This is a preliminary diagnostic report on conditions available to visual inspection at the time of our site visit; it is not a specification, and should not be used as a basis for contractor bids. Bid Documents contain substantially more information on quantities, standards, schedules, details and conditions of the work, which guide and protect both the Owner and the Contractor. This assessment was partially funded by a grant from the Preservation Trust of Vermont and by the author.

Ms. Nance Shaw
Fairfield Community Center
Box 16, East Fairfield, VT 05448 January 6, 2012

Dear Nance:

As requested we visited The East Fairfield Church on December 16, 2011 to examine and document existing conditions of the building, to analyze accessibility issues and probable solutions and to prepare this diagnostic report and sketch drawing. Our findings are summarized below; conditions reported are those available to visual inspection at the time of our visit. Please note that while this report contains recommendations for repairs and sketch solutions to accessibility issues, it is not a specification for bidding or bid drawing; bid drawings and specifications contain substantially more information on dimensions, details of construction, quantity, quality and materials that both assist and protect you and potential bidders in carrying out repairs to your historic building.

EXTERIOR

Roof

The main roof is covered in ribbed galvanized utility metal roofing that appears to be in sound, serviceable condition. The bell tower has a shallow pitched pyramidal roof covered in asphalt shingles that appear to be worn and in need of replacement. Good new drip flashing should be a part of this repair. The small skirt roof is in similar condition. Flashings at the base of the tower are largely concealed but appear sound; these should be checked up close when access is available. The small shed roof on the

P.O. Box 367 North Bennington, Vermont 05257-0367
Phone: 802.447.1724 Fax: 802.447.7580
Email: mark@keefeandwesner.com

P.O. Box 142 Middlebury, Vermont 05753
Phone: 802.388.6210 Fax: 802.388.6210
Email: tom@keefeandwesner.com

south addition sheltering the organ has an asphalt shingle roof that is completely deteriorated and needs replacement. Immediate stabilization is recommended here; while we did not observe obvious signs of leaks on the interior; these appear imminent. Repairs to framing beneath the roofing are likely to be discovered here when the roofing is removed. A substantial drip flashing should be included in the repairs to ensure that storm water does not continue to damage the facia and cornice.

Chimney

An 18 x 24” brick external chimney against the south gable has a straight shaft and no cap. We could not determine the condition of the wash, but open joints near the top suggest that the portion of the chimney above the roof line will need substantial repair. A rusty iron tie security the chimney to the building needs protective rust proof paint and the joint between chimney and building should be sealed with a Dutchman and or caulk to exclude water and insects. Flashing at the both the main and shed roofs appears minimal and should be redone. Access to work on this chimney will be a significant piece of the budget for this repair.

Woodwork

The building has a simple molded cornice and flat frieze with 11” wide flat corner boards, and flat casings at windows and doors with peaked head casings at the main floor windows. Cornice returns on both the north and south gables are not flashed and we noted open joints in the woodwork that should be tightened up and sealed with a high-quality caulk (e.g. Sikaflex 1a). The flat cornice of the shed addition is completely deteriorated, apparently caused by an inadequate drip flashing, and will need replacement; damage to framing beneath is likely to be discovered during this repair.

The Church is sided with clapboards spaced 2.5” which have rusty fasteners but appear generally sound except at the base of the east and west walls where splash damage has deteriorated lower sections. You should expect to find deteriorated framing behind some of the affected siding and trim. Horizontal matched-board siding, some of it rusticated to imitate coursed ashlar masonry, occurs on the south elevation towards the bottom.

The two-stage bell tower has a simple cornice with square corner pilasters with enriched caps. Louvered openings on each of the four sides have peaked caps; the louvers appear somewhat loose and need repairs. Paint has worn off the cornice and bottom sections in the splash zone above the skirt roof and spot deterioration is likely to be found here. The base of the bell tower is covered in fish scale shingles with minor splash damage at the roof. Open joints in cornices and woodwork need to be sealed. At the front (north) entry the wooden door sill is deteriorated and needs repair. A pressure-treated stringer separates the concrete landing from the apron and a crack here has admitted water which may have caused concealed damage that should be investigated as part of the sill repair. Above the double doors a triple Gothic arch in shallow relief is capped with a molded and slightly pitched cap. We noted deterioration at the bottom of the corner boards on all corners and at the window sills on the east, which are only 4" above grade. These can be addressed with selective replacement and/or epoxy repair techniques.

Doors and Windows

On the west, three 16/12 wood double-hung windows with colored glass and no storms need sash conservation. A missing pane should be covered immediately to protect both sash and interior finishes. Three 3/3 wood double-hung windows at the lower level have no storm and need sash conservation. A 2/2 wood double-hung window in the organ bump out has no storm and needs sash conservation.

On the north two 16/12 wood double-hung windows with colored glass and no storms need sash conservation. A pair of four panel wood doors appears to be in sound condition and doors have new hardware.

On the east, three 16/12 wood double-hung windows with colored glass and no storm windows need sash conservation.

Two 3-light wood basement sash have no storms and need sash conservation; a third similar window appears to have been vandalized and is boarded over.

There are no windows or doors on the north elevation.

Storm windows should be provided for any proposed use, both to conserve energy and to protect the primary sash; high-quality operable exterior storms can be installed for around $900 apiece (average cost, including prep, accounting for large size of main windows), but are not included in the estimate here pending Owner's decisions on scope and phasing of the renovation project(s).

Paint

The paint on this building is in generally sound condition on clapboarded walls with spot areas of deterioration on horizontal surfaces (window sills, door thresholds, etc.), at window sash, and where woodwork is close to the ground. Similar spot deterioration has been noted at the main cornice and at the bell tower cornice. Paint repairs at the tower and other areas with difficult access should be coordinated with roofing/flashing and woodwork repairs to make efficient use of staging for all repairs at once. The north shed addition cornice will need complete replacement and the new woodwork will of course need painting. Substantial insect dirt and splash-related dirt on siding and trim should be cleaned off the building as a regular maintenance procedure. Cyclical maintenance will include re-painting every 5 years or so.

Paint maintenance, often deferred on historic buildings like the Church, is an important first line of defense against incessant weather and climate-related deterioration; staying ahead of paint repairs not only protects the historic fabric of the building, but is almost always less expensive than waiting until deterioration to the painted substrates requires more invasive repair work.

Getting painters who are capable of the kind of careful and thorough preparation necessary to ensure good paint performance is difficult; *Preservation Brief #10: Exterior Paint Problems on Historic Woodwork* should be used as a guideline, and painters pre-qualified by their familiarity with these guidelines and a willingness to follow them.

Paint failure, especially with newer paints lacking the VOCs that older paints had, is a common problem, underscoring the need for careful preparation and use of the best possible materials, including caulks, primers and finish coats. The stages, causes and

responses to paint failure are well-described in Preservation Brief #10: Exterior Paint Problems on Historic Woodwork, which should be used as a guideline in addressing paint repairs.

Prep work is 90% of the success of a paint job, and is skilled work that should not be left to amateurs; there are also new paints on the market which can extend the cycle of repainting by several years. Although the materials are more expensive, most of the cost of painting is in labor, so that extending the cycle quickly becomes a substantial net gain. New lead-paint regulations will need to be followed; they should not increase the cost significantly.

Foundation

The original stone foundation, laid in a soft lime mortar in a rubble stone pattern, has been covered on the exterior with a later coating of concrete that is typically flared slightly and has some cracks that need sealing. Original front steps have been replaced with poured concrete which is weathered and needs some repair. The only place we could observe the original foundation was in the unfinished area at the north end of the lower level, under the main floor lobby. Some hard Portland cement repointing has been done here, but original soft lime mortar is also visible. Then external Portland cement covering is not historically appropriate, and may damage the stone masonry, or crack and detach in places admitting water (we didn't see signs of this during our inspection); it should be monitored for any signs of deterioration.

Site

The building is surrounded by lawn and the site slopes to the south and west. A semicircular concrete retaining wall encloses the north lawn and creates a level approximately 12" higher than surrounding grade. This retaining wall has failed in several places and will need replacement, or re-configuration in conjunction with a ramp. A new paved basketball court on the west is separated from the building by 14' of lawn; drainage on this side of the building focuses at a low point 2/3 of the way toward the north and flows west past the basketball court to a bowl with no outlet. On the east a gravel road is separated from the building by 15' of lawn. A concrete sidewalk on the

north from the retaining wall to the steps is frost heaved and will need replacement as it is currently a trip/fall hazard; this may be re-configured if a ramp is determined necessary at this entry.

With no gutters, rainwater falling from the eaves needs to have a strip of gravel at the drip line, pitched away from the building to deflect falling water and prevent erosion and splash damage to windows and siding near the bottom of the wall. Gutters are not recommended, due to the high maintenance and potential damage if they are not rigorously maintained.

INTERIOR

Interior repairs are generally of a lower priority than exterior ones, since they have less impact on the building's condition and are not as vulnerable to weather-related accelerated deterioration. We note conditions here for the record, and urge the owners to prepare a comprehensive preservation and maintenance plan that will address ongoing cyclical maintenance of all interior and exterior elements.

Lower Level

The lower level consists of a single room 36 x 38' with a strip oak floor, horizontal matched board walls, and a beaded board wood ceiling. An old concrete stove base, 4.5' x 4.5' and projecting 7" above the wood floor is located near the north end with a framed opening above. A small bathroom is partitioned off in the SW corner with a chemical toilet and electric panels on the wall. This room has vinyl flooring, gypsum walls, and a beaded board ceiling. A large antiquated International Economy hot air furnace sits outside the bathroom in the corner of the large room with several 12" sheet metal ducts extending from it the length of the room; this will likely be replaced in a renovation, but a combustion heat source will need either a sprinkler head above, or a 1-hour enclosure to meet Code requirements. Stepped shelves on both sides of the room appear to cover foundation features, with the vertical portions covered with finished wood paneling. On the west, the shelf is 24" wide and 30" high (flush with window sills) and the floor is 12" below exterior grade. On the east the shelf is 12" wide and 49" above the floor, which is 58" below exterior grade. Four 6" diameter solid wood

columns are located in the room in two rows at 1/3 points and support main floor framing above. Wall thickness at the windows is approximately 11”. An unenclosed 275 gallon oil tank is located in the SE corner; some form of spill containment is recommended. A door in the north wall provides access to an unfinished storage area. Stairs in the NE corner have utility finishes and lead up to the entry lobby.

Main Floor

The lobby has a painted board floor supported by 3 x 6 joists at 18” on center; this space has pressed tin walls, chair rail, cove, and ceiling. A pair of narrow 4-panel wood doors leads to the sanctuary and simple turned Victorian newels and handrails surround the narrow wood stairs to the lower level.

The sanctuary has a painted board floor and pressed- tin coated walls and ceiling with a much larger cove on the east and west where the sloping main roof defines the ceiling. Curved wooden pews are fixed and carpet runners are located in the aisles and across the front and rear. Pendant schoolhouse lights are located at the ceiling and the non-operable organ sits in the niche on the north behind at 10” raised and carpeted platform. Paneled 32” doors in the NW and NE corners enclose wooden stairways to the former balcony now partitioned off from the sanctuary. Remnants of the old railing are visible in the finished upper wall on the sanctuary side. The former balcony is now a storage area with a utility wood plank floor, rough plaster walls and ceiling (some plaster has fallen from the ceiling) and unfinished framing at the partition toward the sanctuary. A ladder and hatch provide access to the attic, and the hatch to close the opening was not in place; this should be secured against insects, critters and heat loss.

Attic

The unfinished attic has three king post trusses consisting of 9 x 8 king posts that narrow to 6 x 8 above the haunches with 8.5” x 7” bottom chords framing into structural posts in the exterior walls. 6 x 8 top chords supported at mid-span by 4 x 5 struts support an 8 x 8 ridge beam and 6 x 8 purlins at the mid-span of the truss top chord. Between trusses 2 ¾” x 4” rafters at 37” on center span from purlin to ridge and purlin to wall top plate. Floor framing between truss bottom chords consists of 2 x 6 joists at 18”

on center spanning approximately 13'. The first and third bays from the south on the east side have newer purlin reinforcement struts bearing on new laminated 2x beams that rest on top of the attic floor framing. We noted that the old wood shingle roof remains under the metal roof; this will necessitate a more involved roofing project the next time the building is re-roofed, and weakens the attachment of the current metal roofing. We noted light visible at the east cornice near the middle and some rot in the roof boards, including dry rot blooms on several of the members.

We noted old BX wiring and frayed connections at junction boxes without covers; we couldn't determine if this was active or abandoned wiring. A safety inspection by a licensed electrician should be carried out, and any unsafe of non-Code-compliant details repaired.

ACCESSIBILITY

The Church is not currently accessible at either level; the main floor sits approximately 25" above current grade, and the lower level (7'-9" below the main floor) is 12" below grade on the west and 58" below grade on the east. Full accessibility would require a lift between floors and access at one of the floors from the exterior – either at the current front (north) entry by means of a ramp up from grade, or at a new lower level entry, probably a side entry on the west that would also require a ramp which would slope down from exterior grade. Downward sloping ramps provide some challenge to excluding water, and this would be especially true here where the low point for drainage occurs exactly where the new entry would be best located. A ramp here would need to be fully enclosed, with some water diversion measures on the exterior to prevent flooding in the basement. There is little room for improved drainage in this already-challenged site; this would also place the entry under an eave where snow sliding from the metal roofing would significantly increase structural and maintenance requirements at a new entry addition. Designing this to avoid interfering with the upper windows would also be difficult. An interior ramp at this location would be 12' long x ~44" wide with a 5' landing at the top; while possible, this would eat up a lot of floor space in an already small footprint.

A better solution would be to re-work the grade at the north entry as much as possible

(to reduce the length of a ramp) and provide a ramp to a landing flush with the main floor. The current concrete landing could be modified, or replaced with a more historically-compatible landing and steps. Current entry doors would need to have an automatic opener that operated both doors, since the 32” doors do not individually provide the required clear opening to meet ADA Accessibility Guidelines. A lift could be located in the lobby but would likely eliminate the west stairs to the former choir loft; if the loft is to be re-developed, it will have a limited occupancy with only a single means of egress by the remaining east stairs, which incorporate winders that also limit their ability to serve as exit stairs. Specific capacity and use would need to be negotiated with the State Fire Marshall. Accessible hardware would be needed on the entry and on interior doors to the Sanctuary, which are quite narrow (28” each) and would need accessible automatic mechanisms to open both at once, or replacement with an accessible door (not recommended for HP reasons).

A second means of egress would also likely be required from the Sanctuary if used for any gatherings (“Assembly Occupancy” as defined by the State Fire & Building Code), and would need to be remote from the existing i.e. at the south end. A second means of egress from the lower level will also likely be required, along with enclosure and/or fire protection of the furnace (a single sprinkler head above, or 1-hour enclosure, and an automatic smoke/fire alarm for the building); this could be part of the egress stair enclosure for both floors on the south. If additional planning determined that the current non-functioning organ could be removed, then the organ enclosure might be adapted/expanded to house a lift and egress stairs – and even bathrooms if needed – all on the south/rear elevation. With bathrooms available in the nearby community building/former schoolhouse, additional bathrooms may not be required in the Church. A lift here would eliminate the requirement for a ramp at the north entry; however, if a phased use of the building occurs, and the lift/new entries are not part of the initial phase a ramp will be needed in the first phase. The 20% rule would apply in determining how far you would need to go with accessibility modifications, and careful planning could reduce or eliminate the need to backtrack in later phases.

Specific decisions about the program for use of the interior will determine other requirements, including accessible hardware and clearances along all accessible

routes, location and layout of bathrooms, seating, and any kitchen facilities, and features of fire protection (e.g. horn/strobes in bathrooms, etc.). See attached sketch which addresses these issues; note that ramp at north would be unnecessary if/when lift is installed, and is shown to indicate where it might go in a phased approach.

Estimating costs is a little tricky prior to the planning/programming decisions touched on above, but we provide here some budget pricing for the features discussed.

New north entry ramp, re-grading, and door modifications	Allow	$12,000-15,000.
New interior ramp at new covered west entry to lower level	"	10,000-12,000.
Misc. interior access modifications + exterior paths, parking	"	5,000.
New vertical lift in North lobby incl. lower level stop	"	100,000.-125,000.
or		
New lift/egress stairs in new south addition	"	135,000-160,000.

PRESERVATION STRATEGIES AND COSTS

Repairs are ranked below in order of priority. It is also strongly recommended that you carry at least a 20% contingency for conditions that cannot be seen in a non-destructive investigation such as this one. Use of contractors skilled and experienced in preservation work will help to manage discovered conditions and insure that proper consideration is given to materials, practices and preservation concerns; this is usually the most cost-effective approach and protects the integrity of the building, including its eligibility for funding. Stabilization measures will likely be identified in the next phase of planning, to curtail on-going deterioration while fundraising and planning are carried out.

Priorities include making the building accessible in the first phase; we include the least-expensive option for accomplishing this.

This opinion of probable cost addresses historic preservation issues; it is not based on full research, specifications or details, and should be considered advisory only. Our estimates are explicitly "Order of Magnitude" preliminary opinions of probable cost, exclusive of any Div.1 (General Conditions) costs, any specific costs associated with choice of materials and methods, any scale of work issues (small

projects are more expensive per unit than larger ones), any project-specific conditions, any discovered conditions or additional information that a bidding contractor may well uncover, and that a specification can address but this brief report does not.

Costs are based on hired labor and new materials, both at market rates taking into account special contractor expertise as required.

High Priority

Access modifications (new west entry to lower level + small interior ramp; new ramp at N entry + interior modifications)	Allow	$30,000-35,000.
Re-roofing @ bell tower, S shed roof	Allow	2,800- 3,500.
Woodwork/siding repairs incl. framing beneath	"	3,000-3,500.
Sash conservation – worst half (8)	"	10,000-12,000.
Electrical safety inspection and repairs	"	200.
Subtotal:		46,000. – 54,200.

Medium Priority

Repair/re-point brick chimney, incl. flashing	Allow	2,500 – 3,500.
Sash conservation – other (7)	"	9,000 -11,000.
Paint repairs –tower, cornices, low siding/trim	"	4,000.– 5,000.
Gravel splash @ all eaves drip lines	"	500.- 700.
Subtotal:		16,000. – 20,200.

Low Priority

Flash cornice returns	Allow	700.- 900.
Seal chimney to building	"	600.- 800.
Provide hatch @ attic acess	"	50.
Subtotal:		1,350 – 1,750.
Total:		**$63,350. -76,150.**

CONCLUSION

Repairs now will return a number of deferred maintenance details to a condition requiring only routine maintenance; conversely, these problems will accelerate shortly if not addressed. Employment of tradesmen with demonstrated expertise in historic building repairs - even though they appear more expensive than others - will avoid most maintenance problems created by unskilled repairs. Some repairs benefit greatly from using specifications for bidding (e.g. masonry; window restoration; painting) to guide the contractor and ensure that unqualified contractors are not selected based solely on a lower price; there is nothing more expensive than poorly-done work that has to be re-done.

A comprehensive plan for the use and periodic maintenance of the building should be developed to organize records, avoid costly repairs, anticipate cyclical replacement of materials, and utilize the best methods and materials from a growing body of research and experience with historic building maintenance, which often differs significantly from maintenance of newer buildings.

We are pleased to have had this opportunity to assist you in the on-going stewardship of this significant historic resource. Please don't hesitate to call if you have questions on any of the above, or need additional information or assistance in continuing restoration work on the building.

Sincerely yours,

Thomas F. Keefe, Architect
Keefe & Wesner, Architects, PC
TFK/hos
Encl. /