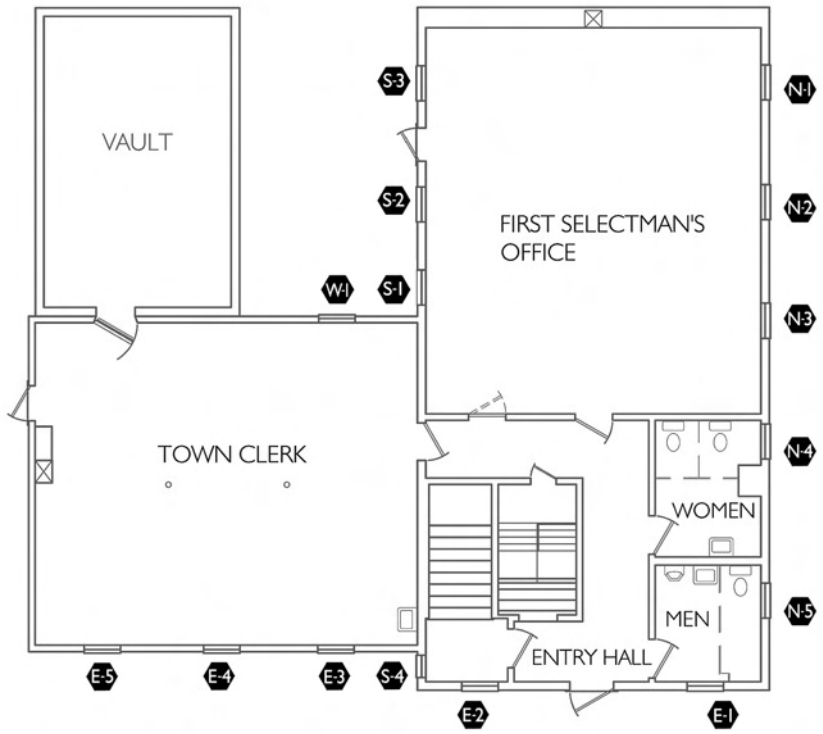
Before extensive refinishing occurs, an integrated plan for building renovation must be prepared; there is no sense in replacing finishes if a surface needs to be removed to address structural or infrastructure issues concealed behind wall and ceiling areas.

Recommendation

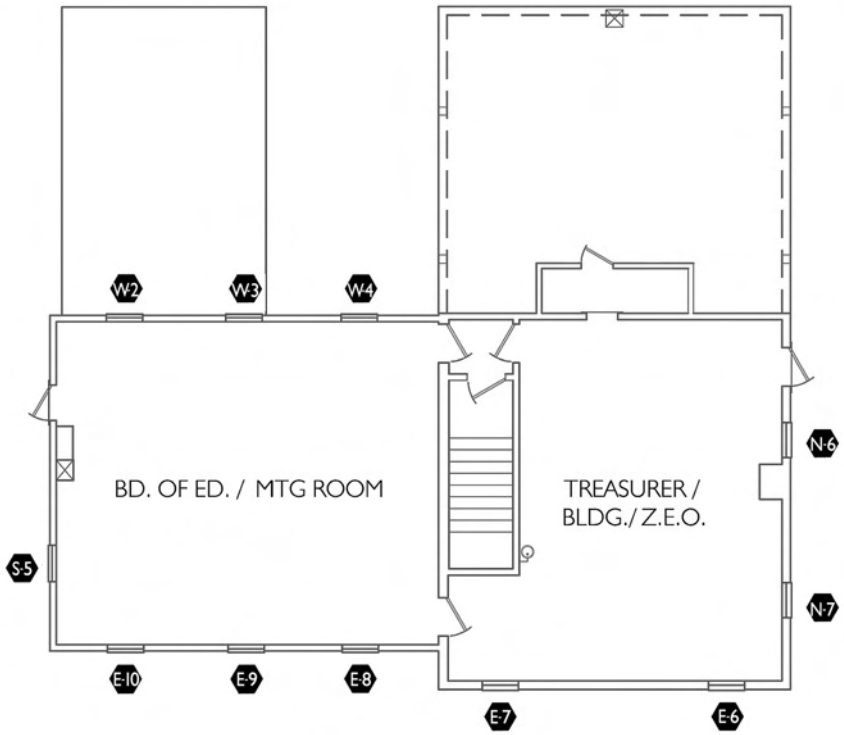
We recommend that the Town of Scotland develop an overall plan for building repair and refurbishment and that new finishes be integrated into the overall plan.

EXCLUSIONS

The Town Hall complex has a building to the west and rear of the Town Hall building which was not included in this study. Though the project team did not review the building we enclose photos of the south and north sides. The building shows evidence of significant deterioration of the building envelope (Photo 25, 26).



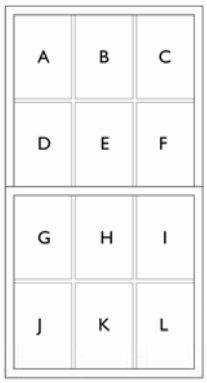
FIRST FLOOR PLAN



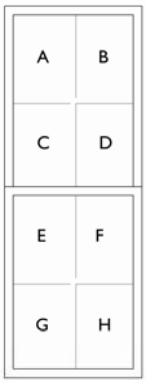
SECOND FLOOR PLAN

Scotland Town Hall - Window Condition Summary (July 10, 2009)

Level	Mark	Area	Style	Type	Sash Size	Glazing	Lite Replacement	Storm / Screen	Remarks
1st	N-1	Selectman Office	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	F, I	Triple track	
1st	N-2	Selectman Office	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	I	Triple track	
1st	N-3	Selectman Office	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	A, C, K	Triple track	
1st	N-4	Women's Room	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, obscure top & bottom sash	C, D	Triple track	Not original window
1st	N-5	Men's Room	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, obscure top & bottom sash	J	Triple track	Not original window
2nd	N-6	Treasurer	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	G, J, L	Triple track	
2nd	N-7	Treasurer	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	na	Triple track	
1st	E-1	Men's Room	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, obscure glass bottom sash	na	Triple track	Not original window
1st	E-2	Entry Hall	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	na	Triple track	Not original window
1st	E-3	Town Clerk	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	B, F, G, J	Triple track	
1st	E-4	Town Clerk	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	A, B, C, D, I	Triple track	
1st	E-5	Town Clerk	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	G, H	Triple track	
2nd	E-6	Treasurer	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	B, D, G	Triple track	
2nd	E-7	Treasurer	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	C, G, J, K	Triple track	
2nd	E-8	Bd. Of Ed. / Mtg Room	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	J	Triple track	
2nd	E-9	Bd. Of Ed. / Mtg Room	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	C, G, J, L	Triple track	
2nd	E-10	Bd. Of Ed. / Mtg Room	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	D, G	Triple track	
1st	W-1	Town Clerk	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	na	Triple track	Sill, frame in poor condition
2nd	W-2	Bd. Of Ed. / Mtg Room	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	A, I, J	Triple track	
2nd	W-3	Bd. Of Ed. / Mtg Room	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	E	Triple track	
2nd	W-4	Bd. Of Ed. / Mtg Room	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	D, G	Triple track	
1st	S-1	Selectman Office	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	D, G, J, L	Triple track	
1st	S-2	Selectman Office	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	B, E, H, J, K	Triple track	
1st	S-3	Selectman Office	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	D	Triple track	
1st	S-4	Entry Hall	DH - 6/6	B	24" x 68 1/2"	Single, clear	na	Triple track	
2nd	S-5	Bd. Of Ed. / Mtg Room	DH - 6/6	A	34 1/2 " x 68 1/2"	Single, clear	na	Triple track	



TYPE A



TYPE B

Photo 1 Sill and watertable at south exterior door in Town Clerk's office

Photo 2 Detail of watertable at south door from Town Clerk's office

Photo 3 Detail of sill at south door from Town Clerk's office

Photo 4 Detail of ramp siding connection along east façade.

Photo 5 Detail of ramp and watertable intersection at east (front) façade

Photo 6 Detail of paint failure on east (front) façade

Photo 7 Example of missing glass

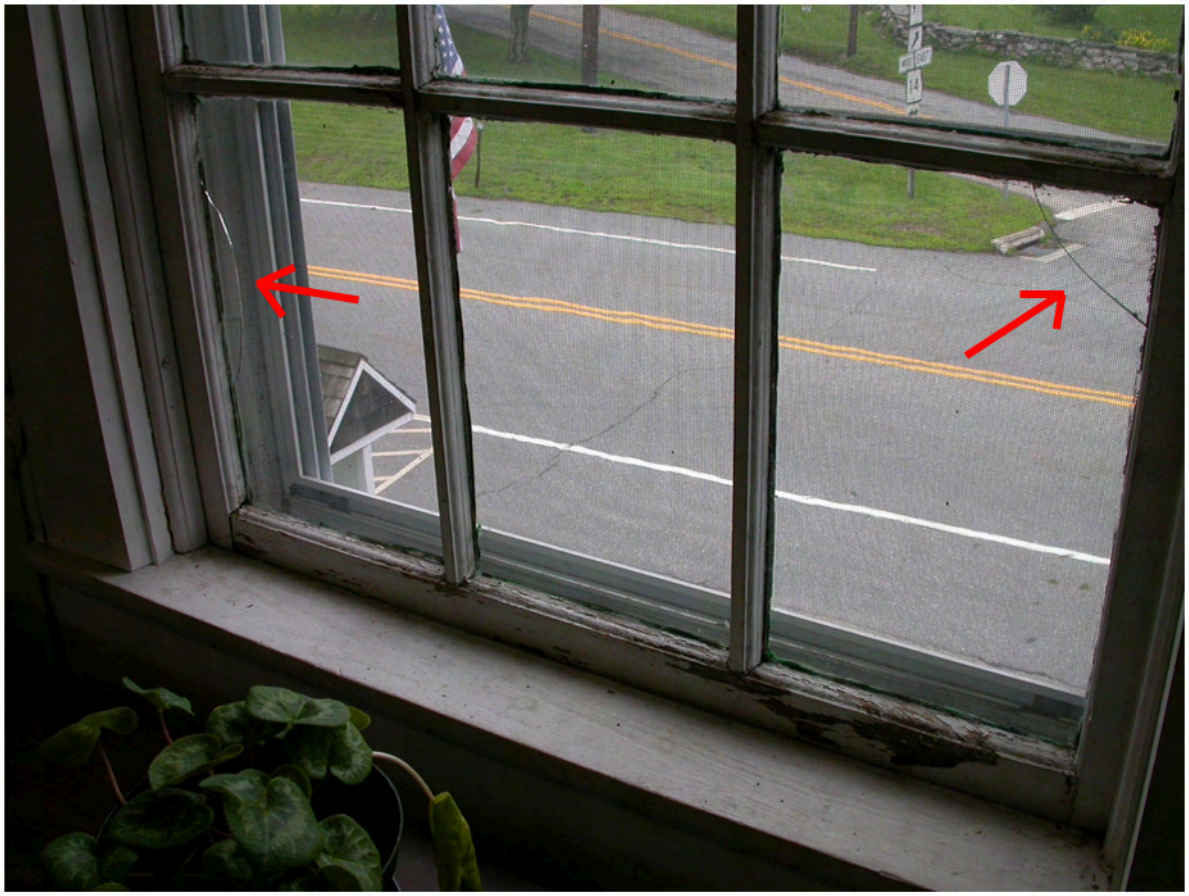


Photo 8 Example of broken glazing (second floor office)

Photo 9 Example of damaged wood sill (West side, Town Clerk's office)

Photo 10 Detail of exterior door at First Selectmen office

Photo 11 Example of exterior door condition

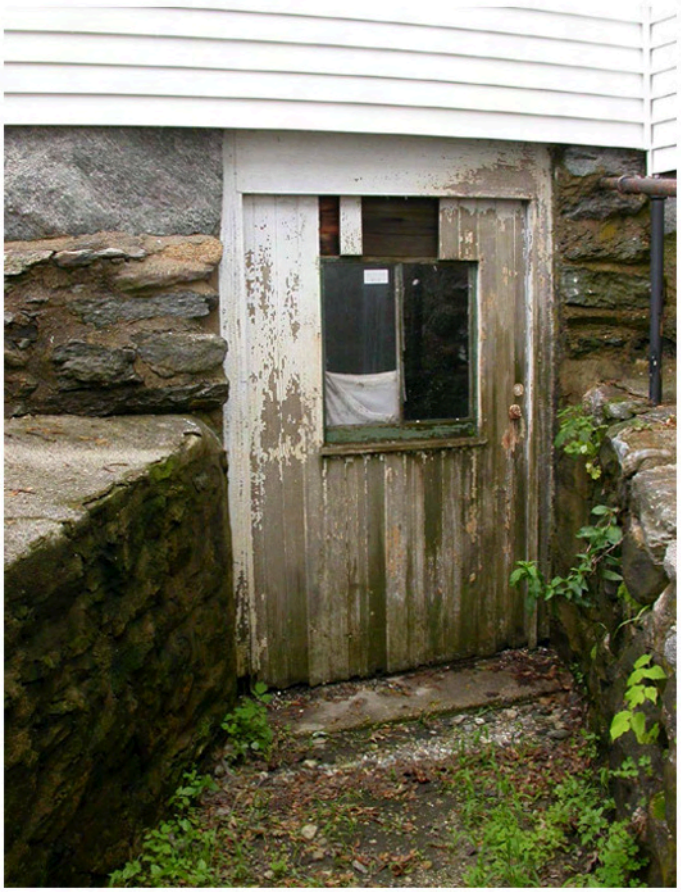


Photo 12 Basement Door

Photo 13 Spalling at front steps

Photo 14 Concrete damage due to rust

Photo 15 Steps from First Selectman's office

Photo 16 Steps from First Selectman's office

Photo 17 Steps from Town Clerk's office

Photo 18 South Fire escape. Note failure along welds

Photo 19 Water damage at 2nd floor ceiling

Photo 20 Water damage at 2nd floor ceiling

Photo 21 Water damage at 2nd floor ceiling

Photo 22 Water damage at first floor ceiling

Photo 23 Loss of finish and wear at wood floor

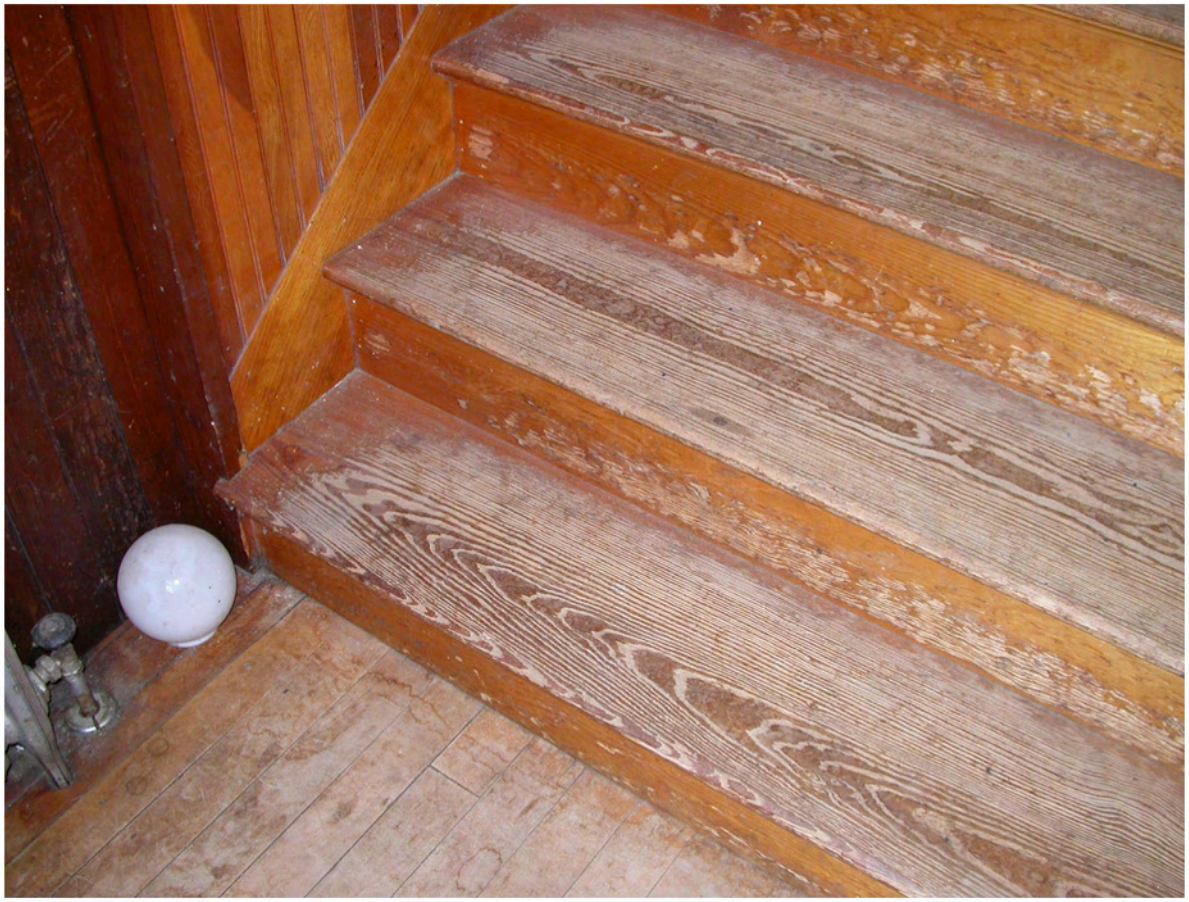


Photo 24 Loss of finish at wood stair

Photo 25 South side, rear shed

Photo 26 North west corner, rear shed

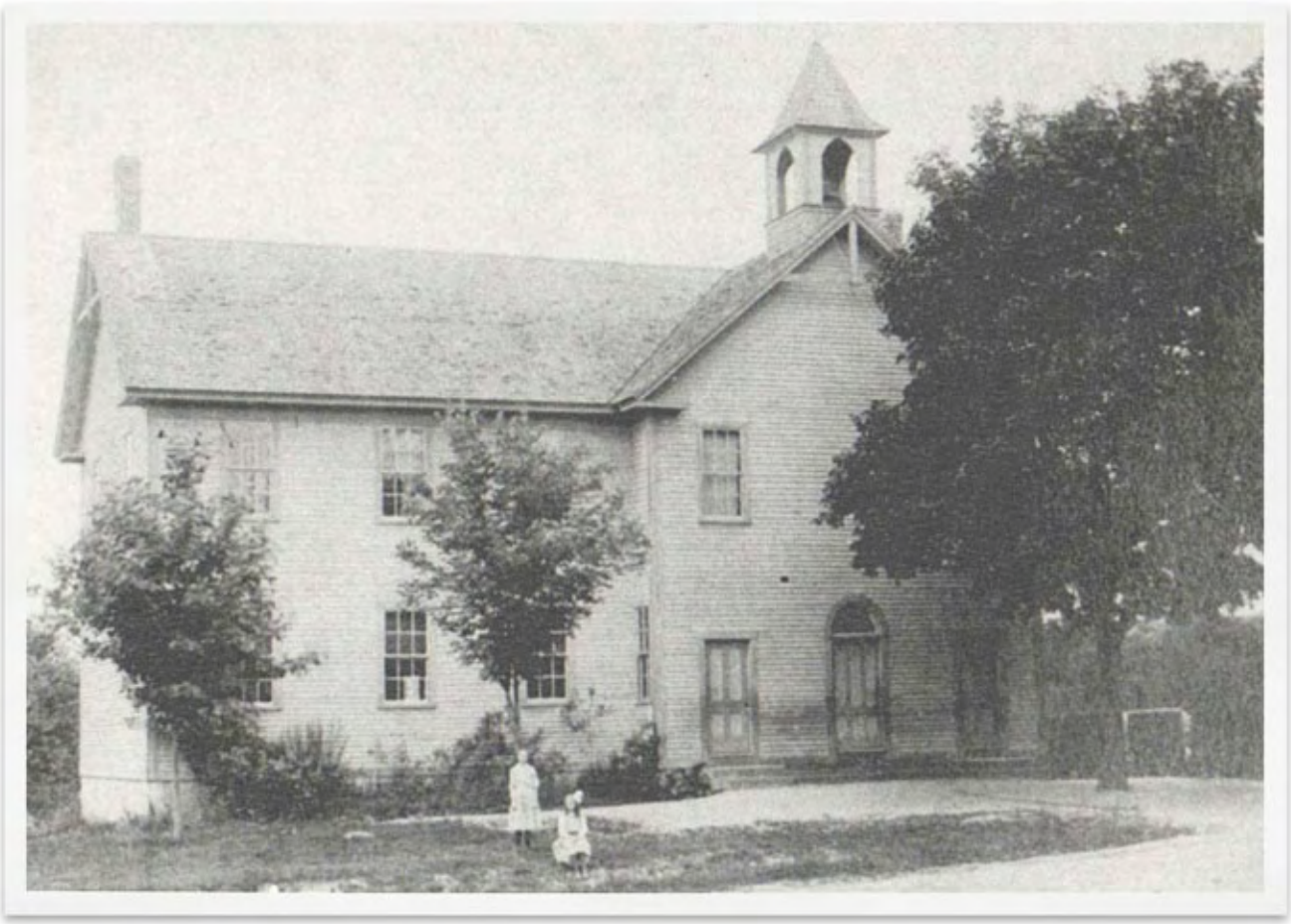
RENOVATION AND MAINTENANCE IN HISTORIC CONTEXT

Nelson Edwards Company Architects, LLC

First Consolidated School

Town of Scotland, Connecticut

1896



EARLY 20TH CENTURY SCOTLAND TOWN HALL & PRESENT

SITE - A Comparison of Elevations

OVERVIEW: The character of historic buildings is often altered or lost by incremental changes made over time. Changes that diminish the read of the historic building can result from building maintenance, roadway work, or even expedited solutions to correct pressing code issues. In planning for future maintenance of a historic building it is useful to understand the impact of the changes that have been made and to establish a framework for maintenance that is compatible with the historic character of the building.

GROUND PLANE

Grade at the front (east side) of the Consolidated School Building in the early 20th century was much higher than presently exists. The lowering of grade is presumed to be the result of re-grading for roadway work along Rt. 97. The lowered grade relative to the first floor of the building increases the number of steps required to get into the building and distorts the relationship the 19th-Century building had to the site.

ENTRY STAIR

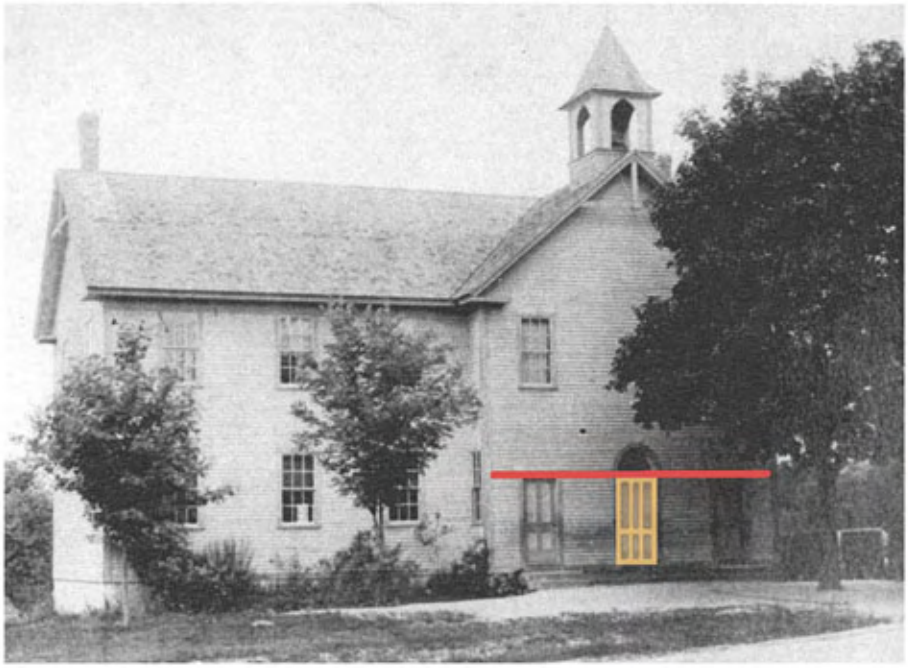
The width of the original entry stair spanned most of the width of the east facing gable end façade. Currently the stair and landing are much narrower. As a result the entry facade does not have the same sense of scale and monumentality.

FRONT YARD VEGETATION

Plantings softened the read of the Consolidated School Building's façade and integrated the building with the rural landscape. While plantings are not possible given the current ramp and stair arrangement development of sympathetic landscape design in the future would help reestablish a rural context.

EARLY 20TH CENTURY SCOTLAND TOWN HALL & PRESENT BUILDING - *A Comparison of Elevations*

OVERVIEW: The character of historic buildings is often altered or lost by incremental changes made over time. Changes that diminish the read of the historic building can result from building maintenance, roadway work, or even expedited solutions to correct pressing code issues. In planning for future maintenance of a historic building it is useful to understand the impact of the changes that have been made and to establish a framework for maintenance that is compatible with the historic character of the building.



EAST GABLE END FENESTRATION

The Consolidated School Building had 3 entry doors facing Devotion Road, 2 of which were replaced with windows in the following years. The top of the windows were set higher than the original doors but not as high as the other windows on the east façade. The lack of alignment between the top of the center door and the top of the windows is one of the greatest changes that detracts from the proportion and scale of the original façade.

ENTRY DOOR

The entry doors facing Devotion Road were late 19th century design. The center door was a six-panel door and the 2 north and south flanking doors were four-panel doors. When the center door was replaced the style of the door was changed. While it may be desirable to have glazing in the entry door when the door is replaced consideration should be given to replicating the original 6-panel design. If needed for programmatic reasons, glazing panels can be placed in the top three panels.

FIRE ESCAPE

Fire escapes are needed to meet Life / Safety Codes. The south facing fire escape has significant visual impact on the south facing gable and front façade. When time to be replaced the fire escape can be alternately configured to run first to the west (towards the back of the building) and an intermediate landing and then run to the east as it currently does. This simple change would dramatically enhance the read of the front façade.

WINDOW SHUTTERS

Shutters with the iconic 'S' inscription were added to the building at some time during the 20th century. They are clearly not original to the building.

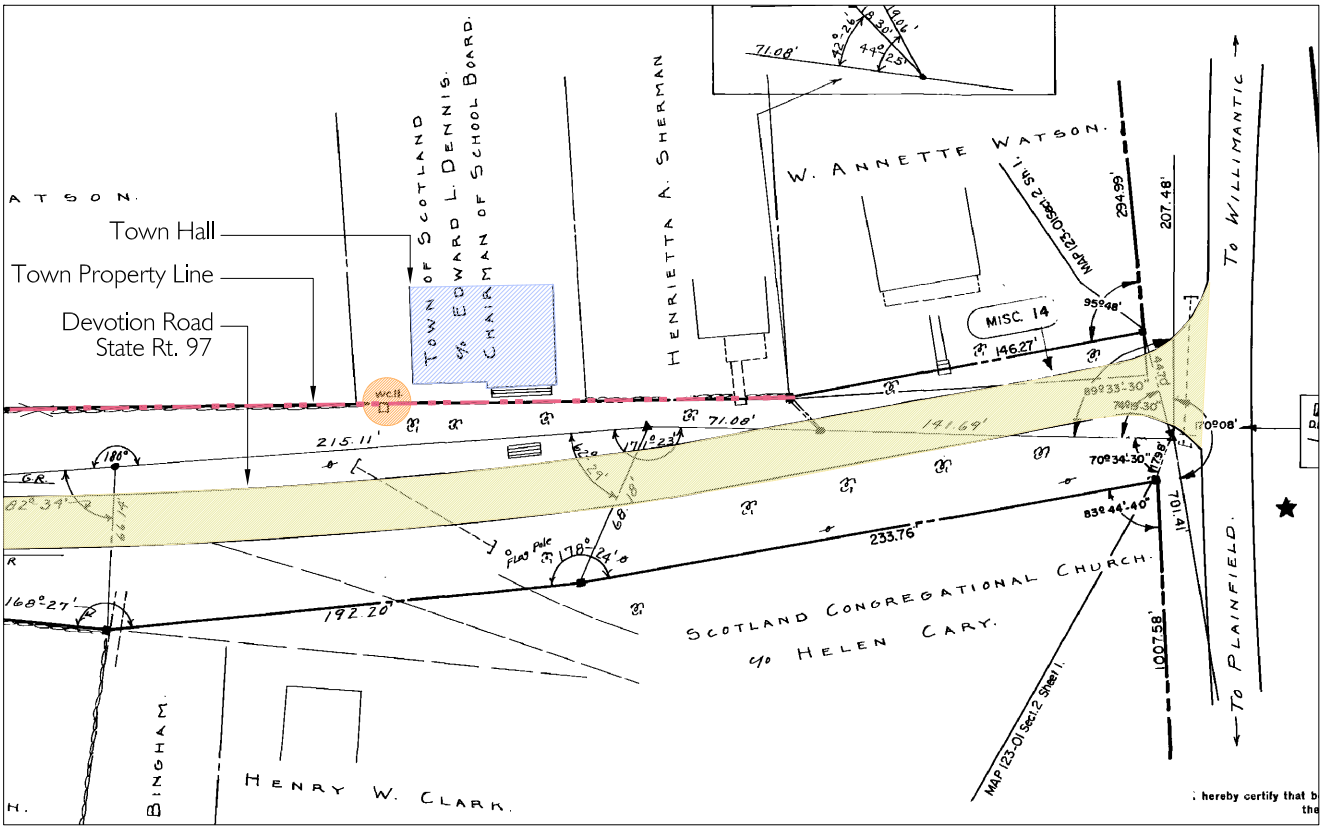
Routine maintenance and repair work does not have to result in a loss of architectural character. Having identified some of the ways the First Consolidated School building has changed over the years, we believe that future repair and maintenance work can successfully restore character defining elements that have been lost, as well as maintain the elements that do remain.

The historic features of the First Consolidated School Building that have been altered include the style of the front (entry) door, the relationship of the entry door to the flanking windows, the design of the front steps, covering of detail with artificial siding product and the prominence of the (south side) fire escape. All of these items can be corrected with future repair and maintenance work.

In the next section, "Ramp and Stair Design", we suggest a revised ramp and stair design that strengthens the read of the historic building. Additionally the proposed ramp / stair renderings illustrate how minor modifications (front door design or choice of materials for the ramp / stairs) have enormous impact on the historic character of the building.

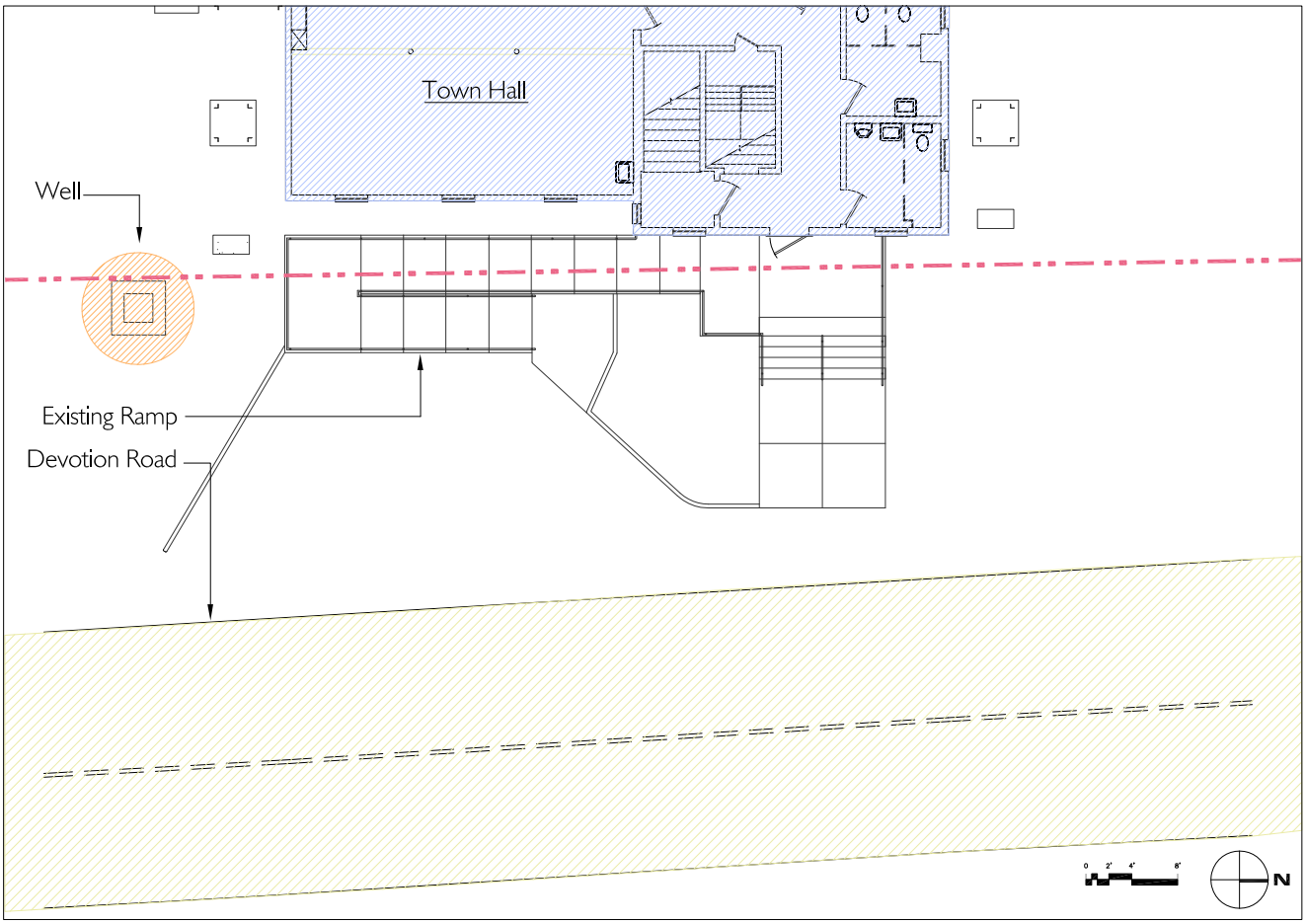
RAMP AND STAIR DESIGN

Nelson Edwards Company Architects, LLC



STATE OF CT D.O.T. RIGHT-OF-WAY MAP

Dated September 30, 1931
Revised September 21, 1962



PROPERTY LINE VIS-A-VIS TOWN HALL

This composite drawing of Scotland Town Hall and the property line location was created using measured floor plan drawing and the information provided by the Connecticut State DOT. This drawing is for informational purposes only in order to define the available space for the entry ramp and stairs. The location of the Town's property line must be verified by licensed surveyor.

NELSON
EDWARDS
COMPANY
ARCHITECTS LLC

Proposed Design

Existing

A COMPARISON STUDY: Scotland Town Hall East (front) facade

APPENDIX

Prioritized List of Repairs

Cost Information

List of Known Repairs to Scotland Town Hall

Memo for Review Process with State DOT for ramp / stair

Scotland Town Hall - Prioritized List of Repairs

Location	Item	Repair Needed	Immediate	Urgent	Necessary	Maintenance	Cosmetic
Structure	West Crawl Space Crawl Space (1840 Centre School ell)	Remove wood logs and debris			X		
		West end crawl space: level soil and provide 18" in. between bottom of joist and top of new slab;			X		
		Install new slab			X		
		Repair concrete wall			X		
		Repoint masonry foundation			X		
	West Crawl Space First Floor Framing	Add (2) steel pipe columns on independent concrete footings			X		
		Install framing clips at beam / joist ends to strengthen connection			X		
		Sister beam beneath corridor with microlam			X		
	East Crawl Space and First floor framing	Remove east crawl scape soil to provide clearance beneath wood framing			X		
		Support log beam with steel pipe column on concrete footing			X		
		Install new slab			X		
	South Wing First Floor Framing	Clean out cobwebs			X		
		Excavate and level south wing crawl space			X		
		Install new steel pipe columns suported on concrete footings and sister existing carrying beam with microlam			X		
		Install new concrete slab			X		
		Repoint foundation stone masonry walls on interior esp. wheer daylight showing through			X		
	Second Floor Framing	Further investigation (concealed condition)			X		
	West Wing Attic Framing	Tempoarily shore failed truss	X				
		Reinforce truss bottom chords with steel channel		X			
		Laterally brace "pony truss"		X			
		Install new steel beam to carry roof load		X			

Immediate: In danger of failing
Urgent: Should be done within 1 year to maintain integrity
Necessary: Accomplish within a 3 to 5 year period but not currently urgent
Maintenance: Issue to be addressed within next 10 year (maximum) period
Cosmetic: Improvement to general building aesthetics

Scotland Town Hall - Prioritized List of Repairs

Location	Item	Repair Needed	Immediate	Urgent	Necessary	Maintenance	Cosmetic
		Post "no storage" in attic		X			
		Remove insulation and install new batt insulation		X			
		Extend and reinforce existing girts with new 2x material		X			
		Install layer of plywood through attic		X			
	West Wing Roof Framing	Install new collar ties		X			
	Main Roof Attic / Roof Framing	Construct new access hatch			X		
		Install plywood screwed to top of floor joists, 4' width			X		
	Exterior Foundation	Remove parging from east and south wall, rake out masonry joints and deep repoint			X		
		Selectively repoint remaining foundation walls			X		
		Reset +/- 20' of granite stone block wall along north wall			X		
Building Envelope	Roof, Eave and Flasings	Inspect every 5 years				X	
	Siding (north, south and west)	Remove vinyl siding to allow for inspection of deteriorated areas		X			
		Repair damaged siding and sills		X			
	Siding (East)	Repaint East Façade		X			
		Repair damaged siding and sills (during construction of new steps / ramp)			X		
	Windows	Repair all window sash and frames		X			
		Replacement of units considered in larger context					
	Doors	Replace doors		X			
Building Interior	Ceiling	Repair damaged ceiling area and repaint ceilings		X			
	Walls	Repair damaged wall areas and repaint			X		
	Floors	Refinish existing wood floors			X		

Immediate: In danger of failing
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Maintenance: Issue to be addressed within next 10 year (maximum) period
Cosmetic: Improvement to general building aesthetics

Scotland Town Hall - Prioritized List of Repairs

Location	Item	Repair Needed	Immediate	Urgent	Necessary	Maintenance	Cosmetic
Exterior Site	Front Steps and Ramp	Replace steps and ramp			X		
	Side steps	Replace			X		
	Fire Escape	Repair and repaint south fire escape		X			
		Repair and repaint north fire escape			X		

Immediate: In danger of failing
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Necessary: Accomplish within a 3 to 5 year period but not currently urgent
Maintenance: Issue to be addressed within next 10 year (maximum) period
Cosmetic: Improvement to general building aesthetics

Opinion of Probable Cost - Scotland Town Hall

Evaluation of the Owner's estimated project budget of construction costs represent GNCB Engineers and NEC Architects' best judgment as professionals familiar with the construction industry. It is recognized, however, that GNCB/NEC does not have control over the cost of labor, materials or equipment, over the Contractor's methods of determining bid prices nor over competitive bidding, market or negotiating conditions. Accordingly, GNCB cannot, and does not warrant or represent that bids or negotiated prices will not vary from the estimated project budget proposed, established or approved by the Owner, if any, or from any statements of probable construction, cost or other cost estimate or evaluation prepared by GNCB/NEC.

Building Area	Repair	Cost	Priority
Foundation / First Floor Framing			
Foundation Wall and Slab, Main basement	Remove wood logs and debris	**$4,400.00**	**Necessary**
	Beneath west end crawl space, level out soil to provide 18 inches, minimum, clearance between the bottom of the wood joists and the top of a new concrete floor "rat" slab.		
	Install new concrete floor "rat" slab		
	Repair low concrete wall		
	Repoint stone masonry foundation where mortar is missing.		
Beams and Columns	Add 2 steel pipe columns supported on independent concrete footings. (Keep existing granite hitching post)	**$1,800.00**	**Necessary**
	Install framing clips to upgrade connection between the joist ends and beams		
	Sister beam beneath corridor with microlams		
East Crawl Space	Remove east crawl space soil to provide clearance beneath wood framing and for plumbing inspection	**$3,000.00**	**Necessary**
	Support the log beam with a steel pipe and new concrete footing		
	Install a concrete "rat" slab.		
South Crawl Space	Clean out cobwebs	**$9,700.00**	**Necessary**
	Excavate and level out south wing crawl space and install a concrete "rat" slab		
	Install new steel pipe columns supported on concrete footings and sister existing carrying beam with microlam		
	Selectively point/repoint stone masonry foundation walls on the interior, especially where daylight is showing		
Second Floor Framing, Consolidated School Building			
	Further investigation of second floor framing.	**$0.00**	**t.b.d.**
Original Schoolhouse Attic / Attic Floor Framing			
Truss Repair	Install new steel beam to carry the roof load		
	Temporarily shore the failed truss with a 6x6 post		

Opinion of Probable Cost - Scotland Town Hall

Evaluation of the Owner's estimated project budget of construction costs represent GNCB Engineers and NEC Architects' best judgment as professionals familiar with the construction industry. It is recognized, however, that GNCB/NEC does not have control over the cost of labor, materials or equipment, over the Contractor's methods of determining bid prices nor over competitive bidding, market or negotiating conditions. Accordingly, GNCB cannot, and does not warrant or represent that bids or negotiated prices will not vary from the estimated project budget proposed, established or approved by the Owner, if any, or from any statements of probable construction, cost or other cost estimate or evaluation prepared by GNCB/NEC.

Building Area	Repair	Cost	Priority
Truss Repair (cont'd)	Reinforce the truss bottom chords with a steel channel on each side	**$25,500.00**	**Urgent**
	Laterally brace the pony trusses		
Decking, Insulation and Girt Repair	Post no storage sign in attic	**$4,000.00**	**Urgent**
	Remove existing insulation and install new 9-inch deep batt insulation		
	Extend and reinforce the existing girts with new 2x material		
	Install a layer of plywood throughout the attic on top of attic floor joists. Screw plywood to joists		
Original Schoolhouse Roof Framing			
Collar Tie	Install new collar ties at each rafter pair	**$600.00**	**Urgent**
Main Roof Attic/Roof Framing			
Hatch and joist bracing	Construct a new access hatch to main roof attic	**$1,300.00**	**Necessary**
	Install a layer of plywood screwed to top of attic floor joists, 4 feet wide walkway		
Exterior Foundation			
Foundation wall stabilization	Remove parging from front wall and south wall stone foundation. Rake out stone masonry	**$6,800.00**	**Necessary**
	Selectively deep repoint remaining stone walls		
	Reset 20 linear feet of granite stone block wall along the north wall		
	Subtotal, Structural Repairs	**$57,100.00**	
	Project Contingency (15%)	**$8,565.00**	
	Total, Opinion of Probable Cost (construction) for Structural Repairs:	**$65,665.00**	
Non Stuctural Repairs			
Siding	Artificial siding removal	**$5,000.00**	**urgent**
	Siding and Sill repair	**unknown**	**urgent**
	Repaint front façade	**$6,000.00**	**urgent**
Windows	Window repair of existing windows (26 windows)	**$31,200.00**	**urgent**

Opinion of Probable Cost - Scotland Town Hall

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Building Area	Repair	Cost	Priority
	ALTERNATE 1: Window replacement (full frame), excludes carpentry cost for related siding work. Does include casing and 8/4 historic sill (clad): $30,459.54		
	ALTERNATE 2: Window sash replacement cost (clad): $19,095.48		
	Frame repair for option above		
Doors	Door replacement, front door	**$4,000.00**	**urgent**
	Door replacement first floor doors (2)	**$4,000.00**	**urgent**
	Door replacement, second floor doors (2)	**$4,000.00**	**urgent**
	Door replacement, basement door (1)	**$1,500.00**	**urgent**
Concrete Steps	Front step and ramp replacement (per NEC design suggestion)	**pending**	**necessary**
	Site Step replacement at (2) side doors	**$10,000.00**	**necessary**
Fire Escape	Fire escape repair	**$7,500.00**	**urgent**
Interior Finishes	Not included due to interface with MEP and structural work		
	Sub-Total Architectural Repairs:	**$73,200.00**	
	15% Contingency:	**$10,980.00**	
	Total, Opinion for Probable Cost (construction) for Architectural Repairs:	**$84,180.00**	
	Combined Structural and Architectural Repair cost (incl. contingency)	**$149,845.00**	**Will increase**

NELSON
EDWARDS
COMPANY
ARCHITECTS LLC

MEMO

TO: Clark W. Steams, First Selectman
Town of Scotland
9 Devotion Rd
P.O. Box 288
Scotland, CT 06264

FROM: Sara Nelson, AIA

RE: Scotland Town Hall, Conditions Assessment and Ramp Design
Use of State Right-of-Way for Town Hall stairs and ramp

DATE: July 21, 2009

In the course of the preparing preliminary ramp design options for the Town Hall we discovered that the existing ramp and stairs appear to be built over the Town's east property line and in the State of Connecticut Right-of-Way for Route 97 (Devotion Road). We base this observation on the State Right-of Way map prepared in 1931. The Town does not appear to have a property survey to verify this information.

The amount of encroachment is indicated on a composite drawing we created from the State Right of Way map and field measurements for the current ramp / stair and one of the Town's wells. We attach this drawing for your ready reference.

Peter Palazzi at the State DOT confirms that the State and Town do not have a use agreement for current the ramp and stairs. As long as the existing ramp / stairs continue in use no action is required on the part of the Town.

When the Town proceeds with replacement of the ramp / stairs a "lease agreement" will need to be negotiated with the DOT. This will require submission of the proposed ramp stair design / and parking areas, and subsequent meetings. Even if the Town does not proceed with a ramp / stair design we recommend that the Town formalize the relationship with the State DOT as one of the Town's well is located in the DOT right-of-way.

Before any design proceeds for the east side of Town Hall the Town should engage a licensed surveyor to create an A-2 survey to verify the location of the property lines vis-à-vis the Town Hall and well. It is not uncommon to have discrepancies in property line locations. The survey should give grading information at the east side of the Town Hall building to facilitate final ramp and stair design. We can work with you to write up the request for survey.

1156 Main Street Branford, Connecticut 06405 Phone 203.481.6611 Fax 203.481.1992 info@nec-architects.com

We then recommend the following sequence of steps:

1. Complete survey for Town benefit
2. Verify existing encroachment indicated on Town and State information and identify any inconsistencies.
3. Finalize preliminary ramp design with grades and property line information.
4. Meet with DOT and submit ramp / stair design
5. Negotiate any agreements
6. Revise ramp / stair design per State / Town agreement
7. Prepare contract documents for bidding and construction of ramp / stair.