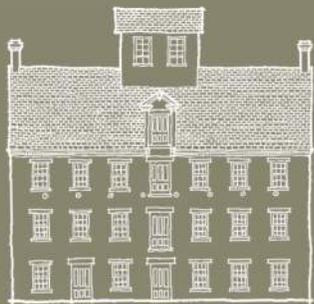


ARNOLD & SCANGAS  
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CALAIS TOWN  
HALL REHABILITATION  
PLAN  
2.6.17

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Calais, Vermont



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**CALAIS TOWN HALL REHABILITATION PLAN**

February 6, 2017

**Architectural Description**



The Calais Town Hall is a two-story wood frame Late Greek Revival Style building that was constructed in 1866. It is listed on the National Register of Historic Places as a contributing structure in the Kents Corner Historic District. The one-by-three bay rectangular gable-front building is highlighted by a two-stage, square steeple that sits at the edge of the front (north) raking eaves. The hip-roofed second stage is louvered and capped with a tall, narrow spire. A 1 1/2 story gable-roofed stair tower addition projects from the rear (south) of the original building. The main block and steeple of the clapboarded building is roofed with corrugated metal roofing. The main roof and steeple roof have been recently replaced with a new metal standing seam roof. Trim pieces include fairly wide overhanging eaves, cornice returns, two-part frieze, peaked lintels above the ground level windows, corner boards and a water table. A historic brick chimney sits just west of the ridge at the south end of the main block. The current foundation is made of concrete block.

The building's one-bay-wide front elevation features a wide, centered entry with double-leafed, paneled doors. The opening is covered by a pedimented porch that is supported at its exterior corners by square, boxed posts. The front porch deck is supported by metal round columns.

The eave elevations are defined by three window bays on each level. The upper window bays are filled with large 20-over-20 sash windows. The upper windows and shutters have been recently restored. The restored shutters have not been installed. The lower windows are twelve-over-twelve sash windows. All the windows are fitted with shutters, which are closed over the upper sash at the upper level windows. The historic, wide paneled entry door in the northeast corner of the lower level is now covered with a contemporary, stylized door hood. When constructed, the stair tower addition covered one of two ground level rear windows. The covered window was removed and relocated to the rear wall of the stair tower.

### **Site and Building Assessment and Findings**

The Calais Town Hall is in good condition for its age. The main issue is drainage around the building, the proximity of very damp soils in the crawl space to the lower floor framing and the age of the existing roof. There are some life safety building codes and accessibility requirements that need to be addressed as well.

The building has experienced flooding and the water level from a flood in 1984 is marked on the lower floor at about 28" above the floor level. Flood mapping from the 1960s showed the building clearly in the flood plain with an estimated based flood elevation 1 to 4 feet above the lower floor. Revised FEMA mapping from 2013 clearly showed the building outside the 100 year flood zone. This inconclusive and inconsistent information made the Calais Historic Preservation Commission (CHPC) reluctant to move forward with any additional renovations without a better understanding regarding flood risk. This led the CHPC to engage Milone and MacBroom (M&M) to provide a more detailed study.

As part of this study, a detailed hydraulic analysis has been conducted to evaluate the limits and elevation of the base flood (i.e., the 1% annual exceedance probability flood or the 100-year flood in Calais). The detailed analysis was used to guide alternatives and understand regulatory feasibility.

### **The Preferred Alternative**

Milone and MacBroom's preferred alternative is to increase the size of the Pekin Brook culvert to the channel bankfull width of 22 feet, to swap the existing Pekin Brook culvert to Elmslie Brook and to elevate the building approximately 2 feet over the proposed base flood elevation. The proposed base flood elevation would be 759.2 feet. Therefore, in order to provide 2 feet of freeboard, the building should be floodproofed up to elevation 761.2 feet. The existing conditions floodplain delineation assuming clear flow has been modified to reflect implementation of the preferred alternative (Figure 3).

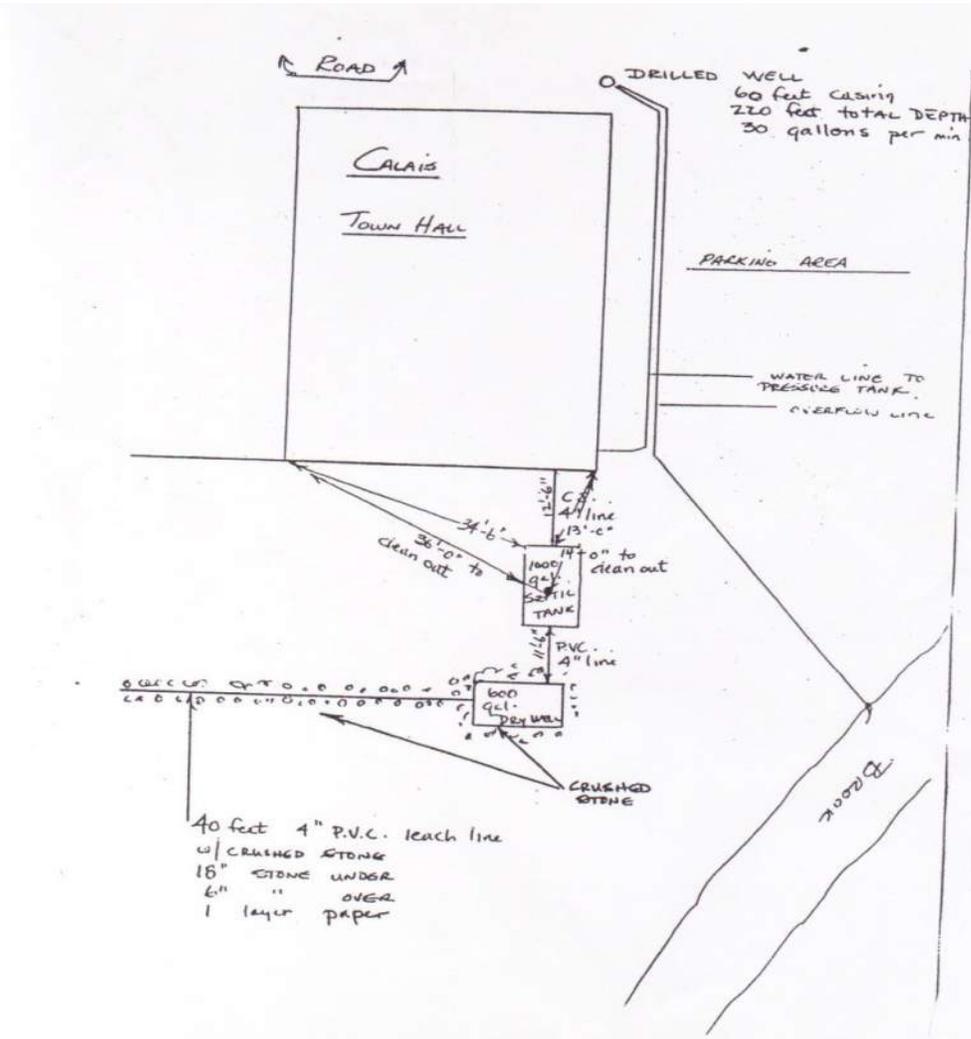
### **Flood Elevation and Protection:**

Flood levels are highly dependent on the culverts under Kent Road. These culverts are susceptible to clogging and creating backup during flood events that allows water to flow over the top of Kent Road. The flood proofing recommendations are based on replacing the culverts. Assuming Clear Flow by replacing the culverts, the Base Flood Elevation is determined to be 759.2 feet or approximately 15 inches below the existing sill elevation.



**Septic System:**

A schematic drawing of the existing septic disposal system was provided by the Calais Historic Preservation Commission (see below). The system consists of a septic tank and a dry well. This system is allowed as an existing system with intermittent use. If the building is to be considered for full time use or for events, improvements may be required.



**SCHEMATIC SKETCH OF EXISTING SEPTIC DISPOSAL SYSTEM**

**Septic System Recommendations:**

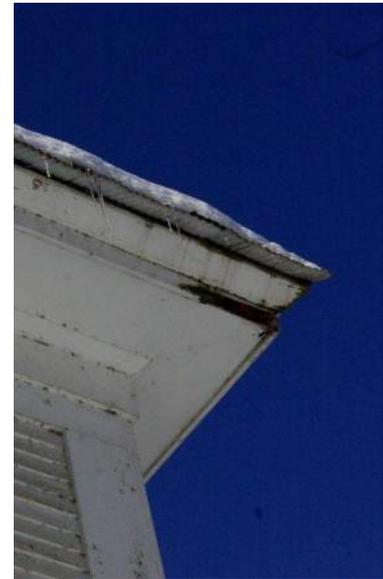
- Provide periodic maintenance and inspection of the system including pumping out the septic tank.
- Monitor periodically and review for potential failure.
- Protect the system from damage during construction activities.
- Plan for further evaluation, replacement or use of portable toilets if more sustained use or a change of use is anticipated.

**Roof:**

The main roof and steeple roof have been recently replaced with standing seam metal.

The front porch and rear stair tower roofs are covered with wood shingles. Those that were visible appeared to be in good condition.

**Exterior Clapboards and Trim:**



The clapboard siding and trim on the Town Hall is generally in good condition for a building of this age. The clapboard siding and trim on the stair addition is in fair condition.

At the northeast corner of the roof eave, the vertical trim board is water damaged.

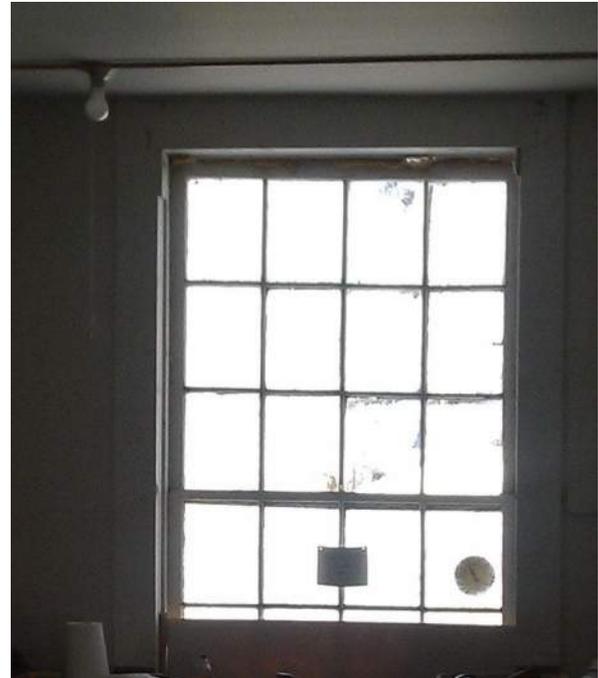
At the lower entrance (northeast corner of the building), water run-off from the main roof is causing damage to the wood clapboards above entrance roof below and to the sides of the entrance.

**Exterior Clapboards and Trim Recommendations:**

- At the northeast corner of the roof eave, the vertical trim board that is water damaged needs to be replaced
- The existing skirtboards and approximately three to four courses of clapboard siding above the skirtboard on all sides of the Town Hall and stair addition need to be replaced.
- There are a number of rotted and damaged clapboards and trim at the stair addition that need to be replaced.
- Water damaged clapboards above and to the sides of the lower floor entrance roof need to be replaced. A roof gutter or rain diverter should be installed at the main roof to divert water from falling onto the lower floor entrance roof.

- All damaged/rotted clapboards and trim that are replaced, should be replaced in kind, matching material, the dimensions and profiles of the existing clapboards and trim pieces.
- Clapboards and trim are to be scraped of all loose paint, sanded, prepped for painting, primed, painted (one coat of primer and two coats of finish paint) and joints caulked and sealed.

**Windows and Shutters:**



The existing upper windows have been recently restored and no future work is anticipated. The existing lower windows are not restored and are in fair condition. A majority of the lower window glass is original. There are window sash parts that need to be replaced. Quite a few of the existing windows are currently not properly closed. There are gaps where the heads of the upper sash meet the head of the window frame; in some cases insulation has been placed to fill the gaps. There are no mechanisms in place for operating the windows.

According to the Calais Historic Preservation Commission, the lower floor of the building will be used year round for Town related meetings and events and needs to be weatherized. The upper floor will be used seasonally or for special events only, no rehabilitation work is planned except for code related items. The recently restored upper floor windows will remain as is. The existing lower floor windows will be restored. Pre-finished triple track metal storm window systems and pre-bent interlocking metal weather stripping will be installed at the lower floor windows.

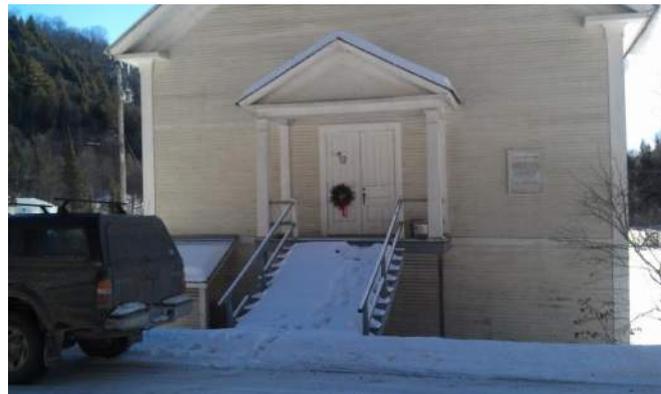
At the lower floor existing windows, there are a number of broken and missing window panes that need to be replaced.

The upper window shutters were recently restored. A number of the existing lower window shutters have broken and missing louver blades. The existing lower window shutters will be removed and restored. The restored lower window shutters and the restored upper window shutters will be reinstalled.

**Window and Shutter Recommendations:**

- The existing historic windows at the lower floor are to be retained, removed from the building and repaired in-kind, matching the dimensions and profile of the historic material. Windows are to be re-installed so that they can be closed properly.
- Windows are to be scraped of all loose paint, sanded, prepped for painting, primed and painted (one coat of primer and two coats of finish paint).
- Replace missing or broken glass panes
- Replace deteriorated and/or missing glazing bead.
- New triple track metal storm window systems
- At the jambs and meeting rails, saw kerfs will be cut into the existing windows sashes and pre-bent metal weather stripping will be installed. At the top of the upper sash and the bottom of the lower sash provide and install blub type weather stripping.
- Replace missing and damaged louver blades on window shutters, which are to be replaced in-kind, matching the dimensions and profile of the historic material. Shutters are to be scraped of all loose paint, sanded, prepped for painting, primed and painted (one coat of primer and two coats of finish paint).

**Front Porch and Stairs:**



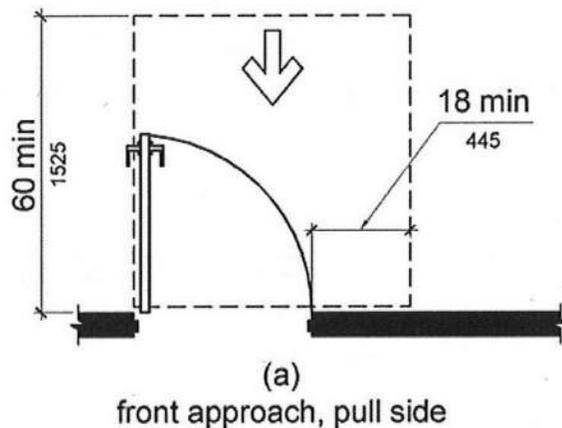
The current front porch and stairs do not meet code for fall protection. Due to the front porch and stair height above grade, a guard rail is required at a height of 42 inches above the floor of the porch. Guards are required to have intermediate rails or ornamental pattern such that a sphere 4 inches in diameter is not able to pass through any opening. A handrail is required at the stairs and needs to be located at a height of not less than 34 inches and no more than 38 inches above the surface of the tread. Due to the width of the existing stairs, an intermediate handrail is required at the center of the stair for the entire run of the stair.

**Front Porch and Stair Recommendations:**

- At the existing Front Porch, remove the existing wood railings and provide and install a new wood guard rail at a height of 42 inches above the porch deck and intermediate rails or ornamental pattern such that a sphere 4 inches in diameter is not able to pass through any opening.
- At the existing stair, remove the existing wood railings and provide and install a new wood guard rail at a height of 42 inches above the stair tread and intermediate rails or ornamental pattern such that a sphere 4 inches in diameter is not able to pass through any opening. Provide and install a new wood handrail at the stairs, located at a height of not less than 34 inches and no more than 38 inches above the surface of the tread. Provide and install a new intermediate railing at the center of the stair.
- Since the recommendation is to raise the building 12 inches, then the existing stair will need to be removed and replaced. A new wood stair framing system will be installed with three concrete sono tubes for the end of the stairs to sit on. New treads to be a minimum of 11 inches deep and risers to be a maximum of 7 inches high. New railings and guards will need to be installed at the same dimensional requirements as required for the exiting stair.

**Lower Floor Accessible Entrance:**

The lower floor accessible entrance does not meet accessibility requirements. On a front approach to a door, 18 inches clear is required parallel to the door, beyond the latch side, There currently is approximately 4 inches. The door swing cannot be changed to swing into the building, since the lower floor has a capacity of more than 50 occupants. When there are more than 50 occupants in a space, all doors are required to swing in the direction of egress.



**Lower Floor Accessible Entrance Recommendations:**

- The existing “bridge” needs to be made wider to accommodate the additional 18 inches clearance for a requirement for a depth of 60 inches and this area of the parking lot would be re-graded so that this entrance is accessible without a “ramp.”

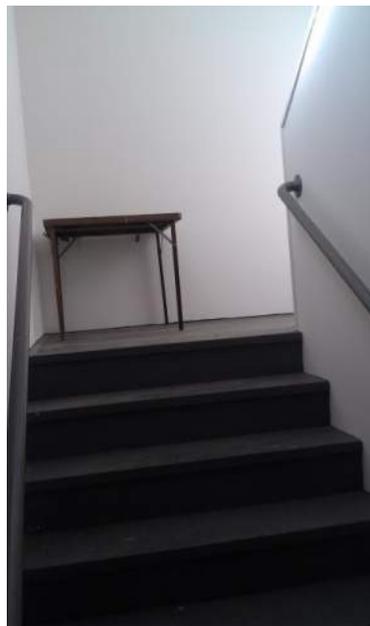
**Interior:**

**Floor Plans, Accessibility:**

The lower and upper floor plans are original except for a rear stair addition and an interior chair lift and enclosure that have been added at the front of the building. The existing chair lift does not meet current accessibility codes.

The existing chair lift needs to be replaced. The new chair lift will be located to a more appropriate location. A more appropriated location would be adjacent to the existing stair addition.

At the lower floor, the existing bathroom at the lower floor plan does not meet accessibility requirements. The existing door swings into the space and into the clear floor space of the toilet and sink which is not allowed.



**Floor Plans, Accessibility Recommendations:**

- A new addition off the existing stair addition could be constructed to accommodate a new code complaint chair lift. The existing salvaged doors will be reinstalled. This would allow for the lower and upper floors to be returned to their original historic appearance.
- At the existing lower floor bathroom, change the swing of the existing door swing so that the door swings out instead of in.

**Life Safety Building Code:**

The Town Hall has a capacity of over 50 occupants per space and is therefore considered an Assembly Use per the 2015 NFPA Life safety Building Code. The occupied load for the upper floor calculates to be 170 people based on the existing pews. The occupied load for the lower floor calculates to be 69 people. This would give a total occupied load of 239. Based on the occupant load, two means of egress (exits) are required. Assembly occupancies with occupant loads under 300 shall not require a fire alarm system or sprinkler system.

At the lower and upper floors replace 5 existing exit lights and 6 existing emergency egress lights. The existing exit lights were not illuminated. The existing emergency egress lights were not operating. The Life Safety Building Code requires operating emergency lighting and illuminated exit lights with battery backup.

At the lower floor, the existing exterior door of the rear stair addition has a step down to grade of approximately 19 inches.

At the existing stair at the rear addition, the existing railing that is located on the center wall of the existing stair is required to be continuous.

**Life Safety Building Code Recommendations:**

- Removal of the existing wood stoves.
- Replace the (5) existing illuminated exit lights and replace (6) existing emergency egress lights.
- At the existing rear stair, remove the existing handrail at the center wall and install a new 1 1/2" diameter hardwood handrail that is continuous from the upper floor landing to the lower landing.

**Lower Floor Weatherization:**

The Upper Floor will not be rehabbed other than for code related items and will only be used for seasonally or special events. The Lower Floor will be used year round for town related meetings and events. At the existing exterior walls at the Lower Floor, the wall finish and window and door trim and wood base will be removed, exposing the exterior wood wall framing. 4 inches of closed cell spray foam insulation will be installed at the exposed stud bays. New 5/8 inch gypsum wallboard, painted, will be installed at the exterior walls. The existing window and door trim and wood base will be reinstalled and painted. The existing ceiling at the lower floor will be removed, exposing the upper floor framing. The existing fiberglass batt insulation will be removed and 7 1/2 inches of closed cell spray foam insulation will be installed at the floor framing. New 5/8 inch gypsum wallboard, painted, will be installed at the ceiling.

The existing water tank, associated piping, and controls located in kitchen and the propane gas fired unit heater, associated piping and controls at the Lower floor will be removed. A new wall mounted propane gas fired boiler/hot water tank including piping and controls will be installed

with light commercial baseboard radiation to provide heat for the Lower Floor at the platform lift addition at the stair tower.

**Roof Framing:**

The existing roof framing was observed to be generally in good condition with a few notable exceptions. The roof is supported on two King Post trusses and one Queen Post truss at the steeple. The bottom chord of the Queen and king Post trusses have no live load capacity due to the 4 inches deep notches at each ceiling joist. The existing 3 x 6 ceiling joists also have no live load capacity due to the 4 inches notch depth at the supports. All items stored in the attic space be removed and access to the area be limited. If the attic space is to be used for any type of storage, reinforcing would be required.

The 3 x 6 rafters are supported at intermediate 7 x 7 purlins running between the trusses. The rafters and purlins appear straight and in good condition. The rafters appear to meet current code requirements while the purlins appear to be below code requirements.

The gable trusses are in good condition without movement, significant deflection or noticeable stress at the connections. No detailed analysis has been made of the trusses.



**TYPICAL ROOF FRAMING- RAFTERS AND PURLINS**

The Queen Post truss at the steeple shows signs of deflection with some splitting of the top chord at the purlin connection. (see photo at right). The leaning of the steeple observable from the outside is an indicator that there has been deflection of this truss. The configuration of a Queen Post truss (without a diagonal member at the center portion) is not as stiff as the King Post trusses and allows the bottom chord to develop very high stresses.



**PURLIN TO QUEEN POST TRUSS CONNECTION- SPLIT IN TOP CHORD**

A small section of rotted framing was noted at the south side near the chimney.



**Roof Framing Recommendations:**

- The Queen Post roof truss should be evaluated in further detail and improvements made to repair damaged members and stiffen the truss.
- The rotted section of framing at the south near the chimney should be replaced or repaired.



**Lower Floor Posts Supporting Upper Floor**



**Upper Floor Framing Access Hole**

### **Upper Floor Framing:**

A portion of the upper floor framing was observable by removing sections of floor boards. The floor joists are 3 x 9 timbers at 24 inches spacing. The beams were not observed, but appear to be supported on the system of posts observed at the lower floor. The required loading for this area is 60 psf for “fixed seating assembly.”

The floor appears to be in good serviceable condition without noticeable deflection and is not overly “bouncy” when walked on. The current code requirements require a 60 PSF live load for “Assembly with Fixed Seating”.

The floor joists meet the current code requirements. The beams were not observed, but a standard 8 x 9 beam would be about 10% below current code requirements.



**Underside of Front Entry and Stair Framing**

### **Upper Floor Framing Recommendations:**

- The floor appears to be in good, serviceable condition. Upper floor use should not be altered; fixed seating should remain and tightly packed crowds should be avoided in the aisles and open areas.
- The front entry porch framing is very light and has limited capacity. Since the building will be raised 12 inches, a new pressure treated wood stair framing system will be installed.

### **Lower Floor Framing and Foundation:**

The lower floor framing is constructed over a very shallow crawl space. The area is used for meetings and would be classified under assembly use and would require a 100 PSF Live Load under current code requirements. The beams are 9 x 9 timbers and joists are half logs of about 8 inches diameter. The foundation is concrete masonry units (CMU). Where the existing joists are in good condition, they would meet current codes for loading requirements. The beams would be at about 50% of the required 100 psf live load.



**Rotted and Moldy Beams**

The proximity of the very damp soil conditions in the crawl space to the framing has allowed the timbers to have very high moisture content. Framing for the north two bays has rotted substantially to the point that its load carrying capacity is limited and mold is present.



**Crawl Space Below Lower Floor**



The existing exterior grade wall is in fair condition. There are areas where there is noticeable shifting and deterioration of the wall. The interior CMU masonry piers appear to be dry laid (no mortar in the joints) and are in fair condition.

**Existing CMU Masonry Grade Wall**

Timber sills were noted to have rotted especially at the north and east sides of the building where they are in contact with the ground.



**Buried Sills at Parking Lot Side of Building**

- The rotted portion of the first-floor framing is currently a safety concern and the northern portion of the lower floor should not be occupied by more than two or three people at a time and with caution.
- Exterior sills should be evaluated in detail and replaced where rotted.

### **Flood Proofing and Foundation Recommendations**

- The Milone & MacBroom Report recommends raising the building a minimum of 2 feet over the Base Flood Elevation. This would place the lower floor of the building at 761.2 feet or approximately 9 inches higher than the current location. For constructability, the building will be raised 12 inches to an elevation of 761.5 feet.
- In lieu of repairing the first-floor framing and wet flood proofing (allowing water into the crawl space), remove the existing wood floor and salvage for reuse. Remove and dispose of the existing wood floor framing system including mid-span beams and pier supports for beams and cmu grade wall. Excavate as required for new reinforced concrete footings and foundation walls. The top of footings are to be located 5 feet 6 inches below top of concrete slab. Provide and install 2 layers of 1 inch R5 rigid insulation at the inside face of the foundation wall from underside of new concrete slab to 4 feet below grade. Provide and install 6 inches compacted gravel, 30 inches of structural fill, vapor barrier and 4 inches thick concrete reinforced slab (dry flood proofing). Provide and install 2 layers of 1 inch R5 rigid insulation under the entire concrete slab. Joints taped and sealed. Provide and install double pressure treated 2 x 8 sill plates with 5/8 inch anchor bolts at 36 inches on center at the underside of the existing exterior walls. Provide and install sill sealer between the sill plates and concrete slab. On top of the new concrete slab, attach new 1 x 4 pressure treated sleepers and reinstall salvaged wood floor. This greatly simplifies the issues of moisture control.
- At the lower floor, all work related to lower floor framing and foundation should be coordinated with flood mitigation efforts.

### **Structural Floor Plans, Accessibility:**

A new addition off the existing stair addition to accommodate a new code complaint chair lift (whose previous location was along the front of the building) would allow for the lower and upper floors to be returned to their original historic appearance.

### **Structural Floor Plans, Accessibility Recommendations:**

- An addition could be constructed for the new chair lift to the south of the existing rear stair addition. Conceptual construction description as follows:
- Cast-in-place concrete foundation with 8 inches reinforced frost walls with 24 inches x 10 inches concrete footings down to five feet of frost depth. A new 4 inches slab on grade with vapor barrier.
- Exterior walls to be constructed of 2 x 6 framing at 16 inches with 1/2 inch plywood wall sheathing at the exterior.
- Floor framing to be 2 x 8 at 16 inches on center with 3/4 inch plywood floor sheathing.

- Roof framing to be pre-fabricated roof trusses at 24 inches on center with 3/4 inch plywood roof sheathing.
- Each floor level to be tied to the existing building with lag screws at 16 inches on center.

**Priorities and Cost Estimates Details:**

**1. Life Safety Building Code and Floor Plans, Accessibility Recommendations;**

Life Safety Building Code Recommendations:

- No rehabilitation work will be performed at the Upper Floor other than code related items.
- Remove the existing wood stoves and associated duct work at the lower and upper floors.
- Replace the (5) existing illuminated exit lights. Replace (6) existing emergency egress lights.
- At the existing rear stair, remove the existing handrail at the center wall and install a new 1 1/2 inch diameter hardwood handrail that is continuous from the upper floor landing to the lower landing.

Floor Plans, Accessibility Recommendations:

- At the existing lower floor bathroom, change the swing of the existing door swing so that the door swings out instead of in.

**Cost Estimate: \$ 17,700 - \$ 21,300**

**2. Lower Floor Accessible Entrance Recommendations:**

The existing "bridge" needs to be made wider to accommodate the additional 18 inches of clearance for a required depth of 60 inches

**Cost Estimate: \$ 5,300 - \$ 7,100**

**3. Foundation/Flood Proofing, Septic System, Front Porch and Stair and Lower Floor Accessible Entrance Recommendations**

Foundation/ Flood Proofing Recommendations

- For constructability, the building will be raised 12 inches to an elevation of 761.5 feet.
- In lieu of repairing the first-floor framing and wet flood proofing (allowing water into the crawl space), remove the existing wood floor and salvage for reuse. Remove and dispose of the existing wood floor framing system including mid-span beams and pier supports for beams and cmu grade wall. Excavate as required for new reinforced concrete footings and foundation walls. The top of footings are to be located 5 feet 6 inches below top of concrete slab. Provide and install 2 layers of 1 inch R5 rigid insulation at the inside face of the foundation wall from underside of new concrete slab to 4 feet below grade. Provide and install 6 inches compacted gravel, 30 inches of structural fill, vapor barrier and 4 inches thick concrete reinforced slab (dry flood proofing). Provide and install 2 layers of 1 inch R5 rigid insulation under the entire concrete slab. Joints taped and sealed. Provide and install double pressure treated 2 x 8 sill plates with 5/8 inch anchor bolts at 36 inches on center at the underside of the existing exterior walls. Provide and install sill sealer between the sill plates and concrete slab. On top of the new concrete slab, attach new 1 x 4 pressure treated sleepers and reinstall salvaged wood floor. This greatly simplifies the issues of moisture control.

Front Porch and Stair Recommendations:

- At the existing Front Porch, remove the existing wood railings and provide and install a new wood guard rail at a height of 42 inches above the porch deck and intermediate rails or ornamental pattern such that a sphere 4 inches in diameter is not able to pass through any opening.
- At the existing Front porch Stair: Since the building will be raised 12 inches, the existing stair will need to be removed and replaced with a new stair. A new pressure treated wood stair framing system will be installed with three concrete sono tubes for the end of the stairs to sit on. New treads to be a minimum of 11 inches deep and risers to be a maximum of 7 inches high. New railings and guards will need to be installed with the guard rail at a height of 42 inches above the stair and intermediate rails or ornamental pattern such that a sphere 4 inches in diameter is not able to pass through any opening. A 1 1/2 inch dia. galvanize pipe railing system will need to be installed at the center of the stair.

**Cost Estimate: \$ 285,500 - \$ 379,500**

**4. Exterior Clapboards and Trim and Roof Framing Recommendations:**

Exterior Clapboards and Trim and Roof Framing Recommendations:

- At the northeast corner of the roof eave, the vertical trim board that is water damaged needs to be replaced
- The existing skirtboards and approximately three to four courses of clapboard siding above the skirtboard on all sides of the Town Hall and stair addition need to be replaced.
- There are a number of rotted and damaged clapboards and trim at the stair addition that need to be replaced.
- Water damaged clapboards above and to the sides of the lower floor entrance roof need to be replaced. A roof gutter or rain diverted should be installed at the main roof to divert water from falling onto the lower floor entrance roof.
- All damaged/rotted clapboards and trim that are replaced, should be replaced in kind, matching material, the dimensions and profiles of the existing clapboards and trim pieces.
- Clapboards and trim are to be scraped of all loose paint, sanded, prepped for painting, primed, painted (one coat of primer and two coats of finish paint) and joints caulked and sealed.

Roof Framing Recommendations:

- The existing roof framing has been further evaluated and the costs for reinforcing of the existing purlins and reinforcing the connections of the existing trusses are included in the costs below.
- The rotted section of framing at the south near the chimney should be replaced or repaired.

**Cost Estimate: \$ 76,000 - \$ 85,200**

**5. Windows and Shutters Recommendations:**

- The existing upper floor windows and shutters were restored recently. The existing lower floor historic windows are to be retained, removed from the building and repaired in-kind, matching the dimensions and profile of the historic material. Windows are to be re-installed so that they can be closed properly.
- Windows are to be scraped of all loose paint, sanded, prepped for painting, primed and painted (one coat of primer and two coats of finish paint).
- Replace missing or broken glass panes
- Replace deteriorated and/or missing glazing bead.
- At the lower windows, new pre-finished triple track metal storm windows will be installed
- At the existing jambs and meeting rails, saw kerfs will be cut into the existing windows sashes and pre-bent metal weather stripping will be installed. At the top of the upper sash and the bottom of the lower sash provide and install blub type weather stripping.
- Replace missing and damaged louvers blades on window shutters, which are to be replaced in-kind, matching the dimensions and profile of the historic material. Shutters are to be scraped of all loose paint, sanded, prepped for painting, primed and painted (one coat of primer and two coats of finish paint). Upper restored window shutters are to be reinstalled.

**Cost Estimate: \$ 28,000 - \$ 33,000**

**6. Floor Plans, Accessibility and Weatherization Recommendations:**

Floor Plans, Accessibility Recommendations:

- A new addition off the existing stair addition could be constructed to accommodate a new code complaint chair lift and mechanical room. This would allow for the lower and upper floors to be returned to their original historic appearance and provide heat for the lower floor.

Lower Floor Weatherization Recommendations

- At the existing exterior walls, the wall finish, window and door trim and wood base will be removed, exposing the exterior wood wall framing. 4" inches of closed cell spray foam insulation will be installed at the exposed stud bays. New 5/8 inch gypsum wallboard, painted, will be installed at the exterior walls. The existing window and door trim and wood base will be reinstalled and painted.
- The existing ceiling will be removed, exposing the upper floor framing bays. The existing fiberglass batt insulation will be removed and 7 1/2 inches of closed cell spray foam insulation will be installed at the floor framing. New 5/8 inch gypsum wallboard, painted, will be installed at the ceiling.
- The existing water tank, associated piping, and controls located in kitchen and the propane gas fired unit heater, associated piping and controls will be removed. At the new addition, a new wall mounted propane gas fired boiler/hot water tank including piping and controls will be installed with light commercial baseboard radiation to provide heat for the Lower Floor.

Structural Floor Plans, Accessibility Recommendations:

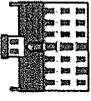
- An addition will be constructed for a new chair lift and mechanical room to the south of the existing rear stair addition. Conceptual construction description as follows:
- Cast-in-place concrete foundation with 8 inches reinforced frost walls with 24 inches x 10 inches concrete footings down to five feet of frost depth. A new 4 inches slab on grade with vapor barrier.
- Exterior walls to be constructed of 2 x 6 framing at 16 inches on center with 1/2 inch plywood wall sheathing at the exterior, 5" inches of closed cell spray foam insulation and 5/8 inch gypsum wallboard, painted at the interior.
- Floor framing to be 2 x 8 at 16 inches on center with 3/4 inch plywood floor sheathing.
- Roof framing at the chair lift addition to be pre-fabricated gable roof trusses at 24 inches on center with 3/4 inch plywood roof sheathing. Roof framing at the mechanical roof addition to be pre-fabricated shed roof trusses at 24 inches on center with 3/4 inch plywood roof sheathing. Blow-in insulation, R49, to be installed in the attics
- At the existing exterior door at the rear stair addition. The height of the step cannot be greater than 7 inches. In order for the addition to be a means of egress, five steps need to be installed including a railing on both sides.
- Each floor level to be tied to the existing building with lag screws at 16 inches on center.

**Cost Estimate: \$ 245,000 - \$ 294,000**

**Priorities and Cost Estimates Summary:**

1. Life Safety Building Code and Floor Plans, Accessibility:	\$ 17,700 - \$ 21,300
2. Lower Floor Accessible Entrance Recommendations:	\$ 5,300 - \$ 7,100
3. Foundation/Flood Proofing, Septic System, Front Porch and Stair and Lower Floor Accessible Entrance:	\$ 285,500 - \$ 379,500
4. Exterior Clapboards and Trim and Roof Framing:	\$ 76,000 - \$ 85,200
5. Windows and Shutters:	\$ 28,000 - \$ 33,000
6. Floor Plans, Accessibility and Weatherization:	<u>\$ 245,000 - \$ 294,000</u>
Totals:	\$ 657,500 - \$ 820,100

## **EXISTING FLOOR PLANS AND ELEVATIONS**



**ARNOLD & SCANGAS**  
**ARCHITECTS**  
SOUTHERN  
1700 LAUREL STREET  
1700 LAUREL STREET  
ALABAMA, AL 36801  
TEL: ALABAMA, AL 36801

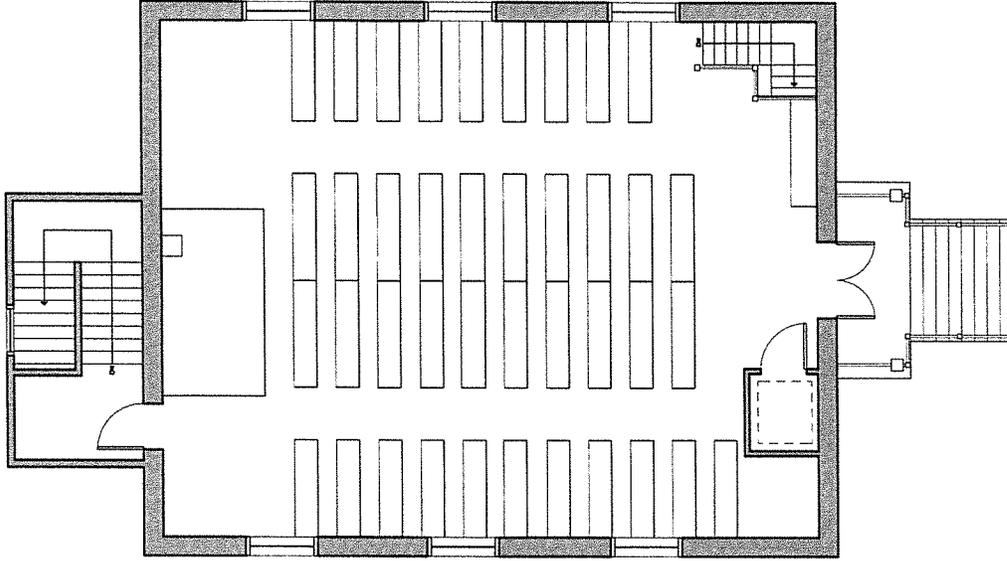
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**HALL**  
**CALAIS, VT**

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**EXISTING**  
**FLOOR PLANS**

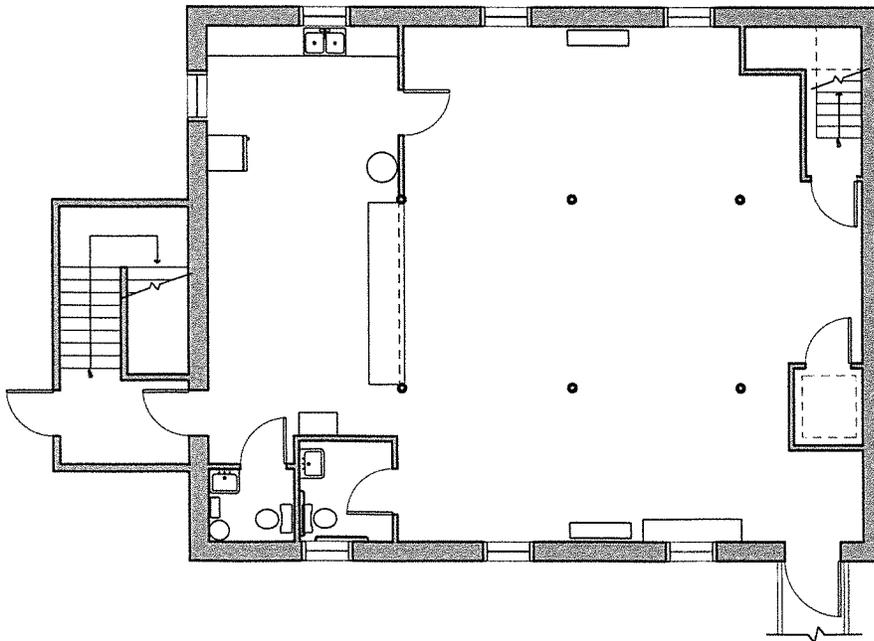
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**DRAWING NO.:**  
**E1.0**

**PROJECT NO.:**  
**© 2013 A. & S. ARCHITECTS, INC.**



 **UPPER FLOOR**  
1/4" = 1'-0"



 **LOWER FLOOR**  
1/4" = 1'-0"



**ARNOLD & SCANGAS**  
**ARCHITECTS**

The Little, Brown, Foxworth  
 1 Park Street, Suite 200  
 PO Box 1000  
 St. Albans, VT 05478

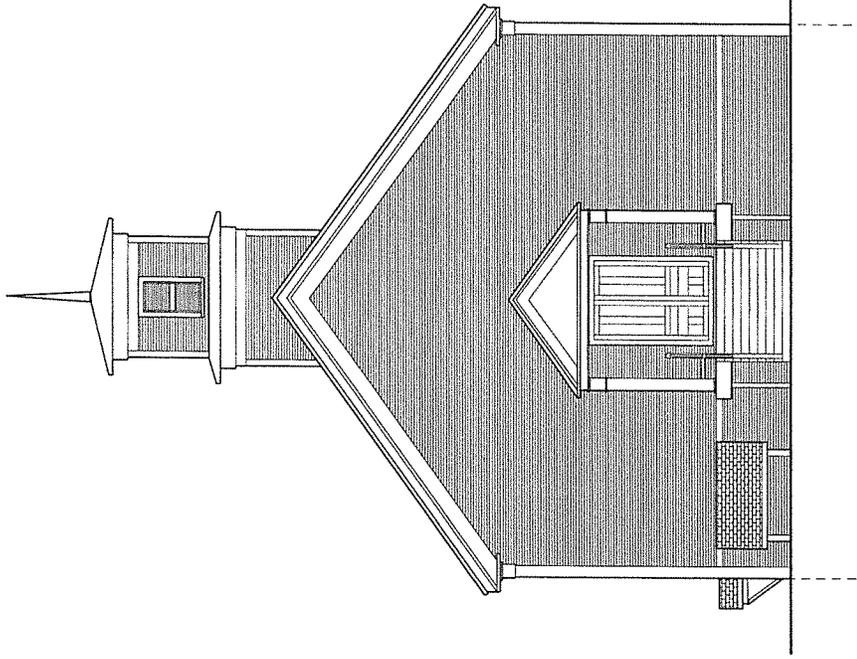
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 HALL  
 CALAIS, VT**

**DRAWING TITLE**  
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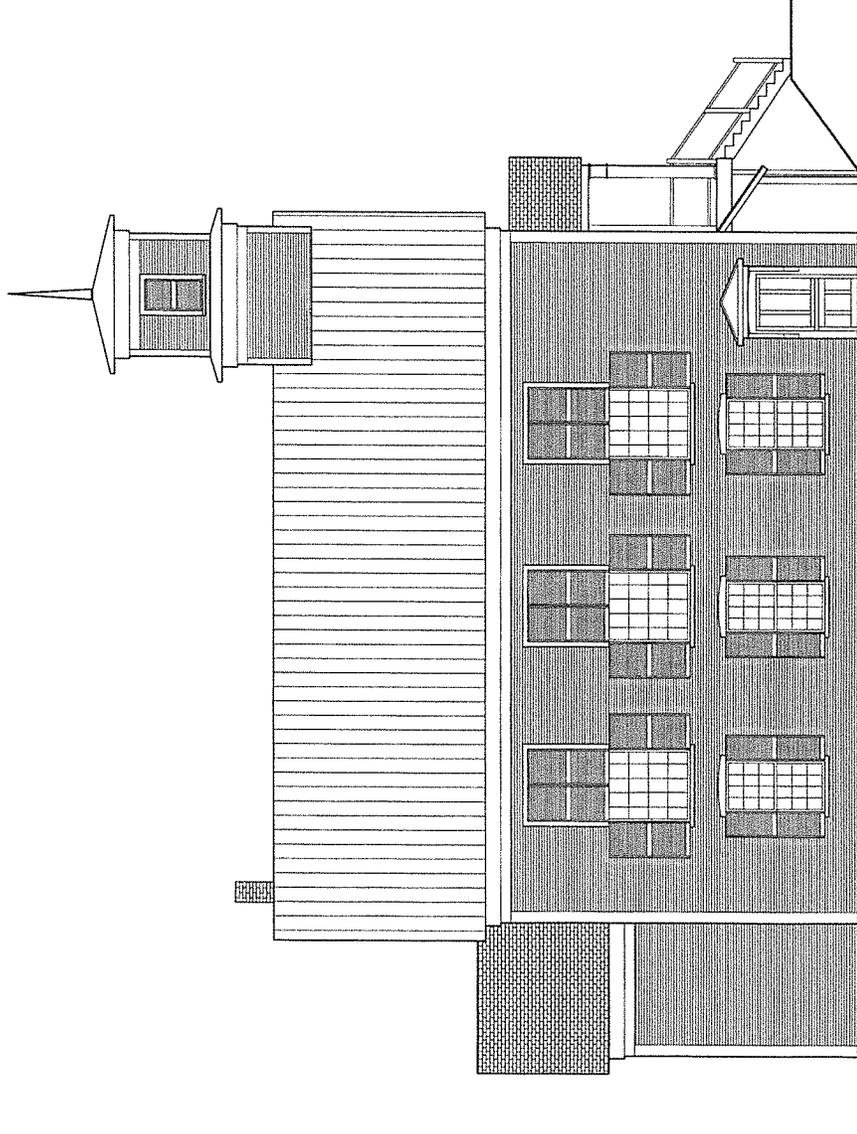
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**PROJECT NO.:**

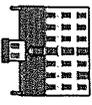


**NORTH ELEVATION**  
 1/4" = 1'-0"



**EAST ELEVATION**  
 1/4" = 1'-0"

# **PROPOSED PLANS AND ELEVATIONS**

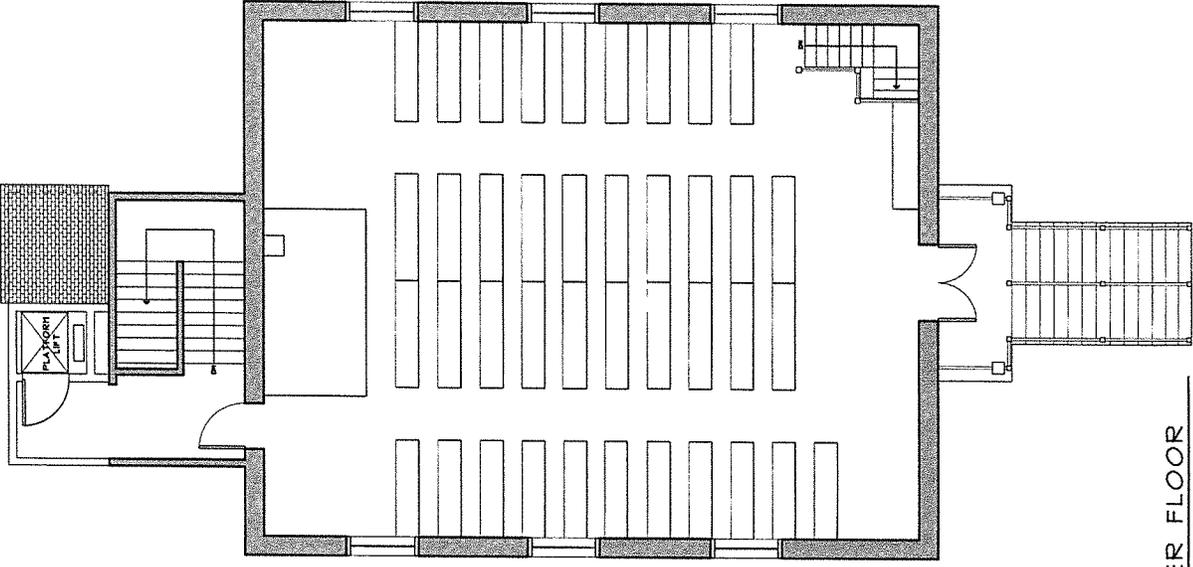


**ARNOLD & SCANGAS  
ARCHITECTS**  
 ARCHITECTS  
 The Arts & Sciences Center  
 1 Park Street, Suite 100  
 St. Albans, VT 05478

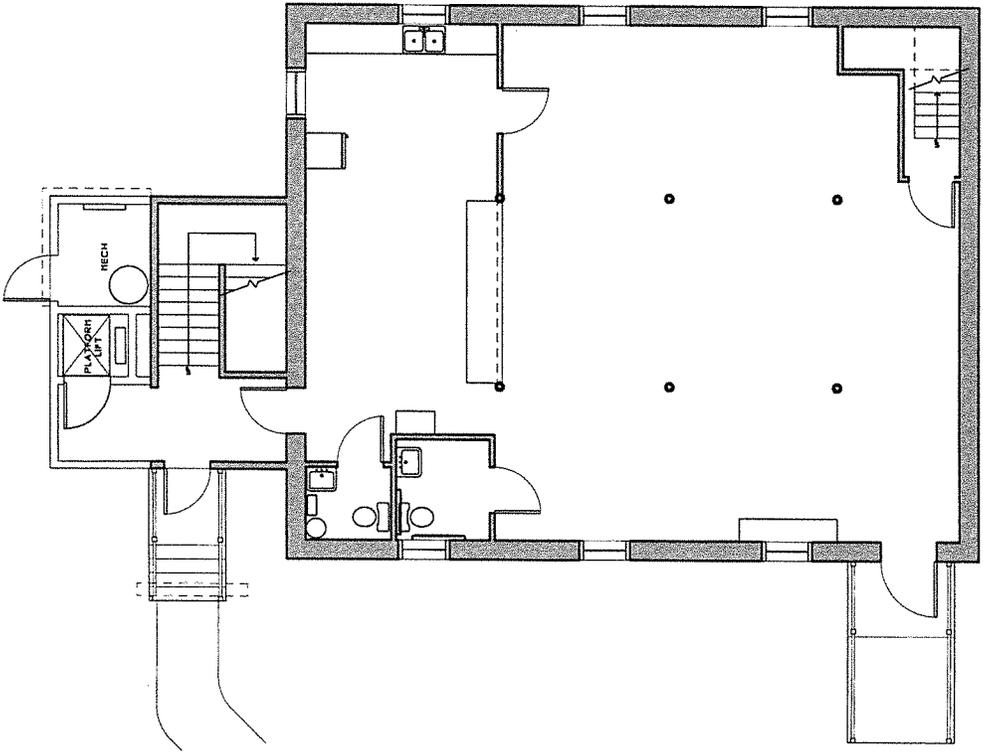
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HALL  
CALAIS, VT**

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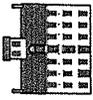
**A1.0**  
 PROJECT NO.  
 © 2004 A. S. Scangas Architects, Inc.



**UPPER FLOOR**  
 1/4" = 1'-0"  
 N



**LOWER FLOOR**  
 1/4" = 1'-0"  
 N



ARNOLD & SCANGAS  
ARCHITECTS

ONE EMBURY  
THE JEFFERSON BUILDING  
1 PRUDEN BLDG SUITE 201  
ST. ALBANS, VT 05478

CALAIS TOWN  
HALL  
CALAIS, VT

DRAWING TITLE

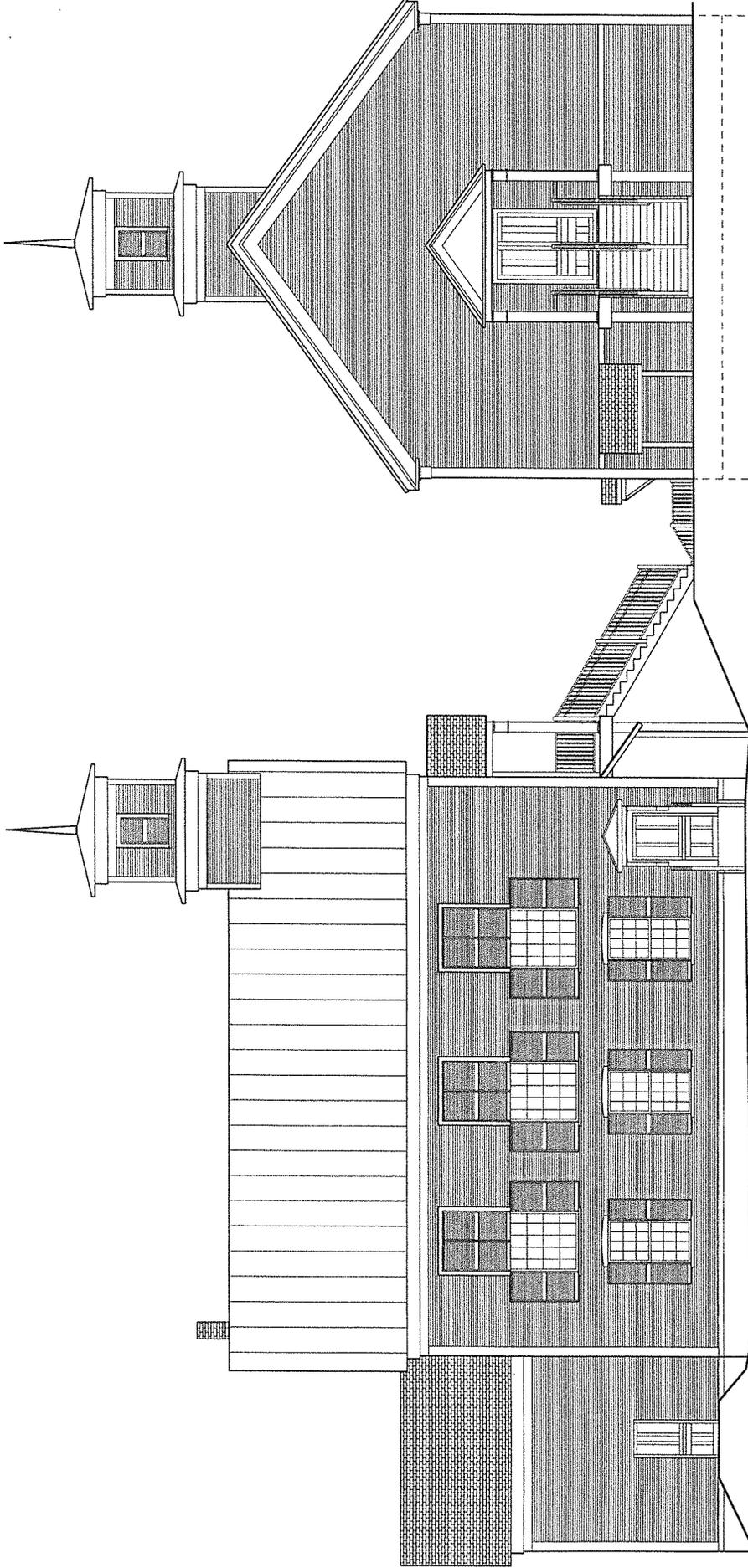
PROPOSED  
ELEVATIONS

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DRAWING NO:

A2.0

PROJECT NO:



⊙ EAST ELEVATION  
1/4" = 1'-0"

⊙ NORTH ELEVATION  
1/4" = 1'-0"

## **POTENTIAL FUNDING SOURCES**

# POTENTIAL FUNDING SOURCES

## 1. Local Bonds.

## 2. Capital Improvement Funds

### 3. People's United Bank Socially Responsible Banking Program

Deposit program supports community development lending for downtown revitalization, housing, agriculture, energy, environment, non-profits and education.

Loans available for purchase of historic properties, rehabilitation, new construction, bridge loans (to cover costs while waiting for grant funding or waiting for pledges to be paid in on a capital campaign), or lines of credit for working capital.

Range: Depends on the project, owner equity, risk factors, etc

Eligibility: Individual business owners, small businesses, non-profit organizations, municipalities, and lessees

Deadlines: None, loans are made throughout the year

Contacts: Arne Hammarlund, Community Service Manager, People's United Bank, P. O. Box 804, Brattleboro, VT 05302-0804, Telephone: 802-258-4090;

E-mail: Arne.Hammarlund@peoples.com

Gayle McKinnon-Alexander, Community Services, People's United Bank, P.O. Box 820, Burlington, VT 05402-0820 Telephone: 802-660-1577;

E-mail: kathleen.schirling@peoples.com

Internet: <https://www.peoples.com>

### 4. Community Development Block Grant Program – Accessibility Modification Grants

Federal grants for projects that bring existing municipal buildings that serve a municipal function and community non-school libraries into compliance with the Americans with Disabilities Act (ADA).

Range: \$5,000 - \$75,000

Eligibility: Municipalities for eligible municipal buildings only

Deadlines: Open application with funding decisions made throughout the year

Contact: Department of Economic, Housing & Community Development, One National Life Drive, Floor 6, Montpelier, VT 05620-0501 Phone: (802)828-5201.

E-mail: [josh.hanford@state.vt.us](mailto:josh.hanford@state.vt.us) Internet: [accd.vermont.gov](http://accd.vermont.gov)

### 5. Community Facility Loans and Grants

Federal USDA Rural Development loans and grants to assist rural communities develop or improve essential community facilities, including theaters, community centers, museums, libraries, adult and childcare centers, and municipal buildings. Funds may be used for acquisition, construction or improvements to buildings and equipment.

Range: Grants up to \$50,000 or 75% of the project cost, whichever is less. Grant applicants must show financial need. A larger than 25 percent match for grants may be required based on the applicant's service area population and income level (see list on website). Loans have no \$ limit and 100% financing can be provided. Interest rates are long term and fixed rates based on municipal bond rates.

Eligibility: Non-profit corporations and public bodies serving communities of less than 20,000 population (see list on website).

Deadlines: Ongoing, but contact appropriate Rural Development office early in project development.

Contact: USDA Rural Development at [http://www.rurdev.usda.gov/HAD-CF\\_Grants.html](http://www.rurdev.usda.gov/HAD-CF_Grants.html) for program information, eligible communities, and list of staff serving your county.

**6. Cynthia Woods Mitchell Fund for Historic Interiors - Starting in 2012, only members of the National Trust at the Forum or Main Street levels are eligible to apply for funding from the National Trust Preservation Fund grant program.**

The Cynthia Woods Mitchell Fund for Historic Interiors provides non-profit organizations and public agencies grants to assist in the preservation, restoration, and interpretation of historic interiors. Individuals and for-profit businesses may apply only if the project for which funding is requested involves a National Historic Landmark. Funds may be used for professional expertise, print and video communications materials, and education programs. Acquisition and construction/rehabilitation projects are ineligible.

Range: \$2,500 - \$10,000. Grants must be matched on a one-to-one basis.

Eligibility: Government agencies and non-profit organizations. For-profit businesses and individuals are eligible only if property is an NHL.

Deadlines: February 1<sup>st</sup> – June 1<sup>st</sup> – October 1<sup>st</sup>

Contact: Applicants should complete the general preservation fund grant application, which is available at the website:

<http://www.preservationnation.org/resources/find-funding/documents/preservation-funds-guidelines-eligibility.html> 5

**7. Preservation Trust of Vermont - Preservation Grants** A partnership of the Preservation Trust of Vermont and the Freeman Foundation,

Preservation Grants are available to non-profit organizations and municipalities for rehabilitating historic buildings in the Northeast Kingdom. These grants have helped

Local groups save and use a variety of special places; a list of recipients is available on the Preservation Trust website. Eligible projects must have strong community support, as demonstrated by volunteer and fundraising efforts. Range: \$5,000 - \$50,000. Average \$15,000 - \$30,000. 10

Eligibility: Communities and non-profits

Deadlines: Ongoing Contact: Paul Bruhn, Preservation Trust of Vermont, 104 Church Street, Burlington, VT 05401. Telephone: (802) 658-6647. Email [paul@ptvermont.org](mailto:paul@ptvermont.org); or Ann Cousins, Telephone (802) 343-8180. Email: [ann@ptvermont.org](mailto:ann@ptvermont.org); or, Eric Gilbertson, Telephone: (802) 272-8543. Email: [eric@ptvermont.org](mailto:eric@ptvermont.org) Internet: [www.ptvermont.org](http://www.ptvermont.org)

**8. Vermont Community Foundation**

The Vermont Community Foundation administers a number of grant funds, some statewide and some available only to certain towns or regions. Some of the programs include historic preservation projects as eligible activities or special and urgent needs competitive grants – i.e. **Community Fund Grant Rounds** and the **Walter Cerf Community Fund**. Grant range, eligibility requirements, and deadlines vary by program. Consult the full listing of the Foundation's grant programs at [www.vermontcf.org](http://www.vermontcf.org). The Vermont Community Foundation, 3 Court Street, P.O. Box 30, Middlebury, VT 05753. Telephone: 802-388-3355 E-mail: [info@vermontcf.org](mailto:info@vermontcf.org) [www.facebook.com/vermontcf](http://www.facebook.com/vermontcf) Twitter: @understandingvt

## **Bibliography of Funding Directories for Further Reference Websites**

*Vermont Directory of Foundations On-line* at **Vermont Community Foundation** website  
[www.vermontcf.org](http://www.vermontcf.org):

Lists foundations located in Vermont and foundations that regularly give to projects in Vermont including foundations that give to historic preservation projects, usually in a very limited local geographic area

*Sources of Financial Assistance for Historic Preservation Projects:*

Website of the Advisory Council on Historic Preservation, [www.achp.gov/funding.html](http://www.achp.gov/funding.html)

National Trust for Historic Preservation, <http://www.nationaltrust.org/funding/>

[Www.Grants.gov](http://www.Grants.gov):

The federal government's website for information on all federal agency grant opportunities, including on-line applications. Search by program or keywords.