

### STRUCTURAL NOTES

- THE STRUCTURE SHOWN ON THESE DRAWINGS IS STRUCTURALLY SOUND ONLY IN ITS COMPLETED FORM. THE STABILITY OF THIS STRUCTURE DEPENDS ON THE DIAPHRAGM AND BRACING MEMBERS SHOWN. THE CONTRACTOR IS TO PROVIDE FOR THE DESIGN AND CONSTRUCTION OF SHORING FOR ALL EARTH, FORMS, CONCRETE, STEEL, WOOD, AND MASONRY TO RESIST GRAVITY, EARTH, WIND, SEISMIC, AND CONSTRUCTION LOADS. SHORING SHALL REMAIN IN PLACE UNTIL ALL DIAPHRAGM AND LATERAL RESISTING ELEMENTS ARE IN PLACE IN THEIR ENTIRETY.
- EQUIPMENT FRAMING LOADS, OPENINGS AND STRUCTURE IN ANY WAY RELATED TO MECHANICAL, PLUMBING OR ELECTRICAL REQUIREMENTS ARE SHOWN FOR BIDDING PURPOSES ONLY. THE CONTRACTOR SHALL COORDINATE THIS INFORMATION WITH THE INVOLVED TRADES BEFORE PROCEEDING WITH SUCH PORTION OF THE WORK. EXCESS COST RELATED TO VARIATION IN THESE REQUIREMENTS SHALL BE BORNE BY THE APPROPRIATE CONTRACTOR.
- SHOP DRAWINGS SHALL BE SUBMITTED IN THE FORM OF FULL SIZED PDF FILES. THE PURPOSE OF SHOP DRAWINGS SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE STRUCTURAL ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT BY INDICATING WHICH MATERIALS HE INTENDS TO FURNISH AND INSTALL, AND BY DETAILING THE FABRICATION AND INSTALLATION METHODS HE INTENDS TO USE. PRIOR TO FABRICATION, SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW TO THE STRUCTURAL ENGINEER. PRIOR TO SUBMISSION THE CONTRACTOR SHALL REVIEW ALL SUBMITTALS FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND SHALL STAMP SUBMITTALS AS BEING "REVIEWED FOR CONFORMANCE". SHOP DRAWINGS SUBMITTALS PROCESSED BY THE STRUCTURAL ENGINEER ARE NOT CHANGE ORDERS. ANY DETAIL ON THE SHOP DRAWING THAT DEVIATES FROM THE CONTRACT DOCUMENTS SHALL CLEARLY BE MARKED WITH THE NOTE "THIS IS A CHANGE". SHOP DRAWINGS OR CALCULATIONS SUBMITTED FOR REVIEW THAT REQUIRE RESUBMITTAL FOR RE-REVIEW SHALL BE BILLED HOURLY FOR SUCH TIME TO THE GENERAL CONTRACTOR. RE-REVIEW WILL NOT PROCEED WITHOUT WRITTEN APPROVAL FROM THE GENERAL CONTRACTOR FOR ADDITIONAL ENGINEERING REVIEW SERVICES. SHOP DRAWINGS SUBMITTALS SHALL INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO:
  - STRUCTURAL STEEL
  - REINFORCED STEEL
- SPECIAL INSPECTIONS REQUIRED FOR THIS PROJECT BY CHAPTER 17 OF THE IBC SHALL BE PROVIDED DURING CONSTRUCTION. THE ENGINEER OF RECORD OR OTHER LICENSED AND CERTIFIED INDIVIDUALS SHALL BE RETAINED FOR THESE INSPECTIONS AND SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES.
  - CONCRETE (IBC TABLE 1705.3):
 

REINFORCING STEEL PLACEMENT	(PERIODIC)
MIX DESIGN	(PERIODIC)
SLUMP, AIR CONTENT AND TEMPERATURE	(CONTINUOUS)
BREAK TESTS	(CONTINUOUS)
CONCRETE PLACEMENT	(CONTINUOUS)
TEMPERATURE MAINTENANCE	(PERIODIC)
FORMWORK LOCATIONS AND DIMENSIONS	(PERIODIC)
  - SOILS (IBC 1705.6):
 

EXCAVATION LOCATIONS AND PLACEMENT	(PERIODIC)
FILL MATERIAL CLASSIFICATION	(PERIODIC)
SUBGRADE PREPARATION	(PERIODIC)
COMPACTION TESTS	(CONTINUOUS)
LIFT THICKNESSES	(CONTINUOUS)
  - STRUCTURAL WOOD (IBC 1705.10.1 & 1705.11.2):
 

HOLD-DOWNS, HANGERS, BLOCKING	(PERIODIC)
DIAPHRAGM THICKNESS AND FASTENING	(CONTINUOUS)
SHEARWALL THICKNESS AND FASTENING	(CONTINUOUS)
- DEFERRED SUBMITTAL ITEMS ARE THOSE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF APPLICATION AND HAVE RECEIVED PRIOR APPROVAL FROM THE BUILDING OFFICIAL TO BE DEFERRED. DEFERRED SUBMITTAL DOCUMENTS SHALL BE SUBMITTED, REVIEWED AND APPROVED BY THE ENGINEER OF RECORD AND THE BUILDING OFFICIAL PRIOR TO INSTALLATION. THE FOLLOWING ITEMS ARE DEFERRED SUBMITTALS:
  - NONE REQUIRED

### WOOD

- ALL STRUCTURAL WOOD SHALL CONFORM WITH THE FOLLOWING SPECIFICATION:
  - DOUGLAS FIR/LARCH NO. 2 - COAST REGION - WCLIB GRADING RULES.
  - HEM-FIR NO. 2 & BTR - WCLIB GRADING RULES.
  - SPRUCE-PINE-FIR NO. 2 - NLGA GRADING RULES.
 UNLESS OTHERWISE STATED, ALL WALLS AND PLATES SHALL BE DF#2 AND ALL TRIMMERS AND KING STUDS SHALL BE DF#2. ALL POSTS, COLUMNS, OR HEADERS SHALL BE DF#2.
- ENGINEERED WOOD AND GLU-LAMINATED MATERIALS SHALL MEET OR EXCEED THE MATERIALS AS SHOWN ON THE PLANS. STORAGE, HANDLING, INSTALLATION AND FASTENING SHALL BE PER THE MANUFACTURER'S REQUIREMENTS.
- ALL WOOD IN DIRECT CONTACT WITH EARTH OR CONCRETE SHALL BE PRESSURE TREATED. ALL JOISTS WITHIN 18 INCHES OF GRADE AND BEAMS WITHIN 12 INCHES OF GRADE SHALL BE PRESSURE TREATED. WOOD POST BASES MUST PROVIDE 1" MINIMUM STANDOFF DISTANCE FROM CONCRETE.
- PROVIDE SOLID BLOCKING BETWEEN JOISTS AND RAFTERS AT ALL SUPPORTS.
- HOLES FOR BOLTS IN WOOD SHALL BE BORED WITH A BIT OF THE SAME NOMINAL DIAMETER AS THE BOLT PLUS 1/16".
- HOLES FOR LAG SCREWS SHALL BE BORED AS FOLLOWS:
  - THE CLEARANCE HOLE FOR THE SHANK SHALL HAVE THE SAME DIAMETER AS THE SHANK AND THE SAME DEPTH OF PENETRATION AS THE LENGTH OF UNTHREADED SHANK.
  - THE LEAD HOLE FOR THE THREADED PORTION SHALL HAVE A DIAMETER EQUAL TO 60% TO 75% OF THE SHANK DIAMETER AND A LENGTH EQUAL TO AT LEAST THE LENGTH OF THE THREADED PORTION.
- LAG SCREWS AND WOOD SCREWS SHALL BE SCREWED AND NOT DRIVEN INTO PLACE. SOAP MAY BE USED TO LUBRICATE THE SCREWS.
- ALL BOLTS AND LAG SCREWS SHALL BE PROVIDED WITH METAL WASHERS UNDER HEADS AND NUTS WHICH BEAR ON WOOD. APPLIES ALSO TO INSERTED EXPANDING FASTENERS, RED HEAD, ETC. SEE SHEARWALL NOTES FOR SILL PLATE REQUIREMENTS.
 

BOLT	MI WASHER	STEEL WASHER
5/8" ø	2 3/4" ø x 5/16"	2 1/2" x 2 1/2" x 1/4"
3/4" ø	3" ø x 7/16"	3" x 3" x 5/16"
7/8" ø	3 1/2" ø x 7/16"	3 1/2" x 3 1/2" x 3/8"
1" ø	4" ø x 1/2"	3 3/4" x 3 3/4" x 3/8"
- ALL BOLTS AND LAG SCREWS SHALL BE TIGHTENED ON INSTALLATION AND TIGHTENED BEFORE CLOSING IN OR AT COMPLETION OF JOB.
- CONNECTION HARDWARE MODEL NUMBERS ARE THOSE FOR SIMPSON STRONG-TIE COMPANY. EQUIVALENT CONNECTORS MAY BE SUBSTITUTED WITH PRIOR APPROVAL BY THE ENGINEER OF RECORD.
- ALL NAILING AS NOTED IN SCHEDULES SHALL MEET COMMON NAIL SPECIFICATION. COMMON NAIL SPECIFICATION LENGTH IS REQUIRED UNLESS COMMON SHORT IS NOTED AS ACCEPTABLE.
 

COMMON NAIL	LENGTH	DIAMETER
8d	2 1/2"	0.131"
10d	3"	0.148"
16d	3 1/2"	0.162"
- ALL PLYWOOD AND OSB SHEATHING SHALL BE ATTACHED TO THE FRAME AS INDICATED IN THE DRAWINGS.
- ALL NAILING SHALL BE PER THE REQUIREMENTS SET FORTH IN THE IBC TABLE 2304.10.1. UNLESS OTHERWISE NOTED.
- ALL NAILS, SCREWS, OR OTHER METAL HARDWARE IN DIRECT CONTACT WITH TREATED WOOD SHALL BE HOT-DIPPED GALVANIZED OR STAINLESS STEEL.

### STRUCTURAL STEEL

- FABRICATION, ERECTION AND MATERIALS SHALL CONFORM WITH THE AISC SPECIFICATION FOR THE STRUCTURAL STEEL BUILDINGS THE INTERNATIONAL BUILDING CODE (IBC), LATEST EDITION.
- STRUCTURAL STEEL ROLLED, SHAPES, PLATES, AND SKIRTING SHALL CONFORM WITH ASTM A-36 OR A572 GRADE 50 AS NOTED AND HSS COLUMNS SHALL BE A500 GRADE B.
- WELDING SHALL BE DONE BY THE ELECTRIC ARC PROCESS IN ACCORDANCE WITH AMERICAN WELDING SOCIETY STANDARDS, USING ONLY CERTIFIED WELDERS. ALL GROOVE WELDS SHALL HAVE COMPLETE PENETRATION UNLESS NOTED OTHERWISE. ALL EXPOSED WELDS SHALL BE GROUND. ALL WELDING TO BE DONE USING E70xx ELECTRODES. IN ADDITION, WELDING OF ASTM572 GRADE 50 STEEL SHALL BE DONE WITH LOW HYDROGEN E70xx ELECTRODES.
- ALL STRUCTURAL STEEL SHALL BE ERECTED PLUMB AND TRUE TO LINE. TEMPORARY BRACING SHALL BE INSTALLED AND SHALL BE LEFT IN PLACE UNTIL OTHER MEANS ARE PROVIDED TO ADEQUATELY BRACE THE STRUCTURE.
- BOLTED CONNECTIONS SHALL CONSIST OF UNFINISHED BOLTS CONFORMING TO ASTM A-325 UNLESS NOTED OTHERWISE.
- HOLES FOR UNFINISHED BOLTS SHALL BE OF THE SAME NOMINAL DIAMETER OF THE BOLT PLUS 1/16". USE STANDARD AISC GAGE AND PITCH FOR BOLTS EXCEPT AS NOTED OTHERWISE.

### STRUCTURAL DESIGN CRITERIA

CODES AND STANDARDS PER INTERNATIONAL BUILDING CODE (IBC) 2018 AND MOA AMENDMENTS. IN ADDITION TO DEAD LOADS, THE FOLLOWING MINIMUM LIVE LOADS APPLY TO THE CONSTRUCTION OF ALL BUILDINGS AND FACILITIES SHOWN UNLESS OTHERWISE NOTED.

RISK CATEGORY: II

FLOOR LOADINGS: 100 psf

ROOF LIVE LOAD: 50 psf (GROUND SNOW)

SITE CLASS "D"

BASIC FORCE SYSTEM WOOD WITH SHEATHING  
R = 6.5 WOOD SHEARWALL

WIND LOADS:  
BASIC WIND SPEED 130 MPH, 3 SECOND GUST  
IMPORTANCE FACTOR 1.0  
EXPOSURE "B"



1 S1 FREIGHT SHED BUILDING PLAN

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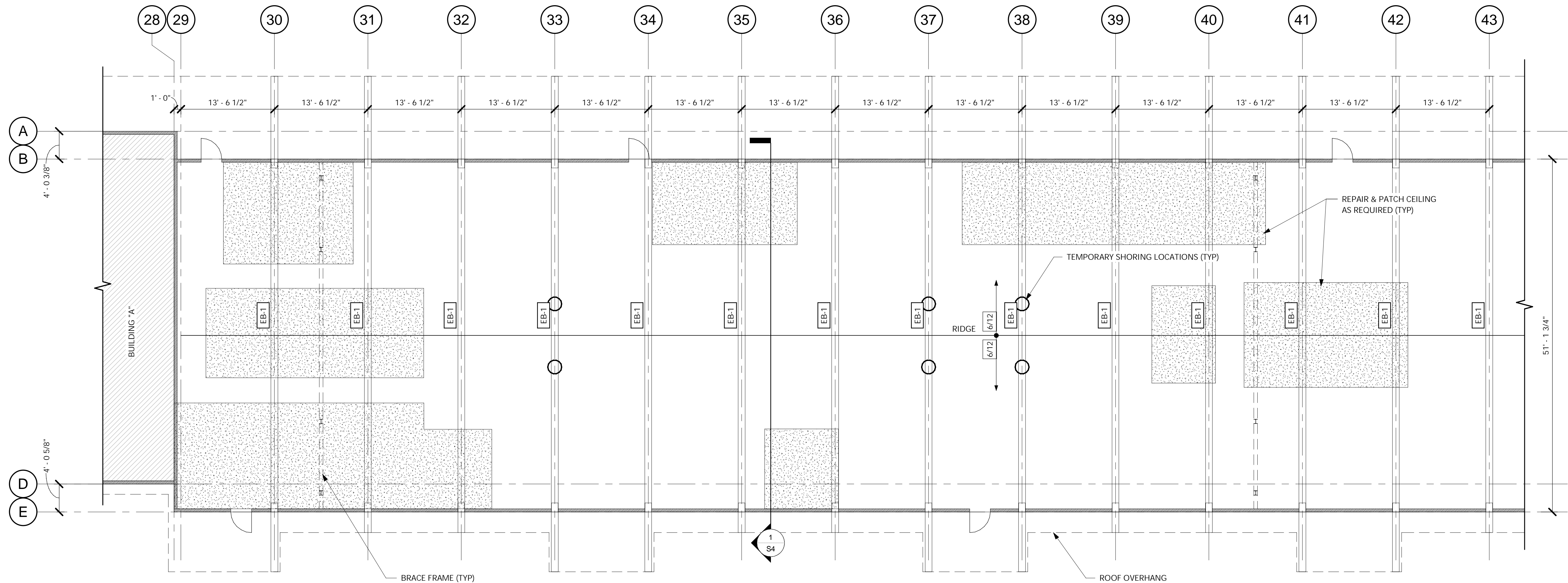
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**FREIGHT SHED TRUSS REPAIR**

**DESIGN CRITERIA AND STRUCTURAL NOTES**

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DESIGNED BY:	DM
DRAWN BY:	SC
CHECKED BY:	DM
DATE:	6/27/2024
FILE NO.:	1502.01
SHEET NUMBER	<b>S1</b> OF <b>5</b>



**1** ROOF FRAMING PLAN BUILDING B GRIDS 29-43

1/8" = 1'-0"

ROOF FRAMING SCHEDULE		
TYPE MARK	TYPE/ SIZE	DESCRIPTION
EB-1	WOOD TRUSS	EXISTING HEAVY BUILT TRUSS

NOTE: CONTRACTOR SHALL RESTORE ARCHITECTURAL FINISHES TO KEEP APPEARANCE OF HISTORIC BUILDING.

1" ONE INCH

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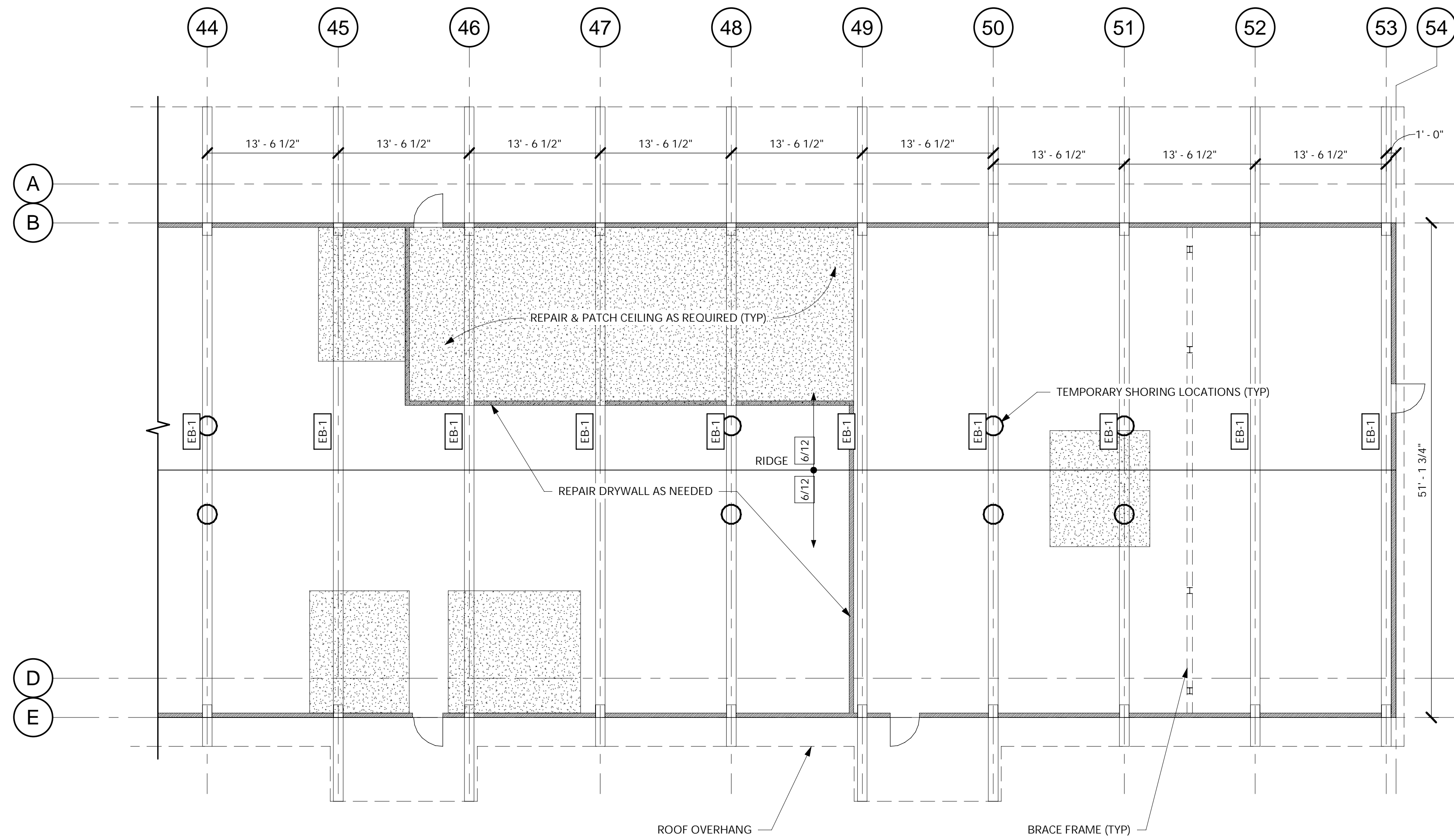
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ROOF FRAMING REPAIR PLAN

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FILE NO. 1502.01  
SHEET NUMBER  
**S2** OF **5**



**1** ROOF FRAMING PLAN BUILDING B GRIDS 44-54  
**S3**

1/8" = 1'-0"

ROOF FRAMING SCHEDULE		
TYPE MARK	TYPE/ SIZE	DESCRIPTION
EB-1	WOOD TRUSS	EXISTING HEAVY BUILT TRUSS

NOTE: CONTRACTOR SHALL RESTORE ARCHITECTURAL FINISHES TO KEEP APPEARANCE OF HISTORIC BUILDING.

1" ONE INCH

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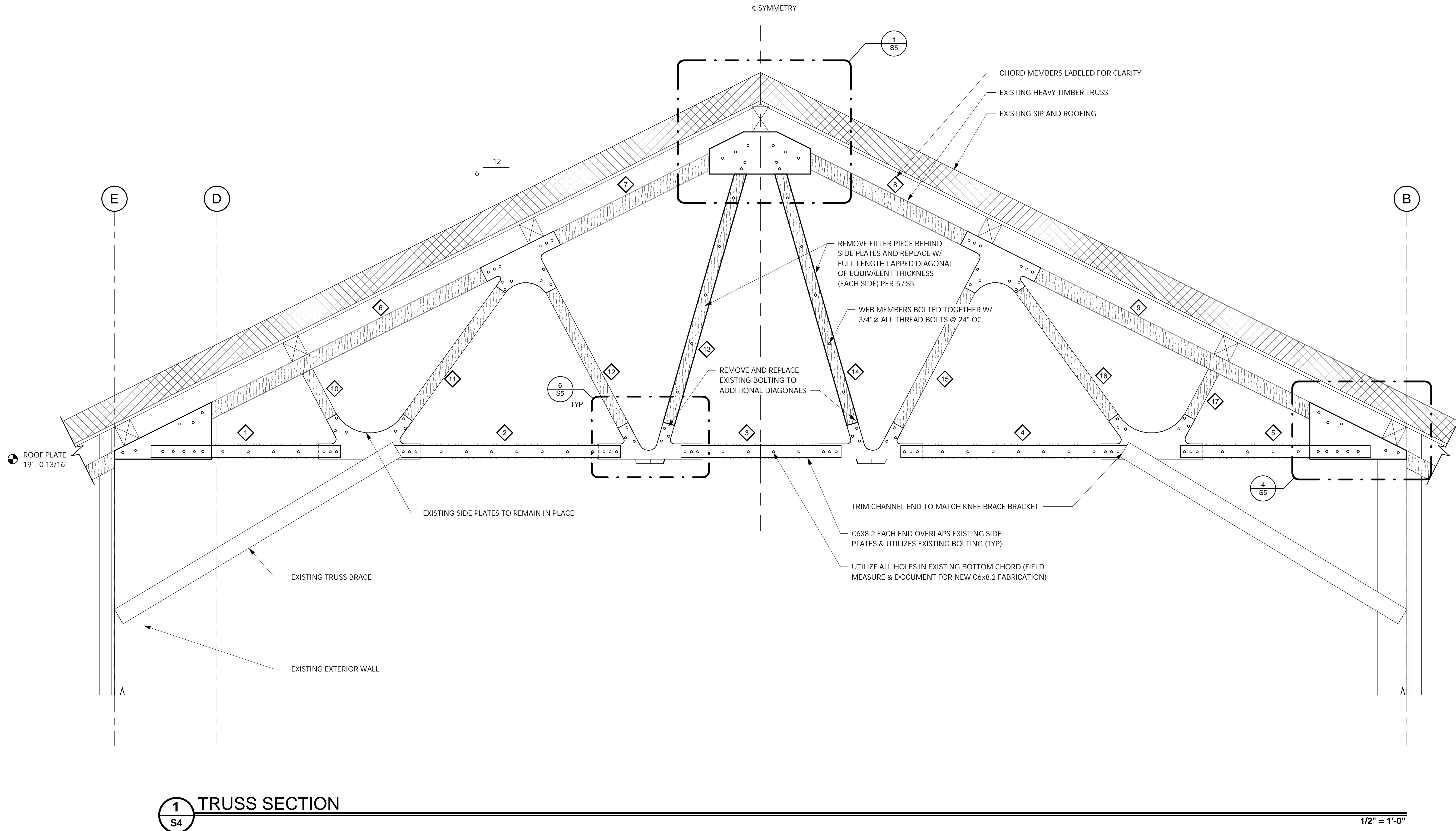
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**ROOF FRAMING REPAIR PLAN**

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1 TRUSS SECTION  
S4

1/2" = 1'-0"

1" ONE INCH

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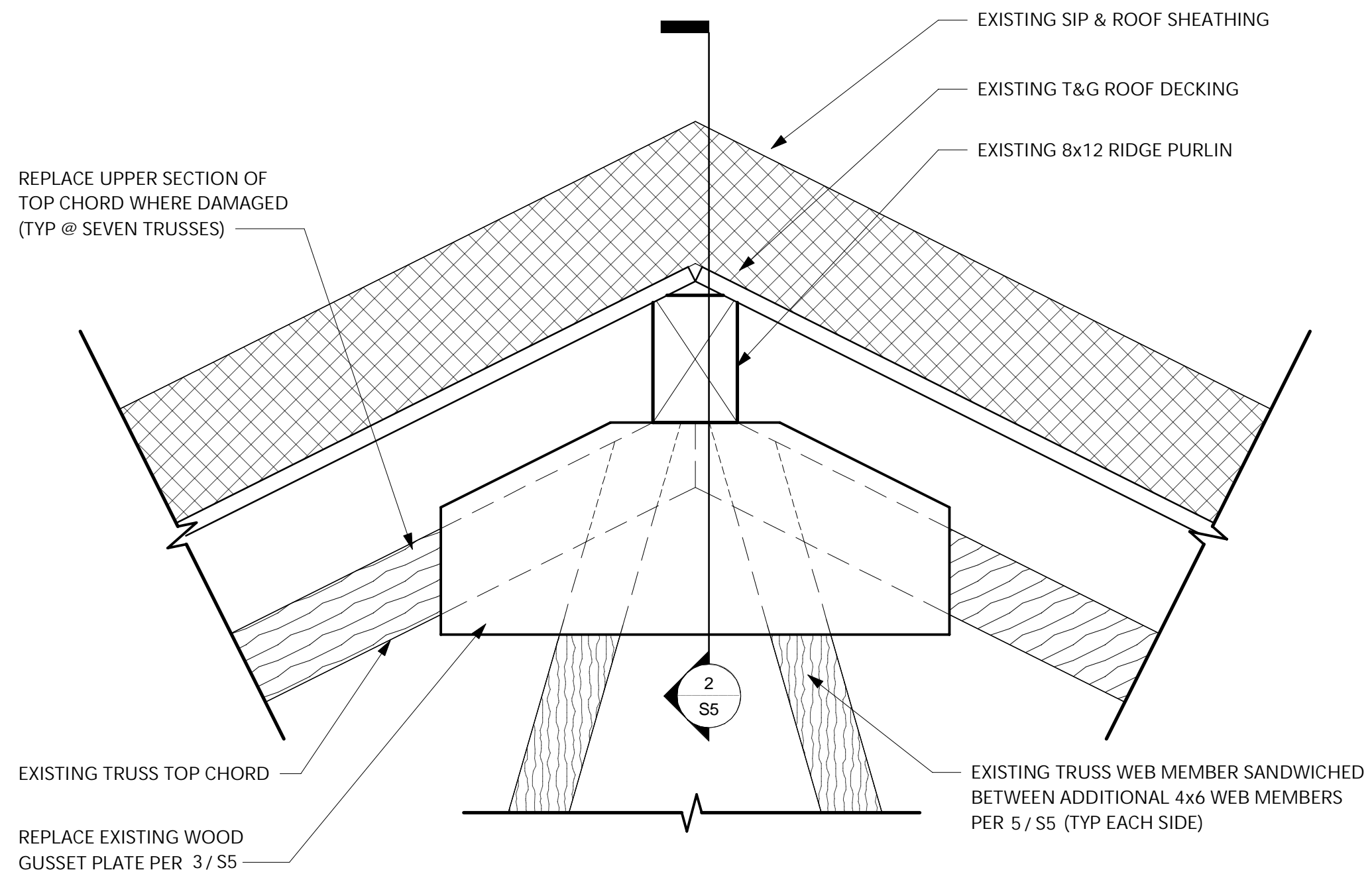
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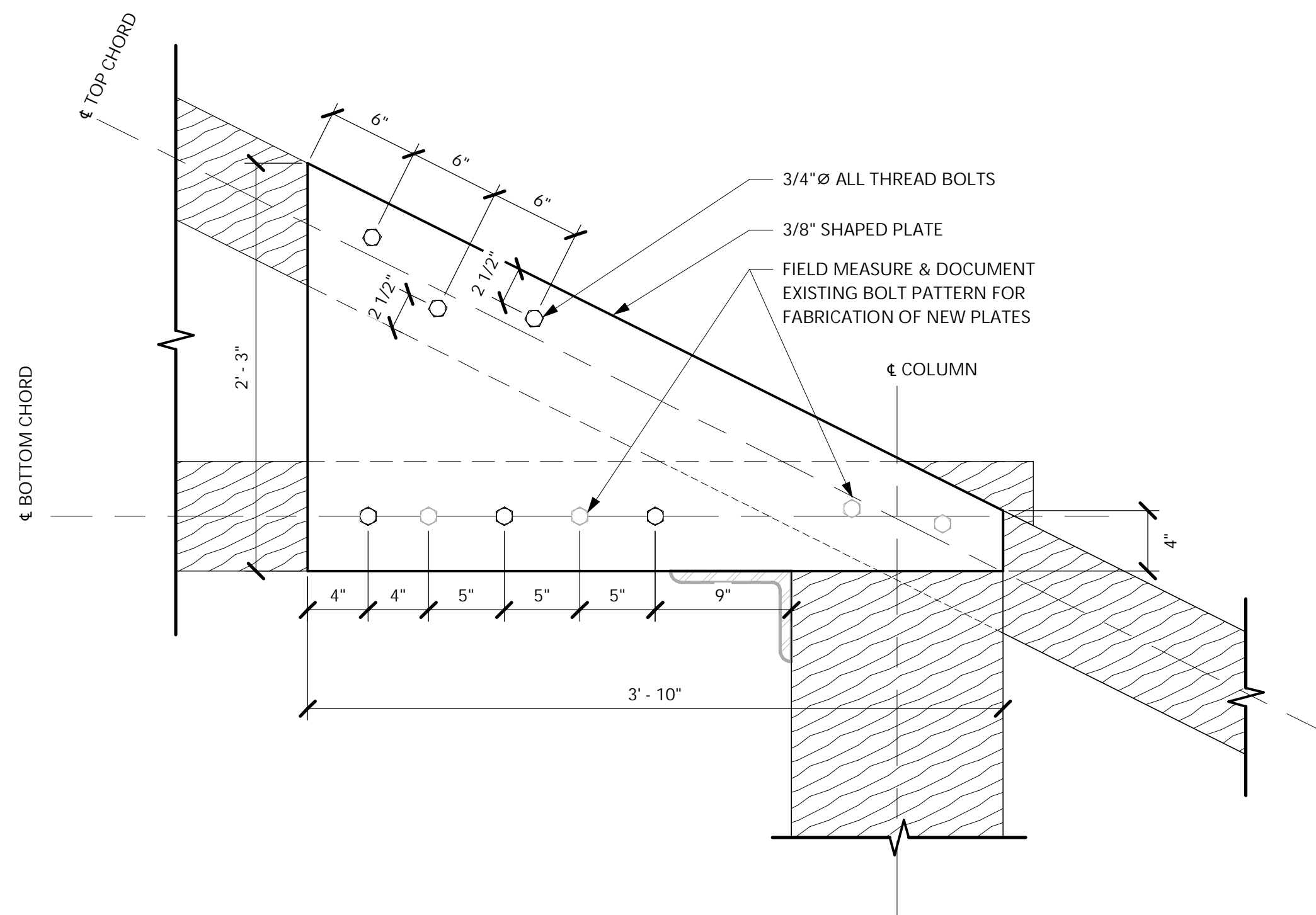
**FREIGHT SHED TRUSS REPAIR**

TRUSS SECTION

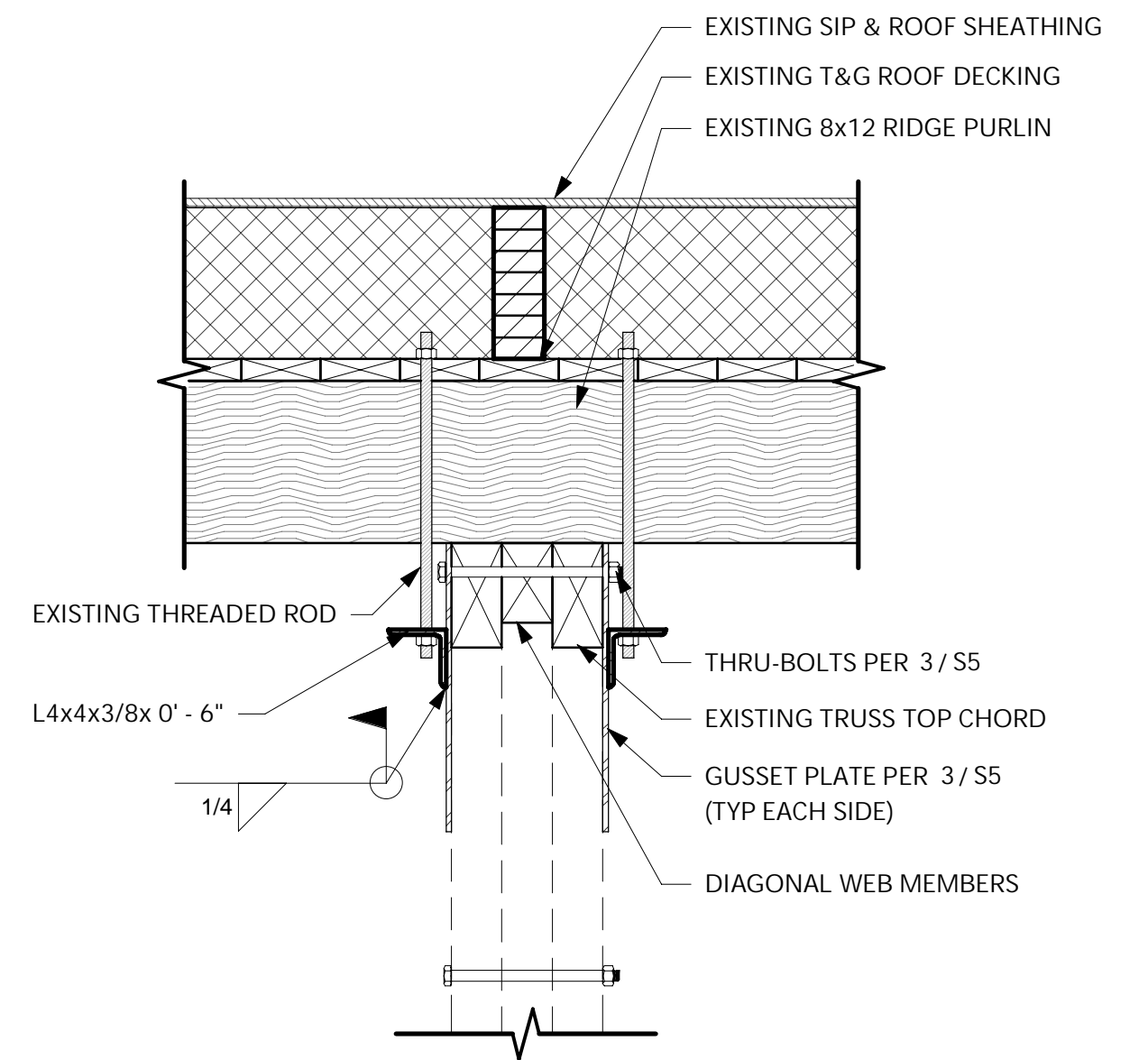
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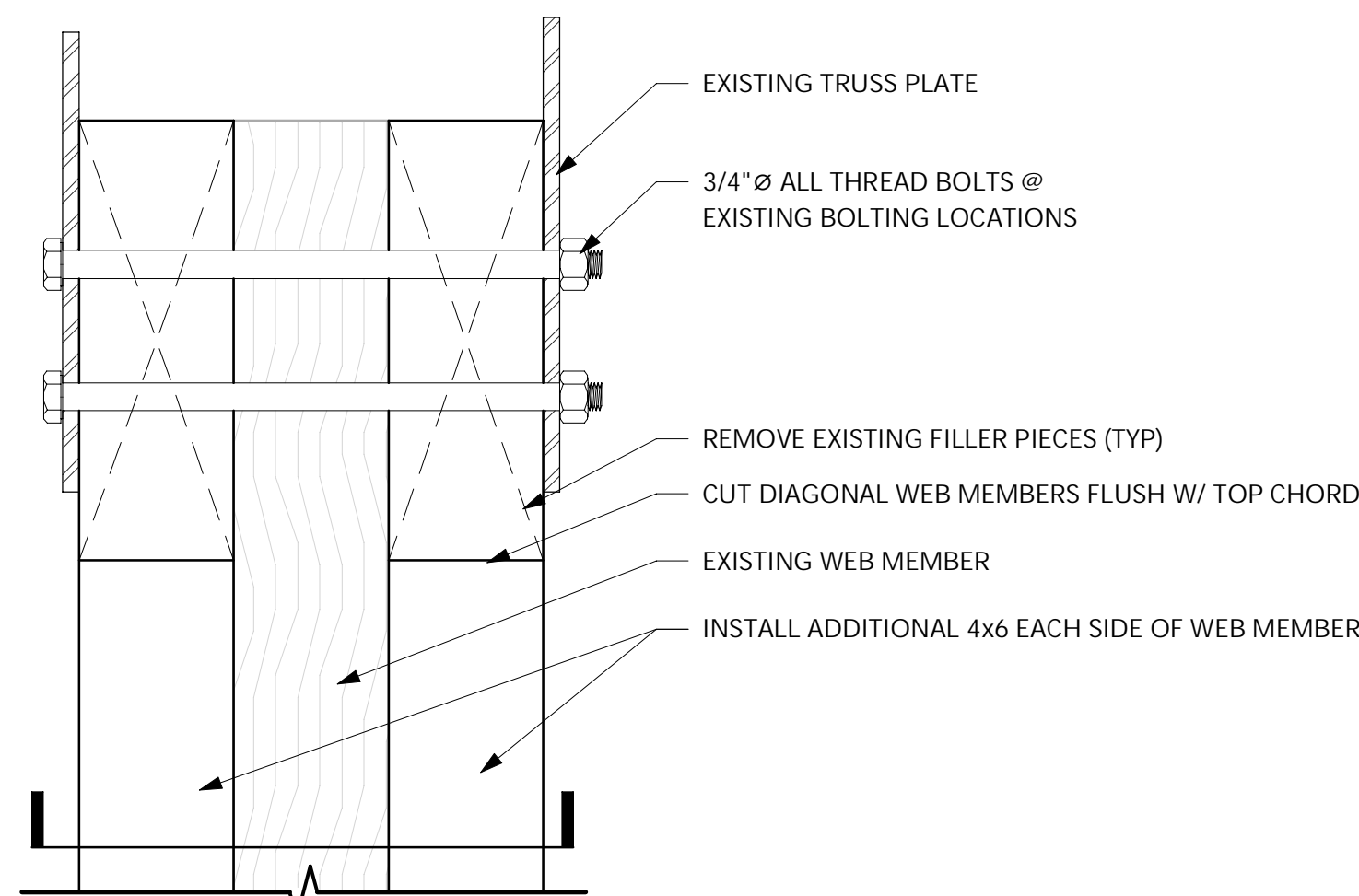
**1** TRUSS RIDGE DETAIL  
S5 1" = 1'-0"



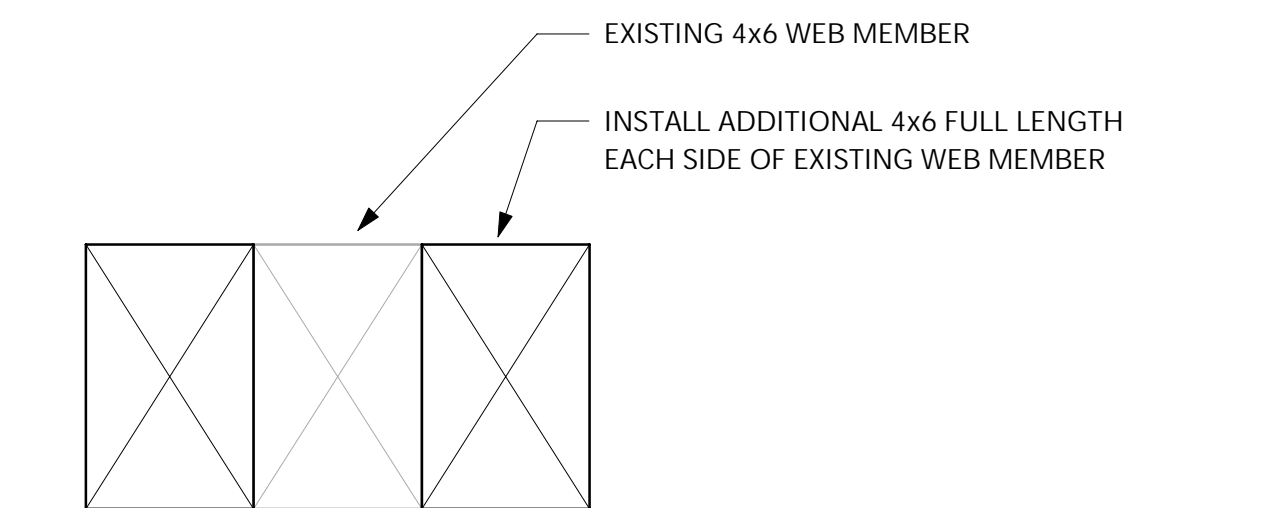
**4** TRUSS HEEL GUSSET PLATE  
S5 1 1/2" = 1'-0"



**2** TRUSS RIDGE SECTION  
S5 1" = 1'-0"

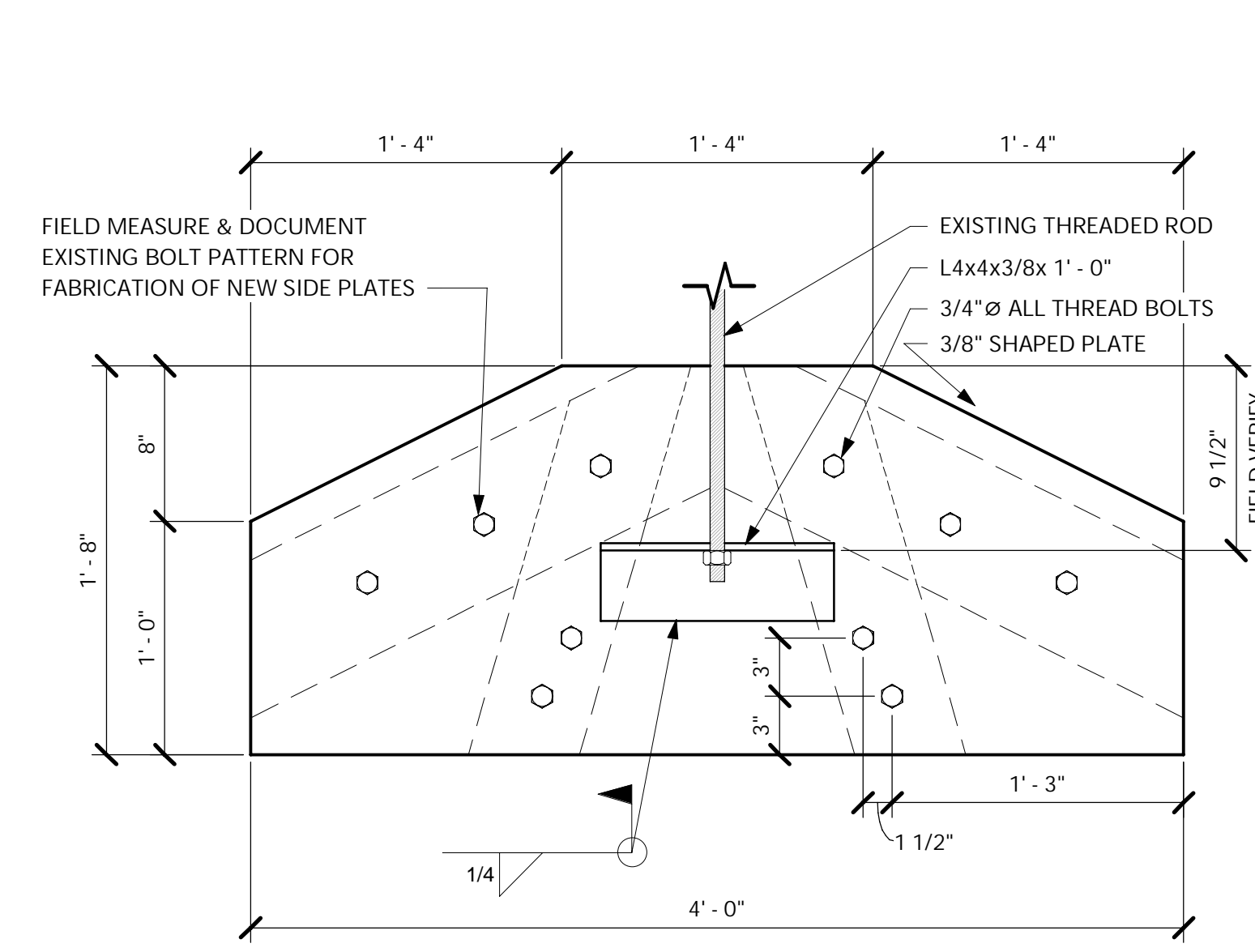


ELEVATION

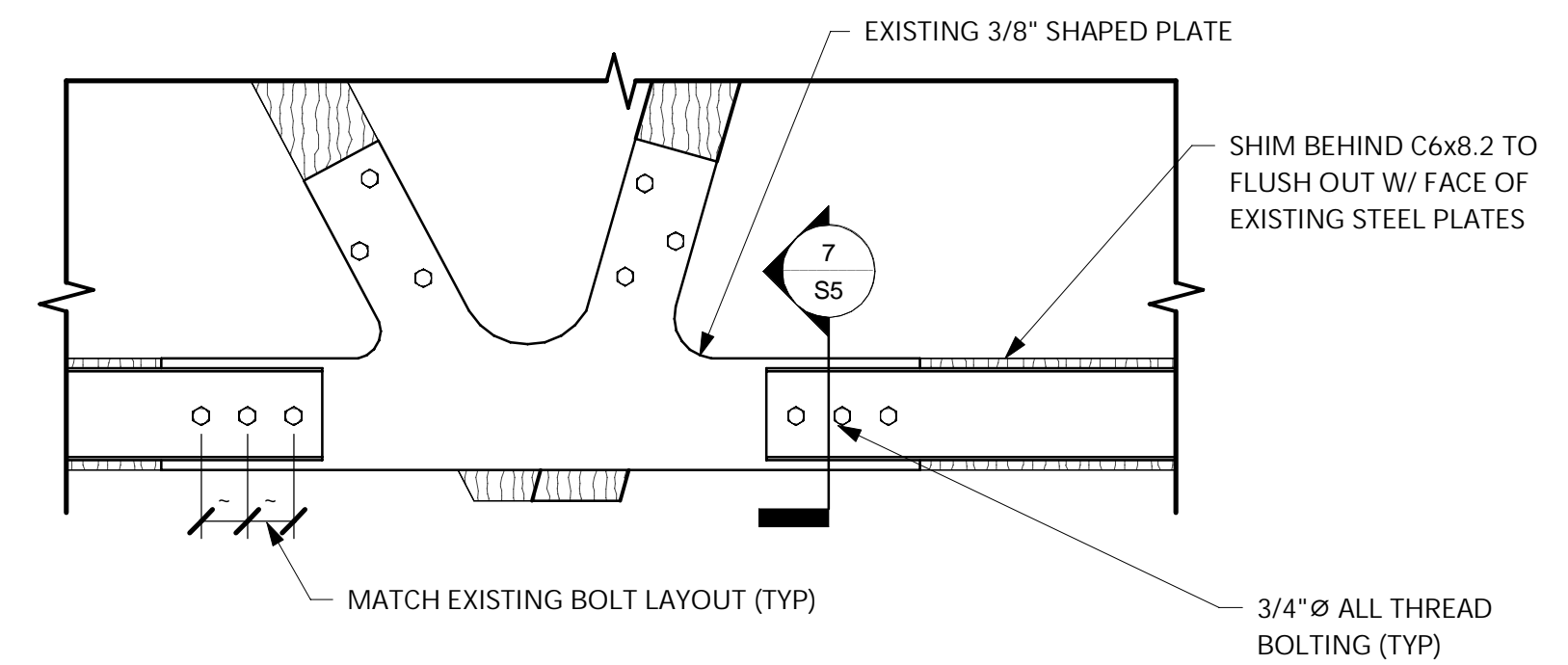


SECTION VIEW

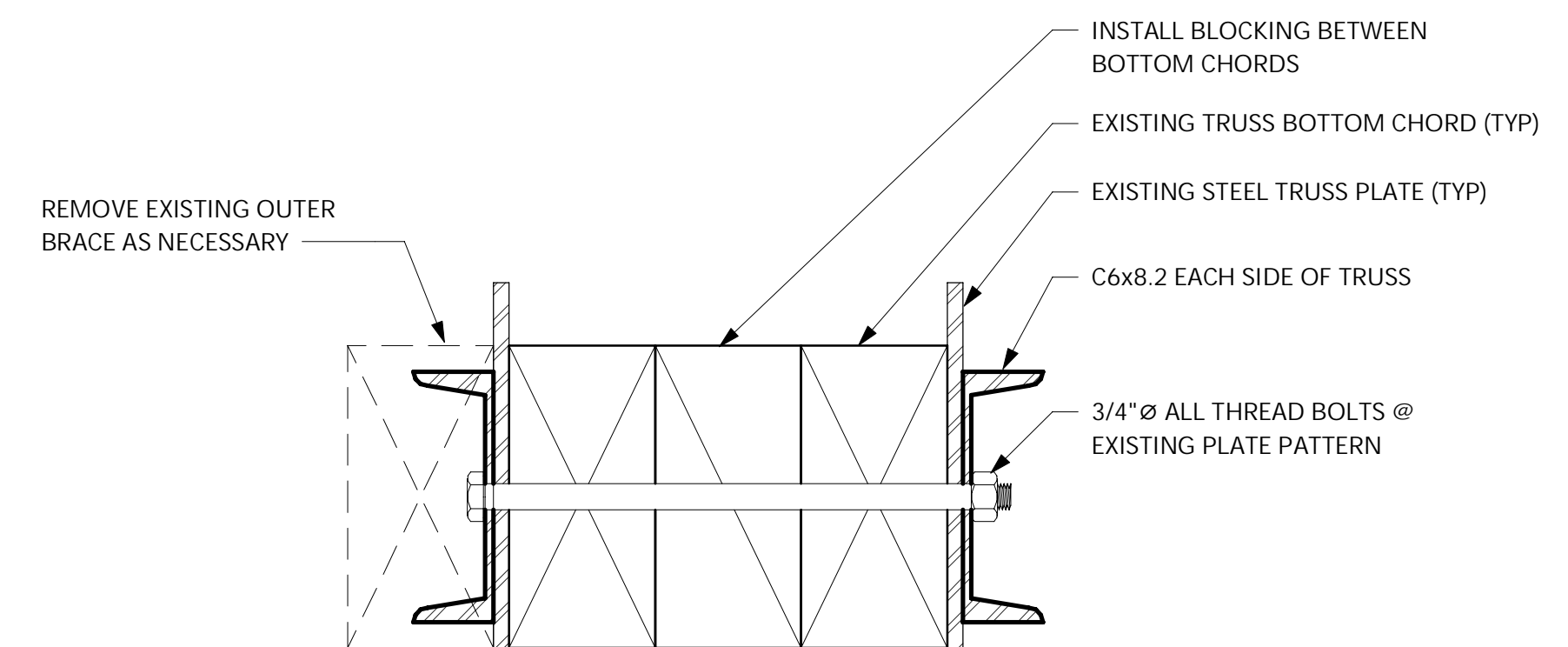
**5** DIAGONAL WEB MEMBER BRACE  
S5 3" = 1'-0"



**3** RIDGE GUSSET PLATE  
S5 1 1/2" = 1'-0"



**6** CHANNEL BOLTING DETAIL  
S5 1" = 1'-0"



**7** BOTTOM CHORD SECTION  
S5 3" = 1'-0"

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