Appendix A – Plans of Usher Mill Site and Buildings

Route 2

Boston & Maine Railroad

Loading Dock

Building 6: Warehouse

Area: 17500 square ft. (excluding loading dock and ramps), 1 floor over open basement

Structure: Heavy-timber post-and-beam, light wooden floor and roof joists
Foundation: Concrete column grid in mud crawl space
Floors: Heavy-timber beams N-S, ligt-frame joists E-W, decking, steel plates
Walls: Corrugated steel over wood frame with boards (windowless)
Roof: Wooden beams N-S (partly steel reinforced), light-frame joists, flat roof, skylights

Kiln

Building 4: Kiln

Area: 17800 square ft. (excluding loading docks and ramps), 1 floor

Structure: Masonry walls, steel posts, wooden beams and joists
Foundation: Concrete slab-on-grade (assumed)
Floors: Concrete
Walls: Masonry (windowless)
Roof: Wooden beams, flat roof

Building 3: Boiler House

Area: 7400 square ft., 1 floor (varying levels)

Structure: Masonry walls, steel trusses
Foundation: Concrete slab-on-grade / machine foundations (assumed)
Floors: Concrete
Walls: Masonry, windows (partly enclosed with masonry)
Roof: Steel Pratt trusses E-W, cementitious plates, skylights

Building 7: Gymnasium

Area: 3000 square ft., 1 floor

Structure: Steel beams, existing masonry walls; Foundation: Concrete slab-on-ground; Walls: Building 1 (E), Building 3 (W); Roof: Decking, flat roof

Building 1: Office

Area: 12000 square ft. (excl. loading dock), 2 floors over enclosed basement

Structure: Heavy-timber post-and-beam, masonry walls
Foundation: Concrete columns
Floors: Heavy-timber beam grid, decking
Walls: Masonry, windows (partly masonry enclosed)
Roof: Heavy-timber rafters, decking, flat roof, skylights

Arch St.

Building 5: Atrium

Area: 5300 square ft., 1 floor

Structure: Light steel trusses, existing walls, steel/aluminum walls
Foundation: Concrete slab-on-ground (assumed); Walls: Building 2 (S), steel/aluminum walls / Building 1+3 (N); Roof: Open-web parallel chord steel trusses, corrugated steel, flat roof

Kiln

Building 2: Office

Area: 24000 square ft., 2 floors over enclosed basement

Structure: Heavy-timber post-and-beam, masonry walls
Foundation: Concrete columns, masonry
Floors: Heavy-timber beam grid, decking
Walls: Masonry, windows (partly enclosed with masonry)
Roof: Heavy-timber rafters, decking, flat roof, skylights

Building North

N

Summary:

Total Area: 69,000 square ft.
Floor Area: 87,000 square ft.
Total Enclosed Space: 1,340,000 cubic ft.
(Excl. loading docks and ramps)

Miller's River

Notes:

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2) Exterior building dimensions have been estimated from interior measurements
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5) SYP = Southern Yellow Pine

10 30 50 Feet
20 40 100

Erving Mill Site

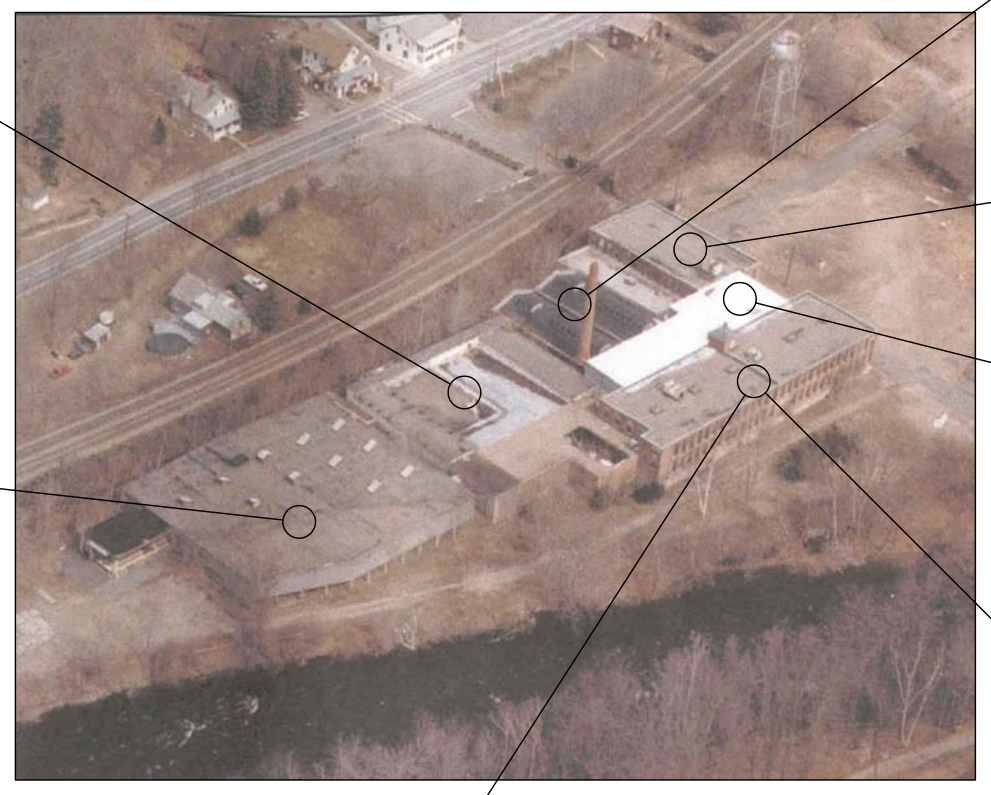
Overview of Buildings

SIZE	17" x 11"	SCALE	1/32" = 1'	SHEET	1
DRAWN BY	A. Schreyer	DATE	8/8/2003		

Building 4 - Kiln

Building 3 - Boiler House

Buildings 1/2 - Offices/Manufacturing



Building 6 - Warehouse

Building 2 - Manufacturing

Building 2 - Offices/Manufacturing

Building 5 - Atrium

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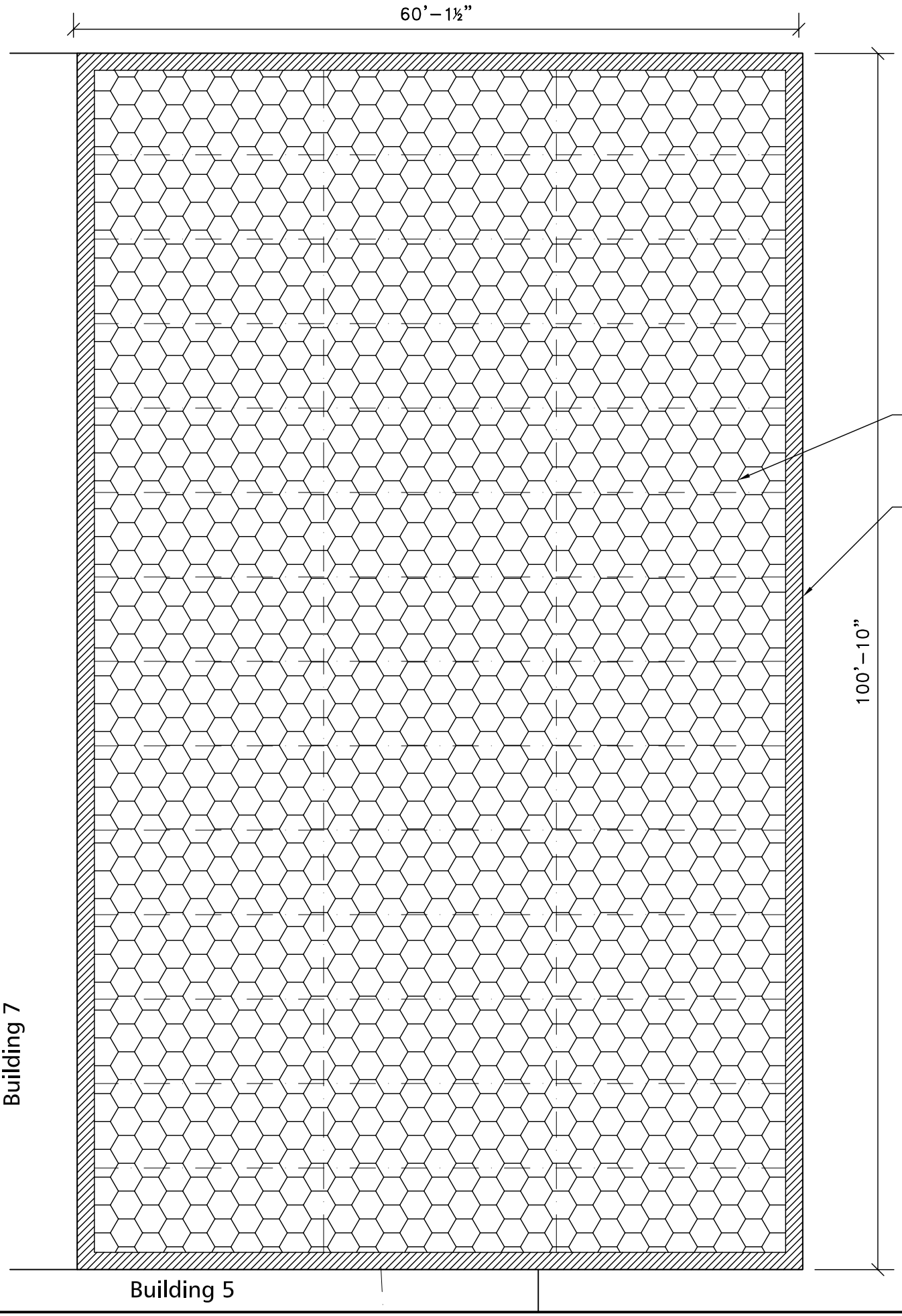
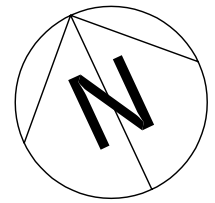
Erving Mill Site

Overview - Images

SIZE	17" x 11"	SCALE	NTS	SHEET	2
DRAWN BY	A. Schreyer	DATE	8/8/2003		





Area not surveyed.
See Building 2 for similar basement information.

Concrete perimeter wall
with small openings

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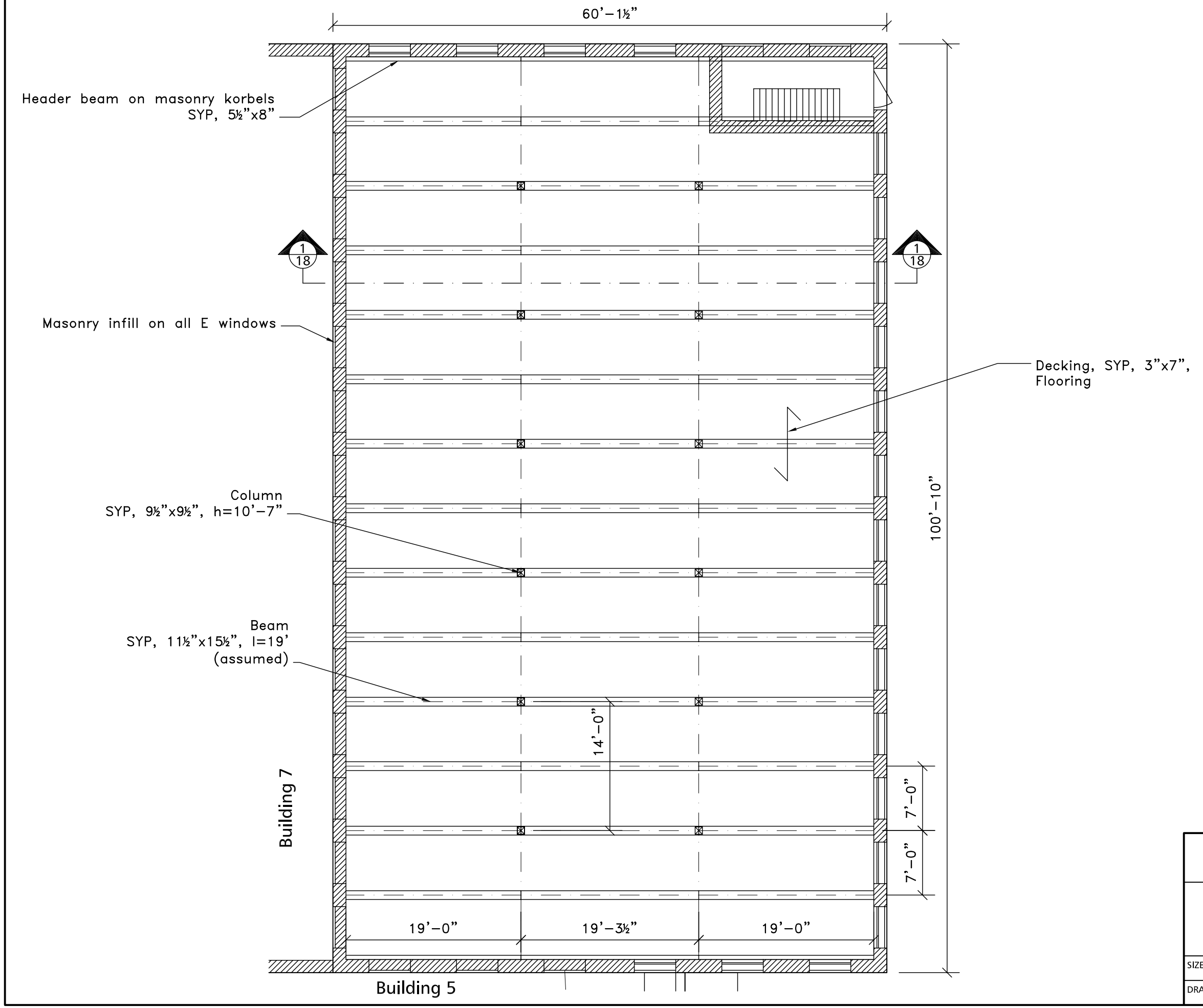
Erving Mill Site

Building 1 - Basement

SIZE	17" x 11"	SCALE	3/32" = 1'	SHEET 3
DRAWN BY	A. Schreyer	DATE	8/8/2003	



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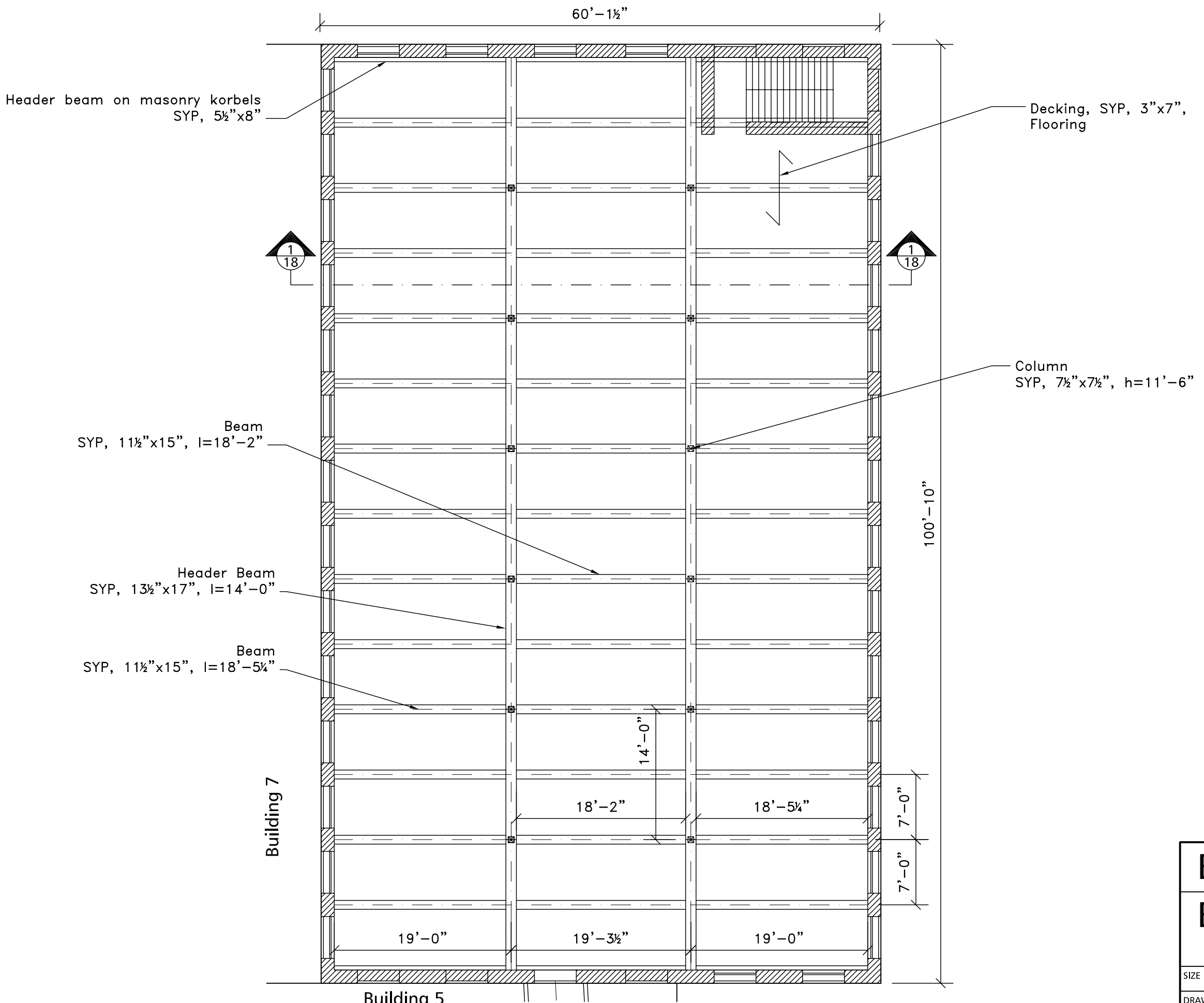
Erving Mill Site

Building 1 - 1st Floor

SIZE	17" x 11"	SCALE	3/32" = 1'	SHEET 4
DRAWN BY	A. Schreyer	DATE	8/8/2003	



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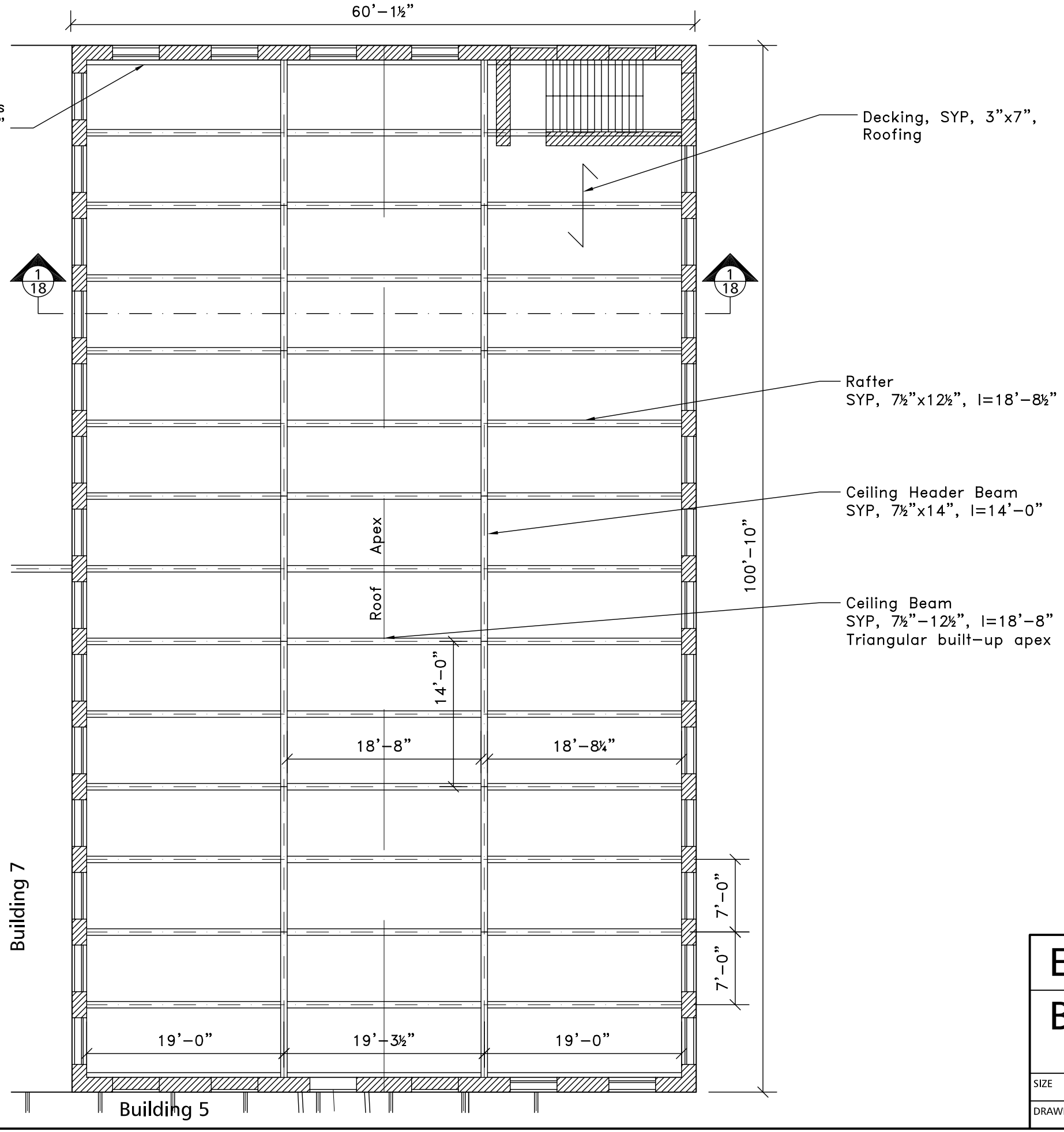
Erving Mill Site

Building 1 - 2nd Floor

SIZE	17" x 11"	SCALE	3/32" = 1'	SHEET 5
DRAWN BY	A. Schreyer	DATE	8/8/2003	



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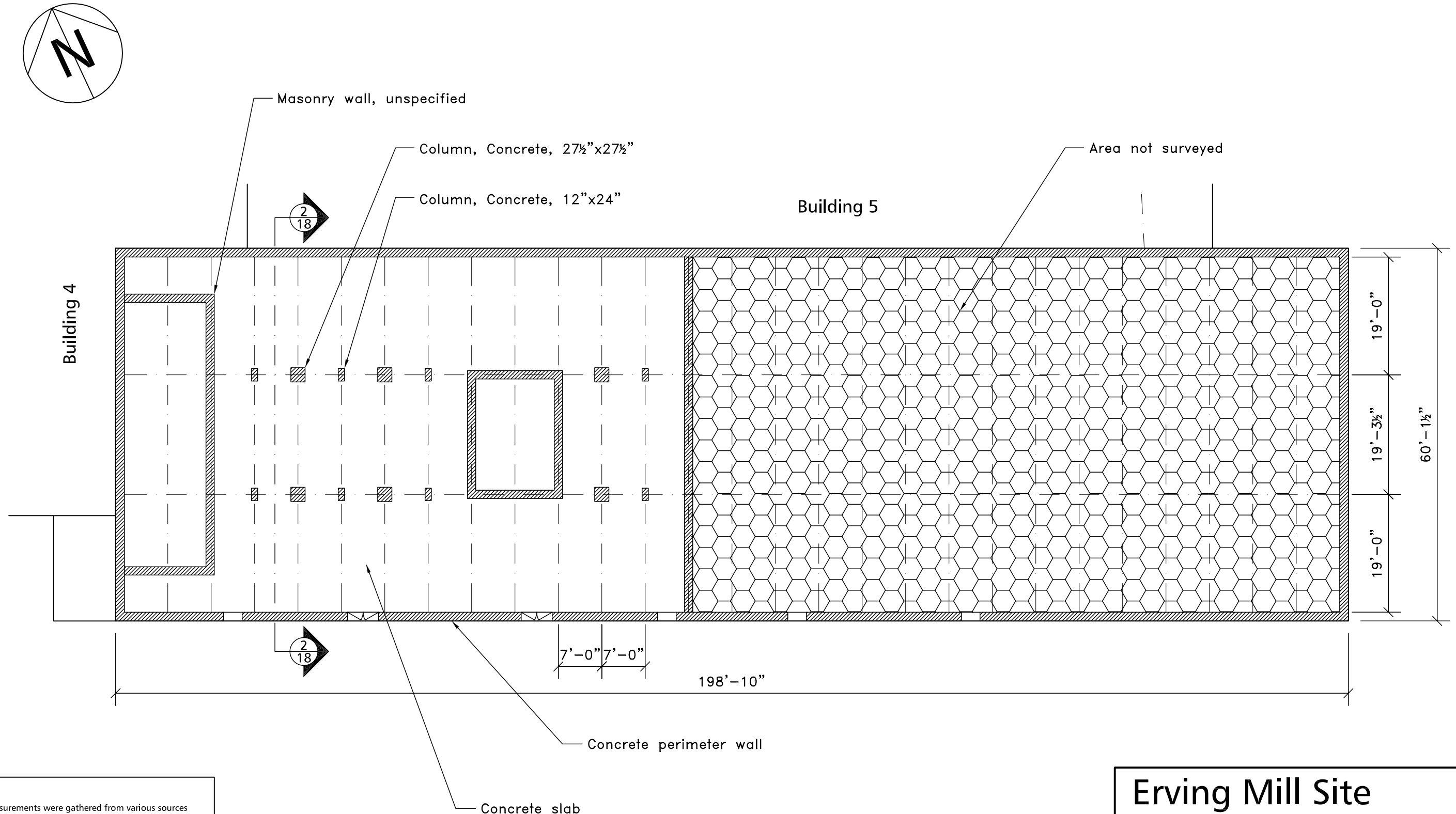
Erving Mill Site

Building 1 - Roof

SIZE	17" x 11"	SCALE	3/32" = 1'	SHEET 6
DRAWN BY	A. Schreyer	DATE	8/8/2003	



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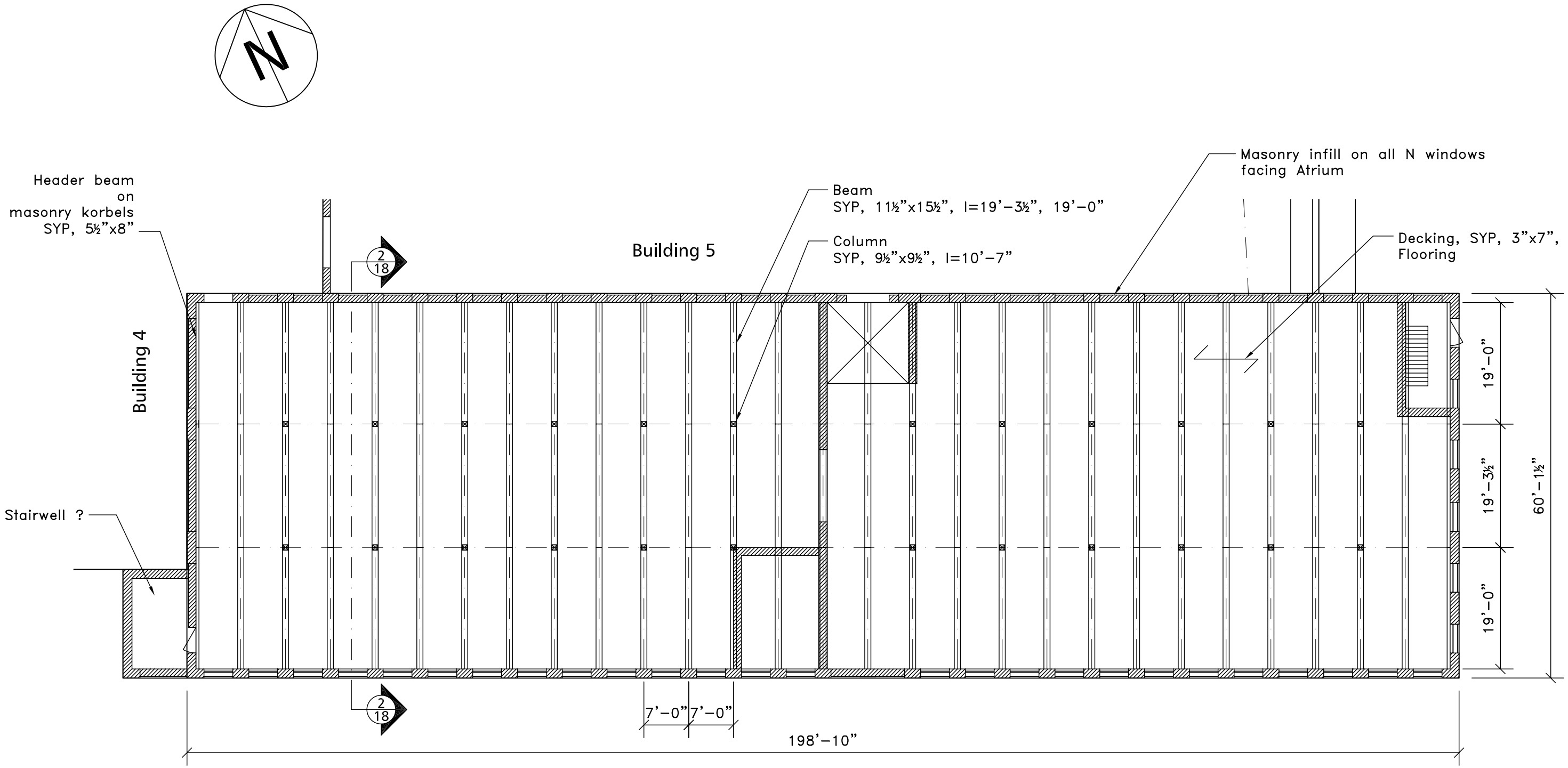
Erving Mill Site

Building 2 - Basement

SIZE	17" x 11"	SCALE	1/16" = 1'	SHEET	7
DRAWN BY	A. Schreyer	DATE	8/8/2003		



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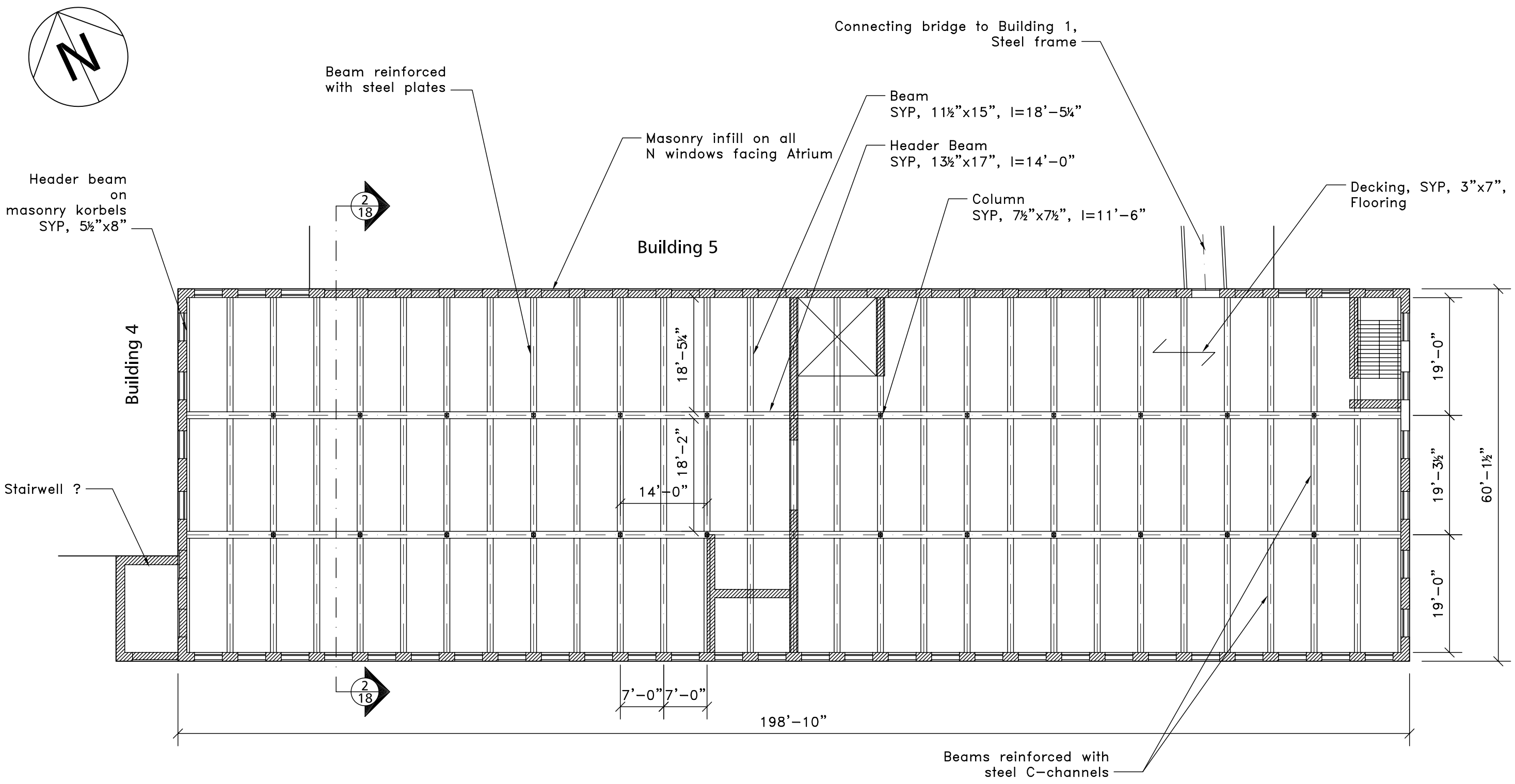
Erving Mill Site

Building 2 - 1st Floor

SIZE	17" x 11"	SCALE	1/16" = 1'	SHEET 8
DRAWN BY	A. Schreyer	DATE	8/8/2003	



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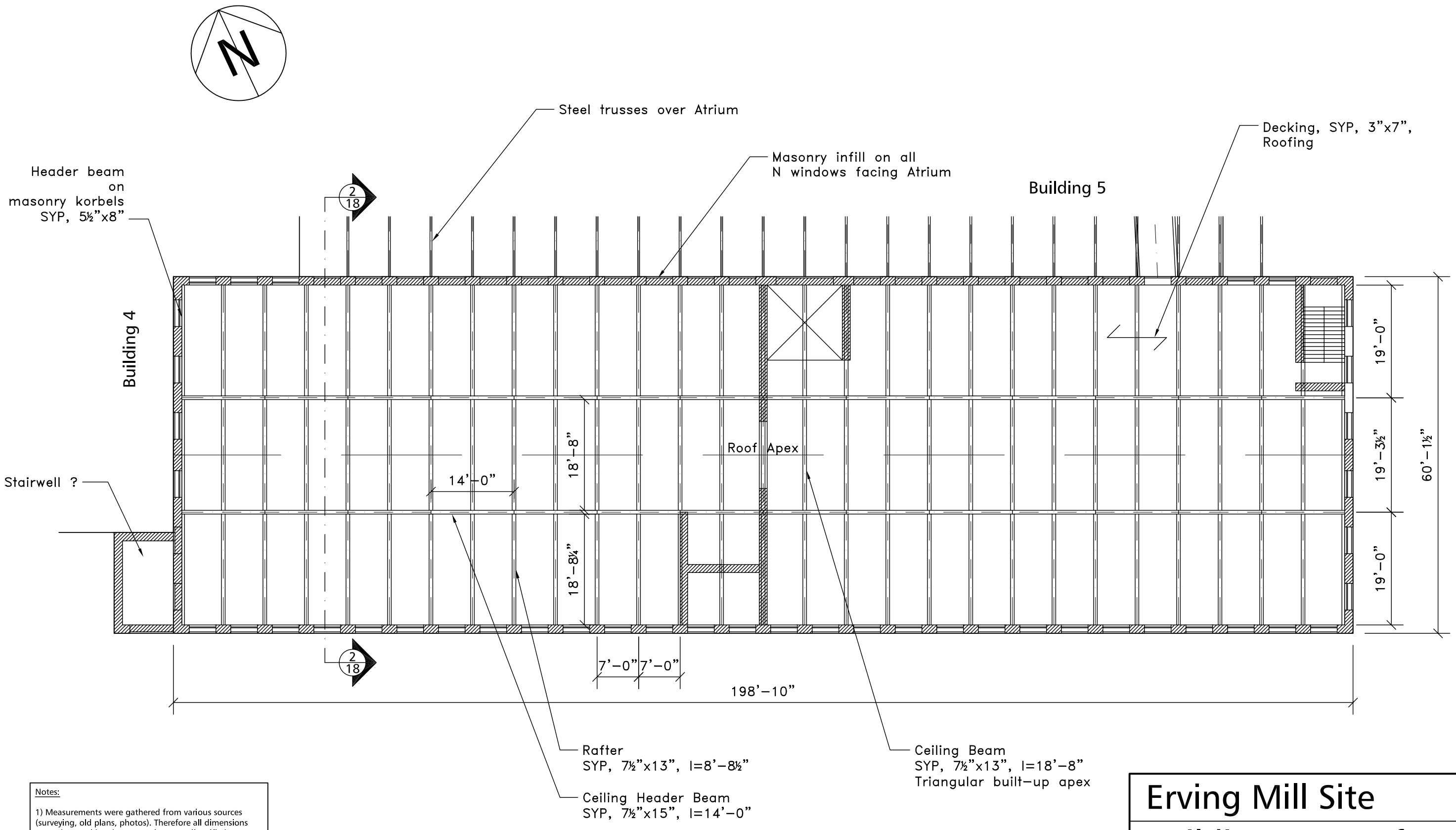
Erving Mill Site

Building 2 - 2nd Floor

SIZE	17" x 11"	SCALE	1/16" = 1'	SHEET 9
DRAWN BY	A. Schreyer	DATE	8/8/2003	



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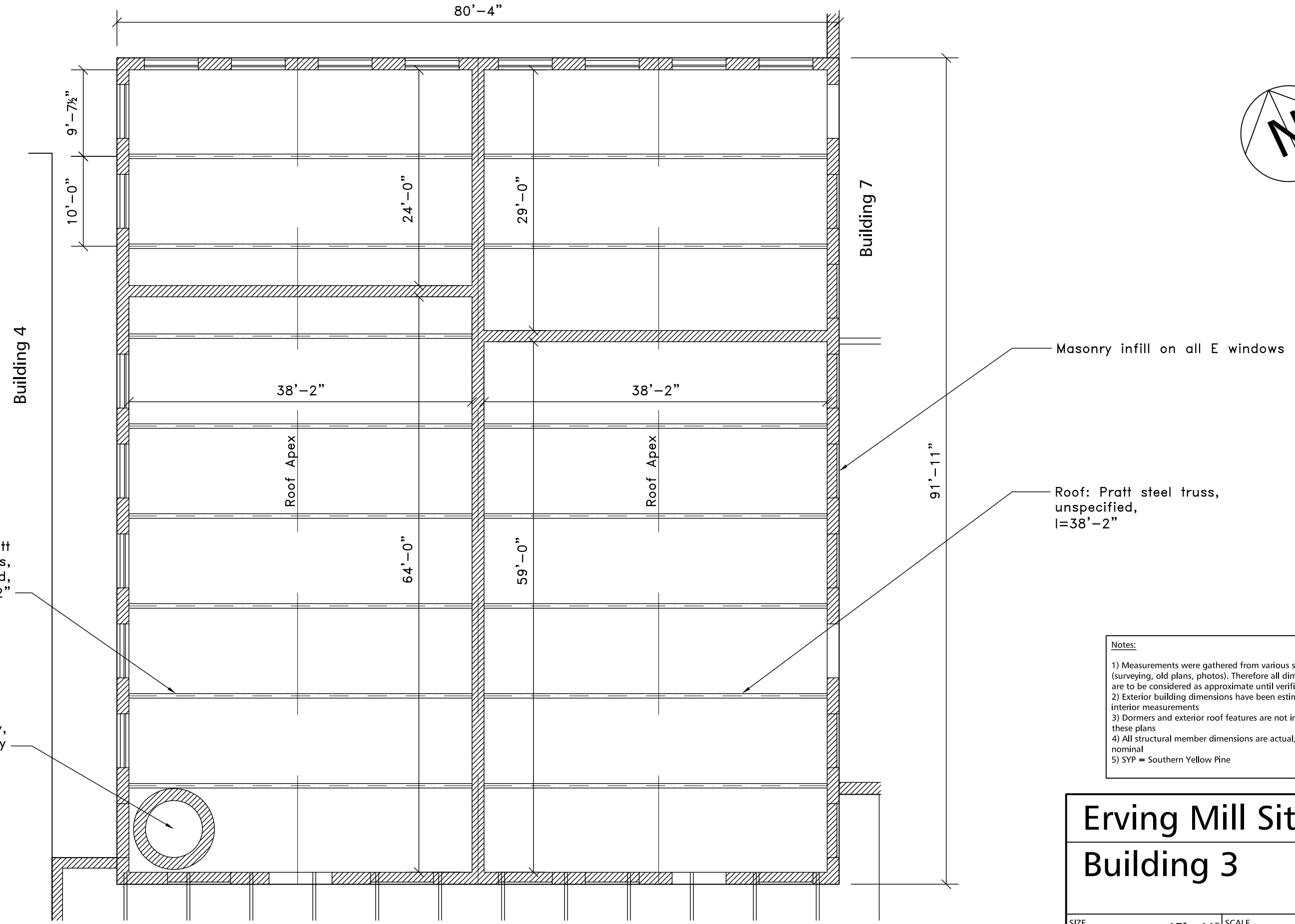
Erving Mill Site

Building 2 - Roof

SIZE	17" x 11"	SCALE	1/16" = 1'	SHEET	10
DRAWN BY	A. Schreyer	DATE	8/8/2003		



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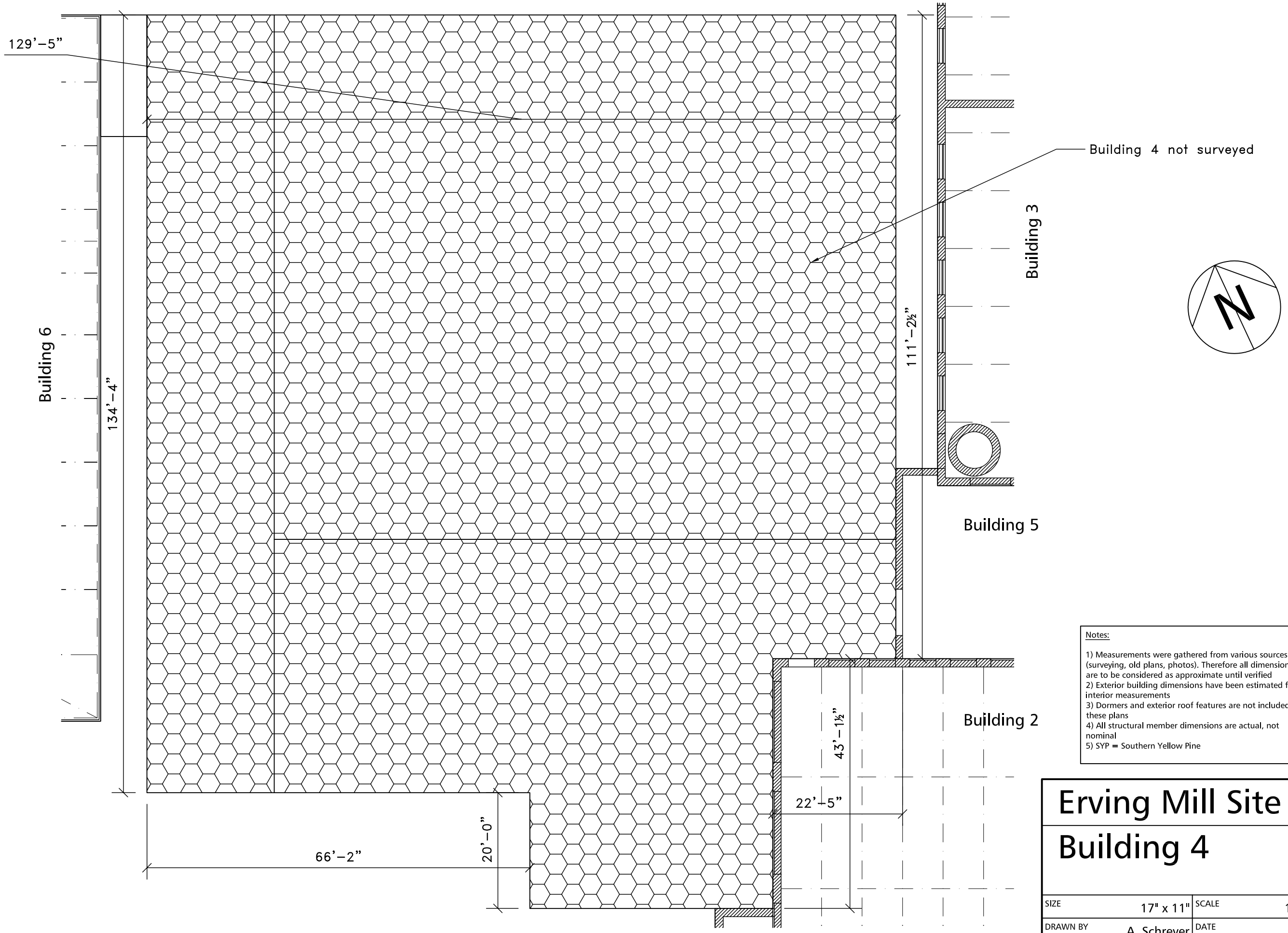
Erving Mill Site

Building 3

SIZE	17" x 11"	SCALE	3/32" = 1'	SHEET	11
DRAWN BY	A. Schreyer	DATE	8/8/2003		



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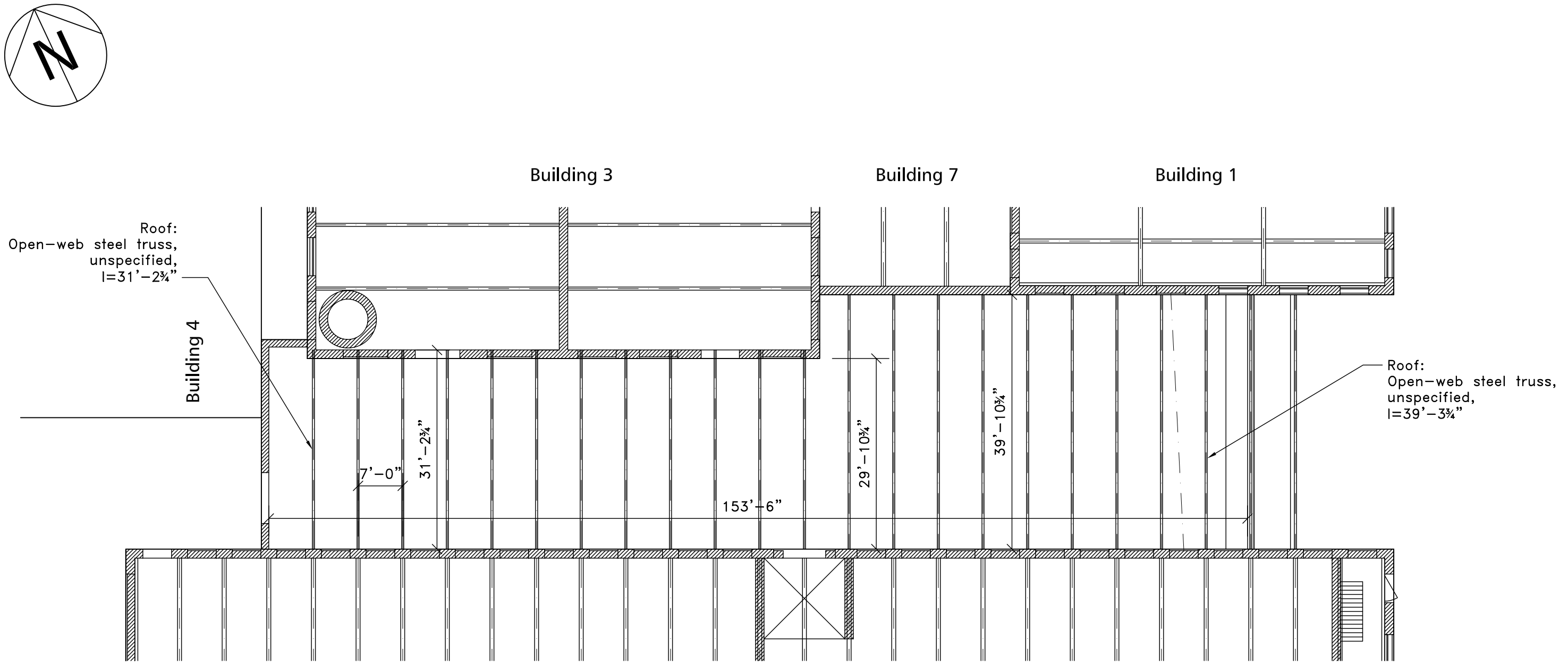
Erving Mill Site

Building 4

SIZE	17" x 11"	SCALE	1/16" = 1'	SHEET	12
DRAWN BY	A. Schreyer	DATE	8/8/2003		



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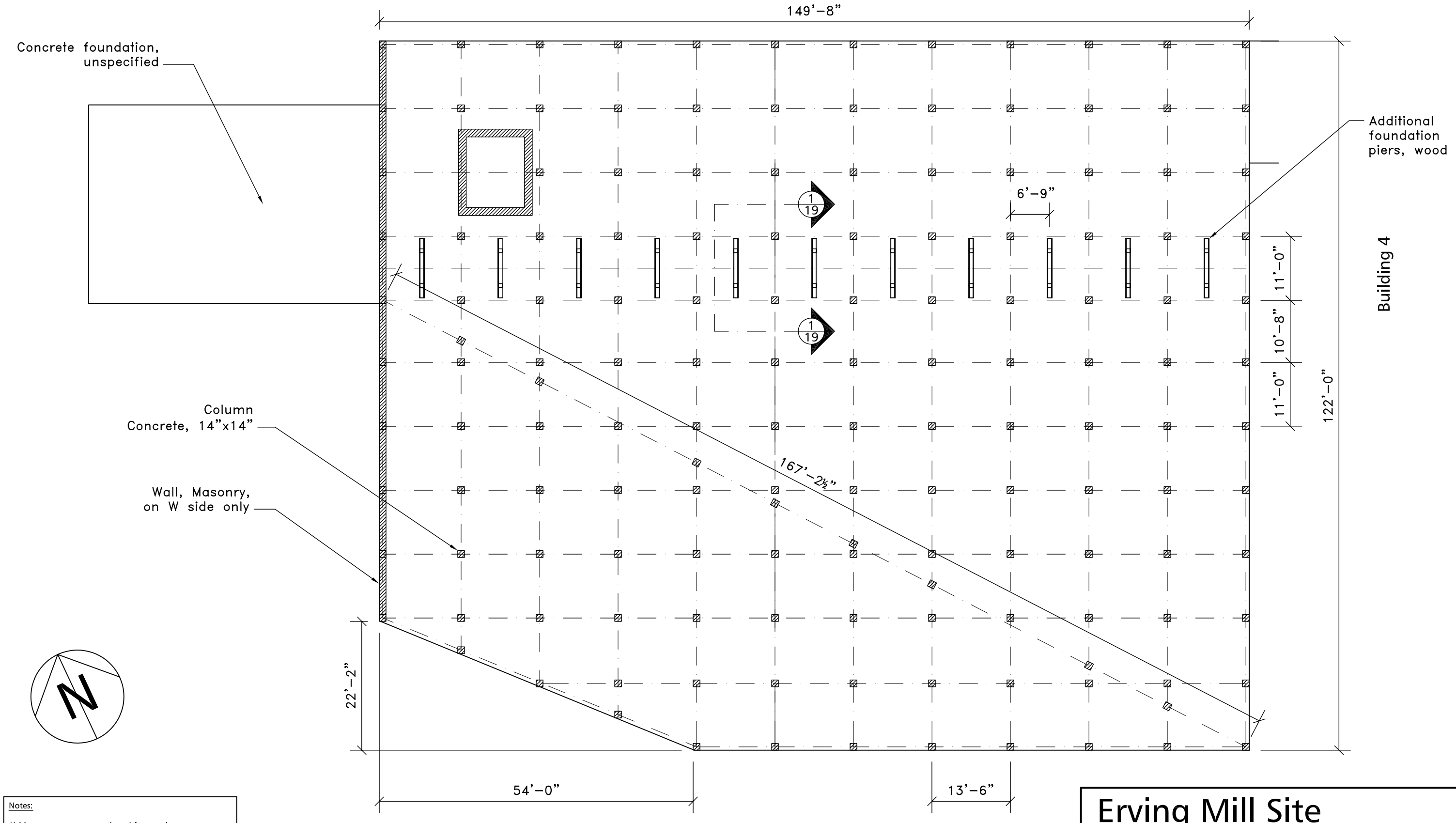
Erving Mill Site

Building 5

SIZE	17" x 11"	SCALE	1/16" = 1'	SHEET	13
DRAWN BY	A. Schreyer	DATE	8/8/2003		



Notes:

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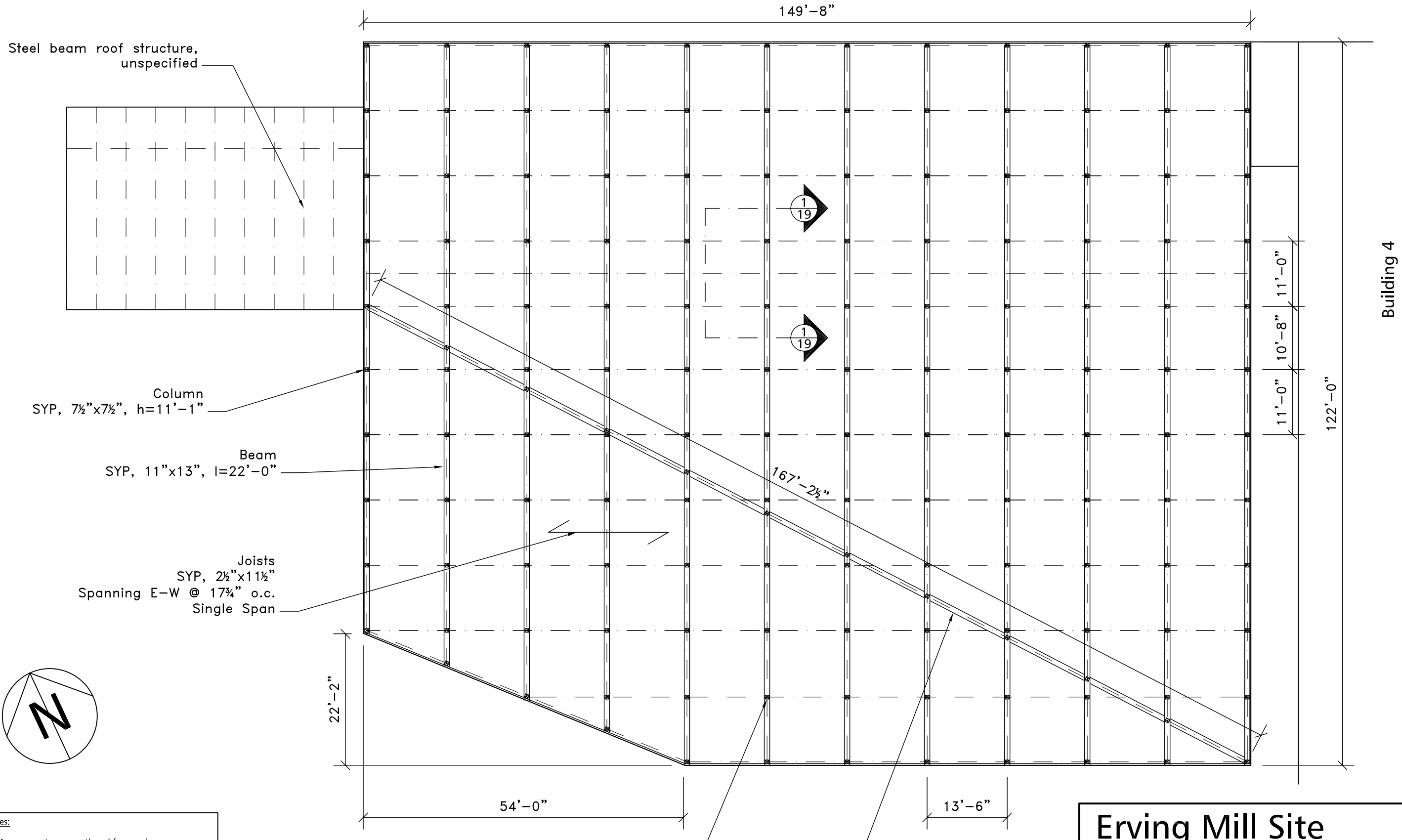
Erving Mill Site

Building 6 - Basement

SIZE	17" x 11"	SCALE	1/16" = 1'	SHEET	14
DRAWN BY	A. Schreyer	DATE	8/8/2003		



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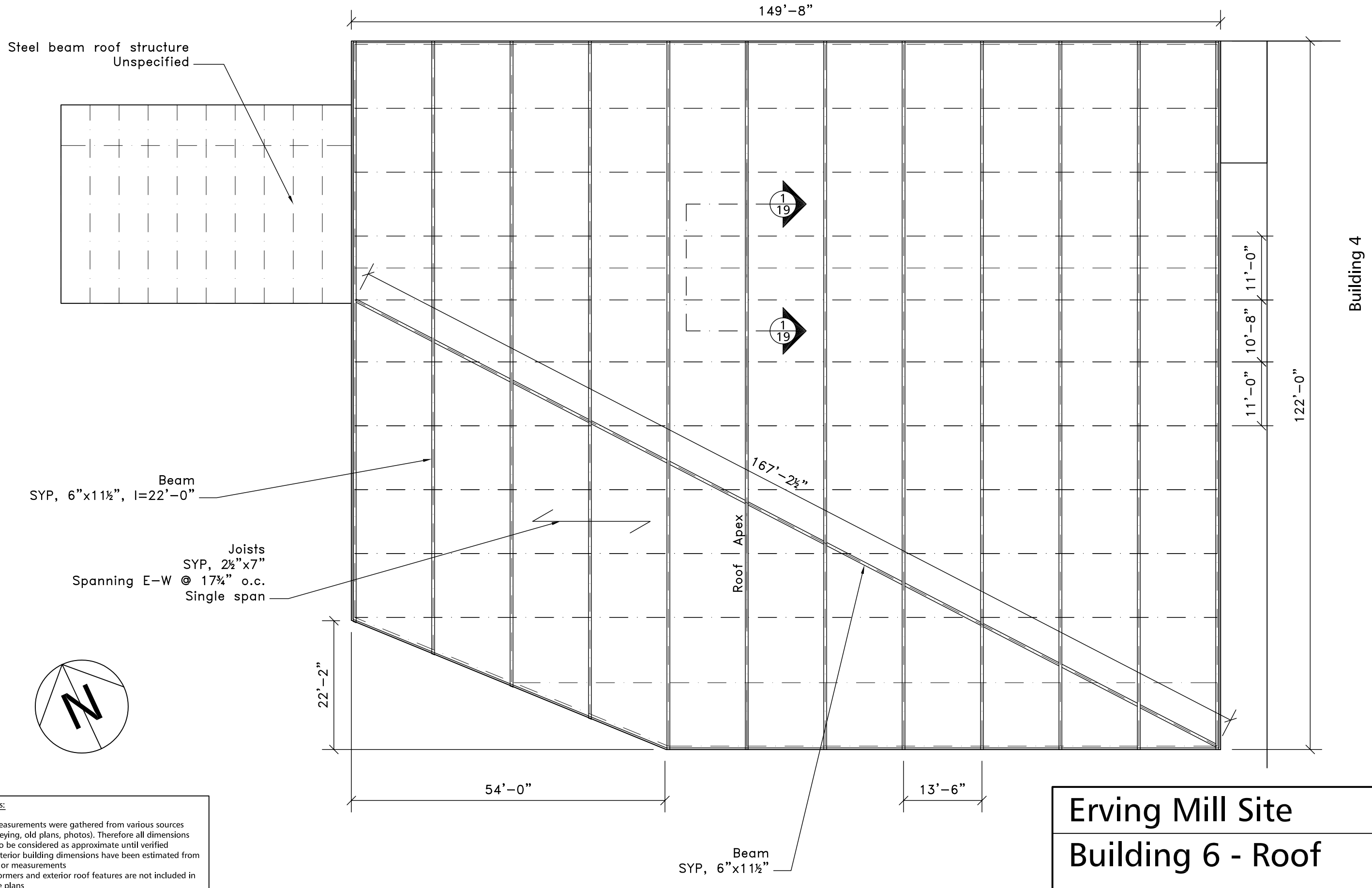
Erving Mill Site

Building 6 - 1st Floor

SIZE	17" x 11"	SCALE	1/16" = 1'	SHEET	15
DRAWN BY	A. Schreyer	DATE	8/8/2003		



Notes:

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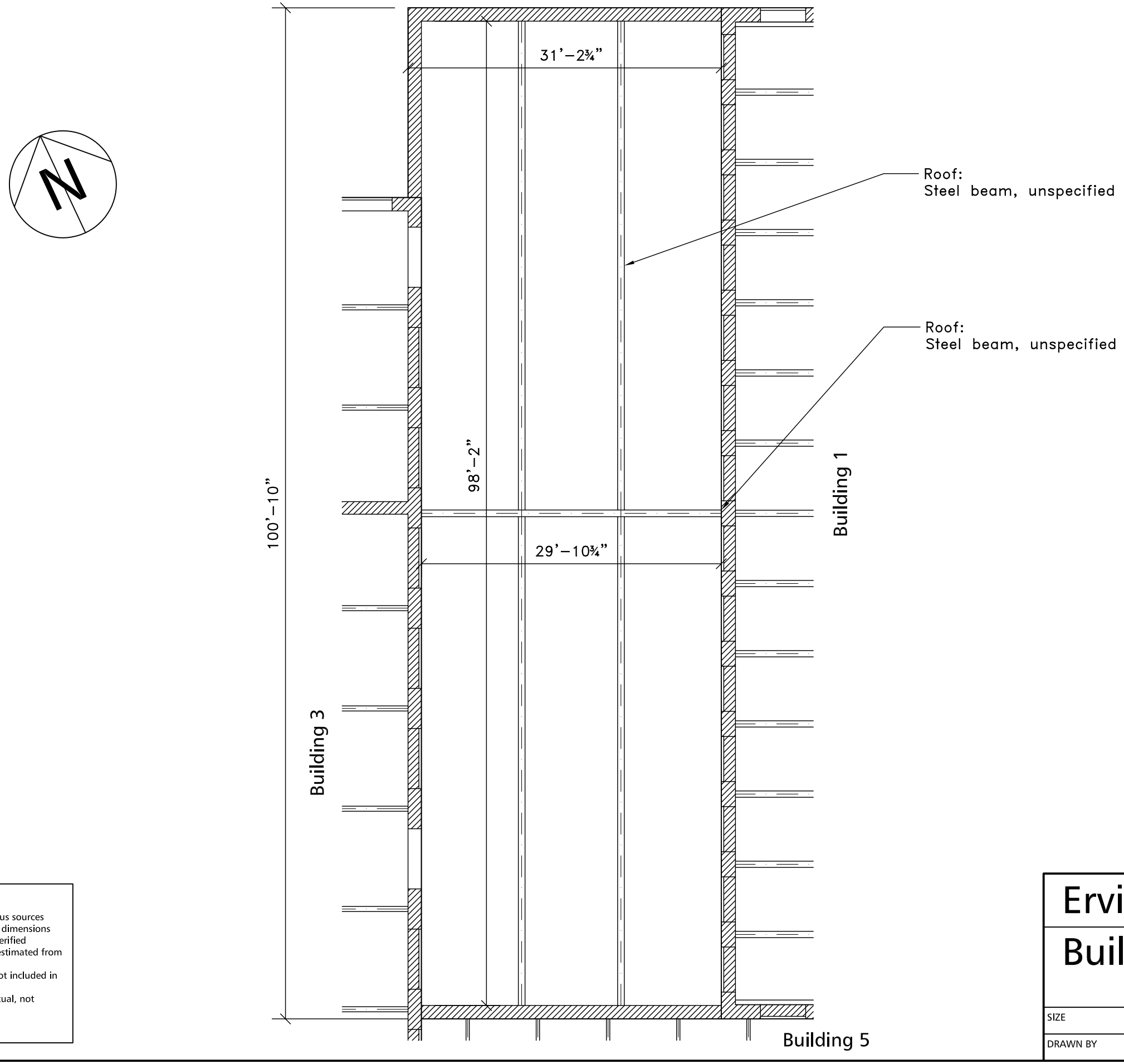
Erving Mill Site

Building 6 - Roof

SIZE	17" x 11"	SCALE	1/16" = 1'	SHEET 16
DRAWN BY	A. Schreyer	DATE	8/8/2003	



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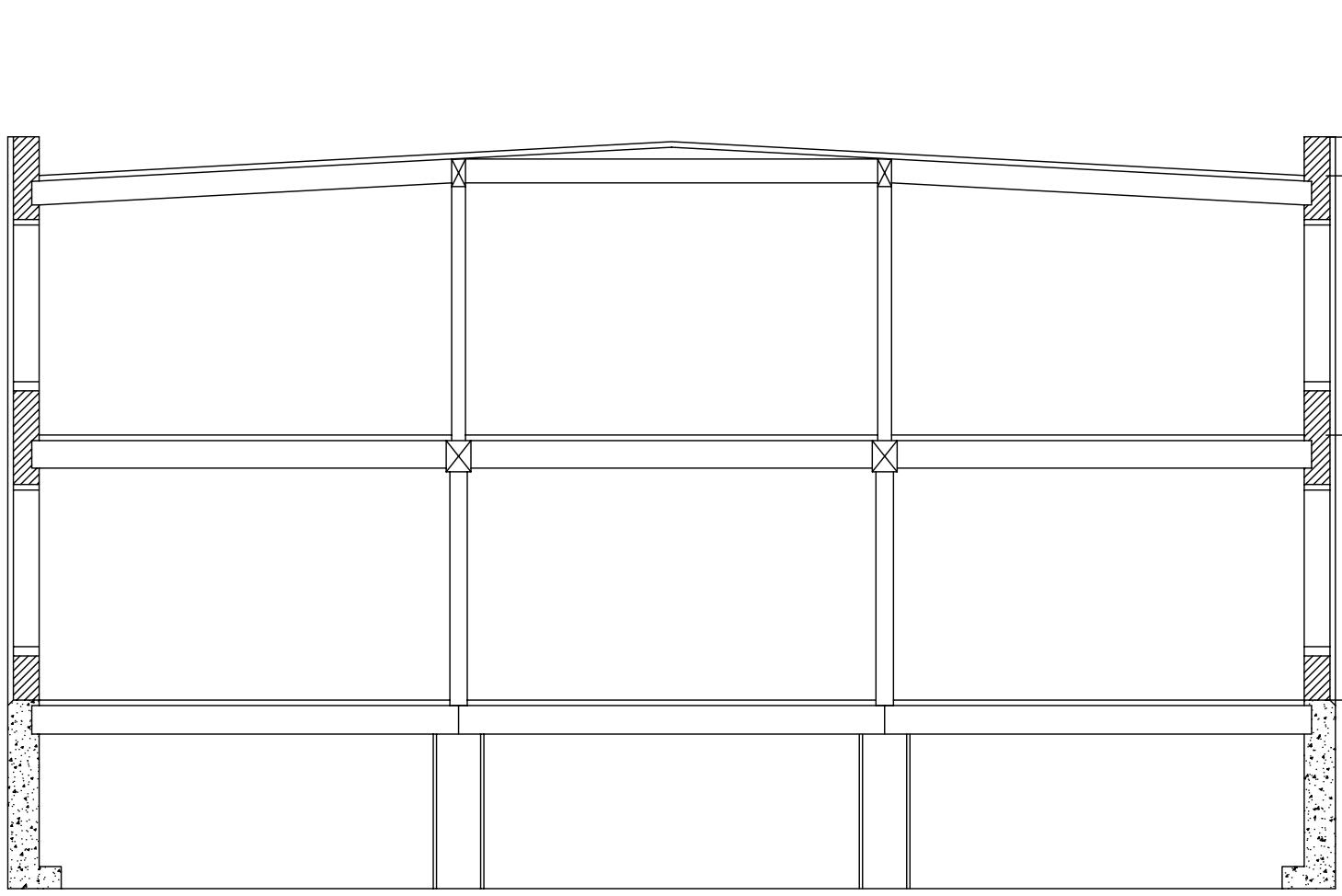
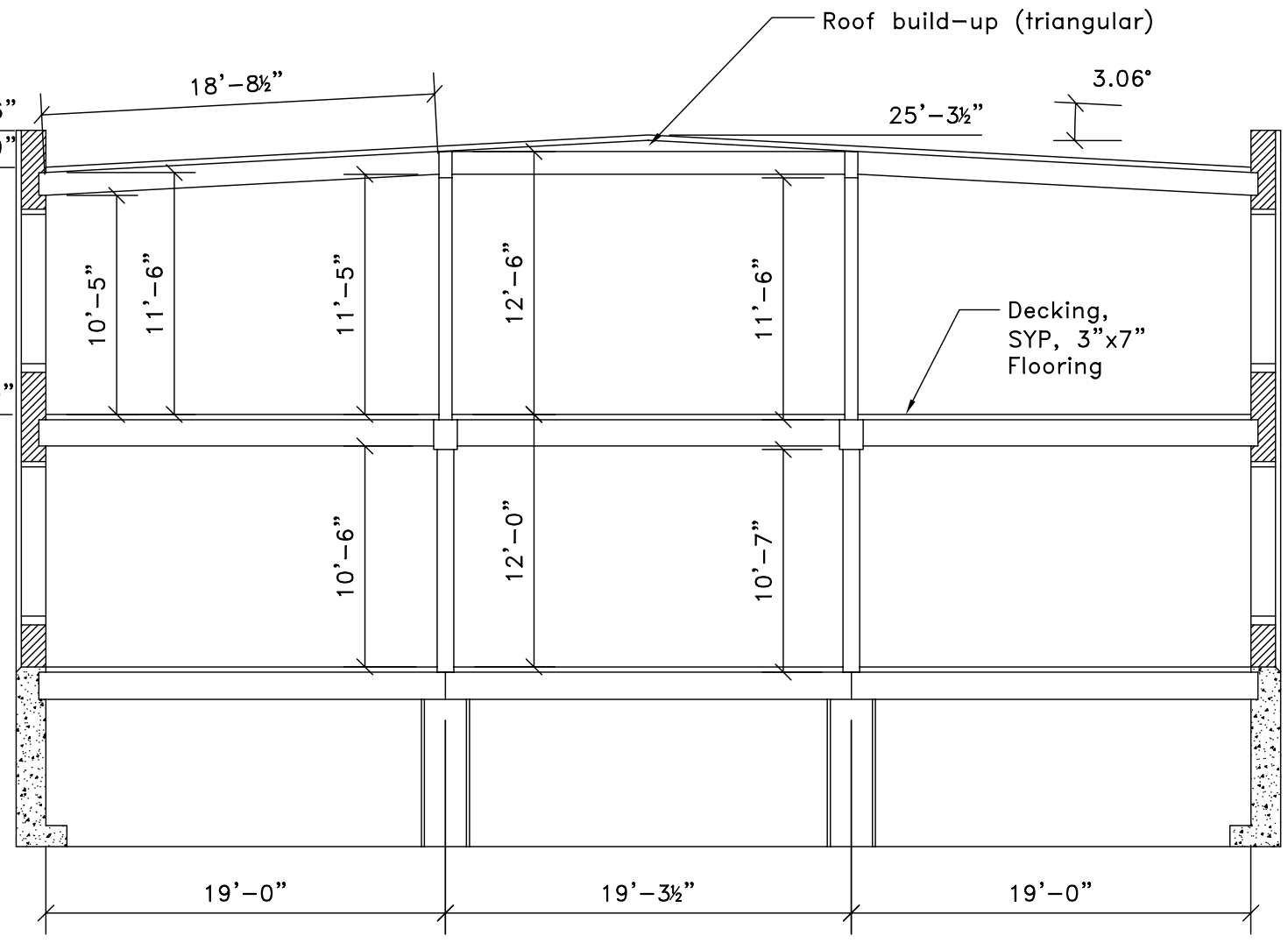
Erving Mill Site
Building 7

SIZE	17" x 11"	SCALE	3/32" = 1'	SHEET	17
DRAWN BY	A. Schreyer	DATE	8/8/2003		



1/18 Building 1 - Section



2/18 Building 2 - Section

Notes:

1) Measurements were gathered from various sources (surveying, old plans, photos). Therefore all dimensions are to be considered as approximate until verified
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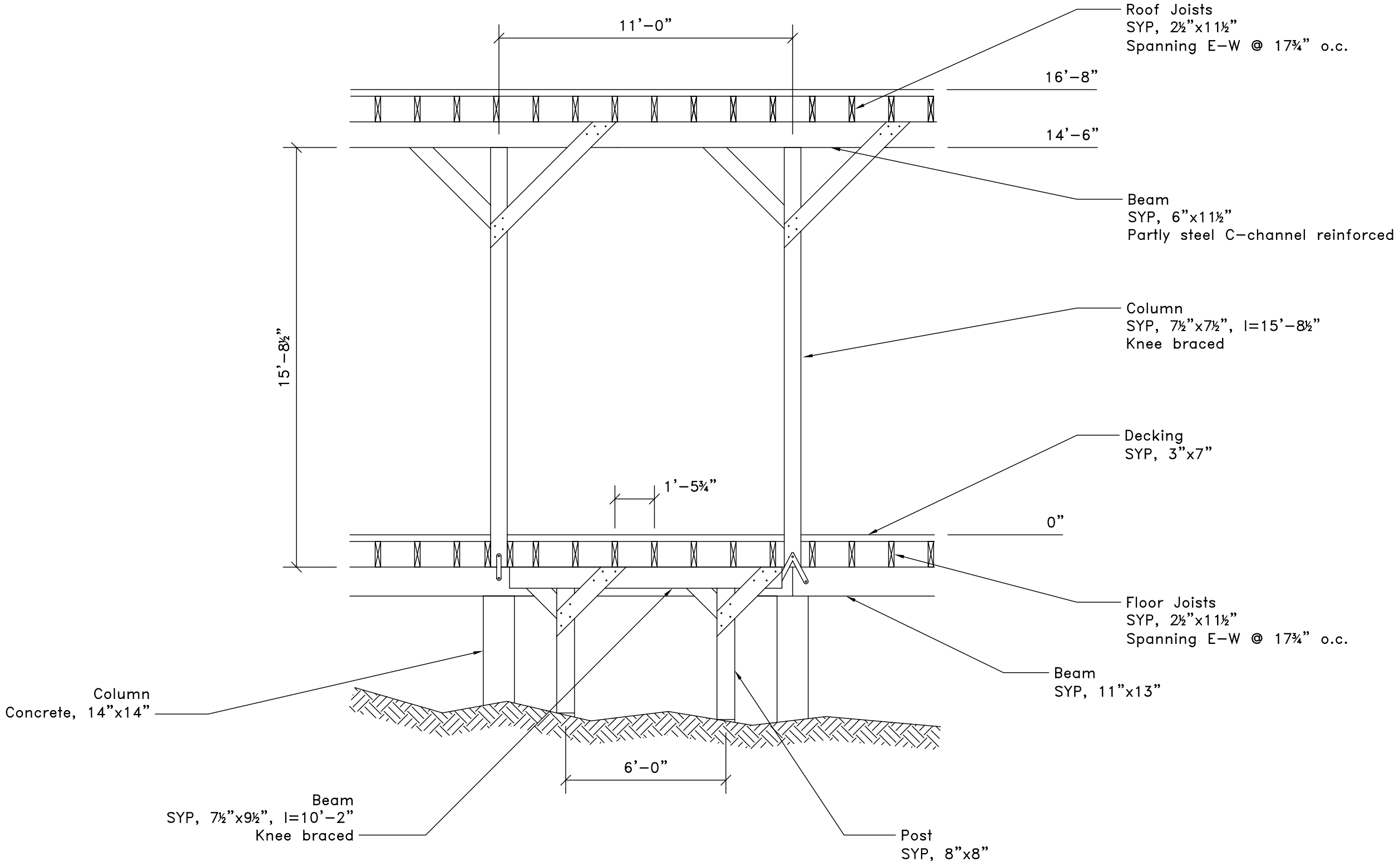
Erving Mill Site

Building 1/2 - Sections

SIZE	17" x 11"	SCALE	1/8" = 1'	SHEET	18
DRAWN BY	A. Schreyer	DATE	8/8/2003		



1/19 Building 6 - Section

Notes:

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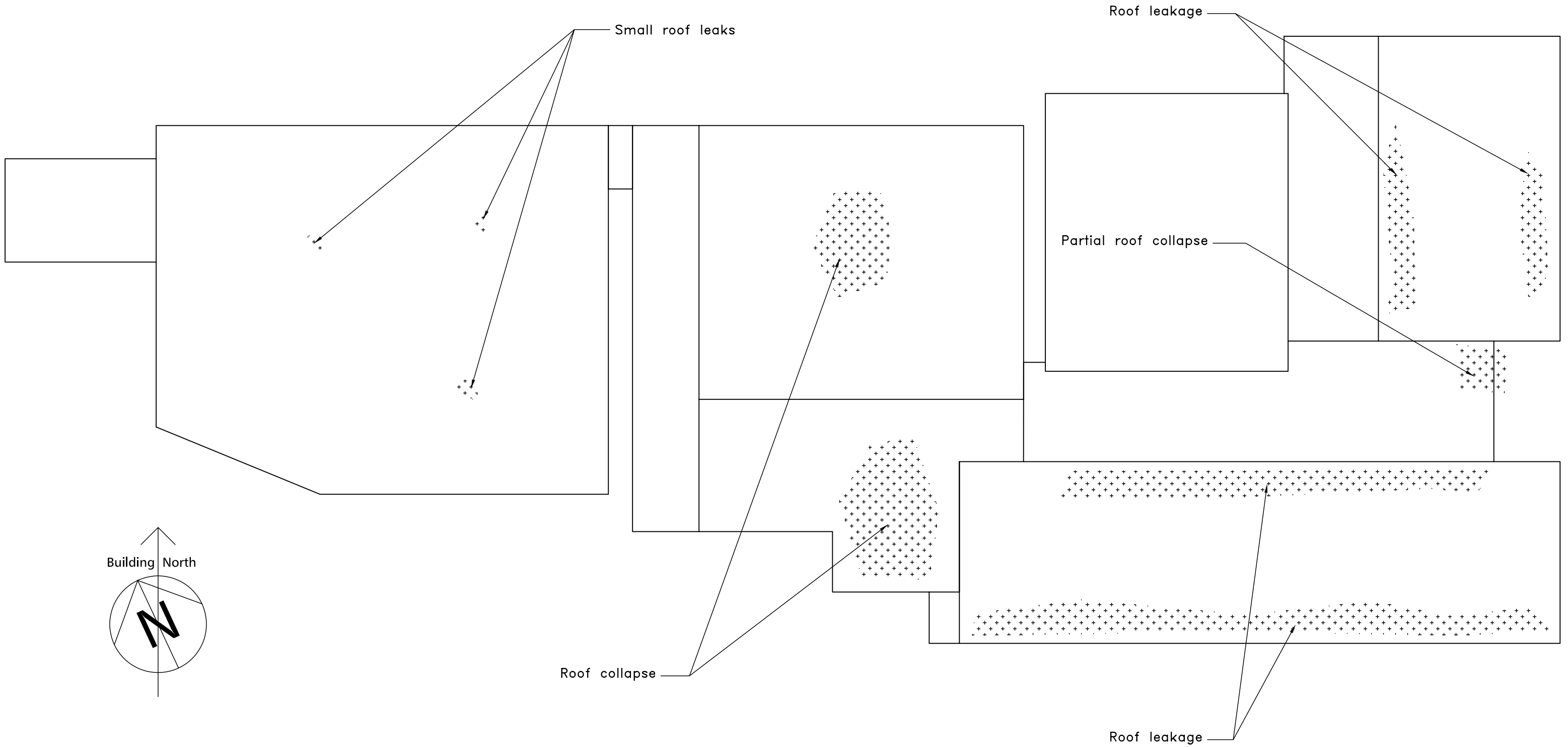
Erving Mill Site

Building 6 - Sections

SIZE	17" x 11"	SCALE	1/4" = 1'	SHEET 19
DRAWN BY	A. Schreyer	DATE	8/8/2003	

Appendix B – Plans of Condition of Structural Members



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3) Dormers and exterior roof features are not included in these plans
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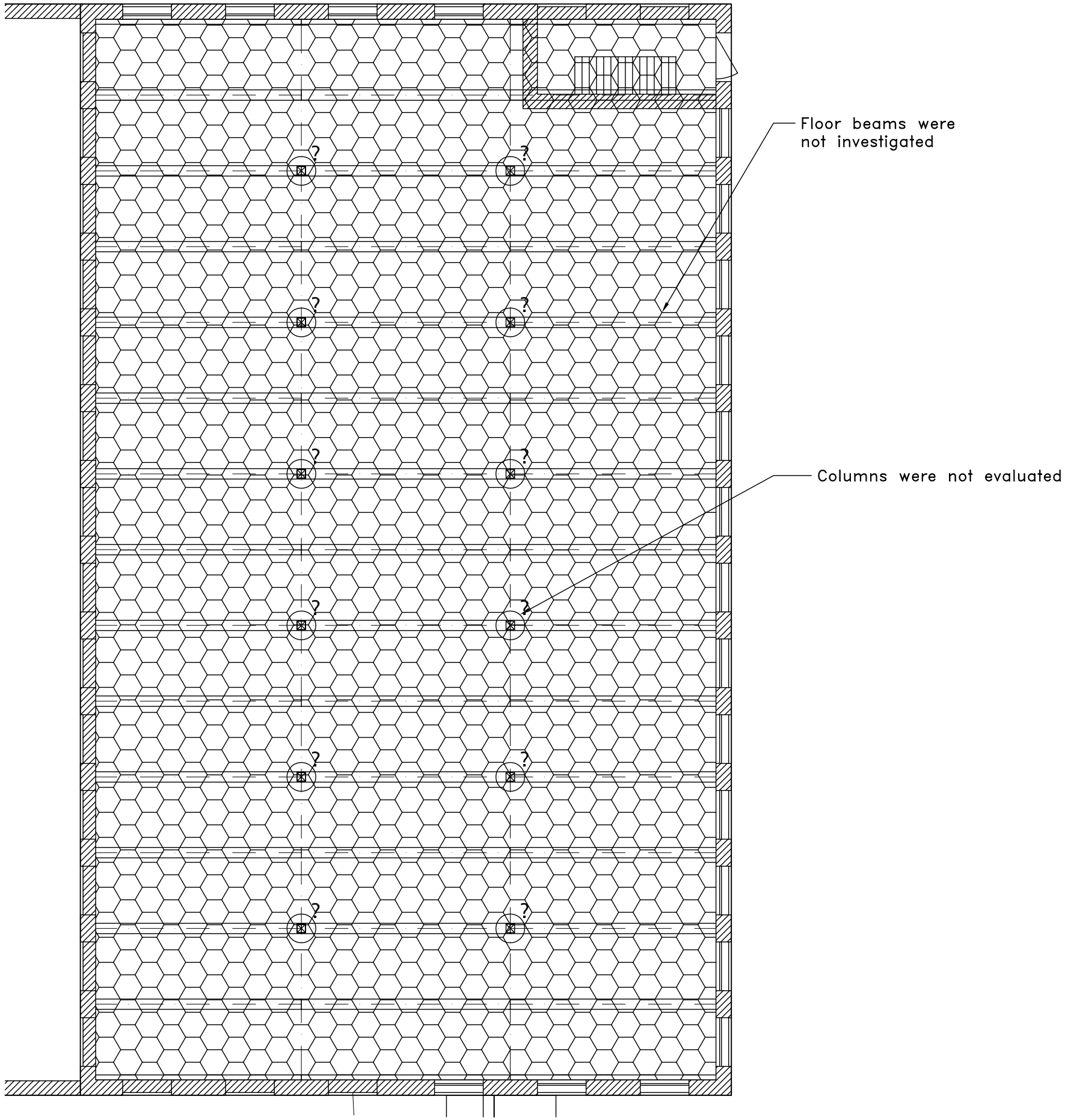
Symbols:

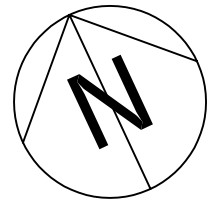
- General Structural Damage
- **Wood:**
  - Damaged on Top
  - Damaged on Bottom
  - Fully Damaged
- No Visible Damages ✓
- Not Evaluated ?

Erving Mill Site

Roof Level Damages

SIZE	17" x 11"	SCALE	1/32" = 1'	SHEET D-1
DRAWN BY	A. Schreyer	DATE	8/8/2003	





Notes:

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Symbols:

General Structural Damage

Wood:

Damaged on Top

Damaged on Bottom

Fully Damaged

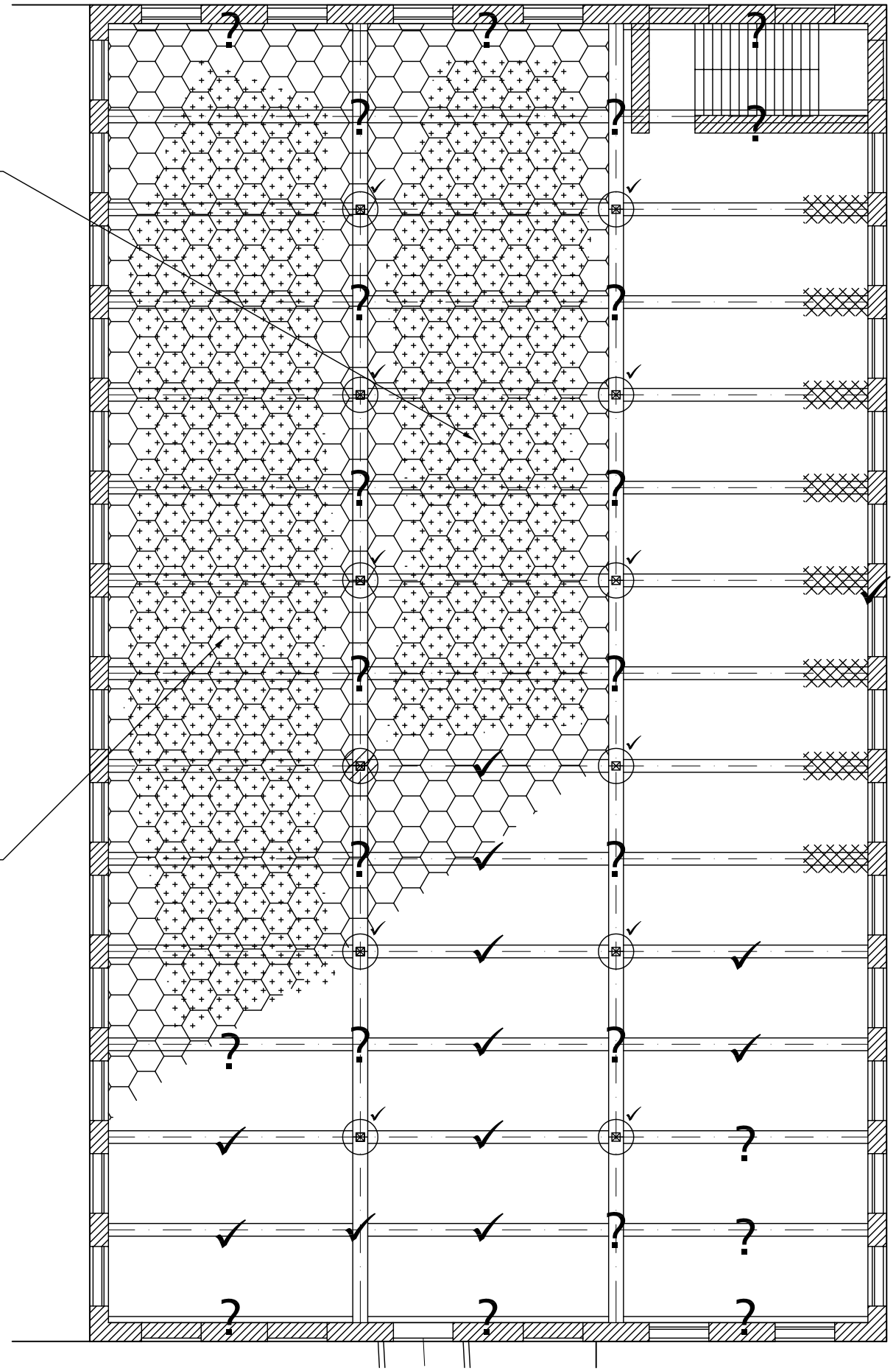
No Visible Damages ✓

Not Evaluated ?

Erving Mill Site

Building 1 - 1st Floor

SIZE	17" x 11"	SCALE	3/32" = 1'	SHEET	D-2
DRAWN BY	A. Schreyer	DATE	8/8/2003		



N

Notes:

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4) All structural member dimensions are actual, not nominal
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Symbols:

General Structural Damage

Wood:

Damaged on Top

Damaged on Bottom

Fully Damaged

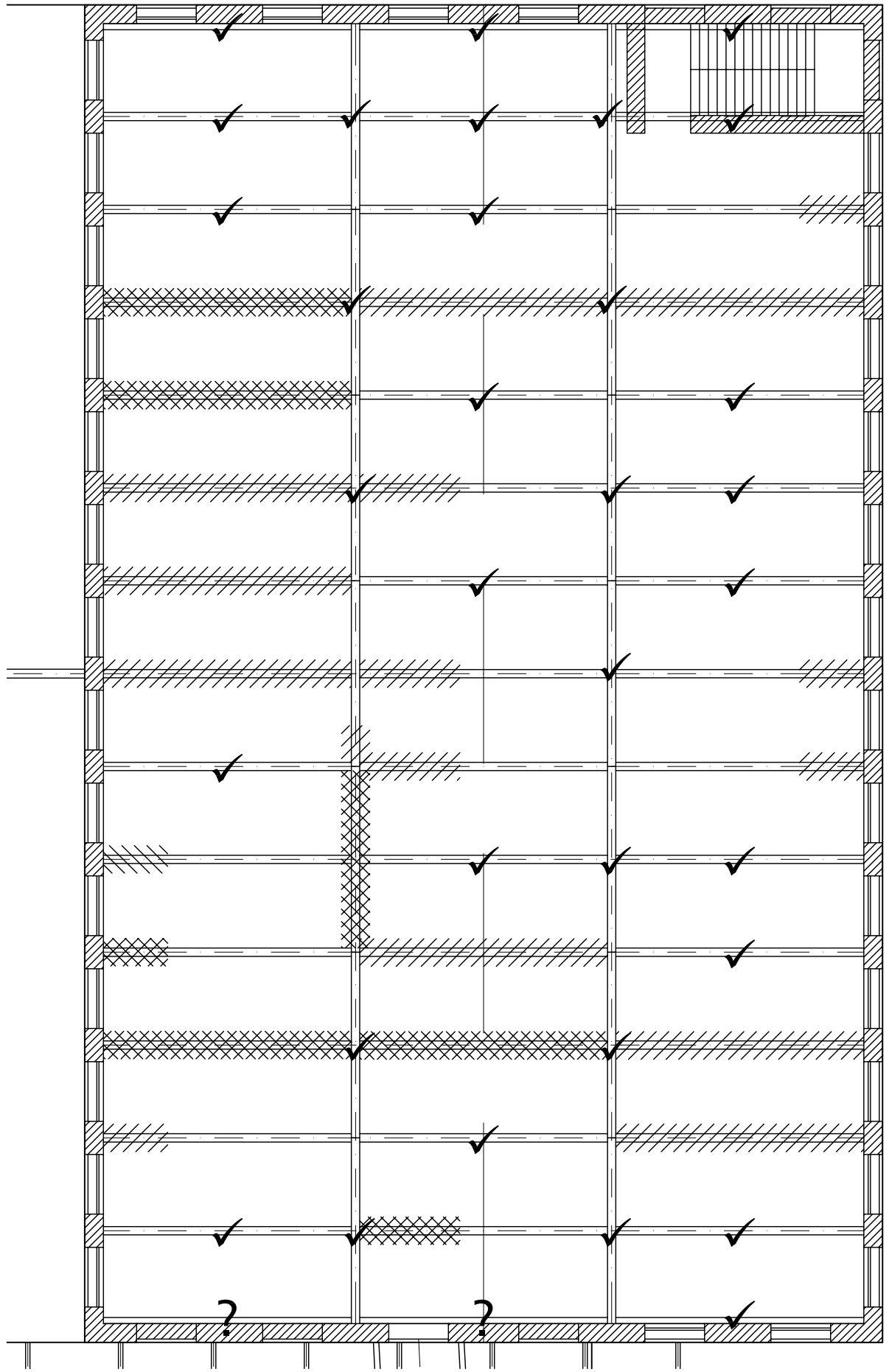
No Visible Damages ✓

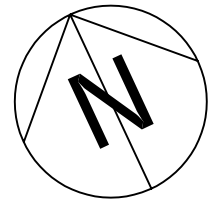
Not Evaluated ?

Erving Mill Site

Building 1 - 2nd Floor

SIZE	17" x 11"	SCALE	3/32" = 1'	SHEET D-3
DRAWN BY	A. Schreyer	DATE	8/8/2003	





Notes:

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Symbols:

General Structural Damage

Wood:

Damaged on Top

Damaged on Bottom

Fully Damaged

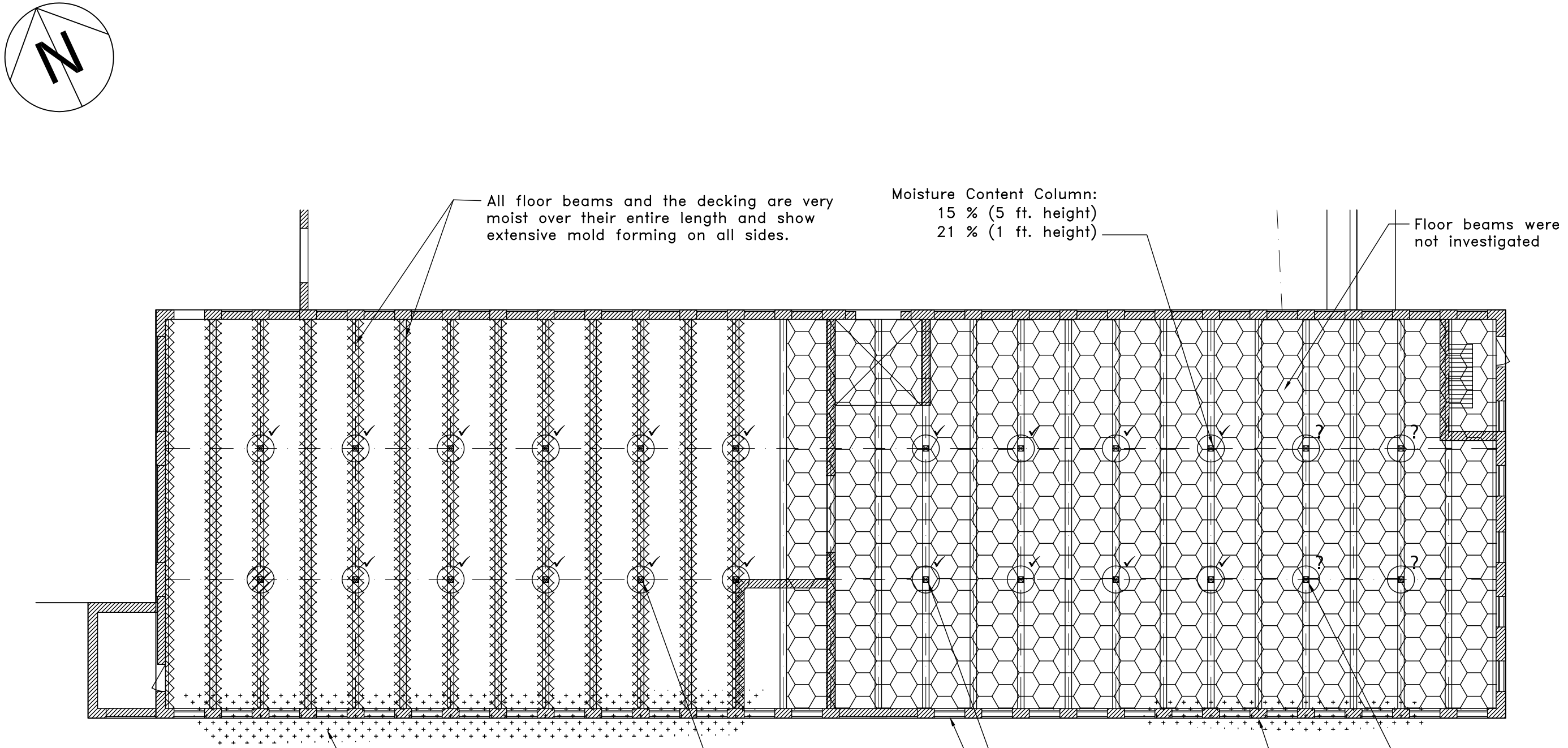
No Visible Damages ✓

Not Evaluated ?

Erving Mill Site

Building 1 - Roof

SIZE	17" x 11"	SCALE	3/32" = 1'	SHEET D-4
DRAWN BY	A. Schreyer	DATE	8/8/2003	



Notes:

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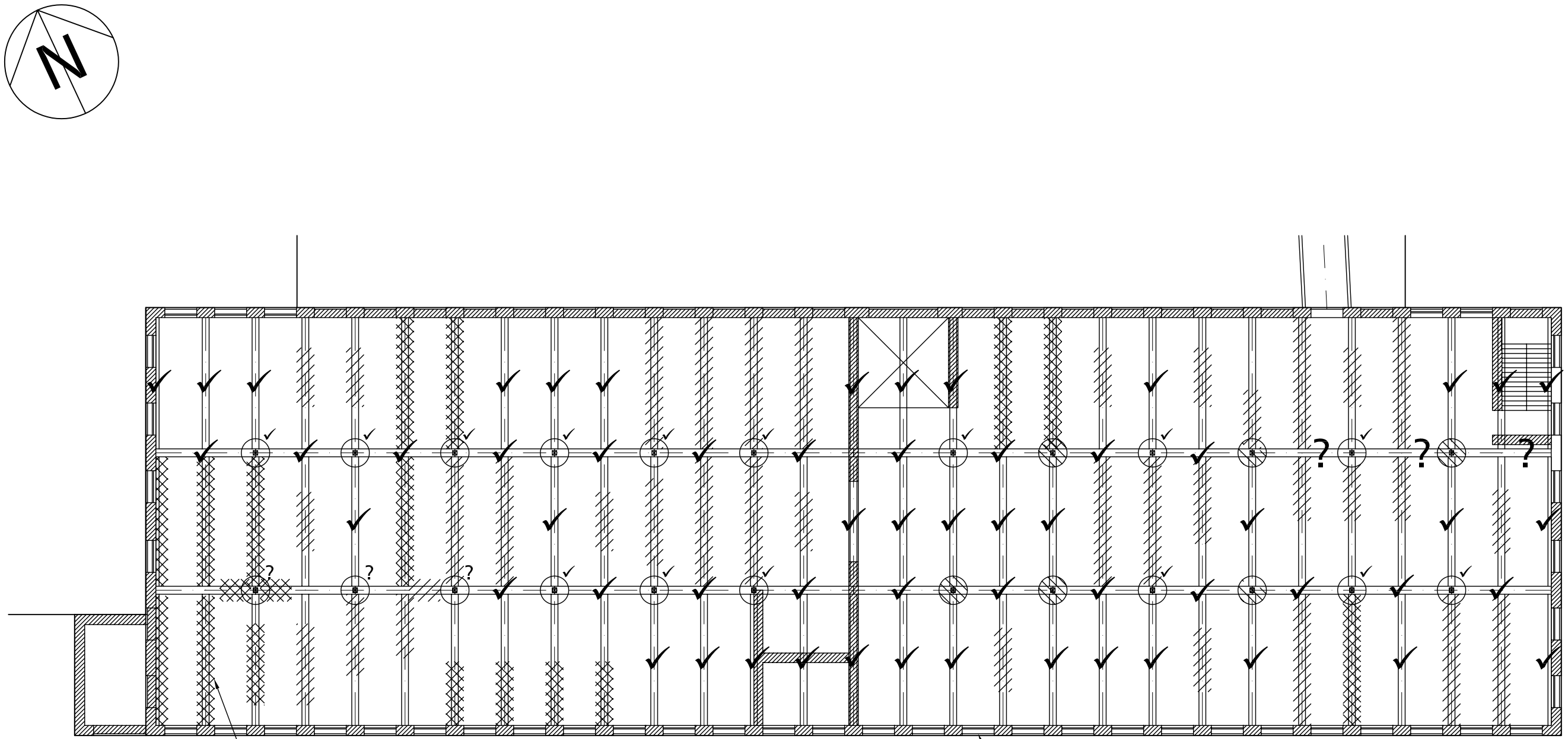
Symbols:

- General Structural Damage
- **Wood:**
  - Damaged on Top
  - Damaged on Bottom
  - Fully Damaged
- No Visible Damages (✓)
- Not Evaluated (?)

Erving Mill Site

Building 2 - 1st Floor

SIZE	17" x 11"	SCALE	1/16" = 1'	SHEET D-5
DRAWN BY	A. Schreyer	DATE	8/8/2003	



Notes:

1) Measurements were gathered from various sources (surveying, old plans, photos). Therefore all dimensions are to be considered as approximate until verified
2) Exterior building dimensions have been estimated from interior measurements
3) Dormers and exterior roof features are not included in these plans
4) All structural member dimensions are actual, not nominal
5) SYP = Southern Yellow Pine

Symbols:

General Structural Damage

Wood:

Damaged on Top

Damaged on Bottom

Fully Damaged

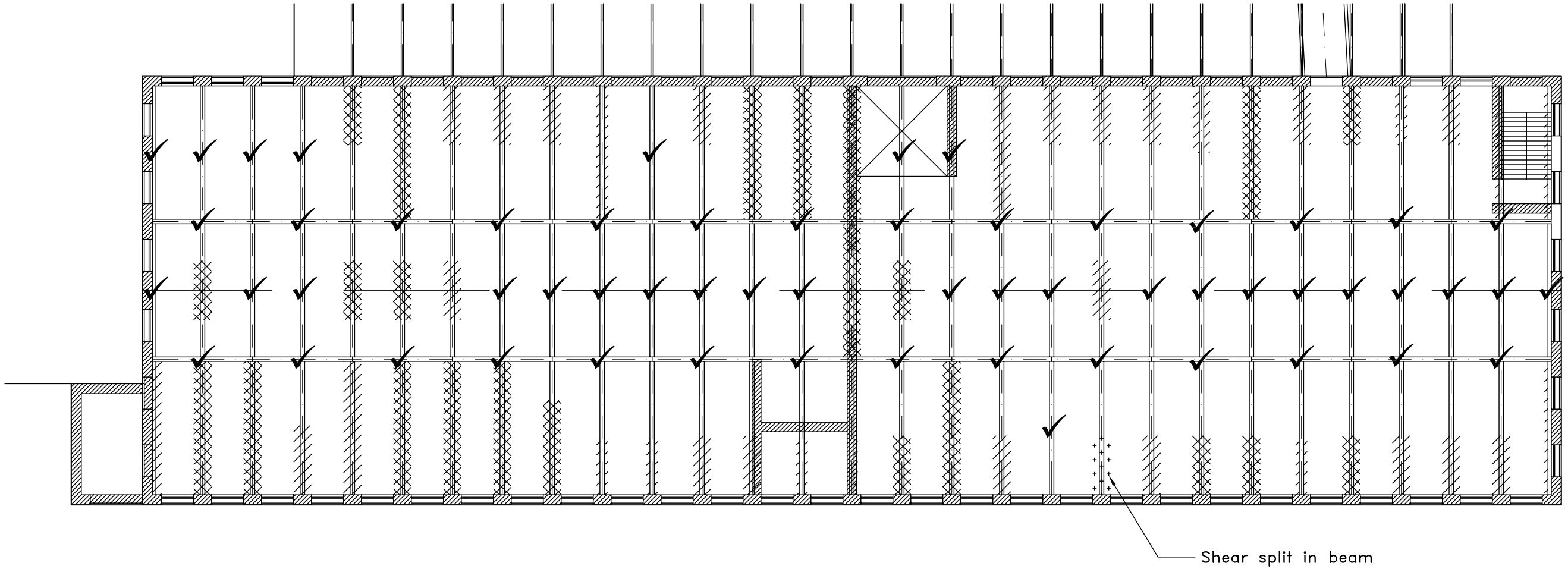
No Visible Damages ✓

Not Evaluated ?

Erving Mill Site

Building 2 - 2nd Floor

SIZE	17" x 11"	SCALE	1/16" = 1'	SHEET D-6
DRAWN BY	A. Schreyer	DATE	8/8/2003	



Notes:

1) Measurements were gathered from various sources (surveying, old plans, photos). Therefore all dimensions are to be considered as approximate until verified
2) Exterior building dimensions have been estimated from interior measurements
3) Dormers and exterior roof features are not included in these plans
4) All structural member dimensions are actual, not nominal
5) SYP = Southern Yellow Pine

Symbols:

General Structural Damage

Wood:

Damaged on Top

Damaged on Bottom

Fully Damaged

No Visible Damages ✓

Not Evaluated ?

Erving Mill Site

Building 2 - Roof

SIZE	17" x 11"	SCALE	1/16" = 1'	SHEET D-7
DRAWN BY	A. Schreyer	DATE	8/8/2003	

Appendix C – Estimating Data

Estimation Worksheet

Project: Usher Mill Development Options
Item: Building 1 - Deconstruction

Localized for Erving, MA 01344 | Markup: 10.00% | includes O/P | Sum of Estimate: **$324,154.60**

	Description	Unit	Qty.	Output	Hours	Lab. Cost	Mat. Cost	Eqt. Cost	Total	Grand Total
Roof:										
	Remove, Roofing, Built-up, no Rock	Sq Ft	6000.00						$0.99	$5,940.00
	Remove, Insulation, Rigid	Sq Ft	6000.00						$0.41	$2,460.00
Wood:										
	Remove, Sheathing, Floor, 1/2"	Sq Ft	12000.00						$0.66	$7,920.00
	Remove, Flooring, Pine	Sq Ft	18000.00						$1.20	$21,600.00
	Remove, Column, Wood, 8 1/2" x 8 1/2"	Ln Ft	280.00						$2.30	$644.00
	Remove, Beam, Wood, Single member, 10" x 14"	Ln Ft	2570.00						$16.00	$41,120.00
	Sale of Timbers (70%)	Cu Ft	1800.00						-$24.00	-$43,200.00
Walls:										
	Remove, Wall, Brick, 16"/12"	Sq Ft	8000.00						$8.10	$64,800.00
	Remove, Window, Wood, Double hung, to 25 sq ft	Each	40.00						$17.25	$690.00
	Remove, Wall, Concrete, 12"	Sq Ft	3200.00						$17.75	$56,800.00
Foundations:										
	Remove, Slab, Concrete, on Grade, Nonreinforced, 4"	Sq Ft	6000.00						$3.55	$21,300.00
	Remove, Footing, Concrete, 2' thick, 3' wide	Ln Ft	48.00						$19.00	$912.00
	Remove, Column, Concrete, Square, 20"	Ln Ft	120.00						$20.00	$2,400.00
Interior:										
	Gutting	Sq Ft	12000.00						$5.15	$61,800.00
Misc:										
	Dump Charges	Ton	900.00						$55.00	$49,500.00

Compare: Demolition by cubic foot (210,000 Cu Ft): $ 52,500 / Demolition, Haul ($.27/Cu Ft)

Excluded:
Asbestos and hazardous waste removal

Assumptions:
70% of all timbers (by volume) are fit for resale
Final markup includes general contractor's markup, estimated extra project costs and permits

Estimation Worksheet

Project: Usher Mill Development Options
Item: Building 1 - Option 1.A - Keep Timber Structure / Replace Damaged Beams and Decking

Localized for Erving, MA 01344 | Markup: 20.00% | includes O/P | Sum of Estimate: **$385,328.88**

	Description	Unit	Qty.	Output	Hours	Lab. Cost	Mat. Cost	Eqt. Cost	Total	Grand Total
Roof:										
	Remove, Roofing, Built-up, no Rock	Sq Ft	6000.00						$0.99	$5,940.00
	Remove, Insulation, Rigid	Sq Ft	6000.00						$0.41	$2,460.00
Wood:										
	Remove, Sheathing, Floor, 1/2"	Sq Ft	12000.00						$0.66	$7,920.00
	Remove, Flooring, Pine	Sq Ft	18000.00						$1.20	$21,600.00
	Remove, Column, Wood, 8 1/2" x 8 1/2"	Ln Ft	56.00						$2.30	$128.80
	Remove, Beam, Wood, Single member, 10" x 14"	Ln Ft	1200.00						$16.00	$19,200.00
	Column, Wood, 8 1/2" x 8 1/2"	Ln Ft	56.00						$30.60	$1,713.60
	Beam, Glulam or Solid, 10" x 14"	Ln Ft	1200.00						$47.90	$57,480.00
	Deck, Wood, Plank, 3"	Sq Ft	9000.00						$6.09	$54,810.00
	Deck, Wood, Plank, 3", Reused. Labour only	Sq Ft	9000.00						$0.60	$5,400.00
	Shoring, to 14', 3 uses/month	Sq Ft	18000.00						$1.04	$18,720.00
Walls:										
	Clean outside brick, Repoint, Scaffold incl.	Sq Ft	8000.00						$6.39	$51,120.00
	Clean inside brick	Sq Ft	8000.00						$1.18	$9,440.00
	Concrete Crack Repair	Ln Ft	150.00						$22.50	$3,375.00
Interior:										
	Gutting	Sq Ft	12000.00						$5.15	$61,800.00

Excluded:
Asbestos and hazardous waste removal
Foundation work
Roof additions, dormers, skylights etc.
New staircases, elevators
Windows, Façade additions
Lateral structural systems (diaphragms, shear walls, braced frames)

Assumptions:
Foundations can take loads
Interior structure can be replaced so that extra stabilization is not needed
20% of columns and 45% of beams need replacement
50% of decking needs replacement, re-sawn columns and beams can be used for this
Decking is sufficient as flooring
All inside walls need brick cleaning since they will be left exposed
Upper 10 ft. of all outside walls need brick refurbishment (raking and repointing)
Final markup includes general contractor's markup, estimated extra project costs and permits

Estimation Worksheet

Project: Usher Mill Development Options
Item: Building 1 - Option 1.B - Replace Timber Structure with Glulam Post-and-Beam

Localized for Erving, MA 01344 | Markup: 20.00% | includes O/P | Sum of Estimate: **$352,412.88**

	Description	Unit	Qty.	Output	Hours	Lab. Cost	Mat. Cost	Eqt. Cost	Total	Grand Total
Roof:										
	Remove, Roofing, Built-up, no Rock	Sq Ft	6000.00						$0.99	$5,940.00
	Remove, Insulation, Rigid	Sq Ft	6000.00						$0.41	$2,460.00
Wood:										
	Remove, Sheathing, Floor, 1/2"	Sq Ft	12000.00						$0.66	$7,920.00
	Remove, Flooring, Pine	Sq Ft	18000.00						$1.20	$21,600.00
	Remove, Column, Wood, 8 1/2" x 8 1/2"	Ln Ft	280.00						$2.30	$644.00
	Remove, Beam, Wood, Single member, 10" x 14"	Ln Ft	2570.00						$16.00	$41,120.00
	Column, Wood, 8 1/2" x 8 1/2"	Ln Ft	280.00						$30.60	$8,568.00
	Beam, Glulam, by linear feet, 3.2" x 18"	Ln Ft	2570.00						$19.72	$50,680.40
	Deck, Wood, Plank, 3"	Sq Ft	9000.00						$6.09	$54,810.00
	Deck, Wood, Plank, 3", Reused. Labour only	Sq Ft	9000.00						$0.60	$5,400.00
	Sale of Timbers (50%)	Cu Ft	1300.00						-$24.00	-$31,200.00
Walls:										
	Clean outside brick, Repoint, Scaffold incl.	Sq Ft	8000.00						$6.39	$51,120.00
	Clean inside brick	Sq Ft	8000.00						$1.18	$9,440.00
	Concrete Crack Repair	Ln Ft	150.00						$22.50	$3,375.00
Interior:										
	Gutting	Sq Ft	12000.00						$5.15	$61,800.00

Excluded:
Asbestos and hazardous waste removal
Foundation work
Roof additions, dormers, skylights etc.
New staircases, elevators
Windows, Façade additions
Lateral structural systems (diaphragms, shear walls, braced frames)

Assumptions:
Foundations can take loads
Interior structure can be replaced in stages so that wall stabilization is not needed
50% of all timbers (by volume) are fit for resale, rest is re-sawn for flooring
50% of decking needs replacement, 20% of removed columns and beams can be re-sawn and used for this
Decking is sufficient as flooring
All inside walls need brick cleaning since they will be left exposed
Upper 10 ft. of all outside walls need brick refurbishment (raking and repointing)
Final markup includes general contractor's markup, estimated extra project costs and permits

Estimation Worksheet

Project: Usher Mill Development Options
Item: Building 1 - Option 1.C - Replace Timber Structure with Light-Frame Structure

Localized for Erving, MA 01344 | Markup: 20.00% | includes O/P | Sum of Estimate: **$331,513.20**

	Description	Unit	Qty.	Output	Hours	Lab. Cost	Mat. Cost	Eqt. Cost	Total	Grand Total
Roof:										
	Remove, Roofing, Built-up, no Rock	Sq Ft	6000.00						$0.99	$5,940.00
	Remove, Insulation, Rigid	Sq Ft	6000.00						$0.41	$2,460.00
Wood:										
	Remove, Sheathing, Floor, 1/2"	Sq Ft	12000.00						$0.66	$7,920.00
	Remove, Flooring, Pine	Sq Ft	18000.00						$1.20	$21,600.00
	Remove, Column, Wood, 8 1/2" x 8 1/2"	Ln Ft	280.00						$2.30	$644.00
	Remove, Beam, Wood, Single member, 10" x 14"	Ln Ft	2570.00						$16.00	$41,120.00
	TJ 14" Open Web Floor Trusses, 1/2 @ 24" and 1/2 @ 16"	Total								$48,156.00
	TJ Parallam Beams and Headers	Total								$10,000.00
	Installation of TJ Open Web, Labour only	Sq Ft	18000.00						$0.78	$14,040.00
	Installation of Parallam	Ln Ft	700.00						$1.48	$1,036.00
	Framing, Wood, Wall, 16" oc, 2" x 6"	Sq Ft	7000.00						$3.15	$22,050.00
	Sheathing, Floor, Plywood, 3/4"	Sq Ft	18000.00						$1.37	$24,660.00
	Sale of Timbers (70%)	Cu Ft	1800.00						-$24.00	-$43,200.00
Walls:										
	Clean outside brick, Repoint, Scaffold incl.	Sq Ft	8000.00						$6.39	$51,120.00
	Clean inside brick	Sq Ft	3000.00						$1.18	$3,540.00
	Concrete Crack Repair	Ln Ft	150.00						$22.50	$3,375.00
Interior:										
	Gutting	Sq Ft	12000.00						$5.15	$61,800.00

Excluded:
Asbestos and hazardous waste removal
Foundation work
Roof additions, dormers, skylights etc.
New staircases, elevators
Windows, Façade additions
Lateral structural systems (diaphragms, shear walls, braced frames)

Assumptions:
Foundations can take loads
Interior structure can be replaced in stages so that wall stabilization is not needed
Floor load is assumed as 1/2 @ 50 psf and 1/2 @ 125 psf
Only longitudinal walls need added light framing walls (2x6)
3/4" floor sheathing is sufficient (concrete topping may have to be added)
70% of all timbers (by volume) are fit for resale
Only short inside walls need brick cleaning since longitudinal walls will be covered
Upper 10 ft. of all outside walls need brick refurbishment (raking and repointing)
Final markup includes general contractor's markup, estimated extra project costs and permits

Estimation Worksheet

Project: Usher Mill Development Options
Item: Building 1 - Optional Construction

Localized for Erving, MA 01344 Markup: 20.00% includes O/P

	Description	Unit	Qty.	Output	Hours	Lab. Cost	Mat. Cost	Eqt. Cost	Total	Grand Total
For Options 1.A and 1.B:										
Wood Concrete System:										
	Concrete Slab, 4"	Sq Ft	12000.00						$2.23	$26,760.00
	Reinforcement, Wire Mesh	Sq Ft	12000.00						$0.35	$4,200.00
	Connector, Installed	Ln Ft	2000.00						$5.00	$10,000.00
	Note: Installation of this system requires re-design of members.									
									Sum of Option:	**$49,152.00**
For Option 1.C:										
Concrete topping for Floors:										
	Topping, LW Concrete, 2 1/2"	Sq Ft	12000.00						$2.02	$24,240.00
	Note: Installation of this system requires re-design of members.									
									Sum of Option:	**$29,088.00**

Note: These options are provided as guides only.

Estimation Worksheet

Project: Usher Mill Development Options
Item: Building 2 - Deconstruction

Localized for Erving, MA 01344 | Markup: 10.00% | includes O/P | Sum of Estimate: **$593,694.20**

	Description	Unit	Qty.	Output	Hours	Lab. Cost	Mat. Cost	Eqt. Cost	Total	Grand Total
Roof:										
	Remove, Roofing, Built-up, no Rock	Sq Ft	12000.00						$0.99	$11,880.00
	Remove, Insulation, Rigid	Sq Ft	12000.00						$0.41	$4,920.00
Wood:										
	Remove, Sheathing, Floor, 1/2"	Sq Ft	24000.00						$0.66	$15,840.00
	Remove, Flooring, Pine	Sq Ft	36000.00						$1.20	$43,200.00
	Remove, Column, Wood, 8 1/2" x 8 1/2"	Ln Ft	560.00						$2.30	$1,288.00
	Remove, Beam, Wood, Single member, 10" x 14"	Ln Ft	5140.00						$16.00	$82,240.00
	Sale of Timbers (70%)	Cu Ft	3500.00						-$24.00	-$84,000.00
Walls:										
	Remove, Wall, Brick, 16"/12"	Sq Ft	14500.00						$8.10	$117,450.00
	Remove, Window, Wood, Double hung, to 25 sq ft	Each	80.00						$17.25	$1,380.00
	Remove, Wall, Concrete, 12"	Sq Ft	5200.00						$17.75	$92,300.00
Foundations:										
	Remove, Slab, Concrete, on Grade, Nonreinforced, 4"	Sq Ft	12000.00						$3.55	$42,600.00
	Remove, Footing, Concrete, 2' thick, 3' wide	Ln Ft	96.00						$19.00	$1,824.00
	Remove, Column, Concrete, Square, 20"	Ln Ft	240.00						$20.00	$4,800.00
Interior:										
	Remove, Freight Elevator	Each	1.00						$2,000.00	$2,000.00
	Gutting	Sq Ft	20000.00						$5.15	$103,000.00
Misc:										
	Dump Charges	Ton	1800.00						$55.00	$99,000.00

Compare: Demolition by cubic foot (420,000 Cu Ft): $ 105,000 / Demolition, Haul ($.27/Cu Ft)

Excluded:
Asbestos and hazardous waste removal

Assumptions:
70% of all timbers (by volume) are fit for resale
Final markup includes general contractor's markup, estimated extra project costs and permits

Estimation Worksheet

Project: Usher Mill Development Options
Item: Building 2 - Option 2.A - Keep Timber Structure / Replace Damaged Beams and Decking

Localized for Erving, MA 01344 | Markup: 20.00% | includes O/P | Sum of Estimate: **$775,082.88**

	Description	Unit	Qty.	Output	Hours	Lab. Cost	Mat. Cost	Eqt. Cost	Total	Grand Total
Roof:										
	Remove, Roofing, Built-up, no Rock	Sq Ft	12000.00						$0.99	$11,880.00
	Remove, Insulation, Rigid	Sq Ft	12000.00						$0.41	$4,920.00
Wood:										
	Remove, Sheathing, Floor, 1/2"	Sq Ft	24000.00						$0.66	$15,840.00
	Remove, Flooring, Pine	Sq Ft	36000.00						$1.20	$43,200.00
	Remove, Column, Wood, 8 1/2" x 8 1/2"	Ln Ft	112.00						$2.30	$257.60
	Remove, Beam, Wood, Single member, 10" x 14"	Ln Ft	3084.00						$16.00	$49,344.00
	Column, Wood, 8 1/2" x 8 1/2"	Ln Ft	112.00						$30.60	$3,427.20
	Beam, Glulam or Solid, 10" x 14"	Ln Ft	3084.00						$47.90	$147,723.60
	Deck, Wood, Plank, 3"	Sq Ft	18000.00						$6.09	$109,620.00
	Deck, Wood, Plank, 3", Reused. Labour only	Sq Ft	18000.00						$0.60	$10,800.00
	Shoring, to 14', 3 uses/month	Sq Ft	36000.00						$1.04	$37,440.00
Walls:										
	Clean outside brick, Repoint, Scaffold incl.	Sq Ft	13000.00						$6.39	$83,070.00
	Clean inside brick	Sq Ft	16000.00						$1.18	$18,880.00
	Concrete Crack Repair	Ln Ft	200.00						$22.50	$4,500.00
Interior:										
	Remove, Freight Elevator	Each	1.00						$2,000.00	$2,000.00
	Gutting	Sq Ft	20000.00						$5.15	$103,000.00

Excluded:
Asbestos and hazardous waste removal
Foundation work
Roof additions, dormers, skylights etc.
New staircases, elevators
Windows, Façade additions
Lateral structural systems (diaphragms, shear walls, braced frames)

Assumptions:
Foundations can take loads
Interior structure can be replaced so that extra stabilization is not needed
20% of columns and 60% of beams need replacement
50% of decking needs replacement, re-sawn columns and beams can be used for this
Decking is sufficient as flooring
All inside walls need brick cleaning since they will be left exposed
Upper 10 ft. of all outside walls need brick refurbishment (raking and repointing)
Final markup includes general contractor's markup, estimated extra project costs and permits

Estimation Worksheet

Project: Usher Mill Development Options
Item: Building 2 - Option 2.B - Replace Timber Structure with Glulam Post-and-Beam

Localized for Erving, MA 01344 | Markup: 20.00% | includes O/P | Sum of Estimate: **$659,681.76**

	Description	Unit	Qty.	Output	Hours	Lab. Cost	Mat. Cost	Eqt. Cost	Total	Grand Total
Roof:										
	Remove, Roofing, Built-up, no Rock	Sq Ft	12000.00						$0.99	$11,880.00
	Remove, Insulation, Rigid	Sq Ft	12000.00						$0.41	$4,920.00
Wood:										
	Remove, Sheathing, Floor, 1/2"	Sq Ft	24000.00						$0.66	$15,840.00
	Remove, Flooring, Pine	Sq Ft	36000.00						$1.20	$43,200.00
	Remove, Column, Wood, 8 1/2" x 8 1/2"	Ln Ft	560.00						$2.30	$1,288.00
	Remove, Beam, Wood, Single member, 10" x 14"	Ln Ft	5140.00						$16.00	$82,240.00
	Column, Wood, 8 1/2" x 8 1/2"	Ln Ft	560.00						$30.60	$17,136.00
	Beam, Glulam, by linear feet, 3.2" x 18"	Ln Ft	5140.00						$19.72	$101,360.80
	Deck, Wood, Plank, 3"	Sq Ft	18000.00						$6.09	$109,620.00
	Deck, Wood, Plank, 3", Reused. Labour only	Sq Ft	18000.00						$0.60	$10,800.00
	Sale of Timbers (50%)	Cu Ft	2500.00						-$24.00	-$60,000.00
Walls:										
	Clean outside brick, Repoint, Scaffold incl.	Sq Ft	13000.00						$6.39	$83,070.00
	Clean inside brick	Sq Ft	16000.00						$1.18	$18,880.00
	Concrete Crack Repair	Ln Ft	200.00						$22.50	$4,500.00
Interior:										
	Remove, Freight Elevator	Each	1.00						$2,000.00	$2,000.00
	Gutting	Sq Ft	20000.00						$5.15	$103,000.00

Excluded:
Asbestos and hazardous waste removal
Foundation work
Roof additions, dormers, skylights etc.
New staircases, elevators
Windows, Façade additions
Lateral structural systems (diaphragms, shear walls, braced frames)

Assumptions:
Foundations can take loads
Interior structure can be replaced in stages so that wall stabilization is not needed
50% of all timbers (by volume) are fit for resale, rest is re-sawn for flooring
50% of decking needs replacement, 20% of removed columns and beams can be re-sawn and used for this
Decking is sufficient as flooring
All inside walls need brick cleaning since they will be left exposed
Upper 10 ft. of all outside walls need brick refurbishment (raking and repointing)
Final markup includes general contractor's markup, estimated extra project costs and permits

Estimation Worksheet

Project: Usher Mill Development Options
Item: Building 2 - Option 2.C - Replace Timber Structure with Light-Frame Structure

Localized for Erving, MA 01344 | Markup: 20.00% | includes O/P | Sum of Estimate: **$616,450.80**

	Description	Unit	Qty.	Output	Hours	Lab. Cost	Mat. Cost	Eqt. Cost	Total	Grand Total
Roof:										
	Remove, Roofing, Built-up, no Rock	Sq Ft	12000.00						$0.99	$11,880.00
	Remove, Insulation, Rigid	Sq Ft	12000.00						$0.41	$4,920.00
Wood:										
	Remove, Sheathing, Floor, 1/2"	Sq Ft	24000.00						$0.66	$15,840.00
	Remove, Flooring, Pine	Sq Ft	36000.00						$1.20	$43,200.00
	Remove, Column, Wood, 8 1/2" x 8 1/2"	Ln Ft	560.00						$2.30	$1,288.00
	Remove, Beam, Wood, Single member, 10" x 14"	Ln Ft	5140.00						$16.00	$82,240.00
	TJ 14" Open Web Floor Trusses, 1/2 @ 24" and 1/2 @ 16"	Total								$95,119.00
	TJ Parallam Beams and Headers	Total								$20,000.00
	Installation of TJ Open Web, Labour only	Sq Ft	36000.00						$0.78	$28,080.00
	Installation of Parallam	Ln Ft	1400.00						$1.48	$2,072.00
	Framing, Wood, Wall, 16" oc, 2" x 6"	Sq Ft	14000.00						$3.15	$44,100.00
	Sheathing, Floor, Plywood, 3/4"	Sq Ft	36000.00						$1.37	$49,320.00
	Sale of Timbers (70%)	Cu Ft	3500.00						-$24.00	-$84,000.00
Walls:										
	Clean outside brick, Repoint, Scaffold incl.	Sq Ft	13000.00						$6.39	$83,070.00
	Clean inside brick	Sq Ft	6000.00						$1.18	$7,080.00
	Concrete Crack Repair	Ln Ft	200.00						$22.50	$4,500.00
Interior:										
	Remove, Freight Elevator	Each	1.00						$2,000.00	$2,000.00
	Gutting	Sq Ft	20000.00						$5.15	$103,000.00

Excluded:
Asbestos and hazardous waste removal
Foundation work
Roof additions, dormers, skylights etc.
New staircases, elevators
Windows, Façade additions
Lateral structural systems (diaphragms, shear walls, braced frames)

Assumptions:
Foundations can take loads
Interior structure can be replaced in stages so that wall stabilization is not needed
Floor load is assumed as 1/2 @ 50 psf and 1/2 @ 125 psf
Only longitudinal walls need added light framing walls (2x6)
3/4" floor sheathing is sufficient (concrete topping may have to be added)
70% of all timbers (by volume) are fit for resale
Only short inside walls need brick cleaning since longitudinal walls will be covered
Upper 10 ft. of all outside walls need brick refurbishment (raking and repointing)
Final markup includes general contractor's markup, estimated extra project costs and permits

Estimation Worksheet

Project: Usher Mill Development Options
Item: Building 2 - Optional Construction

Localized for Erving, MA 01344 Markup: 20.00% includes O/P

	Description	Unit	Qty.	Output	Hours	Lab. Cost	Mat. Cost	Eqt. Cost	Total	Grand Total
For Options 2.A and 2.B:										
Wood Concrete System:										
	Concrete Slab, 4"	Sq Ft	24000.00						$2.23	$53,520.00
	Reinforcement, Wire Mesh	Sq Ft	24000.00						$0.35	$8,400.00
	Connector, Installed	Ln Ft	4000.00						$5.00	$20,000.00
	Note: Installation of this system requires re-design of members.									
									Sum of Option:	**$98,304.00**
For Option 2.C:										
Concrete topping for Floors:										
	Topping, LW Concrete, 2 1/2"	Sq Ft	24000.00						$2.02	$48,480.00
	Note: Installation of this system requires re-design of members.									
									Sum of Option:	**$58,176.00**

Note: These options are provided as guides only.

Estimation Worksheet

Project: Usher Mill Development Options
Item: Building 3 - Deconstruction

Localized for Erving, MA 01344 | Markup: 10.00% | includes O/P | Sum of Estimate: **$197,462.93**

	Description	Unit	Qty.	Output	Hours	Lab. Cost	Mat. Cost	Eqt. Cost	Total	Grand Total
Roof:										
	Remove, Roofing, Built-up, no Rock	Sq Ft	8000.00						$0.99	$7,920.00
	Remove, Insulation, Rigid	Sq Ft	8000.00						$0.41	$3,280.00
Steel:										
	Remove, Truss, Steel	Ln Ft	640.00						$18.95	$12,128.00
Walls:										
	Remove, Wall, Brick, 16"/12"	Sq Ft	10000.00						$8.10	$81,000.00
	Remove, Window, Wood, Double hung, to 25 sq ft	Each	15.00						$17.25	$258.75
	Remove, Wall, Concrete, 12"	Sq Ft	2500.00						$17.75	$44,375.00
	Remove, Slab, Concrete, on Grade, Nonreinforced, 4"	Sq Ft	7200.00						$3.55	$25,560.00
Interior:										
	Remove, Boiler	Each	2.00						$1,000.00	$2,000.00
	Remove, Pipes, Water	Ln Ft	1000.00						$2.99	$2,990.00

Compare: Demolition by cubic foot (150,000 Cu Ft): $ 40,500 / Demolition, Haul ($.27/Cu Ft)

Excluded:
Asbestos and hazardous waste removal

Assumptions:
Final markup includes general contractor's markup, estimated extra project costs and permits
Dump fees are offset by sale of materials

Estimation Worksheet

Project: Usher Mill Development Options
Item: Building 3 - Option 3.A - Keep Structure / Repair Minor Damages

Localized for Erving, MA 01344 | Markup: 20.00% | includes O/P | Sum of Estimate: **$37,284.00**

	Description	Unit	Qty.	Output	Hours	Lab. Cost	Mat. Cost	Eqt. Cost	Total	Grand Total
Roof:										
	Remove, Roofing, Built-up, no Rock	Sq Ft	4000.00						$0.99	$3,960.00
	Remove, Insulation, Rigid	Sq Ft	4000.00						$0.41	$1,640.00
Steel:										
	Clean, Steel, Power Tool	Sq Ft	1000.00						$0.78	$780.00
Walls:										
	Clean inside and outside brick	Sq Ft	15000.00						$1.18	$17,700.00
Interior:										
	Remove, Boiler	Each	2.00						$2,000.00	$4,000.00
	Remove, Pipes, Water	Ln Ft	1000.00						$2.99	$2,990.00

Excluded:
Asbestos and hazardous waste removal
Foundation work
Roof additions, dormers, skylights etc.
Windows, Façade additions
Lateral structural systems (diaphragms, shear walls, braced frames)

Assumptions:
No structural damages
50% of roofing needs replacement
Foundations can take loads
All inside walls need brick cleaning since they will be left exposed
Final markup includes general contractor's markup, estimated extra project costs and permits

Estimation Worksheet

Project: Usher Mill Development Options
Item: Building 6 - Deconstruction

Localized for Erving, MA 01344 | Markup: 10.00% | includes O/P | Sum of Estimate: **$151,874.80**

	Description	Unit	Qty.	Output	Hours	Lab. Cost	Mat. Cost	Eqt. Cost	Total	Grand Total
Roof:										
	Remove, Roofing, Built-up, no Rock	Sq Ft	17500.00						$0.99	$17,325.00
	Remove, Insulation, Rigid	Sq Ft	17500.00						$0.41	$7,175.00
Wood:										
	Remove, Sheathing, Floor, Plywood, 1/2"	Sq Ft	35000.00						$0.66	$23,100.00
	Remove, Flooring, Pine	Sq Ft	35000.00						$1.20	$42,000.00
	Remove, Joists, Roof	Ln Ft	12000.00						$0.68	$8,160.00
	Remove, Joists, Floor	Ln Ft	12000.00						$0.68	$8,160.00
	Remove, Column, Wood, 8" x 8"	Ln Ft	1900.00						$2.30	$4,370.00
	Remove, Beam, Wood, Single member, 11" x 13"	Ln Ft	1400.00						$16.00	$22,400.00
	Remove, Beam, Wood, Single member, 6" x 12"	Ln Ft	1400.00						$10.00	$14,000.00
	Sale of Timbers (90%)	Cu Ft	1800.00						-$24.00	-$43,200.00
Walls:										
	Remove, Siding, Metal	Sq Ft	8100.00						$0.78	$6,318.00
Foundations:										
	Remove, Column, Concrete, Square, 16"	Ln Ft	1440.00						$17.90	$25,776.00
	Remove, Wall, Concrete block, 8"	Sq Ft	1200.00						$2.07	$2,484.00

Compare: Demolition by cubic foot (450,000 Cu Ft): $ 120,000 / Demolition, Haul ($.27/Cu Ft)

Excluded:
Asbestos and hazardous waste removal
Loading Dock

Assumptions:
Dump fees are offset by sale of materials
Final markup includes general contractor's markup, estimated extra project costs and permits

Estimation Worksheet

Project: Usher Mill Development Options
Item: Building 6 - Option 6.A - Keep Structure / Repair Minor Damages

Localized for Erving, MA 01344 | Markup: 20.00% | includes O/P | Sum of Estimate: **$49,656.00**

	Description	Unit	Qty.	Output	Hours	Lab. Cost	Mat. Cost	Eqt. Cost	Total	Grand Total
Roof:										
	Remove, Roofing, Built-up, no Rock	Sq Ft	8750.00						$0.99	$8,662.50
	Remove, Insulation, Rigid	Sq Ft	8750.00						$0.41	$3,587.50
Wood:										
	Remove, Beam, Wood, Single member, 11" x 13"	Ln Ft	140.00						$16.00	$2,240.00
	Remove, Beam, Wood, Single member, 6" x 12"	Ln Ft	140.00						$10.00	$1,400.00
	Remove, Joists, Roof	Ln Ft	1200.00						$0.68	$816.00
	Remove, Joists, Floor	Ln Ft	1200.00						$0.68	$816.00
	Beam, Glulam or Solid, 10" x 14"	Ln Ft	140.00						$47.90	$6,706.00
	Beam, Glulam or Solid, 6" x 12"	Ln Ft	140.00						$24.00	$3,360.00
	Joist, Wood, 3" x 8"	Ln Ft	1200.00						$3.41	$4,092.00
	Joist, Wood, 3" x 12"	Ln Ft	1200.00						$5.05	$6,060.00
	Shoring, to 14', 3 uses/month	Sq Ft	3500.00						$1.04	$3,640.00

Excluded:
Asbestos and hazardous waste removal
Foundation work
Roof additions, dormers, etc.
Windows, Façade additions
Lateral structural systems (diaphragms, shear walls, braced frames)

Assumptions:
Only minor structural damages
Foundations can take loads
50% of roof needs replacement
10% of wood beams and joists need replacement
Decking damage is minimal
Final markup includes general contractor's markup, estimated extra project costs and permits

Open-Web Truss Descriptions

TJL™, TJLX™, TJW™ Truss

Top and Bottom Chords:
TJL™ & TJLX™ Truss – 1.5" x 3.5" machine stress rated lumber
TJW™ Truss – 1.5" x 4.75" machine stress rated lumber
TJL™ trusses with Microllam® LVL top chords may be available; contact your Trus Joist representative.

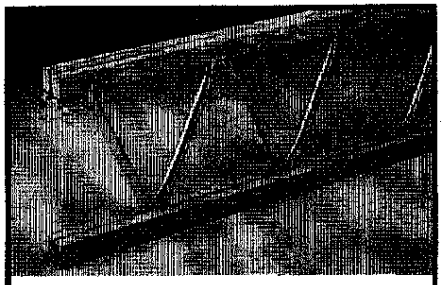
Webs:
1" and 1⅛" diameter tubular steel members varying in gauge and diameter according to requirements. 45,000 psi minimum yield.

Weight:
TJL™, TJLX™ Truss: 3.75 to 4.25 lbs/ft
TJW™ Truss: 4.5 to 5.25 lbs/ft

Depths:

Min. depth at wall	14"
Max. depth at wall	50"
Max. pitched ridge depth	50"

Any depth between minimum and maximum is available.



TJS™ Truss

Top and Bottom Chords:
Double 1.5" x 2.3" Microllam® LVL

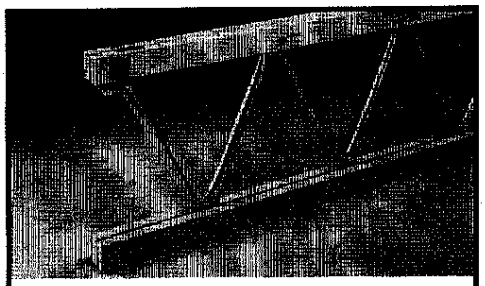
Webs:
1", 1¼" and 1½" diameter tubular steel members varying in gauge and diameter according to requirements. 45,000 psi minimum yield.

Weight:
4.75 to 5.75 lbs/ft

Depths:

Min. depth at wall	16"
Max. depth at wall	64"
Max. pitched ridge depth	84"

Any depth between minimum and maximum is available.



TJM®, TJH™ Truss

Top and Bottom Chords:
TJM® Truss — Double 1.5" x 3.5" machine stress rated lumber
TJH™ Truss — Double 1.5" x 5.5" machine stress rated lumber

Webs:
Up to 2" diameter tubular steel members varying in gauge and diameter according to requirements. 45,000 psi minimum yield.

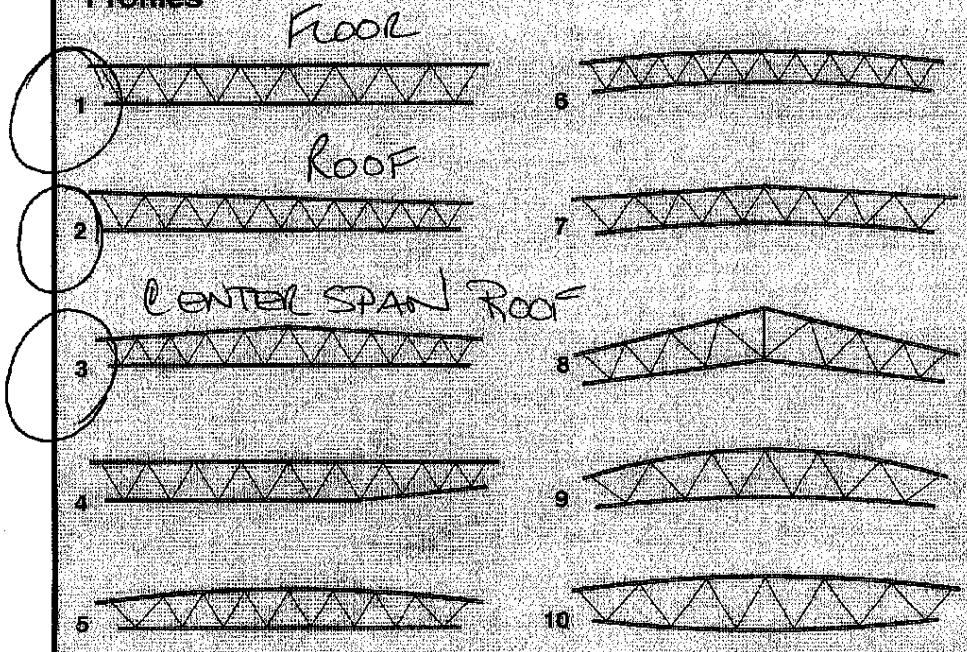
Weight:
TJM® Truss — 8 to 9 lbs/ft
TJH™ Truss — 10 to 12 lbs/ft

Depths:

	TJM®	TJH™
Min. depth at wall	20"	24"
Max. depth at wall	60"	72"
Max. pitched ridge depth	72"	114"

Any depth between minimum and maximum is available.

Profiles

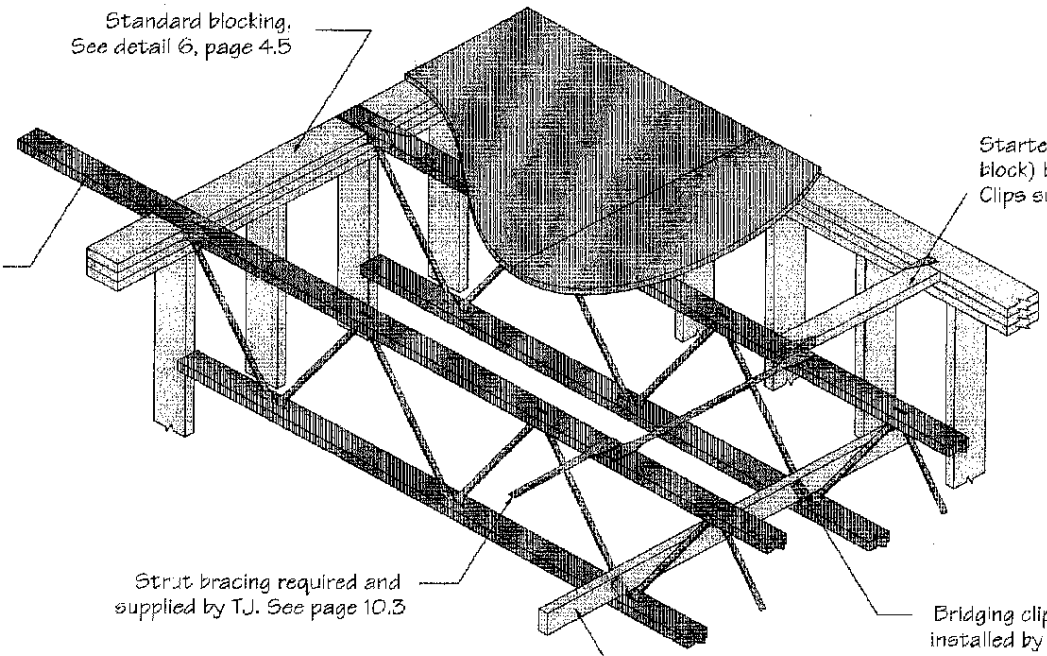


Tightest Curvature available:

TJL™, TJLX™, TJW™ Truss	50' Radius
TJS™ Truss	200' Radius
TJM® Truss	1100' Radius
TJH™ Truss	1400' Radius

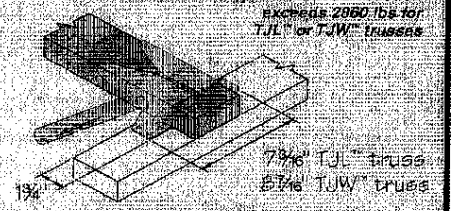
Trade Series	Profiles Available									
	1	2	3	4	5	6	7	8	9	10
TJL™, TJLX™, TJW™	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TJS™	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TJM®	✓	✓	✓	✓				✓		
TJH™	✓	✓	✓	✓				✓		

TJL™/TJW™ Truss Details



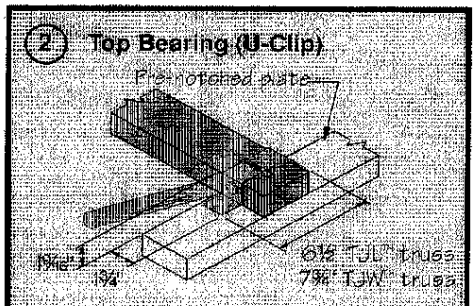
1 Top Bearing (No-Notch Clip)

Contact your Trus Joist representative if reaction exceeds 2060 lbs for TJL™ or TJW™ trusses

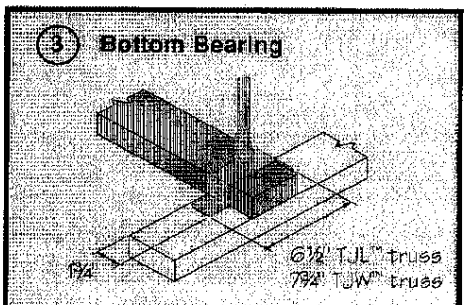


Pre-notched plate not required

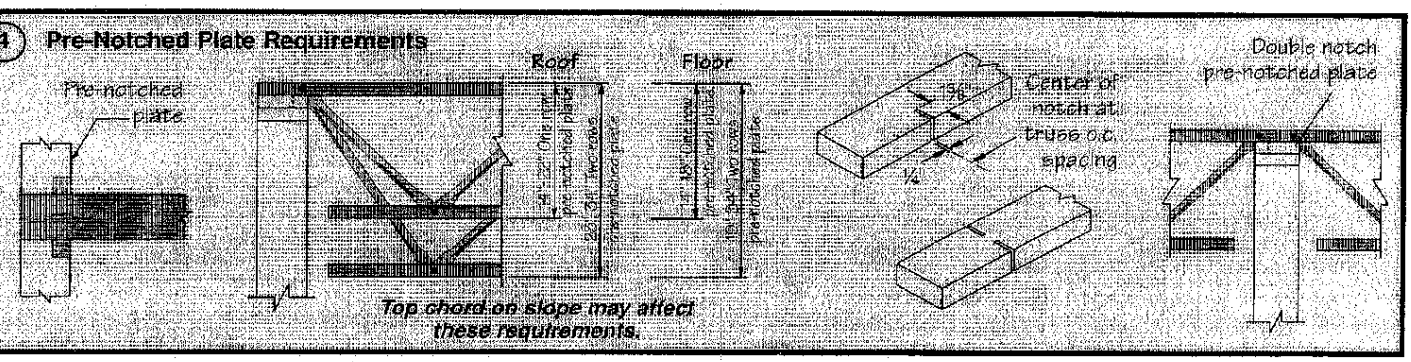
2 Top Bearing (U-Clip)



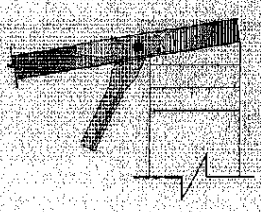
3 Bottom Bearing



4 Pre-Notched Plate Requirements



5 Beveled Plate Requirements



Beveled bearing plates may be required for trusses with sloped top chords.

Beveled plate serves two functions:

1. Provides proper bearing for bearing clip.
2. Avoids interference between top chord and bearing plate.

Bearing Condition		Slope at Which Plate Must be Beveled		
		2x8	2x6	3x4
All TJL™/TJW™ Bearing Clips	Low end	>¼":12"	>⅜":12"	>½":12"
	High end	>⅜":12"	>⅝":12"	>½":12"

Beveled plate, to suit roof slope, is required at all common bearing and cantilevered bearings.

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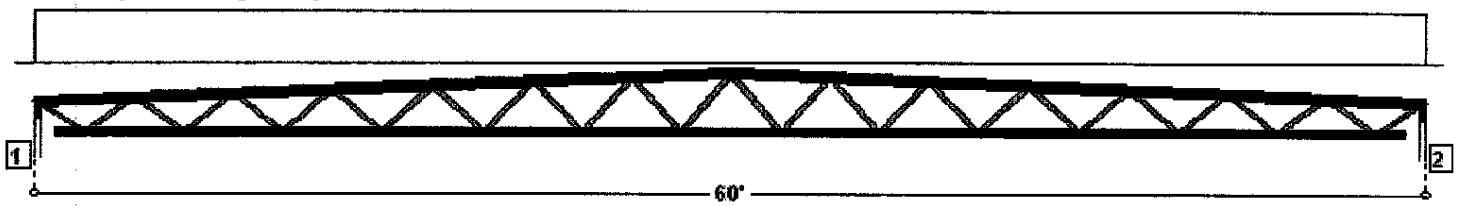
31"(brg)-38 7/16"(ridge) TJLX Open Web Truss @ 16" o/c

THIS PRODUCT MEETS OR EXCEEDS THE SET DESIGN CONTROLS FOR THE APPLICATION AND LOADS LISTED

Left Slope.25/12 Right Slope-.25/12



All dimensions are horizontal. **Product Diagram is Conceptual.**

LOADS:

Analysis is for a Joist Member.
Primary Load Group - Snow (psf): 35.0 Live at 115 % duration, 15.0 Dead

SUPPORTS:

		Input Width	Vertical Reactions (lbs) Live/Dead/Uplift/Total	Detail	Other
1	Stud wall	3.50"	1400 / 600 / 0 / 2000	Wall	2x_ Blocking
2	Stud wall	3.50"	1400 / 600 / 0 / 2000	Wall	2x_ Blocking

-Left Support: Top-All, Approx. clip height: 1 5/8", Approx. clip width: 7 3/16", Allowed choice(s): TOP (NO-NOTCH),TOP (U-CLIP)
-Right Support: Top-All, Approx. clip height: 1 5/8", Approx. clip width: 7 3/16", Allowed choice(s): TOP (NO-NOTCH),TOP (U-CLIP)

DESIGN CONTROLS:

	Maximum	Design	Control	Control	Location
Shear (lbs)	1989	1989	2361	Passed (84%)	Lt. end Span 1 under Snow loading
Moment (Ft-Lbs)	29898	28986	29044	Passed (100%)	MID Span 1 under Snow loading
Live Load Defl (in)		2.206	2.983	Passed (L/325)	MID Span 1 under Snow loading
Total Load Defl (in)		3.151	3.978	Passed (L/227)	MID Span 1 under Snow loading

-Deflection Criteria: MINIMUM(LL:L/240,TL:L/180).
-Allowable moment was increased for repetitive member usage.
-Bracing(Lu): All compression edges (top and bottom) must be braced at 5' 3" o/c unless detailed otherwise. Proper attachment and positioning of lateral bracing is required to achieve member stability.

ADDITIONAL NOTES:

-IMPORTANT! The analysis presented is output from software developed by Trus Joist (TJ). Allowable product values shown are in accordance with current TJ materials and code accepted design values. The specific product application, input design loads and stated dimensions have been provided by others (_____), have not been checked for conformance with the design drawings of the building, and have not been reviewed by TJ Engineering.
-THIS ANALYSIS FOR TRUS JOIST PRODUCTS ONLY! PRODUCT SUBSTITUTION VOIDS THIS ANALYSIS.
-Allowable Stress Design methodology was used for Building Code BOCA analyzing the TJ Custom product listed above.
-The open web truss analysis presented is approximate. All open web trusses are custom designed to carry the specific design loads for each project. Actual truss capacity when fabricated is limited to that required to resist the specified loads. Do not use this analysis to verify the capacity of existing trusses.
-Pricing Load (plf) = 67

PROJECT INFORMATION:

OPERATOR INFORMATION:

Jennifer Winchell
Trus Joist
460 Smith Street
Suite C
Middletown, CT 06457-1594
Phone : 860-635-7999
Fax : 860-635-1948
winchej@trusjoist.com

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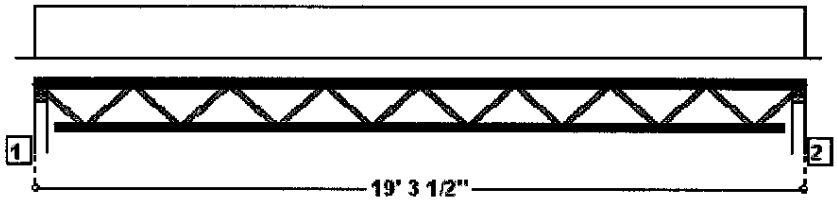
14" TJLX Open Web Truss @ 24" o/c

THIS PRODUCT MEETS OR EXCEEDS THE SET DESIGN CONTROLS FOR THE APPLICATION AND LOADS LISTED



Product Diagram is Conceptual.

LOADS:

Analysis is for a Joist Member.
Primary Load Group - Office Bldgs - Offices (psf): 50.0 Live at 100 % duration, 15.0 Dead, 20.0 Partition

SUPPORTS:

		Input Width	Vertical Reactions (lbs) Live/Dead/Uplift/Total	Detail	Other
1	Stud wall	3.50"	965 / 675 / 0 / 1640	Wall	2x_Blocking
2	Stud wall	3.50"	965 / 675 / 0 / 1640	Wall	2x_Blocking

-Left Support: Top-All, Approx. clip height: 1 5/8", Approx. clip width: 7 3/16", Allowed choice(s): TOP (NO-NOTCH),TOP (U-CLIP)
-Right Support: Top-All, Approx. clip height: 1 5/8", Approx. clip width: 7 3/16", Allowed choice(s): TOP (NO-NOTCH),TOP (U-CLIP)

DESIGN CONTROLS:

	Maximum	Design	Control	Control	Location
Shear (lbs)	1611	1611	1611	Passed (100%)	Lt. end Span 1 under Floor (Primary Load Group) loading
Moment (Ft-Lbs)	7823	7670	9183	Passed (84%)	MID Span 1 under Floor (Primary Load Group) loading
Live Load Defl (in)		0.317	0.400	Passed (L/717)	MID Span 1 under Alternate Deflection Criteria
Total Load Defl (in)		0.539	0.948	Passed (L/422)	MID Span 1 under Floor (Primary Load Group) loading
TJPro		51	Any	Passed	Span 1

-Deflection Criteria: MINIMUM(LL:L/360,TL:L/240,ALT:0.400"@50.0 psf).
-Allowable moment was increased for repetitive member usage.
-Deflection analysis is based on composite action with single layer of 23/32", 3/4" Panels (24" Span Rating) GLUED & NAILED wood decking.
-Bracing(Lu): All compression edges (top and bottom) must be braced at 6' 1" o/c unless detailed otherwise. Proper attachment and positioning of lateral bracing is required to achieve member stability.
-Concentrated load requirements for standard non-residential floors have been considered.

TJ-Pro RATING SYSTEM

-The TJ-Pro Rating System value provides additional floor performance information and is based on a GLUED & NAILED 23/32", 3/4" Panels (24" Span Rating) decking with a poured flooring overlay. The controlling span is supported by walls. Additional considerations for this rating include: Ceiling - 1/2" Direct Applied Gypsum Ceiling, Pour Flooring Overlay, Perpendicular Partitions. A structural analysis of the deck has not been performed by the program. Comparison Value: 1.65

ADDITIONAL NOTES:

-IMPORTANT! The analysis presented is output from software developed by Trus Joist (TJ). Allowable product values shown are in accordance with current TJ materials and code accepted design values. The specific product application, input design loads and stated dimensions have been provided by others (_____), have not been checked for conformance with the design drawings of the building, and have not been reviewed by TJ Engineering.
-THIS ANALYSIS FOR TRUS JOIST PRODUCTS ONLY! PRODUCT SUBSTITUTION VOIDS THIS ANALYSIS.
-Allowable Stress Design methodology was used for Building Code BOCA analyzing the TJ Custom product listed above.
-The open web truss analysis presented is approximate. All open web trusses are custom designed to carry the specific design loads for each project. Actual truss capacity when fabricated is limited to that required to resist the specified loads. Do not use this analysis to verify the capacity of existing trusses.
-Pricing Load (plf) = 170

PROJECT INFORMATION:

BUILDING #1
2 FLOORS - WORST CASE SCENARIO

OPERATOR INFORMATION:

Jennifer Winchell
Trus Joist
460 Smith Street
Suite C
Middletown, CT 06457-1594
Phone : 860-635-7999
Fax : 860-635-1948
winchej@trusjoist.com

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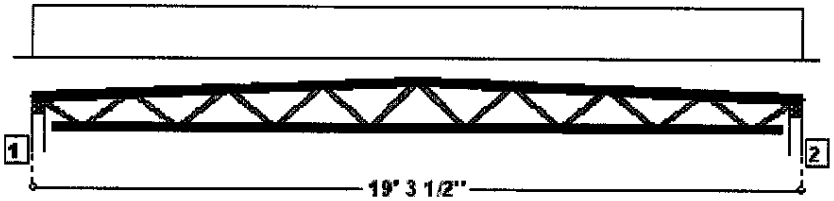
18 11/16"(brg)-21 1/16"(ridge) TJL Open Web Truss @ 24" o/c

THIS PRODUCT MEETS OR EXCEEDS THE SET DESIGN CONTROLS FOR THE APPLICATION AND LOADS LISTED

Left Slope.25/12 Right Slope-.25/12



Product Diagram is Conceptual.

LOADS:

Analysis is for a Joist Member.
Primary Load Group - Snow (psf): 35.0 Live at 115 % duration, 15.0 Dead

SUPPORTS:

		Input Width	Vertical Reactions (lbs) Live/Dead/Uplift/Total	Detail	Other
1	Stud wall	3.50"	675 / 289 / 0 / 965	Wall	2x_ Blocking
2	Stud wall	3.50"	675 / 289 / 0 / 965	Wall	2x_ Blocking

-Left Support: Top-All, Approx. clip height: 1 5/8", Approx. clip width: 7 3/16", Allowed choice(s): TOP (NO-NOTCH),TOP (U-CLIP)
-Right Support: Top-All, Approx. clip height: 1 5/8", Approx. clip width: 7 3/16", Allowed choice(s): TOP (NO-NOTCH),TOP (U-CLIP)

DESIGN CONTROLS:

	Maximum	Design	Control	Control	Location
Shear (lbs)	948	948	1718	Passed (55%)	Rt. end Span 1 under Snow loading
Moment (Ft-Lbs)	4602	4493	12561	Passed (36%)	MID Span 1 under Snow loading
Live Load Defl (in)		0.129	0.948	Passed (L/999+)	MID Span 1 under Snow loading
Total Load Defl (in)		0.184	1.264	Passed (L/999+)	MID Span 1 under Snow loading

-Deflection Criteria: MINIMUM(LL:L/240,TL:L/180).
-Allowable moment was increased for repetitive member usage.
-Bracing(Lu): All compression edges (top and bottom) must be braced at 9' 7" o/c unless detailed otherwise. Proper attachment and positioning of lateral bracing is required to achieve member stability.

ADDITIONAL NOTES:

-IMPORTANT! The analysis presented is output from software developed by Trus Joist (TJ). Allowable product values shown are in accordance with current TJ materials and code accepted design values. The specific product application, input design loads and stated dimensions have been provided by others (_____), have not been checked for conformance with the design drawings of the building, and have not been reviewed by TJ Engineering.
-THIS ANALYSIS FOR TRUS JOIST PRODUCTS ONLY! PRODUCT SUBSTITUTION VOIDS THIS ANALYSIS.
-Allowable Stress Design methodology was used for Building Code BOCA analyzing the TJ Custom product listed above.
-The open web truss analysis presented is approximate. All open web trusses are custom designed to carry the specific design loads for each project. Actual truss capacity when fabricated is limited to that required to resist the specified loads. Do not use this analysis to verify the capacity of existing trusses.
-Pricing Load (plf) = 100

PROJECT INFORMATION:

BUILDING #1 — ROOF CENTER

OPERATOR INFORMATION:

Jennifer Winchell
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A Weyerhaeuser Business

TJ-Beam(TM) 6.06 Serial Number: 7002125630
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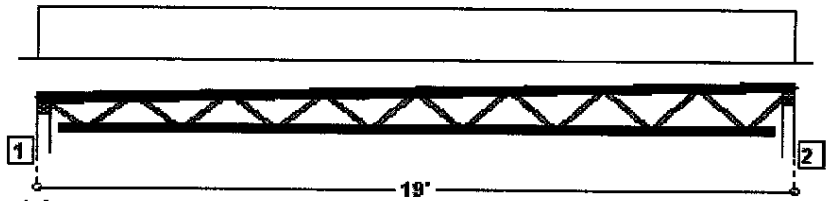
14"(brg)-18 11/16"(brg) TJL Open Web Truss @ 24" o/c

THIS PRODUCT MEETS OR EXCEEDS THE SET DESIGN CONTROLS FOR THE APPLICATION AND LOADS LISTED

Top Chord Slope: .25/12



All dimensions are horizontal. **Product Diagram is Conceptual.**

LOADS:

Analysis is for a Joist Member.
Primary Load Group - Snow (psf): 35.0 Live at 115 % duration, 15.0 Dead

SUPPORTS:

		Input Width	Vertical Reactions (lbs) Live/Dead/Uplift/Total	Detail	Other
1	Stud wall	3.50"	665 / 285 / 0 / 950	Wall	2x_ Blocking
2	Stud wall	3.50"	665 / 285 / 0 / 950	Wall	2x_ Blocking

-Left Support: Top-All, Approx. clip height: 1 5/8", Approx. clip width: 7 3/16", Allowed choice(s): TOP (NO-NOTCH),TOP (U-CLIP)
-Right Support: Top-All, Approx. clip height: 1 5/8", Approx. clip width: 7 3/16", Allowed choice(s): TOP (NO-NOTCH),TOP (U-CLIP)

DESIGN CONTROLS:

	Maximum	Design	Control	Control	Location
Shear (lbs)	933	933	1624	Passed (57%)	Lt. end Span 1 under Snow loading
Moment (Ft-Lbs)	4463	4345	10392	Passed (42%)	MID Span 1 under Snow loading
Live Load Defl (in)		0.187	0.833	Passed (L/999+)	MID Span 1 under Snow loading
Total Load Defl (in)		0.268	1.244	Passed (L/837)	MID Span 1 under Snow loading

-Deflection Criteria: MINIMUM(LL:L/240,TL:L/180).
-Allowable moment was increased for repetitive member usage.
-Bracing(Lu): All compression edges (top and bottom) must be braced at 8' 6" o/c unless detailed otherwise. Proper attachment and positioning of lateral bracing is required to achieve member stability.

ADDITIONAL NOTES:

-IMPORTANT! The analysis presented is output from software developed by Trus Joist (TJ). Allowable product values shown are in accordance with current TJ materials and code accepted design values. The specific product application, input design loads and stated dimensions have been provided by others (_____), have not been checked for conformance with the design drawings of the building, and have not been reviewed by TJ Engineering.
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-Pricing Load (plf) = 100

PROJECT INFORMATION:

BUILDING #1
ROOF
EACH SIDE

OPERATOR INFORMATION:

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TJ-Beam(TM) 6.06 Serial Number: 7002125630
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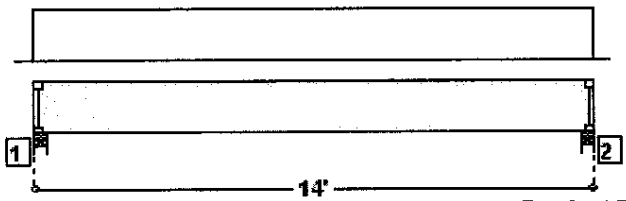
5 1/4" x 14" 2.0E Parallam® PSL Commercial Beam

THIS PRODUCT MEETS OR EXCEEDS THE SET DESIGN CONTROLS FOR THE APPLICATION AND LOADS LISTED



Product Diagram is Conceptual.

LOADS:

Analysis is for a Header (Flush Beam) Member. Tributary Load Width: 19'
Primary Load Group - Office Bldgs - Offices (psf): 50.0 Live at 100 % duration, 15.0 Dead, 20.0 Partition

SUPPORTS:

		Input Width	Bearing Length	Vertical Reactions (lbs) Live/Dead/Uplift/Total	Detail	Other
1	Stud wall	3.50"	5.14"	6650 / 4816 / 0 / 11466	L1	1 Ply 1 1/4" x 14" 1.3E TimberStrand® LSL
2	Stud wall	3.50"	5.14"	6650 / 4816 / 0 / 11466	L1	1 Ply 1 1/4" x 14" 1.3E TimberStrand® LSL

-Bearing length requirement exceeds input at support(s) 1, 2. Supplemental hardware is required to satisfy bearing requirements.

DESIGN CONTROLS:

	Maximum	Design	Control	Control	Location
Shear (lbs)	11193	-9077	14210	Passed (64%)	Rt. end Span 1 under Floor (Primary Load Group) loading
Moment (Ft-Lbs)	38242	38242	40743	Passed (94%)	MID Span 1 under Floor (Primary Load Group) loading
Live Load Defl (in)		0.345	0.342	Passed (L/475)	MID Span 1 under Alternate Deflection Criteria
Total Load Defl (in)		0.595	0.683	Passed (L/275)	MID Span 1 under Floor (Primary Load Group) loading

-Deflection Criteria: MINIMUM(LL:L/360,TL:L/240,ALT:L/480@50.0 psf).
-Bracing(Lu): All compression edges (top and bottom) must be braced at 14' o/c unless detailed otherwise. Proper attachment and positioning of lateral bracing is required to achieve member stability.
-Concentrated load requirements for standard non-residential floors have been considered.

ADDITIONAL NOTES:

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PROJECT INFORMATION:

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TJ-Beam(TM) 6.06 Serial Number: 7002125630
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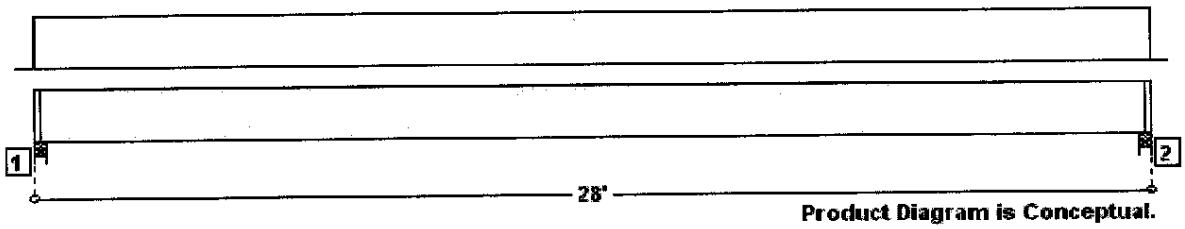
7" x 32" 2.2E Parallam® PSL Commercial Beam

THIS PRODUCT MEETS OR EXCEEDS THE SET DESIGN CONTROLS FOR THE APPLICATION AND LOADS LISTED



Product Diagram is Conceptual.

LOADS:

Analysis is for a Header (Flush Beam) Member. Tributary Load Width: 30'
Primary Load Group - Office Bldgs - Offices (psf): 50.0 Live at 100 % duration, 15.0 Dead, 20.0 Partition

SUPPORTS:

		Input Width	Bearing Length	Vertical Reactions (lbs) Live/Dead/Uplift/Total	Detail	Other
1	Stud wall	3.50"	12.33"	21000 / 15680 / 0 / 36680	L1	Custom Blocking
2	Stud wall	3.50"	12.33"	21000 / 15680 / 0 / 36680	L1	Custom Blocking

-Bearing length requirement exceeds input at support(s) 1, 2. Supplemental hardware is required to satisfy bearing requirements.

DESIGN CONTROLS:

	Maximum	Design	Control	Control	Location
Shear (lbs)	36243	-28929	43307	Passed (67%)	Rt. end Span 1 under Floor (Primary Load Group) loading
Moment (Ft-Lbs)	250683	250683	258929	Passed (97%)	MID Span 1 under Floor (Primary Load Group) loading
Live Load Defl (in)		0.544	0.553	Passed (L/610)	MID Span 1 under Alternate Deflection Criteria
Total Load Defl (in)		0.950	1.383	Passed (L/349)	MID Span 1 under Floor (Primary Load Group) loading

-Deflection Criteria: MINIMUM(LL:L/360,TL:L/240,ALT:L/600@50.0 psf).
-Bracing(Lu): All compression edges (top and bottom) must be braced at 13' 10" o/c unless detailed otherwise. Proper attachment and positioning of lateral bracing is required to achieve member stability.
-Concentrated load requirements for standard non-residential floors have been considered.

ADDITIONAL NOTES:

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