

# The Houston Barn Committee Report



**December 20, 2021**



## Table of Contents

Executive Summary.....	1
Committee’s Charge:.....	3
Committee Members:.....	3
Consideration Points:.....	3
Alternatives & Costs:.....	4
• Barn Stabilization Only:.....	4
• Barn Rehabilitation: .....	4
• New Building in Existing Location .....	4
• New Building in New Location .....	4
Alternatives & Cost Summary Chart .....	5
Recommendation.....	6
Appendixes:	
Facilities Pictures .....	9
Cost Summary.....	14
Detailed Cost Estimates (Milestone Engineering):	
• Stabilize .....	15
• Rehabilitate .....	23
• Remove Barn and Rebuild Onsite .....	33
• Remove Barn and Rebuild on Alternate Site .....	43
Prior Reports & Studies:	
• NH Preservation Alliance Barn Assessment Grant, Ladd Timber Framing completed in 2021 ....	53
• Letter, Sheerr McCrystal Palson Architecture inc. 2003 .....	79
• Houston Barn review, Steffensen Engineering in 2005; .....	84
• Houston Barn Study, completed by SFC Engineering in 2002;.....	86



**Houston Barn Committee**  
**Report to the Hopkinton Select Board**  
**December 20, 2021**

## Executive Summary

The Houston Barn Study Committee was appointed by the Select Board in January of 2021 to prepare a report evaluating all considerations relative to the future of the Houston Barn. This report was to be given to the Select Board for review and action in time for the presentation and determination at the 2022 Town Meeting.

In 1995 the Town Building Needs Committee identified the availability of the Houston Land as the answer for much needed space that could accommodate a police station, library, much needed playing fields, as well as other future municipal needs. In 1997 the Town acted on that recommendation and purchased the Houston Property. The Contoocook Village Design Charette concluded that the large barn should be preserved, if at all possible, as the Houston Farm is a cornerstone of Contoocook's downtown area. The Hopkinton Master Plan recognized the historical significance of the Houston Barn and recommended creating a management plan that includes in part scheduled maintenance and rehabilitation for the preservation of this building. Throughout the past 26 years (that the town has owned the Houston Property) numerous committees have recognized the value of preserving the large barn for its historical value and the potential uses to meet the social, cultural and recreational needs of the town.

In June of 2021, the NH Preservation Alliance awarded the Town of Hopkinton a Historic Barn Assessment Grant that provided the funds to hire a barn consultant, Ladd Timber Framing, to do an evaluation of the existing conditions of the barn. The conclusion of this report was that "the Houston Barn is in remarkably good condition. Such "survivors" are increasingly rare and cost prohibitive to replace in kind." Despite this conclusion, the report identified some critical structural repairs that were needed in order to preserve the barn. Besides the obvious need to replace the roof, the water damage has caused the flooring in areas to rot. The foundation is tilting outwards by several inches and threatens the load-bearing capacity. The primary timber posts, that are supported on concrete posts, are rotting and show signs of active powder post beetles. A main load bearing post has sunk 3" and is partially detached. Should this fully detach the roof area above could be at risk of partial collapse.

In order to provide estimates, using the above-mentioned Ladd report, Milestone Construction and Engineering was hired to consider the following options:

- Barn Stabilization;
- Barn Rehabilitation (includes stabilization plus fire suppression, lighting protection, additional weatherization improvements such as siding, trim, windows, doors, limited electrical and heat;
- Construction of a new facility on the site of the existing barn. This would include the removal of the existing barn.
- Construction of a new facility on an alternate site on the Houston Fields property. This would include the removal of the existing barn.

**Houston Barn Committee  
Report to the Hopkinton Select Board  
December 20, 2021**

Based on the above, the Houston Barn Committee is recommending, at a minimum the stabilization of the barn. In addition, the Committee believes the additional funding needed to reach barn rehabilitation stage should immediately be incorporated into the town CIP plans with completion to occur within the next few years. It should also be noted that with the current extremely low bond rates, it may be beneficial for the town to consider bonding the Rehabilitation Plan this year in order to take advantage of these rates and reduce the total cost to the town taxpayers.

The Committee has provided the following previous reports to give the reader a full picture of what has been done in the past, more recent reports that have been commissioned, as well as the work of this committee. These reports and studies include:

- Houston Barn Study, completed by SFC Engineering in 2002;
- NH Preservation Alliance Barn Assessment Grant, Ladd Timber Framing completed in 2021
- Milestone Construction and Engineering construction estimates completed in 2021.

**Houston Barn Committee**  
**Report to the Hopkinton Select Board**  
**December 20, 2021**

**Committee's Charge:**

The Houston Barn Study Committee was established to provide information to the Select Board relative to the future of the Houston Barn. This information is to be provided to the Select Board for review and action at the 2022 Town Meeting. Components of this "report" include:

- History of the barn & historical value to the town;
- Cost estimates to stabilize the existing structure for its current uses; (Operations center & storage for the DPW, equipment storage for a variety of town groups)
- Cost estimates to stabilize and rehabilitate the barn adding utilities and maintenance items that would further protect the barn and add to its functional utility in the future (Siding, windows, doors, fire suppression, electrical power, etc.);
- Cost estimates to build a replacement structure to serve the purposes above, if the existing barn is torn down;
- Provide cost estimates to remove the barn.

**Committee Members:**

Louise Carr (Chair)  
Celina Hurley  
Lee Wilder

David Feller  
Jason LaCombe

Don Houston

**Consideration Points:**

- The barn serves as critical operations space for the DPW Building and Grounds Department and if eliminated would require an alternative space with all of the existing functionality and access;
- The DPW Garage off Maple Street is filled to capacity and could not be utilized to fill this need;
- The Recreation Department uses the main floor of the barn for storage of summer camp equipment and supplies as well as holiday decorations. The Fire Department uses this space to conduct dark & confined space fire training.
- Additional groups in town also utilize this space including HYSA, the Slusser Center, the Library, the Boys & Girls Scouts, and the High School athletic department.
- No other facility has been identified that could fill this need;
- If needed repair is not done to the barn, it will rapidly deteriorate and will need to be removed;
- If removed, the site could be used to construct a new facility;
- The Houston Fields site is the ideal location for this facility whether on the current barn site or on another site within the Houston fields;

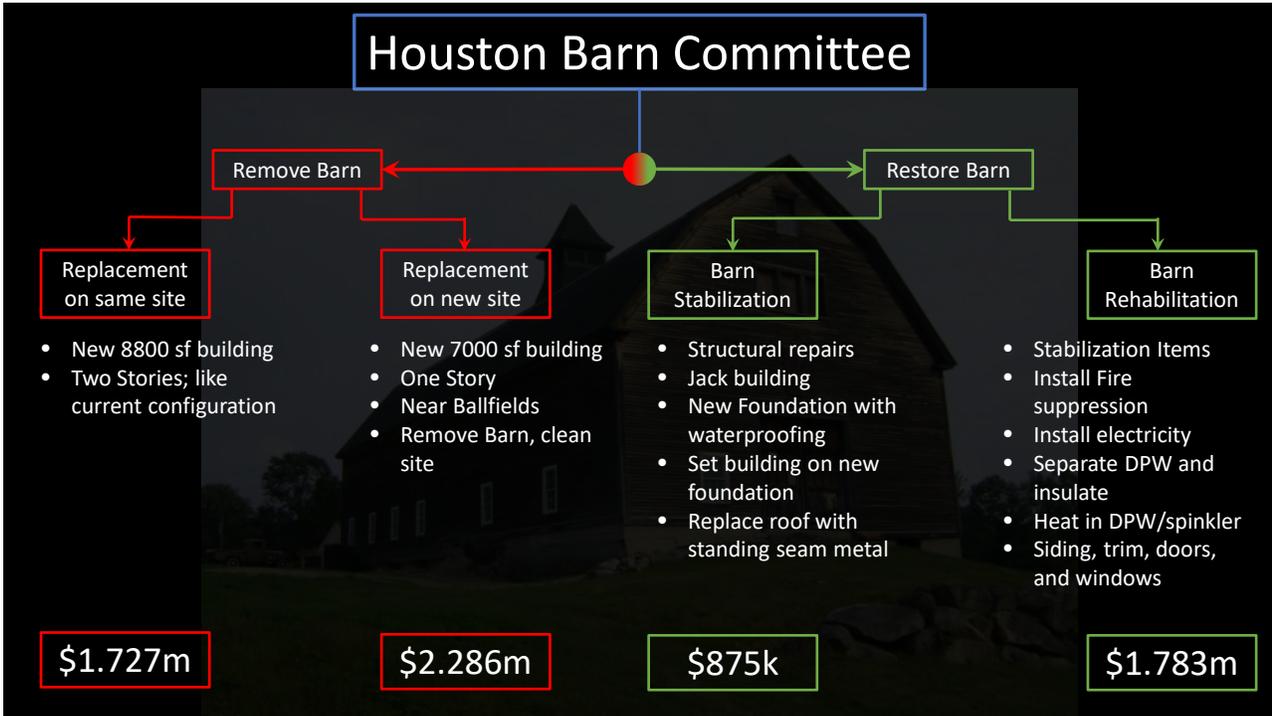
**Houston Barn Committee**  
**Report to the Hopkinton Select Board**  
**December 20, 2021**

**Alternatives & Costs:** *(all estimates include contractor as well as owner contingencies of approximately 10% each)*

- **Barn Stabilization Only:**
  - *This includes structural repairs, jacking the building up, a new foundation, resetting the barn, and replacing the roof with a standing seam roof.*
  - Pro – Maintain the ideal location for DPW operations, preserve the facility for possible future uses, preserve the historic value of the barn;
  - Con – Building would not be protected by fire suppression, lightning rod protection, electrical system would be inadequate, and the aesthetics and long-term maintenance of the building would not be improved (siding, doors, windows, electrical, etc.) The lack of a fire suppression system leaves the library and Slusser Center potentially vulnerable to a barn structure fire or lightning strike.
  - Cost Estimate \$875,000
  
- **Barn Rehabilitation:**
  - *This includes everything in the Stabilization plan plus fire suppression, lighting rod installation, electrical system upgrade, siding, exterior trim, windows, and doors.*
  - Pro – Maintain the ideal location for DPW operations, preserve the facility for possible future uses, protects the Library and Slusser Center, preserve the historic value of the barn, and take advantage of the existing low bond rates.
  - Con – More expensive option than just completing Barn Stabilization.
  - Cost Estimate \$1,783,000
  
- **New Building in Existing Location:**
  - *This new structure would be an 8,800SF barn built to municipal standards, two stories similar to existing barn, and the removal of the existing barn.*
  - Pro - Would be able to build what is functionally needed;
  - Con – Would need to remove the barn, find a temporary location for DPW during construction, expensive option, loss of historic value of the barn
  - Cost Estimate \$1,725,000
  
- **New Building in New Location:**
  - *This new structure would be a 7,000SF garage and storage facility built to municipal standards, one story located near the ballfields, and the removal of the existing barn.*
  - Pro – Would be able to build what is functionally needed;
  - Con – Need to find a suitable lot that would be convenient for the access without creating a disturbance to surrounding residents/businesses (could be within the Houston Fields site), need to remove barn, an expensive option, loss of historic value of the barn
  - Cost Estimate \$2,286,000 (assumes no land cost using an alternate site at Houston Fields)

**Houston Barn Committee**  
**Report to the Hopkinton Select Board**  
**December 20, 2021**

**Alternatives & Cost Summary Chart**



**Houston Barn Committee  
Report to the Hopkinton Select Board  
December 20, 2021**

**Recommendation:**

Based on the above and considering the financial constraints of the town, the Committee recommends the Barn Stabilization option with an estimated cost of \$875,000. We believe this option preserves this valuable asset while recognizing the tax impacts on the town residents and businesses. This option also allows for future protection and enhancement of the Houston Barn on a schedule that is acceptable to the Select Board, the Budget Committee, and the town as a whole. We would envision this expenditure to be accomplished with a combination of funding from town reserve funds, bonding, and possible state grants.

It should also be noted that the Committee would also support a decision by the Select Board to choose to do further research regarding the bonding and funding of the Barn Rehabilitation Option. Taking advantage of the existing low bond rates could prove to be the most advantageous and economical long-term option for the town.

**Houston Barn Committee  
Report to the Hopkinton Select Board  
December 20, 2021**

**Appendixes:**

Facilities Pictures

Cost Summary

Detailed Cost Estimates (Milestone Engineering):

- Stabilize
- Rehabilitate
- Remove Barn and Rebuild Onsite
- Remove Barn and Rebuild on Alternate Site

Prior Reports & Studies:

- NH Preservation Alliance Barn Assessment Grant, Ladd Timber Framing completed in 2021
- Letter, Sheerr McCrystal Palson Architecture inc. 2003
- Houston Barn review, Steffensen Engineering in 2005;
- Houston Barn Study, completed by SFC Engineering in 2002;







**DPW GARAGE**



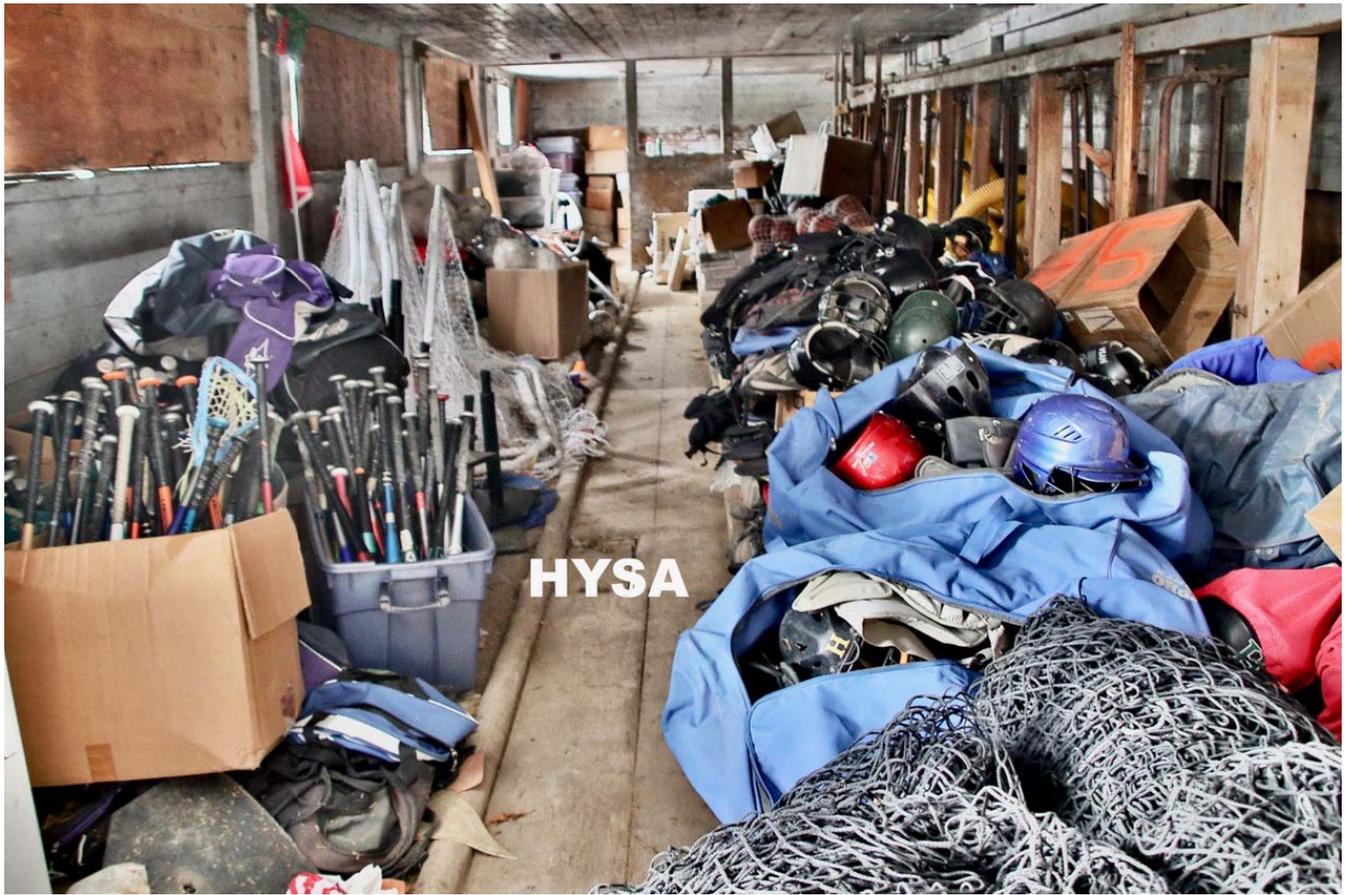
**DPW /  
Building &  
Grounds**



DPW /  
Building &  
Grounds



DPW /  
Building  
& Grounds







# Houston Barn Committee

Replacement  
same

Replacement  
on new site

Barn  
Stabilization

Barn  
Rehabilitation

Milestone Engr Construction Estimate \$ 1,527,456  
 Add'l Construction Matls & Testing (1%) \$ 15,275  
 Owner Contingency (10%) \$ 154,273  
 Land Survey / Geotech \$  
 Moving & Storage \$ 30,000

\$ 2,034,252  
 \$ 20,343  
 \$ 205,459  
 \$ 20,000  
 \$ 5,000

\$ 778,276  
 \$ 7,783  
 \$ 78,606  
 \$  
 \$ 10,000

\$ 1,586,876  
 \$ 15,869  
 \$ 160,274  
 \$  
 \$ 20,000

Total Project Budget \$1,727,004

\$2,285,554

\$ 874,665

\$1,783,019

\$1,727k

2,286k

\$875k

1,783k



MILESTONE ENGINEERING & CONSTRUCTION  
BUDGET SUMMARY



Project Name: Houston Barn Rehabilitation - Limited Scope of Work  
 Project Location: Hopkinton, NH  
 Date: November 29, 2021 REV 12-3-2021

Div.	Description	Total Mat'l Cost	Total Sub Cost Or Lump Sum	Labor Cost	Labor Fringe	Total Job Cost
1	General Requirements	61,608.68	0.00	41,360.00	24,816.00	127,784.68
2	Sitework	33,280.00	112,875.00	6,360.00	3,816.00	156,331.00
2A	Demolition	0.00	10,000.00	1,200.00	720.00	11,920.00
3	Concrete	76,404.00	49,590.00	0.00	0.00	125,994.00
4	Masonry	0.00	0.00	0.00	0.00	0.00
5	Metals	8,400.00	0.00	1,500.00	900.00	10,800.00
6	Rough Carpentry	23,840.00	15,000.00	37,740.00	22,644.00	99,224.00
6A	Finish Carpentry	0.00	0.00	0.00	0.00	0.00
7	Moisture Protection	2,550.00	127,740.00	480.00	288.00	131,058.00
8	Doors & Windows	0.00	7,500.00	0.00	0.00	7,500.00
9	Finishes	0.00	0.00	0.00	0.00	0.00
10	Specialties	0.00	0.00	0.00	0.00	0.00
11	Equipment	0.00	0.00	0.00	0.00	0.00
12	Furnishings	0.00	0.00	0.00	0.00	0.00
13	Special Construction	0.00	0.00	0.00	0.00	0.00
14	Conveying Systems	0.00	0.00	0.00	0.00	0.00
15	Mechanical	0.00	0.00	0.00	0.00	0.00
16	Electrical	0.00	0.00	0.00	0.00	0.00
<b>TOTALS</b>		<b>206,082.68</b>	<b>322,705.00</b>	<b>88,640.00</b>	<b>53,184.00</b>	<b>670,611.68</b>

Total Direct	670,611.68
Sub Bonds	0.00
Bond	6,150.00
<b>Subtotal</b>	<b>676,761.68</b>
CM Fee @ 5%	33,838.08
Subtotal	710,599.76
Contingency @ 10%	67,676.17
<b>BUDGET TOTAL</b>	<b>778,275.93</b>

ALTERNATE  
 Change standing seam metal roof to asphalt shingles; DEDUCT \$50,000.00

TMH 2776

# MILESTONE

**ENGINEERING & CONSTRUCTION**

**MILESTONE ENGINEERING & CONSTRUCTION ESTIMATE**

**Project Name:** Houston Barn Rehabilitation - Limited Scope of Work  
**Project Location:** Hopkinton, NH  
**Date:** November 29, 2021 REV 12-3-2021

DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L COST		TOTAL MAT'L COST		UNIT SUB COST		TOTAL SUB COST OR L.S.		LABOR RATE		LABOR COST		LABOR FRINGE		TOTAL JOB COST		
1	General Requirements																			
	Building Permit	1	by owner	2,500.00		2,500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,500.00	
	Building Plan Review		none	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Performance Bond		See Sum	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Builders Risk	1	allowance	5,000.00		5,000.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5,000.00	
	Insurance on Labor	55640	\$9.81/m	0.01		545.83		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	545.83	
	Insurance on Subcontractors	322705	\$1.80 /m	0.00		580.87		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	580.87	
	Umbrella Ins. Coverage	778275	\$1.00 /m	0.00		778.28		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	778.28	
	Professional Liability Ins.	778275	\$0.75 /m	0.00		583.71		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	583.71	
	Project Manager	16	weeks	0.00		0.00		0.00	0.00	0.00	0.00	160	40.00	6,400.00	3,840.00	0.00	0.00	10,240.00		
	Project Superintendent	16	weeks	0.00		0.00		0.00	0.00	0.00	0.00	640	35.00	22,400.00	13,440.00	0.00	0.00	35,840.00		
	General Super	16	weeks	0.00		0.00		0.00	0.00	0.00	0.00	80	40.00	3,200.00	1,920.00	0.00	0.00	5,120.00		
	Asst Supt/Foreman		none	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Project Assistant	16	weeks	0.00		0.00		0.00	0.00	0.00	0.00	80	27.00	2,160.00	1,296.00	0.00	0.00	3,456.00		
	Time Keeper		none	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Watchmen		none	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Traffic Control	1	allowance	500.00		500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	500.00	
	Project Layout	1	allowance	500.00		500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	500.00	
	Project Safety	16	weeks	125.00		2,000.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,000.00	
	Travel Exp. - Supt.	16	weeks	175.00		2,800.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,800.00	
	Office Trailer w/storage	4	months	400.00		1,600.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,600.00	
	Temp. Storage Trailers	4	none	100.00		400.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	400.00	
	Temp. Toilet	4	months	200.00		800.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	800.00	
	Temp. Phone	4	months	150.00		600.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	
	Temp. Data/Wireless	4	months	75.00		300.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	300.00	
	Temp. Power	4	months	350.00		1,400.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,400.00	
	Temp. Heat - Allow		none	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Temp. Heat - Equip		none	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Temp. Enclosures		none	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Temp. H2O/Sewer		by owner	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Snow Removal		none	750.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Field Office Supplies	16	weeks	20.00		320.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	320.00	



DIV.	DESCRIPTION	QTY.	Unit	UNIT/MAT'L COST	TOTAL MAT'L COST	UNIT/SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	FRINGE	TOTAL JOB COST
2A	Demolition											
	Foundation Demolition	1	allowance	0.00	0.00	10,000.00	10,000.00		0.00	0.00	0.00	10,000.00
	Demolish Wood Flooring	600	sf	0.00	0.00	0.00	0.00	40	30.00	1,200.00	720.00	1,920.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Demolition</b>			<b>0.00</b>	<b>0.00</b>	<b>10,000.00</b>	<b>10,000.00</b>	<b>40</b>		<b>1,200.00</b>	<b>720.00</b>	<b>11,920.00</b>
3	Concrete											
	Foundation			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Wall footing	200	lf	0.00	0.00	4.00	800.00		0.00	0.00	0.00	800.00
	Retaining wall footing	380	lf	0.00	0.00	4.50	1,710.00		0.00	0.00	0.00	1,710.00
	Pier footings (14)	350	sf	0.00	0.00	4.50	1,575.00		0.00	0.00	0.00	1,575.00
	Concrete	50	cy	125.00	6,250.00	0.00	0.00		0.00	0.00	0.00	6,250.00
	Rebar	6500	lbs	1.00	6,500.00	0.40	2,600.00		0.00	0.00	0.00	9,100.00
	Concrete Pump	1	day	1,500.00	1,500.00	0.00	0.00		0.00	0.00	0.00	1,500.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Foundation walls			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	8' walls	1600	sf	0.00	0.00	3.50	5,600.00		0.00	0.00	0.00	5,600.00
	12' walls	5760	sf	0.00	0.00	4.00	23,040.00		0.00	0.00	0.00	23,040.00
	Shelf	340	lf	0.00	0.00	5.00	1,700.00		0.00	0.00	0.00	1,700.00
	Concrete	150	cy	125.00	18,750.00	0.00	0.00		0.00	0.00	0.00	18,750.00
	Rebar	20000	lbs	1.00	20,000.00	0.00	0.00		0.00	0.00	0.00	20,000.00
	Door stops	6	ea	25.00	150.00	0.00	0.00		0.00	0.00	0.00	150.00
	Concrete Pump	3	days	1,500.00	4,500.00	0.00	0.00		0.00	0.00	0.00	4,500.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Slab on grade			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Pour & finish	4400	sf	0.00	0.00	2.25	9,900.00		0.00	0.00	0.00	9,900.00
	Concrete	100	cy	125.00	12,500.00	0.00	0.00		0.00	0.00	0.00	12,500.00
	WW mesh	5300	sf	0.35	1,855.00	0.00	0.00		0.00	0.00	0.00	1,855.00
	Vapor barrier	4600	sf	0.30	1,380.00	0.00	0.00		0.00	0.00	0.00	1,380.00
	Exp joints	290	lf	0.60	174.00	0.00	0.00		0.00	0.00	0.00	174.00
	Saw cuts	510	lf	0.00	0.00	1.50	765.00		0.00	0.00	0.00	765.00
	Diamond boxes/Fill	14	ea	0.00	0.00	50.00	700.00		0.00	0.00	0.00	700.00
	Curing	4400	sf	0.05	220.00	0.00	0.00		0.00	0.00	0.00	220.00
	Concrete Pump	1	day	1,500.00	1,500.00	0.00	0.00		0.00	0.00	0.00	1,500.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00

DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	OH Door Aprons			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Edge Form	60 lf		0.00	0.00	5.00	300.00		0.00	0.00	0.00	300.00
	Pour & Finish	150 sf		0.00	0.00	3.00	450.00		0.00	0.00	0.00	450.00
	Concrete	5 cy		125.00	625.00	50.00	250.00		0.00	0.00	0.00	875.00
	Rebar	500 lbs		1.00	500.00	0.40	200.00		0.00	0.00	0.00	700.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Concrete</b>				<b>76,404.00</b>		<b>49,590.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>125,994.00</b>
<b>4</b>	<b>Masonry</b>											
	None			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Masonry</b>			<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>5</b>	<b>Metals</b>											
	Fabricated Steel	2 tons		3,500.00	7,000.00	0.00	0.00		0.00	0.00	0.00	7,000.00
	Steel basement columns	14 ea		100.00	1,400.00	0.00	0.00	50	30.00	1,500.00	900.00	3,800.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Metal</b>			<b>8,400.00</b>	<b>8,400.00</b>	<b>0.00</b>	<b>0.00</b>	<b>50</b>		<b>1,500.00</b>	<b>900.00</b>	<b>10,800.00</b>
<b>6</b>	<b>Rough Carpentry</b>											
	Reframe basement wall			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	2x6x16 PT	7 ea		12.00	84.00	0.00	0.00	16	30.00	480.00	288.00	852.00
	2x6x16 studs	21 ea		13.00	273.00	0.00	0.00	32	30.00	960.00	576.00	1,809.00
	2x6x8	120 ea		7.00	840.00	0.00	0.00	120	30.00	3,600.00	2,160.00	6,600.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Repair 10x10 column base	18 ea		50.00	900.00	0.00	0.00	80	30.00	2,400.00	1,440.00	4,740.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Replace floor deck			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	2x8 decking	2500 lf		1.25	3,125.00	0.00	0.00	150	30.00	4,500.00	2,700.00	10,325.00
	1x8 decking	2500 lf		1.50	3,750.00	0.00	0.00	150	30.00	4,500.00	2,700.00	10,950.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Reinf beams., 1-1/4x9-9/16 LVL	200 lf		8.00	1,600.00	0.00	0.00	40	30.00	1,200.00	720.00	3,520.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Refasten/clip diagonals	126 ea		2.00	252.00	0.00	0.00	24	30.00	720.00	432.00	1,404.00

DIV.	DESCRIPTION	QTY.	Unit	UNIT/MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	Repair and anchor post	1 ea		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Shoring	1 allowance		500.00	500.00	0.00	0.00	16	30.00	480.00	288.00	768.00
	Rebuilding columns	4 ea		25.00	100.00	0.00	0.00	16	30.00	480.00	288.00	868.00
	New wood beams	150 lf		20.00	3,000.00	0.00	0.00	48	30.00	1,440.00	864.00	5,304.00
	Refasten 4x8 roof beam to horiz.	18 ea		2.00	36.00	0.00	0.00	4	30.00	120.00	72.00	228.00
	Repair/replace sills	44 lf		20.00	880.00	0.00	0.00	80	30.00	2,400.00	1,440.00	4,720.00
	Repair door sills	16 lf		25.00	400.00	0.00	0.00	16	30.00	480.00	288.00	1,168.00
	Repairs to upper deck 1x8	1500 sf		2.00	3,000.00	0.00	0.00	160	30.00	4,800.00	2,880.00	10,680.00
	Jack post C3 for repair	1 allowance		100.00	100.00	0.00	0.00	24	30.00	720.00	432.00	1,252.00
	Pest Control	1 allowance		0.00	0.00	15,000.00	15,000.00		0.00	0.00	0.00	15,000.00
	Misc. Carpentry	1 allowance		5,000.00	5,000.00	0.00	0.00	250	30.00	7,500.00	4,500.00	17,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Rough Carpentry</b>				<b>23,840.00</b>		<b>15,000.00</b>	<b>1,258</b>		<b>37,740.00</b>	<b>22,644.00</b>	<b>99,224.00</b>
6A	Finish Carpentry											
	NONE			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Finish Carpentry</b>			<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
7	Moisture Protection											
	Perimeter Insulation	600 sf		1.75	1,050.00	0.00	0.00	16	30.00	480.00	288.00	1,818.00
	Warm-n-dri waterproofing	2400 sf		0.00	0.00	4.00	9,600.00		0.00	0.00	0.00	9,600.00
	Roofing			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Demo shingles	7140 sf		0.00	0.00	1.00	7,140.00		0.00	0.00	0.00	7,140.00
	Disposal	1 load		1,500.00	1,500.00	0.00	0.00		0.00	0.00	0.00	1,500.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Metal roof	1 ls		0.00	0.00	110,000.00	110,000.00		0.00	0.00	0.00	110,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Caulking & sealants	1 allowance		0.00	0.00	1,000.00	1,000.00		0.00	0.00	0.00	1,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00

DIV	DESCRIPTION	QTY.	Unit	UNIT/MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	<b>Total Moisture Protection</b>			<b>2,550.00</b>	<b>127,740.00</b>		<b>127,740.00</b>	<b>16</b>		<b>480.00</b>	<b>288.00</b>	<b>131,058.00</b>
8	Doors & Windows			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Overhead doors	3 ea		0.00	2,500.00	7,500.00	7,500.00		0.00	0.00	0.00	7,500.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Doors &amp; Windows</b>			<b>0.00</b>	<b>7,500.00</b>		<b>7,500.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>7,500.00</b>
9	Finishes											
	NONE			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Finishes</b>			<b>0.00</b>	<b>0.00</b>		<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
10	Specialties											
	NONE			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Specialties</b>			<b>0.00</b>	<b>0.00</b>		<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
11	Equipment											
	NONE			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Equipment</b>			<b>0.00</b>	<b>0.00</b>		<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
12	Furnishings											
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Furnishings</b>			<b>0.00</b>	<b>0.00</b>		<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
13	Special Construction											
	NONE			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Special Construction</b>			<b>0.00</b>	<b>0.00</b>		<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

DIV	DESCRIPTION	QTY	Unit	UNIT/MAT'L COST	TOTAL MAT'L COST	UNIT-SUB COST	TOTAL SUB COST-OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
<b>Total Special Construction</b>												
				0.00	0.00		0.00			0.00	0.00	0.00
14	Conveying Systems											
	NONE			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
<b>Total Conveying Systems</b>												
				0.00	0.00		0.00	0		0.00	0.00	0.00
15	Mechanical											
	NONE			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
<b>Total Mechanical</b>												
				0.00	0.00		0.00	0		0.00	0.00	0.00
16	Electrical											
	NONE			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
<b>Total Electrical</b>												
				0.00	0.00		0.00	0		0.00	0.00	0.00
<b>Grand Totals</b>					206,082.68		322,705.00	2,776		88,640.00	53,184.00	670,611.68

MILESTONE ENGINEERING & CONSTRUCTION  
BUDGET SUMMARY



Project Name: Houston Barn Rehabilitation  
Project Location: Hopkinton, NH  
Date: November 17, 2021

Div.	Description	Total Mat'l Cost	Total Sub Cost Or Lump Sum	Labor Cost	Labor Fringe	Total Job Cost
1	General Requirements	112,659.61	0.00	75,030.00	45,018.00	232,707.61
2	Sitework	55,855.00	213,705.00	6,360.00	3,816.00	279,736.00
2A	Demolition	0.00	10,000.00	0.00	0.00	10,000.00
3	Concrete	76,404.00	49,590.00	0.00	0.00	125,994.00
4	Masonry	0.00	0.00	0.00	0.00	0.00
5	Metals	8,400.00	0.00	1,500.00	900.00	10,800.00
6	Rough Carpentry	26,621.00	15,000.00	46,290.00	27,774.00	115,685.00
6A	Finish Carpentry	98,425.00	0.00	29,280.00	17,568.00	145,273.00
7	Moisture Protection	2,550.00	174,040.00	480.00	288.00	177,358.00
8	Doors & Windows	4,250.00	33,350.00	0.00	0.00	37,600.00
9	Finishes	3,500.00	67,020.00	0.00	0.00	70,520.00
10	Specialties	0.00	0.00	0.00	0.00	0.00
11	Equipment	5,600.00	2,000.00	480.00	288.00	8,368.00
12	Furnishings	0.00	0.00	0.00	0.00	0.00
13	Special Construction	0.00	15,000.00	0.00	0.00	15,000.00
14	Conveying Systems	0.00	0.00	0.00	0.00	0.00
15	Mechanical	0.00	92,000.00	0.00	0.00	92,000.00
16	Electrical	0.00	47,000.00	0.00	0.00	47,000.00
<b>TOTALS</b>		<b>394,264.61</b>	<b>718,705.00</b>	<b>159,420.00</b>	<b>95,652.00</b>	<b>1,368,041.61</b>

Total Direct	1,368,041.61
Sub Bonds	0.00
Bond	11,850.00
<b>Subtotal</b>	<b>1,379,891.61</b>
CM Fee @ 5%	68,994.58
Subtotal	1,448,886.19
Contingency @ 10%	137,989.16
<b>BUDGET TOTAL</b>	<b>1,586,875.35</b>

TMH

4973

# MILESTONE

**ENGINEERING & CONSTRUCTION**

## MILESTONE ENGINEERING & CONSTRUCTION ESTIMATE

**Project Name:** Houston Barn Rehabilitation  
**Project Location:** Hopkinton, NH  
**Date:** November 17, 2021

DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L COST		TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
				COST	COST	COST	COST	HOURS	RATE	COST	COST		
1	General Requirements												
	Building Permit	1	allowance	2,500.00		2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	2,500.00
	Building Plan Review		none	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Performance Bond		See Sum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Builders Risk		1 allowance	5,000.00		5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	5,000.00
	Insurance on Labor	159420	\$9.81/m	0.01		1,563.91	0.00	0.00	0.00	0.00	0.00	0.00	1,563.91
	Insurance on Subcontractors	718705	\$1.80 /m	0.00		1,293.67	0.00	0.00	0.00	0.00	0.00	0.00	1,293.67
	Umbrella Ins. Coverage	1586875	\$1.00 /m	0.00		1,586.88	0.00	0.00	0.00	0.00	0.00	0.00	1,586.88
	Professional Liability Ins.	1586875	\$0.75 /m	0.00		1,190.16	0.00	0.00	0.00	0.00	0.00	0.00	1,190.16
	Project Manager	30	weeks	0.00	0.00	0.00	0.00	0.00	300	40.00	12,000.00	7,200.00	19,200.00
	Project Superintendent	30	weeks	0.00	0.00	0.00	0.00	0.00	1,200	35.00	42,000.00	25,200.00	67,200.00
	General Super	30	weeks	0.00	0.00	0.00	0.00	0.00	150	40.00	6,000.00	3,600.00	9,600.00
	Asst Supt/Foreman		none	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Project Assistant	30	weeks	0.00	0.00	0.00	0.00	0.00	90	27.00	2,430.00	1,458.00	3,888.00
	Time Keeper		none	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Watchmen		none	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Traffic Control	1	allowance	1,500.00		1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	1,500.00
	Project Layout	1	allowance	1,500.00		1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	1,500.00
	Project Safety	30	weeks	125.00		3,750.00	0.00	0.00	0.00	0.00	0.00	0.00	3,750.00
	Travel Exp. - Supt.	30	weeks	175.00		5,250.00	0.00	0.00	0.00	0.00	0.00	0.00	5,250.00
	Office Trailer w/storage	7	months	400.00		2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	2,800.00
	Temp. Storage Trailers	7	none	100.00		700.00	0.00	0.00	0.00	0.00	0.00	0.00	700.00
	Temp. Toilet	7	months	200.00		1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	1,400.00
	Temp. Phone	7	months	150.00		1,050.00	0.00	0.00	0.00	0.00	0.00	0.00	1,050.00
	Temp. Data/Wireless	7	months	75.00		525.00	0.00	0.00	0.00	0.00	0.00	0.00	525.00
	Temp. Power	7	months	350.00		2,450.00	0.00	0.00	0.00	0.00	0.00	0.00	2,450.00
	Temp. Heat - Allow	1	allowance	2,500.00		2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	2,500.00
	Temp. Heat - Equip	1	allowance	750.00		750.00	0.00	0.00	0.00	0.00	0.00	0.00	750.00
	Temp. Enclosures		none	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Temp. H2O/Sewer		by owner	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Snow Removal	1	allowance	750.00		750.00	0.00	0.00	0.00	0.00	0.00	0.00	750.00
	Field Office Supplies	30	weeks	20.00		600.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00

DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L		TOTAL MAT'L		UNIT SUB		TOTAL SUB		LABOR		LABOR		TOTAL JOB	
				COST	COST	COST	COST	COST	COST-OR L.S.	HOURS	RATE	COST	FRINGE	COST	FRINGE	COST	
	Daily Clean - Up	30	weeks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	300	30.00	9,000.00	5,400.00	14,400.00	
	Dumpster/Disp.	30	weeks	250.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	7,500.00	
	Broom Cleaning	8800	sf	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40	30.00	1,200.00	720.00	1,920.00	
	Project Drawings	1	allowance	1,000.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	1,000.00	
	Small Tools & Consumables	30	weeks	150.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	4,500.00	
	Site Fencing	700	lf	5.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	3,500.00	
	Encumbrance Permits		none	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	Punch List	80	mh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	80	30.00	2,400.00	1,440.00	3,840.00	
	Testing/IBC Inspections	1	allowance	7,500.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	7,500.00	
	Asbestos Survey	1	none	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	Architect & Structural Engineer	1	allowance	50,000.00	50,000.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	50,000.00	
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
<b>Total General Requirements</b>				<b>112,659.61</b>	<b>112,659.61</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>2160</b>		<b>75,030.00</b>	<b>45,018.00</b>	<b>232,707.61</b>	
2	Sitework																
	Building lift/excv/set	1	allowance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	Cross Brace Frame 2x6	1500	lf	0.90	1,350.00	0.00	0.00	0.00	0.00	0.00	0.00	160	30.00	4,800.00	2,880.00	7,500.00	
	Infill Frame NE Corner 2x6	200	lf	0.90	180.00	0.00	0.00	0.00	0.00	0.00	0.00	24	30.00	720.00	432.00	9,030.00	
	1/2" Plywood	96	sf	1.25	120.00	0.00	0.00	0.00	0.00	0.00	0.00	4	30.00	120.00	72.00	1,332.00	
	8x8 posts extension	16	lf	5.00	80.00	0.00	0.00	0.00	0.00	0.00	0.00	24	30.00	720.00	432.00	312.00	
	Hardware	5	ea	25.00	125.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	125.00	
	Excavate Slope	550	cy	0.00	0.00	0.00	0.00	6.50	3,575.00	0.00	0.00		0.00	0.00	0.00	3,575.00	
	Haul Off Site/Stockpile	550	cy	0.00	0.00	0.00	0.00	4.00	2,200.00	0.00	0.00		0.00	0.00	0.00	2,200.00	
	Excavate piers	14	ea	0.00	0.00	0.00	0.00	125.00	1,750.00	0.00	0.00		0.00	0.00	0.00	1,750.00	
	Excavate Footings	190	lf	0.00	0.00	0.00	0.00	10.00	1,900.00	0.00	0.00		0.00	0.00	0.00	1,900.00	
	Stone footings & slab	200	cy	30.00	6,000.00	0.00	0.00	20.00	4,000.00	0.00	0.00		0.00	0.00	0.00	10,000.00	
	Grade	4400	sf	0.00	0.00	0.00	0.00	0.50	2,200.00	0.00	0.00		0.00	0.00	0.00	2,200.00	
	Underdrain	500	lf	2.00	1,000.00	0.00	0.00	7.50	3,750.00	0.00	0.00		0.00	0.00	0.00	4,750.00	
	Drain outlet	50	lf	300.00	15,000.00	0.00	0.00	250.00	12,500.00	0.00	0.00		0.00	0.00	0.00	27,500.00	
	Stone	250	cy	30.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	7,500.00	
	Fabric	5500	sf	0.35	1,925.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	1,925.00	
	Backfill	800	cy	0.00	0.00	0.00	0.00	7.50	6,000.00	0.00	0.00		0.00	0.00	0.00	6,000.00	
	Excavate parking area	250	cy	0.00	0.00	0.00	0.00	7.50	1,875.00	0.00	0.00		0.00	0.00	0.00	1,875.00	
	BR gravel	300	cy	20.00	6,000.00	0.00	0.00	10.00	3,000.00	0.00	0.00		0.00	0.00	0.00	9,000.00	

DIV.	DESCRIPTION	QTY.	Unit	UNIT/MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	Crushed gravel	200	cy	25.00	5,000.00	12.00	2,400.00		0.00	0.00	0.00	7,400.00
	Paving	125	tons	0.00	0.00	110.00	13,750.00		0.00	0.00	0.00	13,750.00
	Waterline			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Domestic tap	1	ls	0.00	0.00	2,500.00	2,500.00		0.00	0.00	0.00	2,500.00
	Water tap/valve	1	ls	0.00	0.00	5,000.00	5,000.00		0.00	0.00	0.00	5,000.00
	Run to building	200	lf	0.00	0.00	50.00	10,000.00		0.00	0.00	0.00	10,000.00
	Riser @ building	1	ls	0.00	0.00	2,000.00	2,000.00		0.00	0.00	0.00	2,000.00
	Elbow	1	ea	0.00	0.00	250.00	250.00		0.00	0.00	0.00	250.00
	2' Copper line	1	ea	0.00	0.00	500.00	500.00		0.00	0.00	0.00	500.00
	Pavement	20	tons	0.00	0.00	200.00	4,000.00		0.00	0.00	0.00	4,000.00
	CR gravel	15	cy	25.00	375.00	12.00	180.00		0.00	0.00	0.00	555.00
	BR gravel	10	cy	20.00	200.00	10.00	100.00		0.00	0.00	0.00	300.00
	Drainage			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Catch basins	2	ea	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Drain pipe	50	lf	0.00	0.00	5,000.00	10,000.00		0.00	0.00	0.00	10,000.00
	Outlet	2	ea	0.00	0.00	35.00	1,750.00		0.00	0.00	0.00	1,750.00
	Driveway			0.00	0.00	500.00	1,000.00		0.00	0.00	0.00	1,000.00
	Excavate sub grade	250	cy	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	12" BR gravel	300	cy	20.00	6,000.00	10.00	2,500.00		0.00	0.00	0.00	2,500.00
	8" Cr bank run	200	cy	25.00	5,000.00	0.00	0.00		0.00	0.00	0.00	5,000.00
	Fine grade	6500	sf	0.00	0.00	0.50	3,250.00		0.00	0.00	0.00	3,250.00
	3" Asphalt pavement	125	tons	0.00	0.00	130.00	16,250.00		0.00	0.00	0.00	16,250.00
	Sewer			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Force main	200	lf	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Sewer tap	1	ls	0.00	0.00	2,500.00	2,500.00		0.00	0.00	0.00	2,500.00
	Excavate electric	250	lf	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Bedding	60	cy	0.00	0.00	6.00	1,500.00		0.00	0.00	0.00	1,500.00
	Backfill	75	cy	0.00	0.00	15.00	900.00		0.00	0.00	0.00	900.00
	Loam	125	cy	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Seeding	10000	sf	0.00	0.00	40.00	5,000.00		0.00	0.00	0.00	5,000.00
				0.00	0.00	0.25	2,500.00		0.00	0.00	0.00	2,500.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Sitework</b>				<b>55,855.00</b>		<b>213,705.00</b>	<b>212</b>		<b>6,360.00</b>	<b>3,816.00</b>	<b>279,736.00</b>
2A	Demolition											

DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L		TOTAL MAT'L		UNIT SUB		TOTAL SUB		LABOR		LABOR		TOTAL JOB	
				COST	COST	COST	COST	COST	COST	HOURS	RATE	COST	COST	FRINGE	COST		
	Foundation Demolition	1	allowance	0.00	0.00	0.00	0.00	0.00	0.00	10,000.00	10,000.00	0.00	0.00	0.00	0.00	0.00	10,000.00
<b>Total Demolition</b>						<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>10,000.00</b>	<b>10,000.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>10,000.00</b>	
3	Concrete																
	Foundation			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Wall footing	200	lf	0.00	0.00	0.00	0.00	4.00	800.00	800.00	0.00	0.00	0.00	0.00	0.00	800.00	0.00
	Retaining wall footing	380	lf	0.00	0.00	0.00	0.00	4.50	1,710.00	1,710.00	0.00	0.00	0.00	0.00	0.00	1,710.00	0.00
	Pier footings (14)	350	sf	0.00	0.00	0.00	0.00	4.50	1,575.00	1,575.00	0.00	0.00	0.00	0.00	0.00	1,575.00	0.00
	Concrete	50	cy	125.00	6,250.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,250.00	0.00
	Rebar	6500	lbs	1.00	6,500.00	0.40	2,600.00	0.40	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	9,100.00	0.00
	Concrete Pump	1	day	1,500.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,500.00	0.00
	Foundation walls			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	8' walls	1600	sf	0.00	0.00	0.00	0.00	3.50	5,600.00	5,600.00	0.00	0.00	0.00	0.00	0.00	5,600.00	0.00
	12' walls	5760	sf	0.00	0.00	0.00	0.00	4.00	23,040.00	23,040.00	0.00	0.00	0.00	0.00	0.00	23,040.00	0.00
	Shelf	340	lf	0.00	0.00	0.00	0.00	5.00	1,700.00	1,700.00	0.00	0.00	0.00	0.00	0.00	1,700.00	0.00
	Concrete	150	cy	125.00	18,750.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18,750.00	0.00
	Rebar	20000	lbs	1.00	20,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20,000.00	0.00
	Door stops	6	ea	25.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00
	Concrete Pump	3	days	1,500.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,500.00	0.00
	Slab on grade			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Pour & finish	4400	sf	0.00	0.00	0.00	0.00	2.25	9,900.00	9,900.00	0.00	0.00	0.00	0.00	0.00	9,900.00	0.00
	Concrete	100	cy	125.00	12,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12,500.00	0.00
	WW mesh	5300	sf	0.35	1,855.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,855.00	0.00
	Vapor barrier	4600	sf	0.30	1,380.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,380.00	0.00
	Exp joints	290	lf	0.60	174.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	174.00	0.00
	Saw cuts	510	lf	0.00	0.00	0.00	0.00	1.50	765.00	765.00	0.00	0.00	0.00	0.00	0.00	765.00	0.00
	Diamond boxes/Fill	14	ea	0.00	0.00	0.00	0.00	50.00	700.00	700.00	0.00	0.00	0.00	0.00	0.00	700.00	0.00
	Curing	4400	sf	0.05	220.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	220.00	0.00
	Concrete Pump	1	day	1,500.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,500.00	0.00
	OH Door Aprons			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Edge Form	60	lf	0.00	0.00	0.00	0.00	5.00	300.00	300.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00
	Pour & Finish	150	sf	0.00	0.00	0.00	0.00	3.00	450.00	450.00	0.00	0.00	0.00	0.00	0.00	450.00	0.00
	Concrete	5	cy	125.00	625.00	50.00	250.00	50.00	250.00	250.00	0.00	0.00	0.00	0.00	0.00	875.00	0.00
	Rebar	500	lbs	1.00	500.00	0.40	200.00	0.40	200.00	200.00	0.00	0.00	0.00	0.00	0.00	700.00	0.00

DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST-OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	<b>Total Concrete</b>			0.00	76,404.00	0.00	49,590.00	0	0.00	0.00	0.00	125,994.00
4	Masonry			0.00		0.00			0.00	0.00	0.00	
	None			0.00		0.00			0.00	0.00	0.00	
				0.00		0.00			0.00	0.00	0.00	
	<b>Total Masonry</b>			0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
5	Metals											
	Fabricated Steel	2	tons	3,500.00	7,000.00	0.00	0.00		0.00	0.00	0.00	7,000.00
	Steel basement columns	14	ea	100.00	1,400.00	0.00	0.00	50	30.00	1,500.00	900.00	3,800.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Metal</b>			8,400.00	8,400.00	0.00	0.00	50		1,500.00	900.00	10,800.00
6	Rough Carpentry											
	2x4 Partitions			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	2x4x16 PT	4	ea	12.00	48.00	0.00	0.00	5	30.00	150.00	90.00	288.00
	2x4x16	16	ea	8.00	128.00	0.00	0.00	32	30.00	960.00	576.00	1,664.00
	2x4x12	80	ea	6.00	480.00	0.00	0.00	100	30.00	3,000.00	1,800.00	5,280.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Reframe basement wall			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	2x6x16 PT	7	ea	12.00	84.00	0.00	0.00	16	30.00	480.00	288.00	852.00
	2x6x16 studs	21	ea	13.00	273.00	0.00	0.00	32	30.00	960.00	576.00	1,809.00
	2x6x8	120	ea	7.00	840.00	0.00	0.00	120	30.00	3,600.00	2,160.00	6,600.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Repair 10x10 column base	18	ea	50.00	900.00	0.00	0.00	80	30.00	2,400.00	1,440.00	4,740.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Replace floor deck			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	2x8 decking	4000	lf	1.25	5,000.00	0.00	0.00	240	30.00	7,200.00	4,320.00	16,520.00
	1x8 decking	4000	lf	1.50	6,000.00	0.00	0.00	240	30.00	7,200.00	4,320.00	17,520.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Reinf beams., 1-1/4x9-9/16 LVL	200	lf	8.00	1,600.00	0.00	0.00	40	30.00	1,200.00	720.00	3,520.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Refasten/clip diagonals	126	ea	2.00	252.00	0.00	0.00	24	30.00	720.00	432.00	1,404.00

DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L		TOTAL MAT'L		UNIT SUB		TOTAL SUB		LABOR		LABOR		TOTAL JOB	
				COST	COST	COST	COST	COST	COST	HOURS	RATE	COST	COST	HOURS	FRINGE	COST	COST
	Repair and anchor post	1	ea	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Shoring	1	allowance	500.00	500.00	500.00	0.00	0.00	0.00	0.00	0.00	16	30.00	480.00	288.00	768.00	2,036.00
	Rebuilding columns	4	ea	25.00	100.00	100.00	0.00	0.00	0.00	0.00	0.00	16	30.00	480.00	288.00	868.00	1,768.00
	New wood beams	50	lf	20.00	1,000.00	1,000.00	0.00	0.00	0.00	0.00	0.00	16	30.00	480.00	288.00	1,768.00	228.00
	Refasten 4x8 roof beam to horiz.	18	ea	2.00	36.00	36.00	0.00	0.00	0.00	0.00	0.00	4	30.00	120.00	72.00	228.00	0.00
	Repair/replace sills	44	lf	20.00	880.00	880.00	0.00	0.00	0.00	0.00	0.00	80	30.00	2,400.00	1,440.00	4,720.00	1,168.00
	Repair door sills	16	lf	25.00	400.00	400.00	0.00	0.00	0.00	0.00	0.00	160	30.00	4,800.00	2,880.00	10,680.00	0.00
	Repairs to upper deck 1x8	1500	sf	2.00	3,000.00	3,000.00	0.00	0.00	0.00	0.00	0.00	24	30.00	720.00	432.00	1,252.00	0.00
	Jack post C3 for repair	1	allowance	100.00	100.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Pest Control	1	allowance	0.00	0.00	0.00	15,000.00	15,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15,000.00	0.00
	Misc. Carpentry	1	allowance	5,000.00	5,000.00	5,000.00	0.00	0.00	0.00	0.00	0.00	250	30.00	7,500.00	4,500.00	17,000.00	0.00
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total Rough Carpentry</b>			<b>26,621.00</b>	<b>26,621.00</b>	<b>26,621.00</b>	<b>15,000.00</b>	<b>15,000.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1,543</b>	<b>46,290.00</b>	<b>27,774.00</b>	<b>115,685.00</b>	<b>115,685.00</b>	<b>115,685.00</b>	<b>115,685.00</b>
	<b>6A Finish Carpentry</b>																
	1x10 Cedar Eave & rake trim	350	lf	9.00	3,150.00	3,150.00	0.00	0.00	0.00	0.00	0.00	60	30.00	1,800.00	1,080.00	6,030.00	0.00
	1x4 Cedar Eave & Rake Trim	350	lf	2.50	875.00	875.00	0.00	0.00	0.00	0.00	40	30.00	1,200.00	720.00	2,795.00	0.00	
	6" Cedar Clapboard Vert Grain	24000	lf	2.75	66,000.00	66,000.00	0.00	0.00	0.00	0.00	700	30.00	21,000.00	12,600.00	99,600.00	0.00	
	Rain screen	8000	sf	1.50	12,000.00	12,000.00	0.00	0.00	0.00	0.00	80	30.00	2,400.00	1,440.00	15,840.00	0.00	
	1x10 Cedar Corner board trim	160	lf	9.00	1,440.00	1,440.00	0.00	0.00	0.00	0.00	24	30.00	720.00	432.00	2,592.00	0.00	
	1x6 Cedar Door/Window Trim	660	lf	6.00	3,960.00	3,960.00	0.00	0.00	0.00	0.00	72	30.00	2,160.00	1,296.00	7,416.00	0.00	
	Lift Rental	4	months	2,750.00	11,000.00	11,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11,000.00	0.00	
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total Finish Carpentry</b>			<b>98,425.00</b>	<b>98,425.00</b>	<b>98,425.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>976</b>	<b>29,280.00</b>	<b>17,568.00</b>	<b>145,273.00</b>	<b>145,273.00</b>	<b>145,273.00</b>	<b>145,273.00</b>
	<b>7 Moisture Protection</b>																
	Insulate basement stud wall	1000	sf	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Insulate Ceiling	4400	sf	0.00	0.00	0.00	2.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8,800.00	0.00
	Perimeter Insulation	600	sf	1.75	1,050.00	1,050.00	0.00	0.00	0.00	0.00	16	30.00	480.00	288.00	1,818.00	0.00	
	Warm-n-dri waterproofing	2400	sf	0.00	0.00	0.00	4.00	9,600.00	0.00	0.00	0.00	0.00	0.00	0.00	9,600.00	0.00	



DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	Doors	2 ea		0.00	0.00	125.00	250.00		0.00	0.00	0.00	250.00
	Windows	30 ea		0.00	0.00	75.00	2,250.00		0.00	0.00	0.00	2,250.00
	Sliding Doors	5 ea		0.00	0.00	250.00	1,250.00		0.00	0.00	0.00	1,250.00
	Lift Rental	1 month		3,500.00	3,500.00	0.00	0.00		0.00	0.00	0.00	3,500.00
	Paint Drywall	8000 sf		0.00	0.00	1.25	10,000.00		0.00	0.00	0.00	10,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Finishes</b>				<b>3,500.00</b>		<b>67,020.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>70,520.00</b>
10	Specialties											
	None			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Specialties</b>				<b>0.00</b>		<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
11	Equipment											
	Work bench	26 lf		100.00	2,600.00	0.00	0.00	16	30.00	480.00	288.00	3,368.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Compressed air generator	1 allowance		3,000.00	3,000.00	2,000.00	2,000.00		0.00	0.00	0.00	5,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Equipment</b>				<b>5,600.00</b>		<b>2,000.00</b>	<b>16</b>		<b>480.00</b>	<b>288.00</b>	<b>8,368.00</b>
12	Furnishings											
	None			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Furnishings</b>				<b>0.00</b>		<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
13	Special Construction											
	Lightnin Rod System	1 allowance		0.00	0.00	15,000.00	15,000.00		0.00	0.00	0.00	15,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Special Construction</b>				<b>0.00</b>		<b>15,000.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>15,000.00</b>

DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
14	Conveying Systems			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	None			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Conveying Systems</b>			<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
15	Mechanical											
	Heating - sprinkler room	1	allowance	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	2,500.00	2,500.00		0.00	0.00	0.00	2,500.00
	Heating - Shop	1100	sf	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	5.00	5,500.00		0.00	0.00	0.00	5,500.00
	Sprinkler system	1	ls	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Nitrogen Generator System	1	ls	0.00	0.00	73,000.00	73,000.00		0.00	0.00	0.00	73,000.00
				0.00	0.00	11,000.00	11,000.00		0.00	0.00	0.00	11,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Mechanical</b>			<b>0.00</b>	<b>0.00</b>	<b>92,000.00</b>	<b>92,000.00</b>	<b>0</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>92,000.00</b>
16	Electrical											
	Electrical service	1	ls	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Lighting		incl	0.00	0.00	47,000.00	47,000.00		0.00	0.00	0.00	47,000.00
	Fire Alarm		incl	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Electrical</b>			<b>0.00</b>	<b>0.00</b>	<b>47,000.00</b>	<b>47,000.00</b>	<b>0</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>47,000.00</b>
	<b>Grand Totals</b>			<b>394,264.61</b>	<b>718,705.00</b>	<b>4,973</b>	<b>159,420.00</b>	<b>95,652.00</b>	<b>1,368,041.61</b>			

MILESTONE ENGINEERING & CONSTRUCTION  
BUDGET SUMMARY



Project Name: Houston Park Maintenance Bldg on Existing Barn Site  
 Project Location: Hopkinton, NH  
 Date: November 17, 2021 REV 12-15-2021

Div.	Description	Total Mat'l. Cost	Total Sub Cost Or Lump Sum	Labor Cost	Labor Fringe	Total Job Cost
1	General Requirements	175,111.07	0.00	87,145.00	52,287.00	314,543.07
2	Sitework	14,125.00	123,608.00	0.00	0.00	137,733.00
2A	Demolition	0.00	55,800.00	0.00	0.00	55,800.00
3	Concrete	57,285.00	39,810.00	0.00	0.00	97,095.00
4	Masonry	0.00	0.00	0.00	0.00	0.00
5	Metals	10,500.00	4,000.00	0.00	0.00	14,500.00
6	Rough Carpentry	118,241.00	0.00	76,380.00	45,828.00	240,449.00
6A	Finish Carpentry	1,575.00	0.00	3,840.00	2,304.00	7,719.00
7	Moisture Protection	7,500.00	176,900.00	4,080.00	2,448.00	190,928.00
8	Doors & Windows	31,500.00	13,300.00	1,440.00	864.00	47,104.00
9	Finishes	0.00	37,253.50	0.00	0.00	37,253.50
10	Specialties	0.00	905.00	0.00	0.00	905.00
11	Equipment	5,600.00	2,000.00	480.00	288.00	8,368.00
12	Furnishings	0.00	375.00	0.00	0.00	375.00
13	Special Construction	0.00	0.00	0.00	0.00	0.00
14	Conveying Systems	0.00	0.00	0.00	0.00	0.00
15	Mechanical	0.00	117,000.00	0.00	0.00	117,000.00
16	Electrical	0.00	47,000.00	0.00	0.00	47,000.00
<b>TOTALS</b>		<b>421,437.07</b>	<b>617,951.50</b>	<b>173,365.00</b>	<b>104,019.00</b>	<b>1,316,772.57</b>

Total Direct	1,316,772.57
Sub Bonds	0.00
Bond	11,450.00
<b>Subtotal</b>	<b>1,328,222.57</b>
CM Fee @ 5%	66,411.13
Subtotal	1,394,633.70
Contingency @ 10%	132,822.26
<b>BUDGET TOTAL</b>	<b>1,527,455.96</b>

TMH 5388

# MILESTONE

ENGINEERING & CONSTRUCTION

**Project Name:** Houston Park Maintenance Bldg on Existing Barn Site  
**Project Location:** Hopkinton, NH  
**Date:** November 17, 2021 REV 12-15-2021

DIV.	DESCRIPTION	QTY	Unit	UNIT / MAT'L		TOTAL MAT'L		UNIT SUB		TOTAL SUB		LABOR		LABOR		TOTAL JOB	
				COST	COST	COST	COST	HOURS	RATE	COST	COST	HOURS	RATE	COST	FRINGE	COST	
1	General Requirements																
	Building Permit	1	allowance	2,500.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,500.00
	Building Plan Review		none	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Performance Bond	1	See Sum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Builders Risk	1	allowance	5,000.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5,000.00
	Insurance on Labor	173365	\$9.81/m	0.01	1,700.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,700.71
	Insurance on Subcontractors	617951	\$1.80 /m	0.00	1,112.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,112.31
	Umbrella Ins. Coverage	1527456	\$1.00 /m	0.00	1,527.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,527.46
	Professional Liability Ins.	1527456	\$0.75 /m	0.00	1,145.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,145.59
	Project Manager	35	weeks	0.00	0.00	0.00	0.00	0.00	0.00	350	40.00	14,000.00	8,400.00	0.00	0.00	22,400.00	
	Project Superintendent	35	weeks	0.00	0.00	0.00	0.00	0.00	0.00	1,400	35.00	49,000.00	29,400.00	0.00	0.00	78,400.00	
	General Super	35	weeks	0.00	0.00	0.00	0.00	0.00	0.00	175	40.00	7,000.00	4,200.00	0.00	0.00	11,200.00	
	Asst Supt/Foreman		none	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Project Assistant	35	weeks	0.00	0.00	0.00	0.00	0.00	0.00	175	27.00	4,725.00	2,835.00	0.00	0.00	7,560.00	
	Time Keeper		none	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Watchmen		none	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Traffic Control	1	allowance	1,500.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,500.00
	Project Layout	1	allowance	1,500.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,500.00
	Project Safety	35	weeks	125.00	4,375.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,375.00
	Travel Exp. - Supt.	35	weeks	175.00	6,125.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,125.00
	Office Trailer w/Meeting Room	8	months	400.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,200.00
	Temp. Storage Trailers	8	months	100.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	800.00
	Temp. Toilet	8	months	400.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,200.00
	Temp. Phone	8	months	150.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,200.00
	Temp. Data/Wireless	8	months	75.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00
	Temp. Power	8	months	350.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,800.00
	Temp. Heat - Allow	1	allowance	2,500.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,500.00
	Temp. Heat - Equip	1	allowance	750.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	750.00
	Temp. Enclosures	1	allowance	2,500.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,500.00
	Temp. H2O/Sewer		by owner	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Snow Removal	1	allowance	750.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	750.00
	Field Office Supplies	35	weeks	20.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	700.00

DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	Daily Clean - Up	35 weeks		0.00	0.00	0.00	0.00	350	30.00	10,500.00	6,300.00	16,800.00
	Dumpster/Disp.	35 weeks		250.00	8,750.00	0.00	0.00		0.00	0.00	0.00	8,750.00
	Broom Cleaning	8800 sf		0.00	0.00	0.00	0.00	24	30.00	720.00	432.00	1,152.00
	Project Drawings	1 allowance		1,500.00	1,500.00	0.00	0.00		0.00	0.00	0.00	1,500.00
	Small Tools & Consumables	35 weeks		125.00	4,375.00	0.00	0.00		0.00	0.00	0.00	4,375.00
	Site Fencing	700 lf		5.00	3,500.00	0.00	0.00		0.00	0.00	0.00	3,500.00
	Encumbrance Permits	none		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Punch List	40 mh		0.00	0.00	0.00	0.00	40	30.00	1,200.00	720.00	1,920.00
	Testing/IBC Inspections	1 allowance		10,000.00	10,000.00	0.00	0.00		0.00	0.00	0.00	10,000.00
	Asbestos Survey	1 ls		1,500.00	1,500.00	0.00	0.00		0.00	0.00	0.00	1,500.00
	Architectural & Engineering	1 allowance		100,000.00	100,000.00	0.00	0.00		0.00	0.00	0.00	100,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
<b>Total General Requirements</b>					<b>175,111.07</b>		<b>0.00</b>	<b>2514</b>		<b>87,145.00</b>	<b>52,287.00</b>	<b>314,543.07</b>

2	Sitework											
	Erosion control	500 lf		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Strip & stock pile loam	75 cy		0.00	0.00	15.00	1,125.00		0.00	0.00	0.00	1,125.00
	Excavate area to north/stockpile	500 cy		0.00	0.00	6.50	3,250.00		0.00	0.00	0.00	3,250.00
	Ledge allowance	1 allowance		0.00	0.00	10,000.00	10,000.00		0.00	0.00	0.00	10,000.00
	Building earthworks											
	Excavate piers	3 ea										
	Retaining	325 sf		0.00	0.00	10.00	3,250.00		0.00	0.00	0.00	3,250.00
	Frost walls	288 lf		0.00	0.00	6.00	1,728.00		0.00	0.00	0.00	1,728.00
	Backfill	550 cy		0.00	0.00	10.00	5,500.00		0.00	0.00	0.00	5,500.00
	Backfill retaining wall	500 cy		0.00	0.00	10.00	5,000.00		0.00	0.00	0.00	5,000.00
	Underdrain	300 lf		0.00	0.00	9.50	2,850.00		0.00	0.00	0.00	2,850.00
	Stone	75 cy		20.00	1,500.00	0.00	0.00		0.00	0.00	0.00	1,500.00
	Fabric	3000 sf		0.35	1,050.00	0.00	0.00		0.00	0.00	0.00	1,050.00
	Drain to daylight	50 lf		0.00	0.00	9.50	475.00		0.00	0.00	0.00	475.00
	Stone under slab	175 cy		0.00	0.00	40.00	7,000.00		0.00	0.00	0.00	7,000.00
	Underdrain	150 lf		0.00	0.00	6.00	900.00		0.00	0.00	0.00	900.00
	Fabric	1500 sf		0.00	0.00	1.00	1,500.00		0.00	0.00	0.00	1,500.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00

DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	Water service			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Tap & sleeve	1	ls	0.00	0.00	5,000.00	5,000.00		0.00	0.00	0.00	5,000.00
	6" Service line	200	lf	0.00	0.00	50.00	10,000.00		0.00	0.00	0.00	10,000.00
	Elbows	1	ea	0.00	0.00	250.00	250.00		0.00	0.00	0.00	250.00
	Domestic tap	1	ea	0.00	0.00	2,500.00	2,500.00		0.00	0.00	0.00	2,500.00
	2" Cu line	1	ls	0.00	0.00	500.00	500.00		0.00	0.00	0.00	500.00
	Pavement	20	tons	0.00	0.00	200.00	4,000.00		0.00	0.00	0.00	4,000.00
	CR gravel	15	cy	25.00	375.00	12.00	180.00		0.00	0.00	0.00	555.00
	BR gravel	10	cy	20.00	200.00	10.00	100.00		0.00	0.00	0.00	300.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Excavate electric	250	lf	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Bedding	60	cy	0.00	0.00	6.00	1,500.00		0.00	0.00	0.00	1,500.00
	Backfill	75	cy	0.00	0.00	15.00	900.00		0.00	0.00	0.00	900.00
				0.00	0.00	15.00	1,125.00		0.00	0.00	0.00	1,125.00
	Drainage			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Catch basins	2	ea	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Drain pipe	50	lf	0.00	0.00	35.00	1,750.00		0.00	0.00	0.00	1,750.00
	Outlet	2	ea	0.00	0.00	500.00	1,000.00		0.00	0.00	0.00	1,000.00
	Driveway			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Excavate sub grade	250	cy	0.00	0.00	10.00	2,500.00		0.00	0.00	0.00	2,500.00
	12" BR gravel	300	cy	20.00	6,000.00	0.00	0.00		0.00	0.00	0.00	6,000.00
	8" Cr bank run	200	cy	25.00	5,000.00	0.00	0.00		0.00	0.00	0.00	5,000.00
	Fine grade	6500	sf	0.00	0.00	0.50	3,250.00		0.00	0.00	0.00	3,250.00
	3" Asphalt pavement	125	tons	0.00	0.00	130.00	16,250.00		0.00	0.00	0.00	16,250.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Sewer			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Force main	200	lf	0.00	0.00	35.00	7,000.00		0.00	0.00	0.00	7,000.00
	Sewer tap	1	ls	0.00	0.00	2,500.00	2,500.00		0.00	0.00	0.00	2,500.00
	Loam	125	cy	0.00	0.00	40.00	5,000.00		0.00	0.00	0.00	5,000.00
	Seeding	10000	sf	0.00	0.00	0.25	2,500.00		0.00	0.00	0.00	2,500.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Sitework</b>				<b>14,125.00</b>		<b>123,608.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>137,733.00</b>
	<b>2A Demolition</b>											
	Demolish & remove barn	1	ls	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	45,800.00	45,800.00		0.00	0.00	0.00	45,800.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00

DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	Demolish Foundation & Concrete		1 allowance	0.00	0.00	10,000.00	10,000.00		0.00	0.00	0.00	10,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
<b>Total Demolition</b>				<b>0.00</b>	<b>0.00</b>	<b>55,800.00</b>	<b>55,800.00</b>	<b>0</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>55,800.00</b>
3	Concrete			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Wall footings	300 lf		0.00	0.00	3.50	1,050.00		0.00	0.00	0.00	1,050.00
	Retaining wall footings	300 lf		0.00	0.00	4.00	1,200.00		0.00	0.00	0.00	1,200.00
	Pier footings	100 sf		0.00	0.00	4.00	400.00		0.00	0.00	0.00	400.00
	Concrete	85 cy		125.00	10,625.00	0.00	0.00		0.00	0.00	0.00	10,625.00
	Rebar	11000 lbs		1.00	11,000.00	0.40	4,400.00		0.00	0.00	0.00	15,400.00
	5' Frost walls	1440 sf		0.00	0.00	3.50	5,040.00		0.00	0.00	0.00	5,040.00
	10' Retaining walls	2880 sf		0.00	0.00	4.00	11,520.00		0.00	0.00	0.00	11,520.00
	Concrete	85 cy		125.00	10,625.00	0.00	0.00		0.00	0.00	0.00	10,625.00
	Rebar	11000 lbs		1.00	11,000.00	0.40	4,400.00		0.00	0.00	0.00	15,400.00
	Slab on grade			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Pour & finish	4400 sf		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Concrete	75 cy		125.00	9,375.00	0.00	0.00		0.00	0.00	0.00	9,375.00
	WW mesh	5300 sf		0.35	1,855.00	0.00	0.00		0.00	0.00	0.00	1,855.00
	Vapor barrier	5000 sf		0.30	1,500.00	0.00	0.00		0.00	0.00	0.00	1,500.00
	Exp joints	300 lf		0.60	180.00	0.00	0.00		0.00	0.00	0.00	180.00
	Saw cuts	300 lf		0.00	0.00	1.50	450.00		0.00	0.00	0.00	450.00
	Diamond fills	5 ea		0.00	0.00	50.00	250.00		0.00	0.00	0.00	250.00
	OH Door Aprons			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Edge Form	60 lf		0.00	0.00	5.00	300.00		0.00	0.00	0.00	300.00
	Pour & Finish	150 sf		0.00	0.00	3.00	450.00		0.00	0.00	0.00	450.00
	Concrete	5 cy		125.00	625.00	50.00	250.00		0.00	0.00	0.00	875.00
	Rebar	500 lbs		1.00	500.00	0.40	200.00		0.00	0.00	0.00	700.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
<b>Total Concrete</b>				<b>57,285.00</b>	<b>57,285.00</b>	<b>39,810.00</b>	<b>39,810.00</b>	<b>0</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>97,095.00</b>
4	Masonry			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	None			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00

DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
<b>Total Masonry</b>				0.00	0.00	0.00	0.00	0		0.00	0.00	0.00
5	<i>Metals</i>											
	Steel columns	5 ea		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Steel beams	4 ea		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Fabricated steel	3 tons		3,500.00	10,500.00	0.00	0.00		0.00	0.00	0.00	10,500.00
	Erection	1 ls		0.00	0.00	4,000.00	4,000.00		0.00	0.00	0.00	4,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
<b>Total Metal</b>				10,500.00	10,500.00	4,000.00	4,000.00	0		0.00	0.00	14,500.00
6	<i>Rough Carpentry</i>											
	PT 2x6 sills	300 lf		0.85	255.00	0.00	0.00	32	30.00	960.00	576.00	1,791.00
	Sill sealer	300 lf		0.10	30.00	0.00	0.00		0.00	0.00	0.00	30.00
	2x6 Ext wall framing	12000 lf		0.90	10,800.00	0.00	0.00	1,200	30.00	36,000.00	21,600.00	68,400.00
	1/2" Ext sheathing	7500 sf		1.25	9,375.00	0.00	0.00	250	30.00	7,500.00	4,500.00	21,375.00
	OH door paralams	52 lf		8.00	416.00	0.00	0.00	8	30.00	240.00	144.00	800.00
	2x8 Door & window header	100 lf		1.35	135.00	0.00	0.00	10	30.00	300.00	180.00	615.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Floor trusses	4400 sf		5.00	22,000.00	0.00	0.00	120	30.00	3,600.00	2,160.00	27,760.00
	3/4" Plywood	4400 sf		1.50	6,600.00	0.00	0.00	80	30.00	2,400.00	1,440.00	10,440.00
	Blocking	1200 lf		0.90	1,080.00	0.00	0.00	120	30.00	3,600.00	2,160.00	6,840.00
	Underlayment	4400 sf		1.75	7,700.00	0.00	0.00	80	30.00	2,400.00	1,440.00	11,540.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Roof trusses	4600 sf		6.00	27,600.00	0.00	0.00	80	30.00	2,400.00	1,440.00	31,440.00
	5/8" Roof plywood	5200 sf		2.25	11,700.00	0.00	0.00	180	30.00	5,400.00	3,240.00	20,340.00
	2x4 Truss blocking	1200 lf		0.80	960.00	0.00	0.00	120	30.00	3,600.00	2,160.00	6,720.00
	Crane	2 day		1,500.00	3,000.00	0.00	0.00		0.00	0.00	0.00	3,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Ceiling strapping	8800 sf		0.25	2,200.00	0.00	0.00	100	30.00	3,000.00	1,800.00	7,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Beam nailer	100 lf		0.90	90.00	0.00	0.00	16	30.00	480.00	288.00	858.00
	Bolts	50 ea		2.00	100.00	0.00	0.00		0.00	0.00	0.00	100.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	2x4 Interior partitions	1500 lf		0.80	1,200.00	0.00	0.00	150	30.00	4,500.00	2,700.00	8,400.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Forlift Rental	2 months		2,500.00	5,000.00	0.00	0.00		0.00	0.00	0.00	5,000.00

DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	Manlift Rental		2 months	2,500.00	5,000.00	0.00	0.00		0.00	0.00	0.00	5,000.00
	Nails & Fasteners		1 allowance	3,000.00	3,000.00	0.00	0.00		0.00	0.00	0.00	3,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Rough Carpentry</b>				<b>118,241.00</b>		<b>0.00</b>			<b>76,380.00</b>	<b>45,828.00</b>	<b>240,449.00</b>
								<b>2,546</b>				
6A	Finish Carpentry											
	Window/door trim	450 lf		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				1.50	675.00	0.00	0.00	48	30.00	1,440.00	864.00	2,979.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Shelving	300 lf		3.00	900.00	0.00	0.00	80	30.00	2,400.00	1,440.00	4,740.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Finish Carpentry</b>				<b>1,575.00</b>		<b>0.00</b>			<b>3,840.00</b>	<b>2,304.00</b>	<b>7,719.00</b>
								<b>128</b>				
7	Moisture Protection											
	Perimeter insulation	600 sf		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Slab insulation	4400 sf		1.50	900.00	0.00	0.00	16	30.00	480.00	288.00	1,668.00
	Warm-N-Dri	2400 sf		1.50	6,600.00	0.00	0.00	120	30.00	3,600.00	2,160.00	12,360.00
				0.00	0.00	4.00	9,600.00		0.00	0.00	0.00	9,600.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Building insulation			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Basement Ceiling	4400 sf		0.00	0.00	2.00	8,800.00		0.00	0.00	0.00	8,800.00
	Exterior walls	1500 sf		0.00	0.00	1.00	1,500.00		0.00	0.00	0.00	1,500.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Metal roof	5300 sf		0.00	0.00	20.00	106,000.00		0.00	0.00	0.00	106,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Vinyl siding	6000 sf		0.00	0.00	6.00	36,000.00		0.00	0.00	0.00	36,000.00
	Trim	1200 lf		0.00	0.00	7.50	9,000.00		0.00	0.00	0.00	9,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Caulking & sealants	1 allowance		0.00	0.00	2,500.00	2,500.00		0.00	0.00	0.00	2,500.00
	Fire caulking	1 allowance		0.00	0.00	3,500.00	3,500.00		0.00	0.00	0.00	3,500.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Moisture Protection</b>				<b>7,500.00</b>		<b>176,900.00</b>			<b>4,080.00</b>	<b>2,448.00</b>	<b>190,928.00</b>
								<b>136</b>				
8	Doors & Windows											

DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	Interior doors	2 ea		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Exterior doors	6 ea		1,500.00	3,000.00	250.00	500.00		0.00	0.00	0.00	3,500.00
				1,750.00	10,500.00	300.00	1,800.00		0.00	0.00	0.00	12,300.00
	Overhead doors			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	12' x 9'	2 ea		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	10' x 9'	2 ea		0.00	0.00	3,000.00	6,000.00		0.00	0.00	0.00	6,000.00
	Windows	24 ea		0.00	0.00	2,500.00	5,000.00		0.00	0.00	0.00	5,000.00
				750.00	18,000.00	0.00	0.00	48	30.00	1,440.00	864.00	20,304.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Doors &amp; Windows</b>				<b>31,500.00</b>		<b>13,300.00</b>	<b>48</b>		<b>1,440.00</b>	<b>864.00</b>	<b>47,104.00</b>
<b>9</b>	<b>Finishes</b>											
	Drywall			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Ceilings & furring	8800 sf		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Exterior walls	3800 sf		0.00	0.00	2.00	17,600.00		0.00	0.00	0.00	17,600.00
	Interior walls	400 sf		0.00	0.00	1.00	3,800.00		0.00	0.00	0.00	3,800.00
	Interior rigid insulation	1500 sf		0.00	0.00	0.75	300.00		0.00	0.00	0.00	300.00
				0.00	0.00	2.50	3,750.00		0.00	0.00	0.00	3,750.00
	Flooring			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Bathroom	130 sf		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Vinyl base	46 lf		0.00	0.00	2.50	325.00		0.00	0.00	0.00	325.00
				0.00	0.00	2.25	103.50		0.00	0.00	0.00	103.50
	Painting			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Drywall - walls	1900 sf		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Drywall - ceilings	4400 sf		0.00	0.00	1.25	2,375.00		0.00	0.00	0.00	2,375.00
	Doors	8 ea		0.00	0.00	1.50	6,600.00		0.00	0.00	0.00	6,600.00
	Windows	8 ea		0.00	0.00	100.00	800.00		0.00	0.00	0.00	800.00
	Misc.	1 allowance		0.00	0.00	75.00	600.00		0.00	0.00	0.00	600.00
				0.00	0.00	1,000.00	1,000.00		0.00	0.00	0.00	1,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Finishes</b>				<b>0.00</b>		<b>37,253.50</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>37,253.50</b>
<b>10</b>	<b>Specialties</b>											
	Toilet accessories			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	TPH	1 ea		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Mirror	1 ea		0.00	0.00	65.00	65.00		0.00	0.00	0.00	65.00
	Soap dispenser	1 ea		0.00	0.00	200.00	200.00		0.00	0.00	0.00	200.00
	Towel dispenser	1 ea		0.00	0.00	75.00	75.00		0.00	0.00	0.00	75.00
				0.00	0.00	65.00	65.00		0.00	0.00	0.00	65.00

DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	Waste receptacle	1 ea		0.00	0.00	50.00	50.00		0.00	0.00	0.00	50.00
	Grab bars	3 ea		0.00	0.00	150.00	450.00		0.00	0.00	0.00	450.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Specialties</b>			0.00	0.00	905.00	905.00	0	0.00	0.00	0.00	905.00
11	Equipment											
	Work bench	26 lf		0.00	0.00	0.00	0.00	16	0.00	0.00	0.00	0.00
				100.00	2,600.00	0.00	0.00		30.00	480.00	288.00	3,368.00
	Compressed air generator	1 allowance		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				3,000.00	3,000.00	2,000.00	2,000.00		0.00	0.00	0.00	5,000.00
				0.00	0.00	0.00	0.00	16	0.00	0.00	0.00	0.00
	<b>Total Equipment</b>			5,600.00	5,600.00	2,000.00	2,000.00		0.00	480.00	288.00	8,368.00
12	Furnishings											
	Window treatments	3 ea		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	125.00	375.00		0.00	0.00	0.00	375.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Furnishings</b>			0.00	0.00	375.00	375.00	0	0.00	0.00	0.00	375.00
13	Special Construction											
	None			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Special Construction</b>			0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
14	Conveying Systems											
	None			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Conveying Systems</b>			0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
15	Mechanical											
	Plumbing			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00

DIV.	DESCRIPTION	QTY.	Unit	UNIT / MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	Ejector pump	1	ls	0.00	0.00	5,000.00	5,000.00		0.00	0.00	0.00	5,000.00
	Water closet	1	ea	0.00	0.00	3,000.00	3,000.00		0.00	0.00	0.00	3,000.00
	Lavatory	1	ea	0.00	0.00	2,500.00	2,500.00		0.00	0.00	0.00	2,500.00
	Janitor sink	1	ea	0.00	0.00	2,500.00	2,500.00		0.00	0.00	0.00	2,500.00
	Drinking fountain	1	ea	0.00	0.00	3,500.00	3,500.00		0.00	0.00	0.00	3,500.00
	Hot water heater	1	ea	0.00	0.00	1,500.00	1,500.00		0.00	0.00	0.00	1,500.00
	Hose bibs	4	ea	0.00	0.00	250.00	1,000.00		0.00	0.00	0.00	1,000.00
	Heating & ventilation	4400	sf	0.00	0.00	5.00	22,000.00		0.00	0.00	0.00	22,000.00
	Sprinkler	1	ls	0.00	0.00	65,000.00	65,000.00		0.00	0.00	0.00	65,000.00
	Nitrogen Generator System	1	ls	0.00	0.00	11,000.00	11,000.00		0.00	0.00	0.00	11,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Mechanical</b>				<b>0.00</b>		<b>117,000.00</b>			<b>0.00</b>	<b>0.00</b>	<b>117,000.00</b>
16	Electrical											
	Electrical	1	ls	0.00	0.00	47,000.00	47,000.00		0.00	0.00	0.00	47,000.00
	Equipment garage	4400	sf	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Shed cold storage	860	sf	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Second floor storage	4400	sf	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Electrical</b>				<b>0.00</b>		<b>47,000.00</b>			<b>0.00</b>	<b>0.00</b>	<b>47,000.00</b>
	<b>Grand Totals</b>				<b>421,437.07</b>		<b>617,951.50</b>	<b>5,388</b>		<b>173,365.00</b>	<b>104,019.00</b>	<b>1,316,772.57</b>

MILESTONE ENGINEERING & CONSTRUCTION  
BUDGET SUMMARY



Project Name: Houston Park Maintenance Bldg Next To Baseball Field  
 Project Location: Hopkinton, NH  
 Date: November 17, 2021 REV 12-3-2021

Div.	Description	Total Mat'l Cost	Total Sub Cost Or Lump Sum	Labor Cost	Labor Fringe	Total Job Cost
1	General Requirements	203,930.87	0.00	87,145.00	52,287.00	343,362.87
2	Sitework	0.00	460,990.00	0.00	0.00	460,990.00
2A	Demolition	0.00	45,800.00	0.00	0.00	45,800.00
3	Concrete	86,478.00	64,975.00	0.00	0.00	151,453.00
4	Masonry	0.00	0.00	0.00	0.00	0.00
5	Metals	15,750.00	5,000.00	0.00	0.00	20,750.00
6	Rough Carpentry	110,496.50	0.00	68,220.00	40,932.00	219,648.50
6A	Finish Carpentry	1,200.00	0.00	3,840.00	2,304.00	7,344.00
7	Moisture Protection	12,780.00	219,630.00	7,200.00	4,320.00	243,930.00
8	Doors & Windows	25,500.00	13,300.00	960.00	576.00	40,336.00
9	Finishes	0.00	26,500.00	0.00	0.00	26,500.00
10	Specialties	0.00	0.00	0.00	0.00	0.00
11	Equipment	0.00	0.00	0.00	0.00	0.00
12	Furnishings	0.00	0.00	0.00	0.00	0.00
13	Special Construction	0.00	0.00	0.00	0.00	0.00
14	Conveying Systems	0.00	0.00	0.00	0.00	0.00
15	Mechanical	0.00	99,160.00	0.00	0.00	99,160.00
16	Electrical	0.00	94,690.00	0.00	0.00	94,690.00
<b>TOTALS</b>		<b>456,135.37</b>	<b>1,030,045.00</b>	<b>167,365.00</b>	<b>100,419.00</b>	<b>1,753,964.37</b>

Total Direct	1,753,964.37
Sub Bonds	0.00
Bond	14,950.00
<b>Subtotal</b>	<b>1,768,914.37</b>
CM Fee @ 5%	88,445.72
Subtotal	1,857,360.09
Contingency @ 10%	176,891.44
<b>BUDGET TOTAL</b>	<b>2,034,251.53</b>

TMH

5188

# MILESTONE

ENGINEERING & CONSTRUCTION

MILESTONE ENGINEERING & CONSTRUCTION  
ESTIMATE

**Project Name:** Houston Park Maintenance Bldg Next to Baseball Field  
**Project Location:** Hopkinton, NH  
**Date:** November 15, 2021 REV 12-3-2021

DIV	DESCRIPTION	QTY	Unit	UNIT / MAT'L		TOTAL MAT'L		UNIT SUB		TOTAL SUB		LABOR		LABOR		TOTAL JOB	
				COST	COST	COST	COST	HOURS	RATE	COST	COST	HOURS	RATE	COST	FRINGE	COST	
1	General Requirements																
	Building Permit	1	allowance	2,500.00		2,500.00		0.00		0.00		0.00		0.00		0.00	2,500.00
	Building Plan Review		none	0.00		0.00		0.00		0.00		0.00		0.00		0.00	0.00
	Performance Bond		See Sum	0.00		0.00		0.00		0.00		0.00		0.00		0.00	0.00
	Builders Risk	1	allowance	5,000.00		5,000.00		0.00		0.00		0.00		0.00		0.00	5,000.00
	Insurance on Labor	167365	\$9.81/m	0.01		1,641.85		0.00		0.00		0.00		0.00		0.00	1,641.85
	Insurance on Subcontractors	1030045	\$1.80 /m	0.00		1,854.08		0.00		0.00		0.00		0.00		0.00	1,854.08
	Umbrella Ins. Coverage	2034252	\$1.00 /m	0.00		2,034.25		0.00		0.00		0.00		0.00		0.00	2,034.25
	Professional Liability Ins.	2034252	\$0.75 /m	0.00		1,525.69		0.00		0.00		0.00		0.00		0.00	1,525.69
	Project Manager	35	weeks	0.00		0.00		0.00		350		40.00		14,000.00		8,400.00	22,400.00
	Project Superintendent	35	weeks	0.00		0.00		0.00		1,400		35.00		49,000.00		29,400.00	78,400.00
	General Super	35	weeks	0.00		0.00		0.00		175		40.00		7,000.00		4,200.00	11,200.00
	Asst Supt/Foreman		none	0.00		0.00		0.00		0.00		0.00		0.00		0.00	0.00
	Project Assistant	35	weeks	0.00		0.00		0.00		175		27.00		4,725.00		2,835.00	7,560.00
	Time Keeper		none	0.00		0.00		0.00		0.00		0.00		0.00		0.00	0.00
	Watchmen		none	0.00		0.00		0.00		0.00		0.00		0.00		0.00	0.00
	Traffic Control	1	allowance	1,500.00		1,500.00		0.00		0.00		0.00		0.00		0.00	1,500.00
	Project Layout	1	allowance	3,500.00		3,500.00		0.00		0.00		0.00		0.00		0.00	3,500.00
	Project Safety	35	weeks	125.00		4,375.00		0.00		0.00		0.00		0.00		0.00	4,375.00
	Travel Exp. - Supt.	35	weeks	175.00		6,125.00		0.00		0.00		0.00		0.00		0.00	6,125.00
	Office Trailer w/Meeting Room	8	months	400.00		3,200.00		0.00		0.00		0.00		0.00		0.00	3,200.00
	Temp. Storage Trailers	8	none	100.00		800.00		0.00		0.00		0.00		0.00		0.00	800.00
	Temp. Toilet	8	months	400.00		3,200.00		0.00		0.00		0.00		0.00		0.00	3,200.00
	Temp. Phone	8	months	150.00		1,200.00		0.00		0.00		0.00		0.00		0.00	1,200.00
	Temp. Data/Wireless	8	months	75.00		600.00		0.00		0.00		0.00		0.00		0.00	600.00
	Temp. Power	8	months	350.00		2,800.00		0.00		0.00		0.00		0.00		0.00	2,800.00
	Temp. Heat - Allow	1	allowance	2,500.00		2,500.00		0.00		0.00		0.00		0.00		0.00	2,500.00
	Temp. Heat - Equip	1	allowance	750.00		750.00		0.00		0.00		0.00		0.00		0.00	750.00
	Temp. Enclosures	1	allowance	2,500.00		2,500.00		0.00		0.00		0.00		0.00		0.00	2,500.00
	Temp. H2O/Sewer		by owner	0.00		0.00		0.00		0.00		0.00		0.00		0.00	0.00
	Snow Removal	1	allowance	1,000.00		1,000.00		0.00		0.00		0.00		0.00		0.00	1,000.00
	Field Office Supplies	35	weeks	20.00		700.00		0.00		0.00		0.00		0.00		0.00	700.00

DIV.	DESCRIPTION	QTY.	Unit	UNIT/MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	Daily Clean - Up	35	weeks	0.00	0.00	0.00	0.00	350	30.00	10,500.00	6,300.00	16,800.00
	Dumpster/Disp.	35	weeks	250.00	8,750.00	0.00	0.00	0.00	0.00	0.00	0.00	8,750.00
	Broom Cleaning	1	ls	0.00	0.00	0.00	0.00	24	30.00	720.00	432.00	1,152.00
	Project Drawings	1	allowance	1,500.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	1,500.00
	Small Tools & Consumables	35	weeks	125.00	4,375.00	0.00	0.00	0.00	0.00	0.00	0.00	4,375.00
	Site Fencing	1000	lf	5.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	5,000.00
	Encumbrance Permits		none	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Punch List	40	mh	0.00	0.00	0.00	0.00	40	30.00	1,200.00	720.00	1,920.00
	Testing/IBC Inspections	1	allowance	10,000.00	10,000.00	0.00	0.00	0.00	0.00	0.00	0.00	10,000.00
	Asbestos Survey	1	none	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Architectural & Engineering	1	allowance	125,000.00	125,000.00	0.00	0.00	0.00	0.00	0.00	0.00	125,000.00
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total General Requirements</b>			<b>203,930.87</b>	<b>203,930.87</b>	<b>0.00</b>	<b>0.00</b>	<b>2514</b>		<b>87,145.00</b>	<b>52,287.00</b>	<b>343,362.87</b>
2	Sitework											
	Erosion control	750	lf	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Strip & stock pile loam	500	cy	0.00	0.00	15.00	7,500.00	0.00	0.00	0.00	0.00	7,500.00
	Site excavation	500	cy	0.00	0.00	6.50	3,250.00	0.00	0.00	0.00	0.00	3,250.00
	Site fill	500	cy	0.00	0.00	30.00	15,000.00	0.00	0.00	0.00	0.00	15,000.00
	Ledge allowance			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Open	1	allowance	0.00	0.00	10,000.00	10,000.00	0.00	0.00	0.00	0.00	10,000.00
	Trench	1	allowance	0.00	0.00	20,000.00	20,000.00	0.00	0.00	0.00	0.00	20,000.00
	Site fill	3000	cy	0.00	0.00	30.00	90,000.00	0.00	0.00	0.00	0.00	90,000.00
	Building excavation			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Footing excavation			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Piers	5	ea	0.00	0.00	75.00	375.00	0.00	0.00	0.00	0.00	375.00
	Frost walls	290	lf	0.00	0.00	6.00	1,740.00	0.00	0.00	0.00	0.00	1,740.00
	Retaining wall	190	lf	0.00	0.00	10.00	1,900.00	0.00	0.00	0.00	0.00	1,900.00
	Backfill	1000	cy	0.00	0.00	10.00	10,000.00	0.00	0.00	0.00	0.00	10,000.00
	Cr gravel under slab	300	cy	0.00	0.00	25.00	7,500.00	0.00	0.00	0.00	0.00	7,500.00
	Fine grade	1000	sf	0.00	0.00	0.50	500.00	0.00	0.00	0.00	0.00	500.00
	Plumbing excavation	1	allowance	0.00	0.00	750.00	750.00	0.00	0.00	0.00	0.00	750.00
	Backfill	1	allowance	0.00	0.00	750.00	750.00	0.00	0.00	0.00	0.00	750.00

DIV	DESCRIPTION	QTY	Unit	UNIT / MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	Precast Post Pier Footings	10	ea	0.00	0.00	0.00	750.00		0.00	0.00	0.00	7,500.00
	Site utilities			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Water			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Tap water line	1	ls	0.00	0.00	5,000.00	5,000.00		0.00	0.00	0.00	5,000.00
	6" Pipe to building	500	lf	0.00	0.00	50.00	25,000.00		0.00	0.00	0.00	25,000.00
	Elbows	3	ea	0.00	0.00	250.00	750.00		0.00	0.00	0.00	750.00
	Riser in building	1	ls	0.00	0.00	1,500.00	1,500.00		0.00	0.00	0.00	1,500.00
	Domestic tap	1	ls	0.00	0.00	2,500.00	2,500.00		0.00	0.00	0.00	2,500.00
	2" Copper	1	ls	0.00	0.00	500.00	500.00		0.00	0.00	0.00	500.00
	Cr gravel to road	300	cy	0.00	0.00	37.00	11,100.00		0.00	0.00	0.00	11,100.00
	Patch pavement	150	tons	0.00	0.00	150.00	22,500.00		0.00	0.00	0.00	22,500.00
	Sewer			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Pump line to sewer	500	lf	0.00	0.00	35.00	17,500.00		0.00	0.00	0.00	17,500.00
	Sewer MH & tap	1	ea	0.00	0.00	2,500.00	2,500.00		0.00	0.00	0.00	2,500.00
	Electrical			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Saw cut pavement	150	lf	0.00	0.00	3.00	450.00		0.00	0.00	0.00	450.00
	Strip loam	75	cy	0.00	0.00	15.00	1,125.00		0.00	0.00	0.00	1,125.00
	Excavate trench	750	lf	0.00	0.00	6.50	4,875.00		0.00	0.00	0.00	4,875.00
	Bedding	150	cy	0.00	0.00	15.00	2,250.00		0.00	0.00	0.00	2,250.00
	Conduits 4"	2500	lf	0.00	0.00	8.50	21,250.00		0.00	0.00	0.00	21,250.00
	Backfill	250	cy	0.00	0.00	15.00	3,750.00		0.00	0.00	0.00	3,750.00
	Gravel - patch	15	cy	0.00	0.00	35.00	525.00		0.00	0.00	0.00	525.00
	Asphalt patch	6	tons	0.00	0.00	150.00	900.00		0.00	0.00	0.00	900.00
	Gravel transformer pad	5	cy	0.00	0.00	50.00	250.00		0.00	0.00	0.00	250.00
	Transformer Vault	1	allowance	0.00	0.00	5,000.00	5,000.00		0.00	0.00	0.00	5,000.00
	Drainage			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Catch basins	3	ea	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Piping	250	lf	0.00	0.00	5,000.00	15,000.00		0.00	0.00	0.00	15,000.00
	Outlet	1	ea	0.00	0.00	35.00	8,750.00		0.00	0.00	0.00	8,750.00
	Retension Chambers	1	allowance	0.00	0.00	500.00	500.00		0.00	0.00	0.00	500.00
	Site development			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Gravel fill	500	cy	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Crushed gravel base	500	cy	0.00	0.00	30.00	15,000.00		0.00	0.00	0.00	15,000.00
	Asphalt pavement	200	tons	0.00	0.00	35.00	17,500.00		0.00	0.00	0.00	17,500.00
				0.00	0.00	125.00	25,000.00		0.00	0.00	0.00	25,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00

DIV	DESCRIPTION	QTY	Unit	UNIT/MAT'L COST	TOTAL MAT'L COST	UNITS SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	Loam	375	cy	0.00	0.00	30.00	11,250.00		0.00	0.00	0.00	11,250.00
	Seeding	30000	sf	0.00	0.00	0.25	7,500.00		0.00	0.00	0.00	7,500.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
<b>Total Sitework</b>					<b>0.00</b>		<b>460,990.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>460,990.00</b>
2A	Demolition											
	Demolish and Remove Barn	1	ls	0.00	0.00	45,800.00	45,800.00		0.00	0.00	0.00	45,800.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
<b>Total Demolition</b>					<b>0.00</b>		<b>45,800.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>45,800.00</b>
3	Concrete											
	Wall footings	580	sf	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Retaining wall footings	400	sf	0.00	0.00	3.50	2,030.00		0.00	0.00	0.00	2,030.00
	Pier footings	125	sf	0.00	0.00	4.00	1,600.00		0.00	0.00	0.00	1,600.00
	Concrete	100	cy	125.00	12,500.00	0.00	0.00		0.00	0.00	0.00	12,500.00
	Rebar	12500	lbs	1.00	12,500.00	0.40	5,000.00		0.00	0.00	0.00	17,500.00
	5' Frost walls	2500	sf	0.00	0.00	3.50	8,750.00		0.00	0.00	0.00	8,750.00
	8' Walls	800	sf	0.00	0.00	4.00	3,200.00		0.00	0.00	0.00	3,200.00
	12' Walls	4560	sf	0.00	0.00	4.50	20,520.00		0.00	0.00	0.00	20,520.00
	Concrete	135	cy	125.00	16,875.00	0.00	0.00		0.00	0.00	0.00	16,875.00
	Rebar	17000	lbs	1.00	17,000.00	0.40	6,800.00		0.00	0.00	0.00	23,800.00
	Concrete pump	2	days	1,500.00	3,000.00	0.00	0.00		0.00	0.00	0.00	3,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Slab on grade			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Pour & finish	7000	sf	0.00	0.00	2.25	15,750.00		0.00	0.00	0.00	15,750.00
	Concrete	140	cy	125.00	17,500.00	0.00	0.00		0.00	0.00	0.00	17,500.00
	WW mesh	8500	sf	0.35	2,975.00	0.00	0.00		0.00	0.00	0.00	2,975.00
	Vapor barrier	8000	sf	0.30	2,400.00	0.00	0.00		0.00	0.00	0.00	2,400.00
	Exp joints	380	lf	0.60	228.00	0.00	0.00		0.00	0.00	0.00	228.00
	Saw cuts	550	lf	0.00	0.00	1.50	825.00		0.00	0.00	0.00	825.00
	Concrete pump	1	day	1,500.00	1,500.00	0.00	0.00		0.00	0.00	0.00	1,500.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
<b>Total Concrete</b>					<b>86,478.00</b>		<b>64,975.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>151,453.00</b>

DIV.	DESCRIPTION	QTY.	Unit	UNIT//MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L'S	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
4	Masonry											
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	None			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total Masonry</b>			<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
5	Metals											
	Steel columns	7 ea		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Steel beams	6 ea		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Fabricated steel	4.5 tons		3,500.00	15,750.00	0.00	0.00	0.00	0.00	0.00	0.00	15,750.00
	Erection	1 ls		0.00	0.00	5,000.00	5,000.00	0.00	0.00	0.00	0.00	5,000.00
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total Metal</b>			<b>15,750.00</b>	<b>15,750.00</b>	<b>5,000.00</b>	<b>5,000.00</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>0.00</b>	<b>20,750.00</b>
6	Rough Carpentry											
	PT 2x6 sills	490 lf		0.85	416.50	0.00	0.00	48	30.00	1,440.00	864.00	2,720.50
	Sill sealer	490 lf		0.10	49.00	0.00	0.00		0.00	0.00	0.00	49.00
	2x6 Ext wall framing	9000 lf		0.90	8,100.00	0.00	0.00	900	30.00	27,000.00	16,200.00	51,300.00
	1/2" Ext sheathing	6000 sf		1.25	7,500.00	0.00	0.00	200	30.00	6,000.00	3,600.00	17,100.00
	OH door paralams	75 lf		8.00	600.00	0.00	0.00	12	30.00	360.00	216.00	1,176.00
	2x8 Door & window header	300 lf		1.35	405.00	0.00	0.00	32	30.00	960.00	576.00	1,941.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Roof trusses	7000 sf		6.00	42,000.00	0.00	0.00	130	30.00	3,900.00	2,340.00	48,240.00
	5/8" Plywood/sheathing	8400 sf		2.25	18,900.00	0.00	0.00	240	30.00	7,200.00	4,320.00	30,420.00
	2x4 Truss blocking	1500 sf		0.80	1,200.00	0.00	0.00	150	30.00	4,500.00	2,700.00	8,400.00
	Crane rental	2 days		1,500.00	3,000.00	0.00	0.00		30.00	0.00	0.00	3,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Ceiling strapping	7000 sf		0.25	1,750.00	0.00	0.00	80	30.00	2,400.00	1,440.00	5,590.00
	Beam nailer	140 lf		0.90	126.00	0.00	0.00	24	30.00	720.00	432.00	1,278.00
	Bolts	75 ea		2.00	150.00	0.00	0.00		0.00	0.00	0.00	150.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	2x4 Interior partitions	1500 lf		0.80	1,200.00	0.00	0.00	150	30.00	4,500.00	2,700.00	8,400.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	2x12 Shed roof framing	750 lf		2.25	1,687.50	0.00	0.00	80	30.00	2,400.00	1,440.00	5,527.50
	5/8" Plywood sheathing	1050 sf		2.25	2,362.50	0.00	0.00	40	30.00	1,200.00	720.00	4,282.50

DIV.	DESCRIPTION	QTY.	Unit	UNIT/MAT'L COST	TOTAL MAT'L COST	UNIT/SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	Plywood interior	2000	sf	1.25	2,500.00	0.00	0.00	40	30.00	1,200.00	720.00	4,420.00
	2x12 Ledger/leave	200	lf	2.25	450.00	0.00	0.00	20	30.00	600.00	360.00	1,410.00
	Brackets	50	ea	2.00	100.00	0.00	0.00	16	30.00	480.00	288.00	868.00
	8x8 PT Posts	100	lf	5.00	500.00	0.00	0.00	12	30.00	360.00	216.00	1,076.00
	Post Anchors/Beam Plates	10	ea	50.00	500.00	0.00	0.00	20	30.00	600.00	360.00	1,460.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Frame sliding doors	4	ea	1,000.00	4,000.00	0.00	0.00	80	30.00	2,400.00	1,440.00	7,840.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Forlift Rental	2	months	2,500.00	5,000.00	0.00	0.00		0.00	0.00	0.00	5,000.00
	Manlift Rental	2	months	2,500.00	5,000.00	0.00	0.00		0.00	0.00	0.00	5,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Nails & Fasteners	1	allowance	3,000.00	3,000.00	0.00	0.00		0.00	0.00	0.00	3,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Rough Carpentry</b>				<b>110,496.50</b>		<b>0.00</b>	<b>2,274</b>		<b>68,220.00</b>	<b>40,932.00</b>	<b>219,648.50</b>
6A	<b>Finish Carpentry</b>											
	Window trim	200	lf	1.50	300.00	0.00	0.00	48	30.00	1,440.00	864.00	2,604.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Shelving	300	lf	3.00	900.00	0.00	0.00	80	30.00	2,400.00	1,440.00	4,740.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Finish Carpentry</b>				<b>1,200.00</b>		<b>0.00</b>	<b>128</b>		<b>3,840.00</b>	<b>2,304.00</b>	<b>7,344.00</b>
7	<b>Moisture Protection</b>											
	Perimeter insulation	1520	sf	1.50	2,280.00	0.00	0.00	40	30.00	1,200.00	720.00	4,200.00
	Slab insulation	7000	sf	1.50	10,500.00	0.00	0.00	200	30.00	6,000.00	3,600.00	20,100.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Building insulation			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Roof	4500	sf	0.00	0.00	2.00	9,000.00		0.00	0.00	0.00	9,000.00
	Ext walls	2880	sf	0.00	0.00	1.00	2,880.00		0.00	0.00	0.00	2,880.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Metal roof	8400	sf	0.00	0.00	20.00	168,000.00		0.00	0.00	0.00	168,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Vinyl siding	4500	sf	0.00	0.00	6.00	27,000.00		0.00	0.00	0.00	27,000.00
	Trim	900	lf	0.00	0.00	7.50	6,750.00		0.00	0.00	0.00	6,750.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Caulking	1	allowance	0.00	0.00	2,500.00	2,500.00		0.00	0.00	0.00	2,500.00
	Sealants	1	allowance	0.00	0.00	3,500.00	3,500.00		0.00	0.00	0.00	3,500.00

DIV.	DESCRIPTION	QTY	Unit	UNIT/MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Moisture Protection</b>					<b>12,780.00</b>		<b>219,630.00</b>	<b>240</b>		<b>7,200.00</b>	<b>4,320.00</b>	<b>243,930.00</b>
8	Doors & Windows			0.00	0.00	0.00	0.00					
	Exterior doors	6 ea		1,750.00	10,500.00	300.00	1,800.00		0.00	0.00	0.00	12,300.00
	Interior doors	2 ea		1,500.00	3,000.00	250.00	500.00		0.00	0.00	0.00	3,500.00
	Overhead doors			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	12' x 9'	2 ea		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	10'x9'	2 ea		0.00	0.00	3,000.00	6,000.00		0.00	0.00	0.00	6,000.00
	Windows	16 ea		0.00	0.00	2,500.00	5,000.00	32	30.00	960.00	576.00	13,536.00
<b>Total Doors &amp; Windows</b>					<b>25,500.00</b>		<b>13,300.00</b>	<b>32</b>		<b>960.00</b>	<b>576.00</b>	<b>40,336.00</b>
9	Finishes											
	Drywall			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Ceilings	4500 sf		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Walls	4000 sf		0.00	0.00	1.50	6,750.00		0.00	0.00	0.00	6,750.00
	Painting			0.00	0.00	1.25	5,000.00		0.00	0.00	0.00	5,000.00
	Interior Ceilings	4500 sf		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Interior walls	4000 sf		0.00	0.00	1.50	6,750.00		0.00	0.00	0.00	6,750.00
	Doors	8 ea		0.00	0.00	100.00	800.00		0.00	0.00	0.00	800.00
	Windows	16 ea		0.00	0.00	75.00	1,200.00		0.00	0.00	0.00	1,200.00
	Misc painting	1 allowance		0.00	0.00	1,000.00	1,000.00		0.00	0.00	0.00	1,000.00
<b>Total Finishes</b>					<b>0.00</b>		<b>26,500.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>26,500.00</b>
10	Specialties											
	None			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
<b>Total Specialties</b>					<b>0.00</b>		<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

DIV	DESCRIPTION	QTY	Unit	UNIT / MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
11	Equipment											
	by owner			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total Equipment</b>			<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
12	Furnishings											
	None			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total Furnishings</b>			<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
13	Special Construction											
	None			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total Special Construction</b>			<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
14	Conveying Systems											
	None			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total Conveying Systems</b>			<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
15	Mechanical											
	Plumbing			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Ejector pump	1 ls		0.00	0.00	5,000.00	5,000.00	0.00	0.00	0.00	0.00	5,000.00
	Water closet	1 ea		0.00	0.00	3,000.00	3,000.00	0.00	0.00	0.00	0.00	3,000.00
	Lavatory	1 ea		0.00	0.00	2,500.00	2,500.00	0.00	0.00	0.00	0.00	2,500.00
	Janitor sink	1 ea		0.00	0.00	2,500.00	2,500.00	0.00	0.00	0.00	0.00	2,500.00
	Drinking fountain	1 ea		0.00	0.00	3,500.00	3,500.00	0.00	0.00	0.00	0.00	3,500.00
	Hot water heater	1 ea		0.00	0.00	1,500.00	1,500.00	0.00	0.00	0.00	0.00	1,500.00
	Hose bibs	4 ea		0.00	0.00	250.00	1,000.00	0.00	0.00	0.00	0.00	1,000.00
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

DIV.	DESCRIPTION	QTY	Unit	UNIT/MAT'L COST	TOTAL MAT'L COST	UNIT SUB COST	TOTAL SUB COST OR L.S.	LABOR HOURS	LABOR RATE	LABOR COST	LABOR FRINGE	TOTAL JOB COST
	Heating & ventilation	4400	sf	0.00	0.00	5.00	22,000.00		0.00	0.00	0.00	22,000.00
	Sprinkler	7860	sf	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	Nitrogen Generator System	1	ls	0.00	0.00	6.00	47,160.00		0.00	0.00	0.00	47,160.00
				0.00	0.00	11,000.00	11,000.00		0.00	0.00	0.00	11,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Mechanical</b>			<b>0.00</b>	<b>0.00</b>	<b>0</b>	<b>99,160.00</b>	<b>0</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>99,160.00</b>
16	Electrical											
	Electrical - Base	7000	sf	0.00	0.00	10.67	74,690.00		0.00	0.00	0.00	74,690.00
	Pad Mtd Transformer(Power Co)	1	allowance	0.00	0.00	20,000.00	20,000.00		0.00	0.00	0.00	20,000.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	<b>Total Electrical</b>			<b>0.00</b>	<b>0.00</b>	<b>0</b>	<b>94,690.00</b>	<b>0</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>94,690.00</b>
	<b>Grand Totals</b>			<b>456,135.37</b>	<b>1,030,045.00</b>	<b>5,188</b>	<b>1,753,964.37</b>	<b>167,365.00</b>	<b>100,419.00</b>	<b>1,753,964.37</b>		



**NH Preservation Alliance  
Historic Barn Assessment Grant Program**

**Houston Barn**

Houston Drive, Contoocook, NH

Owner: Town of Hopkinton, NH

August 2021



Assessment Report by:



***LADD TIMBER FRAMING***  
*& Traditional Building Crafts*

Peter Ladd  
Ladd Timber Framing  
Warner, NH  
gumby13@tds.net

## Overview

Known as the "Houston Barn," this impressive barn is a dominant landmark on Houston Drive, which is on the north side of Pine Street less than a half-mile west of Contoocook Village in Hopkinton, NH.

Previously used for keeping hay and dairy cattle prior to being purchased by the Town of Hopkinton, it stands high on a prominent knoll. It overlooks and is attractively surrounded by other Town facilities more recently developed on the one-time agricultural land, today including the public library, recreational sports fields, children's playground, and a senior center. Although two other original farm buildings were removed, the newer public buildings were designed to complement the barn's appearance and reflect its agricultural heritage. (A remarkable granite water trough salvaged from the barn now greets visitors at the library.)



*Photo #1- Hewn granite water trough, previously located at Houston Barn.*

Since the initial purchase twenty-five years ago, the residents and officials of Hopkinton have conducted wide-ranging debate and study on options for the Houston Barn's future, including its ultimate best use, conservation, or removal. Over that time, various Town committees have published many written comments and conducted planning studies. It is hoped this assessment and report may help further that process to a productive conclusion and a near-term plan of action.

Since other competent in-depth histories and engineering studies have been commissioned and created over the last two decades, including the well-detailed application to the NHPA for this assessment, this author will not duplicate them here but suggests that they be referenced in combination with this report.

(For example, physical labeling and compass directions, etc. will here follow those of the 1999 drawings by SFC Engineering. Thus for consistency the main door and gable-end towards the playing fields will be considered "Project North" and specific areas within will be designated by the SFC mapping terminology.)

Please note this writer does not claim professional qualifications regarding engineering considerations, accessibility issues, and life-safety codes, etcetera, that may apply to potential conversion of the barn for public assembly functions. The perspective offered here is one of a specialist craftsman with several decades of experience in assessing, repairing, and restoring other historic barns in the local area. This report is therefore focused on the physical condition and immediate needs of the structure as it stands, in regard to its conservation.

### **History and Ownership**

This barn is presently owned by the Town of Hopkinton NH, which purchased the Tyrus C. Houston Farm in 1997.

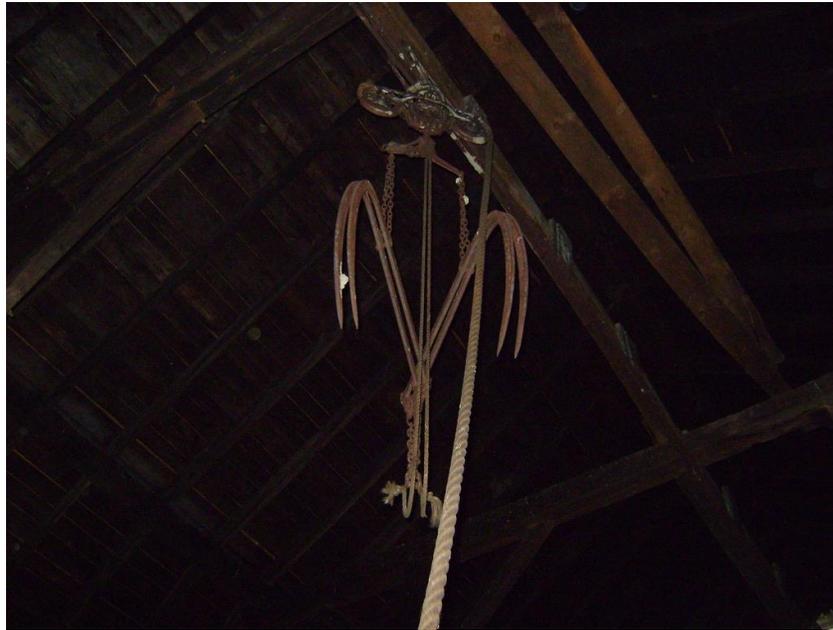
The present massive (100' x 44' x 50'high) barn is said to have been built in 1912 over the same footprint of a smaller barn destroyed by fire circa 1908. Observations in the basement support that hypothesis.

The barn has braced-frame construction, a hybrid of heavy softwood posts and beams assembled with traditional pegged joinery, utilized in combination with more modern type 2" thick "dimension lumber" studs, joists, and rafters. This was typical of the transitional period between classical heavy timber framing, and lighter modern "stick" framing.



*Photo #2 - Typical view of barn frame showing heavy timber "bents" and "balloon" type wall studding.*

Notably, the full height 'balloon frame' type wall studs are almost 20ft. long, and the barn thus achieves the high-volume efficiency resulting from both unusually tall walls and a gambrel style roof. This was a radical departure from typical First Period New England barns. The gambrel design also facilitated a rope-powered overhead hay trolley and forks that were state-of-the-art for handling massive quantities of loose hay in bulk before the advent of mobile gasoline-powered hay balers. The Meyers "Clover Leaf Unloader" forks, trolley, and overhead rail system remain visible suspended high up under the ridge.



*Photo #3 - Meyers Clover Leaf Unloader hay forks and trolley in situ.*

Also in keeping with the agricultural science of the time, and the aesthetic ideals, it boasts an imposing rooftop ventilator/cupola. (It was originally taller but was reduced in height in the 1940s by Tyrus Houston.)

The building thus authentically represents the immediate pre-WWI period, in both style and construction. It displays a contemporary pride in progressive farming, and testifies to a bygone era when New Hampshire fostered an affluent agronomy.

From 1931 onward it was part of a farm owned and operated by members of the Tyrus Houston family. Through the mid-twentieth century, it supported mixed farming, then a later specialization in retail dairy products marketed locally until 1975. The barn retains many modifications made to keep it updated for efficient and hygienic dairy production, such as concrete feed troughs and plumbed-in individual automatic watering points. Cattle areas are wood paneled, sealed with either whitewash or aluminized paint for public health reasons, and provided with controlled ventilation points for livestock well-being.

A smaller "horse barn" connected by a shed to the south-west corner was removed to Northwood, NH, in approximately 2005. There is also evidence, in the foundation wall and in-filled clapboards, that supports the anecdotal information of a large 'ell' wing, no longer extant, running east perpendicular from the main barn's north end. This, and the farmhouse (since demolished) to the south of the smaller horse barn, can be seen in a photograph dated 1931. It appears this was a large and prosperous operation of the time and doubtless an important part of the community, surviving even as agriculture generally declined in New England.

Under latter-day Town ownership, multiple reports have been generated, and many discussions conducted, and opinions solicited, regarding the future of the Houston Barn and its potential value to the residents of Hopkinton. Meanwhile during that time, considerable investment has been made to protect and preserve the building, in physical repairs and upgrades such as modern re-roofing and re-siding.

This important upkeep has bought time for planning. It also allowed the barn to serve in the interim as unfinished storage space for various town groups such as sports teams, to provide an interior space for Fire Department training, and to house maintenance equipment for the surrounding grounds and playing fields. At this time the barn has no active electrical service, nor running water connection beyond a single exterior standpipe.

One proposal for the future suggests that the barn be upgraded as a finished and conditioned space for public assemblies and social functions. That would require evaluations beyond the scope of this report, but certainly the concept might seem reasonable and desirable.

### **Existing Conditions & Recommendations**

Overall, the Houston Barn is in remarkably good condition. Such "survivors" are increasingly rare and cost prohibitive to replace in kind.

It sits notably upright and level, its foundation continuing to serve despite some visible flaws. Its heavy timber frame, board sheathing, and wood flooring are largely sound. It was clearly both designed and raised with care and skill, and consequently has held up well for the most part, honoring its builders.

Some areas of past neglect can be found, but are limited. Although having emergent needs today, recent re-roofing and re-siding have preserved the sheathing and framing, and indeed the barn itself, for the moment. Foundation drainage and soil erosion is an ongoing issue, especially on the east side. There is some evidence

of wood-boring insect activity in the structural members. Limited frame-timber displacement and some other areas of pre-existing faults remain to be corrected.

The barn largely retains its integrity overall, and if cared for its continued existence is certainly possible indefinitely. The particulars to follow will necessarily focus on pointing out various defects and exceptions, but are not meant to denigrate the barn's value as a whole. Again, prior reports and studies by others should also be reviewed for their supplemental details and to gain a full perspective.

## **Roof**

Barns live or die by their roofs. Vast numbers have been forever lost from this factor alone. Fortunately, the Houston barn was re-roofed in recent memory and this undoubtedly saved it. Unfortunately, as with many other buildings in recent decades, it has suffered the catastrophic premature failure of the asphalt shingles used. They are in very poor condition, especially on the west side. The east side is not as bad yet, but sure to follow.



*Photo #4 - Roof shingles in extreme failure, west side.*

On the plus side, there is a layer of modern 1/2" tongue-and-groove plywood under the shingles, providing the benefit of a smooth surface and secure attachment for roofing. The original board sheathing below the plywood also seems sound, and the 2" x 7" common rafters appear to be expertly fitted and in good condition. The upper pitch is about 8:12 and the lower pitch is about 14:12.

### Roof Recommendations

The roofing shingles are in extreme failure and the barn should be re-roofed as an urgent priority.

Given a history of similar class-wide failures among products from several shingle manufacturers in recent decades, it is difficult to recommend asphalt shingles, regardless of advertised warranties.

A painted/galvanized metal roof seems likely to be more reliable for the long run. Screw-down ribbed panels are simple, good value, and have demonstrated a long life span. They are visually rustic but appropriate for agricultural buildings. Site-formed "standing seam" metal roofing is perhaps more elegant but is also more expensive. Specialty products such as genuine or faux slate could be considered. In all these examples it should be noted that snow and ice build-ups may drop precipitously, and snow guards (and ground-level snow removal needs) should be considered, especially if the basement doors are to be used in winter.

### Foundation

The foundation provides for a full basement, with the added benefit of three drive-in access doors in the lower west wall, and exceptionally tall headroom throughout. Except on the west, it is largely of dry-laid natural granite in its lower three quarters, capped by a poured concrete wall adding 2 feet or more in height. It seems this extra height was added during reconstruction after the fire of 1908. As was also about four feet in added width, and approximately twenty feet in extra length, evidenced by the original stonework dimensions, included an abandoned approach ramp at the north door now encapsulated below the newer barn's floor.

This large and remarkably deep basement was reportedly "filled to the ceiling" with manure stored during winter to preserve its valuable nutrients until being spread on fields and pastures. In the main floors overhead, wood "scuttles" are found, which could be opened to drop manure down daily from the cattle tie-ups. Much of the basement has a rudimentary concrete slab floor, and combined with the unusually generous headroom, and open "walk-out" access, this makes the basement exceptionally useful.

Within the concrete slab floor is a large visible ring where an internal silo once stood, in the west aisle between frame bents #4 and #5. Relatively newer wood framing in the floor above is another artifact, and water damage to the wood in that area may be related to the silo and its subsequent deletion. (A marker of evolving agricultural construction practices, airtight silos allowed green materials, such as corn stalks, to ferment and be preserved as valuable feed.)

The western wall of the basement differs in being a combination of poured concrete stem-wall, about waist high, topped by wood framing, incorporating three doorways each large enough to accept vehicles. Five modern windows provide light. An area at the north-east is subdivided by a full height poured concrete wall, probably added a later date, to support a slab floor above which displays a date of 1969. The basement also shows an arched opening, now in filled with cinder blocks, in the south foundation wall. This may have been a post-1912 passageway connecting under a shed to the horse barn nearer the farmhouse.

The interior of the barn generally is supported by rows of 12" x 12" concrete columns, roughly nine feet tall, and probably original. It should be noted that in 1912, concrete reinforcement with steel "re-bar" was a new engineering concept and rarely used, although routine today. It seems unlikely that steel reinforcing was added to the concrete to the Houston Barn foundation. The posts appear to be adequate at this time.

As documented in other reports, some cracks and distortions are evident in the concrete in the raised portions of the south and east walls, but the overall average elevations have fortunately remained fairly true.

The stem-wall on the west side, however, does have more visible issues. Although the barn's elevations remain true, and no overall settling is evident, cracking and distortion of the (un-reinforced?) concrete is readily visible, especially at its north end. Also the several individual sections of concrete show some tilting outward to the west, and a departure from plumb by several inches as seen compared to the vertical wood trim-work.



*Photo #5 – West foundation, concrete stem-walls leaning out at top.*

This lean would seem to reduce and threaten its load-bearing capacity, although no larger harm is yet apparent. At the exterior base of the stem-wall sections, it seems various past efforts have been made to arrest the tilting, with fieldstone rubble, and/or concrete buttressing being added. It seems likely this was to counter the effects of water falling along this wall from the roof, and destabilizing the footings (if any).

Significantly, water is also definitely a clear and present hazard on the east side. A combination of surface drainage, and large quantities of runoff from the barn roof, is eroding the fine sand fill against the eastern foundation.



*Photo #6 - East foundation, water infiltration and soil erosion.*

Seepage through the granite foundation wall is carrying away the subsoil, and conversely depositing it as large amounts of silt on the basement floor.

Moreover if (when) the wet subsoil freezes in winter it can expand and exert enormous pressure on the foundation, distorting it westward. Signs of this seem to be visible. This would have been less likely when the barn was in use and the foundation "insulated" with manure

#### *Foundation Recommendations*

Visually the basement's interior support columns seem to be functioning well, but because they ultimately carry the vast majority of the barn's weight (dead load), plus contents and occupants (live load) and even snow load from the roof, an engineering evaluation of these columns would be prudent. Fire resistance is also a consideration, to preclude premature structural collapse in a major fire.

It is possible that the tilted western concrete knee-wall is currently stable, but it should be evaluated and monitored. Possible replacement with modern foundation and footing, including appropriate drainage, could be considered.

The eastern side of the barn should have definitive attention paid to correcting the drainage issues. The existing fine sand fill is aggravating the situation, eroding, and being transported easily. This would likely require significant excavation and drainage measures, and re-contouring of surface grades, to include diverting both rainfall from the roof and flowing surface water. Also effective removal of sub-surface groundwater should be addressed, which will also mitigate any frost-expansion forces. Uncorrected, the long-term destabilization of the east foundation wall is possible, even likely.

The most comprehensive solution would be to support the building and excavate the original foundation, and replace it with entirely new poured concrete footings, walls, and slab. This expense would be offset by the opportunity to enhance the basement space for higher quality occupancy uses, and energy efficiency, etc.

There is a set of wooden stairs at the southeast corner leading up to the main floor. These are deteriorated and should be replaced.

## **Frame**

The Houston Barn frame is based upon heavy mill-sawn timbers, possibly hemlock, with pegged mortise-and-tenon connections, including some very workmanlike bladed scarf joints. Infilling that structural armature, the wall studs, floor joists, rafters, etcetera are "two-by" dimension lumber. It was substantially designed and built, and remains generally strong and in good condition. Overall, it sits remarkably level and plumb on average.

There are limited specific areas where repairs are needed and are discussed below. Not every instance can be exhaustively listed here, but the following are the major examples.

The main aisle floor (center "drive") and its major supporting beams are decayed in the first bays inside the large doors at both north and south ends of the barn, perhaps from snow and water entering at the open doorways over many years. Past partial repairs are visible, and ad-hoc cribbing and posts have been installed to support decayed or spliced beams.



*Photo #7 - Northwest section of undercarriage, damage to floor and sub-floor framing, temporary cribbing.*

These repairs are less than optimum and are themselves deteriorating. Examples are areas beneath posts 1C, 2C, 3C and near the basement stairway below posts 8B, 9B. (Refer to previous SFC Engineering Partnership Inc. report's first floor framing plan.) This includes important structural floor beams, but would be relatively straightforward to repair.

It was observed in some areas of the east wall interior, in the cattle tie-up area, that past decay has occurred at wall post feet and their knee type "up braces," likely from the effects of animal wastes.



*Photo #8 - Repairs indicating possible decay at sills from animal wastes.*

Past repairs have been made, but wall paneling, plywood floor overlay, and stored items made full assessment for this report impossible. The sill(s) beneath may or may not also be involved.

On the main floor, massive concrete feed troughs (bunks) were retro-fitted by cutting off the feet of the primary timber posts on each side of the main drive. These fore-shortened posts now sit supported upon cast concrete steps.



*Photo #9 - Concrete feed trough with step for shortened primary post. (Typical)*

Two concerns arise. Firstly, concrete can conduct moisture into the wood, engendering decay or insect infestation, and indeed powder post beetles appear to be active at a number of these locations. Secondly, if it is contemplated to ever remove the concrete bunks, the posts will need extending or other supporting measures installed to fill the gap and maintain the load-path to the basement posts below.

In the remaining area not perched on concrete (at the northwest of the main drive) there has been a shortening and downward displacement of the major post(s), centered in the area of Posts 2C, 3C. This may have been rot resulting from a roof leak in the past, accumulating in hay or bedding materials. A decayed section of the 3C Post foot has been sawed off and blocked up, but inadequately. Again insect damage seems to be active at that location.



*Photo #10 - Post 3C, cut off and shimmed, also active insect boreholes and frass evident.*

Importantly, at the attic loft level, it can be observed that the same Post 3C has sunk enough (3") to detach the higher queenpost's foot tenon from its mortise in the tie-beam and allow the tie-beam itself to sag notably.



*Photo #11 - Displaced tenon at tie beam above post 3C. Vital roof support is potentially compromised.*

A scab block has been nailed to restrain the tenon but that is inadequate for such a critical connection - one that carries the load of the roof. If it fully detached, the roof area above could be at risk of partial collapse.

Even ignoring that worst-case scenario, uneven post elevations induce unhealthy tensions and stresses on a frame. That slumping or sagging has the secondary effect of inducing some lean in other posts. The frame though-out is strengthened by knee braces mortised into the major timbers, and some are displaced or missing as a result of the main posts settling unevenly. This weakens the frame resistance against wind loads, etcetera.



*Photo #12 - Disconnected knee-brace, indication of settling and distortion of major frame timbers such as Post 3C.*

Also, for reasons possibly associated with the necessary sequence of operations during the original barn-raising, the knees from tie beams to wall posts are not mortised at their heels, but only nailed. A number of these points are loosened or detached.



*Photo #13 - Nailed knee-brace connection at wall post separated. (Typical)*

Remarkably, the frame remains on average very close to true and plumb. But its size and location make it vulnerable to windstorms and protecting against those potential forces should be a priority.

While considering windstorms, it can also be noted that the structural purlin beams, supporting the rafters at the break angle of the roof, are connected to their cantilevered horizontal support beams only by gravity and a very few toe-nails.



*Photo #14 - Structural major roof purlin attached to bent by toe-nails only.*

Obviously this has sufficed well enough for over a century - but perhaps does not take into consideration the potential uplift forces in a major unique storm event. (Areas neighboring Hopkinton have indeed experienced more than one actual tornado in recent years, and at least one barn roof was lost.)

The barn generally has the considerable benefit of 'high and dry' siting. However at the south door concrete steps, blacktop, and landscaping details are in close contact with the barn frame at ground level, and likely directing rainwater into sill timber areas.



*Photos #15 - Entry step fostering sill decay under southeast doorway.*



*Photos #16 - Landscaping details (grade too high) fostering sill decay, south wall.*

The threshold area has indeed been replaced with concrete already, and also at the north door. It would not be unusual if the north doorway threshold had similar issues, although the north end is generally well above grade and better drained.

At a number of points in the frame, widely distributed but most especially at the basement and first floor levels (high-humidity areas), the many small bore holes and fine frass (wood dust) indicate the presence of active powder post beetles.

### Frame Recommendations

The door threshold and sill areas should be fully accessed and investigated. Decayed timbers can be replaced or repaired if needed, and then very thoroughly protected with flashing and/or waterproof membranes, followed by re-grading for improved drainage.

The sill area and post feet of east wall tie-ups should be exposed and evaluated for rot caused by animal waste. Logically the same may be true for the west wall sills and posts, although it was not possible to view them. However, a small amount of superficial decay need not condemn a large sill timber that is well supported on the foundation.

The damaged interior floor carrying-beams, joists, and flooring over the basement should be opened up from the main floor and fully replaced in the areas needed - especially northern and southernmost bays of the main drive. New heavy timber beams and load-bearing structural connections should replace the jury-rig posts and cribs. As this is done, corrected (level) elevations can be restored throughout by jacking in areas where frame members may have settled.

The post feet on the concrete feed troughs should be treated to arrest insect damage. If the concrete is to be removed, the posts can have base extensions spliced into them, or supporting plinths constructed, to maintain their correct elevation and carry their full loads.

Post 3C and its neighborhood requires prompt attention, in conjunction with associated repairs at the basement level and the joinery at attic level. This would include jacking to restore correct elevation and load bearing, with strong splices and/or plinths to restore their bases as necessary. In that process the 3C attic Queen-post tenon should be drawn back into original position, and permanently secured. A solid continuous load-path from roof to basement footings must be re-established.

Knee braces should be refitted securely at all locations to achieve rigidity when in compression. It is suggested that the anomalous nailed connections at the wall posts be supplanted with threaded lag bolts, multiple structural ('GRK' type) screws, or other stress resisting hardware.

Similarly, where the roof purlins are toe-nailed to their cantilever bent beams it may be prudent to add "hurricane anchor" type straps or hardware to resist uplift at those connections.

The infestations of powder post beetle require consultation with a specialist, and treatment is strongly advised. Their action is slow, but in the long term can greatly

weaken and even destroy timbers, working unseen within the wood.

Not all areas were accessible for observation, and a full systematic evaluation (beyond the scope of this assessment) should be done of the various points made above.

## **Flooring**

The basement floor is mostly a somewhat primitive concrete slab. It suffers from in-wash and sedimentation coming from the east foundation's poor drainage. Probably frost heaving is acting upon it in winter and will tend to crack it.

The main floor is heavy wood planking, except for an area of modern concrete slab in the northeast corner. Much of the wood floor is sound, but certain areas have suffered decay and exhibit expedient repairs. The portions concealed beneath the concrete feed bunks are of unknown condition but may be suspect.

The primary loft floors are two layers of nominal one-inch boards, and generally sound. Limited areas, especially in the west side, are rotted and hazardous, probably from roof leaks in the past.



*Photo #17- East loft, floor decay.*

The upper-level lofts and cat-walks are minimally built and should be treated with extreme caution. One section of catwalk flooring is missing completely.

As a point of interest, scab blocks can be seen on the upper inner faces of the major center aisle posts. These indicate there may have once been a second higher level of center loft, since removed.

### Floor Recommendations

The basement floor may suffice as is, or could be replaced now or in future. If a modern replacement slab is contemplated, consideration should be given to installing under-slab drainage, and measures for frost protection.

The repaired areas of wood planking on the main floor should probably be redone to a higher standard, and any other potential areas of decay located and investigated for replacement. Some areas will necessarily be removed and replaced in any case, to repair the damaged framing beneath.

The loft flooring needs simple replacement in limited areas, prioritized with safety in mind. The high catwalks can be inspected and repaired if needed, but should be considered generally off-limits meanwhile.

### Siding

The siding is of recent date, being natural (unfinished cedar?) clapboards. It was attached with 2" long stainless ring-shank nails, driven by air-powered nail gun. The sheathing beneath is the original nominal 1" boarding and seems sound.

The modern clapboarding was obviously a great, even heroic, investment towards saving the Huston Barn and is aesthetically attractive. Very regrettably it is displaying some cupping and detachment in various widespread places, and the nails are pulling loose from the sheathing over large areas, the result of cyclical wood movement as weather acts upon the clapboards.



*Photo #18 - Clapboards warped and detached, with nails pulled. Typical of many.*

### Siding Recommendations

The clapboard siding is both problematic, and a dauntingly large matter to deal with. As can be seen easily, the clapboard installation is failing prematurely. They represent a considerable expense, both originally and to address again now.

At a very minimum, the most cupped and warped clapboards could be individually replaced, or perhaps nailed back down in lesser cases. Loose nails that are "popping" through-out could be perhaps re-driven and the clapboards possibly tightened up. But it is most likely these measures would be only partially successful, and temporary. The same issues would recur for the same reasons.

In this writer's opinion, the cupping and nail-pulling is the result of uneven wetting and drying (exacerbated by sun and wind) between the interior and exterior faces of the wood. This may be especially found in some modern clapboards that are largely lower quality face-grain, as opposed to traditionally quarter-sawn (edge-grain) premium siding which is far more stable.

Also the nailing technique here may have been minimal. While current thinking is indeed to use ring-shank nails, older builder's reference tables say that ring-shanks are intended for green wood, and actually withdraw more easily than common nails from dry lumber. The nailing pattern is moreover random, not lined up to penetrate the framing studs, and in any case the 2-inch length would not be sufficient engage the studs. Perhaps driving some longer nails located into the studs might help, but the established pattern of wood movement active now would still be inexorable.

Most importantly, it appears that the clapboards were not painted, oiled, or sealed in a way that would effectively retard uneven wetting and drying (possibly because of concern about "cedar bleeding" in fresh clapboards). However, painting, or preferably staining, them now would be of limited value. They are already warped and distorted, and the weathered surface will not hold coatings as well as fresh wood would have. A priming coat would be needed, at a minimum.

Moreover, to truly stabilize wood products from the effects of weather, best practice is to seal both the front and back equally, and all end-grain surfaces. Obviously, that is impossible now in-situ.

(The author's personal opinion is that present-day latex paints are a very poor choice, and a penetrating or solid oil or stain will be far easier to maintain in the long term, since they do not peel or flake, and are less deleterious to the wood from moisture retention.)

The very best installations today in fact even go further to install clapboards over

strapping, spacers, or a built-out drainage plane air-gap including membranes to protect the building beneath. This allows rapid and even drying of the backs of the clapboards, giving the greatest possible stability and lifespan, thus protecting what is a considerable investment.

All the options here are expensive to some degree, if only because of the sheer size of the building and the fact that clapboards are a high-priced material. Possibly the better options could someday be combined with a larger master plan, for instance if removing the clapboards were desirable to insulate the exterior of the barn walls, and then re-side it, either with clapboards or some other choice.

There is no easy answer. In the meanwhile, the existing clapboards are nevertheless protecting the barn adequately and importantly. Perhaps some expedient re-nailing and tightening-up will serve for a time.

### **Exterior Trim/Doors/Windows**

The trim work (corner boards, soffits, fascia, etc.) is generally satisfactory or easily re-habilitated.

The main north and south rolling pocket doors are heavily weathered and aged. Their window glass is missing. They are somewhat fancy and decorative in design and workmanship. The basement doors are more prosaic but seem functional.

The double-hung windows used various places seem to be of 1990's vintage, and in fair condition. Other more historic window openings in the west cow tie-up and both gables are sashless and have been boarded over from the interior.

### **Exterior Trim/Door/Window Recommendations**

Trim can be repaired as needed in limited areas, such as the corner board by the southeast cow door. A carpenter-built set of bins at the south end of the east wall is splashing roof water back onto the siding and skirt-board, causing decay, and has ruined the window casing there. The bins should be re-located and the casing replaced.



*Photo #19 - Water damage to window resulting from proximity of bin assembly.*

The elegant main level doors probably could be restored attractively, including reglazing their generous window lights. The simpler basement doors should be monitored for decay from rainwater splashing off the roof and protected accordingly. (They presently allow birds and rodents to freely enter the barn through the wide gaps at the base of the doors. It would be desirable to minimize the gaps.)

Windows generally are an item rewarding regular frequent examination and upkeep. If not regularly re-painted, traditional glazing putty will fail, eventually followed by the glass. Also, the windowsills and lower casings are prone to decay from water if not routinely examined and protected.

The boarded-over window openings should be monitored to ensure no decay is happening to the barn's frame from water or snow penetrating the exposed casings. Potentially, new wood six-over-six windows would be recommended.

## **Cupola**

Cupolas served to ventilate the barn for the benefit of both hay and livestock, but also as a strong statement of style and pride. Older photos show this cupola to have been much taller, but it was deliberately and carefully reduced in height, a task interesting to imagine. It almost certainly was topped with a mast. A turned wooden post found in the loft stairway, may have been the original mast.



*Photo #20 - Possibly original mast from Cupola. Could be used as pattern for replication.*

The 7ft. x 7ft. cupola is in excellent condition, seemingly square and level and without leaks or rot. Insect screening has been fitted to discourage insects, bats, and birds from entering through the louvers.

When it was reduced in height, long iron staples were driven to secure the sawed off posts at roof level, and they have served. But their performance in an extreme weather event might be pondered.



*Photo #21 - Interior of Cupola, showing iron staple anchoring cut post. (Typical)*

### Cupola Recommendations

It would be prudent to check routinely for water intrusion, especially where the mast once penetrated at the peak. Heavier screen, such as well fastened hardware cloth might more durably back up or replace the light insect screen now in place. Re-roofing of the cupola should be done at the same time as the main roof.

Supplementing the iron anchoring staples with securely bolted steel straps, vertically bridging the cut posts, could be good "hurricane insurance" for the cupola.

## **Priorities**

- 1) The roofing needs replacing and that should be done immediately. Leaks and decay are inevitable otherwise, endangering the barn.
- 2) Timber frames are astonishingly resilient. But posts in the northwest quadrant should be jacked as soon as possible to proper level and the displaced joinery refitted securely, as a minimum. That would include securing and fastening all knee braces. Ad hoc supports in the basement would be replaced/up-graded as needed to achieve permanence for the critical load bearing points represented by each major post.
- 3) Imminent disaster seems unlikely, but the foundation issues should be corrected as a priority before the foundation is further displaced or undermined and the support of the barn frame compromised.
- 4) For longer term preservation, the insect infestations need to be treated and/or controlled by a specialist.

The above items will conserve the barn itself for the near term. Before the barn can be generally used safely, weakened and broken floor beams and/or joists should be replaced, and all decayed areas of flooring replaced.

Barns are particularly vulnerable to rapid and destruction by fire. Fire protection may eventually be a priority for life safety reasons, but in the near term, at least a fire-detection and connected alarm system could be important to conserve the building itself. Fire extinguishers prominently placed within the building might also reduce the chance of an accidental loss from daily activities.

Reportedly this barn was built to replace one struck by lightning. Opinions differ, but given the high and exposed location, consulting an expert on lightning protection may be a prudent action item.

## Conclusion

The Houston Barn is an outstanding monument to Hopkinton's heritage and culture. It exemplifies values and times easily forgotten that once characterized our State. While its very size alone makes any conservation efforts correspondingly expensive, even more so for public occupancy uses, it also has great intrinsic value as a vast and already existing enclosed space.

Enhanced by its historic and aesthetic qualities, future uses could see it repaying any investment as a focus of community bonding and civic pride.



*Photo #22 - Houston Barn, viewed from southwest. August 2021*

The townspeople of Hopkinton-Contoocook have the good fortune of owning a building that was well designed and substantially constructed, which remains strong despite some current disrepair. They have chosen to protect it for over two decades already. While this report lists deficits, it can be said that the Houston Barn also retains many positive strengths and attributes.

In purely physical terms there is no reason this barn cannot survive and stand proud for many more generations if adequate funding can be provided.

Peter Ladd  
Warner NH  
August 16, 2021

Eric Palson, AIA  
President

December 1, 2003

The Hopkinton Board of Selectmen  
Celeste A. Hemingson, Chairman  
Donald K. Lane, Selectman  
Lloyd A. Holmes, Selectman  
Office of Selectmen  
330 Main Street  
Hopkinton, NH 03229

Dear Sirs and Madam:

At your request we have prepared the following comparison of the suitability of three town-owned sites in Contoocook for a proposed community center. The sites are Columbia Hall in Fountain Square, the fire station at the corner of Pine St. and the former Houston farm building complex at Houston Field next to the town library.

Just what would be included in such a facility is not yet fully defined. Community centers vary widely in their programs. For the purpose of this exercise we have assumed that a center on any of the sites would have to fulfill the functions of the existing operation plus whatever additional community based activities opportunity presents.

Please refer to the attached spreadsheet for a summary of the following observations.

### *Physical Characteristics*

The three lots vary significantly in size, starting with the Columbia Hall site at a tenth of an acre (essentially coincident with the building footprint), the fire station at 1.1 acres and the Houston farm site at 67.9 acres overall. Surprisingly the range of built area on the three sites is much closer. Columbia Hall puts an area comparable to one of the two Houston barns on a much tighter site. The fire station has the least square footage of the three. Columbia Hall fits so snugly onto its site that egress out the back door is only possible by easement over the adjacent property.

Columbia Hall is also the oldest, built in the 1850's and has had several other uses in the building over its history as opposed to the other two sites which have continued in their original use up until recently. Both the barns and farmstead site and the existing community center raise more historic preservation issues than the 1970 fire station. That is to say the firehouse has not aged enough yet to be considered a monument.

Columbia Hall is listed as having eight parking spaces, but this appears to be more than are actually viable on the site given required clearances to the main exit/entrance. These grandfathered spaces also back out on to a State highway which is not permissible under current regulations. The fire station is also listed as having eight spaces, but has pavement to support much more if emergency access were not an issue. At the Houston site, spaces are not lined or otherwise defined; as-is there is room for about a dozen in the flat areas adjacent, serving both levels of the buildings.

Emergency access for fire fighting or evacuation could be a problem at the Columbia Hall due to the closely surrounding buildings. The other two sites are readily accessible.

The barns have potentially the highest ceiling space, though barn framing would limit sports recreational uses. The main garage of the fire station has the highest *unobstructed* area at 14' high.

A chief concern is the solidity and general state of repair of the buildings. Naturally the fire station is the newest, steel and masonry construction and thus the most solid of the three.

The larger Houston barn had a relatively good bill of health in the engineer's report (SFC Engineering Partnership, Inc., Nov. 12, 2002) even before the new roof, siding and miscellaneous repair work was done. Foundations and frame are relatively solid and have stood up well. Building systems (wiring, plumbing) are largely non-existent, but at the same time potential problems are not concealed behind plaster.

The Columbia Hall shows its age the most of the three and appears to be the most lightly built to begin with. If egress capacity could be brought up to current standards, it still could be questionable to use the assembly space to its capacity. See below.

Major utilities, power, water, sewer are available to all three sites.

### *Economic Considerations*

All sites are Town property, so acquisition cost is not a consideration. The assessed value of the Columbia Hall is \$418,000, the fire station is \$312,000 and the barn structures are not separately available. Should the community center be located in the fire station or the barns, some existing town uses would be displaced and would theoretically have to be accommodated elsewhere. A comparable fire building, not including site costs or soft costs would be over \$600,000 as determined by areas and published national estimates. Incidental storage currently in the barns we will assume can be relocated or eliminated.

If the center is relocated to either other site, the town would have the option of selling Columbia Hall and applying the proceeds to the project. Not relocating the center would save whatever moving costs would be associated.

### *Location Considerations*

All three sites are well known to the community, though Fountain Square and the fire station are more visible to casual passers-by. The potential for associated outdoor uses is maximized at the Houston Fields site, somewhat limited at the fire station and close to zero at Columbia Hall. Such uses could be recreational or could include special outdoor events, festivals, etc.

When you consider the potential for larger, well-attended events, Columbia Hall would be the most disruptive to vehicular traffic given minimal available parking and its location in the square, the fire station could handle much more, and the Houston site could most easily accommodate the largest events without tying up traffic.

Similarly such a large event would be more disruptive to neighbors in the middle of the village than on the outskirts.

Contemplating potential cooperative programs with the schools, Columbia Hall is most convenient to the Maple Street School, whereas the Houston site is closer to the High School and the recreation fields.

Views from the site would be a factor in favor of the Houston site and less so at the fire station, though the potential for riverfront park development is there. Outward views are not a selling point for Columbia Hall.

### *Growth and Flexibility*

The potential for future expansion is greatest at the Houston site where the structures are not hemmed in by development. The associated parking that would come with future expansion could also be accommodated relatively easily.

The fire station was supposedly structured to allow for a future second floor—a potential 5,000 s.f. addition. Parking would then be the limiting factor. The paved apron out back could be reconfigured to add about 25 more spaces.

Columbia Hall could not be expanded without purchasing additional land. Parking likewise is fixed at the current eight spaces.

If Columbia Hall could be made sufficiently safe, the upstairs room could seat about 250 people lecture style though the construction of compliant egress stairs would reduce the available area somewhat. If a catered event could be worked out, about 110 people could

sit at tables. The fire station garage could seat about 600 people for a special event as many towns do use their stations. 280 people could attend a dinner in this space. The larger Houston barn could seat about 500 people, or 230 at tables. The small barn could accommodate 300 people with about 140 at tables. One potential scenario could be a wedding or performance event for 230 people in the small barn, with a sit down dinner to follow next door in the large barn.

The lack of handicapped accessibility is a prime concern at Columbia Hall and prevents the upstairs from being used to its potential. A proper elevator would be required for such a potential assembly use. Wheelchairs aside, the steep front stair is a daunting obstacle to much of the population, and may present a liability exposure. The fire station is entirely accessible at grade. The Houston barns are accessible on both levels from grade though an elevator would improve internal circulation.

### *Other Considerations*

Protecting people and the Town's investment should be a priority. Columbia Hall has a partial sprinkler system installed, but nonetheless it is a combustible building closely surrounded by other combustible buildings and is therefore at some risk. The fire station is non-combustible and is a stand-alone structure. The barns are combustible though isolated from other structures. We would recommend a sprinkler system be installed as part of any community center project.

Each site presents unique opportunities that should be considered. The Columbia Hall could be restored to its earlier life as a movie theater. Potentially there could be a lot of enthusiasm for such a project that is not available to the other sites. The fire station, as mentioned, could take advantage of its riverfront location to create a unique experience. The barn site can take the most advantage of community activities that already exist all around it such as the play ground, sports fields and library.

Both the Columbia Hall and the Houston barns appear to have greater fundraising potential than the fire station which has limited sentimental appeal. This could prove important.

### *Conclusions*

By nearly all measures the existing site for the community center is the poorest fit for the Town. Looking ahead to the future, the contrast is if anything sharper. New initiatives that may come from future citizens would be severely limited by the building. Despite remedial actions pressed by the fire department, we still could not recommend the use of the building for larger public assembly.

The fire station site suffers from the obvious defect of obliging the Town to build a new fire station. Though the replacement cost for the structure only is discussed above, clearly

the Town would expand capabilities in a new fire station if it were going to all the trouble. If the community center moved there it would be continuing the frugal tradition of moving community space into disused fire stations—that was one of the previous uses of Columbia Hall. If a new station were planned anyway and the property were about to become vacant, it would be a pretty good site with potential for some parking and outdoor space.

The Houston barns have the greatest potential for growth and extended use for years to come. The old home site out front could be restored for additional space if needed while preserving the character of the site. The project could proceed at its own pace as no other agency is put out by the work. The layout of the complex allows for phased construction, taking on a little at a time, if need be.

The location amidst all the other activities on the site seems a natural. The possibilities for new and innovative programs that take advantage of this are significant.

Lastly, the potential for creating a visually exciting community center that people would like to come to seems greatest at the old barn complex.

I hope the attached spreadsheet will help the Select Board to discuss the relative merits in some depth. I will be pleased to assist you in this important decision as needed.

Sincerely,



Eric Palson

EP: ms

CC: Edward Wejnowski



**STEFFENSEN ENGINEERING ASSOCIATES, INC.**

CONSULTING STRUCTURAL ENGINEERS  
31 CALEF ROAD  
AUBURN, NEW HAMPSHIRE 03032-3518  
TEL (603) 483-1300 FAX (603) 483-0650

February 2, 2005

Sheerr McCrystal Palson Architecture  
24 Main Street  
New London, NH 03257

Attention: Mr. Eric Palson

Re: Houston Barn Review  
Hopkinton, NH

Dear Eric,

On January 26, 2005 we met at the above named site to examine the existing barn structure. I had previously reviewed the report prepared by SFC Engineering Partnership dated November 12, 2002 and concur with their conclusions as noted herein. New siding and roofing has been completed but loose hay on the lofts has not been removed. Repair recommendations within their report have yet to be done. Comments herein are related to the plans drawn by SFC dated September 23, 1999.

The foundation will require some remedial work. The concrete columns supporting the first floor, upper lofts and roof are leaning toward the west. The east wall consists of a 2' to 3' concrete wall over the lower stone rubble wall that leans to the east with some apparent inward "bulging" of the lower rubble wall.

I recommend that several column footings be excavated to determine size and condition. Reinforced concrete block (CMU) transverse walls should be constructed between the B & C lines on lines 4,6,& 8 to increase overall stability. The east lower rubble wall should be repointed after removing all loose mortar and a 4 to 6" thickness of shot-crete (Gunitite) with reinforcing should be applied to the inside face. Buttresses at 6 & 8 lines consisting of CMU should also be installed. All stone masonry walls with any voids should be repointed and all cracks in cast in place concrete should be repaired with epoxy patching compounds. The exterior grade at the North, South and East elevations should be excavated, the stone rubble wall repointed and adequate drainage and waterproofing installed. Exterior backfill should consist of perimeter drains and clean free-draining material.

The first floor live load capacity is 100 psf based upon sound joists with no reduced sections of split members. At split joist ends, joist hangers will be required and damaged joists will need to be "sistered". The 12 foot span beams limit live load to 55 psf with the 14 foot span between lines 4 and 5 having less capacity.

Page 2

I recommend mid-span beam supports for all beams along the B and C lines to attain an allowable live load capacity of 100 psf. Damaged interior posts at the first floor are to be repaired at their bases. Remove and replace all floor deck as required; no overlay will be permitted due to its' additional load.

All loft framing and sheathing is to remain in place to provide stiffness. Preventing access is recommended unless these spaces are intended for use. Further study will then be required.

Thank you for this opportunity to be of service to you. If you have any questions or comments, please do not hesitate to call or write.

Yours truly,



Peter H. Steffensen, P.E.

# HOUSTON BARN STUDY

Prepared for:

**BOARD OF SELECTMEN  
TOWN OF HOPKINGTON  
HOPKINGTON, NH**



Prepared by:

**SFC Engineering Partnership, Inc.  
25 Sundial Avenue, Suite 205W  
Manchester, NH 03104**

**Our Project No. 257201**

**Ray S. Cowan, PE  
NH P.E. # 2336**

**November 12, 2002  
Pages: 21**





SFC ENGINEERING PARTNERSHIP INC.  
*"Partnering With Clients for Success"*

September 23, 1999

Ms. Barbara Unger, Chairperson  
Board of Selectmen  
Hopkinton, NH 03329

**RE: Houston Barn Study, Report on findings**

Dear Barbara:

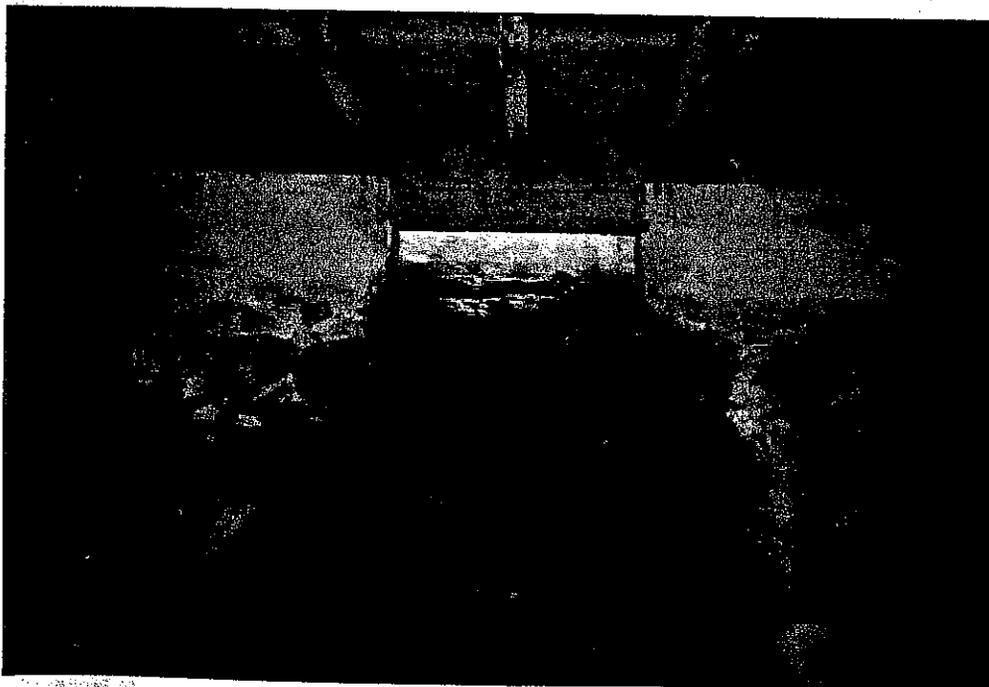
SFC Engineering Partnership has finished its inspection of the Houston Barn in Hopkinton, NH. We performed our investigation on September 14 & 15. A specialist from Terminix completed an inspection for bugs on September 21, 1999 and a report and recommendations are attached. This letter will identify our findings and recommendations as requested in a September 3, 1999 meeting.

We found the barn to be in good structural condition with some areas of concern that will need to be addressed for preserving it. For purposes of describing areas of the barn in this letter we will assume the rear of the barn is facing north, the side facing the Library is facing east, and the front is facing south.

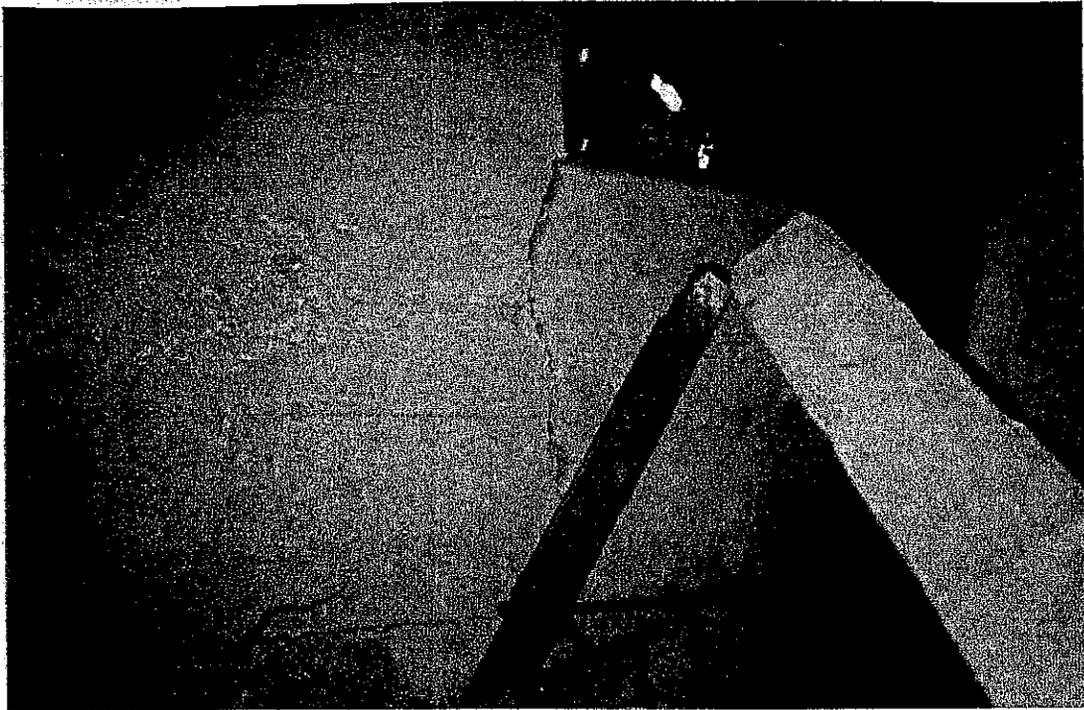
**Basement**

The foundation walls were found to be in very good condition. The south and east walls are made up of about 6 feet of large stones and mortar with about 2' - 3' of a poured concrete wall on top of the stones. This is evidence of former repairs to the wall. This concrete wall is in very good condition. The east side has three or four small windows at the top of the wall, which are not closed off. We were fortunate enough to have been out at the barn during the last storm and saw water pouring into the basement via these open window bays. We recommend that these windows be closed off to minimize water penetration. This damp condition in the basement is inviting to insects and small birds, as many nests and old cobwebs were found. There is a retaining wall between bays 2 & 3 (see drawing 257201S1). The basement ends here and the wall retains a fill of large stones and dirt. The north facing foundation wall is entirely made up of concrete, at least that which is exposed. This wall has a large crack on both sides of the window opening and penetrates below grade. This condition does not pose an immediate threat structurally, for the purpose of preserving the barn. Should the barn be utilized for any specific occupancy in the near future, then this condition should be addressed. The west facing wall is entirely made up of poured concrete for about 2 ½' to 4 ½' above the existing grade. The top of wall is level and had no visible cracks and is in very good condition (no major spalling). The remaining support to the first floor on this side is 8 x 8 post and beams, and it too, is in very good

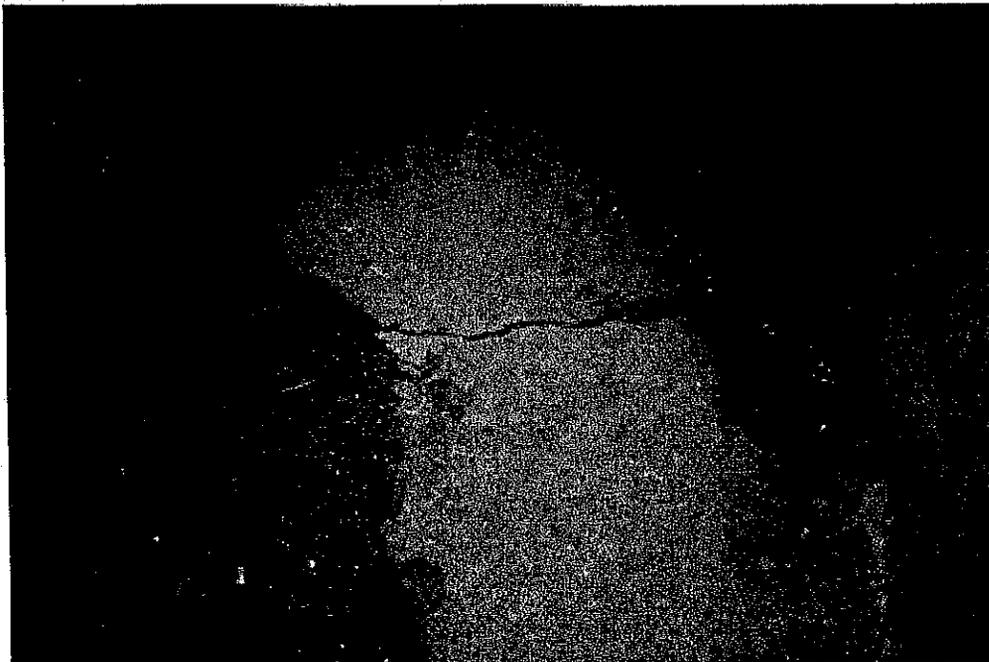
condition. The interior supports are 12" x 12" concrete columns. They are in good shape and pose no structural threat. No evidence of settling was found.



The south and east walls



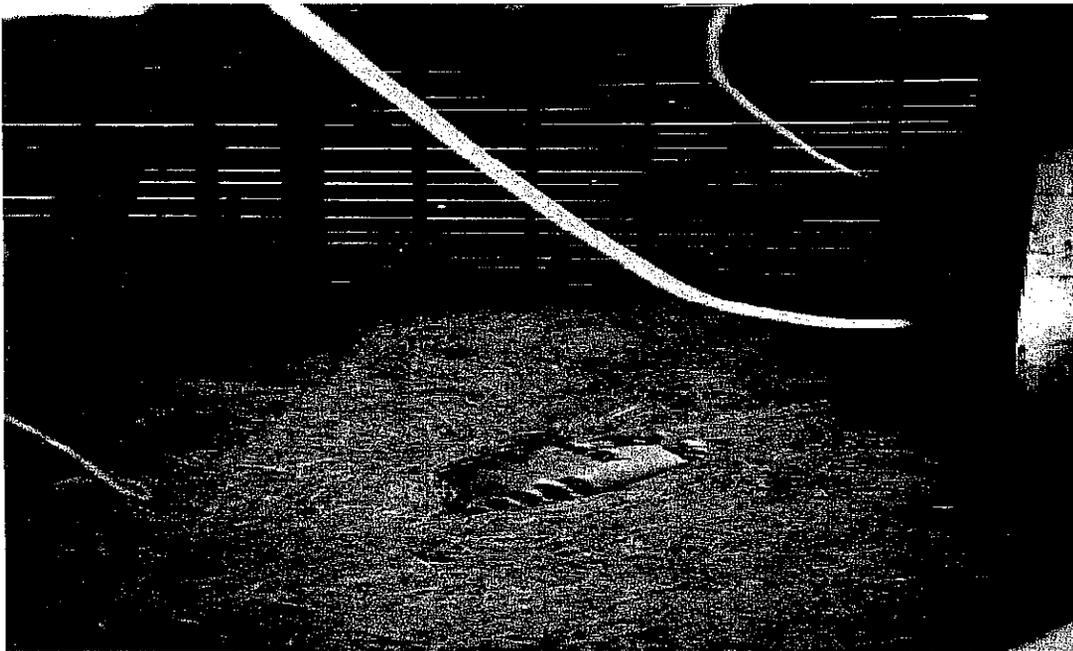
Large crack in north foundation wall



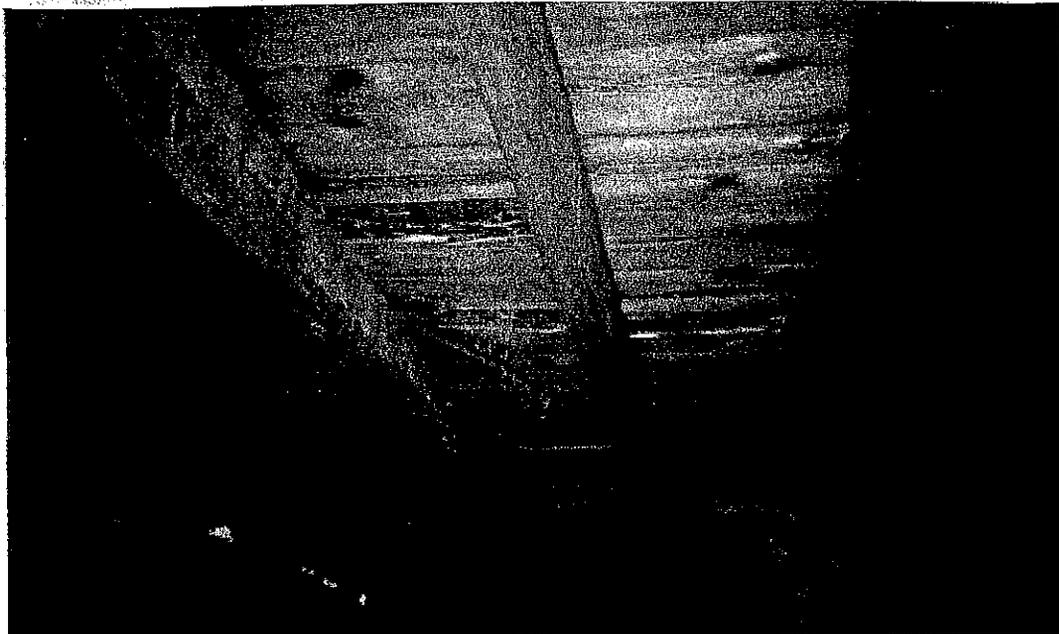
Slab on first floor (rear) showing crack

### First Floor Framing

The first floor framing consists of 2" +/- deck planks over rough 3 x 10's @ 24" o/c except for the concrete slab located in the rear (bays 1-3-A-B). We suspect the first two bays (1-3) of the slab are on grade. This slab on grade has one large crack and the clear span slab (3-4) looks in relatively good shape. There is no need to make any repairs to the slab(s) unless the barn is to be used for occupancy. There is a large hay pile in the rear of the barn (bay 1-2-C-D) that is causing a very significant deflection to the supporting beam below. It was also observed that several planks have rotted probably from wet hay in the bottom of the pile. The beam along 2 between C-D has "sheared" off of the concrete column and is currently supported by a temporary makeshift beam supported by a woodpile. There is major water damage to the floor between bays 4-5-B-C from a large roof leak and has rotted out the floor planks along C. The 10 x 10 beam along 4 between B & C has rotted/sheared off. A 3 x 10 has been spliced along the side and supported at B by only the 3 x 10. The floor framing in 4-5-C-D was replaced at some point, probably because of water damage, a problem which still exist, seeping from the condition in adjacent bay (4-5-B-C). The stalls between A-B-4-8 all show signs of water damage to the floor planks. This entire side has some sort of fine grain material and hay spread over the floor. The same material is found in the stalls between C-D-5-9 but there are no signs of rotting in this area.



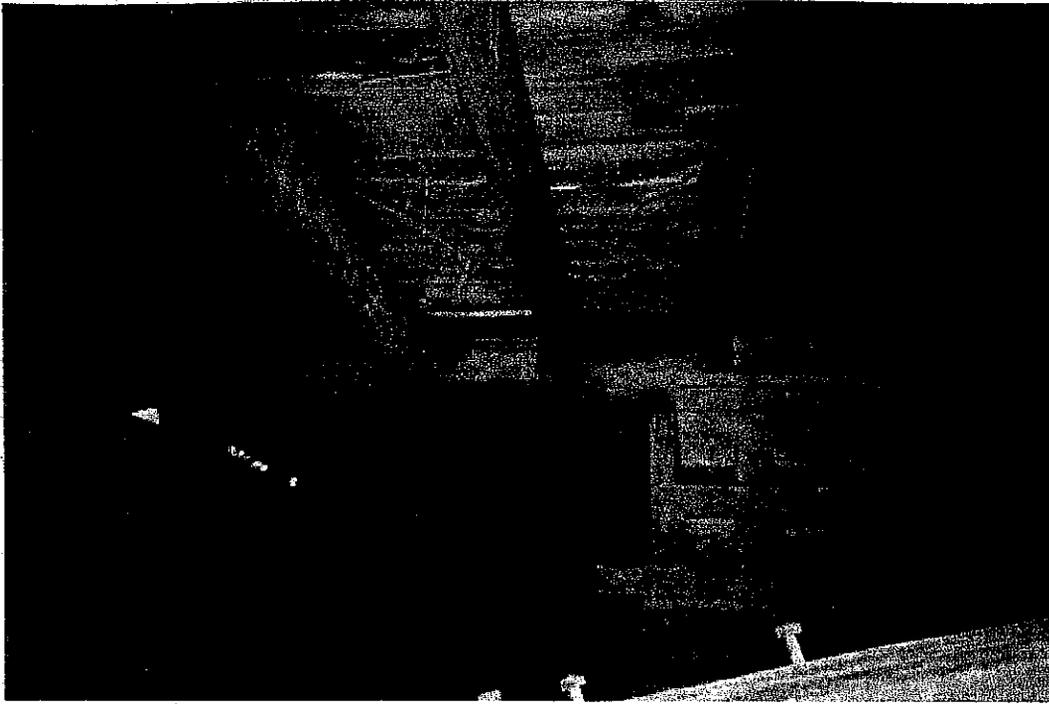
Large haystack (4'-5' deep)



Rotting floor members under Haystack



Damaged beam along 2 between C & D



Woodpile supporting makeshift beam



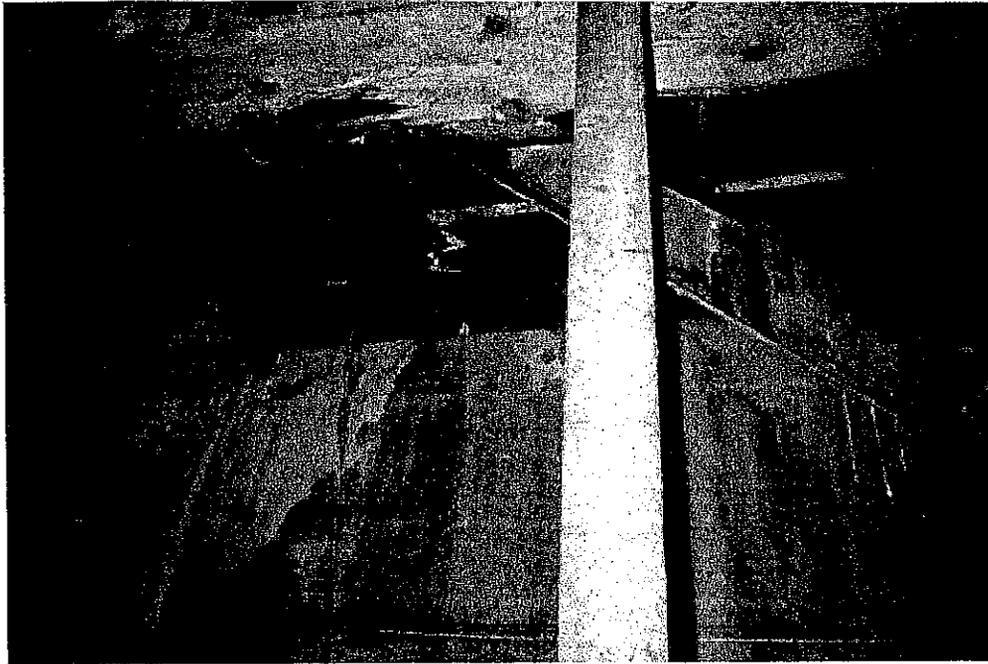
Excess moisture in bay 4-5-C-D



Rotted beam along 4 @ B



Water damage to floors in stalls (A-B-5-9)



Water damage to floor along C (4-5)

### Haylofts

The haylofts are framed with 2 x 10's @ 24" o/c and one each side of 8 x 8 posts. The same hay/grain material is spread throughout the lofts as well. There are many areas on top of the lofts that are rotting or beginning to rot, due to water leaks from the roof. We recommend removing all hay and grain materials from the entire Barn to allow floor members to dry.

The overhead loft is really of no concern except to note some floor planks have completely rotted and provisions to keep people away or off of this loft should be taken.

### Roof Framing

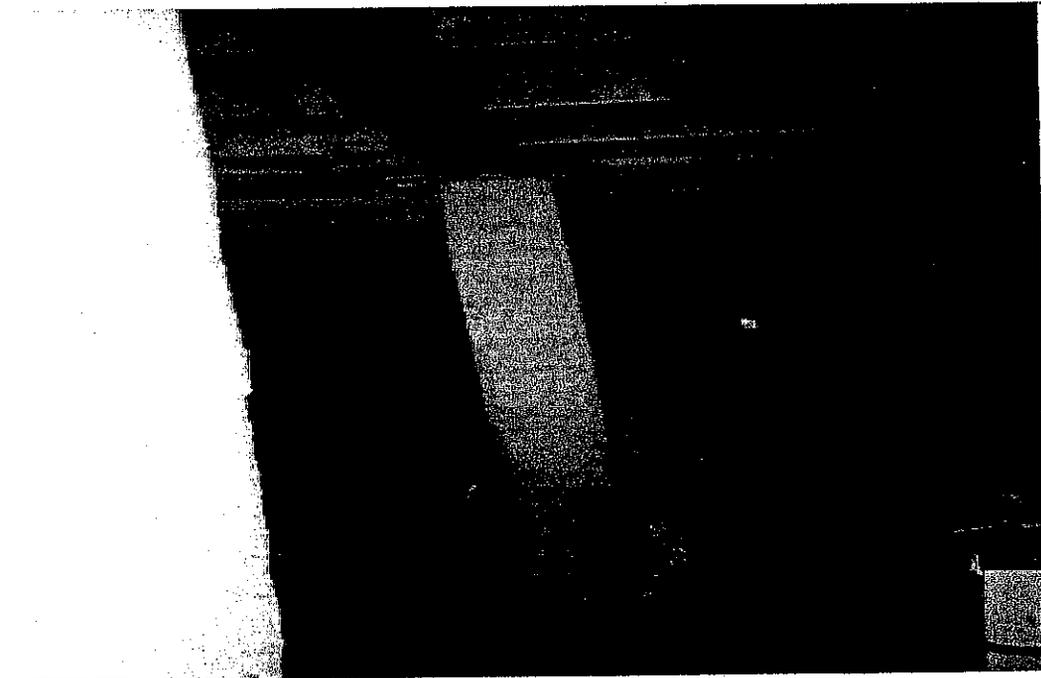
The roof system is rough 2 x 7's @ 24" o/c and two deck layers (1 1/2" - 2" total thickness) supported by the 8 x 8 post and beam frame. The roof is the major reason for most of the damage to this barn. The roof leaks extensively in many areas including the cupola. The wetting and drying cycles over an extended period of time is what causes wood members to rot. We recommend removing the existing shingles and deck and replacing with new plywood sheathing and roofing material. The cupola should be addressed in the same manner.

### Exterior Walls

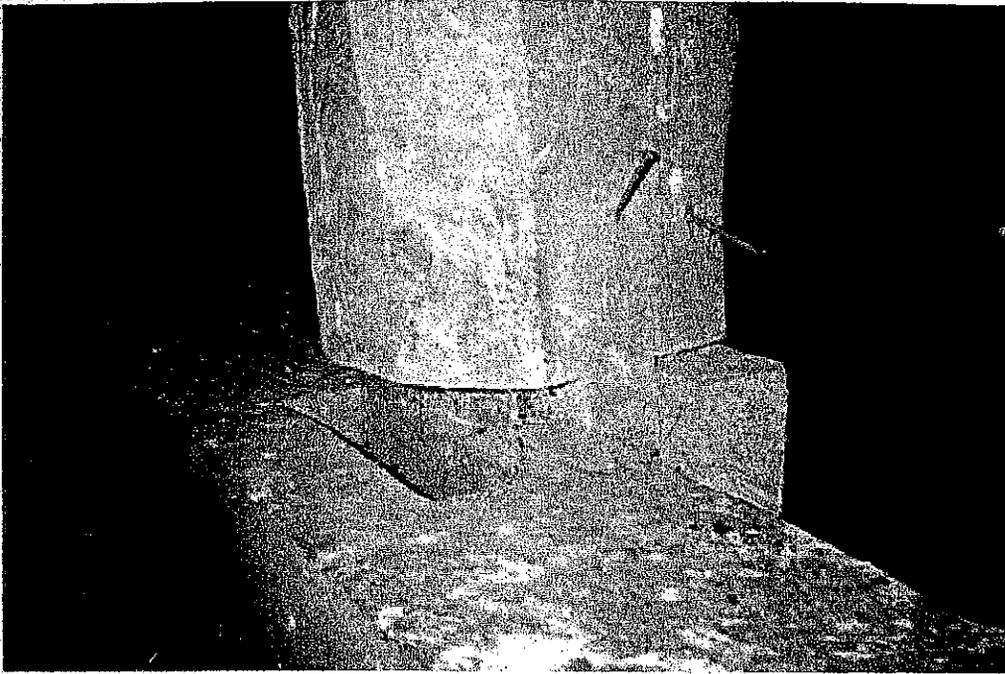
All of the exterior walls are framed with rough 2 x 4's @ 24" o/c and 1" siding. Some areas of the siding are worn, broken, or rotting. Replacing such members is recommended to reduce water seeping into the barn. The framing, however, looks in good shape and should continue to resist wind loads. Most, if not all windows are broken and we recommend that they be boarded up to reduce the penetration of snow and rain into the barn.

### Frame

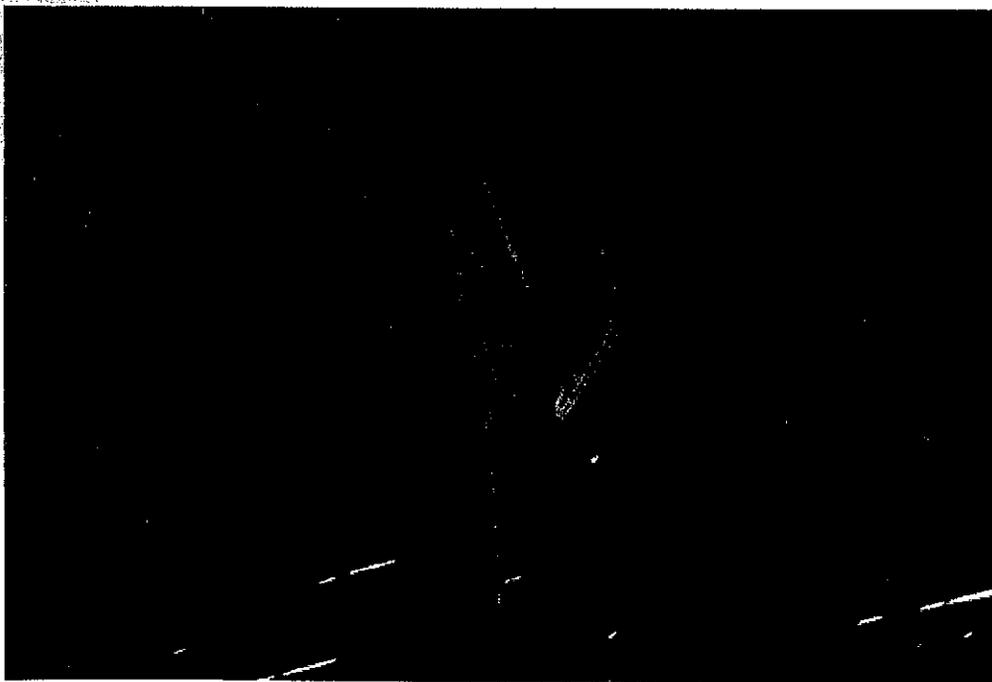
The main frame consists of a network of 8 x 8 post and beam construction with nine frame lines (1-9 on plans). These frames are in very good shape and require only a couple repairs / modifications. There is a 'y' brace missing at the intersection of 3 & D and the connection at the 3 & C intersection has come apart. These two issues should be repaired. It was also noted that the barn appears to be slightly leaning to the east. This condition is called creep where over a long period of time the barn "creeps" slightly from a constant load (wind) acting on it. The creep is minimal but can not be corrected. Additional braces can reduce these effects.



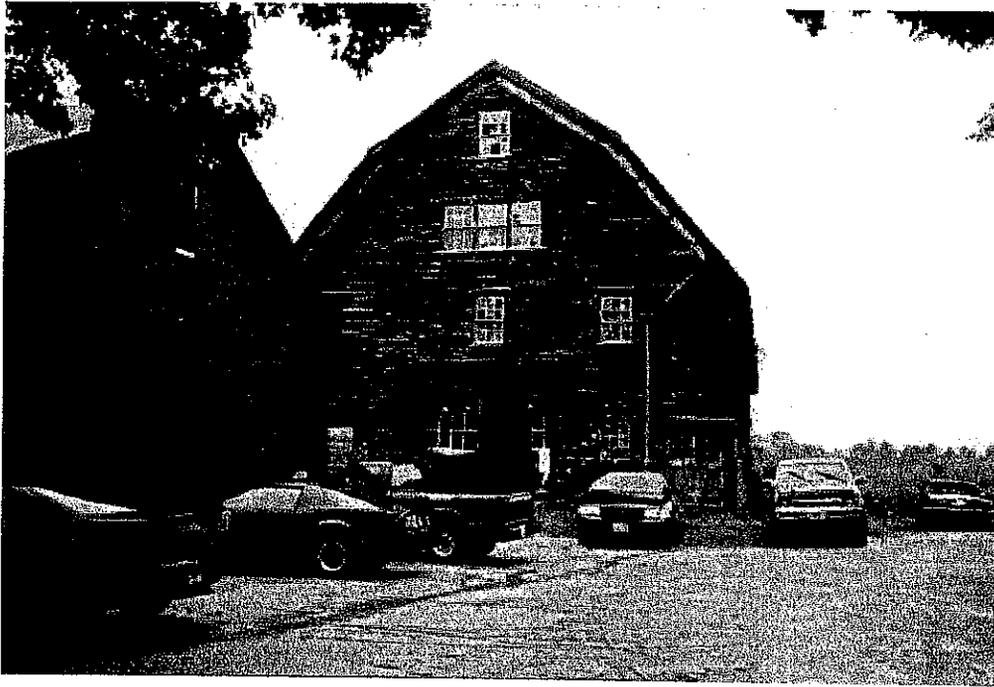
Concrete interior columns (leaning slightly)...  
Note: picture is exaggerating slanting



Connection @ 3 & C has pulled apart



Y brace missing at 3-D



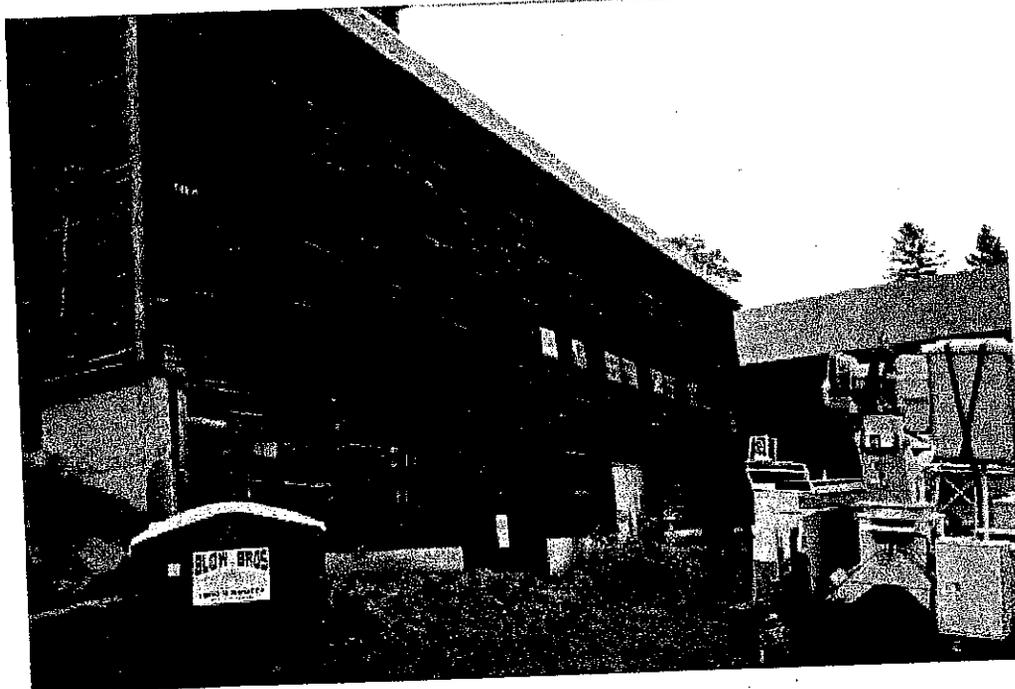
South facing elevation



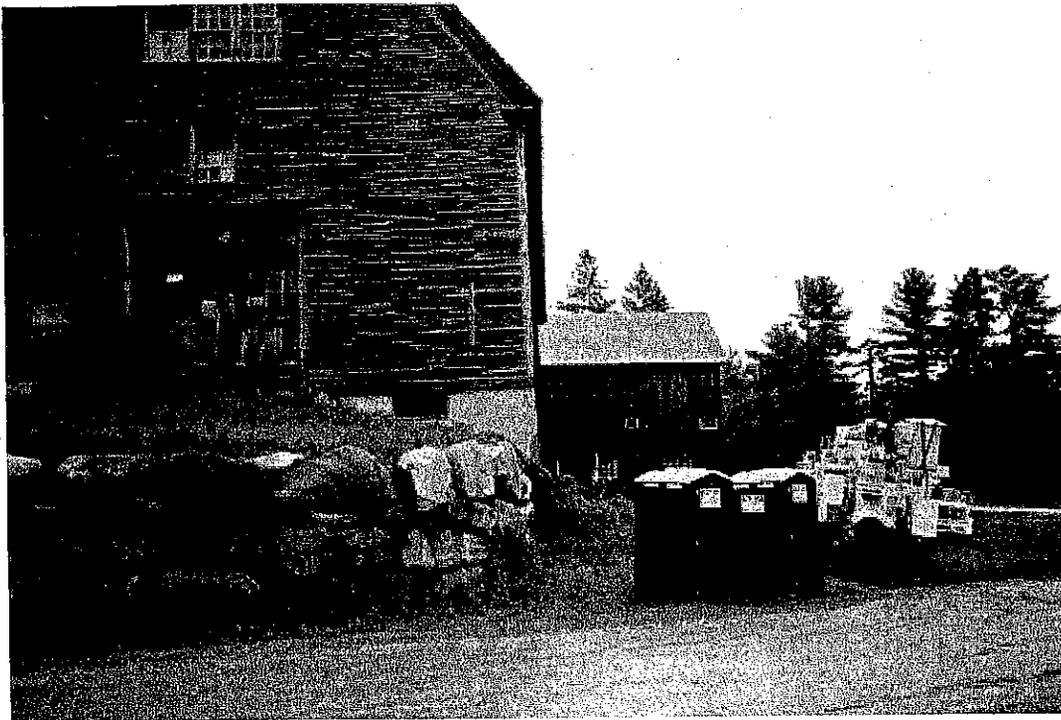
East facing elevation



North facing elevation



West facing elevation



View along west wall showing slight pitch to east

### **Summary**

Because the barn is in good structural condition, repairs should be done to preserve this barn. The water problem is the most immediate threat to achieving this goal.

### **Immediate repairs**

- Adding Y-brace at 3-D.
- Reinserting the post at 3-C into original slot and mechanically stabilize.
- Removing old hay, grain and manure piles.
- Windows should be boarded up and sealed.
- Repair work on cupola: Estimated cost.....\$5,000.
- Replacing the roof: Estimated cost.....\$35,000 – \$40,000.

### **Repairs within next 3 years**

- Spray barn to eliminate Post Beetles (See attached Terminix report). Since winter is close, spraying can be put off until spring.
- Add additional bracing to the frames (2-8).
- Replace the siding.
- Repair rotted beams on the first floor framing.

Barbara Unger  
RE: Houston Barn Study, Report on Findings

11/12/02  
Page 14 of 14

We trust this report helps the committee understand the condition of the Houston Barn, We will be available to meet with you if you so desire.

Sincerely,  
*SFC ENGINEERING PARTNERSHIP, INC.*

Ray S Cowan  
Principal Engineer  
/rsc

Thomas L. Rigg Jr.  
Project Manger  
/tlr

**TERMINIX**

The Nationwide Pest Control Experts

The Terminix International  
Company L. P.  
8 Industrial Way  
Building E, Unit 1  
Salem, NH 03079  
Salem: 603/893-8618  
Fax: 603/894-6105

09/23/99

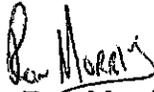
S F C Partnership, Inc.

Re. Property at Houston Rd. Hopkinton N.H.

On 09/21/99 we inspected a barn located between the police station and library. We found evidence of powder post beetle infestation. There was exit holes and frass located in the basement ceiling and first floor. This seemed to be the only area of infestation, probably due to the higher moisture content in the basement. Control of this will require a wood treatment with sodium borate. ( see att. label )

If you have any other questions or would like a quote for treatment please give me a call .

Thank You

  
Ron Morris

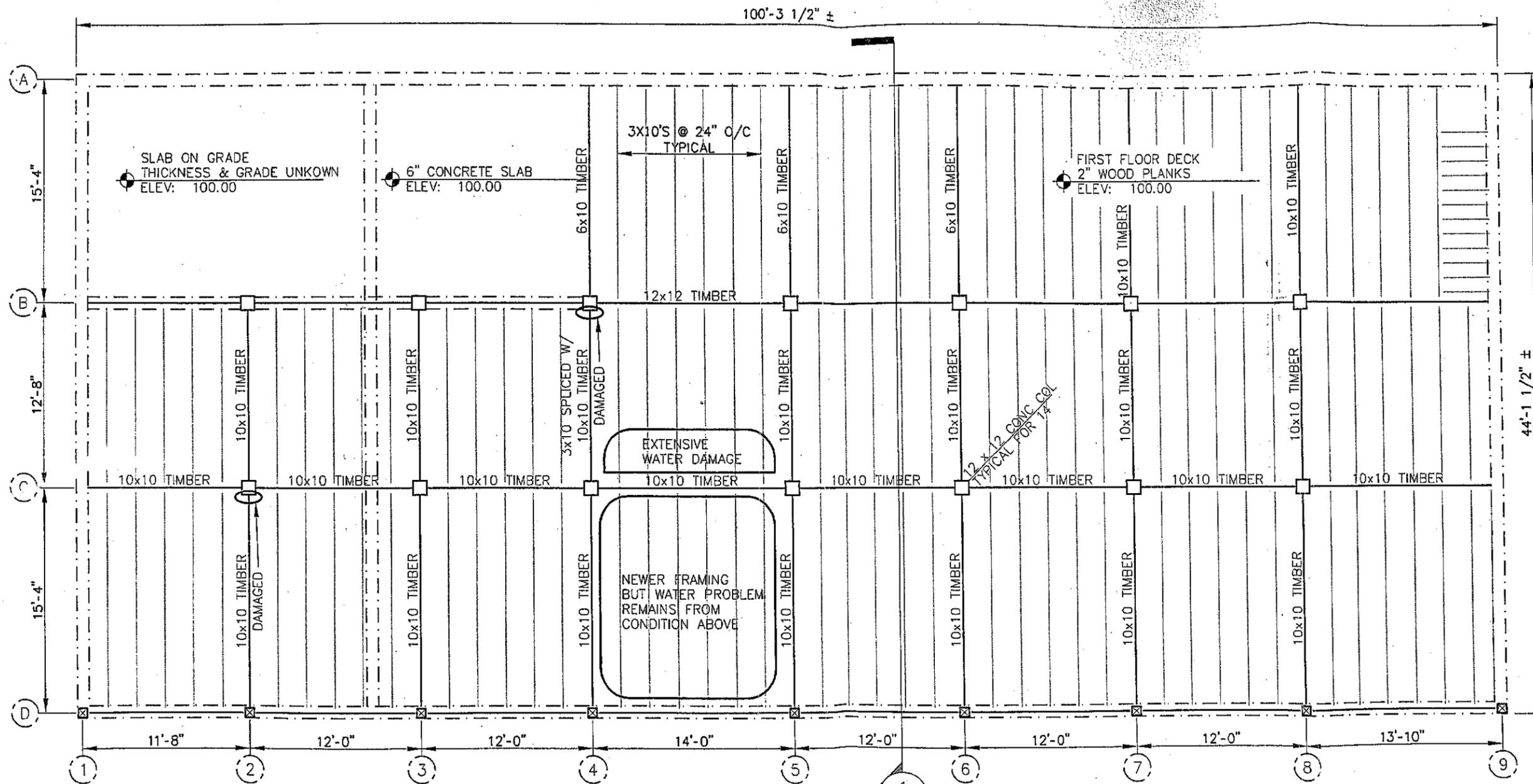
RECEIVED SEP 27 1999



Call 1-800-WE SERVE

ServiceMaster • Terminix • Merry Maids  
TruGreen-ChemLawn • American Home Shirts  
Furniture Medic • AmeriSpec

PROJECT NORTH



1  
S1  
FIRST FLOOR FRAMING  
1/8" = 1'-0"

**SFC ENGINEERING PARTNERSHIP INC.**  
 25 SUNDIAL AVE., SUITE 205W  
 MANCHESTER, NH 03103-7230  
 TEL 603-647-8700  
 FAX 603-647-8711

EXISTING  
CONDITIONS

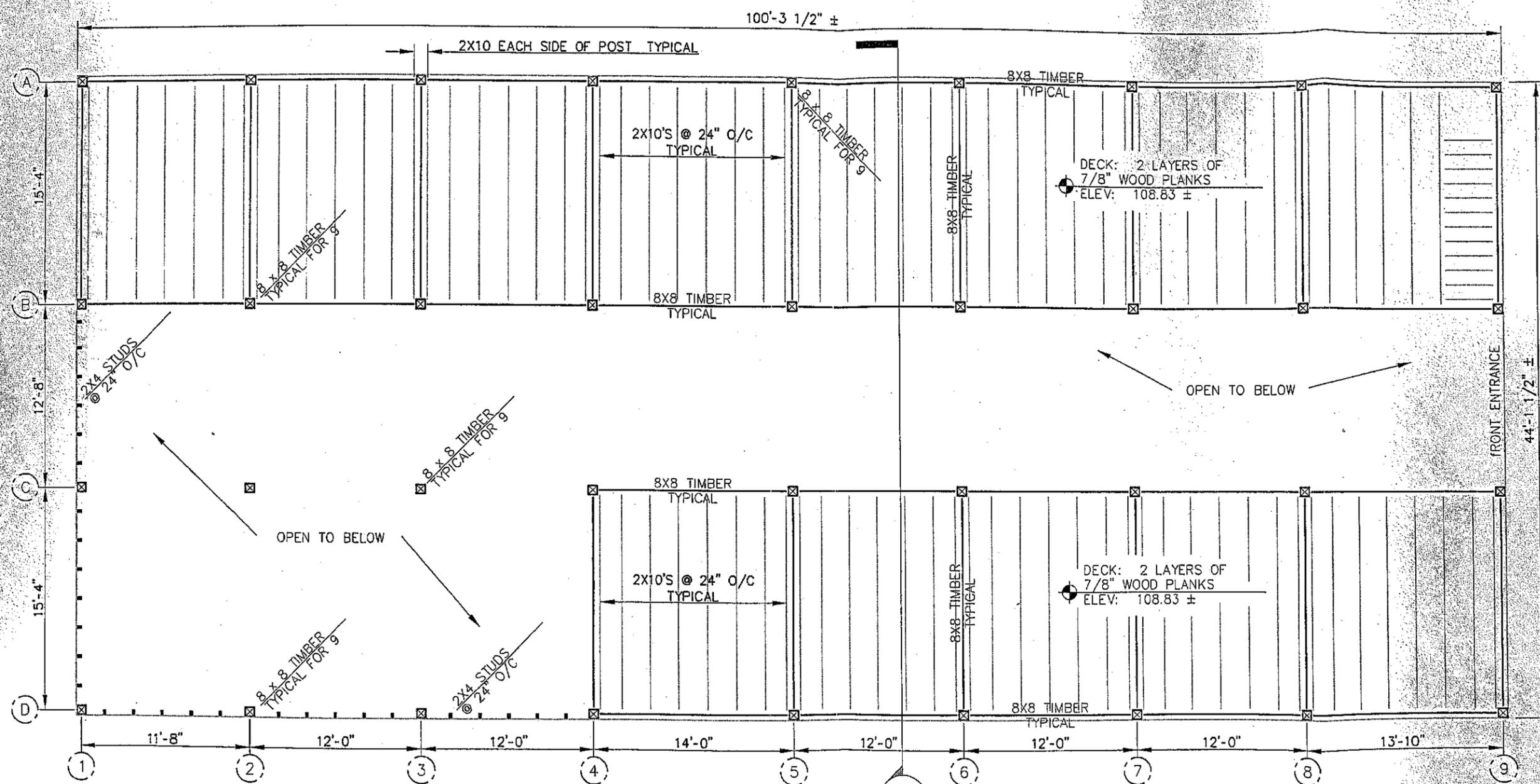
TOWN OF HOPKINTON  
HOUSTON BARN  
HOUSTON DRIVE

DATE:	23-SEPT-99
SCALE:	1/8" = 1'
DESIGN BY:	
DRAWN BY:	TLR
CHECKED BY:	
PROJECT NO.:	257201
DRAWING FILE:	257201S1

S1

I:\257201\DRAWINGS\257201S1.DWG 09/23/99 12:16

F:\257201\DRAWINGS\257201S1.DWG 09/23/99 12:17



1  
S2

**HAYLOFT FRAMING**

1/8" = 1'-0"

**SFC ENGINEERING PARTNERSHIP INC.**  
 25 SUNDIAL AVE., SUITE 205W  
 MANCHESTER, NH 03103-7230  
 TEL 603-647-8700  
 FAX 603-647-8711

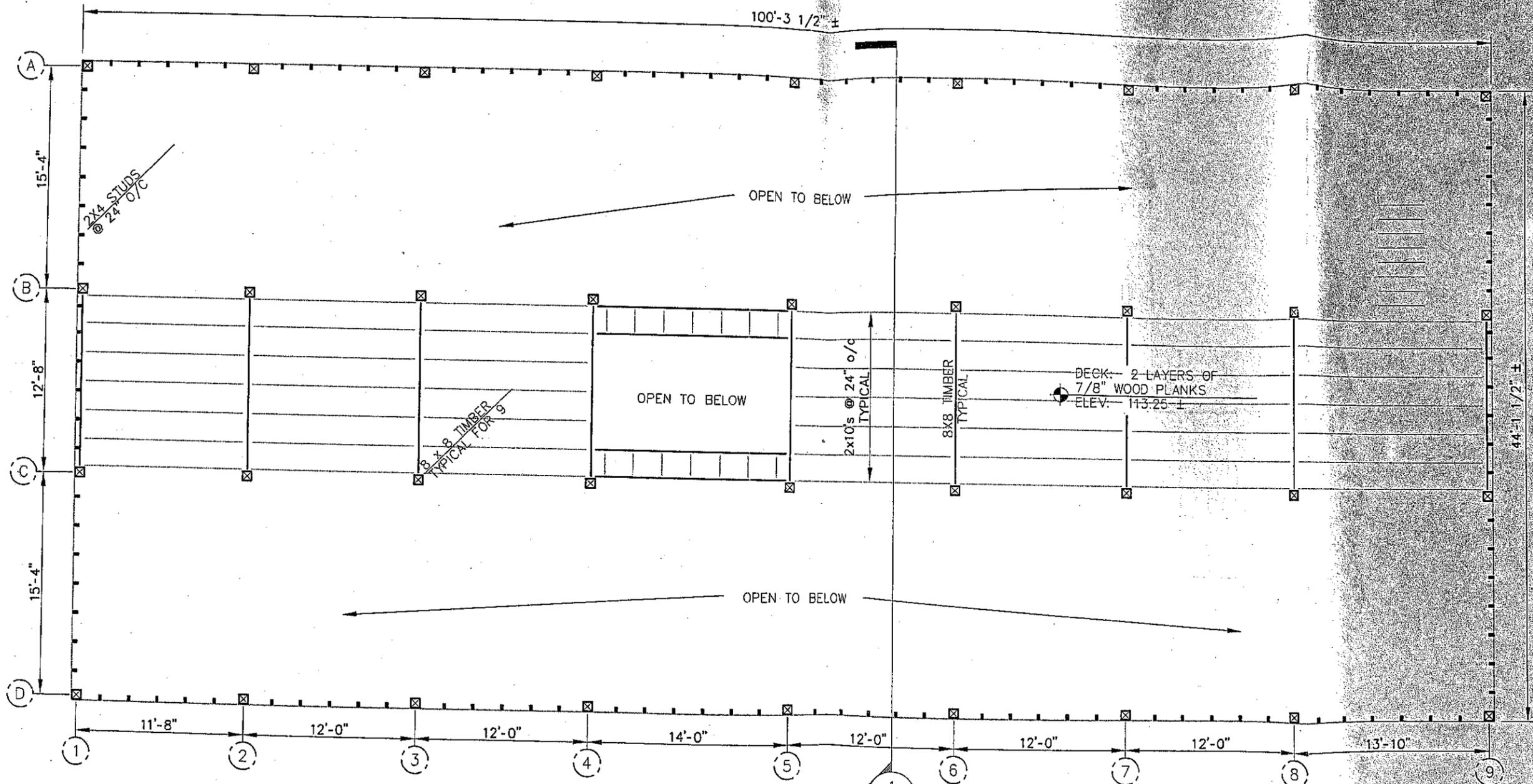
**EXISTING CONDITIONS**

**TOWN OF HOPKINTON  
 HOUSTON BARN  
 HOUSTON DRIVE**

DATE:	23-SEPT-99
SCALE:	1/8" = 1'
DESIGN BY:	
DRAWN BY:	TLR
CHECKED BY:	
PROJECT NO.:	257201
DRAWING FILE:	257201S1

**S2**

I:\257201\DRAWINGS\257201S1.DWG 09/23/99 12:16



1  
S3  
CENTER LOFT FRAMING  
1/8" = 1'-0"

**SFC ENGINEERING PARTNERSHIP INC.**  
 25 SUNDIAL AVE., SUITE 205W  
 MANCHESTER, NH 03103-7230  
 TEL 603-647-8700  
 FAX 603-647-8711

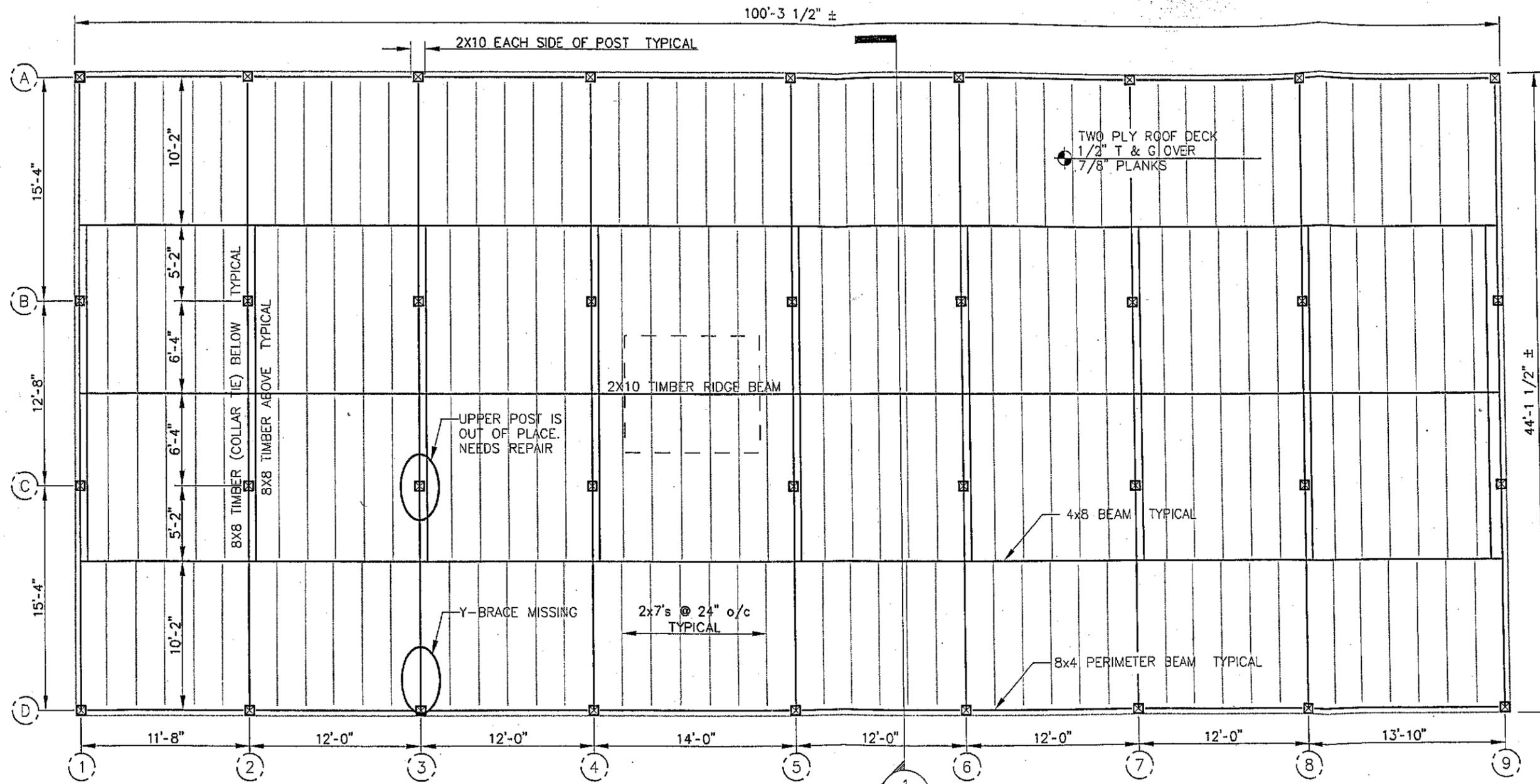
EXISTING  
 CONDITIONS

TOWN OF HOPKINTON  
 HOUSTON BARN  
 HOUSTON DRIVE

DATE:	23-SEPT-99
SCALE:	1/8" = 1'
DESIGN BY:	
DRAWN BY:	TLR
CHECKED BY:	
PROJECT NO.:	257201
DRAWING FILE:	257201S1

S3

P:\257201\DRAWINGS\257201S1.DWG 09/23/99 12:16



1  
S4

ROOF FRAMING

1/8" = 1'-0"

**SFC ENGINEERING PARTNERSHIP INC.**  
 25 SUNDIAL AVE., SUITE 205W  
 MANCHESTER, NH 03103-7230  
 TEL 603-647-8700  
 FAX 603-647-8711

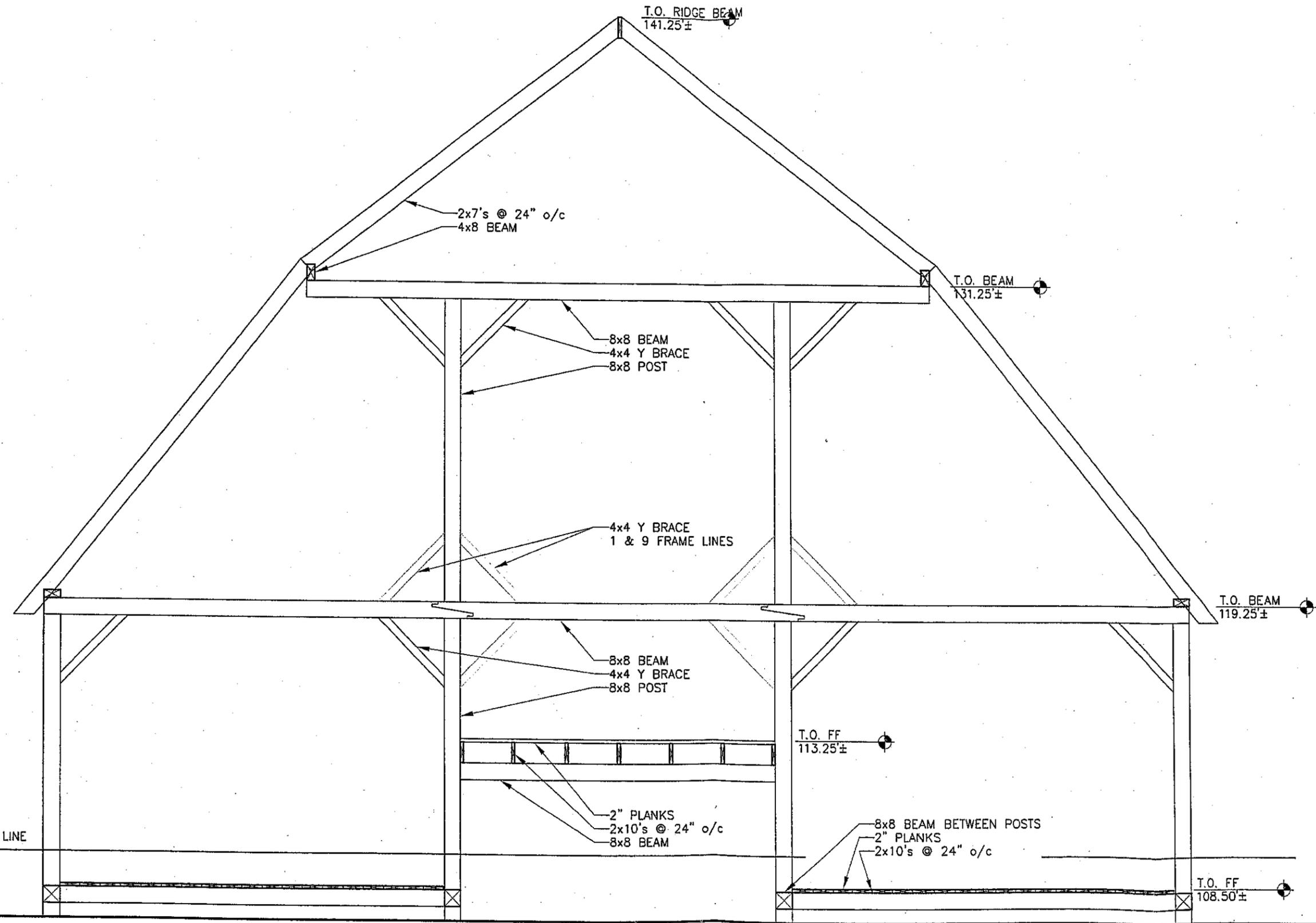
**EXISTING CONDITIONS**

**TOWN OF HOPKINTON  
 HOUSTON BARN  
 HOUSTON DRIVE**

DATE: 23-SEPT-99  
 SCALE: 1/8" = 1'  
 DESIGN BY:  
 DRAWN BY: TLR  
 CHECKED BY:  
 PROJECT NO.: 257201  
 DRAWING FILE: 257201S1

**S4**

I:\257201\DRAWINGS\257201S1.DWG 09/23/99 12:16



**SFC ENGINEERING PARTNERSHIP INC.**  
 25 SUNDIAL AVE., SUITE 205W  
 MANCHESTER, NH 03103-7230  
 TEL 603-647-8700  
 FAX 603-647-8711

**EXISTING  
 CONDITIONS  
 SECTION**

**TOWN OF HOPKINTON  
 HOUSTON BARN  
 HOUSTON DRIVE**

DATE:	23-SEPT-99
SCALE:	1/8" = 1'
DESIGN BY:	
DRAWN BY:	TLR
CHECKED BY:	
PROJECT NO.:	257201
DRAWING FILE:	257201S1

**S5**

F:\257201\DRAWINGS\257201S1.DWG 09/23/99 12:16

MATCH LINE

8x8 BEAM  
4x4 Y BRACE  
8x8 POST

T.O. FF  
113.25±

2" PLANKS  
2x10's @ 24" o/c  
8x8 BEAM

8x8 BEAM BETWEEN POSTS  
2" PLANKS  
2x10's @ 24" o/c

T.O. FF  
108.50±

8x10 BEAM CONTINUOUS

10x10 BEAM CONTINUOUS

8x10 BEAM CONTINUOUS  
12x12 BEAM CONTINUOUS  
2" PLANKS  
3x10's @ 24" o/c

T.O. FF  
100.00

8x8 POST  
8x8 SILL BEAM  
10" CONCRETE WALL

T.O. WALL  
92.00±

12x12 CONCRETE COLUMN

10" CONCRETE WALL  
LARGE STONES & MORTAR

BASEMENT FF  
VARIES



**SFC ENGINEERING PARTNERSHIP INC.**  
25 SUNDIAL AVE., SUITE 205W  
MANCHESTER, NH 03103-7230  
TEL. 603-647-8700  
FAX 603-647-8711

**EXISTING  
CONDITIONS  
SECTION**

**TOWN OF HOPKINTON  
HOUSTON BARN  
HOUSTON DRIVE**

DATE:	23-SEPT-99
SCALE:	1/8" = 1'
DESIGN BY:	
DRAWN BY:	TLR
CHECKED BY:	
PROJECT NO.:	257201
DRAWING FILE:	257201S1

**S6**