



T2STUDIO

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63 New Milford Rd W
Bridgewater, CT 06752

Memorandum - DRAFT

2019.04.09

To: Curtis Read, First Selectman

Town of Bridgewater
Main Street
Bridgewater, CT 06752

Dear First Selectman Read,

We have reviewed the most recent documents regarding the Bridgewater Grange Building submitted to you by Brad Schide of Connecticut Trust for Historic Preservation on February 10, 2019. These documents included two budget proposals - one for Renovation and the other for New Construction.

The Renovation scope of work was defined in drawings and specifications by Crosskey Architects LLC dated November 26, 2018. The New Construction scope of work was based on the January 2018 design drawings by McQueen Verdi Group. La Rosa Building Group (LRBG) is the construction company engaged with providing pricing information for both options.

We offer the following one page executive summary of our assessment of these documents as well as an Appendix of the supporting analyses on the pages that follow.

T2STUDIO, LLC

*Bartosz S. Toczyłowski, AIA
Principal*

*Krystle J. Toczyłowski, AIA
Principal*

EXECUTIVE SUMMARY - DRAFT

Scope, schedule and budget are three critical components to a building project. These components must be balanced and in agreement with one another to ensure a project's success - a change in any one of these components directly impacts the other two, throwing the project off-balance. The cost estimates provided by La Rosa Building Group (LRBG) on behalf of Connecticut Trust for Historic Preservation (CTHP) for the two Grange Building options did not include several key project elements that may significantly impact the scope, schedule, budget, and ultimate feasibility of the project. These key elements are listed in order of importance with the items having the most potential impact listed first:

1. Environmental Work

The timeline, costs and long term legal implications associated with the contaminated soil removal at the Northwest corner of the building are not resolved. CTHP mentions two options for addressing the soil contamination but neither option is included in the LRBG cost estimates:

Option 1: Record an environmental land use restriction with CT DEEP that prevents further excavation of the contaminated soil. It is not clear how it is possible to excavate for a new foundation, which is crucial to the restoration of the Grange Building, while leaving the soil in place as suggested. Recording an environmental land use restriction with CT DEEP creates longstanding limitations on the property as any future improvements on the property can be blocked on the grounds of disturbing the contaminated soil. Leaving the contaminated soil in place also adds indefinite costs to the Town for the required periodic monitoring of the soil. Finally, this option can add months or years to the approval process and an unforeseen ongoing financial burden on the Town.

Option 2: Remove contaminated soil during new foundation installation with specialty equipment. While this option appears more feasible and environmentally responsible than Option 1, no cost estimate was provided, leaving the overall scope of work, schedule and cost implications unresolved.

2. Soft Costs

Consultant fees (architectural, engineering, etc.), permitting fees, audio-visual and security, and other potential soft costs, were not included in the cost estimates. A project of this size and scope requires an architect and a team of engineers, including but not limited to structural, mechanical, electrical, plumbing and civil engineering. These professional services will be needed throughout the design and construction of the building. Soft costs typically add 10%-15% to the overall project cost.

3. Contingency

A construction contingency covers unforeseen conditions that can be encountered during construction and is typically included in cost estimates at this early stage of development. It is strongly recommended that a contingency be included on existing building projects in particular as there can be many unforeseen conditions hidden within the building itself. Construction contingency typically adds 10% to the overall project cost.

4. Septic System and Plumbing

There is no mention of providing the new septic system that is required for the project. This key element will no doubt impact the scope of work, the project schedule and can add 5%-7% to the final project cost. Further, LRBG did not include new plumbing piping and distribution in their bids even though it was requested in the outline specifications. Piping and distribution costs can add 3-5% to the final project cost.

The key project elements described above were not included in the LRBG cost estimates and can potentially increase the overall project exposure by 30-40% or more (not including the environmental costs which are indeterminate at this time). Without resolving these key elements, particularly the environmental work, the project is not likely to succeed.

APPENDIX A : PROJECT SUMMARY

PROPOSED COST ESTIMATES BY LRBG

Renovation : \$ 1,227,310
New Construction: \$ 1,305,999

PROPOSED PROGRAM

RENOVATION	NEW CONSTRUCTION
LOWER LEVEL	
<i>There is no Lower Level in the Renovation option, Crawl Space Only</i>	Meeting/Multipurpose Area
	Offices
	Storage Rooms
	West side Building Addition
	<i>includes: (2) Accessible Restrooms</i>
	Stairs
LEVEL ONE	
Meeting Space	Meeting Space
Residential-grade Kitchen	Residential-grade Kitchen
Service Spaces	Service Spaces
(storage, mechanical, foyer)	(storage, mechanical, foyer)
Westside Building Addition	Westside Building Addition
<i>includes: (2) Accessible Restrooms</i>	<i>includes: (2) Accessible Restrooms &</i>
Stairs	<i>West side Porch</i>
	Stairs
LEVEL TWO	
Meeting/Multipurpose Area	<i>There is no second floor in the New Construction option as all of the program is incorporated into a Lower Level design with a full walk-out. Instead, Level One is a 1.5 story high space.</i>
Offices	
Storage Rooms	
West side Building Addition	
<i>includes: (2) Accessible Restrooms</i>	
Stairs	

Note: The maximum occupancy on Level Two for the Renovation option is 49 people (without sprinklers)

The building program for both design options (Renovation and New Construction) is comparable. While both options fit the program listed above into two full floor levels, the biggest difference is that the Renovation places these two levels over a crawl space while the New Construction option creates a full, walk-out lower level and a ground floor level, double height space above (i.e. no second story)

APPENDIX B:
WHAT IS INCLUDED IN THE ESTIMATES

- **Site Work** (*Note: site work does NOT include remediation of contaminated soil*)
 - Excavation for new foundation for existing Grange Building and West side addition
 - New ramp and steps to building entrances
- **General Building**
 - Demolition of interior partitions (Renovation)/Demolition of existing building (New Construction)
 - Supplemental structural framing and new framing at addition
 - New insulation in crawl space floor, walls and roof
 - New interior doors are painted prehung hollow core masonite
 - Plumbing: new fixtures and plumbing at new addition; new fixtures with reused plumbing and distribution at existing
 - West side addition that includes new stair and restrooms
- **Structural** - to support the necessary loads imposed by the program and provide required stability for lateral loads the proposal and estimate for Renovation include the following:
 - New poured concrete foundations and footings - the existing Grange building will need to be raised in order to excavate and pour the new foundations
 - Steel beams and columns
 - Upgrade of existing floor & roof structure throughout
 - Additional 2x6 shear walls on the interior of all perimeter walls
- **Exterior**
 - Siding and trim to remain; damaged pieces to be replaced
 - All existing exterior doors to be restored
 - Roofing: 30 year asphalt shingle
 - Cedar siding at new West side addition to match existing
 - New energy star vinyl windows
 - New cupola per historic images
- **Interior**
 - Restore existing hardwood flooring; existing stair treads and risers
 - New 1x flat stock painted trim at base and openings; 1x painted wainscoting and chair rail in 1st floor assembly spaces
 - Bathroom ceramic tile
 - Kitchen: residential grade cabinets and appliances; plastic laminate countertops

NOTE ON THE NEW CONSTRUCTION OPTION COST ESTIMATE:

The estimate for New Construction based on the January 2018 McQueen Verdi Group design includes the same building elements listed above with the exception that any existing elements to be reused listed above (i.e. exterior doors, siding, flooring, etc.) will be new elements in the New Construction option.

APPENDIX C: WHAT IS NOT INCLUDED IN THE ESTIMATES

The following items were not included in the proposed scope and cost estimate for the either the Renovation or New Construction options. These items are listed in order of importance with the items having the most potential impact on scope, schedule and budget listed first:

1. Environmental Work

The timeline, costs and long term legal implications associated with the contaminated soil removal at the Northwest corner of the building are not resolved. CTHP mentions two options for addressing the soil contamination but neither option is included in the LRBG cost estimates:

Option 1: Record an environmental land use restriction with CT DEEP that prevents further excavation of the contaminated soil. It is not clear how it is possible to excavate for a new foundation, which is crucial to the restoration of the Grange Building, while leaving the soil in place as suggested. Recording an environmental land use restriction with CT DEEP creates longstanding limitations on the property as any future improvements on the property can be blocked on the grounds of disturbing the contaminated soil. Leaving the contaminated soil in place also adds indefinite costs to the Town for the required periodic monitoring of the soil. Finally, this option can add months or years to the approval process and an unforeseen ongoing financial burden on the Town.

Option 2: Remove contaminated soil during new foundation installation with specialty equipment. While this option appears more feasible and environmentally responsible than Option 1, no cost estimate was provided, leaving the overall scope of work, schedule and cost implications unresolved.

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Consultant fees (architectural, engineering, etc.), permitting fees and other potential soft costs were not included in the cost estimates. A project of this size and scope requires an architect and a team of engineers, including but not limited to structural, mechanical, electrical, plumbing and civil engineering. These professional services will be needed throughout the design and construction of the building. Soft costs typically add 10%-15% to the overall project cost.

3. Contingency

A construction contingency covers unforeseen conditions that can be encountered during construction and is typically included in cost estimates at this early stage of development. It is strongly recommended that a contingency be included on existing building projects in particular as there can be many unforeseen conditions hidden within the building itself. Construction contingency typically adds 10% to the overall project cost.

4. Septic System and Plumbing

There is no mention of providing the new septic system that is required for the project. This key element will no doubt impact the scope of work, the project schedule and can add 5%-7% to the final project cost. Further, LRBG did not include new plumbing piping and distribution in their bids even though it was requested in the outline specifications. Piping and distribution costs can add 3-5% to the final project cost.

5. Parking

The parking required for the project is not addressed and can add 5%-8% to the final project cost.

6. Elevator

There is no elevator planned, making the 2nd floor inaccessible to occupants with disabilities. An elevator and associated structural considerations can add 7%-10% to the final project cost.

7. Structure

The existing north stair in the Renovation option is unresolved for new 2x6 shear wall framing and is not coordinated with the structural narrative. The final solution can significantly affect the program on both floors of the North side of the building and add 3%-5% or more to the final project cost.

8. Window Quality

The proposed windows are not recommended with the selected vinyl cladding option. For the aesthetic and preservation considerations of the built exterior it is highly recommended that the windows be clad in either fiberglass, aluminum or fiberx.

9. Restoration

Wood restoration costs are not included. Existing siding & trim in need of repair or replacement will be treated at additional cost. This can add 1% or more to the final project cost.

10. General Building Elements: not included or unresolved

- no shutters
- no brick chimneys
- Moisture management layer is missing in foundation wall design, which can add %1 to the final project cost
- Mechanical pricing is quite larger from previous pricing exercises, which suggest that details of the proposed system need further review

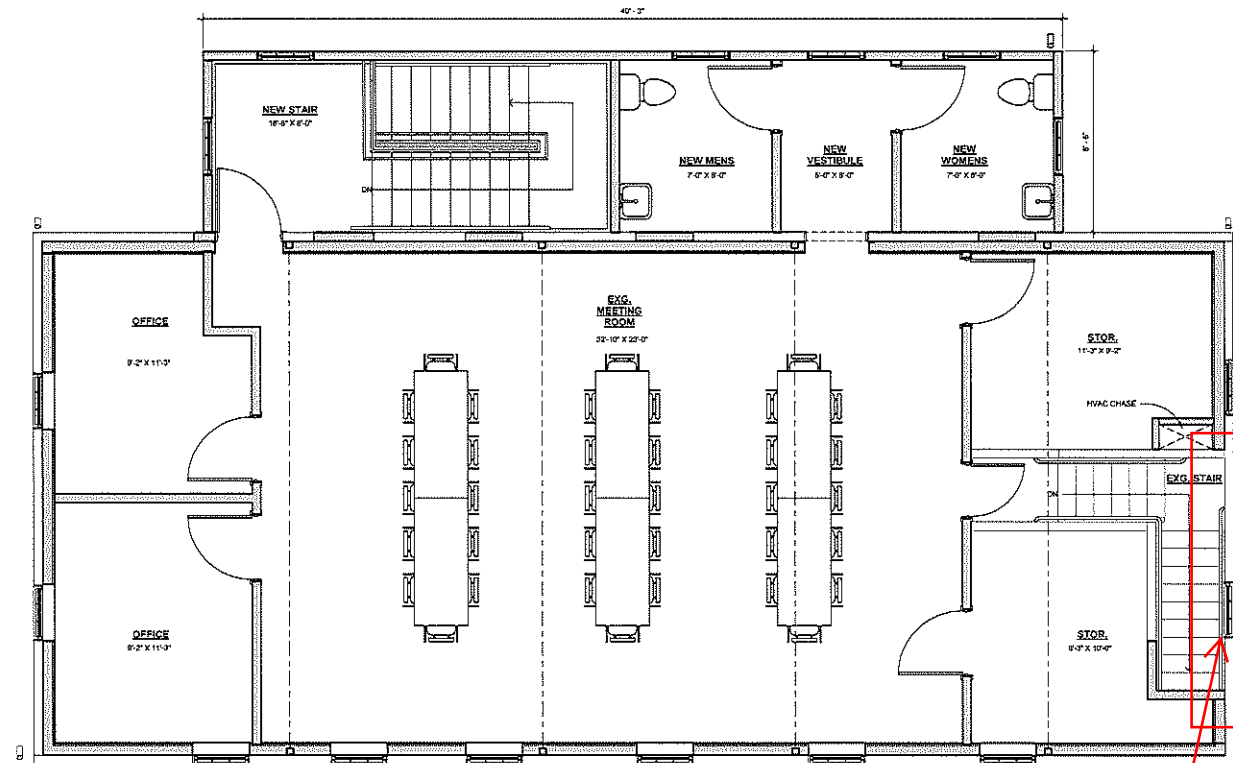
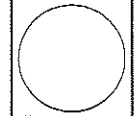
In addition to the values provided in the LRBG cost estimates, the overall project cost may be subject to an additional 30-80% in cost overruns when considering the total project exposure. Further, key elements on the project critical path that were not included in the scope - such as the existing contaminated soil and the septic system - are left unresolved, leaving the project without a definite scope, schedule or budget.

APPENDIX - D

OCCUPANCY TABLE		BUILDING SQUARE FOOTAGE			LINETYPE LEGEND	
FIRST FLOOR		EXISTING	NEW	TOTAL		INDICATES EXISTING WALL FRAMING TO REMAIN
Existing Assembly Hall (620 SF)		1,480 GSF	340 GSF	1,740 GSF		
SECOND FLOOR		EXISTING	NEW	TOTAL		INDICATES NEW WALL/FILL FRAMING
Max. Occupancy Load = 459 Max.		2,800 GSF	650 GSF	3,450 GSF		



Crosskey
Architects
Architecture Preservation Institute



2x6 SHEAR
WALLS MISSING

1 PROPOSED SECOND FLOOR PLAN
K.T.S.



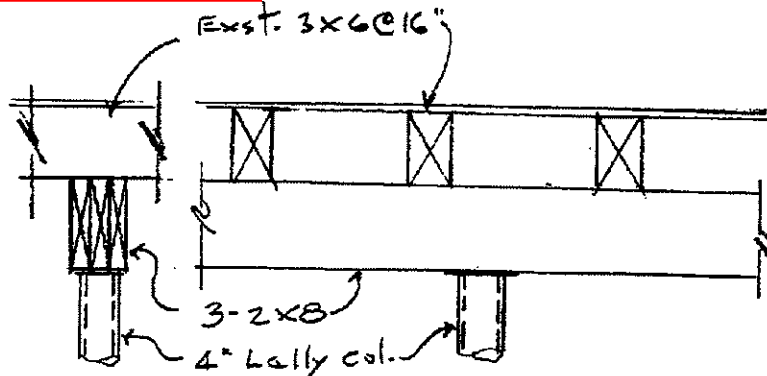
Bridgewater Grange Hall
44 Main Street South, Bridgewater, CT 06752
Connecticut Trust for Historic Preservation

Drawn: EM		
Issued: 11/12/2018		
Status:		
Revisions		
NO.	DATE	DESCRIPTION

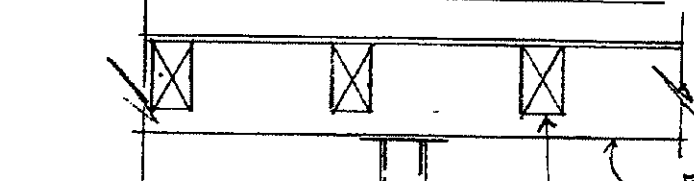
A-2
Proposed Second Floor Plan
Copyright © 2018

Not for Construction

Bridgewater Grange
Structural Detail for Costing
JK Grant 11/10/18



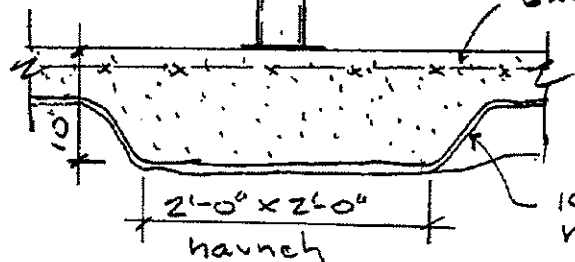
CONDITION AT NEW BEAM



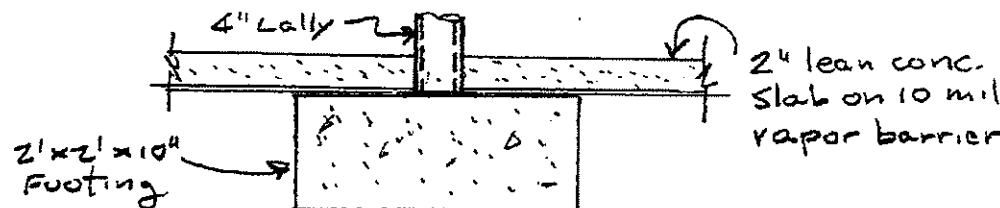
4" H.D. Lally Column

Exst. 8x7 beam

Exst. 3x6 @ 16" OC
perimeter insulation
6x6-W1-4xW1-4 WWF



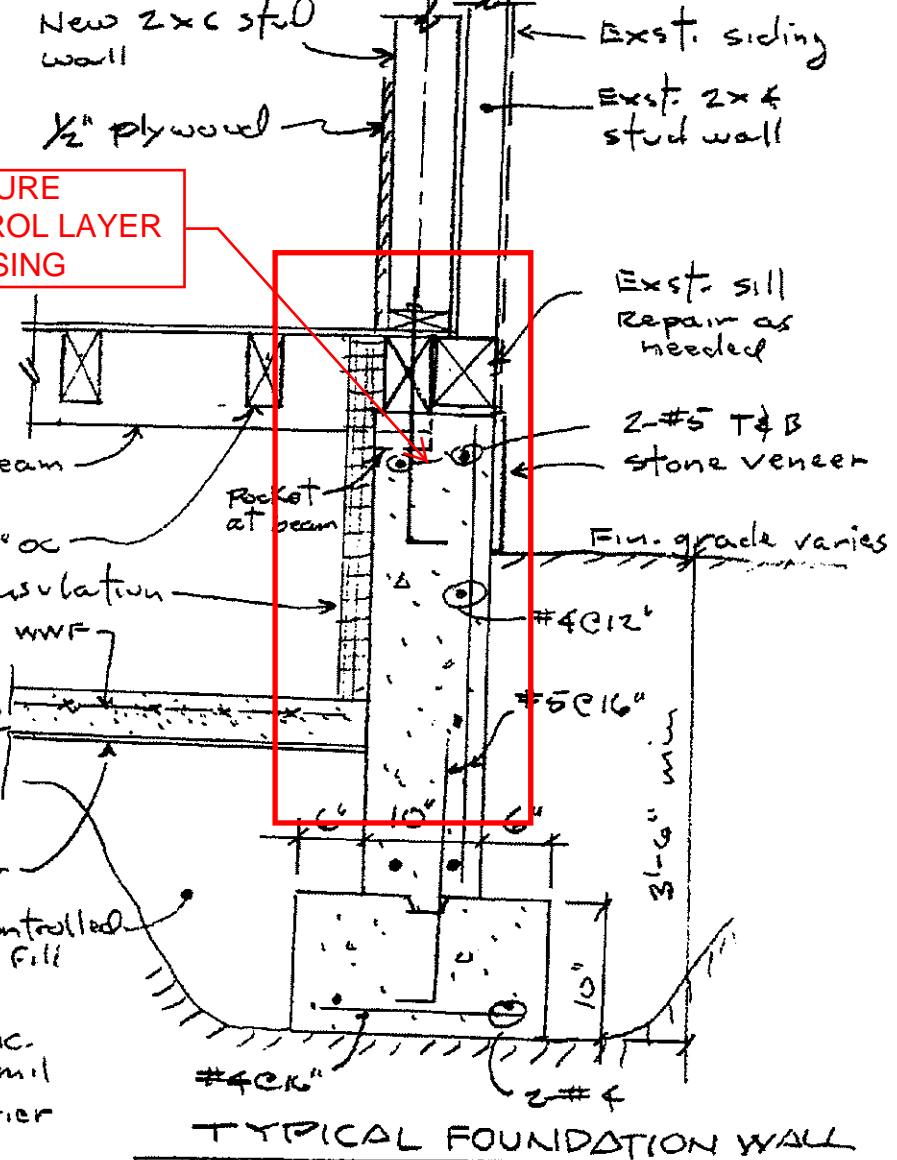
INTERIOR COLUMN & FOOTING



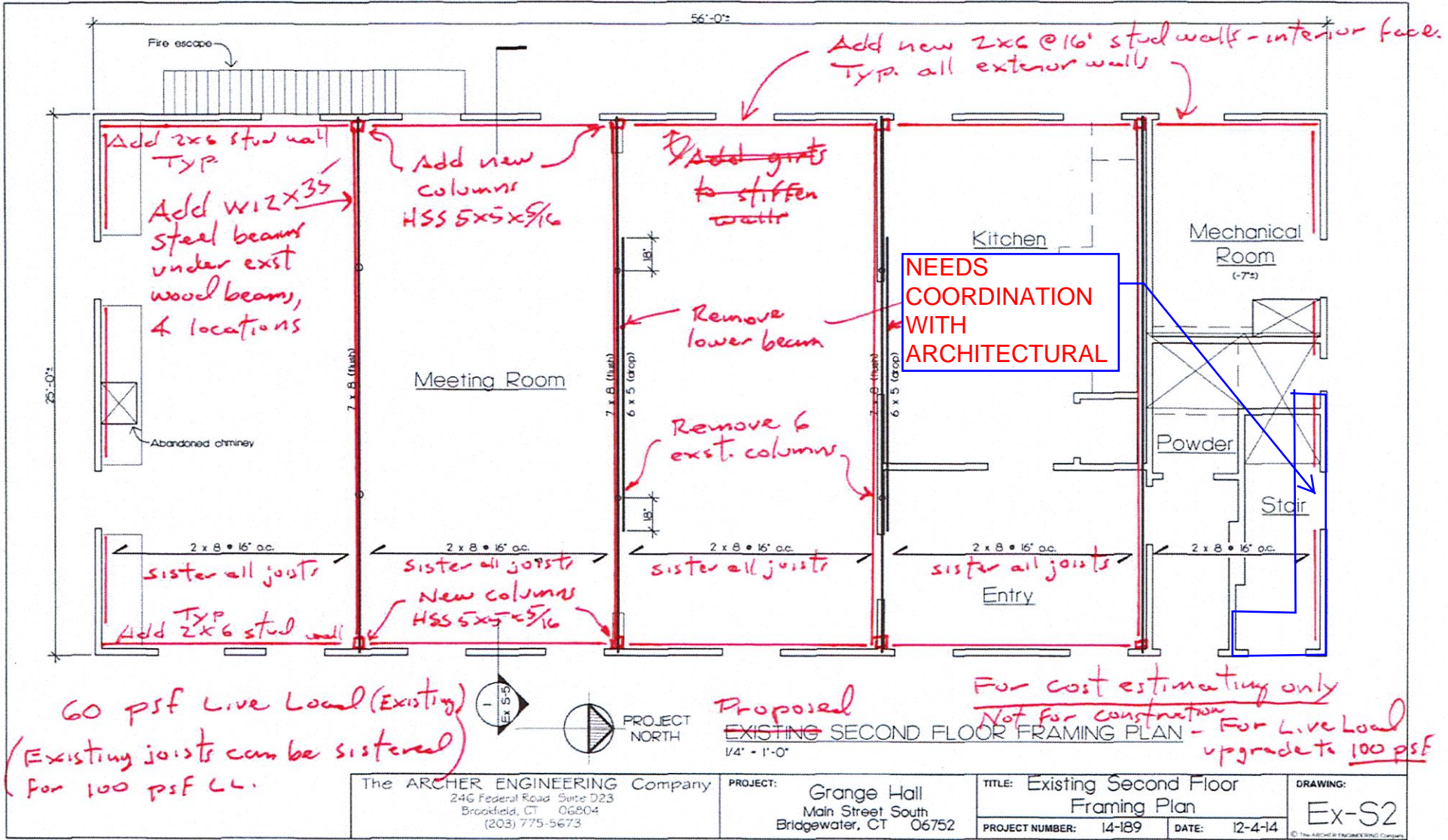
OPTIONAL FOOTING & RAT SLAB

6 HSS 5x5x5/16
beyond
New 2x6 stud
wall
1/2" plywood

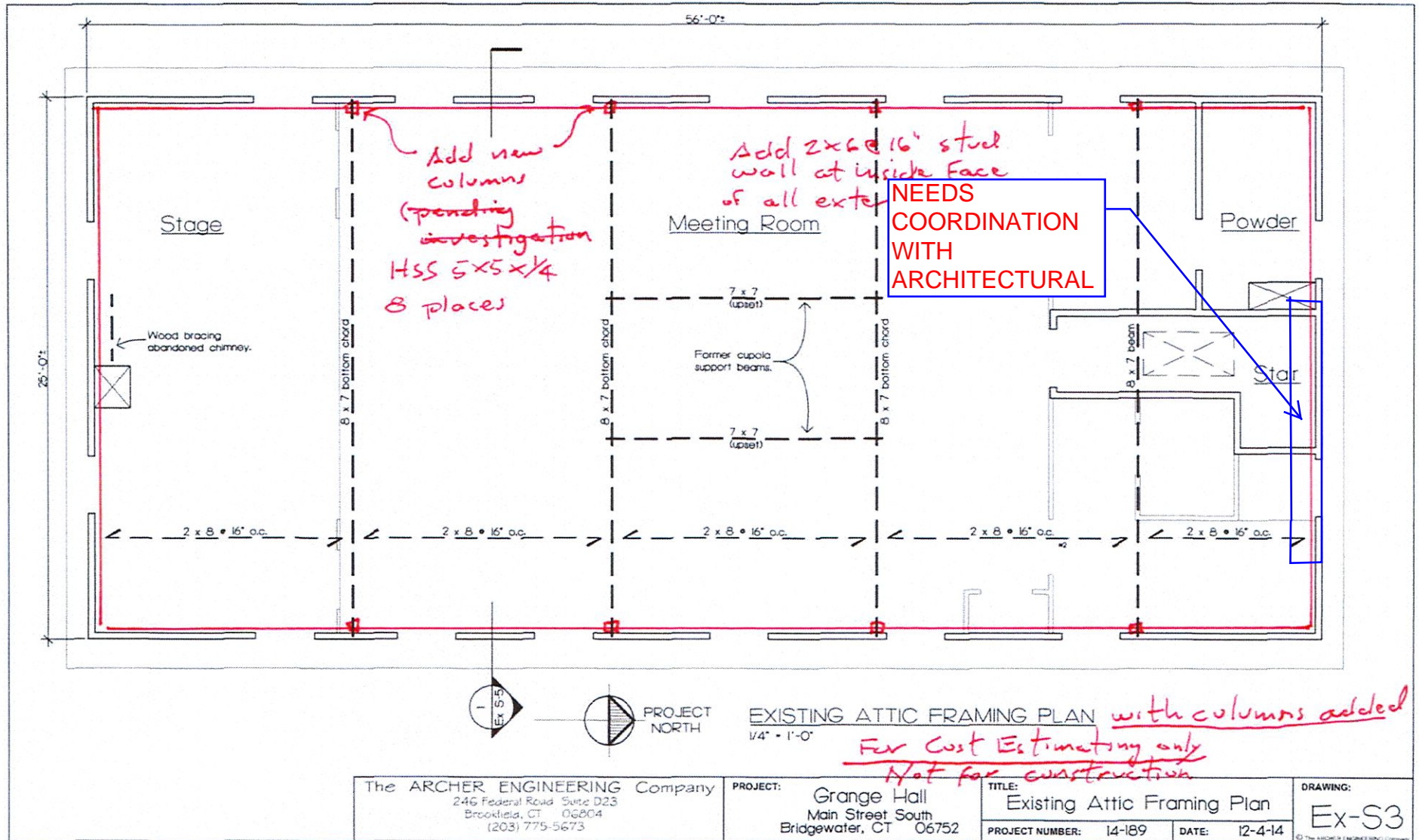
MOISTURE
CONTROL LAYER
IS MISSING



APPENDIX - D



APPENDIX - D



APPENDIX - D

gradient
(down)

Approximate
Property Line

Perimeter of
Excavation

Anticipated Extent of
Contaminated Soil

11 South Main
Street

18'±

30'±

IMPACTED SOIL AREA
MENTIONED BY
CROSSKEY ARCHITECTS

APPROXIMATE
CONTAMINATED SOIL
AREA

S-6

S-7

S-8

S-1

S-2

S-5

S-10

S-9

S-4

S-3

South Main Street

N

EXCAVATION SITE MAP

Scale: Approx 1" : 20'

Drawn By: BTI

Drawing # 11SMS - 1A

Date: 9/22/16

Town of Bridgewater Property - Grange Building
11 South Main Street
Bridgewater, CT.

BDL Environmental Consultants, Inc. Middlebury, CT.