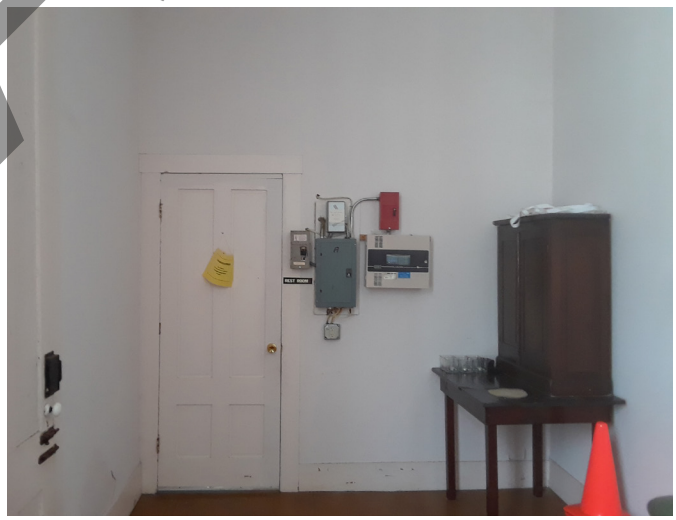
Lower Waterford Congregational Church
Adaptive Re-Use Study

September 22, 2020



BLACK RIVER DESIGN
ARCHITECTS

PROJECT LEAD
73 Main Street, Suite 9
Montpelier, Vermont 05602
- Mark Montminy, Partner
- Jesse Remick, Project Manager

CONSULTANTS
Engineering Ventures (Civil and Structural)
Kohler and Lewis (Mechanical and Plumbing)
Pearson and Associates (Electrical)
Merkur Construction (Cost Estimating)

BLACK RIVER DESIGN ARCHITECTS

LOWER WATERFORD CONGREGATIONAL CHURCH ADAPTIVE RE-USE STUDY

Waterford Church, Waterford VT September 22, 2020

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EXISTING BUILDING ASSESMENT AND OPTION A - RECOMMENDED MINIMUM WORK

A) ACCESSIBILITY

1) Entrance:
   (i) The primary entrance to the Church narthex is from (2) separate oversized in swinging doors, approximately 35" wide. They are currently not accessible and are served by individual stairs of (3) risers each up to a landing and another step up into the building through the door. To bring the entry up to code the existing concrete stairs and landings need to be removed and a new concrete stair and ramp with metal railings will need to be installed.
   b) The single entrance into the lower level is served by an exterior wooden ramp. The ramp does not have a landing at the top providing the ADA required approach for door accessibility. This should be corrected as part of any adaptive reuse scope of work. The door swing should also be changed to swing out to meet code.

2) Floor to Floor:
   a) Stair:
      (i) There is one stair providing access between floors consisting of 16 risers, just below 8", which for new stairs is higher than current code allows but falls within code allowance for existing stairs to remain.
      (ii) Depending on the decisions of the group and the design direction for adaptive reuse, a decision will be needed on whether to keep the stair connection between the 2 levels or not. If kept, a minimum 1-Hour separation is required but depending on the option selected the rating should match the floor rating.

3) Restrooms:
   a) There is (1) bathroom in the building located on the top floor off the narthex. It is not accessible and at a minimum should be renovated to provide the required ADA-clearances and fixtures. Any adaptive reuse options will require additional restrooms (refer to plan options for layouts).
   b) The lower level currently does not have a restroom and does not require one to meet minimum code requirements. The lower level should provide for an accessible bathroom if adaptive reuse is pursued and the levels are occupied separately (refer to plan options for proposed locations of restrooms).
      (i) The Town Office option will require one unisex, ADA-compliant restroom.
      (ii) The Café option will require two unisex, ADA-compliant restrooms.

4) Door Widths:
   a) Currently, all but the restroom door meets the accessible width requirements. The doors leading from the Narthex to the exterior should swing out to meet minimum code requirements. The restroom door will need to be brought up to code with the additional changes required for the ADA-compliant restroom.

5) Door Hardware:
   a) Panic door hardware is required on the egress doors from the sanctuary if any work to these doors are part of any renovation work.
   b) The lower level exterior door would need to be reviewed once the adaptive reuse occupancy is determined.

6) Door Clearances:
   a) Door clearances are adequate at all door locations except the bathroom. The restroom door clearance will need to be brought up to code with the additional changes required for the ADA-compliant restroom.

7) Drinking Fountains:

a) There are no drinking fountains currently in the building and none are required for the minimum code requirements.
   (i) Drinking fountains will be required for the upper level for the adaptive reuse options.
   (ii) A drinking fountain, water bubbler or water service will be required for the Town Office and Café options.

B) BUILDING ENVELOPE

Original Building is circa 1855

1) Roof
   a) Roof existing conditions:
      (i) Material: Asphalt Shingles
      (ii) Age: One half is +/-30-years old, one half is 11-years old.
      (iii) Insulation: None, insulation is located above the flat ceiling plane.
      (iv) Condition: Most-likely out of warranty. Condition to be verified by owner.

   BRD recommends the asphalt shingles be removed and new ice & water shield be added to eaves and around steeple base with new metal drip edge at eaves, metal flashing around steeple and new asphalt shingles. This scope can be completed independent from the adaptive reuse work.

2) Exterior Wall
   a) Material A: Timber framed with stud infill(assumed)
      (i) Age: original
      (ii) Insulation: None known in the walls
      (iii) Condition: unknown

   At minimum, BRD recommends blown-in-cellulose insulation be added to the wall cavity. An alternate option is to add exterior rigid insulation on the outside of the building to meet energy code requirements. This scope can be completed independent from the adaptive reuse work.

   b) Material B: Wood clapboards
      (i) Age: Unknown if they have been replaced
      (ii) Insulation: NA
      (iii) Condition: Painted in 2013 (except steeple)
      (iv) Air barrier: None known

   BRD recommends removing the siding and building wrap, if present. Installing a new vapor permeable air/weather barrier, Blueskin VP100 or equal, and installing new siding. Optional: add vertical furring to provide a drainage plane. This scope can be completed independent from the adaptive reuse work.

3) Foundation:
   Refer to structural narrative for existing condition. This scope can be completed independent from the adaptive reuse work.
   a) Foundation Option 1 – repair existing foundation and piers, existing dirt floor to remain.
   b) Foundation Option 2 – replace north foundation with new concrete foundation, lower storage area dirt floor and provide new slab at lower level elevation. Repair remainder of the foundation and piers.

4) Airlock:
   The narthex is acting as a simple airlock for the upper level. The Fire Marshall's report requires this area to be clear of any combustible storage items as it serves as the exit egress path. The lower level does not have an airlock and due to floor area, one is not required.

5) Windows:
   a) Type A: Sanctuary - Single pane, 16 over 16 double hung wood windows with fixed storm window on interior making them inoperable. Interior wood shutters are inoperable due to storm windows.
      (i) Age: wood window is original to building, interior storm added at an unknown date
      (ii) Condition: Fair
   b) Type B: Narthex window – Single pane, 16 over 16 single hung wood windows. The ceiling interrupts the window at the 5th pane and the window continues into the attic space.
      (i) Age: Original to building

(ii) Condition: Fair

c) Type C: Basement – Single pane, 6 over 6 double hung wood windows
   (i) Age: Original to building
   (ii) Condition: Fair

BRD recommends providing air sealing around all windows and additional investigation to determine extent of sash weight/pocket repair at a minimum. An alternate option is to replace the windows with new energy efficient all-wood or aluminum-clad windows to be coordinated with Historic Preservation. If this option is pursued, BRD recommends this be done with additional exterior wall insulation to meet energy codes. This scope can be completed independent from the adaptive reuse work.

6) Exterior Doors
   a) Narthex doors: original inswing wood doors
   b) Basement: Original inswing wood door

BRD recommends reworking all exterior doors to; swing out, provide new weather gasketing and thresholds and provide air sealing around doors. Alternatively, new all-wood or aluminum-clad wood doors could be provided.

C) INTERIOR FINISHES - MATERIAL/CONDITION

1) Finished Basement:
   a) Floor: Wood, in good condition, no work necessary. The kitchen area has sheet vinyl flooring, consider replacing with new or other material.
   b) Walls: good condition with minor damage, wainscot in good condition, recommend new painted finish.
   c) Ceiling: exposed to structure. Per the Fire Marshal report dated 10-13-2013, after building inspection performed, openings in floor are required to be filled and a layer of 5/8" gypsum board applied below structure at a minimum. BRD recommends installing a 1-HR rated floor assembly (at a minimum), or a 2-HR rated assembly depending on the adaptive reuse direction.
2) Narthex:
   a) Floors: painted wood, refinish or walk-off mat recommended.
   b) Walls: good condition no work necessary, paint recommended.
   c) Ceiling: good condition no work necessary, paint recommended.
3) Bathroom:
   a) Floors: Painted wood. Provide sheet vinyl flooring in new ADA restroom.
   b) Walls: Wallpaper. Recommend 5/8" MR gypsum board, painted, in new ADA restroom.
   c) Ceiling: Gypsum board. Recommend 5/8" MR gypsum board, painted, in new ADA restroom.
4) Sanctuary:
   a) Floors: Carpet in fair condition, consider replacing.
   b) Walls: Plaster is cracking and needs repairs.
   c) Ceiling: Tin ceiling is in good condition with some area of water damage that needs attention. The cause of the water damage is unclear and could be contributed to a few things.
      (i) If there is any roof leaking that moisture could be causing the tin ceiling panels to rust. Our brief visual inspection of the attic space did not show any apparent roof leaking. This report is proposing complete roof replacement with waterproofing membrane layer below the shingles.
      (ii) Moisture from air leakage could be causing condensation at those panels thus causing them to rust. This report is proposing improvements to the attic/ceiling insulation and air barrier to reduce air leakage and improve the overall R-Value of the insulation, separating the outside and inside conditioned air.
      (iii) Another cause could be the lack of interior conditioning in the swing and winter months. Leaving the building unoccupied and unheated could be promoting more moisture within the building. Providing HVAC systems that function year-round may also help reduce the potential for moisture accumulation.

D) FIRE CODE

1) The owner informed BRD that a site visit by a Vermont Fire Marshall led to the building being closed due to the open connectivity of the floor vents between the two floor levels. These are the primary method for heating the upper floor from the open duct heating system below.
   a) The owner received an estimate for closing the ducted system which was $20,000 and has not been implemented.

(i) BRD has contacted The Vermont Division of Fire Safety to request copies of this site visit report and were told none was on record. Patrick McLaughlin did provide (2) different reports:

(a) 10/02/2013 Provided the following Violations and Notes:

"I was asked to this site by Ms. Sally Lawrence to discuss minor modifications to the bathroom. To do this, you must:

1. *Send in a completed Construction Permit Application, the correct fee, and a sketch of the proposed modifications to my attention at our Barre office. I will email you a CPA right on the heels of this report.*
2. *The new bathroom must be ADA compliant in accordance with the 2010 ADA Standards. The drawings by Rob Brown will suffice for those plans. There is a myriad of dimensional requirements regarding an ADA bathroom. If you have any questions, please feel free to contact me.*
3. *The electrical panel must be moved. All electrical work must be done by a master electrician who must pull an electrical work notice from our Barre office. As discussed, it would most likely be easier to be relocated into the basement. It is already in the building more than 10 feet and that needs to be revised. We suggested you get 3 quotes as the prices will probably be all over the board. Once you select the electrician, they will contact John Black.*
4. *The fire alarm system was last inspected in 1996. It is supposed to be inspected at least once annually by a technically qualified person. This needs to be taken care of promptly. I strongly suggest you put in a phone line so you can connect your fire alarm system to it. That way, the panel would be monitored 24/7 so if a fire broke out, the fire trucks would be rolling MUCH more quickly. I am afraid if you don't do this, your church would be a complete loss due to the amount of time it would take for a response.*
5. *The door at the top of the basement stairs needs to be changed to a solid core, 1.75" thick, wooden door. When released, the door must close and latch (put on a closer or spring hinges). A 60-minute door/frame would be better than the above, 20-minute, door.*
6. *The openings (cuts) in the floor to allow the heat to go upstairs from the basement need to be sealed shut. I realize this will cost money, so I will allow you until 10/1/14 to complete this. Along with this, as talked about on site, after the holes/cuts are covered/closed, you need to cover the entire cellar ceiling with a layer of 5/8" FGB. You could revise your hot air heat so ducts could lead up through the floor to provide the heat. Of course, to do this, you would need to install 60-minute dampers in the ducts that penetrate the floor/ceiling assembly. The way the floors are currently sliced open, a fire would very quickly spread up into the first-floor area and demolish the church.*
7. *As stated, try to keep as little storage as possible in the front, entrance, vestibule. This is the only way out of the building. Lots of combustibles compromise the exiting."*

(b) 12/13/2013 follow-up inspection provided the following Violations and Notes:

"I met these folks on site to discuss the findings/mandates of my 10/3/13 inspection. All agreed with what I had written, but there is no money or source for money to make the necessary corrections. The church had just finished fixing sill rot/foundation problems and what little money they did have is mostly gone.

I had initially been invited to this church to discuss how to put in an ADA compliant bathroom. That project is no longer going to happen and was mostly a dream anyways, according to Mrs. Williams. Of the seven items written previously, the ones that would best protect the longevity of the church would be items #4 (inspection of fire alarm system and addition of a few detection devices that could automatically notify the fire department/monitoring service immediately upon activation) and #6 (several floor openings between the basement and the main level that should be protected/closed, but are used to transfer heat up into the nave of the church). In addition to these items, items #3 (electrical panel was mandated to be moved by the electrical inspector) and #5 (a rated door/frame needs to be installed at the top of the stairs between the basement and the vestibule).

From my perspective, I had no choice but to write up the report once I went to the church to discuss the newly proposed, ADA, bathroom (which is no longer happening).

I suggested these folks should contact my boss, Bob Sponable, (479-7581) to discuss this further, and/or attempt to get a variance. It sounded as though they were going to do this."

2) Our code review is based on assumptions of what the building occupancy will be. Once the building occupancy is decided upon, a full Code Review for said occupancy(s) must be performed to ensure Code is being met.
3) Sprinkler system:
   a) From our initial code review an automatic sprinkler system would not be required. Once final occupancy is determined a Code Review will be needed to confirm the need for a sprinkler system.

E) SECURITY

1) Exterior door control: Key
2) Isolated reception: none
3) Camera system: none
4) Window shades: in basement only

F) KITCHEN

1) Appliances –electric
   a) Range: Two 1970's or 1980's 4 burner residential ranges
   b) No dishwasher
   c) One 1970's or 1980's residential refrigerator
2) Sinks
   a) Two kitchen sinks
3) Grease trap – None
4) Hood – None

Notes: There is no separation between the kitchen, seating area and existing heating system. The built-in casework is in fair condition.

G) SUMMARY OF ASSESMENT AND OPTION A

1) Based on the Fire Marshall's report and the structural analysis, BRD recommends that Option A is the minimum required work to keep the building open and safe for occupancy. Any other items that BRD recommends be completed may not be required to keep the building from being occupied. The minimum required for occupancy is outlined per the Fire Safety report, however, the structural review indicates that the foundation will need repair/replacement within the next five years and is included in the Option A estimate. The estimated cost for Option A is $344,291 and includes general conditions, mark up, bonds, insurance, contingency and inflation for one year.

   a) The scope of Option A is:
      (i) Seal existing heat transfer floor openings
      (ii) Install GWB at basement ceiling
      (iii) Interior demo and patch/repair walls, floors, and ceilings due to structural and MEP work
      (iv) Replace foundation, repair crawl space columns
      (v) Close floor holes and weatherize plumbing
      (vi) Provide new fire alarm system and phone line
      (vii) Provide new electrical wiring, devices, panels, feeds, and grounds
      (viii) Refer to Civil, Structural, Mechanical and Electrical narratives for additional scope associated with this option

   b) The items **not** included in the estimate that are recommended in the assessment above are:
      (i) ADA requirements and upgrades for adaptive reuse
      (ii) Ramp and ADA access at front entry. This work will be less expensive if done with the foundation repair/replacement.
      (iii) Building envelope upgrades, wall insulation, re-roofing, window air sealing/replacement

(iv) Interior finishes and tin ceiling repair

2) Breakout costs requested by Owner (do not include General Conditions, Contingency or other soft costs):
   a) Foundation replacement: $91,365
   b) Window Repair/Replacement: $15,200
   c) Roof replacement with ice and water shield and asphalt shingles: $44,202
   d) Building envelope, including the steeple. Replace siding and building wrap with vaper permeable air/weather barrier and new siding to match existing. Provide blown-in-cellulose insulation in wall cavity. Rework exterior doors to change swing and provide better air sealing: $171,290
   e) Provide ADA ramps at front and lower entries. This breakout cost is assumed to be done separate from the foundation work:
      (i) Front Sanctuary entrance ramps: $34,566
      (ii) Lower level access ramp: $11,500

ADAPTIVE REUSE OPTION B – RELOCATING TOWN OFFICE IN LOWER LEVEL

A) SCOPE OF OPTION B

1. Remove all kitchen equipment, casework, heating system and laminate flooring. Remove existing stair to upper level.
2. Repair or replace the foundation and piers per the Structural narrative. Refer to the Town Office Options to determine the level of foundation work necessary for each option.
3. Provide insulation either at the floor or around the foundation. BRD assumes the flooring will need to be removed and the insulation will be installed from above. This should be revisited if the full foundation replacement work is to be completed as it may provide easier access for insulation underneath the existing structure.
4. Provide entry ramp and landing that meets ADA requirements.
5. The building envelope changes outlined in the Existing Building Assessment and Option A should be completed for this option.
6. Refer to plan options for adaptive reuse layouts.
   a) New interior walls to be wood stud with sound-attenuation blanket from floor to structure above with 5/8" gypsum board, painted.
   b) Provide a $100,000 allowance for Vault, installed and certified by Birelock. This pricing includes on-site gypsum board installation by GC.
   c) Provide gypsum board ceiling and floor assembly to meet 2-hour fire rating.
   d) Provide Flotex carpet in the Town Office options. Entry area to receive walk-off-carpet. Mechanical rooms to be unfinished flooring. Restroom and kitchenette to be sheet linoleum flooring.
   e) Paint all existing walls and trim to remain.
   f) Provide hollow metal doors and solid core wood doors at new door locations.
   g) Provide rubber base at all walls.
   h) Provide architectural wood casework and solid surface countertops.
   i) Provide new blinds at all windows.
   j) Provide soap dispenser, paper towel dispenser and toilet paper dispenser at restroom.
   k) Provide voice and data cabling in all spaces, separate from upper level.
7. Refer to Civil, Structural, Mechanical and Electrical narratives for additional scope associated with this option.

B) SUMMARY OF OPTION B

1) Option B is intended to be a tenet fit-up and assumes that the work outlined in Option A *has been completed prior to the start of this work*. This option is not intended to replace Option A. The cost estimate for Option B is $574,439.

ADAPTIVE REUSE OPTION C – CAFÉ OPTION

A) SCOPE OF OPTION C

1. Remove all kitchen equipment, casework, heating system and laminate flooring. Remove existing stair to upper level.
2. Repair or replace the foundation and piers per the Structural narrative. The level of work does not affect the Café Option. If the foundation is replaced and the floor lowered the area can be used as additional storage space as long as a 1-hour rating is maintained.
3. Provide insulation either at the floor or around the foundation. BRD assumes the flooring will need to be removed and the insulation will be installed from above.
4. Provide entry ramp and landing that meets ADA requirements.
5. The building envelope changes outlined in the Existing Building Assessment and Option A should be completed for this option.
6. Refer to plan options for adaptive reuse layouts.
   a) New interior walls to be wood stud with sound-attenuation blanket from floor to structure above with 5/8" gypsum board, painted.
   b) Provide gypsum board ceiling and floor assembly to meet 2-hour fire rating.
   c) Provide resilient quartz tile flooring in Café seating area and rubber flooring in kitchen. Entry vestibule to receive walk-off-carpet. Mechanical rooms to be unfinished flooring. Restrooms and to receive sheet linoleum flooring.
   d) Paint all existing walls and trim to remain.
   e) Provide rubber base at all walls.
   f) Provide hollow metal frames and solid core doors at new door locations.
   g) Café fit-up to determine extent of equipment, assume new serving line and sandwich prep stations, range, oven, hood, handwash sink, 3-bay pot sink, vegetable prep sink, reach-in refrigerator, reach-in freezer, ice cream machine and grease trap in kitchen.
   h) Provide grab bars, soap dispenser, paper towel dispenser and toilet paper dispenser at ADA-accessible restroom.
   i) Provide voice and data separate from upper level.
7. Refer to Civil, Structural, Mechanical and Electrical narratives for additional scope associated with this option.

B) SUMMARY OF OPTION C

1) Option C is intended to be a tenet fit-up and assumes that the work outlined in Option A *has been completed prior to the start of this work*. This option is not intended to replace Option A. The cost estimate for Option C is $530,020.

ADAPTIVE REUSE OPTION D – UNDER 50 CHAPEL SPACE AND WEDDING VENUE

A) SCOPE OF OPTION D

1. Remove and provide adequate structural support for walls demolished in the attached Small Sanctuary Option. Remove existing carpet in sanctuary space.
2. Provide new ADA ramp and stairs at front entry, refer to plan options.
3. The building envelope changes outlined in the Existing Building Assessment and Option A should be completed for this option.
4. Refer to plan options for adaptive reuse layouts.
   a) New interior walls to be wood stud with sound-attenuation blanket from floor to structure above with 5/8" gypsum board, painted.
   b) Floor assembly to meet 2-hour fire rating (1-hour fire rating if not changing lower level for adaptive reuse options).
   c) Provide Forbo Flotex carpet in Dressing Room, Corridor, Community Room and Sanctuary space. Entry to receive walk-off-carpet. Restrooms to be sheet linoleum flooring.
   d) Repair cracked/damaged plaster and paint all existing walls and trim to remain.
   e) Provide hollow metal frames and solid core doors at new interior door locations and insulated metal frame and door at new exit door location.
   f) Provide exit panic hardware at all exit doors.
   g) Provide rubber base at all walls.
   h) Provide grab bars, soap dispenser, paper towel dispenser and toilet paper dispenser at ADA-accessible restroom.
   i) Provide voice and data separate from separate from lower level.
   j) Ceiling Options:
      (i) Repair and paint existing tin ceiling.
      (ii) Repair and paint existing tin ceiling and provide APC "Cloud" ceiling in Dressing and Community Rooms.
5. Refer to Civil, Structural, Mechanical and Electrical narratives for additional scope associated with this option.

B) SUMMARY OF OPTION D

1) Option D is intended to be completed with Option A and assumes that the work outlined in Option A *will be completed at the same time*. This option is not intended to replace Option A. The cost estimate for Option D is $539,959 *in addition to* $344,291 from Option A, for a total cost of $884,250.

ADAPTIVE REUSE OPTION E – PERFORMANCE SPACE

A) SCOPE OF OPTION E

1. Remove existing carpet in sanctuary space.
2. Provide new exit door and stair from Sanctuary space.
3. Provide new ADA ramp and stairs at front entry, refer to plan options.
4. The building envelope changes outlined in the Existing Building Assessment and Option A should be completed for this option.
5. Refer to plan options for adaptive reuse layouts.
   a) New interior walls to be wood stud with sound-attenuation blanket from floor to structure above with 5/8" gypsum board, painted.
   b) Floor assembly to meet 2-hour fire rating (1-hour fire rating if not changing lower level for adaptive reuse options).
   c) Provide new wood flooring in Sanctuary space. Entry/Narthex to receive walk-off-carpet. Restrooms to be sheet linoleum flooring.
   d) Repair cracked/damaged plaster and paint all existing walls and trim to remain.
   e) Provide hollow metal frames and solid core doors at new interior door locations and insulated metal frame and door at new exit door location.
   f) Provide exit panic hardware at all exit doors.
   g) Provide rubber base at all walls.
   h) Provide grab bars, soap dispenser, paper towel dispenser and toilet paper dispenser at ADA-accessible restroom.
   i) Provide voice and data separate from separate from lower level.
   j) Repair and paint existing tin ceiling.
6. Refer to Civil, Structural, Mechanical and Electrical narratives for additional scope associated with this option.

B) SUMMARY OF OPTION E

1) Option E is intended to be completed *with* Option A and assumes that the work outlined in Option A *will be completed at the same time*. This option is not intended to replace Option A. The cost estimate for Option E is $516,750 *in addition to* $344,291 from Option A, for a total cost of $861,041.

ENGINEERING VENTURES PC

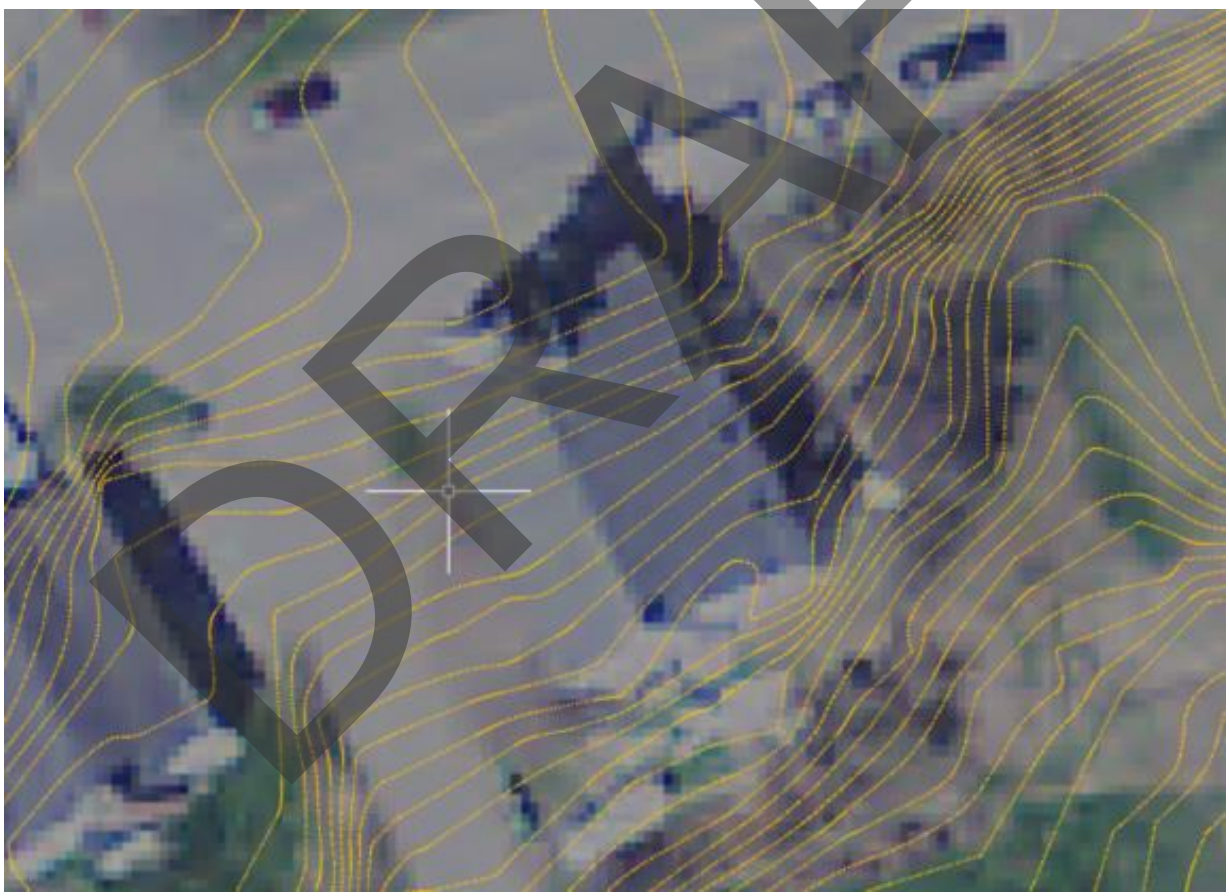
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 · Tel: 802-863-6225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 · Tel: 603-442-9333
414 Union Street, Schenectady, NY 12305 · Tel: 518-630-9614

Lower Waterford Church – Site Assessment

This evaluation is based on a site visit and photos by Bob Neeld, information available through the Vermont Natural Resources Atlas, VT Open Data, and information provided by the owner and client as follows:

- Willis Survey of Church Property (boundary information, no topographic information included).
- LW Church Building List of Repairs (word document, undated)
- WCAR-Plan Options-2020-06-09

Parking and Site Access



Church building with 1’ contours shown in yellow (from LIDAR). Post office to left.

Parking for the site is currently provided by parallel parking on Lower Waterford Road (State Aid 2 Hwy). Nine spaces total are provided there including two ADA spaces. Based on LIDAR contours, Lower

Waterford Road has a running slope of approximately 5.4%, which would make any access route a ramp under ADA standards. The stairs leading into the building are also a barrier to access.

Maple Street (Township Hwy 20) has a running slope exceeding 16% along the west side of the building. An ADA access has been created along the west side of the building using a gravel drive and wooden ramp. The loose stone material does not comply with ADA standards, but the general configuration and slopes appear to.

If a new foundation is planned, then the upper floor elevation could be lowered to allow full ADA access from Lower Waterford road. Depending on the floor to floor heights, this would likely require reconfiguration of the Maple Street access point.

Site Drainage

The peak of the building roof runs north-south, with runoff from the roof dropping along the east and west sides of the building and running south toward the neighboring property. No issues were immediately apparent, but early spring conditions could allow water to move into the foundation. A stone drip strip below the roof dripline and connected to a discharge pipe could be installed to direct surface water away from the foundation and downslope property. Discharge from the collection system would likely need to run southeast across adjacent properties.

Water Supply

We understand potable water for the church is currently supplied by connection to the well and water system serving the Town Hall building to the north. Based on the well driller report provide by the Town, 30 GPD of flow is available which should be sufficient for the proposed uses. The existing well does not appear to have any prior State approval and so would need to be tested for water quality including arsenic content prior to use for the Church building.

Wastewater System

Based on prior evaluations, the building's bathroom and kitchen appear to discharge to an underground tank and presumably to some sort of disposal field. The discharge pipe can be traced outside the building by a septage hauler with a push-rod and sond. If discharge is to some sort of leach field on the property then it could be possible to rebuild a small system on site- although this would need variances from the State that could reasonably be attained for continued, existing use. Any such rebuild would require pretreatment. The space constraints on this property preclude installation of a new system with capacity to serve events with substantial public use. Any significant expansion is unlikely to be approved.

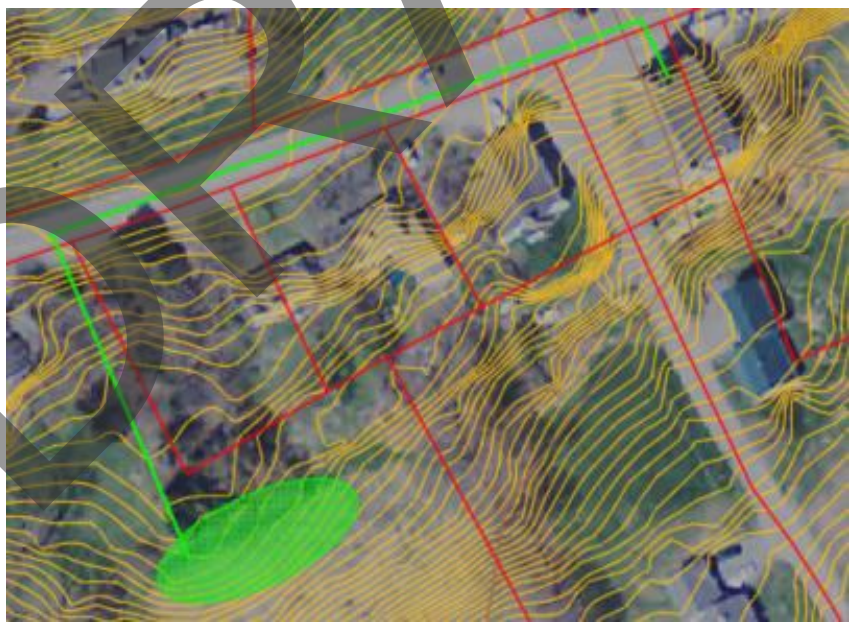
A more likely option would be the use of a holding tank. This would involve installation of a precast concrete tank to collect wastewater with pumping as needed based on use. The operational cost can be approximated as follows:

Assuming $0.30 per gallon with a minimum charge of $150.

FLOW BASIS	UNIT	NUMBER	GPD / UNIT	GALLONS BY USE	PUMPING COST PER USE/DAY
ASSEMBLY, NO MEALS	SEAT	160	4	640	$ 192.00
ASSEMBLY, WITH OFF-SITE CATERING	SEAT	128	8	1,024	$ 307.20
ASSEMBLY, ONE MEAL, PREPARED ON-SITE	SEAT	128	14	1,792	$ 537.60
ICE CREAM SHOP OR DELI, NO SEATING	EACH	1	100	100	$ 30.00
OFFICE USE, PER FULL-TIME EQUIVALENT	EMPL.	5	15	75	$ 22.50

The site topography is well suited to installation of a composting toilet on the lower level. This option would still require some sort of disposal field for wash water and would not support on-site catering of any sort. These systems do require regular maintenance and use of portable toilets would likely be preferable in this case.

The greatest flexibility for building uses would be provided by construction of a new soil-based disposal system. Soils underlying the Church site and to the west are mapped as Vershire-Lombard Complex and should have reasonable potential for an on-site disposal field. Expansion of the Rabbit Hill system was suggested by a prior consultant and could be technically possible, but would require an agreement with the owner. Other off-site disposal locations are limited to a large degree by locations of nearby wells. One possible location would be to the west, if an agreement could be reached with the owners of 173 Lower Waterford Road (green ellipse below).



Potential disposal field location at lower left. Rabbit Hill WW system at upper right. Conceptual force main route shown in green along Lower Waterford Road.

Summary of Findings

Aside from building limitations, the greatest restrictions on building use is associated with wastewater capacity and parking. Given the small lot size, any on-site disposal system (if allowable) would be severely limited in capacity and would affect the viability of adaptive reuse plans. A holding tank would be a viable option, but would involve ongoing costs and monitoring. Parking limitations could potentially be addressed in cooperation with adjacent property owners.

ENGINEERING VENTURES PC

208 Flynn Avenue, Suite 2A, Burlington, VT 05401 · Tel: 802-863-6225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 · Tel: 603-442-9333
414 Union Street, Schenectady, NY 12305 · Tel: 518-630-9614

Structural Conditions Assessment- Lower Waterford Church EV # 19568
September 1, 2020

The purpose of this study is to gain a general overview of the structural conditions and identify priorities in preservation and continued use of the building and to provide input on modifications that may be needed to convert the building to other uses.

Introduction and General Description:

Bob Neeld of Engineering Ventures visited the church located at the intersection of Lower Waterford Road and Maple Street in Lower Waterford, VT on June 18, 2020 to review and assess the structural condition of the building. The building measures approximately 40 feet wide and 60 feet deep and is two stories with the lower level being a walk-out basement. The upper floor houses the sanctuary and the lower level is accessory/assembly space. The building is still used by the church and for occasional functions.

For orientation purposes, the church is assumed to face the north. Sketches of schematic framing plans are attached for reference.

In addition to assessing the observed conditions of the building, in selected areas, the framing capacity has been evaluated for conformance with current building code requirements. The State adopted International Building Code (IBC 2015) provides loading capacities for various uses. For reference, the following are typical mandated capacities:

Residential	40 Pounds per Square Foot (psf)
Offices	50 psf (this would apply to Town Offices use)
Public Assembly	100 psf (this would apply to open areas subject to public assembly including dance hall or restaurant without fixed seating)
Roofs	50 psf ground snow load adjusted for sliding and wind exposure for a design load of about 25 psf of snow load

Existing buildings that continue to be in use and do not appear unsafe are typically exempt or "grandfathered" by the building code. Substantial structural alterations to a building or a change of use will require upgrades.

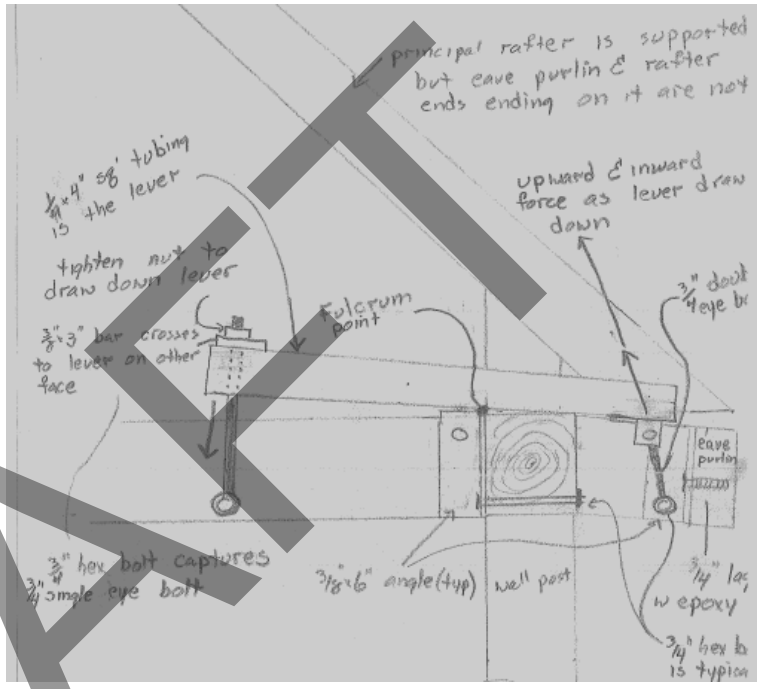
The current use in the sanctuary would dictate a 50 psf live load due to the presence of the pews (fixed seating). The lower level is likely considered Assembly space and would require 100 psf loading. Converting the building to public use will likely require the areas open to the public to be evaluated for load capacity with improvements made as needed.

Observations:

Roof Framing:

The roof is framed with timber trusses that span across the width of the building at about 10 feet on center. The 8x8 purlins span between the trusses and the 6x6 rafters span between the purlins and to the ridge.

There is an eave purlin that spans between trusses that is 1 to 2 feet outside of the exterior wall. This purlin supports the low end of the rafters. In about 2010, a major repair of the eave purlin to truss connection was made. The truss had apparently broken at the cantilevered section. A steel brace detail was designed and installed by Southgate Steeple Jacks. The contractor's sketch appears to generally match what was installed and appears to have functioned adequately (at right).



SECTION AT EAVE- SOUTHGATE CONSTRUCTION

The remainder of the roof framing and trusses appear in very good condition without substantial deflection or deterioration. The 2010 renovations included adding a diagonal to the truss under the purlin- this substantially stabilizes the trusses. Access was made difficult by the limited walkways. Rafters and purlins appear to meet the requirements for reduced snow load due to sliding, although the main, interior purlins are marginally adequate.

The tower is supported on two sets of columns: The Bell Deck columns bear on a timber that spans between trusses at the bottom chord and the Tower columns that bear on timbers at the top chord of the truss. These timbers appear in good condition.

If the building is to remain as-is, the Building Code does not require modifications to the roof. However, if insulation is to be added, further evaluation and upgrades are likely required. For the purpose of this evaluation, it should be assumed that connections will require some improvement and the middle purlin should be reinforced.

Attic Floor/Ceiling Framing:

The attic floor is covered with a deep layer of insulation. Attic framing members were not visible. The attic appears to be supported from the bottom chord of trusses. This system appears to be performing adequately, but the connections were not able to be observed due to the insulation

Sanctuary Floor Framing:

The floor framing was visible from below and generally documented and is shown on the attached plan.

- The floor joists are generally adequate for 50 psf live load. Shorter spans (less than 8 feet) would be suitable for 100 psf live load.
- The joists are notched at their ends and should be reinforced to obtain capacities noted above.
- The beams range in capacity from about 35 psf to over 100 psf.
- There is a unique condition where a pair of beams is supported on one column with a short beam to connect the two. The short support beams should be reinforced.
- The wood columns to the north are smaller than the others and should be reinforced.

Lower Floor Framing

The floor framing here was visible from the access hatch in the floor of the kitchen. Due to the shallow crawl space, the entire framing was not able to be observed closely.

- The floor joists appear to have close to 100 psf live load capacity with reinforcing of their notched ends.
- The beams are supported on loose rock piers.
- The beams have adequate capacity assuming a span of 6 feet or less.

Foundation & Drainage:

The foundation is mostly loose laid stone. The interior piers are loose rock piles. There is a dirt floor in a shallow crawl space. A loose-laid stone (no mortar) retaining wall at the road/north side holds back the soil and is in poor condition. This wall will require attention within the next 5 years.

Exterior drainage appears generally adequate as the grade slopes substantially from north to south.

Recommendations & Priorities

Roof Framing:

- Monitor 2010 repairs at the eaves

- If insulation is added provide a more detailed review of trusses and reinforce as needed
- A permanent walkway at the attic floor should be installed to allow for future access and maintenance

Sanctuary Floor Framing:

- The existing use can continue with the framing as-is since there is no change of use.
- Longer floor joists should be reinforced
- Substandard beams to be reinforced.
- Smaller columns to the north should be replaced with new columns or reinforced.
- Notched joists should be reinforced.

Lower Floor Framing and Foundations:

- The framing is in reasonably good condition and, due to the short beam spans, appears to have adequate capacity for 100 psf assembly loading. The beams should be investigated in more detail as they are re-used timbers and there are substantial mortises cut into them.
- The stone piers are in poor condition and are susceptible to collapse. These should be considered for replacement.
- The exterior foundation is loose laid stone in fair to poor condition and should be considered for substantial repair or replacement. This will facilitate long-term use and insulation/air sealing.
- The north wall retaining soil is in poor condition and should be reinforced or replaced. Since the north section may be desirable as additional lower floor space, the foundation should be considered for replacement allowing the floor at the north lower level to be lowered to match the rest of the lower floor.
- The damp crawl space should have vapor barrier added to mitigate framing deterioration and moisture transmission into the building.

Option A—Minimum Work Required for Building to Remain as-is

This assumes no change of use, and no desire to make improvements to extend the life of the building.

- Repair or replace the north foundation wall within 5 years.
- Repair or replace basement piers & add vapor barrier or other moisture mitigation measures
- Regularly monitor roof framing and maintain.

Voluntary improvements for continued use:

- Improve sanctuary floor framing to the 50 psf level as noted on the attached sketches.
- Further evaluate roof framing and likely improve connections and reinforce interior purlin. This would be required if insulation is to be added to the roof.

- Reinforce or replace substandard columns.
- Reinforce notched joists at sanctuary floor.

Option B- Relocate Town Offices in Lower Level

- All recommendations from Option A
- Consider full foundation replacement to extend life of the building.

Option C—Café at Lower Level

- All recommendations from Option A and B where voluntary upgrades become mandatory.
-

Option D—Under 50 Chapel Space and Wedding Venue

- All recommendations from Options A and B where voluntary upgrades become mandatory.
- Reinforce sanctuary floor framing to 100 psf level as noted on attached sketches.

Option E- Performance Space

- Same as Option D

Please let me know if there are further questions.

Respectfully,

Robert Needl

Robert Needl, PE- President
Engineering Ventures, PC

KOHLER&LEWIS
Mechanical Engineering

Lower Waterford Church
Adaptive Reuse Study
Plumbing and HVAC
August 21, 2020
by Roy Swain, P.E.

Existing Conditions

Plumbing

Water Supply. The building is served by its own well, installed in about 1999. The line comes into the partial basement under the kitchen, where there is a (very small) 20-gallon pressure tank which stores only about 8 gallons of water. The well-driller's record indicates a yield of 30 gpm, which is adequate for any use of the building. The well pump size and flow rate are unknown.

Sewer. Please see the Site Assessment report from the civil engineer. To summarize, the existing wastewater system is not capable of being approved, and because of the very small property size, any new, approved wastewater system would have a high first cost, or high operating costs, or both.

The civil engineer mentioned a composting toilet system. This is possible, and would cost $10,000-15,000 per toilet, with the number of required toilets depending on the building's use and occupancy. The toilets would be on Level 1 only, and need space in the lower level of about 100 sq.ft. per toilet for the collection tanks.

Plumbing Fixtures and Piping. Please see the architectural report for information on the existing plumbing fixtures. The fixtures, water heater, and water piping systems appear to be functional but do not meet current code requirements for energy and water conservation. The interior drainage system also appears to function but seems to lack proper venting.

HVAC. There is no existing ventilation system except for an old bathroom exhaust fan that delivers its exhaust air to an unknown location.

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The heating system consists of an oil-fired furnace with ductwork in the basement only. The oil tank is exterior to the building in an unheated lean-to. The first floor has no heat except via removable wooden plates under pews that cover open holes through the floor to the basement below. This arrangement has recently been cited by local code officials as a fire code violation.

Option A – Minimum Work Required for Building to Remain As Is

Plumbing. The only way to use the building with minimal plumbing work would be if it were owned by the town and then users would be permitted to use new or existing ADA restrooms in the town office building across the street. The existing restroom in the Lower Waterford Church would be best removed, with all water piping remaining in the basement level only.

HVAC. The only way to use the building with minimal HVAC work would be if it were used as a three-season building only, with no heating provided. The holes in the floor below the pews would be closed and sealed. The oil furnace could be retained to keep the water from freezing in the pipes over the winter, or the piping system could be drained and winterized each year.

Fresh air ventilation would be provided by windows only, and all the windows would need to be renovated so they are completely operable and free of lead paint. To be sure of proper ventilation levels (and to lower COVID-19 risk) there would need to be a room CO2 sensor on each floor, with a loud audible alarm above 750 ppm. (These systems would cost about $1000 per floor.)

All Other Options – Adaptive Reuse

All other options would require a building permit and complete system upgrades to be code compliant as well as serving the new functions. Nothing would be retained from the existing plumbing except the well, well pump, and water supply line into the sub-basement. Of course, the major problem with the wastewater system would need to be resolved for any upgrade reuse described below. Nothing would be retained from the existing HVAC for any of the adaptive reuse options.

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Option B – Relocating Town Offices in Lower Level

See the attached standard Mechanical Basis of Design (BOD) for typical plumbing and HVAC systems.

Plumbing. See architectural plans. Separate men's and women's restrooms would be required unless the total occupancy is less than 25 persons, in which case a unisex facility is permitted. All restroom and kitchen plumbing would be ADA accessible. There would also need to be a dual ADA drinking fountain, a service sink such as a mop basin, and an electric water heater.

HVAC. For this use, the ERV/heat pump systems per the BOD are appropriate. The outdoor unit would be ground-mounted and the indoor units would be ceiling cassettes (requiring 12 inches of vertical space). The ERV would require about a 50 sq.ft. mechanical room in the basement (not in the dirt floor area) and ductwork in the 12 inches of space above the ceilings.

Option C – Cafe in Lower Level

Plumbing. See architectural plans. See the BOD for typical plumbing. Separate men's and women's restrooms would be required (ADA). There would also need to be a service sink such as a mop basin. Commercial kitchen design would need approval by the state, and would require a grease interceptor if there is cooking.

HVAC. If there is cooking, a commercial range hood would be required, along with a make-up air system providing heated outside air to make up for the hood exhaust.

An appropriate mechanical system would be an oil boiler, glycol hydronic distribution, an air handler for make-up air and fresh air ventilation, and baseboard radiation at the perimeters. A large mechanical room would be required for the boiler, pumps, oil tanks, and air handling unit – about 200 sq.ft.

If there is no cooking and no range hood, then HVAC systems as for the Town Office Option would be appropriate.

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Option D – Under 50 Chapel Space and Wedding Venue

Plumbing. See the BOD for typical plumbing. Separate men's and women's restrooms would be required (ADA). All occupants would need access to both restrooms. There would also need to be a dual ADA drinking fountain and a service sink such as a mop basin.

HVAC. For this type of intermittent occupancy (mostly unoccupied), the appropriate HVAC system is similar to that described for the Lower Level Cafe Option, except without the range hood. The HVAC equipment and ductwork could be located in the basement if that space were to be only storage – otherwise the ducts would interfere with any higher usage.

Locating the equipment on the first floor instead would take about 150 sq.ft. of space, plus ductwork, registers, and radiation. An alternate terminal system would be a floor-mounted unit ventilator in each room, and two unit ventilators in the 49-person room. There would be CO2 detection as part of the building control system, so the amount of fresh air ventilation could be automatically adjusted in accordance with the actual occupancy.

Option E – Performance Space

Plumbing. See the BOD for typical plumbing. Separate men's and women's restrooms would be required (ADA). There would also need to be a dual ADA drinking fountain and a service sink such as a mop basin.

HVAC. For this type of intermittent occupancy (mostly unoccupied), the appropriate HVAC system is similar to that described for Option D. The equipment and ductwork could be located in the basement if that space were to be only storage – otherwise the ducts would interfere with any higher usage.

Locating the equipment on the first floor instead would take the same 150 sq.ft. of space, plus ductwork, registers, and radiation. An alternate terminal system would be six floor-mounted unit ventilators in the main room, and a horizontal unit ventilator in the entry room. There would be CO2 detection as part of the building control system, so the amount of fresh air ventilation could be automatically adjusted in accordance with the actual occupancy.

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KOHLER&LEWIS
Mechanical Engineering

Standard Mechanical Basis of Design: Commercial Office Buildings

October 18, 2018

Plumbing

Site water piping will enter a heated room in the building with a double check valve assembly backflow preventer, pressure reducing valve, and two pressure gauges. Water piping will be rigid polypropylene (100 year expected life), or Type L copper (50 year expected life). No other piping materials allowed; CPVC or PEX piping will not be used. Above-ground drain-waste-vent (DWV) piping will be cast iron for noise control.

Fixtures (china or 20-ga. stainless steel) and faucets (Chicago or equal) will be approved by Owner, Architect, and Engineer. Toilets will be flush valve or tank design, with a performance rating of 1000. There will be at least one hard-piped dual ADA drinking fountain with bottle filler per floor.

Domestic Hot Water (DHW) will be provided by gas, electric or heat pump water heaters(s). Solar thermal DHW will not be provided. Water heaters will be distributed throughout the building, or centralized. There will be continuously recirculating hot water and/or electric heat trace in order to provide warm water at the faucets quickly and efficiently.

Storm drain piping from roof drains on flat roof areas will be conducted through cast iron piping to building exit locations below grade.

Ventilation

Fresh air ventilation will be provided to all rooms by one or more ERVs (Energy Recovery Ventilators) on the roof or on each floor. Insulated supply ductwork and uninsulated return ductwork will be in heated space above the ceilings, and will serve the rooms via flex ducts and supply and return registers. Restrooms and service spaces will be exhausted via the ERV system. Each ERV will have noise silencers in the supply and return ducts.

The ventilation air will have supplemental heating (needed when it is very cold outside) provided by hydronic, electric or heat pump heating coils in the main supply air ducts.

Heating and Cooling

Air conditioning and heating will be provided by a Variable Refrigerant Flow (VRF) air source heat pump system. This system will be able to provide heating to some rooms and air conditioning to others, at the same time, and to provide full heating down to minus 20F. There will be a thermostat in each room. The outdoor heat pump unit(s) will be located on the roof or on a pad on the ground, and will be elevated 18 inches for snow and condensate control.

All the indoor heat pump units will be ducted units concealed above the ceiling or in mechanical closets, or ductless units that are ceiling mounted. Factory-designed refrigerant piping will run above the ceiling between the indoor units and the outdoor unit(s). Each indoor unit will produce air conditioning liquid condensate, which will be handled by built-in pumps, and then collected and piped to service sinks inside the building.

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Pearson & Associates

A Division of Dubois and King, Inc.
MECHANICAL & ELECTRICAL ENGINEERS
75 North Main Street, Waterbury, Vermont 05676
Phone (802) 882-8789
e-mail: ryan.r@pearsonandassociates.com

August 11, 2020

Jesse Remick
Black River Design Architects
73 Main St, Rm. 9
Montpelier, VT 05602

SUBJECT: Lower Waterford Church, Lower Waterford, Vermont
Adaptive Reuse Study for Electrical Systems and Installations.

Dear Jesse:

The following are the descriptions of electrical work required for each of the adaptive use options including minimum work required for the building to remain as is, option for relocating the town offices in the lower level level, options for a café, options for a under 50 persons chapel space and wedding venue, and options for a performance space for up to 160 persons.

These systems are based upon the architectural drawings generated by your office and our site visit.

Option A – Minimum Work Required for Building to Remain as Is

This minimum work is required for all adaptive use options:

1. The existing fire alarm system is outdated and has not been inspected since 1996. Manual pull stations are located at the exits to the building, but they are mounted too high. There is a horn strobe located on each floor, but there is not proper coverage. There are existing heat detectors located throughout the space. We propose the fire alarm system is replaced and updated with a new system. New horn strobes shall be provided throughout the space that cover all areas to code and new pull stations shall be installed at the exits at the required ADA height. New smoke and heat detectors shall be provided throughout the space where code required. All existing fire alarm wiring shall be removed, and new wiring shall be installed for the new system. A cellular dialer or (2) telephone lines is required for the fire alarm system, currently there is no telephone service to the building.

2. The existing wiring has multiple code violations including exposed Romex, ungrounded receptacles, damaged cables with exposed copper conductors, and old cloth cables. Much of the existing wiring is very old and damaged wiring was found in a few places. It is unknown how much of the existing wiring is potentially damaged, because of these reasons we propose the entire building be re-wired with MC cable at a minimum and the (2) panels are replaced with new 100A panels. New grounding electrodes shall be required at the main panel, currently there does not appear to be any grounding.

3. The existing lighting protection needs to be tested and all connections need to be checked to assure they are in adequate condition.

4. The exterior light socket above the lower level exterior door is not rated for exterior use, this shall be replaced with a new exterior rated LED wall pack.

Option B – Relocating Town Offices in Lower Level

1. The minimum work outlined in Option A must be completed unless noted otherwise or modified in this option.

2. The 100A 1-phase service will need to be increased to a 400A 1-phase service with a 100A sub-panel in the lower level to feed all new circuits.

3. New receptacles shall be provided in the new office spaces with at least (1) receptacle on each wall in each office. New receptacles shall be provided in the open office and reception area with no receptacles spaced more than 10' apart. Service receptacles shall be provided for new HVAC equipment.

4. Provide power to all new HVAC equipment.

5. Currently the building does not have any telephone or internet service. A new tel/data service will need to be provided and a new wall mounted rack shall be provided in the lower level with a quad receptacle for new tel/data connections in the office space. Provide (2) CAT. 6 cables to each tel/data location.

6. Provide (2) tel/data locations in each office, (4) tel/data locations in the open office space, and (1) tel/data location at Reception.

7. Provide new LED lighting and dimming/occupancy controls throughout the renovated space. Provide new exit/emergency lighting throughout the space.

Option C – Café

1. The minimum work outlined in Option A must be completed unless noted otherwise or modified in this option.

2. The 100A 1-phase service will need to be increased to a 200A 1-phase service with a 100A sub-panel in the lower level to feed all new circuits. This service size does not include any new air-conditioning.

1. New receptacles shall be provided for new kitchen appliances. New convenience receptacles shall be provided throughout the seating area.

2. Provide power to all new HVAC equipment.

3. Currently the building does not have any telephone or internet service. A new tel/data service will need to be provided and a new wall mounted rack shall be provided in the lower level with a quad receptacle for new tel/data connections in the Cafe. Provide (2) CAT. 6 cables to each tel/data location.

4. Provide (1) tel/data location at each POS.

5. Provide new LED lighting and dimming/occupancy controls throughout the renovated space. Provide new exit/emergency lighting throughout the space.

Option D – Under 50 Chapel Space and Wedding Venue

1. The minimum work outlined in Option A must be completed unless noted otherwise or modified in this option.

1. Provide power to all new HVAC equipment.

2. Provide new LED lighting and dimming/occupancy controls throughout the renovated space. Provide new exit/emergency lighting throughout the space.

3. Provide new convenience receptacles in the sanctuary, dressing room, bathrooms, and community room.

Option E – Performance Space

1. The minimum work outlined in Option A must be completed unless noted otherwise or modified in this option.

2. Provide power to all new HVAC equipment.

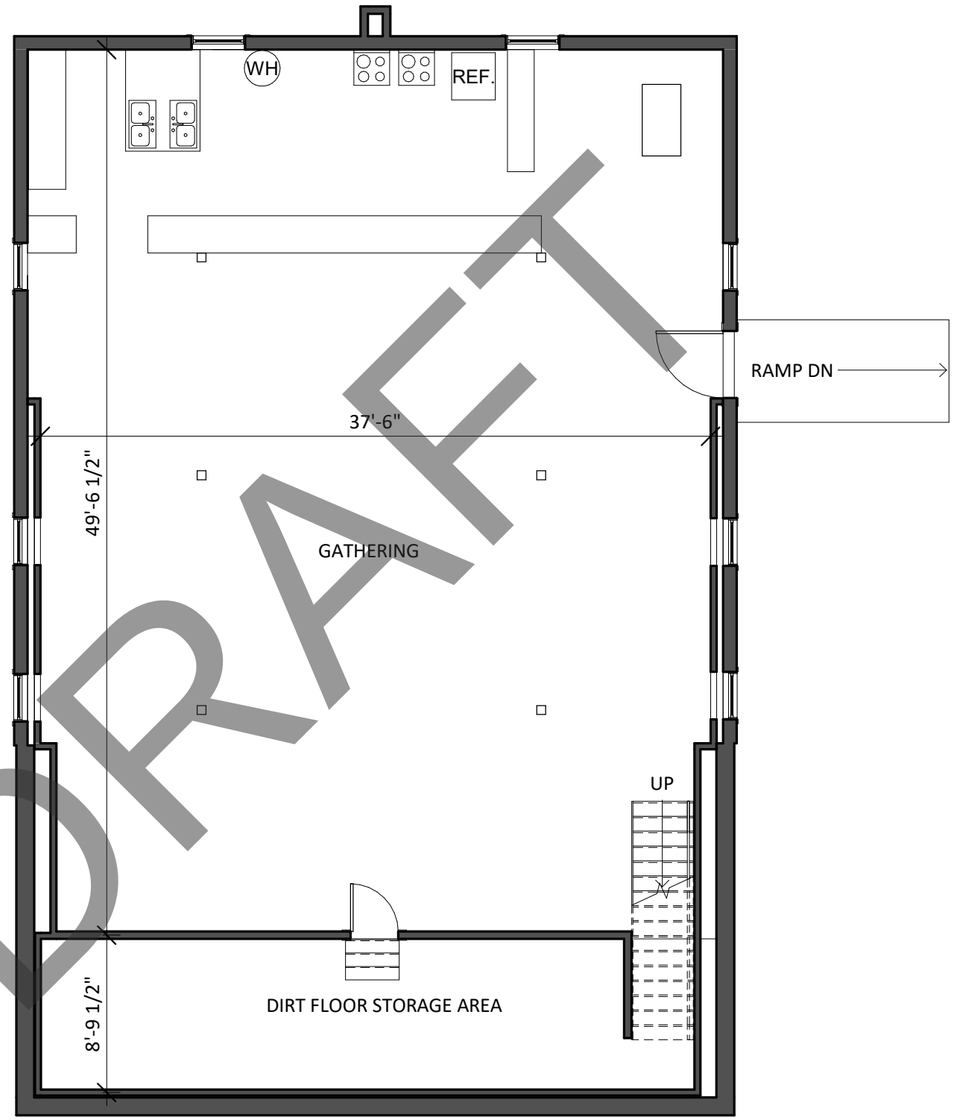
3. Provide new LED lighting and dimming controls in the renovated space. Provide new exit/emergency lighting throughout the space.

4. Provide new convenience receptacles in the seating space and bathroom.

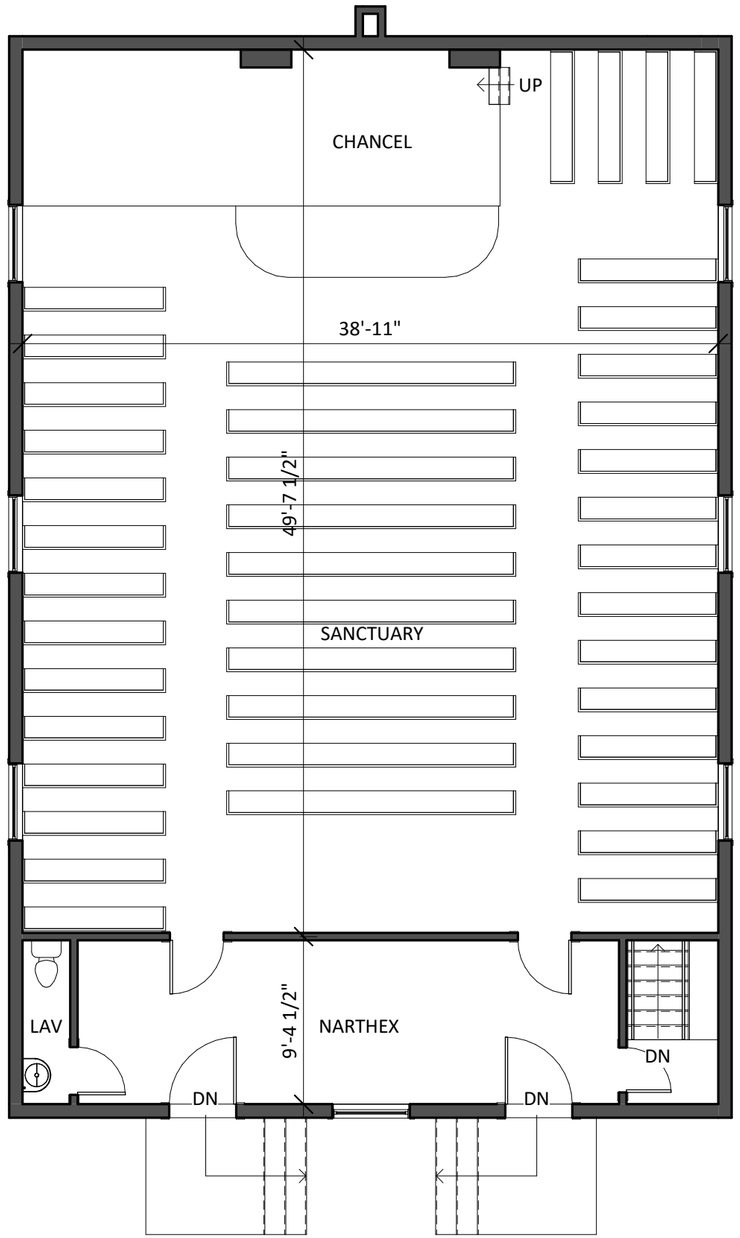
The above list identifies the required upgrades needed for each adaptive use option of the space. This list shall be used for cost estimating purposes for each option.

Sincerely,

Ryan Roberts



LOWER LEVEL - EXISTING



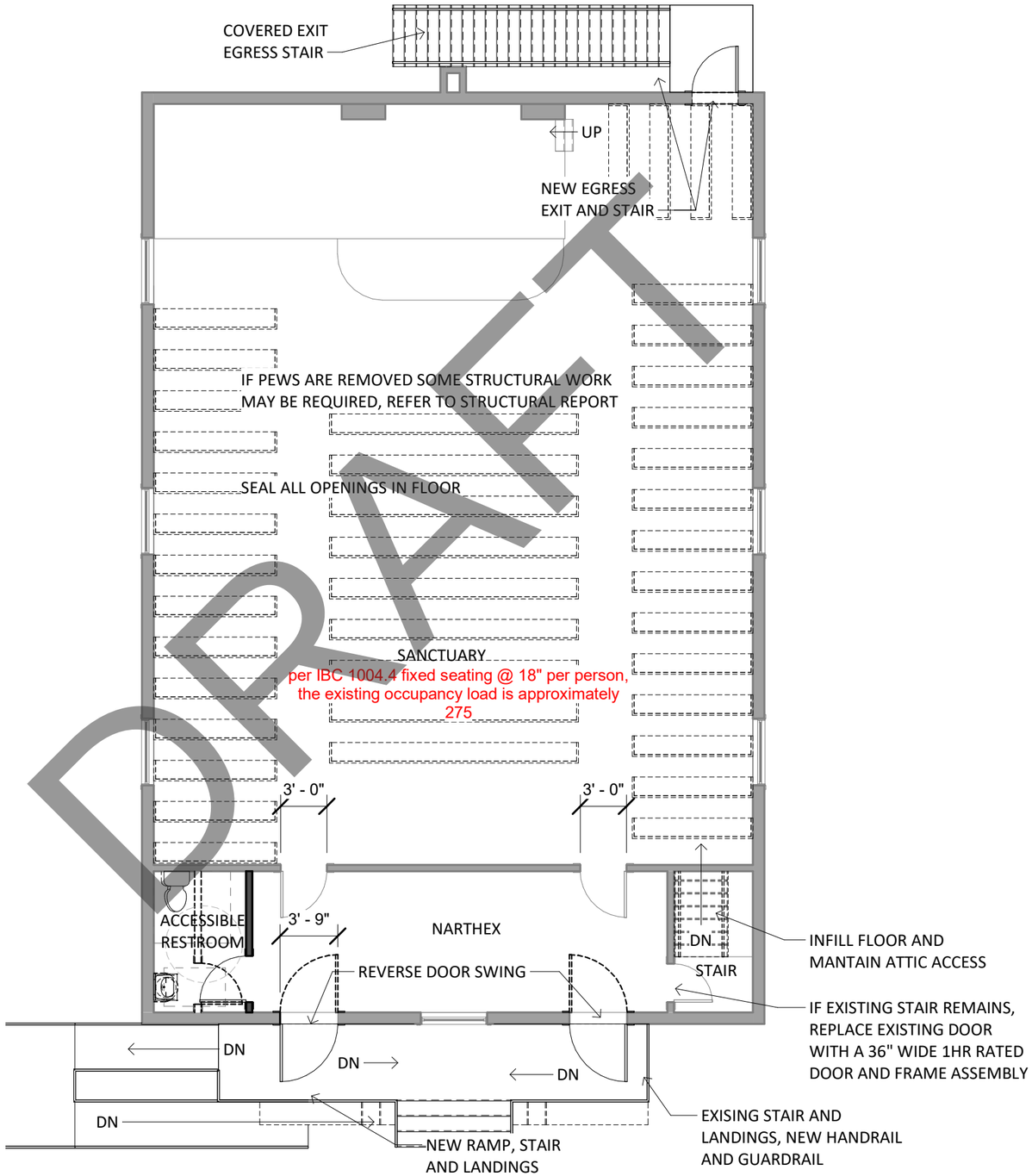
LEVEL 1 - EXISTING SANCTUARY

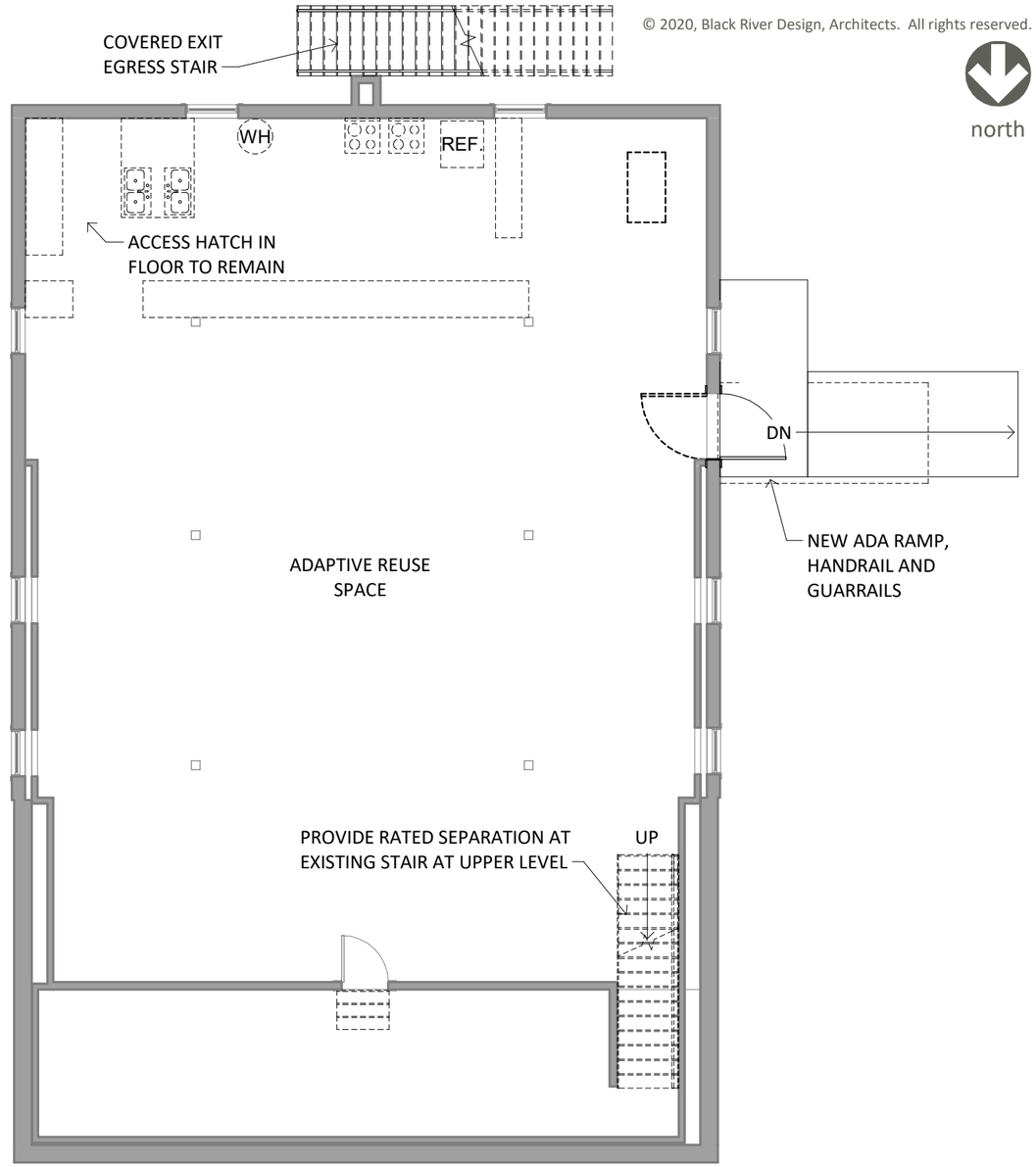
EXISTING FLOOR PLANS

08/31/2020 scale: 1/8" = 1'-0"

ADAPTIVE REUSE STUDY FOR THE LOWER WATERFORD CHURCH

BLACK RIVER DESIGN ARCHITECTS





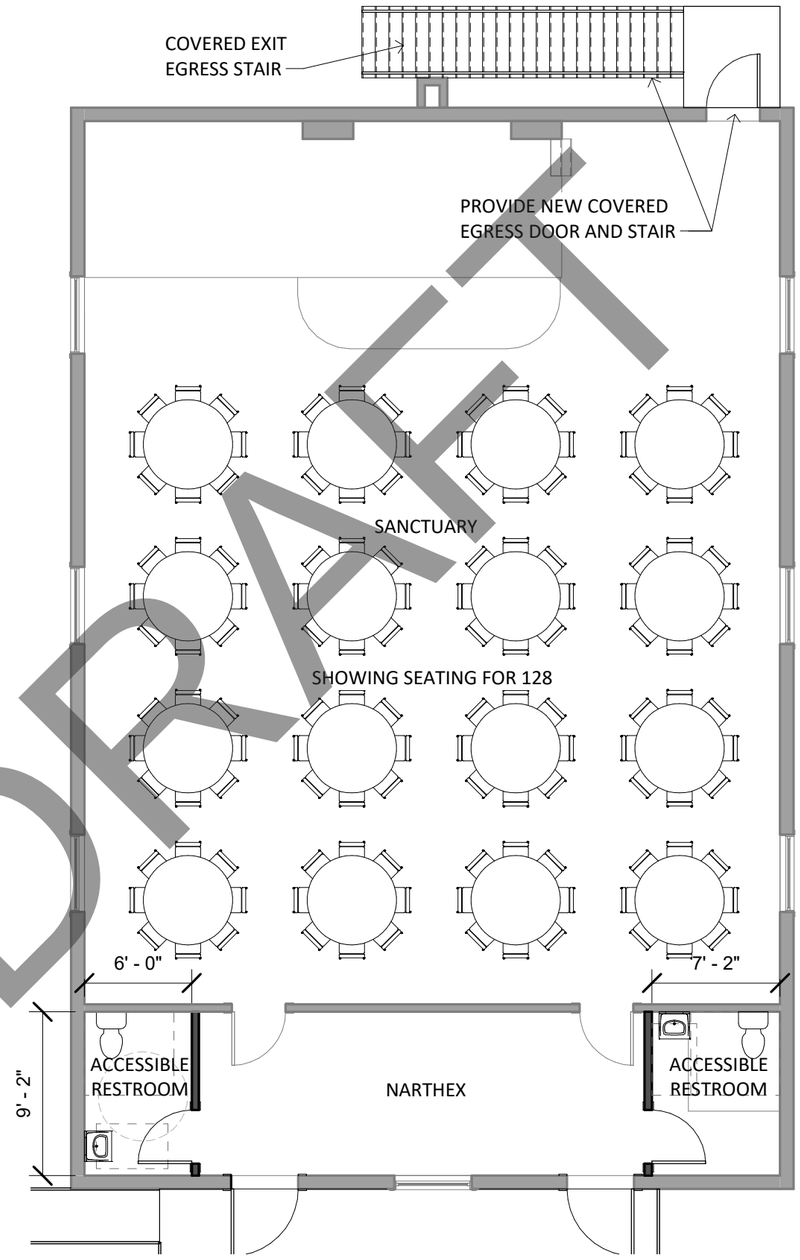
north

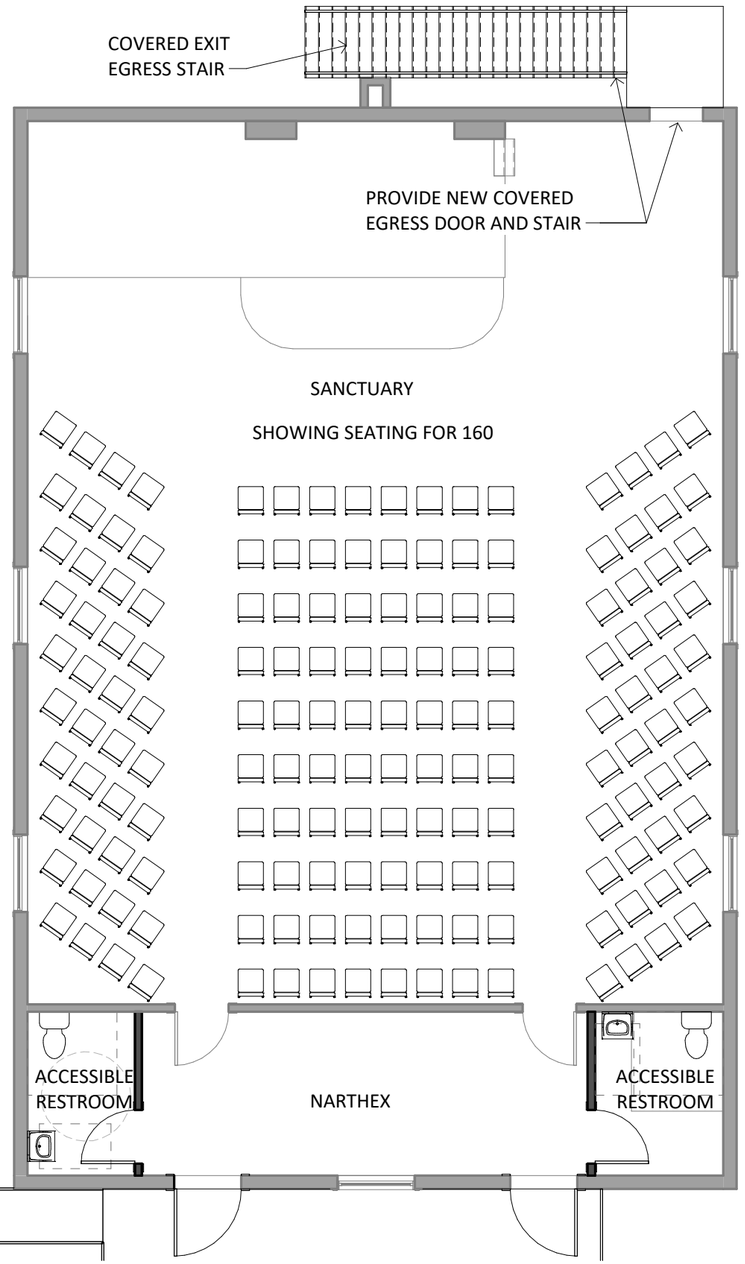
REQUIRED MINIMUM CODE AND ACCESSIBLE CHANGES

08/31/20 scale: 1/8" = 1'-0"

ADAPTIVE REUSE STUDY FOR THE LOWER WATERFORD CHURCH

BLACK RIVER DESIGN ARCHITECTS





north

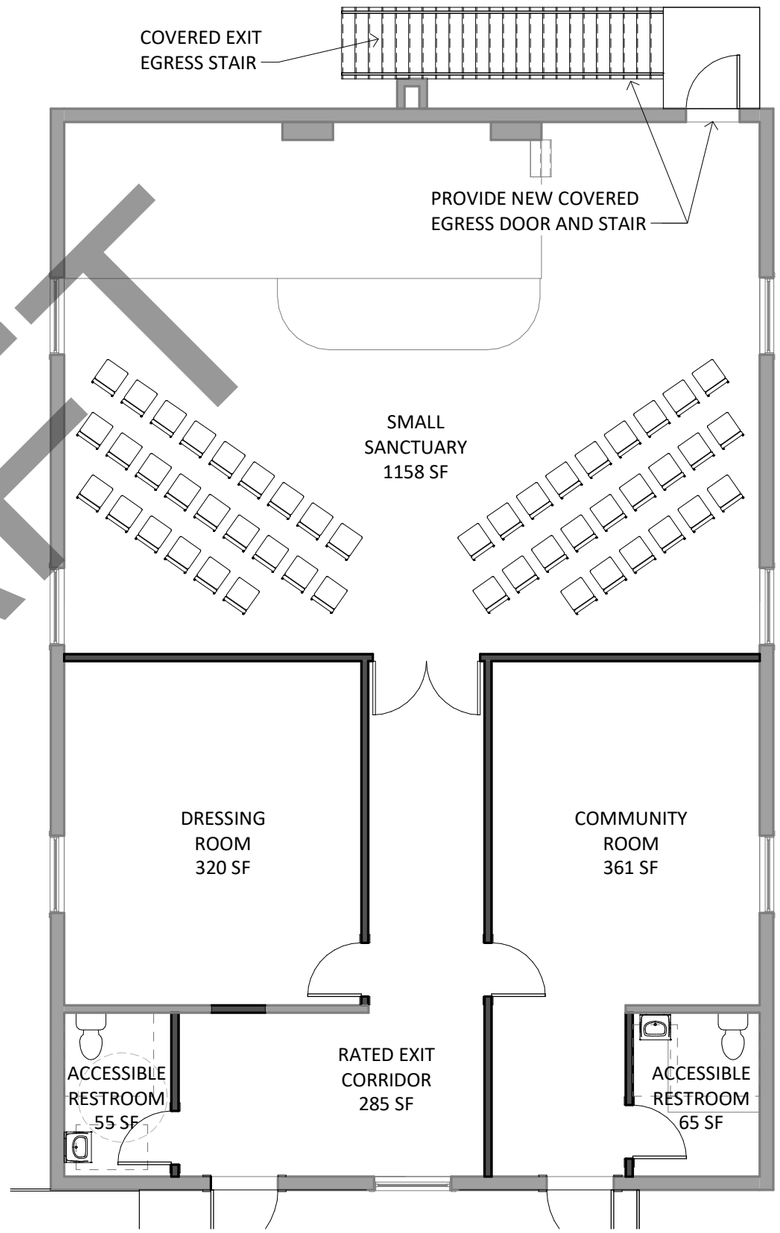
UPPER LEVEL PERFORMANCE SPACE OPTIONS

08/31/2020 scale: 1/8" = 1'-0"

ADAPTIVE REUSE STUDY FOR THE LOWER WATERFORD CHURCH

BLACK RIVER DESIGN ARCHITECTS

north



1 LEVEL 1 - CHAPEL/SMALL SANCTUARY - OPTION

SCALE: 1/8" = 1'-0"

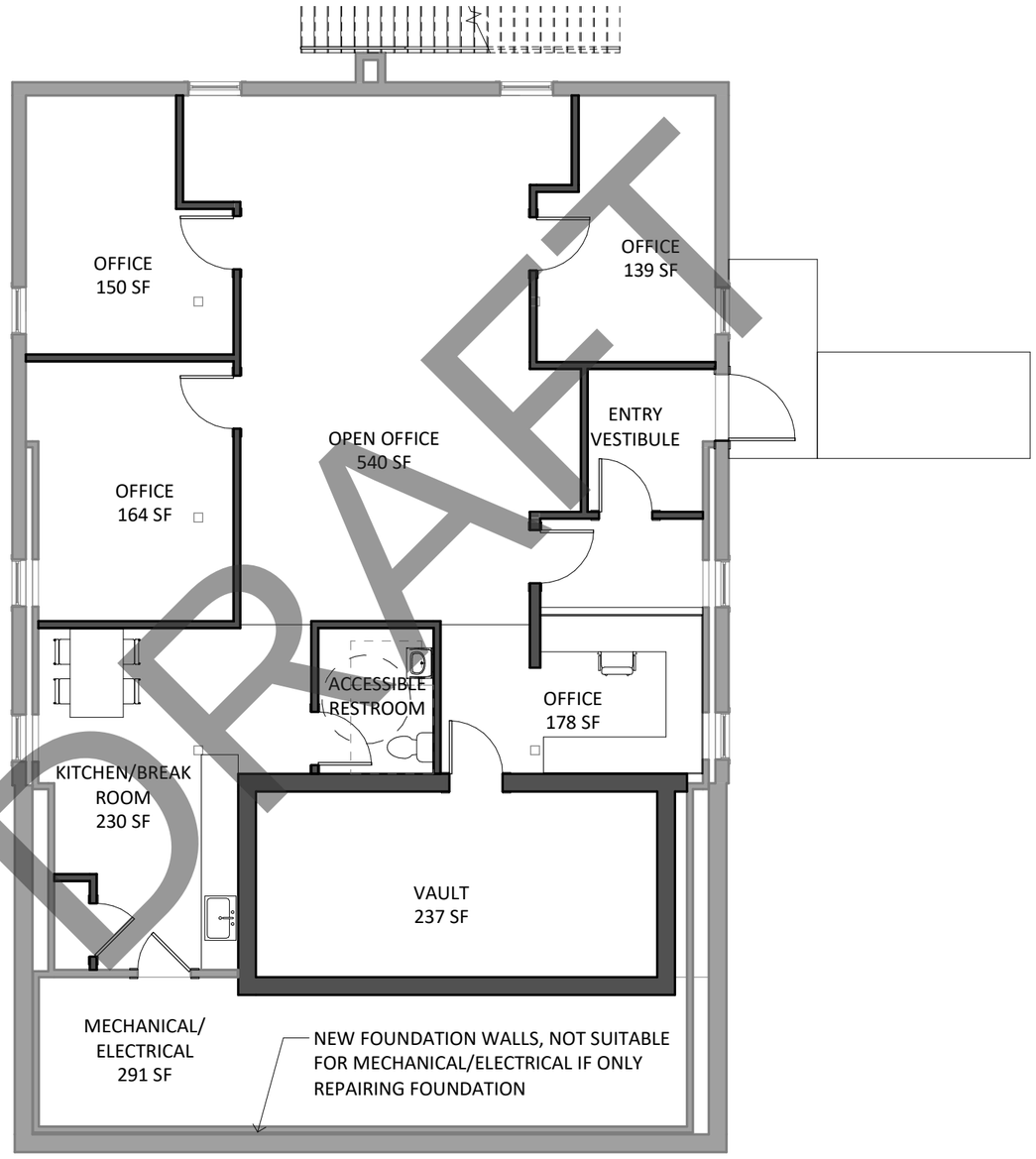
UPPER LEVEL FLOOR PLAN OPTION

08/31/20 scale: 1/8" = 1'-0"

ADAPTIVE REUSE STUDY FOR THE LOWER WATERFORD CHURCH

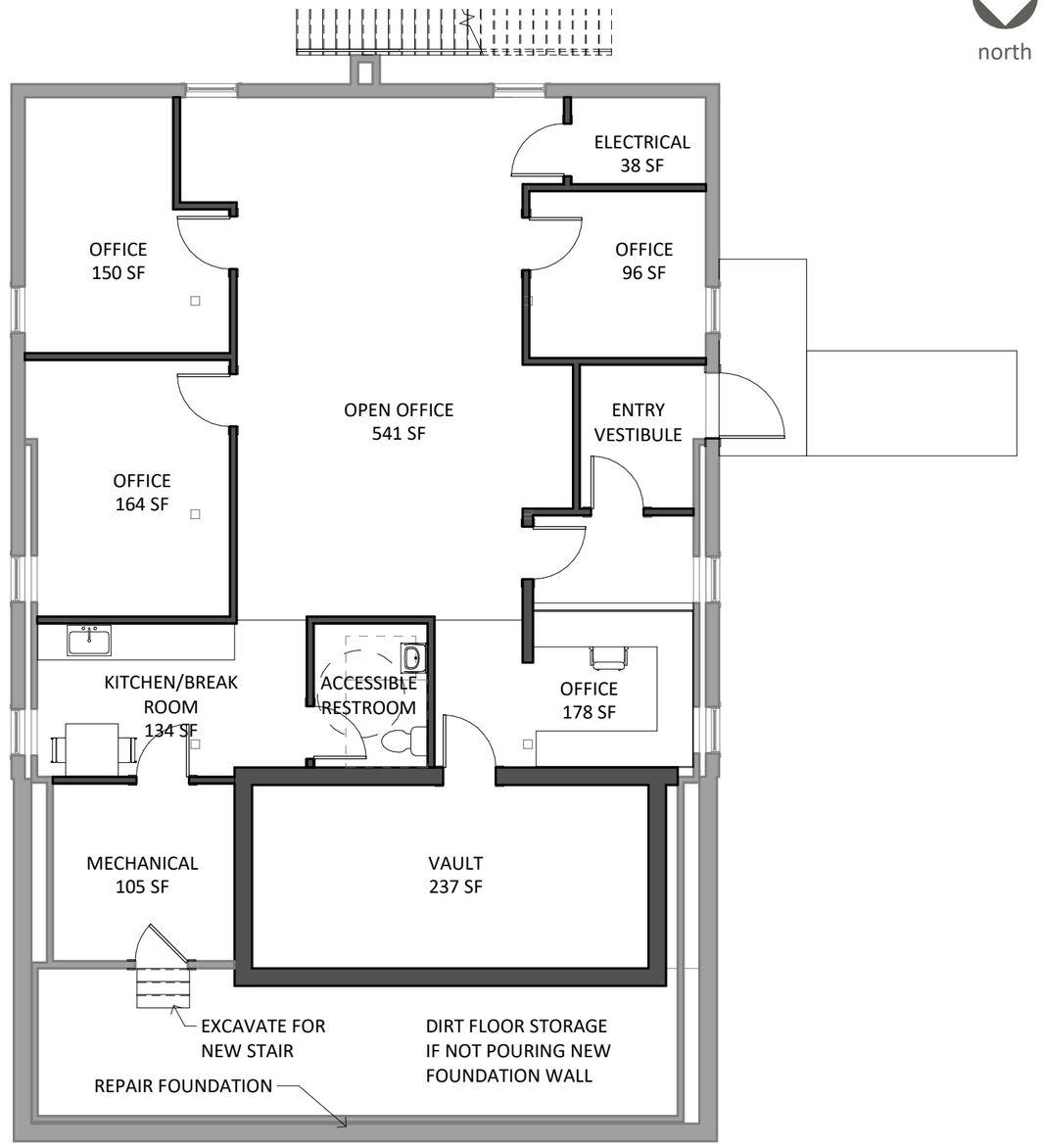
BLACK RIVER DESIGN ARCHITECTS

north



1 LOWER LEVEL - TOWN OFFICE OPTION 1

SCALE: 1/8" = 1'-0"



2 LOWER LEVEL - TOWN OFFICE OPTION 2

SCALE: 1/8" = 1'-0"

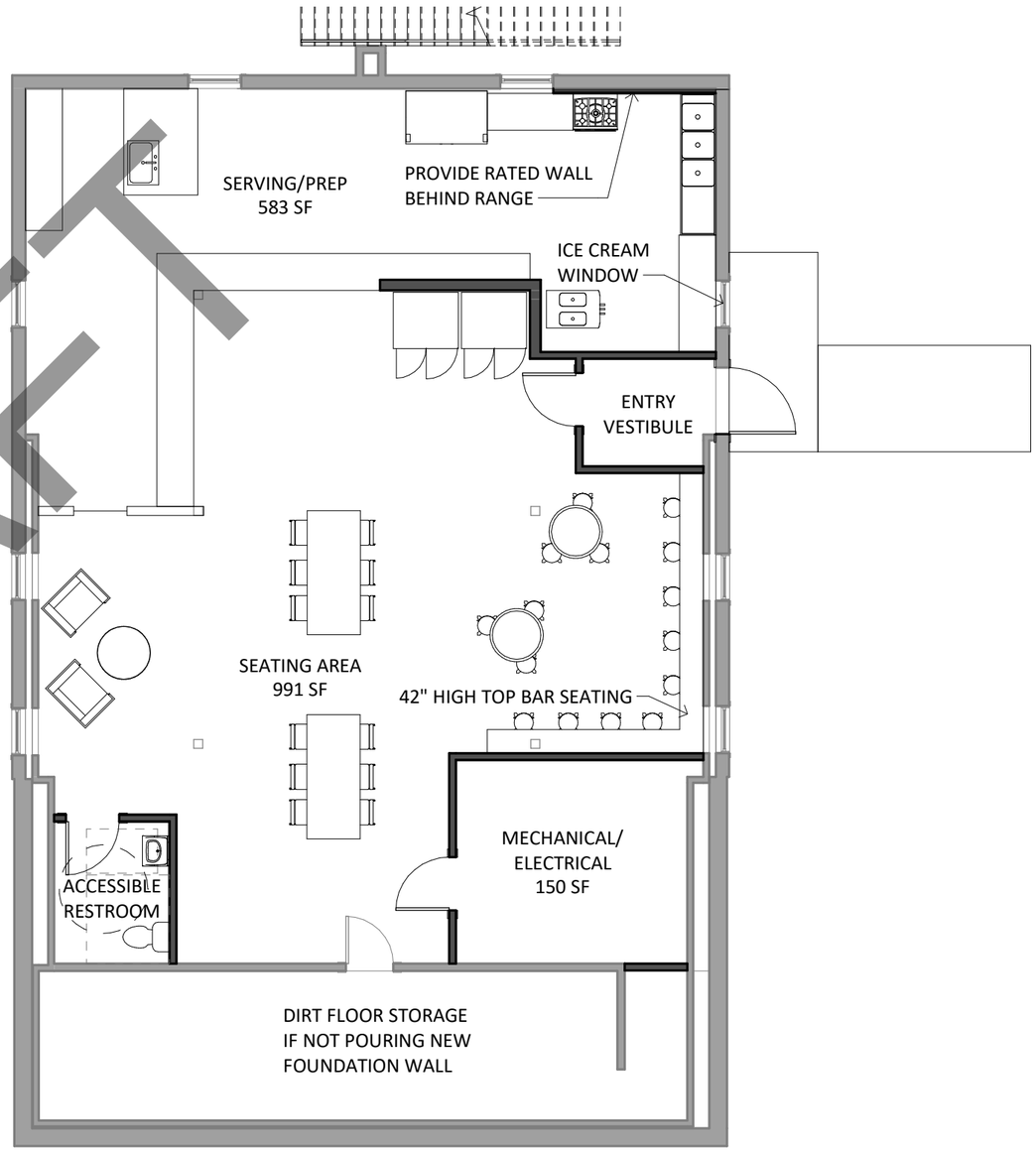
LOWER LEVEL FLOOR PLAN - TOWN OFFICE OPTIONS

08/31/20 scale: 1/8" = 1'-0"

ADAPTIVE REUSE STUDY FOR THE LOWER WATERFORD CHURCH

BLACK RIVER DESIGN ARCHITECTS

north



1 LOWER LEVEL - CAFE OPTION

SCALE: 1/8" = 1'-0"

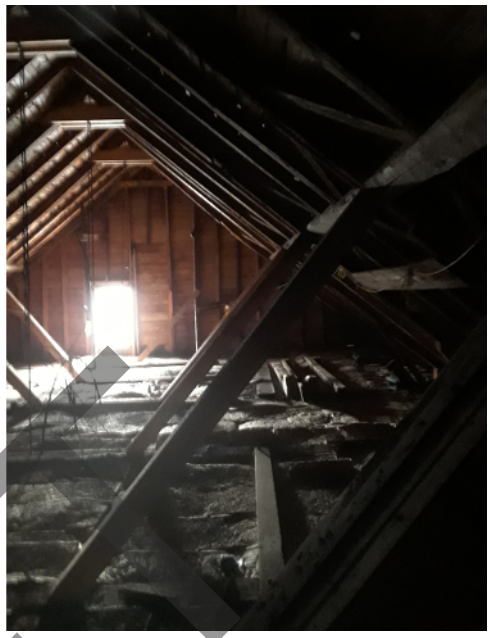
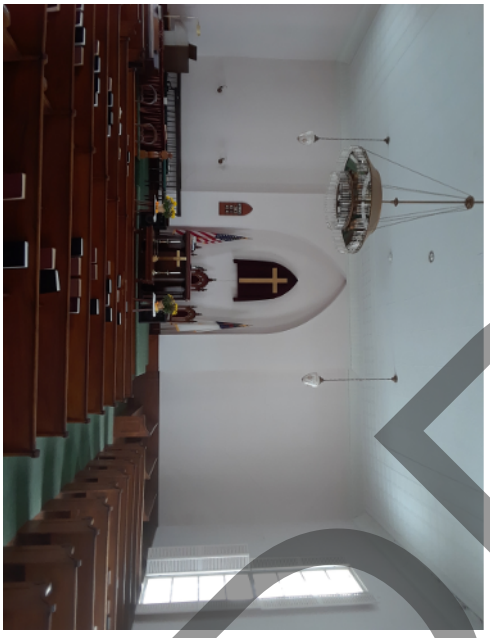
LOWER LEVEL FLOOR PLAN - CAFE OPTION

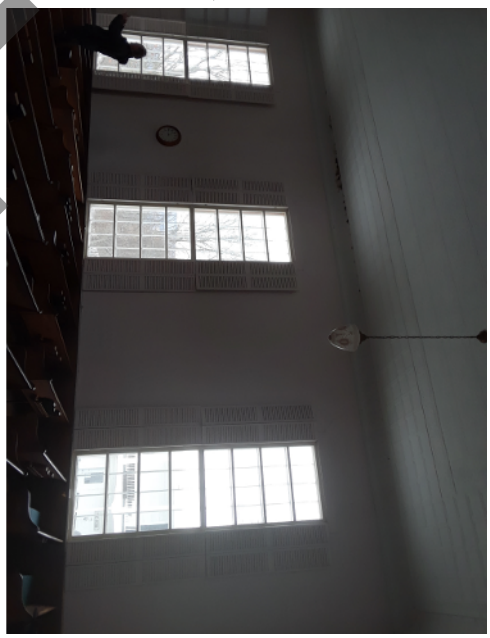
08/31/20 scale: 1/8" = 1'-0"

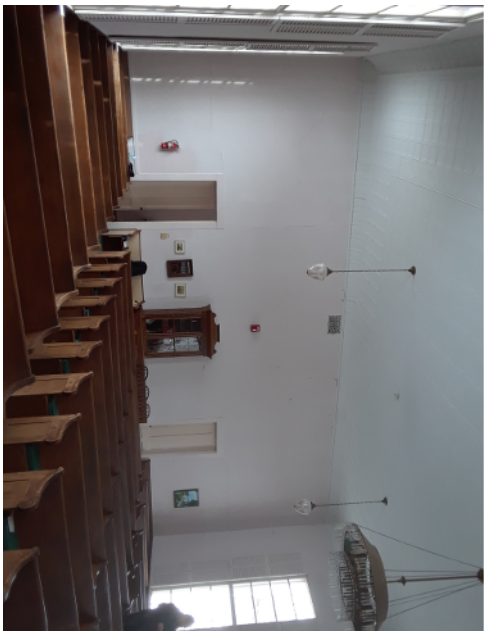
ADAPTIVE REUSE STUDY FOR THE LOWER WATERFORD CHURCH

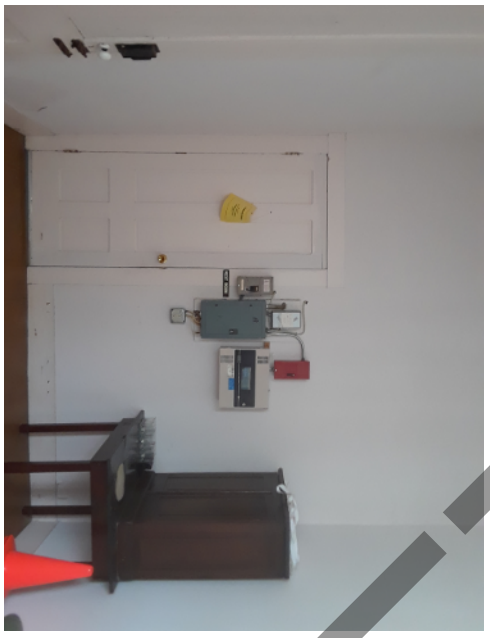
BLACK RIVER DESIGN ARCHITECTS





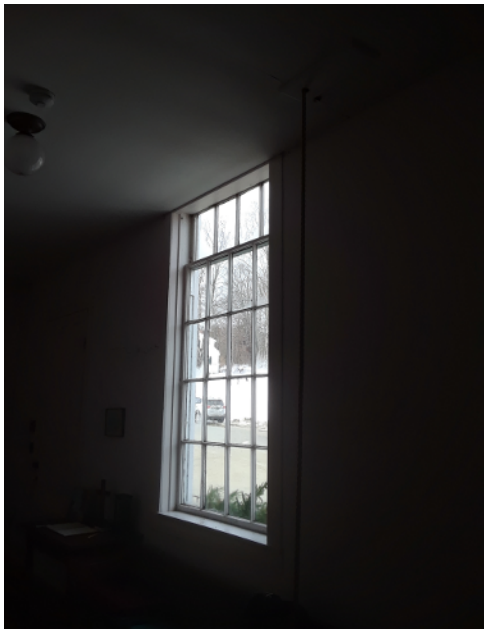



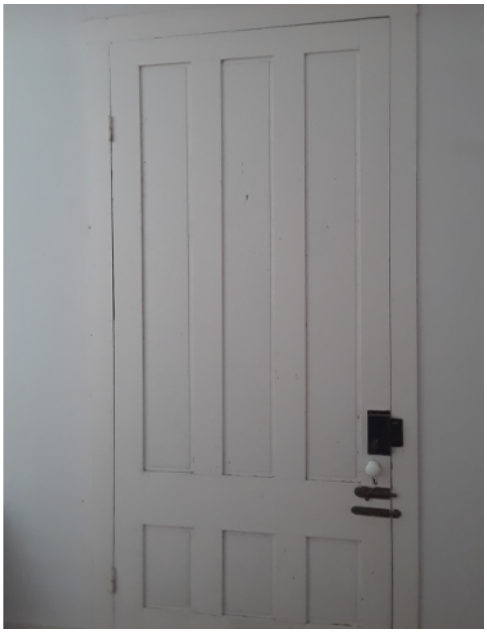


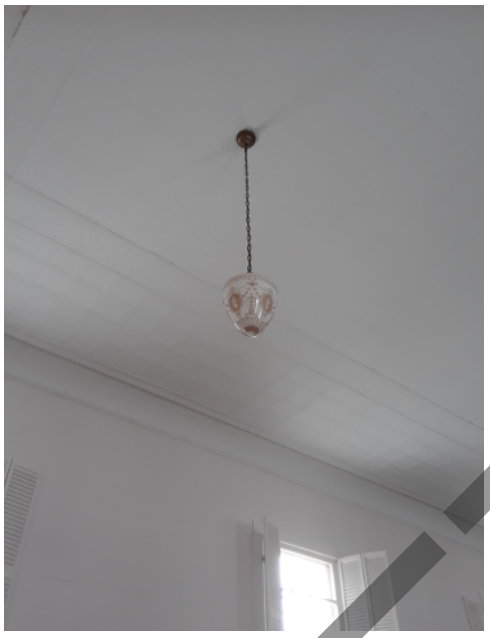

REST ROOM

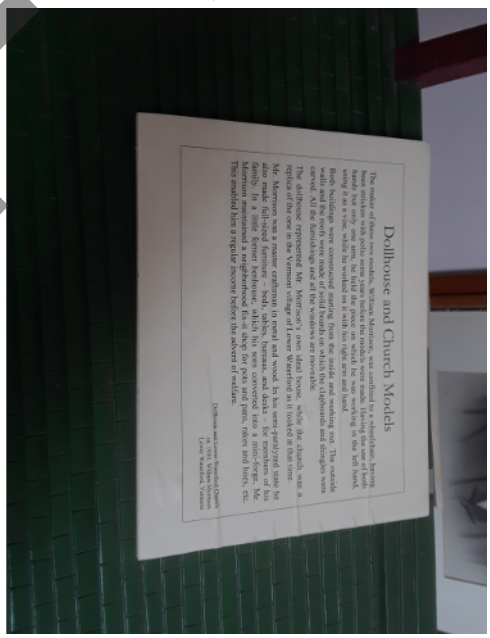

GENERAL ELECTRIC
LOAD CENTER
MAIN BREAKER
OFF ON ON OFF
5


4001
FIRE ALARM CONTROL







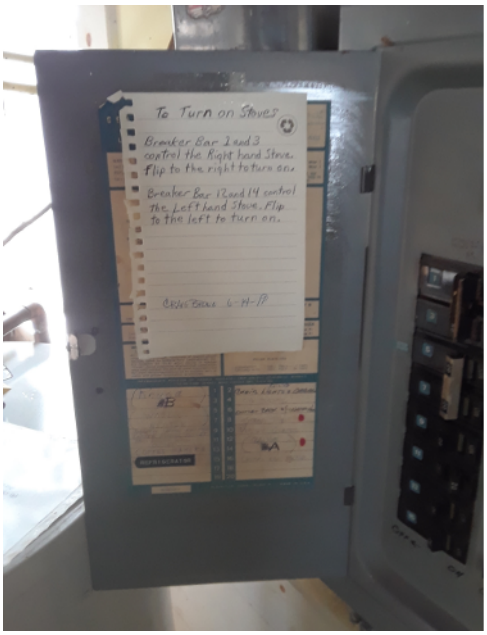


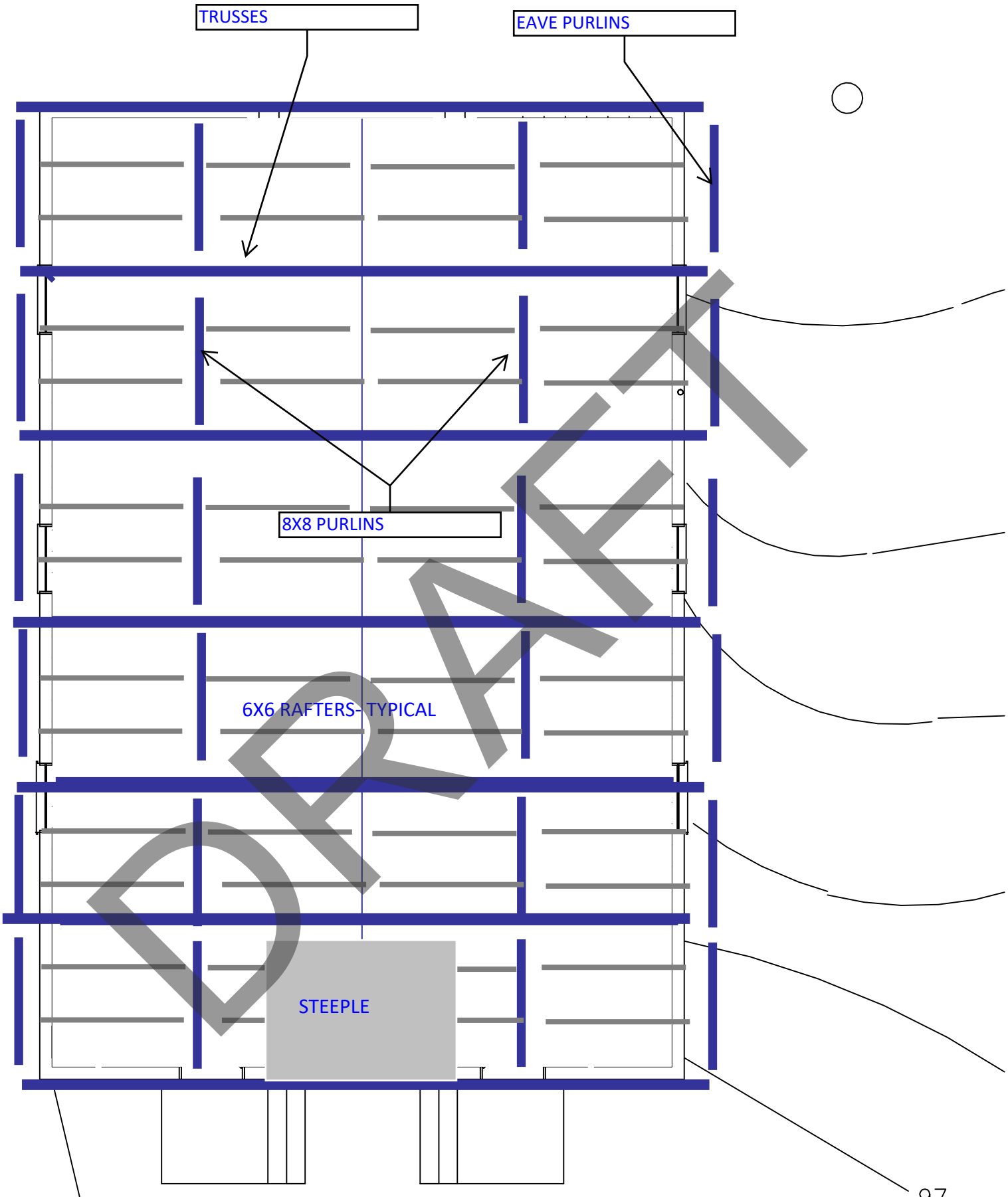






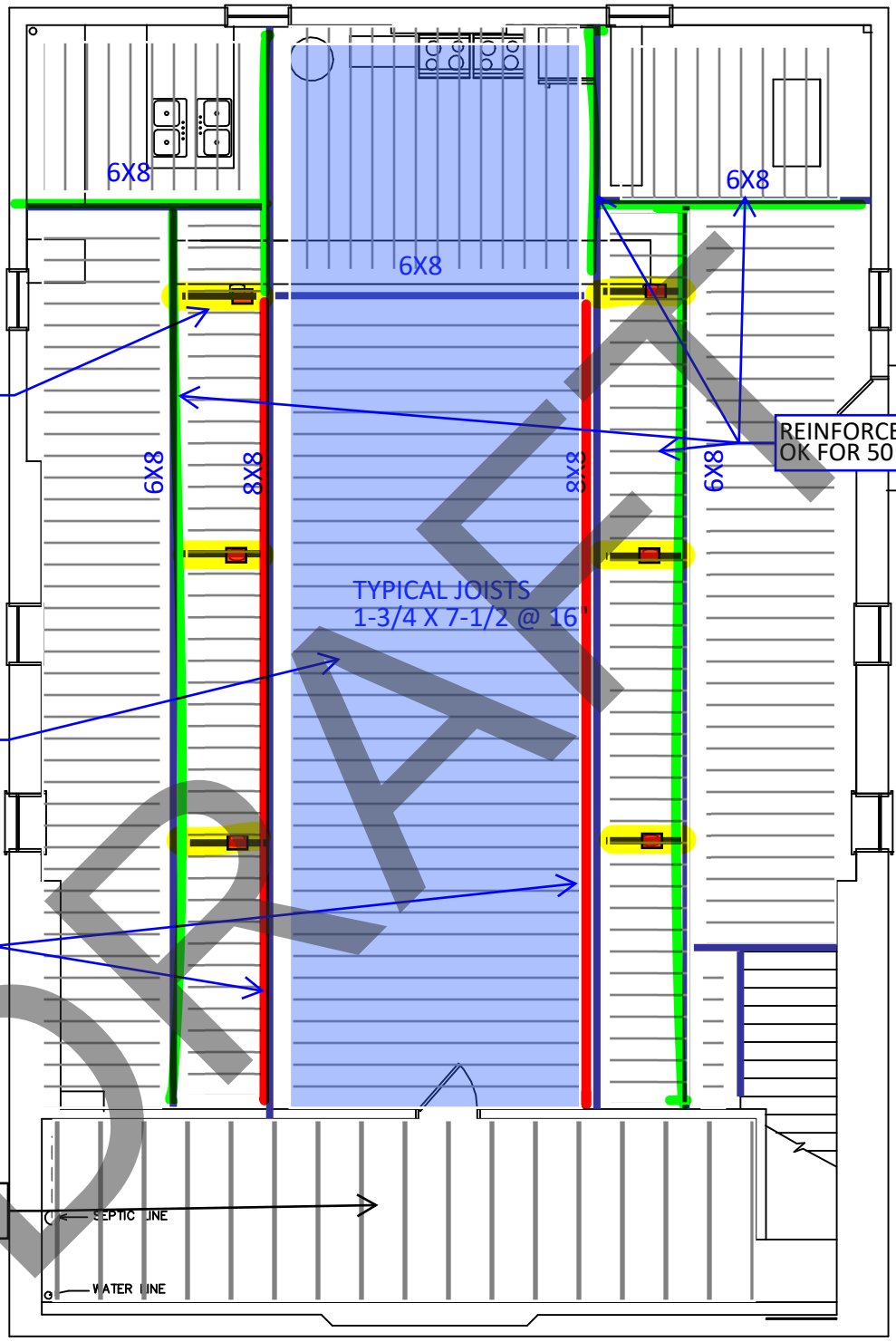



To Turn on Stoves
Breaker Bar 2 and 3 control the Right hand Stove. Flip to the right to turn on.
Breaker Bar 12 and 14 control the Left hand Stove. Flip to the left to turn on.



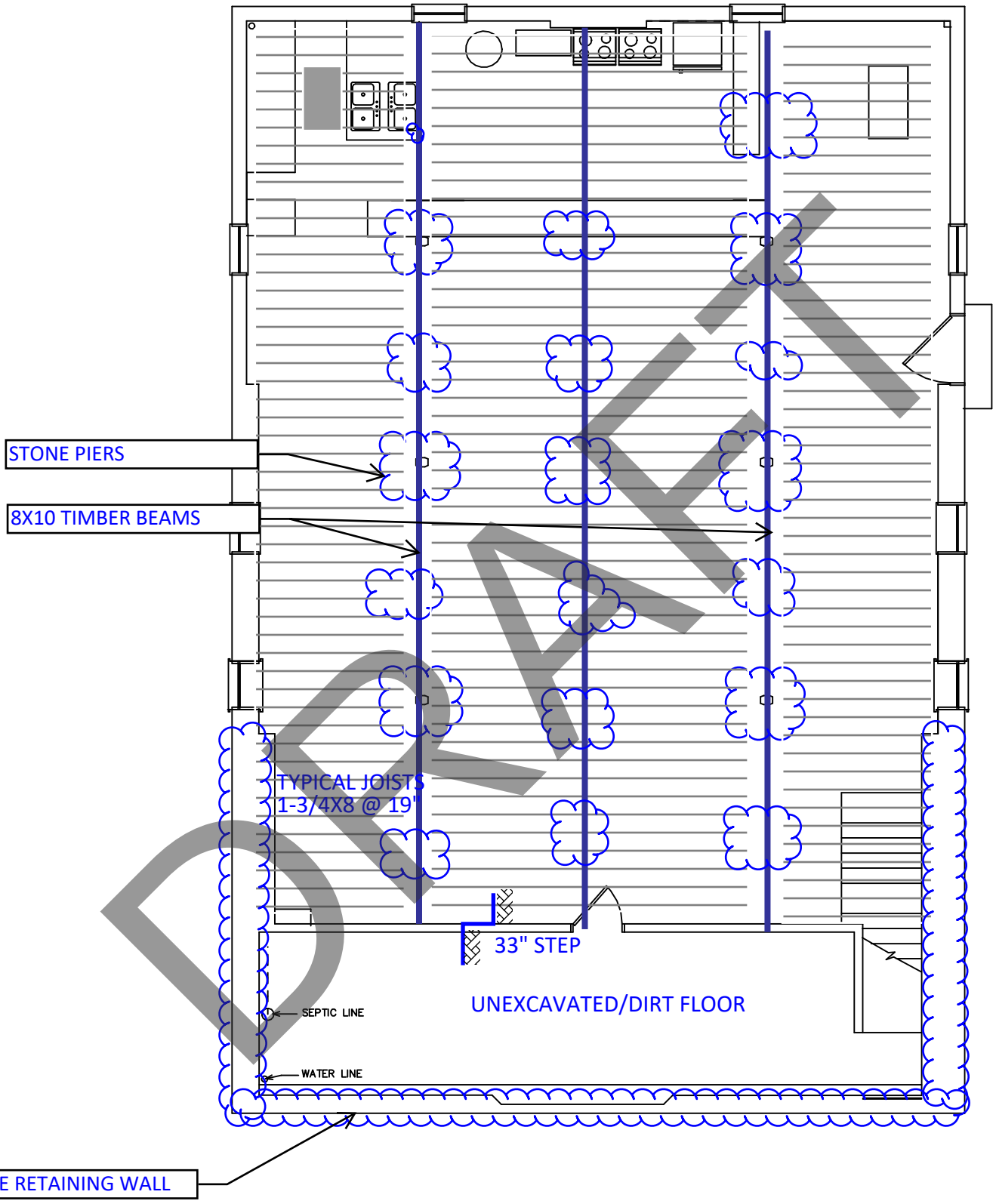
ROOF FRAMING

LOWER WATERFORD CHURCH
SCHEMATIC STRUCTURAL
DRAWINGS
AUGUST 31, 2020
ENGINEERING VENTURES, PC



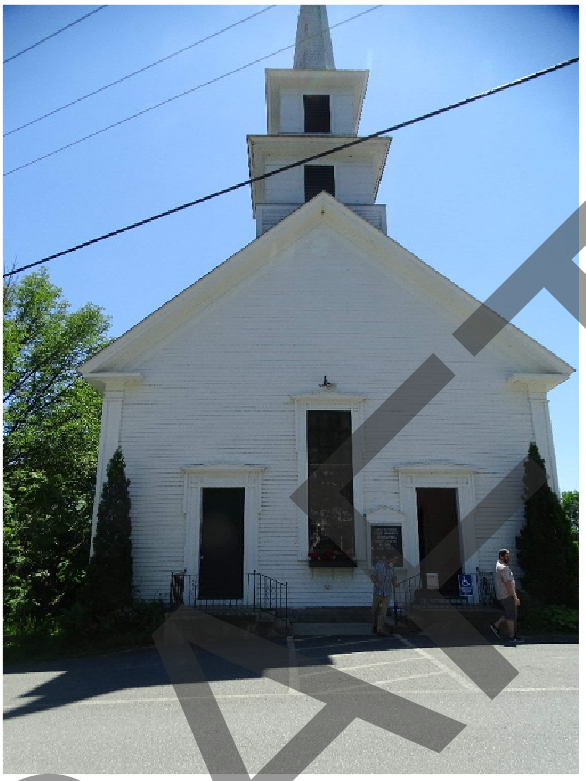
UPPER LEVEL FLOOR FRAMING

LOWER WATERFORD CHURCH
SCHEMATIC STRUCTURAL DRAWINGS
AUGUST 31, 2020
ENGINEERING VENTURES, PC



LOWER LEVEL FLOOR FRAMING

LOWER WATERFORD CHURCH
SCHEMATIC STRUCTURAL
DRAWINGS
AUGUST 31, 2020
ENGINEERING VENTURES, PC



NORTH ELEVATION

WEST ELEVATION

ROOF FRAMING

2010 EAVE REPAIR AT TRUSSES

SANCTUARY FLOOR FRAMING

SANCTUARY FLOOR FRAMING

NORTH BASEMENT - SANCTUARY ENTRY FRAMING AND FAILING RETAINING WALL

LOWER FLOOR FRAMING AND FAILING FOUNDATIONS

LOWER FLOOR FRAMING AND FAILING PIERS

CRACKING OF PLASTER LIKELY DUE TO SETTLEMENT OF FOUNDATIONS

SANCTUARY

BUDGET ESTIMATE 9/15/20

PROJECT: # LOWER WATERFORD CHURCH IMPROVEMENTS

Options A - Minimum Work Required

See outlined scope and budget assumptions

COST ESTIMATOR : Peter Smejkal
Merkur Construction, LLC
12 Oak Creek Drive
So. Burlington, VT 05403
Tel.: (802) 238-7500

Architect: **Jesse Remick, Clifford Nickerson**
Black River Design Architects
73 Main Street
Montpelier, VT
Tel.: (802) 223-2044

OWNER:

Division	DESCRIPTION	QUANTITY	UNIT	LABOR HOURS	PER HOUR	TOTAL LABOR	UNIT COST	MATERIAL TOTAL	EQUIP. TOTAL	SUB TRADES	TOTAL COST	
1	**General Conditions for CM/bid project: Local small contractor….**											
	Building Permit - State, Town									**By Owner**	0.00	
	Other possible State permits and environmental work									**By Owner**	0.00	
	Builder's Risk Insurance									**By Owner**	0.00	
	Pre-construction time, Contractor's. Admin.	1	ls	32	85	2720		1000			3720.00	
	Project Management, administration	1	ls	32	75	2400		500			2900.00	
	Job supervision,mater.Acquisitions (working super)	2	mo	176	65	11440		500			11940.00	
	Tools, safety, supplies, equipment	1	ls					1000			1000.00	
	Temporary toilet - 1	2	mo				130			260	260.00	
	Truck, phone, materials delivery	2	mo				2000	4000			4000.00	
	NO Trailers							0			0.00	
	Dumpsters for demo + job Dumping/clean up	1	ls	48	35	1680		1600			3280.00	
	Final cleaning - rough only - average	2400	sf				0.35			840	840.00	
	NO Testing services or Commissioning									N.I.C	0.00	
											0.00	**$ 27,940**
A	**OPTION A: Minimum work required - bldg remain as is**											
Sitework	**SITEWORK ITEMS and Services to the building:**									0	0.00	
A	**ACCESIBILITY:**									0	0.00	
	Remove front stairs, landings due to foundation work									1500	1500.00	
	NO Exterior work - NO NEW ramps/stairs etc.									0	0.00	
	Does NOT include Restoration of front steps									0	0	
											0	**$ 1,500**
B	**SERVICES:**										0	
Water	NO new water service									0	0	
Fuel	NO new propane tank or Leased = by others									0	0	
Electrical	New electrical service, meter socket - See Electrical									Div 26	0	
	NO Site ligting = poles,bollards,sign lights,chargers									0	0	
	NO Generator or renewables									0	0	
	New Phone line to the building - Allowance	1	ls							3000	3000	
Storm	Two sides dranage/drip edge at eaves, front	300	ft				35			10500	10500	
	Site restoration after this work	1	ls							2000	2000	
	NO other site drainage - CBs, swales etc.									0	0	
Sewer	Investigation of old system (camera,test pits) Allow.	1	ls							2000	2000	
	NO new wastewater disposal system										0	

											0	
											0	$ 17,500
C	OTHER SITE/EXTERIOR ITEMS:										0	
	NO changes to Parking and signage									0	0	
	NO site furnishings,Patios/fence,sidewalks etc.									0	0	
	NO exterior shell finishes improvements = NO siding/trim/paint/roofing									0	0	
	Does NOT include Restoration of front steps									0	0	
											0	$ -
2-9	Architectural work:		ls							10000	10000.00	
	Interior demolitions and patching Allowance - due to MEP		ls							10000	10000.00	
	Interior demo/patching due to structural work	1	ls							5000	5000.00	
	NO other finishes/fit up work									0	0.00	
	NO re-insulating building shell									0	0.00	
											0	$ 25,000
5	STRUCTURAL: Engineering Ventures									0	0	
Front	Front foundations - support building/jack up	1	ls							10000	10000	
foundations	Front foundations - excavate, remove stone found.	90	ft							7000	7000	
	Footing 3'x15" reinf.	15	yd3				500			7500	7500	
	Foundation walls 80' x 12' x 12"	40	yd3				500			20000	20000	
	Cement blocks gap infill, filled solid	65	ea				45			2925	2925	
	Foundation waterproofing/insulation	1260	sf				4			5040	5040	
	Carpentry - floor improvements/repairs/siding	1	ls							5000	5000	
	Slab excavation,subbase, concrete etc	500	sf				15			7500	7500	
	Crawl space walls - demo/new	480	sf				10			4800	4800	
	Crawl space door	1	ea				1500			1500	1500	
	Rework water service and sewer pipe	1	ls							500	500	
	NO finishing new foundation,ceilng =exposed timber									0	0	
	See MEP divisions for that work										0	
Lower Level	Remove/re-build crawl space support columns	20	ea				650			13000	13000	
	Lower floor reinforcing-demo/Dig/levelling/nailing	2400	sf				2			4800	4800	
	New vapor barrier, taped	3000	sf				0.6			1800	1800	
Upper level	NO WORK									0	0	
Roof	NO WORK									0	0	
										0	0.00	
											0.00	$ 91,365
Mechanical	KOHLER & LEWIS: Division 22 Plumbing + 23 HVAC									0	0.00	
Plumbing	Waterline - existing stays/no BFP/meter/shutoffs									0	0	
	Remove/abandon existing restroom/cap piping below	1	ls							1000	1000	
	Sewer - no improvements/no venting work									0	0	
	Modify lower level piping for winterization	1	ls							3000	3000	
HVAC	Close floor holes/seal/rate Allowance	1	ls							2000	2000	
	NO heating on upper level									0	0	
	NO ventilation = by open windows									0	0	
	Renovate all windows (remove lead), repaint	15	ea				1000			15000	15000	
	CO2 sensor w. alarm - 1 per floor	2	ea				1000			2000	2000	
											0	$ 23,000
Electrical	Pearson & Associates: Division 26											

Electrical	Demolitions - all electrical, FA, panels, service	4800	sf				2			9600	9600	
	New Fire Alarm	4800	sf				2.0			9600	9600	
	New distribution wiring and devices - MC cable	4800	sf				4			19200	19200	
	New lighting ??? Since old would be re-installed…	4800	sf				5			24000	24000	
	New panels, feeds, grounding - 2 @ 100A	2	ea				4000			8000	8000	
	Re-inspect, repair lighting protection - Allowance	1	ls							2500	2500	
	New electrical service, meter socket - Allowance	1	ls							5000	5000	
	Temporary power and lights - construction	1	ls							1500	1500	
	Rewire the existing equipment to remain	1	ea							1000	1000	
	Exterior lights	3	ea				400			1200	1200	
											0	**$ 81,600**
	SUBTOTAL										$ 267,905	Costs Option
	Mark up 10%, Bonds .75%, Gen, liability insurance 1%										$ 31,479	
	TOTAL CONSTRUCTION BUDGET Option B										**$ 299,384**	
	OWNER'S ITEMS:											
	Contingency - 5% design + 5% construction										$ 29,938	
	Inflation 5% per year										$ 14,969	
	Zoning permits									0	**$ -**	
	Building Permit - State/Town									0	**$ -**	
	Change of use/impact fees/neighbors/lawyers									0	**$ -**	
	Builder's Risk Insurance - 5.-/Th rider cost at Owner's Insurance									0	**$ -**	
	Design - A&E, prints, reimbursements									0	**$ -**	
	Structural engineering, Civil, MEP engineering									0	**$ -**	
	Estimating, consulting, pre-construction									0	**$ -**	
	Hazmat assesment and abatement									0	**$ -**	
Soft costs	**SOFT COSTS:**											
	Owner's clean up, removal/reinstall content									0	**$ -**	
	Furnishings, Equipment									0	**$ -**	
										0	**$ -**	
	TOTAL BUDGET Option A										**$ 344,291**	

BUDGET ESTIMATE 9/15/20

PROJECT: # LOWER WATERFORD CHURCH IMPROVEMENTS

Options B - Relocate Town Office in Lower Level

See outlined scope and budget assumptions

COST ESTIMATOR : Peter Smejkal
Merkur Construction, LLC
12 Oak Creek Drive
So. Burlington, VT 05403
Tel.: (802) 238-7500

Architect: **Jesse Remick, Clifford Nickerson**
Black River Design Architects
73 Main Street
Montpelier, VT
Tel.: (802) 223-2044

OWNER:

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1	**General Conditions for CM/bid project: Local small contractor….**											
	Building Permit - State, Town									**By Owner**	0.00	
	Other possible State permits and environmental work									**By Owner**	0.00	
	Builder's Risk Insurance									**By Owner**	0.00	
	Pre-construction time, Contractor's. Admin.	1	ls	32	85	2720		1000			3720.00	
	Project Management, administration	1	ls	32	75	2400		500			2900.00	
	Job supervision,mater.Acquisitions (working super)	1.5	mo	132	65	8580		500			9080.00	
	Tools, safety, supplies, equipment	1	ls					1000			1000.00	
	Temporary toilet - 1	1.5	mo				130			195	195.00	
	Truck, phone, materials delivery	1.5	mo				2000	3000			3000.00	
	NO Trailers							0			0.00	
	Dumpsters for demo + job Dumping/clean up	1	ls	48	35	1680		1600			3280.00	
	Final cleaning	2400	sf				0.35			840	840.00	
	NO Testing services or Commissioning									N.I.C	0.00	
											0.00	**$ 24,015**
B	**OPTION B: Town Offices in Lower Level - in ADDITION to OPTION A!**											
Sitework	**SITEWORK ITEMS and Services to the building:**									0	0.00	
A	**ACCESIBILITY:**									0	0.00	
	NO Exterior work - FRONT/REAR ramps/stairs etc.									0	0.00	
Old Ramps	Remove/dispose existing Side ramp for LL	1	ls							500	500	
Side Ramp	Excavate backfill w. stone new frost walls	1	ls							2200	2200	
	Concrete frost walls and footings 45'	9	yd3				450			4050	4050	
	Flat work - landings/ramps	130	sf				7			910	910	
	Railings - steel/painted	42	ft	12	50	600	70		300	2940	3840	
	Patch paving/landscape/ protection	1	ls							500	500	
											0	**$ 12,000**
B	**SERVICES:**										0	
Water	NO new water service									0	0	
Fuel	NO new propane tank or Leased = by others									0	0	
Electrical	New electrical service, meter socket - See Electrical									Div 26	0	
	NO Site ligting = poles,bollards,sign lights,chargers									0	0	
	NO Generator or renewables									0	0	
	New Phone line to the building - Allowance	1	ls							in Option A	0	

Storm	Two sides dranage/drip edge at eaves, front	300	ft				35			in Option A	0	
	Site restoration after this work	1	ls							in Option A	0	
	NO other site drainage - CBs, swales etc.									0	0	
Sewer	Investigation of old system (camera,test pits) Allow.	1	ls							in Option A	0	
	New pump station,electrical,controls etc. Allow.	1	ls							11000	11000	
	Gravity from building 4" PVC + under foundations	40	ft				50			2000	2000	
	Force main 1.5" CL PVC 160	850	ft				25			21250	21250	
	Cut and patch paved road 500'x5'	500	ft				25			12500	12500	
	Leach field Allowance	1	ls							3000	3000	
	Design and State permits									**By Owner**	0	
	Arrangements w. road cut/other properties - by Owner									**By Owner**	0	
											0	
											0	**$ 49,750**
C	**OTHER SITE/EXTERIOR ITEMS:**										0	
	NO changes to Parking and signage									0	0	
	NO site furnishings,Patios/fence,sidewalks etc.									0	0	
	NO exterior shell finishes improvements = NO siding/trim/paint/roofing									0	0	
											0	**$ -**
Architectural	**ARCHITECTURAL SCOPES/BUILDING CHANGES:**											
Lower Level	Removal of furnishings and equipment etc. by Owner									**By Owner**	0	
Offices	Demo, clean up, relocations	2000	sf				1			2000	2000	
	Misc. rough/finish carpentry	1	ls							5000	5000	
7	Insulate lower floor	2000	sf				5			10000	10000	
	Other walls, insulation - front foundations ???	950	sf				9			8550	8550	
	Re-insulate exterior walls - sprayfoam 3.5"	1200	sf				4.5			5400	5400	
8	Doors (7 Opt.1 or 8 Opt.2) painted, No glass	8	ea				1600			12800	12800	
	Exterior door (accessibility), NOT Aluminum	1	ea				2000			2000	2000	
	Windows - existing - repair/exchange +paint	8	sets				1200			9600	9600	
9	New interior walls 165' x 10', finished, painted	1650	sf				10			16500	16500	
	Other walls, insulation - front foundations ???	950	sf				9			8550	8550	
	Re-insulate exterior walls - sprayfoam 3.5"	1200	sf				4.5			5400	5400	
	New GWB at exterior walls painted	1200	sf				3			3600	3600	
	Ceiling insulation+2 layers GWB, finished	2400	sf				5			12000	12000	
	Acoustical Ceilings (none in vault)	1712	sf				5.5			9416	9416	
	Flooring/vinyl base Allowance	2000	sf				6.5			13000	13000	
10-12	NO foot grilles									0	0	
	Prefabricated Vault/door installed	1	ea							**100000**	100000	
	Kitchenette	12	ft				500			6000	6000	
	Appliances, Equipment									**By Owner**	0	
	Toilet accessories	1	set							1000	1000	
	window blinds	8	sets				150			1200	1200	
	Fire Extinguishers - at Exit,Kitchen,Mech.rm	3	ea				100			300	300	
	Knox Box	1	ea							500	500	
MEP	see below									**in MEP**	0	
											0	
											0	**$ 232,816**
5	**STRUCTURAL: Engineering Ventures**									0	0	

Front	Done in Option A									in Option A	0	
foundations	Done in Option A									in Option A	0	
Lower Level	Done in Option A									in Option A	0	
Upper Level	Upper Level floor reinforcing - demo and patching	2400	sf				2			4800	4800	
	Reinforce support beams - 6'	6	ea	48	50	2400	450	2700			5100	
	Reinforce 6x8 beams (both sides ML)	210	ft	80	50	4000	15	3150			7150	
	Reinforce 8x8 beams (both sides ML)	80	ft	24	50	1200	20	1600			2800	
	Reinforce floor joists 1.75x7.5"@16o.c. (one side)	560	ft	80	50	4000	6	3360			7360	
	Replace 2 columns	2	ea	48	50	2400	800	1600			4000	
Roof	NO Roof improvements w/o adding insulation									0	0	
										0	0.00	
											0.00	**$ 31,210**
	OPTION B: Town Offices in Lower Level - in ADDITION to OPTION A!											
Plumbing	Waterline - existing stays/NO BFP/meter/shutoffs									0	0	
	Remove all plumbing from building lower level	1	ls							1500	1500	
	Sewer - see sitework for disposal options									See Site	0	
	New plumbing - lower level	4	fixtrs				3000			12000	12000	
	NO drinking fountain									0	0	
	Electric water heater	1	ea				1500			1500	1500	
	Piping, insulation, venting, waste distribution	1	ls							3500	3500	
	Underslabs	60	ft				40			2400	2400	
	NO sprinkler, NO floor drains									0	0	
HVAC	Remove mechanical/heating from building	1	ls							3500	3500	
	NO Hazmat testing or abatement									0	0	
	NO heating on upper level									See Opt. D+E	0	
	ERV/Heat pump system, condensor outside	2400	sf				16			38400	38400	
	Restroom, mech room exhausts	2	ea				1000			2000	2000	
	Controls (NO DDC) - in above									0	0	
	This option requires ret. Wall + slab work !!!									See Site	0	
											0	**$ 64,800**
Electrical	Demolitions - all electrical, FA, panels, service									in Option A	0	
	Fire Alarm add	2	dev				350			700	700	
	Add distribution wiring and devices - MC cable	2400	sf				3			7200	7200	
	Add lighting, Exit/EM to Option A	2400	sf				3			7200	7200	
	Panel, feed - inncrease one to 400A 1Ph	1	ls				3000			3000	3000	
	Electrical service increase, meter socket - Allowance	1	ls							5000	5000	
	Temporary power and lights - construction	1	ls							500	500	
	Mechanicals power	1	ls							4000	4000	
	Telephone/data	2400	sf				2.0			4800	4800	
										0	0	
											0	**$ 32,400**
	SUBTOTAL										$ 446,991	Costs Option
	Mark up 10%, Bonds .75%, Gen, liability insurance 1%										$ 52,521	
	TOTAL CONSTRUCTION BUDGET Option B										**$ 499,512**	
	OWNER'S ITEMS:											

	Contingency - 5% design + 5% construction										$ 49,951
	Inflation 5% per year										$ 24,976
	Zoning permits									0	$ -
	Building Permit - State/Town									0	$ -
	Change of use/impact fees/neighbors/lawyers									0	$ -
	Builder's Risk Insurance - 5.-/Th rider cost at Owner's Insurance									0	$ -
	Design - A&E, prints, reimbursements									0	$ -
	Structural engineering, Civil, MEP engineering									0	$ -
	Estimating, consulting, pre-construction									0	$ -
	Hazmat assesment and abatement									0	$ -
Soft costs	**SOFT COSTS:**										
	Owner's clean up, removal/reinstall content									0	$ -
	Furnishings, Equipment									0	$ -
										0	$ -
	TOTAL BUDGET Option B										**$ 574,439**

BUDGET ESTIMATE 9/15/20

PROJECT: # LOWER WATERFORD CHURCH IMPROVEMENTS

Options C - Café in Lower Level

See outlined scope and budget assumptions

COST ESTIMATOR : Peter Smejkal
Merkur Construction, LLC
12 Oak Creek Drive
So. Burlington, VT 05403
Tel.: (802) 238-7500

Architect: **Jesse Remick, Clifford Nickerson**
Black River Design Architects
73 Main Street
Montpelier, VT
Tel.: (802) 223-2044

OWNER:

Division	DESCRIPTION	QUANTITY	UNIT	LABOR HOURS	PER HOUR	TOTAL LABOR	UNIT COST	MATERIAL TOTAL	EQUIP. TOTAL	SUB TRADES	TOTAL COST	
1	**General Conditions for CM/bid project: Local small contractor….**											
	Building Permit - State, Town									**By Owner**	0.00	
	Other possible State permits and environmental work									**By Owner**	0.00	
	Builder's Risk Insurance									**By Owner**	0.00	
	Pre-construction time, Contractor's. Admin.	1	ls	32	85	2720		1000			3720.00	
	Project Management, administration	1	ls	32	75	2400		500			2900.00	
	Job supervision,mater.Acquisitions (working super	1.5	mo	132	65	8580		500			9080.00	
	Tools, safety, supplies, equipment	1	ls					1000			1000.00	
	Temporary toilet - 1	1.5	mo				130			195	195.00	
	Truck, phone, materials delivery	1.5	mo				2000	3000			3000.00	
	NO Trailers							0			0.00	
	Dumpsters for demo + job Dumping/clean up	1	ls	48	35	1680		1600			3280.00	
	Final cleaning	2400	sf				0.35			840	840.00	
	NO Testing services or Commissioning									N.I.C	0.00	
											0.00	**$ 24,015**
	OPTION C: CAFE in Lower Level - in ADDITION to OPTION A!											
Sitework	**SITEWORK ITEMS and Services to the building:**									0	0.00	
A	**ACCESIBILITY:**									0	0.00	
Old Ramps	Remove/dispose existing Side ramp for LL	1	ls							500	500	
Side Ramp	Excavate backfill w. stone new frost walls	1	ls							2200	2200	
	Concrete frost walls and footings 45'	9	yd3				450			4050	4050	
	Flat work - landings/ramps	130	sf				7			910	910	
	Railings - steel/painted	42	ft	12	50	600	70		300	2940	3840	
	Patch paving/landscape/ protection	1	ls							500	500	
											0	**$ 12,000**
B	**SERVICES:**										0	
Water	NO new water service									0	0	
Fuel	NO new propane tank or Leased = by others									0	0	
Electrical	New electrical service, meter socket - See Electrical									Div 26	0	
	NO Site ligting = poles,bollards,sign lights,chargers									0	0	
	NO Generator or renewables									0	0	
	New Phone line to the building - Allowance	1	ls							in Option A	0	

Storm	Two sides dranage/drip edge at eaves, front	300	ft				35			in Option A	0	
	Site restoration after this work	1	ls							in Option A	0	
	NO other site drainage - CBs, swales etc.									0	0	
Sewer	Investigation of old system (camera,test pits) Allow	1	ls							in Option A	0	
	New pump station,electrical,controls etc. Allow.	1	ls							11000	11000	
	Gravity from building 4" PVC + under foundations	40	ft				50			2000	2000	
	Force main 1.5" CL PVC 160	850	ft				25			21250	21250	
	Cut and patch paved road 500'x5'	500	ft				25			12500	12500	
	Leach field Allowance	1	ls							3000	3000	
	Design and State permits									**By Owner**	0	
	Arrangements w. road cut/other properties - by Owner									**By Owner**	0	
											0	
											0	**$ 49,750**
C	**OTHER SITE/EXTERIOR ITEMS:**										0	
	NO changes to Parking and signage									0	0	
	NO site furnishings,Patios/fence,sidewalks etc.									0	0	
	NO exterior shell finishes improvements = NO siding/trim/paint/roofing									0	0	
											0	**$ -**
Architectural	**ARCHITECTURAL SCOPES/BUILDING CHANGES:**											
Lower Level	Removal of furnishings and equipment etc. by Owner									**By Owner**	0	
Café	Demo, clean up, relocations	2000	sf				1			2000	2000	
	Misc. rough/finish carpentry	1	ls							5000	5000	
7	Insulate lower floor	2000	sf				5			10000	10000	
	Other walls, insulation - front foundations ???	950	sf				9			8550	8550	
	Re-insulate exterior walls - sprayfoam 3.5"	1200	sf				4.5			5400	5400	
8	Doors, painted, No glass	3	ea				1600			4800	4800	
	Exterior door (accessibility), NOT Aluminum	1	ea				2000			2000	2000	
	Windows - existing - repair/exchange +paint	8	sets				1200			9600	9600	
9	New interior walls 112' x 10', finished, painted	1120	sf				10			11200	11200	
	New GWB at exterior walls painted	1200	sf				3			3600	3600	
	FRP on walls 96'x9'	864	sf				4			3456	3456	
	Stainless behind hood - 8'x8'	64	sf				25			1600	1600	
	Ceiling insulation+2 layers GWB, finished	2400	sf				5			12000	12000	
	Acoustical Ceilings	2000	sf				5.5			11000	11000	
	Flooring/vinyl base Allowance	2000	sf				6.5			13000	13000	
10-12	NO foot grilles									0	0	
	Bar Top, supports (chairs by Owner)	27	ft				170			4590	4590	
	Front counter/ shel units below	33	ft				500			16500	16500	
	Front of the counter and side wall wainscott 144'x4	576	sf				6			3456	3456	
	Appliances, Equipment									**By Owner**	0	
	Toilet accessories	1	set							1000	1000	
	Fire Extinguishers - at Exit,Mech.rm	3	ea				100			300	300	
	K-class FE	1	ea				300			300	300	
	Knox Box	1	ea							500	500	
MEP	see below									**in MEP**	0	
											0	**$ 129,852**

5	**STRUCTURAL: Engineering Ventures**									0	0	
Front	Done in Option A									in Option A	0	
foundations	Done in Option A									in Option A	0	
Lower Level	Done in Option A									in Option A	0	
Upper Level	Upper Level floor reinforcing - demo and patching	2400	sf				2			4800	4800	
	Reinforce support beams - 6'	6	ea	48	50	2400	450	2700			5100	
	Reinforce 6x8 beams (both sides ML)	210	ft	80	50	4000	15	3150			7150	
	Reinforce 8x8 beams (both sides ML)	80	ft	24	50	1200	20	1600			2800	
	Reinforce floor joists 1.75x7.5"@16o.c. (one side)	560	ft	80	50	4000	6	3360			7360	
	Replace 2 columns	2	ea	48	50	2400	800	1600			4000	
Roof	NO Roof improvements w/o adding insulation									0	0	
										0	0.00	
											0.00	**$ 31,210**
	OPTION C: CAFE in Lower Level - in ADDITION to OPTION A!											
Plumbing	Waterline - existing stays/no BFP/meter/shutoffs									0	0	
	Remove all plumbing from building lower level	1	ls							1500	1500	
	Sewer - see sitework for disposal options									See Site	0	
	New plumbing - lower level	6	fixtrs				3000			18000	18000	
	Electric water heater	1	ea				4000			4000	4000	
	Piping, insulation, venting, waste distribution	1	ls							4500	4500	
	Underslabs	150	ft				40			6000	6000	
	Floor drains/Floor sinks	7	ea				1400			9800	9800	
	Grease trap	1	ea				5000			5000	5000	
	Other kitchen plumbing/piping	1	ls				5000			5000	5000	
	NO sprinkler, NO refrigeration									0	0	
HVAC	Remove mechanical/heating from building	1	ls							3500	3500	
	NO Hazmat testing or abatement									0	0	
	NO heating on upper level									See Opt. D+E	0	
	ERV/Heat pump system as Offices OR Boiler etc.	2400	sf				18			43200	43200	
	Restroom, mech room exhausts	2	ea				1000			2000	2000	
	Controls (NO DDC) - in above									0	0	
	Grease hood and MAU ??? - Allowance	1	ls							30000	30000	
	NO ret. Wall + slab work ???									See Site	0	
											0	**$ 132,500**
Electrical	Demolitions - all electrical, FA, panels, service									in Option A	0	
	Fire Alarm add	2	dev				350			700	700	
	FA for Hood interlock and wiring VFDs, MAU etc.	1	set				2500			2500	2500	
	Add distribution wiring and devices + kitchen	2400	sf				3.5			8400	8400	
	Add lighting, Exit/EM to Option A	2400	sf				3.5			8400	8400	
	Panel, feed - inncrease one to 200A 1Ph	1	ls				2000			2000	2000	
	Electrical service increase, meter socket - Allowar	1	ls							3000	3000	
	Temporary power and lights - construction	1	ls							500	500	
	Mechanicals power	1	ls							4000	4000	
	Telephone/data,POS wiring	2400	sf				1.5			3600	3600	
										0	0	
											0	**$ 33,100**

	SUBTOTAL										$ 412,427 Costs Option
	Mark up 10%, Bonds .75%, Gen, liability insurance 1%										$ 48,460
	TOTAL CONSTRUCTION BUDGET Option C										**$ 460,887**
	OWNER'S ITEMS:										
	Contingency - 5% design + 5% construction										$ 46,089
	Inflation 5% per year										$ 23,044
	Zoning permits									0	**$ -**
	Building Permit - State/Town									0	**$ -**
	Change of use/impact fees/neighbors/lawyers									0	**$ -**
	Builder's Risk Insurance - 5.-/Th rider cost at Owner's Insurance									0	**$ -**
	Design - A&E, prints, reimbursements									0	**$ -**
	Structural engineering, Civil, MEP engineering									0	**$ -**
	Estimating, consulting, pre-construction									0	**$ -**
	Hazmat assesment and abatement									0	**$ -**
Soft costs	**SOFT COSTS:**										
	Owner's clean up, removal/reinstall content									0	**$ -**
	Furnishings, Equipment									0	**$ -**
										0	**$ -**
	TOTAL BUDGET Option C										**$ 530,020**

BUDGET ESTIMATE 9/15/20

PROJECT: # LOWER WATERFORD CHURCH IMPROVEMENTS

Options D - Chapel/Small Sanctuary at Upper Level

See outlined scope and budget assumptions

COST ESTIMATOR : Peter Smejkal
Merkur Construction, LLC
12 Oak Creek Drive
So. Burlington, VT 05403
Tel.: (802) 238-7500

Architect: **Jesse Remick, Clifford Nickerson**
Black River Design Architects
73 Main Street
Montpelier, VT
Tel.: (802) 223-2044

OWNER:

Division	DESCRIPTION	QUANTITY	UNIT	LABOR HOURS	PER HOUR	TOTAL LABOR	UNIT COST	MATERIAL TOTAL	EQUIP. TOTAL	SUB TRADES	TOTAL COST	
1	**General Conditions for CM/bid project: Local small contractor…**											
	Building Permit - State, Town									**By Owner**	0.00	
	Other possible State permits and environmental work									**By Owner**	0.00	
	Builder's Risk Insurance									**By Owner**	0.00	
	Pre-construction time, Contractor's. Admin.	1	ls	32	85	2720		1000			3720.00	
	Project Management, administration	1	ls	32	75	2400		500			2900.00	
	Job supervision,mater.Acquisitions (working super)	1.5	mo	132	65	8580		500			9080.00	
	Tools, safety, supplies, equipment	1	ls					1000			1000.00	
	Temporary toilet - 1	1.5	mo				130			195	195.00	
	Truck, phone, materials delivery	1.5	mo				2000	3000			3000.00	
	NO Trailers							0			0.00	
	Dumpsters for demo + job Dumping/clean up	1	ls	48	35	1680		1600			3280.00	
	Final cleaning	2400	sf				0.35			840	840.00	
	NO Testing services or Commissioning									N.I.C	0.00	
											0.00	**$ 24,015**
	OPTION D: Under 50 Chappel/Wedding space in Upper Level - in ADDITION to OPTION A!											
Sitework	**SITEWORK ITEMS and Services to the building:**									0	0.00	
A	**ACCESIBILITY:**									0	0.00	
Old Ramps	Remove/dospose existing Front stairs,landings etc.									in Option A	0	
Front	Excavate backfill w. stone new frost walls	1	ls							4700	4700	
	Concrete frost walls and footings 100'	25	yd3				450			11250	11250	
	Flat work - landings/ramps	388	sf				7			2716	2716	
	Stairs	3	yd3				800			2400	2400	
	Nosings	30	ft					600			600	
	Railings - steel/painted	120	ft	24	50	1200	70		300	8400	9900	
	Patch paving/landscape/ protection	1	ls							1000	1000	
Rear Stairs	Sitework and posts bases only	7	ea				500			3500	3500	
	Steel stair and landing structure	1	ls							12000	12000	
	Railings - steel/painted	70	ft				100			7000	7000	
	Roof structure/roofing/finished	184	sf				50			9200	9200	
	Lower landing pad 6x6 (site+concrete) NO found.	36	sf				10			360	360	
	New egress door/finish opening	1	ea				3000			3000	3000	

	Electrical/FA	1	ls							1500	1500	
											0	$ 69,126
B	SERVICES:										0	
Water	NO new water service									0	0	
Fuel	NO new propane tank or Leased = by others									0	0	
Electrical	New electrical service, meter socket - See Electrical									in Option A	0	
	NO Site ligting = poles,bollards,sign lights,chargers									0	0	
	NO Generator or renewables									0	0	
	New Phone line to the building - Allowance	1	ls							in Option A	0	
Storm	Two sides dranage/drip edge at eaves, front	300	ft				35			in Option A	0	
	Site restoration after this work	1	ls							in Option A	0	
	NO other site drainage - CBs, swales etc.									0	0	
Sewer	Investigation of old system (camera,test pits) Allow.	1	ls							in Option A	0	
	New pump station,electrical,controls etc. Allow.	1	ls							11000	11000	
	Gravity from building 4" PVC + under foundations	40	ft				50			2000	2000	
	Force main 1.5" CL PVC 160	850	ft				25			21250	21250	
	Cut and patch paved road 500'x5'	500	ft				25			12500	12500	
	Leach field Allowance	1	ls							3000	3000	
	Design and State permits									By Owner	0	
	Arrangements w. road cut/other properties - by Owner									By Owner	0	
											0	$ 49,750
C	OTHER SITE/EXTERIOR ITEMS:										0	
	NO changes to Parking and signage									0	0	
	NO site furnishings,Patios/fence,sidewalks etc.									0	0	
	NO exterior shell finishes improvements = NO siding/trim/paint/roofing									0	0	
											0	
											0	$ -
Architectural	ARCHITECTURAL SCOPES/BUILDING CHANGES:											
Upper Level	Removal of furnishings and equipment etc. by Owner									By Owner	0	
Option 1	Demo, clean up, relocations	2400	sf				3			7200	7200	
Small Sanc.	Misc. rough/finish carpentry	1	ls							5000	5000	
8	Interior Doors, painted, No glass	6	ea				1600			9600	9600	
	Exterior rear door (accessibility), NOT Aluminum	1	ea				3000			3000	3000	
	Front doors - reuse/restore,flip, new ADA hardware	2	ea				3000			6000	6000	
	Windows - existing - repair/paint	7	sets				800			5600	5600	
9	New interior walls, finished, painted	1526	sf				10			15260	15260	
	Re-insulate exterior walls - sprayfoam 3.5"	2800	sf				4.5			12600	12600	
	New GWB at exterior walls painted 200'x14'	2800	sf				3			8400	8400	
	Ceiling insulation+2 layers GWB, finished	2400	sf				5			12000	12000	
	Acoustical Ceilings ???	2400	sf				5.5			13200	13200	
	Flooring/vinyl base Allowance	2400	sf				5.0			12000	12000	
10-12	NO foot grilles									0	0	
	Appliances, Equipment, seating, Audio/video									By Owner	0	
	Toilet accessories	2	sets							1000	1000	
	Fire Extinguishers - at Exits - NO Cabinets	3	ea				100			300	300	
	Knox Box	1	ea							500	500	
MEP	see below									in MEP	0	

											0	$ 111,660
5	**STRUCTURAL: Engineering Ventures**									0	0	
Front	Done in Option A									in Option A	0	
foundations	Done in Option A									in Option A	0	
Lower Level	Done in Option A									in Option A	0	
Upper Level	Upper Level floor reinforcing - demo and patching	2400	sf				2			4800	4800	
	Reinforce support beams - 6'	6	ea	48	50	2400	450	2700			5100	
	Reinforce 6x8 beams (both sides ML)	210	ft	80	50	4000	15	3150			7150	
	Reinforce 8x8 beams (both sides ML)	80	ft	24	50	1200	20	1600			2800	
	Reinforce floor joists 1.75x7.5"@16o.c. (one side)	560	ft	80	50	4000	6	3360			7360	
	Replace 2 columns	2	ea	48	50	2400	800	1600			4000	
Roof	NO Roof improvements w/o adding insulation									0	0	
	Roof structure improvements if insulation added	1	ls							10000	10000	
	Add attic walkways	1	ls							3000	3000	
	Remove/rebuild stairs/attic access - ???	1	ls							10000	10000	
										0	0.00	
											0.00	$ 54,210
	OPTION D: Under 50 Chappel/Wedding space in Upper Level - in ADDITION to OPTION A!											
Plumbing	Waterline - existing stays/no BFP/meter/shutoffs									0	0	
	Remove all plumbing - 1 restroom	1	ls							1500	1500	
	Sewer - see sitework for disposal options									See Site	0	
	New plumbing - upper level = 2 restrooms	4	fixtrs				3000			12000	12000	
	Mop sink	1	ea				2500			2500	2500	
	Drinking fountain	1	ea				5000			5000	5000	
	Electric water heater	1	ea				1300			1300	1300	
	Piping, insulation, venting, waste distribution	1	ls							3500	3500	
	Note: needed piping below = Option B or C									0	0	
	NO sprinkler, NO floor drains									0	0	
HVAC	Close floor holes/seal/rate Allowance	1	ls							20000	20000	
	NO Hazmat testing or abatement									0	0	
	HVAC Allowance	2400	sf				18			43200	43200	
	Restroom, mech room exhausts	3	ea				1000			3000	3000	
	Controls (NO DDC) - in above									0	0	
	CO2 sensor w. alarm - upper floor	1	ea				1000			1000	1000	
											0	$ 93,000
Electrical	Demolitions - all electrical, FA, panels, service									in Option A	0	
	Fire Alarm add	2	dev				350			700	700	
	Add distribution wiring and devices Allowance	2400	sf				2.0			4800	4800	
	Add lighting, Exit/EM to Option A	2400	sf				3.0			7200	7200	
	Temporary power and lights - construction	1	ls							500	500	
	Mechanicals power	1	ls							4000	4000	
	Telephone/data	1	ls							1200	1200	
											0	$ 18,400
	SUBTOTAL										$ 420,161	Costs Option
	Mark up 10%, Bonds .75%, Gen, liability insurance 1%										$ 49,369	
	TOTAL CONSTRUCTION BUDGET Option D										**$ 469,530**	

	OWNER'S ITEMS:										
	Contingency - 5% design + 5% construction										$ 46,953
	Inflation 5% per year										$ 23,476
	Zoning permits									0	**$ -**
	Building Permit - State/Town									0	**$ -**
	Change of use/impact fees/neighbors/lawyers									0	**$ -**
	Builder's Risk Insurance - 5.-/Th rider cost at Owner's Insurance									0	**$ -**
	Design - A&E, prints, reimbursements									0	**$ -**
	Structural engineering, Civil, MEP engineering									0	**$ -**
	Estimating, consulting, pre-construction									0	**$ -**
	Hazmat assesment and abatement									0	**$ -**
Soft costs	**SOFT COSTS:**										
	Owner's clean up, removal/reinstall content									0	**$ -**
	Furnishings, Equipment									0	**$ -**
										0	**$ -**
	TOTAL BUDGET Option D										**$ 539,959**

BUDGET ESTIMATE 9/15/20

PROJECT: # LOWER WATERFORD CHURCH IMPROVEMENTS

Options D - Chapel/Small Sanctuary at Upper Level

See outlined scope and budget assumptions

COST ESTIMATOR : Peter Smejkal
Merkur Construction, LLC
12 Oak Creek Drive
So. Burlington, VT 05403
Tel.: (802) 238-7500

Architect: **Jesse Remick, Clifford Nickerson**
Black River Design Architects
73 Main Street
Montpelier, VT
Tel.: (802) 223-2044

OWNER:

Division	DESCRIPTION	QUANTITY	UNIT	LABOR HOURS	PER HOUR	TOTAL LABOR	UNIT COST	MATERIAL TOTAL	EQUIP. TOTAL	SUB TRADES	TOTAL COST	
1	**General Conditions for CM/bid project: Local small contractor…**											
	Building Permit - State, Town									**By Owner**	0.00	
	Other possible State permits and environmental work									**By Owner**	0.00	
	Builder's Risk Insurance									**By Owner**	0.00	
	Pre-construction time, Contractor's. Admin.	1	ls	32	85	2720		1000			3720.00	
	Project Management, administration	1	ls	32	75	2400		500			2900.00	
	Job supervision,mater.Acquisitions (working super)	1.5	mo	132	65	8580		500			9080.00	
	Tools, safety, supplies, equipment	1	ls					1000			1000.00	
	Temporary toilet - 1	1.5	mo				130			195	195.00	
	Truck, phone, materials delivery	1.5	mo				2000	3000			3000.00	
	NO Trailers							0			0.00	
	Dumpsters for demo + job Dumping/clean up	1	ls	48	35	1680		1600			3280.00	
	Final cleaning	2400	sf				0.35			840	840.00	
	NO Testing services or Commissioning									N.I.C	0.00	
											0.00	**$ 24,015**
	OPTION E: Performance space in Upper Level - in ADDITION to OPTION A!											
Sitework	**SITEWORK ITEMS and Services to the building:**									0	0.00	
A	**ACCESIBILITY:**									0	0.00	
Old Ramps	Remove/dospose existing Front stairs,landings etc.									in Option A	0	
Front	Excavate backfill w. stone new frost walls	1	ls							4700	4700	
	Concrete frost walls and footings 100'	25	yd3				450			11250	11250	
	Flat work - landings/ramps	388	sf				7			2716	2716	
	Stairs	3	yd3				800			2400	2400	
	Nosings	30	ft					600			600	
	Railings - steel/painted	120	ft	24	50	1200	70		300	8400	9900	
	Patch paving/landscape/ protection	1	ls							1000	1000	
Rear Stairs	Sitework and posts bases only	7	ea				500			3500	3500	
	Steel stair and landing structure	1	ls							12000	12000	
	Railings - steel/painted	70	ft				100			7000	7000	
	Roof structure/roofing/finished	184	sf				50			9200	9200	
	Lower landing pad 6x6 (site+concrete) NO found.	36	sf				10			360	360	
	New egress door/finish opening	1	ea				3000			3000	3000	

	Electrical/FA	1	ls							1500	1500	
											0	$ 69,126
B	SERVICES:										0	
Water	NO new water service									0	0	
Fuel	NO new propane tank or Leased = by others									0	0	
Electrical	New electrical service, meter socket - See Electrical									in Option A	0	
	NO Site ligting = poles,bollards,sign lights,chargers									0	0	
	NO Generator or renewables									0	0	
	New Phone line to the building - Allowance	1	ls							in Option A	0	
Storm	Two sides dranage/drip edge at eaves, front	300	ft				35			in Option A	0	
	Site restoration after this work	1	ls							in Option A	0	
	NO other site drainage - CBs, swales etc.									0	0	
Sewer	Investigation of old system (camera,test pits) Allow.	1	ls							in Option A	0	
	New pump station,electrical,controls etc. Allow.	1	ls							11000	11000	
	Gravity from building 4" PVC + under foundations	40	ft				50			2000	2000	
	Force main 1.5" CL PVC 160	850	ft				25			21250	21250	
	Cut and patch paved road 500'x5'	500	ft				25			12500	12500	
	Leach field Allowance	1	ls							3000	3000	
	Design and State permits									By Owner	0	
	Arrangements w. road cut/other properties - by Owner									By Owner	0	
											0	$ 49,750
C	OTHER SITE/EXTERIOR ITEMS:										0	
	NO changes to Parking and signage									0	0	
	NO site furnishings,Patios/fence,sidewalks etc.									0	0	
	NO exterior shell finishes improvements = NO siding/trim/paint/roofing									0	0	
											0	
											0	$ -
Architectural	ARCHITECTURAL SCOPES/BUILDING CHANGES:											
Upper Level	Removal of furnishings and equipment etc. by Owner									By Owner	0	
Option 2	Demo, clean up, relocations	2400	sf				2			4800	4800	
Performance	Misc. rough/finish carpentry	1	ls							5000	5000	
8	Interior Doors, painted, No glass	4	ea				1600			6400	6400	
	Exterior rear door (accessibility), NOT Aluminum	1	ea				3000			3000	3000	
	Front doors - reuse/restore,flip, new ADA hardware	2	ea				3000			6000	6000	
	Windows - existing - repair/paint	7	sets				800			5600	5600	
9	New interior walls, finished, painted	280	sf				10			2800	2800	
	Re-insulate exterior walls - sprayfoam 3.5"	2800	sf				4.5			12600	12600	
	New GWB at exterior walls painted 200'x14'	2800	sf				3			8400	8400	
	Ceiling insulation+2 layers GWB, finished	2400	sf				5			12000	12000	
	Acoustical Ceilings ???	2400	sf				5.5			13200	13200	
	Flooring/vinyl base Allowance	2400	sf				5.0			12000	12000	
10-12	NO foot grilles									0	0	
	Appliances, Equipment, seating, Audio/video									By Owner	0	
	Toilet accessories	2	sets							1000	1000	
	Fire Extinguishers - at Exits - NO Cabinets	3	ea				100			300	300	
	Knox Box	1	ea							500	500	
MEP	see below									in MEP	0	

											0	$ 93,600
5	**STRUCTURAL: Engineering Ventures**									0	0	
Front	Done in Option A									in Option A	0	
foundations	Done in Option A									in Option A	0	
Lower Level	Done in Option A									in Option A	0	
Upper Level	Upper Level floor reinforcing - demo and patching	2400	sf				2			4800	4800	
	Reinforce support beams - 6'	6	ea	48	50	2400	450	2700			5100	
	Reinforce 6x8 beams (both sides ML)	210	ft	80	50	4000	15	3150			7150	
	Reinforce 8x8 beams (both sides ML)	80	ft	24	50	1200	20	1600			2800	
	Reinforce floor joists 1.75x7.5"@16o.c. (one side)	560	ft	80	50	4000	6	3360			7360	
	Replace 2 columns	2	ea	48	50	2400	800	1600			4000	
Roof	NO Roof improvements w/o adding insulation									0	0	
	Roof structure improvements if insulation added	1	ls							10000	10000	
	Add attic walkways	1	ls							3000	3000	
	Remove/rebuild stairs/attic access - ???	1	ls							10000	10000	
										0	0.00	
											0.00	$ 54,210
	OPTION E: Performance space in Upper Level - in ADDITION to OPTION A!											
Plumbing	Waterline - existing stays/no BFP/meter/shutoffs									0	0	
	Remove all plumbing - 1 restroom	1	ls							1500	1500	
	Sewer - see sitework for disposal options									See Site	0	
	New plumbing - upper level = 2 restrooms	4	fixtrs				3000			12000	12000	
	Mop sink	1	ea				2500			2500	2500	
	Drinking fountain	1	ea				5000			5000	5000	
	Electric water heater	1	ea				1300			1300	1300	
	Piping, insulation, venting, waste distribution	1	ls							3500	3500	
	Note: needed piping below = Option B or C									0	0	
	NO sprinkler, NO floor drains									0	0	
HVAC	Close floor holes/seal/rate Allowance	1	ls							20000	20000	
	NO Hazmat testing or abatement									0	0	
	HVAC Allowance	2400	sf				18			43200	43200	
	Restroom, mech room exhausts	3	ea				1000			3000	3000	
	Controls (NO DDC) - in above									0	0	
	CO2 sensor w. alarm - upper floor	1	ea				1000			1000	1000	
											0	$ 93,000
Electrical	Demolitions - all electrical, FA, panels, service									in Option A	0	
	Fire Alarm add	2	dev				350			700	700	
	Add distribution wiring and devices Allowance	2400	sf				2.0			4800	4800	
	Add lighting, Exit/EM to Option A	2400	sf				3.0			7200	7200	
	Temporary power and lights - construction	1	ls							500	500	
	Mechanicals power	1	ls							4000	4000	
	Telephone/data	1	ls							1200	1200	
											0	$ 18,400
	SUBTOTAL										$ 402,101	Costs Option
	Mark up 10%, Bonds .75%, Gen, liability insurance 1%										$ 47,247	
	TOTAL CONSTRUCTION BUDGET Option D										**$ 449,348**	

	OWNER'S ITEMS:										
	Contingency - 5% design + 5% construction										$ 44,935
	Inflation 5% per year										$ 22,467
	Zoning permits									0	**$ -**
	Building Permit - State/Town									0	**$ -**
	Change of use/impact fees/neighbors/lawyers									0	**$ -**
	Builder's Risk Insurance - 5.-/Th rider cost at Owner's Insurance									0	**$ -**
	Design - A&E, prints, reimbursements									0	**$ -**
	Structural engineering, Civil, MEP engineering									0	**$ -**
	Estimating, consulting, pre-construction									0	**$ -**
	Hazmat assesment and abatement									0	**$ -**
Soft costs	**SOFT COSTS:**										
	Owner's clean up, removal/reinstall content									0	**$ -**
	Furnishings, Equipment									0	**$ -**
										0	**$ -**
	TOTAL BUDGET Option E										**$ 516,750**

OPTION EXTERIOR - SIDING, RAMPS and ROOFING BREAKOUT COSTS w/o General Conditions

Division	DESCRIPTION	QUANTITY	UNIT	LABOR HOURS	PER HOUR	TOTAL LABOR	UNIT COST	MATERIAL TOTAL	EQUIP. TOTAL	SUB TRADES	TOTAL COST	
1	**General Conditions for CM/bid project: Local small contractor….**											
	Building Permit - State, Town									**By Owner**	0.00	
	Other possible State permits and environmental work									**By Owner**	0.00	
	Builder's Risk Insurance									**By Owner**	0.00	
	Pre-construction time, Contractor's. Admin.									0	0.00	
	Project Management, administration									0	0.00	
	Job supervision,mater.Acquisitions (working super)									0	0.00	
	Tools, safety, supplies, equipment									0	0.00	
	Temporary toilet - 1									0	0.00	
	Truck, phone, materials delivery									0	0.00	
	NO Trailers									0	0.00	
	Dumpsters for demo + job Dumping/clean up									0	0.00	
	Final cleaning									0	0.00	
	NO Testing services or Commissioning									0	0.00	
											0.00	$ -
A	**ACCESIBILITY:**											
Old Ramps	Remove/dospose existing ramps/stairs etc.	1	ls							2000	2000	
Front	Excavate backfill w. stone new frost walls	1	ls							4700	4700	
	Concrete frost walls and footings 100'	25	yd3				450			11250	11250	
	Flat work - landings/ramps	388	sf				7			2716	2716	
	Stairs	3	yd3				800			2400	2400	
	Nosings	30	ft					600			600	
	Railings - steel/painted	120	ft	24	50	1200	70		300	8400	9900	
	Patch paving/landscape/ protection	1	ls							1000	1000	$34,566.00
Side Ramp	Excavate backfill w. stone new frost walls	1	ls							2200	2200	
	Concrete frost walls and footings 45'	9	yd3				450			4050	4050	
	Flat work - landings/ramps	130	sf				7			910	910	
	Railings - steel/painted	42	ft	12	50	600	70		300	2940	3840	
	Patch paving/landscape/ protection	1	ls							500	500	$11,500.00
Rear Stairs	Sitework and posts bases only	7	ea				500			3500	3500	
	Steel stair and landing structure	1	ls							12000	12000	
	Railings - steel/painted	70	ft				100			7000	7000	
	Roof structure/roofing/finished	184	sf				50			9200	9200	
	Lower landing pad 6x6 (site+concrete) NO found.	36	sf				10			360	360	
	New egress door/finish opening	1	ea				3000			3000	3000	
	Electrical/FA	1	ls							1500	1500	$36,560.00
											0	
											0	$ 82,626
Siding	**Replace Siding and trim:**											
	Lead RRP provisions, ground + personal protection	1	ls							10000	10000	
	Dumpsters T-clips	1	ls							1000	1000	
	Manlift rental + fuel	1	ls						3500		3500	
	Strip existing siding, trip, felt paper	6260	sf				2			12520	12520	

	Dumpsters	3	ea				700			2100	2100	
	Boards substrate repairs Allowance	1	ls	32	50	1600		1000			2600	
	New felt paper w. overlap	6900	sf	24	50	1200	0.40	2760			3960	
	Base metal flashing/skim over foundation edge	200	ft				8			1600	1600	
	Ice & WS at base	600	sf	16	50	800	1	600			1400	
	Ice & WS flashing at windows	7	rolls	16	50	800	40	280			1080	
	Base trim and window/door metal flashing	300	ft	32	50	1600	3	900	200		2700	
	New trim - PVC 5/4"	540	ft	48	50	2400	6	3240			5640	
	Siding - 3" exp. Clapboards - spruce	6260	sf	260	50	13000	4	25040	2000		40040	
	Lift for siding install	2	mo		50	0			5000		5000	
	Pre-priming clapboards	25000	ft		50	0	1			12500	12500	
	Painting in place - siding and trim	7000	sf		50	0	1.5			10500	10500	
	Lift	1	mo						3500	0	3500	
	Front ornamentals, window sills - repair existing	1	ls	120	50	6000		1500	2000	0	9500	
	Spire re-siding/restoration Allowance	1	ls							15000	15000	
	Eaves/rakes/soffits Allowance (demo and new)	280	ft				30			8400	8400	
	Rear Chimney repair/repoint/cap Allowance ???									0	0	
	Site restoration - in other Options…									0	0	
												$ 152,540
Insulation	**Walls Insulation:**											
	Drill holes thru boards	600	ea	16	50	800		100			900	
	Densepack insulation 6" - blown from outside	6260	sf				2.5			15650	15650	
	Patch holes	600	ea	32	50	1600		600			2200	
											0	
											0	$ 18,750
Roofing	**Replace roofing:**											
	Remove/dispose roofing	3968	sf				1			3968	3968	
	Decking repairs Allowance	1	ls	48	50	2400		1000			3400	
	Ice & WS	3968	sf				1.20			4762	4762	
	Lift/safety							1500	2500		4000	
	New Asphalt shingles	3968	sf				4			15872	15872	
	Edge flashing	320	ft				5			1600	1600	
	Ridge ???	60	ft				10			600	600	
	Spire roofing re-finish Allowance ???	1	ls							10000	10000	
	Site restoration - in other Options…									0	0	
											0	$ 44,202