

RE-ROOF FOR BONNEVILLE 10,11, 13

1498 EAST 800 SOUTH PROVO, UTAH

OWNER:

THE CHURCH OF JESUS CHRIST
OF LATTER-DAY SAINTS
PROJECT MANAGER

PROVO WEST FM GROUP
JOHN TOLMAN
1600 NORTH 900 EAST P.O. BOX 358
PROVO, UT 84603

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ARCHITECT:

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LESTER VAN NOSDOL, PROJECT ARCHITECT

32 W. CENTER ST., SUITE 203
PROVO, UTAH 84601

PH. (801) 374-2100

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STRUCTURAL ENGINEER

CKR ENGINEERS, INC.
1295 NORTH STATE STREET
OREM, UTAH 84057

PHONE NO. : 801-222-0922

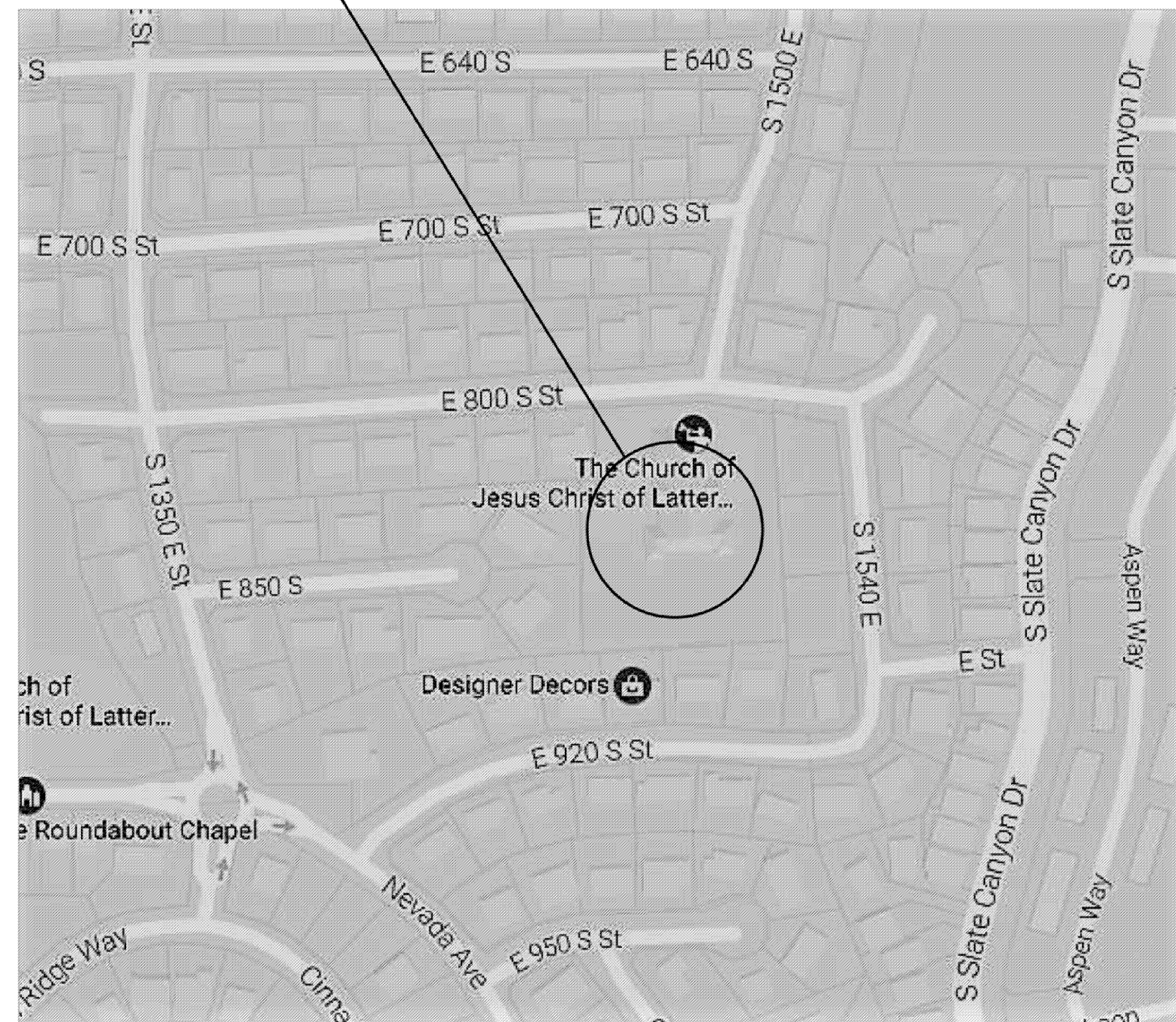
CODE INFORMATION

EXISTING BUILDING

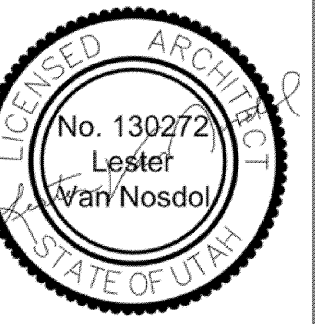
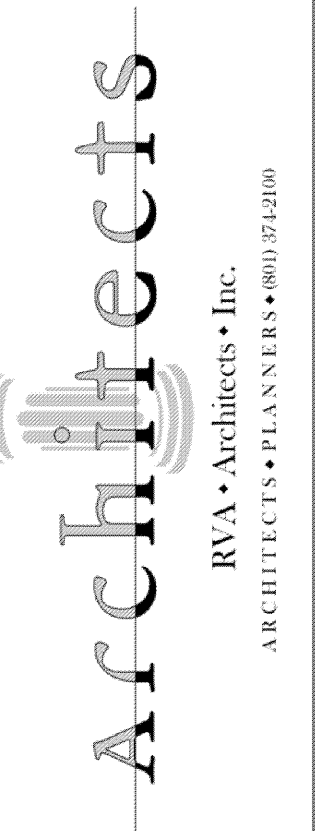
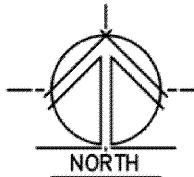
OCCUPANCY: A-3
TYPE CONSTRUCTION: TYPE V, 1 HOUR
FIRE PROTECTION: FIRE EXTING.

APPLICABLE CODES: 2015-IBC

PROJECT LOCATION



PROVO VICINITY MAP



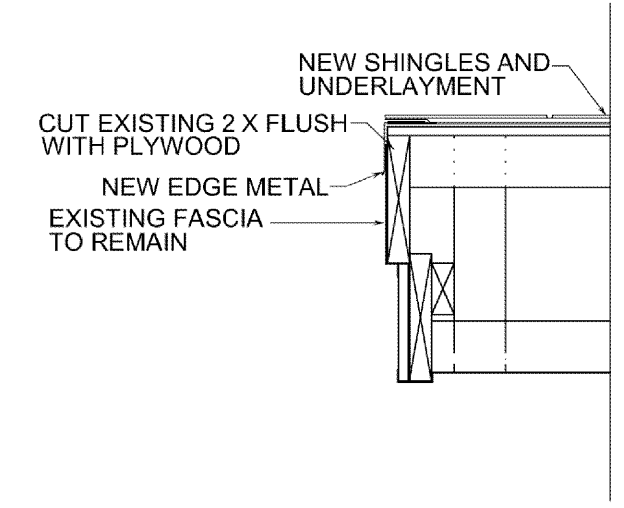
RE-ROOF FOR
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PROJECT FOR
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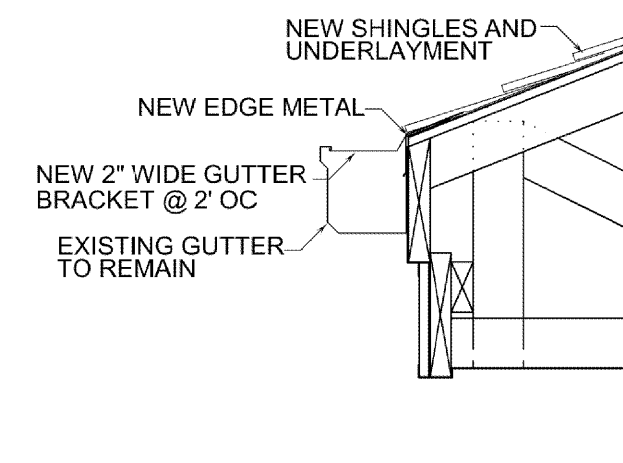
PROJECT NUMBER: 15-18
PLAN SERIES:
PROPERTY NUMBER: 529-4568
DATE: 03/20/2017

SHEET TITLE:
COVER SHEET

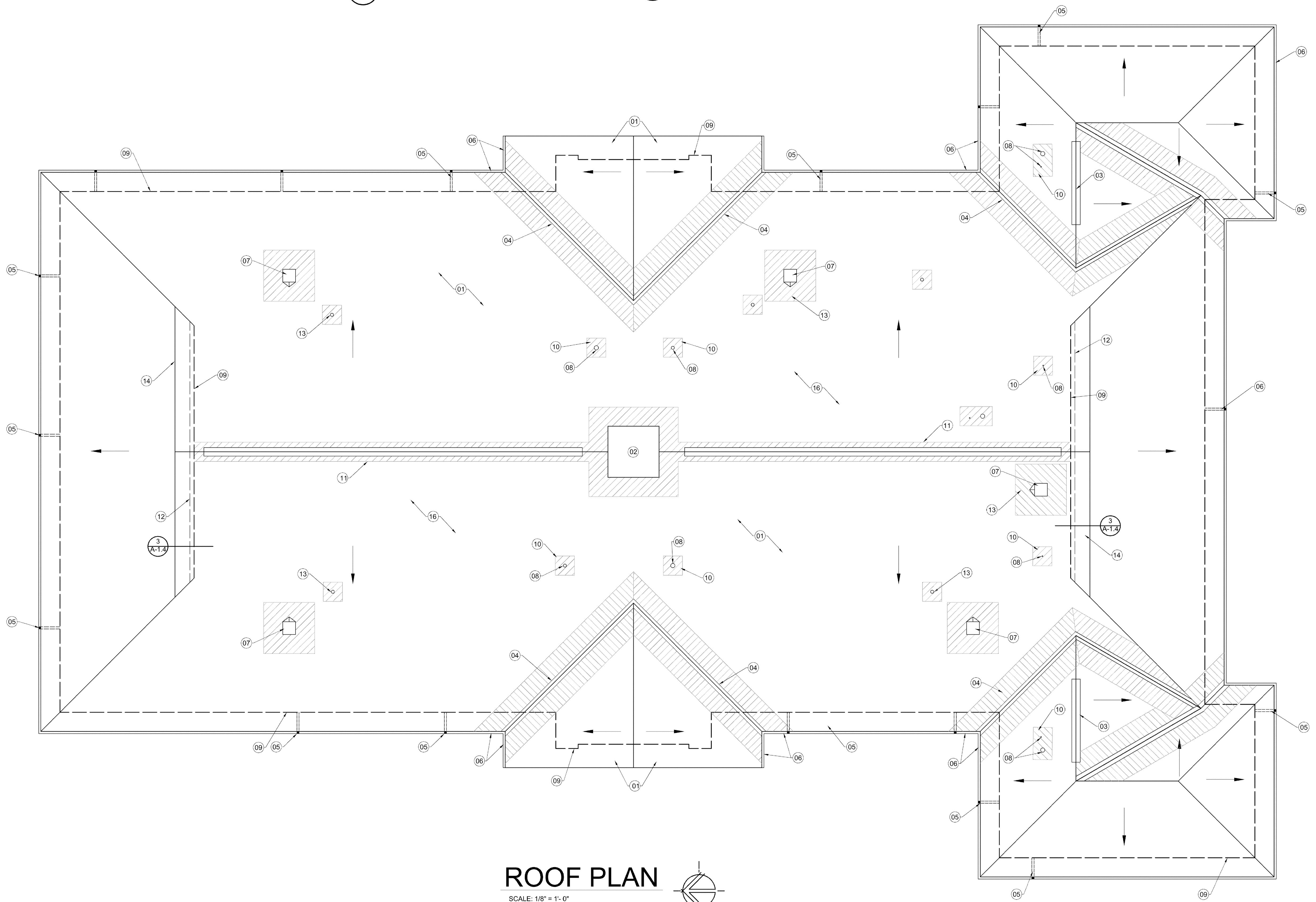
SHEET:
A-0



A RAKE DETAIL
SCALE: 3" = 1'-0"



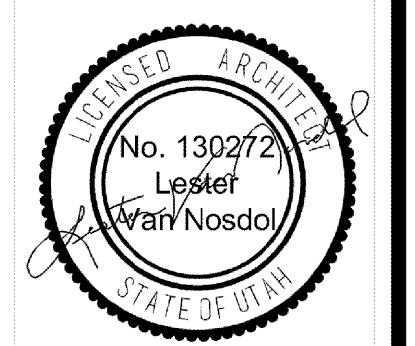
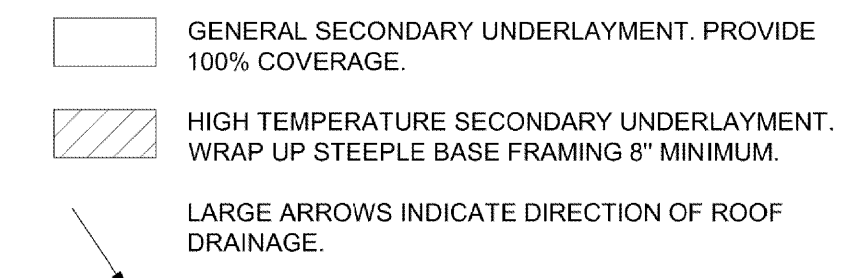
B GUTTER DETAIL
SCALE: 3" = 1'-0"



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

- KEY NOTES:**
- 01 REMOVE AND DISPOSE OF EXISTING ASPHALT SHINGLES, UNDERLAYMENT, & DRIP EDGE. INSTALL NEW ASPHALT SHINGLES & DRIP EDGE OVER NEW UNDERLAYMENT. SEE A/A-1.3
 - 02 TEMPORARILY REMOVE EXISTING STEEPLE TO INSTALL NEW ROOF FLASHING. SEE F/A-1.4. REINSTALL STEEPLE.
 - 03 REMOVE & DISPOSE OF EXISTING RIDGE VENT. INSTALL NEW RIDGE VENT. SEE B/A-1.3.
 - 04 REMOVE AND DISPOSE OF EXISTING VALLEY METAL. INSTALL NEW VALLEY METAL OVER NEW UNDERLAYMENT. SEE A/A-1.3.
 - 05 NEW DOWNSPOUT. PROVIDE NEW CONCRETE SPLASH BLOCK AT BOTTOM OF DOWNSPOUT.
 - 06 NEW GUTTER. MATCH EXISTING. PROVIDE SPLASH DIVERTER AT INSIDE CORNER OF GUTTER.
 - 07 EXISTING MECHANICAL PENTHOUSE TO REMAIN. INSTALL NEW METAL CRICKET. SEE B/A-1.4.
 - 08 EXISTING VTR TO REMAIN. PROVIDE NEW PIPE FLASHING & PAINT. SEE C/A-1.3.
 - 09 LINE OF WALL BELOW.
 - 10 INSTALL 36" SQUARE OF HIGH TEMPERATURE ICE & WATER SHIELD BENEATH NEW PIPE FLASHING.
 - 11 NEW RIDGE VENT. SEE B/A-1.3
 - 12 NEW ROOF VENT AT LOWER ROOF. SEE 3/A-1.4.
 - 13 REMOVE AND DISPOSE OF EXISTING FURNACE FLUE. REPLACE WITH NEW PAINTED FLUE & PIPE FLASHING. SEE C/A-1.4
 - 14 REPLACE ALL SOFFIT & FASCIA AT UPPER ROOF. SEE A/A-1.2
 - 15 ADD FLAT METAL STRIP (SIMILAR MATERIAL TO VALLEY METAL) OVER SEAM BETWEEN ORIGINAL BUILDING AND ADDITIONS TO BRIDGE GAP IN SHEATHING.
 - 16 PROVIDE ADDITIONAL 6" OF BLOWN IN INSULATION IN ENTIRE BUILDING

- GENERAL NOTES:**
- 1 REMOVE & DISPOSE OF GUTTERS & DOWNSPOUTS.
 - 2 DOCUMENT ANY EXISTING DAMAGE TO STEEPLE.

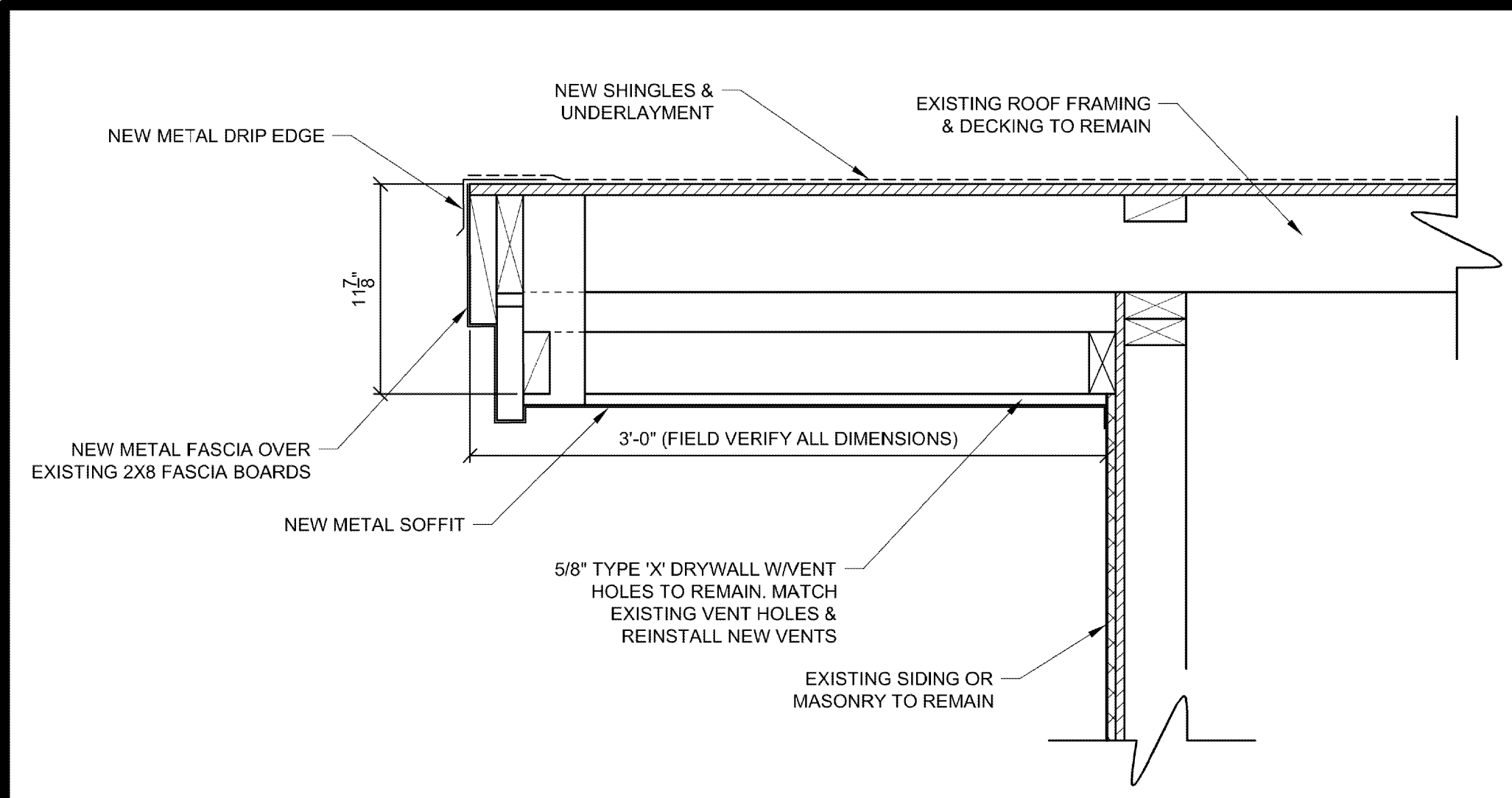


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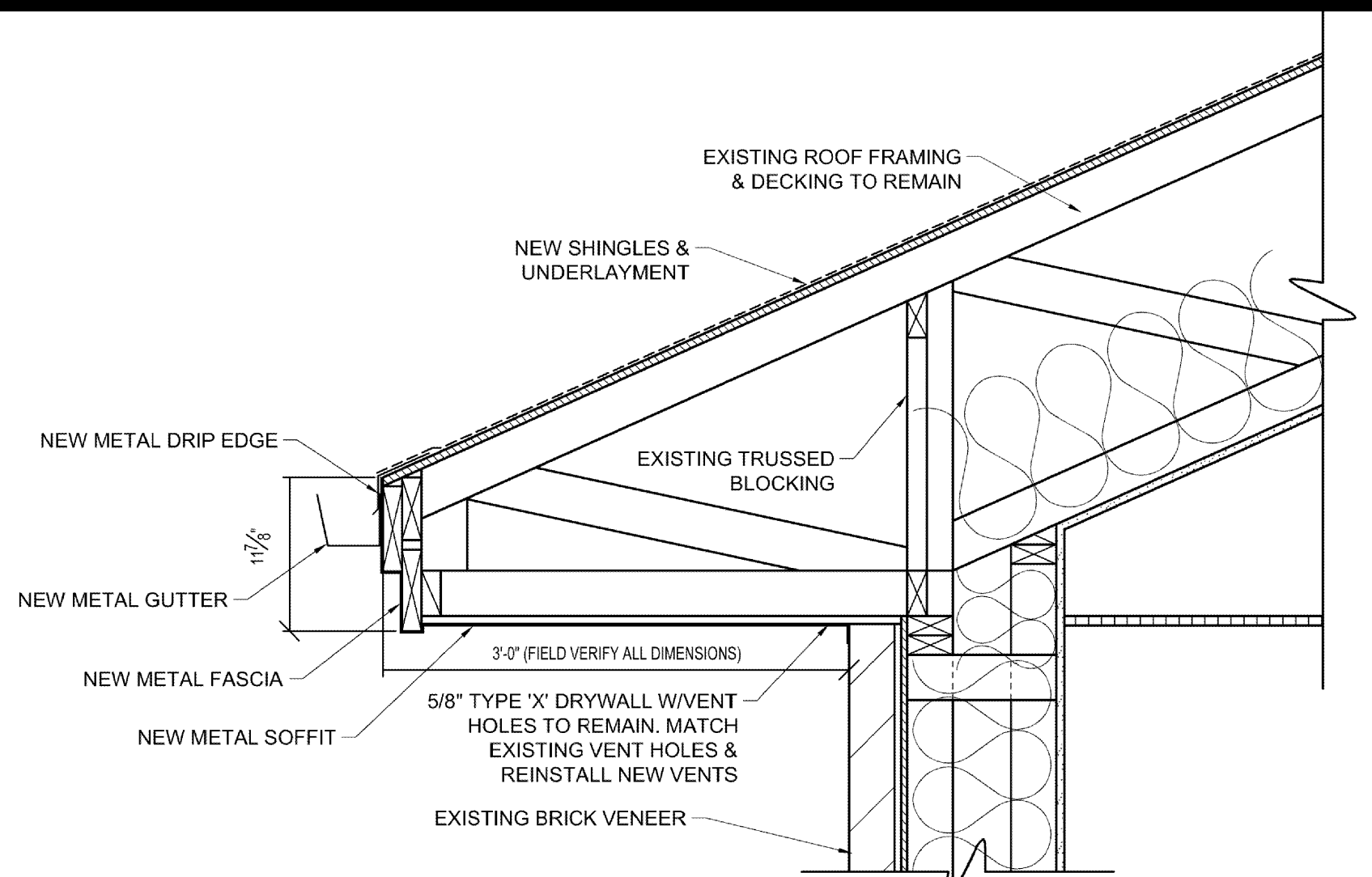
PROJECT FOR
THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS

MARK	DATE (M/A/Y)	DESCRIPTION

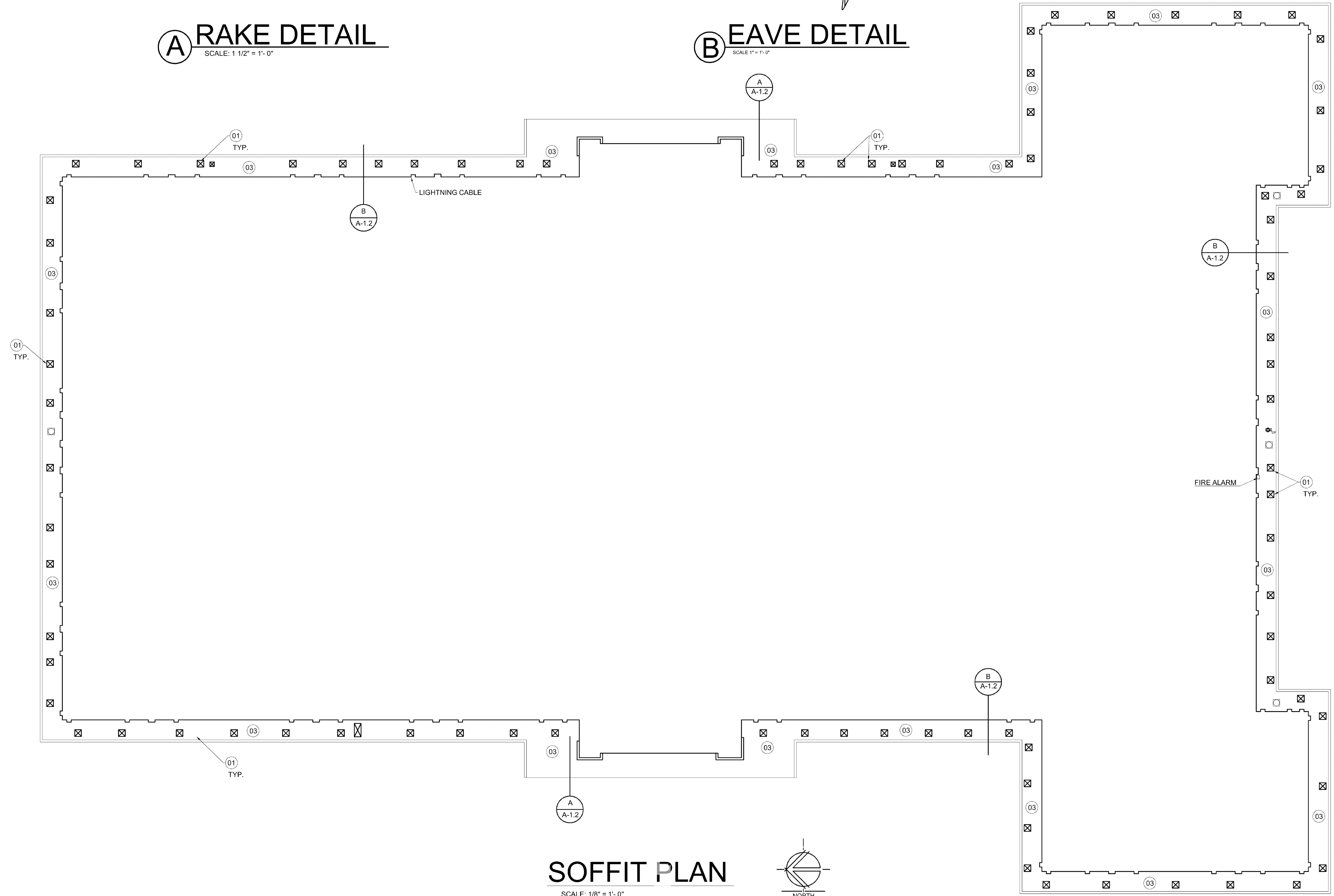
PROJECT NUMBER:	15-18
PLAN SERIES:	
PROPERTY NUMBER:	529-4566
DATE:	03/20/2017
SHEET TITLE:	ROOF PLAN
SHEET:	



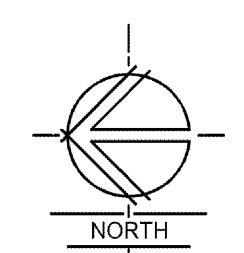
(A) RAKE DETAIL
SCALE: 1 1/2" = 1'-0"



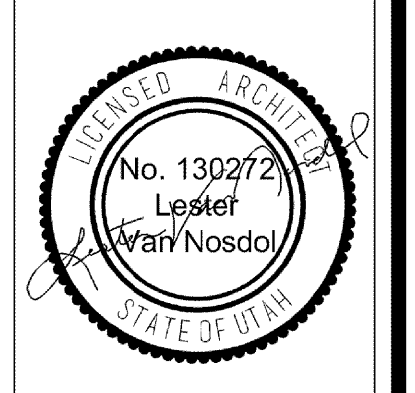
(B) EAVE DETAIL
SCALE: 1" = 1'-0"



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



- KEYED NOTES:**
- 01 REMOVE AND DISPENSE EXISTING SOFFIT VENTS. VERIFY SIZE AND LOCATION PRIOR TO REPLACING VENTS.
 - 02 EXISTING RECESSED LIGHTING TO REMAIN.
 - 03 REPLACE ALL SOFFIT AND FASCIA. COLOR TO BE SIMILAR TO EXISTING DRYWALL TO REMAIN. REPAIR OR REPLACE DAMAGED DRYWALL WITH NEW TYPE 'X' DRYWALL.



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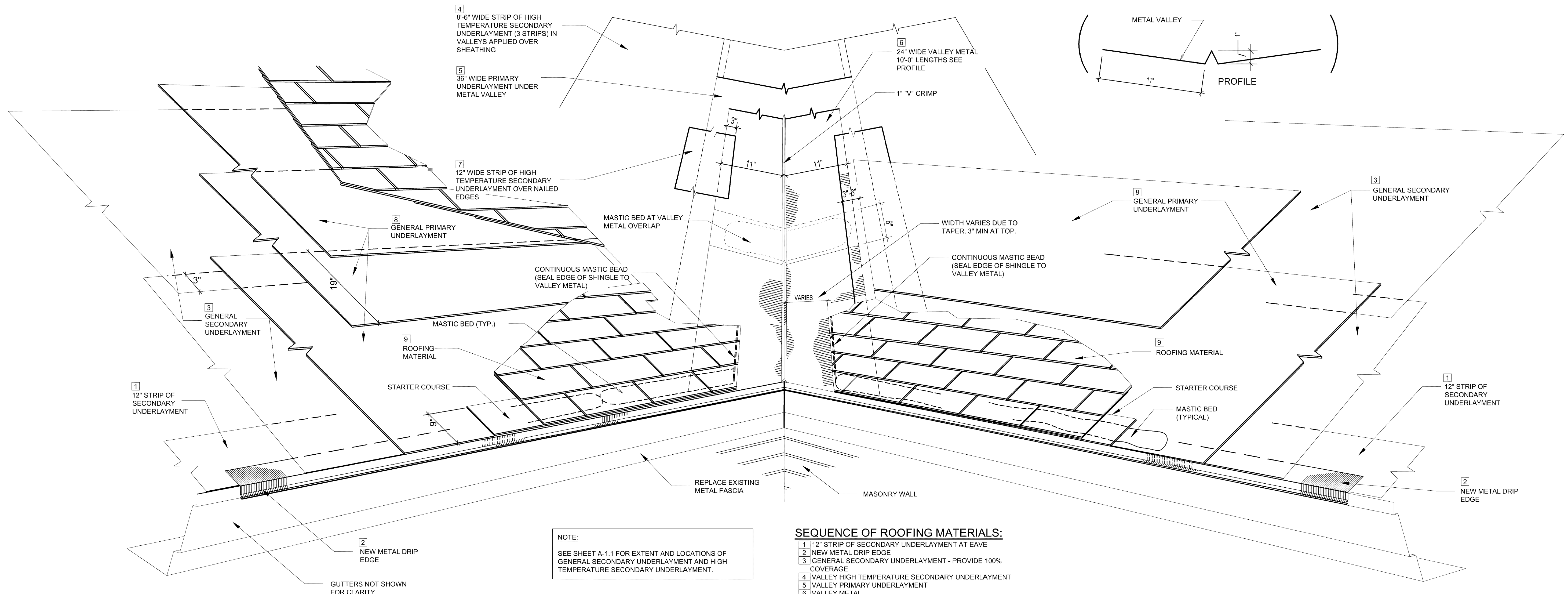
MARK	DATE (MM/DD)	DESCRIPTION

PROJECT NUMBER: 15-18
PLAN SERIES:
PROPERTY NUMBER: 529-4566
DATE: 03/20/2017

SHEET TITLE:
SOFFIT PLAN

SHEET:
A-1.2

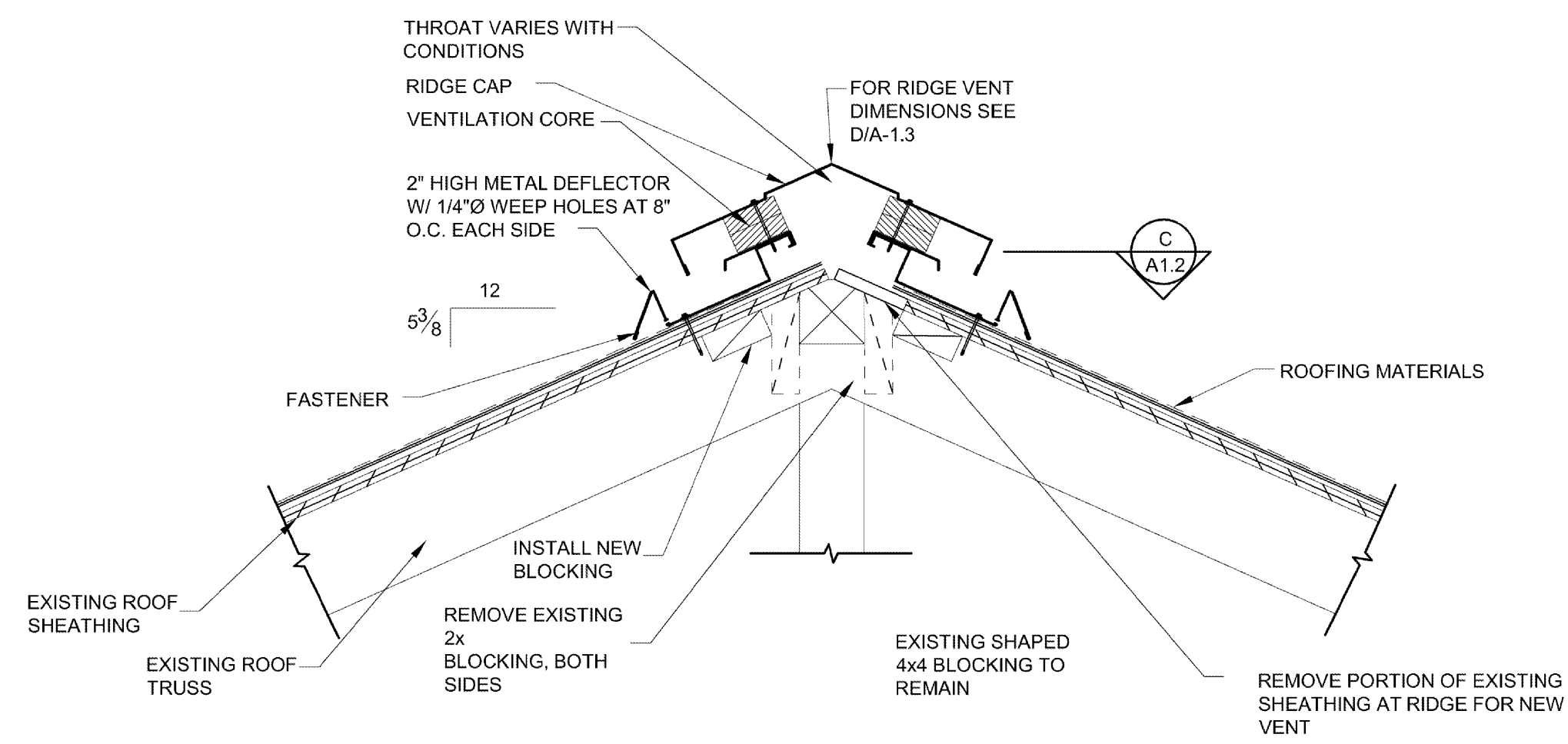
PROJECT NUMBER:	15-18
PLAN SERIES:	
PROPERTY NUMBER:	529-4566
DATE:	03/20/2017
SHEET TITLE:	ROOF DETAILS
SHEET:	A-1.3



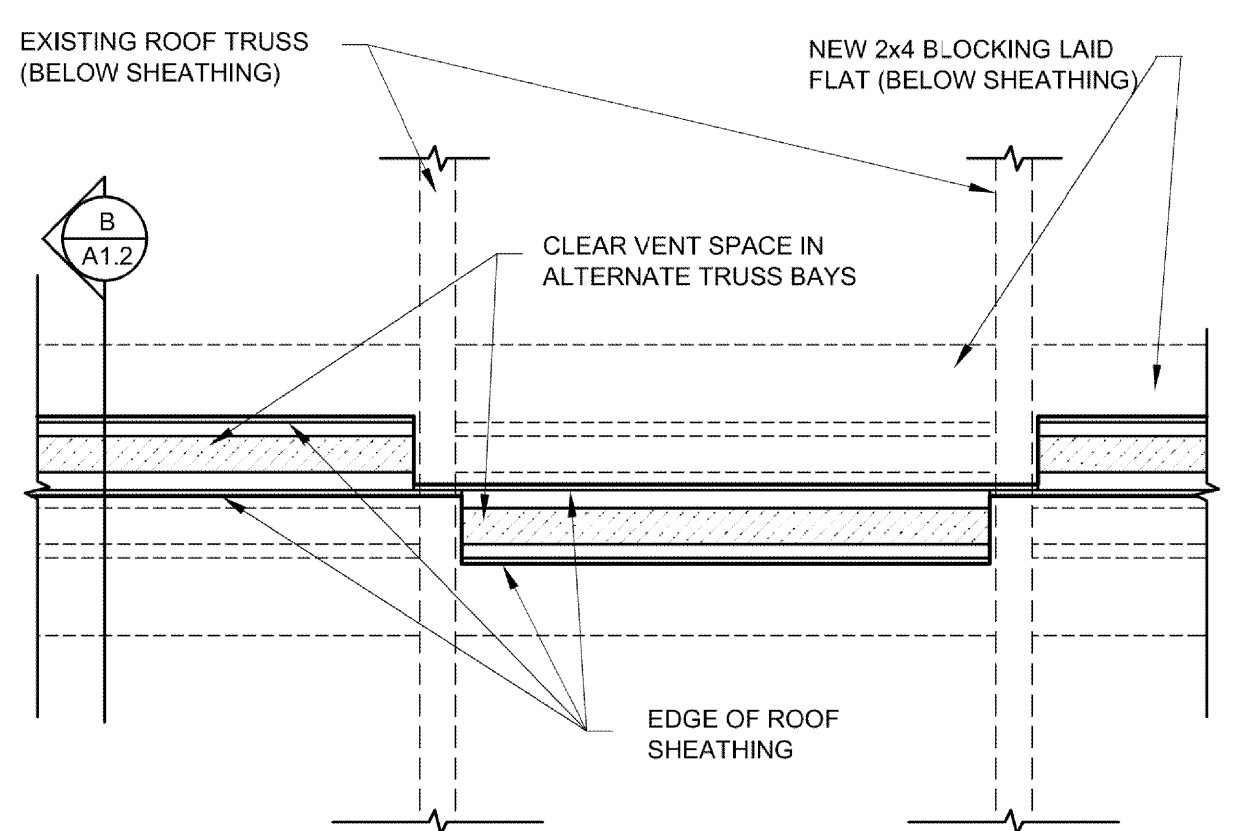
NOTE:
 SEE SHEET A-1.1 FOR EXTENT AND LOCATIONS OF GENERAL SECONDARY UNDERLAYMENT AND HIGH TEMPERATURE SECONDARY UNDERLAYMENT.

- SEQUENCE OF ROOFING MATERIALS:**
- 12" STRIP OF SECONDARY UNDERLAYMENT AT EAVE
 - NEW METAL DRIP EDGE
 - GENERAL SECONDARY UNDERLAYMENT - PROVIDE 100% COVERAGE
 - VALLEY HIGH TEMPERATURE SECONDARY UNDERLAYMENT
 - VALLEY PRIMARY UNDERLAYMENT
 - VALLEY METAL
 - 12" STRIP OF HIGH TEMPERATURE SECONDARY UNDERLAYMENT OVER NAILED EDGES
 - GENERAL PRIMARY UNDERLAYMENT
 - SHINGLES

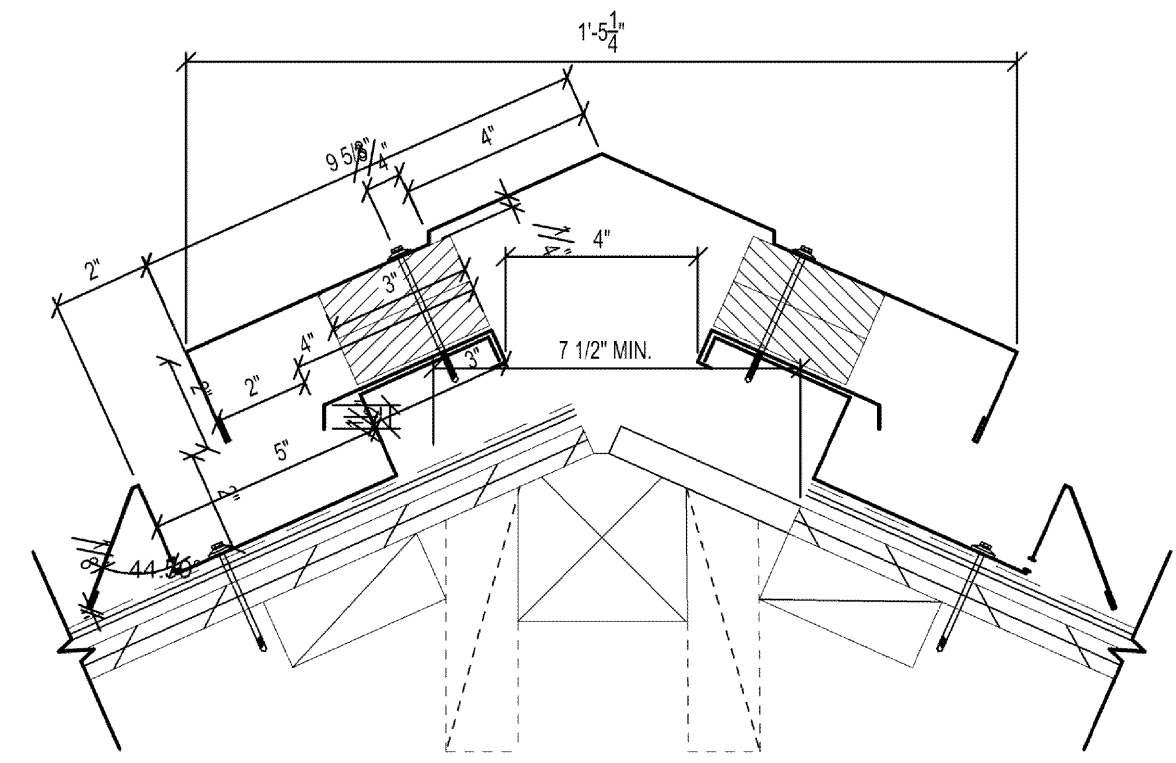
A VALLEY FLASHING DETAIL
 SCALE: NONE



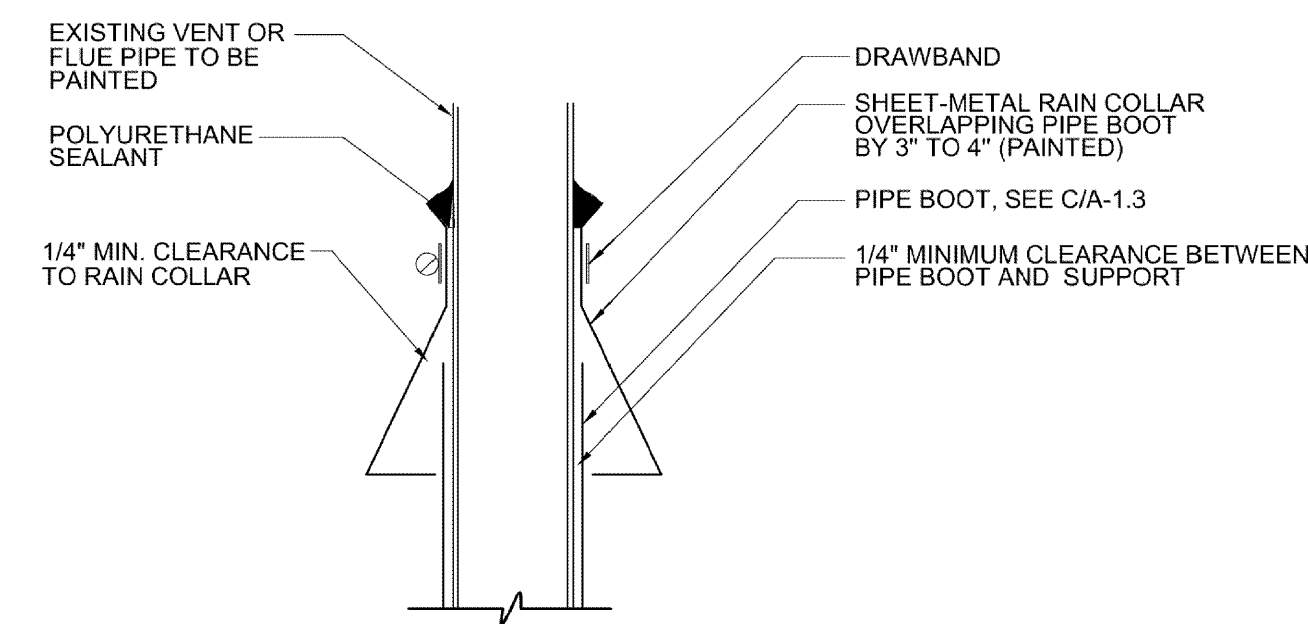
B DETAIL
 SCALE: 1 1/2" = 1'-0"



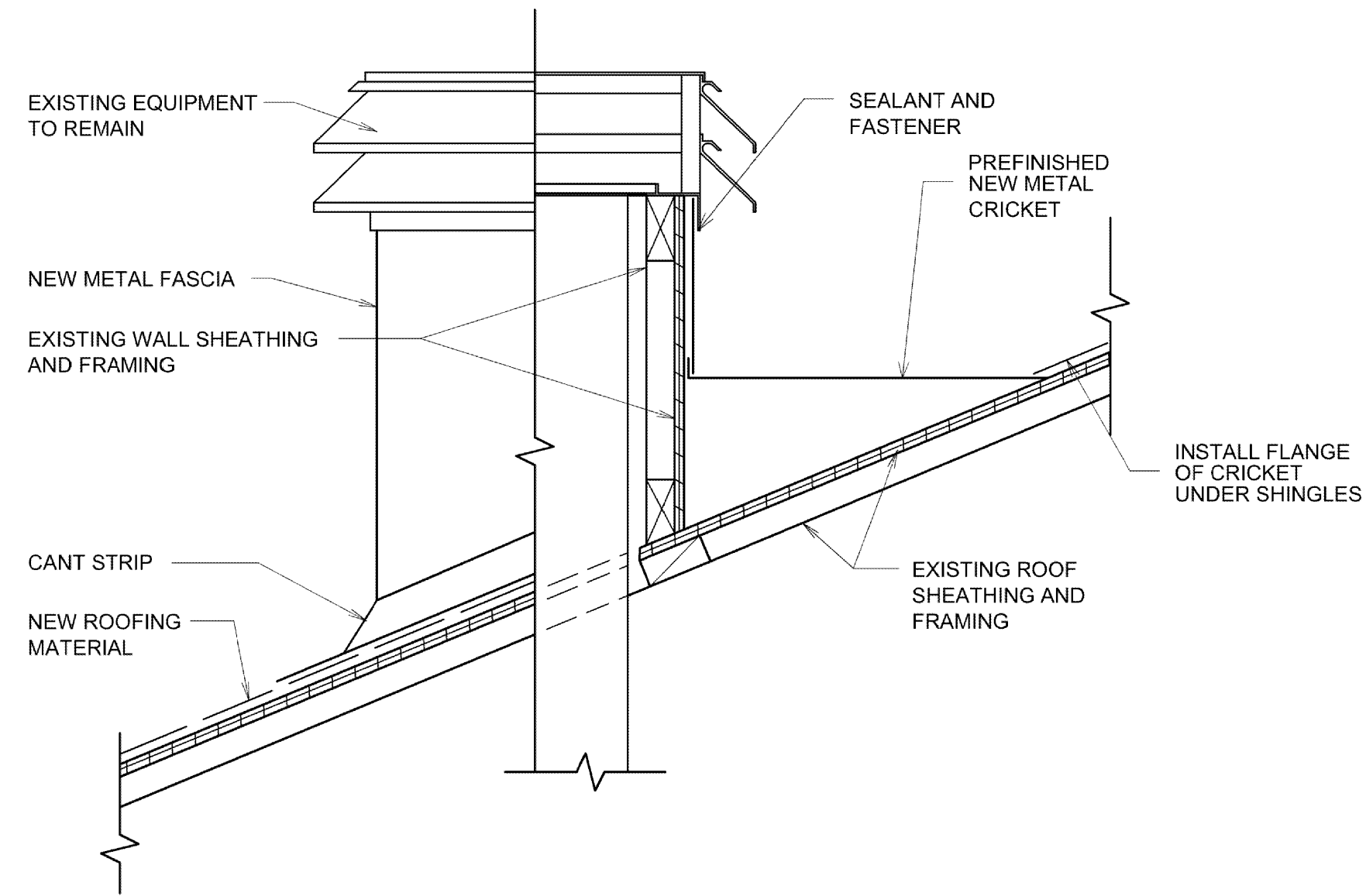
C SECTION
 SCALE: 1 1/2" = 1'-0"



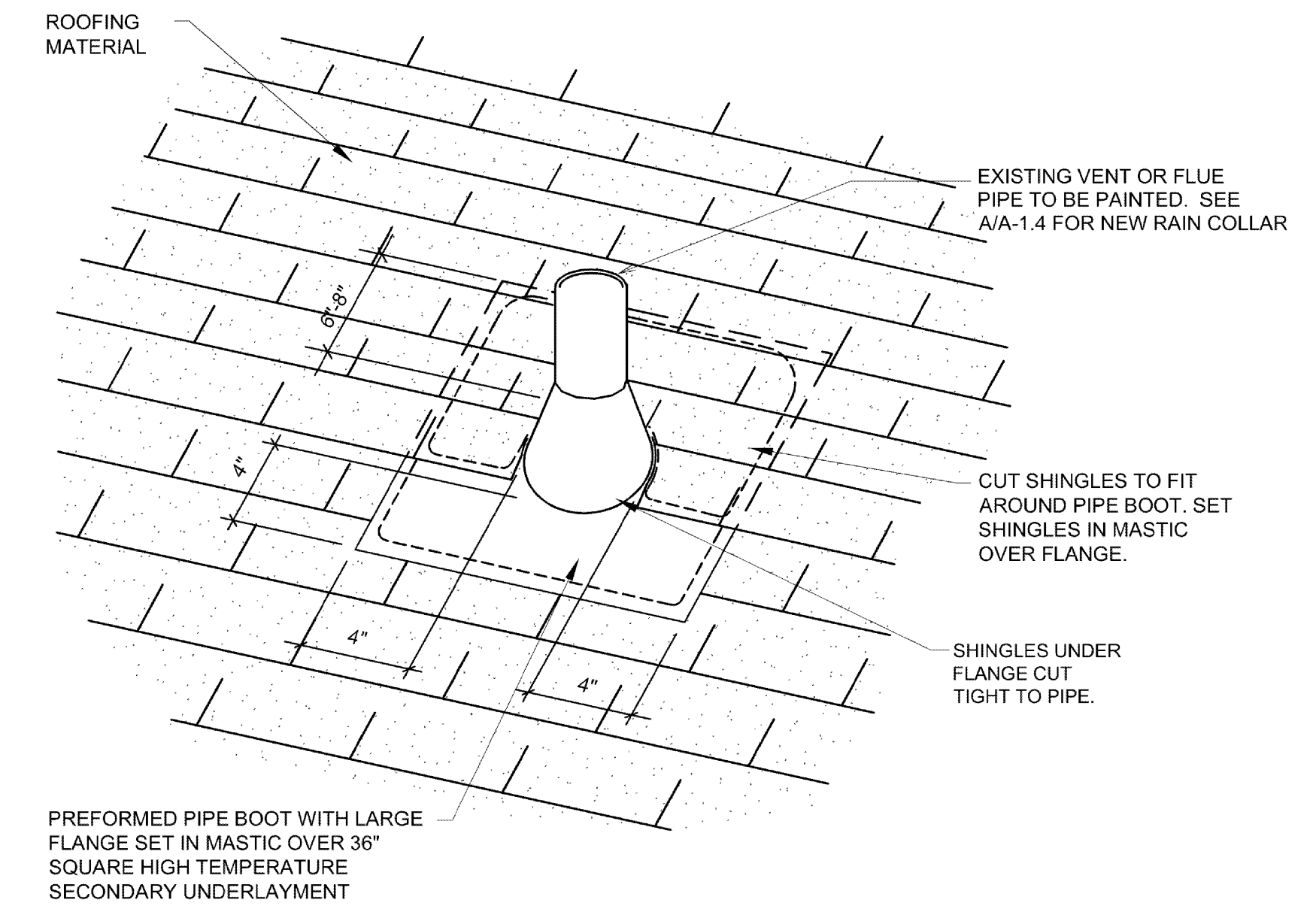
D RIDGE VENT
 SCALE: 3" = 1'-0"



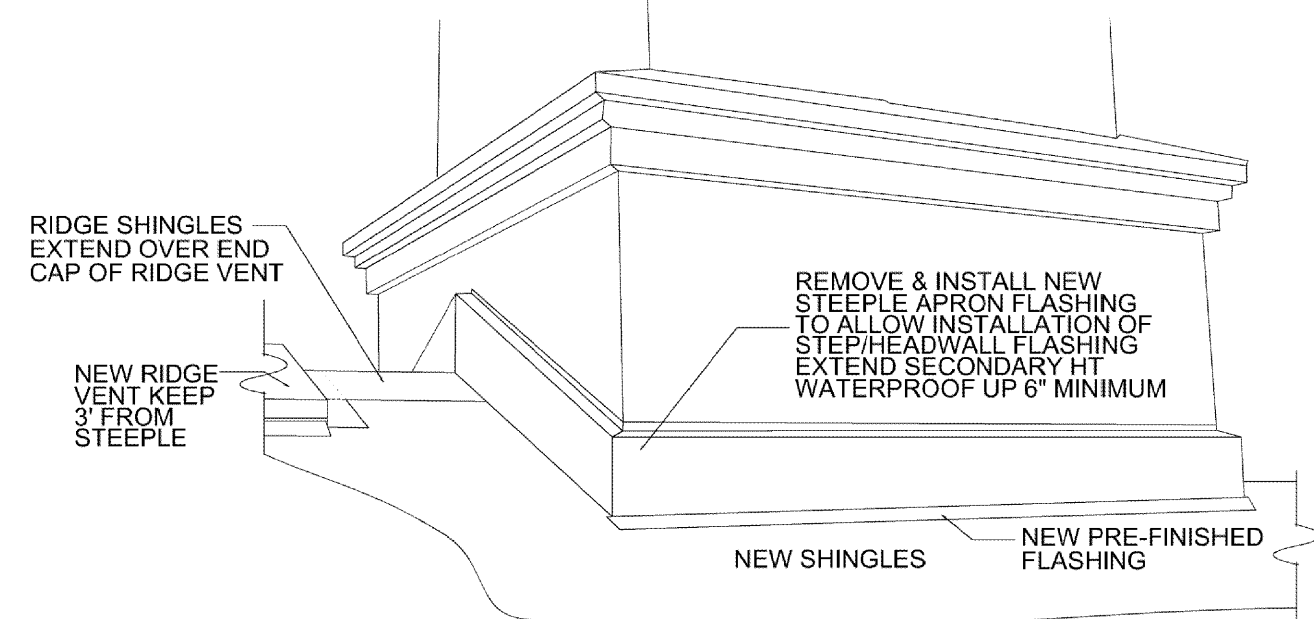
A RAIN COLLAR DETAIL
SCALE: 3" = 1'-0"



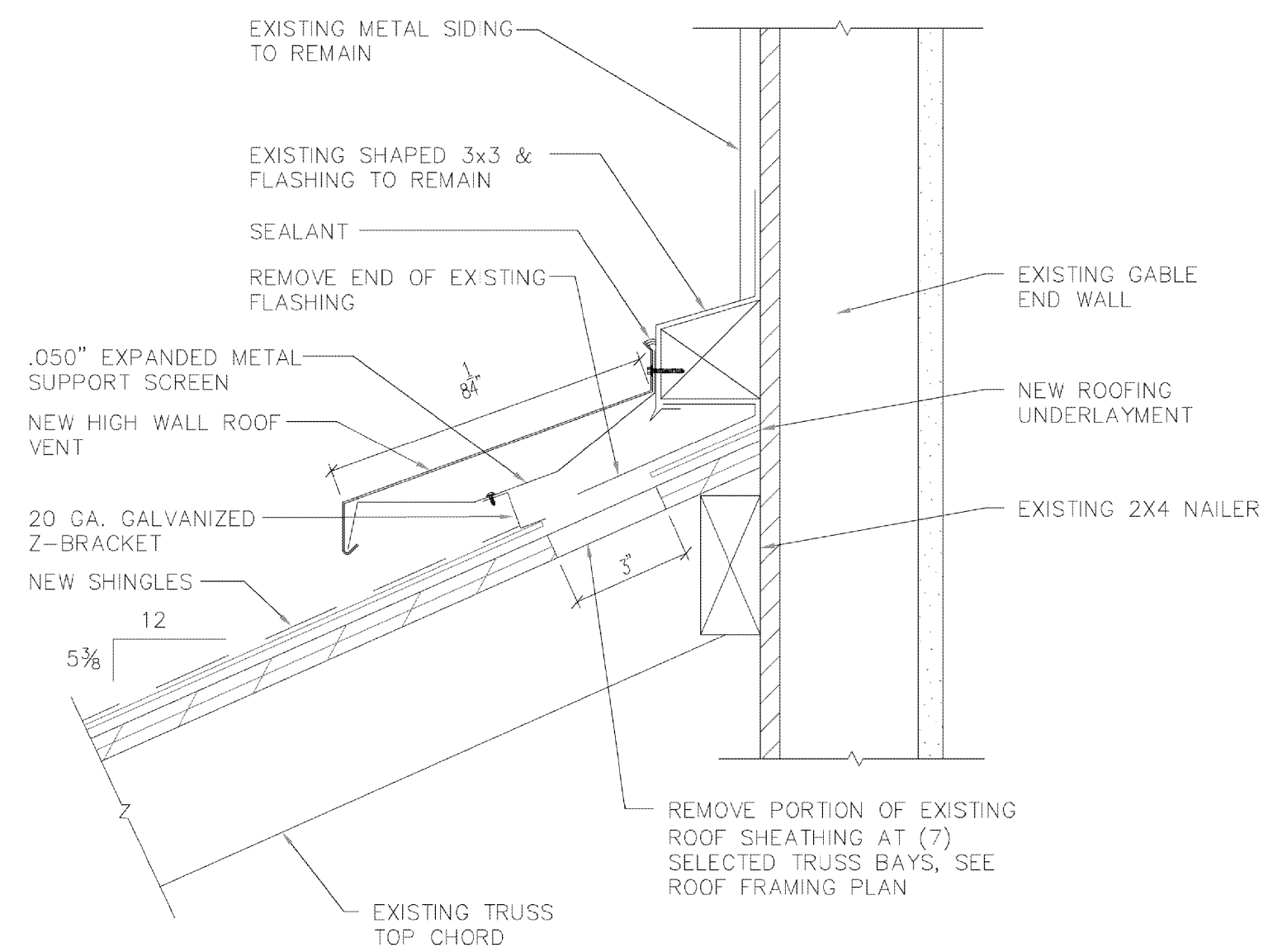
B MECH. PENTHOUSE DETAIL
SCALE: 1 1/2" = 1'-0"



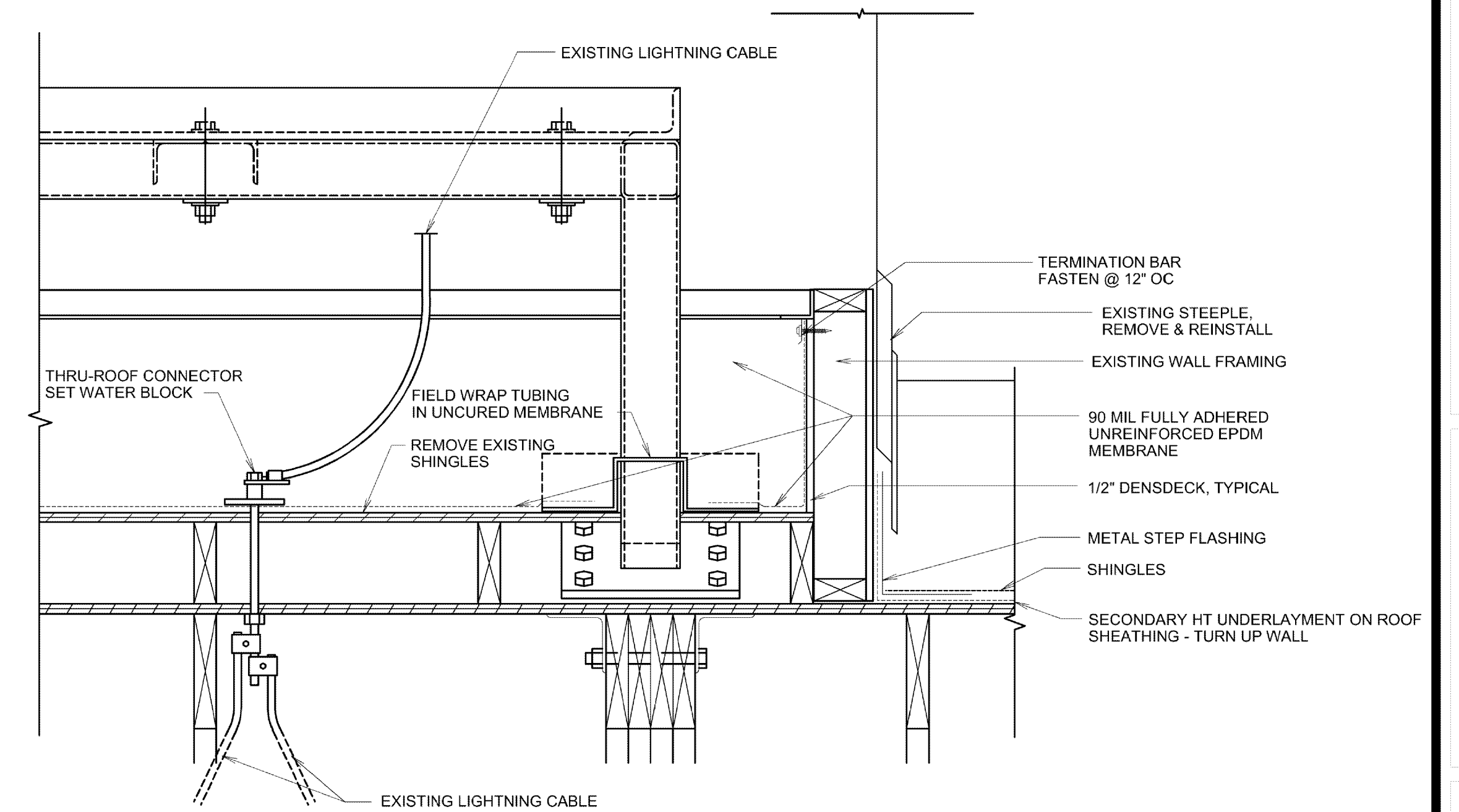
C PIPE BOOT FLANGE DETAIL
SCALE: NONE



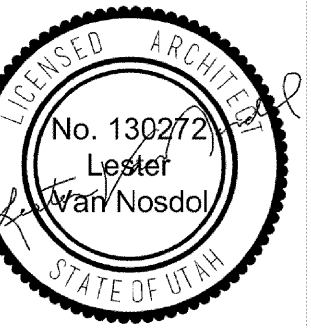
D STEEPLE
SCALE: 1 1/2" = 1'-0"



DETAIL **E** — 3" = 1'-0"



F STEEPLE DETAIL
SCALE: 1 1/2" = 1'-0"



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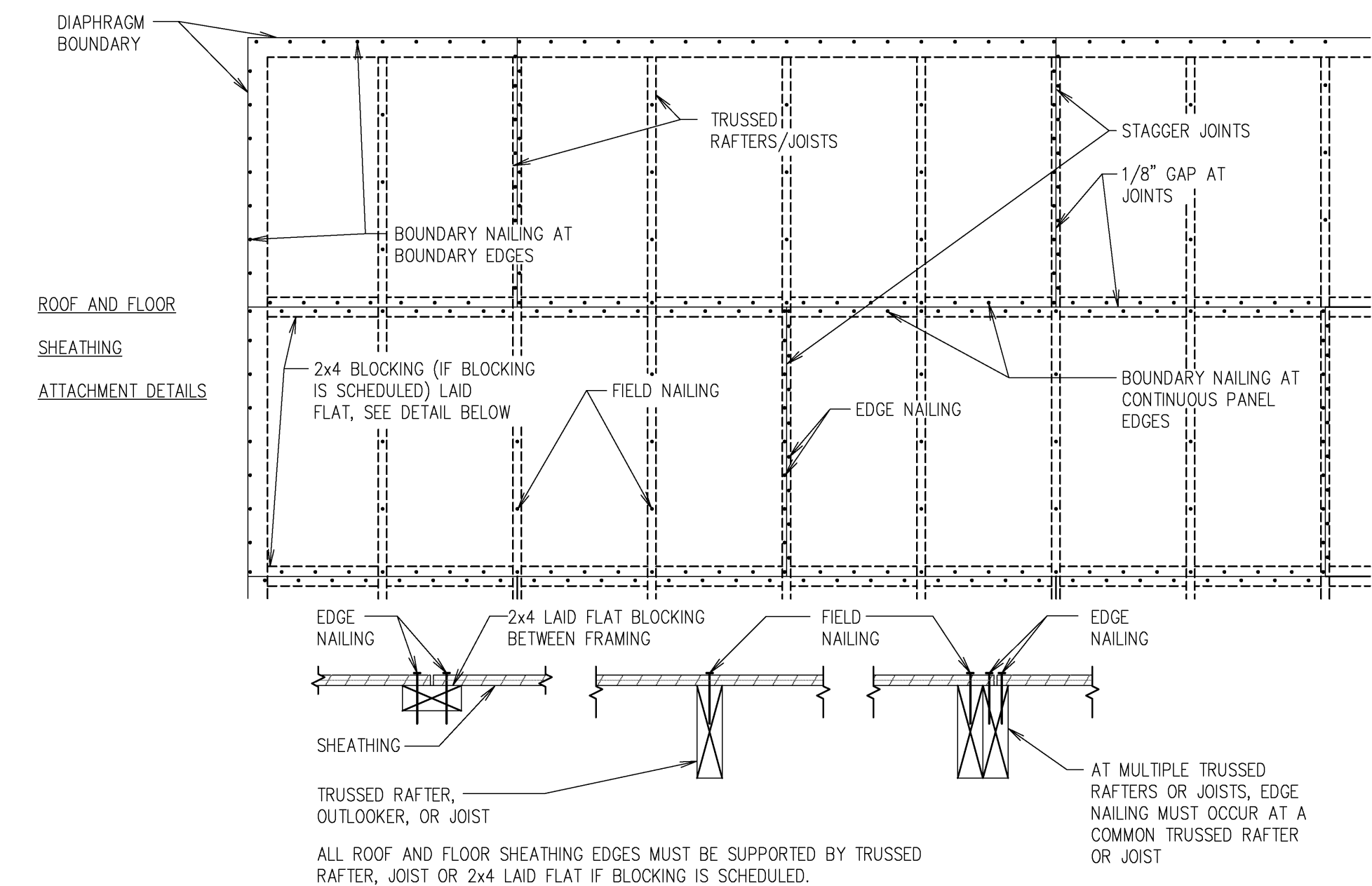
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SHEET TITLE:
ROOF DETAILS

SCHEDULE A DESIGN CRITERIA		
DESIGN CRITERIA	2015 INTERNATIONAL EXISTING BUILDING CODE	
SEISMIC	RISK CATEGORY	III
	IBC SEISMIC IMPORTANCE FACTOR	$I_e = 1.25$ (OWNER'S REQUIREMENT)
	MAPPED SPECTRAL RESPONSE ACCELERATION:	
	MAPPED VALUE OF S_s (FOR ALL CALCULATIONS EXCEPT C_s)	$S_s = 1.149$
	VALUE OF S_s USED TO CALCULATE C_s	$S_s = 1.149$
	S_1	$S_1 = 0.424$
	SOIL SITE CLASS	D
	SITE COEFFICIENT F_a	$F_a = 1.041$
	SITE COEFFICIENT F_v	$F_v = 1.576$
	DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS	$S_{DS} = 0.797$ $S_{D1} = 0.445$
	SEISMIC DESIGN CATEGORY	D
	BASIC SEISMIC-FORCE RESISTING SYSTEM	LIGHT FRAMED WOOD SHEAR WALLS
	RESPONSE MODIFICATION FACTOR	$R = 6.5$
	OVERSTRENGTH FACTOR	$W_o = 3$
	ANALYSIS PROCEDURE USED	ASCE 7-10 EQUIVALENT LATERAL FORCE PROCEDURE SECTION 12.8 pg. 89
WIND	SEISMIC RESPONSE COEFFICIENT - ULTIMATE	$C_s = 0.1533$
	ASCE 7-10 ENVELOPE PROCEDURE, PART 1	
	WIND SPEED (3 SECOND GUST ULTIMATE)	120 M.P.H.
	EXPOSURE CATEGORY	B
ROOF	DEAD LOAD	20 P.S.F.
	ROOF SNOW LOAD - THIS LOAD REFLECTS ROOF SNOW LOAD MULTIPLIED BY THE SNOW IMPORTANCE FACTOR, EXPOSURE FACTOR AND THERMAL FACTOR (VALUE SHOWN DOES NOT INCLUDE DRIFT LOAD)	33 P.S.F.
	SNOW IMPORTANCE FACTOR	$I_s = 1.1$
BUILDING ELEVATION	4724	

SCHEDULE B SHEATHING TYPE AND NAILING SCHEDULE					
LOCATION	SHEATHING	EDGE NAILING ¹	FIELD NAILING ¹	BOUNDARY NAILING ²	BLOCKING AT PANEL EDGES
ROOF 1	19/32" 40/20 SPAN RATING	10d AT 6" O.C.	10d AT 12" O.C.	10d AT 4" O.C.	NO

1. SEE PARTIAL PLAN BELOW FOR LOCATION OF BOUNDARY, EDGE, AND FIELD NAILING.



SCHEDULE C QUALITY ASSURANCE (TESTING AND INSPECTION)	
QUALITY ASSURANCE (TESTING AND INSPECTION) AS REQUIRED BY THE SPECIFICATIONS AND CHAPTER 17 OF THE IBC, SHALL BE PROVIDED BY AN INDEPENDENT AGENCY EMPLOYED BY THE OWNER. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH THE REQUIRED TESTS AND INSPECTIONS. ALL TESTING AND INSPECTION REPORTS SHALL BE SENT WITHIN 24 HOURS OF COMPLETION OF THE TEST OR INSPECTION TO THE OWNER, ARCHITECT, APPLICABLE ENGINEER, BUILDING OFFICIAL AND GENERAL CONTRACTOR. ITEMS REQUIRING QUALITY ASSURANCE (TESTING AND INSPECTION) ARE:	
1. WOOD DIAPHRAGMS AND SHEAR WALLS: A. FOR WALLS AND ROOF AREAS WHERE THE NAIL SPACING IS 4 INCHES AND LESS ON CENTER, THE INSPECTOR SHALL VERIFY WOOD PANEL SHEATHING, GRADE, AND THICKNESS, NOMINAL SIZE OF FRAMING MEMBERS, NAIL SIZE AND SPACING, BOLTING, SILL PLATE AND ANCHOR BOLTS, AND OTHER FASTENING OF COMPONENTS	

SCHEDULE D SITE OBSERVATIONS BY STRUCTURAL ENGINEER	
SITE OBSERVATIONS SHALL BE DONE BY THE ENGINEER OF RECORD OR AN APPROVED LICENSED STRUCTURAL ENGINEER. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN HE HAS REACHED THE CONSTRUCTION STAGE LISTED BELOW AND BEFORE THE WORK TO BE OBSERVED IS COVERED UP, BECOMES HIDDEN FROM VIEW, OR BECOMES INACCESSIBLE. THIS IS TO PROVIDE THE STRUCTURAL ENGINEER THE OPPORTUNITY TO PERFORM A SITE OBSERVATION, AT THE ENGINEER'S DISCRETION, AT THAT STAGE. AT THE CONCLUSION OF THE PROJECT, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL A WRITTEN STATEMENT OF THE SITE VISITS THAT HAVE BEEN PERFORMED AND IDENTIFY ANY REPORTED DEFICIENCIES THAT HAVE NOT BEEN RESOLVED: 1. WHEN TRUSS BLOCKING IS INSTALLED 2. AT THE COMPLETION OF THE WOOD DIAPHRAGM NAILING PRIOR TO DRY-IN.	

SCHEDULE J WIND COMPONENTS AND CLADDING					
WIND COMPONENT ELEVATION ABOVE GRADE	EFFECTIVE WIND AREA FOR COMPONENT(SQ. FT.)				
	10 sq. ft.	20 sq. ft.	50 sq. ft.	100 sq. ft.	500 sq. ft.
0-15 ft	23.60	22.02	19.97	18.27	14.64
20 ft	25.16	23.48	21.29	19.48	15.61
25 ft	26.33	24.57	22.28	20.39	16.34
30 ft	27.30	25.48	23.10	21.14	16.94
35 ft	28.28	26.39	23.93	21.90	17.55

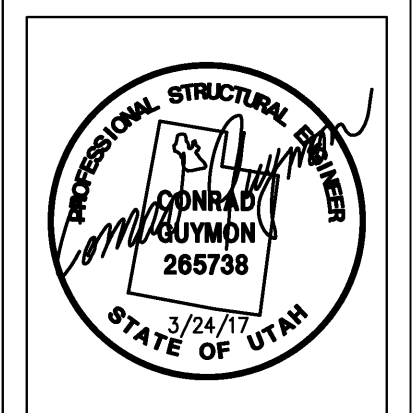
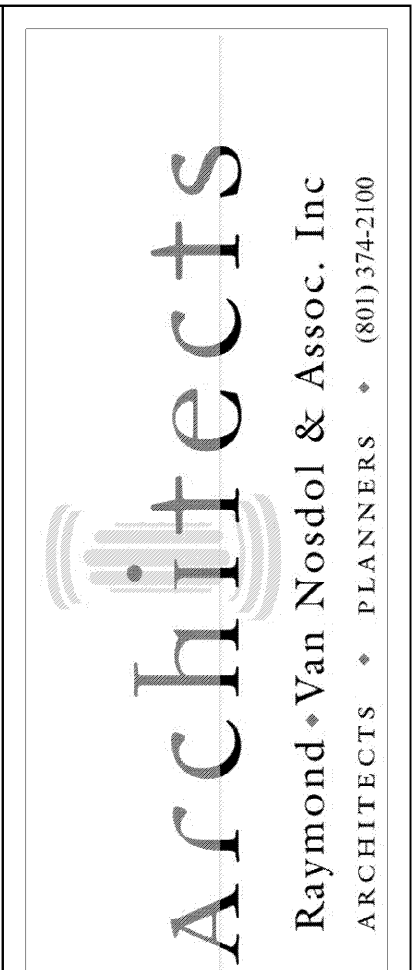
SCHEDULE E REQUIRED NAIL TYPES				
NOTES: 1. USE SCHEDULE E/SO.1 WHERE NOT DETAILED OTHERWISE IN DRAWINGS. 2. ALL NAILS NOTED ON THE DRAWINGS SHALL BE AS SHOWN BELOW UNLESS NOTED OTHERWISE; NAILS FOR 3RD PARTY HARDWARE SHALL BE AS REQUIRED BY MANUFACTURER OF HARDWARE. 3. ALL FASTENERS FOR PRESERVATIVE AND FIRE RETARDANT TREATED WOOD SHALL BE HOT DIPPED ZINC COATED GALVANIZED STEEL, STAINLESS STEEL, SILICONE BRONZE, OR COPPER, UNLESS WOOD IS BORATE TREATED. EXCEPTION: PLAN CARBON STEEL FASTENERS, INCLUDING NUTS AND WASHERS, IN SBX/DOT AND ZINC BORATE PRESERVATIVE-TREATED WOOD IN AN INTERIOR, DRY ENVIRONMENT ARE PERMITTED. 4. LENGTH OF NAILS ATTACHING SHEATHING MAY BE REDUCED PROVIDED THAT THE MINIMUM PENETRATION NOTED BELOW IS MET. 5. NAILS USED IN SIMPSON HARDWARE (OR HARDWARE OF EQUAL VALUE) SHALL BE AS SPECIFIED BY THE MANUFACTURER. 6. OTHER FASTENERS MAY BE USED TO REPLACE NAILS BUT THEY MUST HAVE EQUIVALENT, OR LARGER, DIAMETERS AND PENETRATION LENGTHS.				
ALL NAILS NOTED ON THE DRAWINGS SHALL BE AS SHOWN BELOW, UNLESS NOTED OTHERWISE.				
NAIL SIZE	TYPE	STANDARD LENGTH (INCHES)	DIAMETER (INCHES)	MINIMUM PENETRATION REQUIRED (INCHES)
8d	COMMON	2 1/2	.131	1 3/8
10d	BOX	3	.128	1 1/2
16d	BOX	3 1/2	.135	1 1/2

SCHEDULE F SCHEDULE OF CONSTRUCTION MATERIALS			
WOOD	DIMENSION LUMBER	APPLICATION	SPECIES GROUP AND MINIMUM GRADE (ANY SPECIES AND GRADE LISTED MAY BE USED FOR ANY OF THE DESCRIBED APPLICATIONS).
		TOP PLATES, STRUTS, ROOF JOISTS, FLOOR JOISTS, MISC. FRAMING, HEADERS, BEAMS, LEDGERS	DOUGLAS FIR-LARCH HEM FIR SOUTHERN PINE MSR
BLOCKING	DOUGLAS FIR-LARCH HEM FIR SOUTHERN PINE MSR	#2 OR BETTER #2 OR BETTER #2 OR BETTER 1650F - 1.5E OR BETTER	
NOTES: 1. DESIGN VALUES ARE FOR NORMAL DURATION. REPETITIVE FRAMING FACTORS AND SIZE FACTORS HAVE NOT BEEN APPLIED.			

SCHEDULE G SPECIAL INSPECTION SCHEDULE (2015 IBC CHAPTER 17)			
REQUIRED VERIFICATION AND INSPECTION OF WOOD CONSTRUCTION (IBC 1707.3)			
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	COMMENTS
1. WOOD DIAPHRAGM FASTENING		X	

SCHEDULE H TABLE OF EQUIVALENT FASTENERS						
COMMON NAIL SPACING	GAUGE	STAPLES, NAILS, AND T-NAILS (VALID FOR LATERAL LOAD ONLY)				
		EQUIV. SPACINGS OF APPROX. FASTENER				
		STAPLES		NAILS T-NAILS		
6d AT	1"	16	15	14	113	131
	3 1/2"	1"	1"	1"	1 1/4"	1 1/2"
	4"	3 1/2"	4"	5"	4"	5"
	6"	5"	6"	7"	6"	7 1/2"
	8"	6 1/2"	8"	9 1/2"	8"	10"
8d AT	10"	8 1/2"	10"	12"	10"	12"
	12"	10"	12"	14 1/2"	12"	14 1/2"
	4"	2 1/2"	3 1/2"	4"	3 1/2"	4"
	6"	4"	5"	6"	5"	6"
	8"	5 1/2"	6 1/2"	8"	6 1/2"	8"
10d AT	10"	6 1/2"	8"	10"	8"	10"
	12"	8"	10"	12"	9 1/2"	12"
	4"	2"	2 1/2"	3"	2 1/2"	3 1/2"
	6"	3 1/2"	4"	5"	4"	5"
	8"	4 1/2"	5 1/2"	6 1/2"	5 1/2"	7"
10"	5 1/2"	7"	8"	6 1/2"	8 1/2"	
12"	6 1/2"	8"	9 1/2"	8"	10"	

NOTE:
PENETRATION IS THE DEPTH OF EMBEDMENT OF THE STAPLE OR NAIL INTO THE MAIN MEMBER REQUIRED TO ATTAIN ITS FULL CAPACITY (SHEAR VALUE) FOR LATERAL LOADING.



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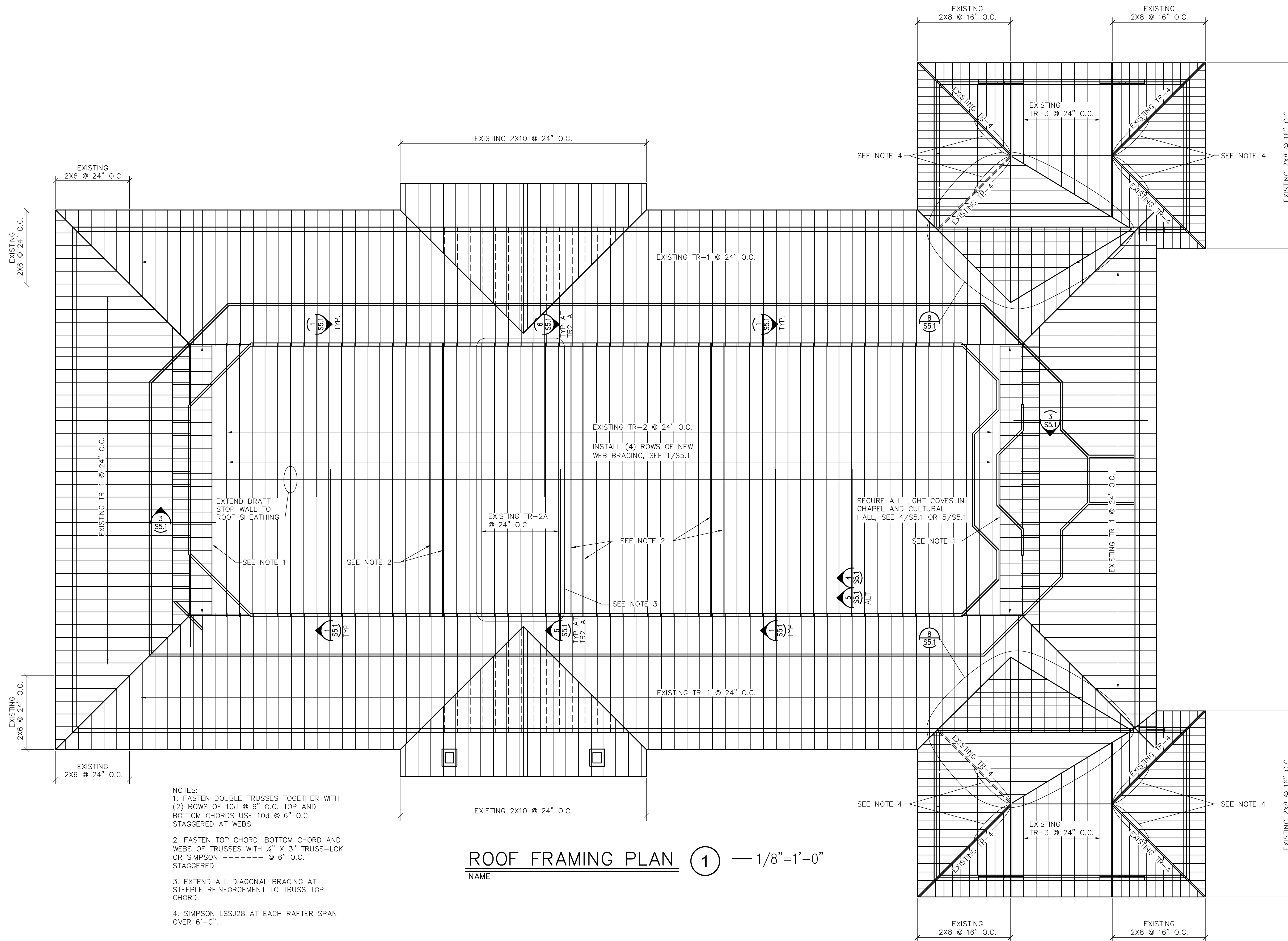
PROJECT FOR
THE CHURCH OF
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DATE	DESCRIPTION

PROJECT NUMBER: 15-18
PLAN SERIES:
PROPERTY NUMBER: 529-4568
DATE: 03/03/2017

SHEET TITLE:
SCHEDULES

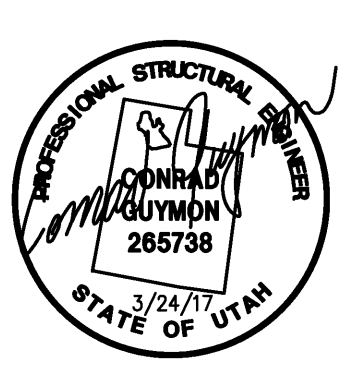
SHEET:
S0.1



- NOTES:
1. FASTEN DOUBLE TRUSSES TOGETHER WITH (2) ROWS OF 10d @ 6" O.C. TOP AND BOTTOM CHORDS USE 10d @ 6" O.C. STAGGERED AT WEBS.
 2. FASTEN TOP CHORD, BOTTOM CHORD AND WEBS OF TRUSSES WITH 1/4" X 3" TRUSS-LOK OR SIMPSON ----- @ 6" O.C. STAGGERED.
 3. EXTEND ALL DIAGONAL BRACING AT STEEPLE REINFORCEMENT TO TRUSS TOP CHORD.
 4. SIMPSON LSSJ28 AT EACH RAFTER SPAN OVER 6'-0".

ROOF FRAMING PLAN ① — 1/8"=1'-0"

NAME



RE-ROOF FOR
BONNEVILLE 10,11,13
 1498 EAST 800 SOUTH
 PROVO, UTAH

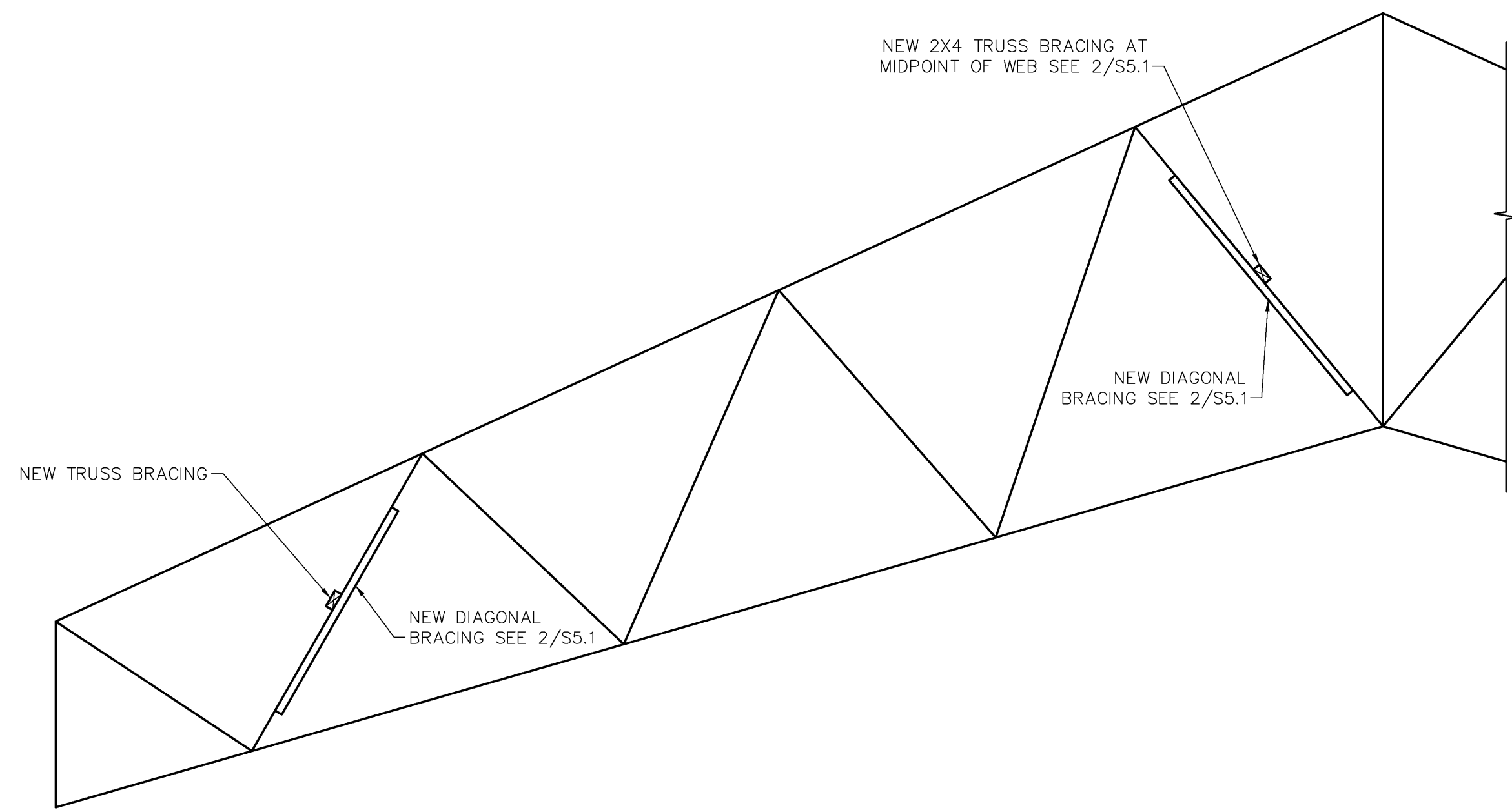
PROJECT FOR
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

NO.	DATE	DESCRIPTION

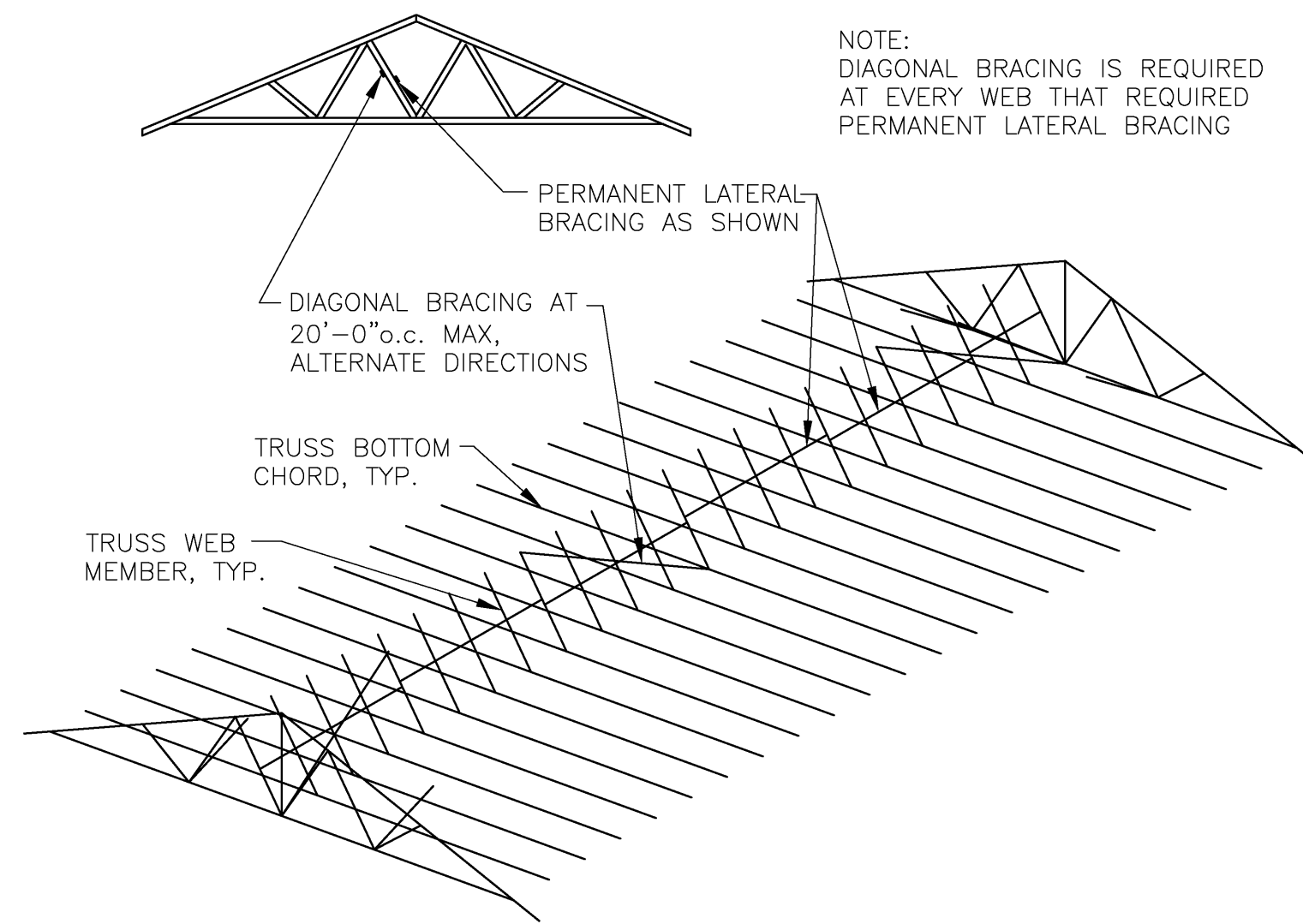
PROJECT NUMBER: 15-18
 PLAN SERIES:
 PROPERTY NUMBER: 529-4568
 DATE: 03/03/2017

SHEET TITLE:
ROOF FRAMING PLAN

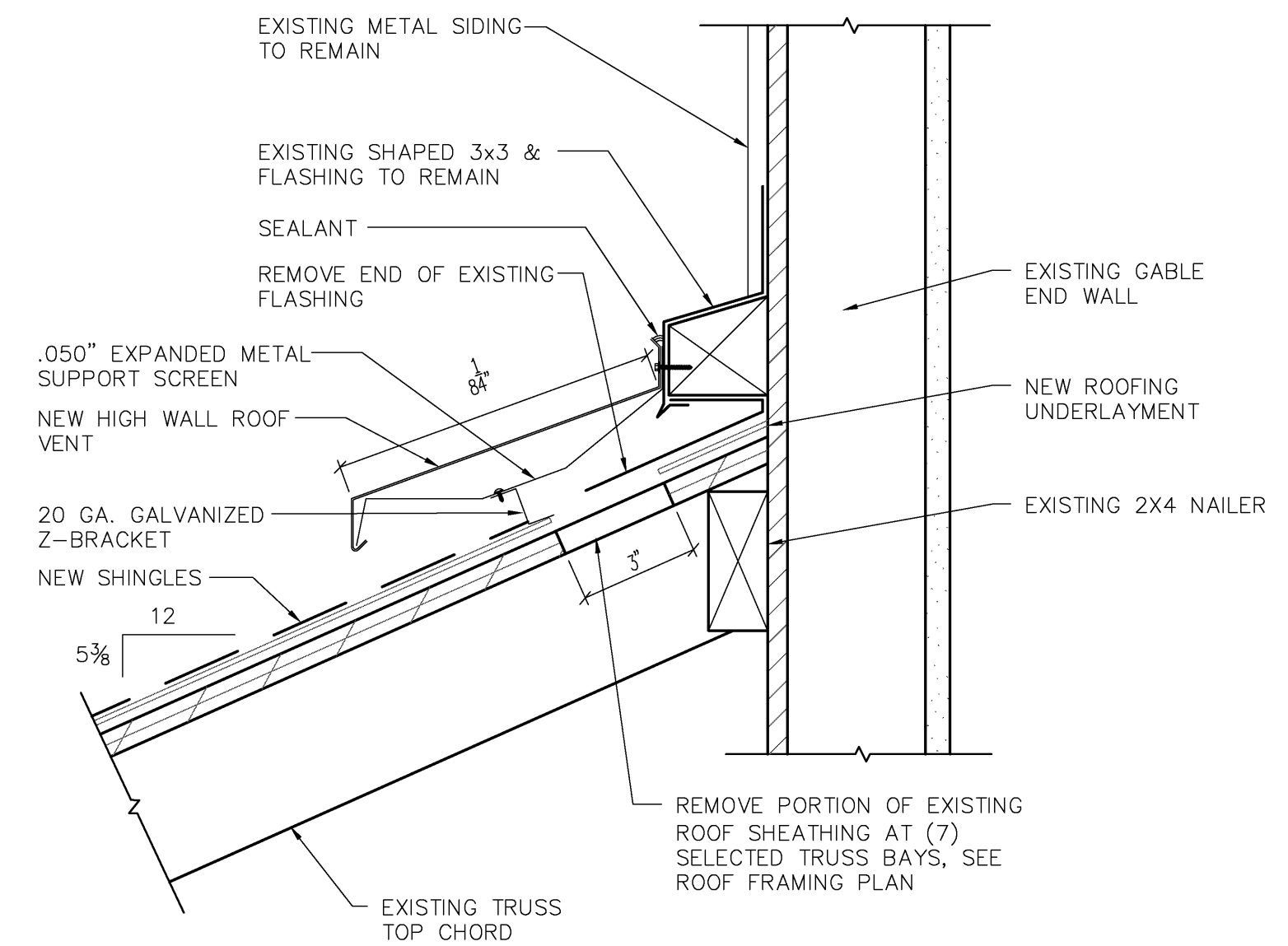
SHEET:
S1.1



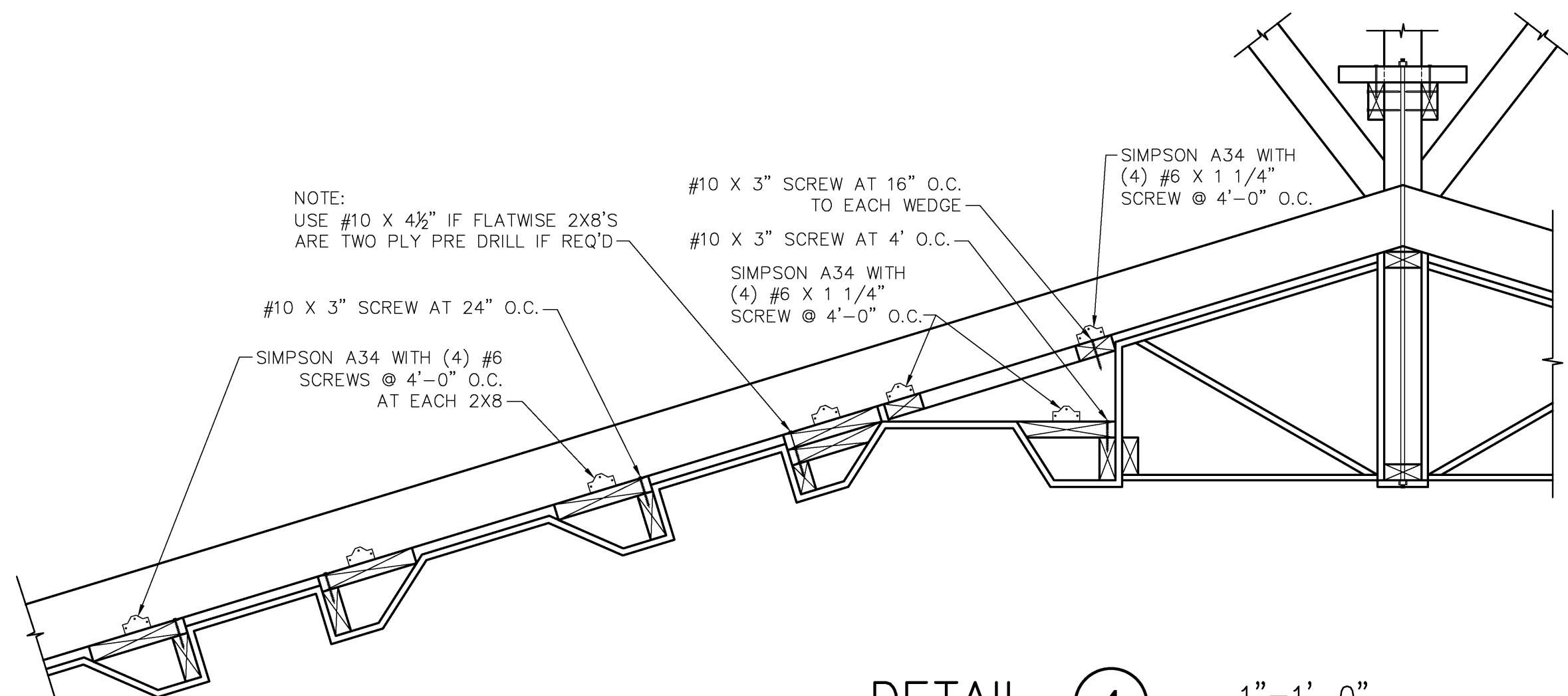
TR-2 (1) — 1/2"=1'-0"
TR2



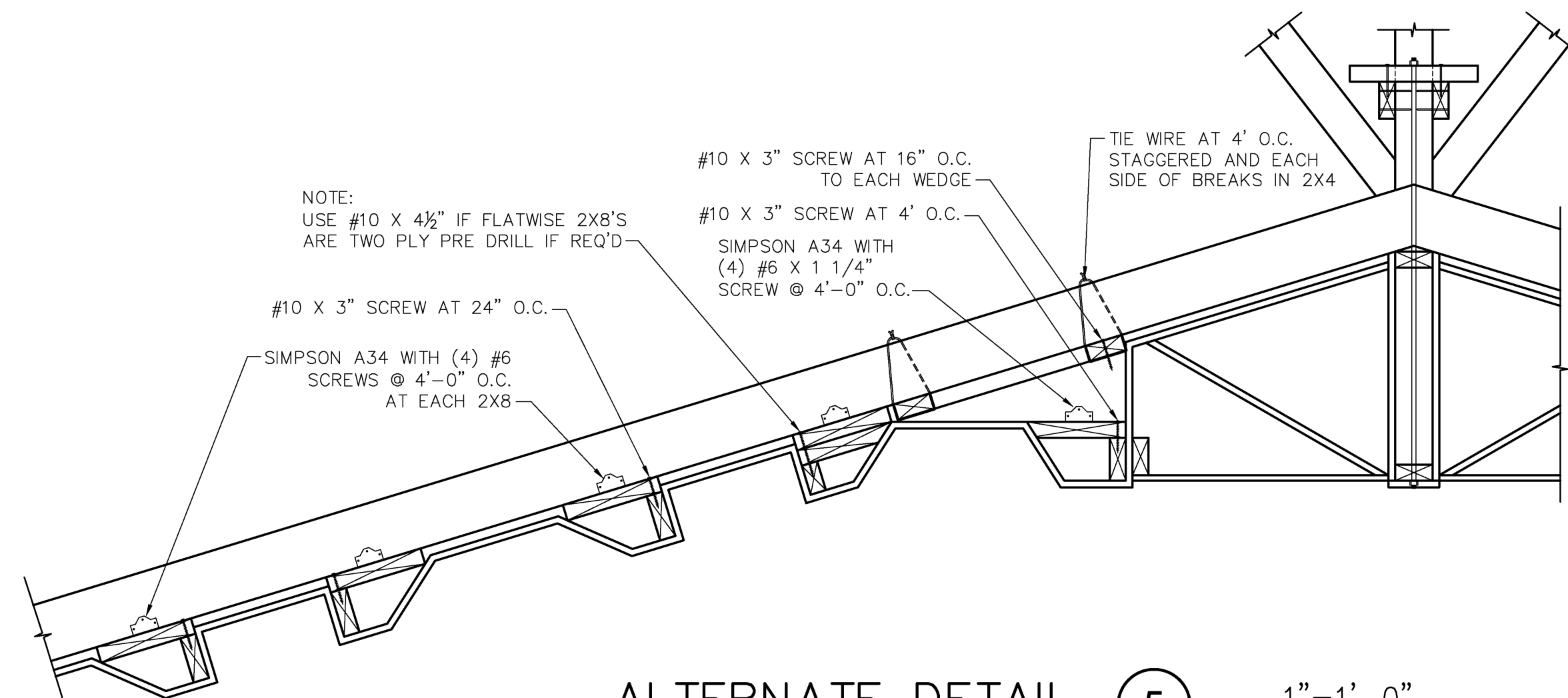
DETAIL (2) — 1/8"=1'-0"
RIBBON



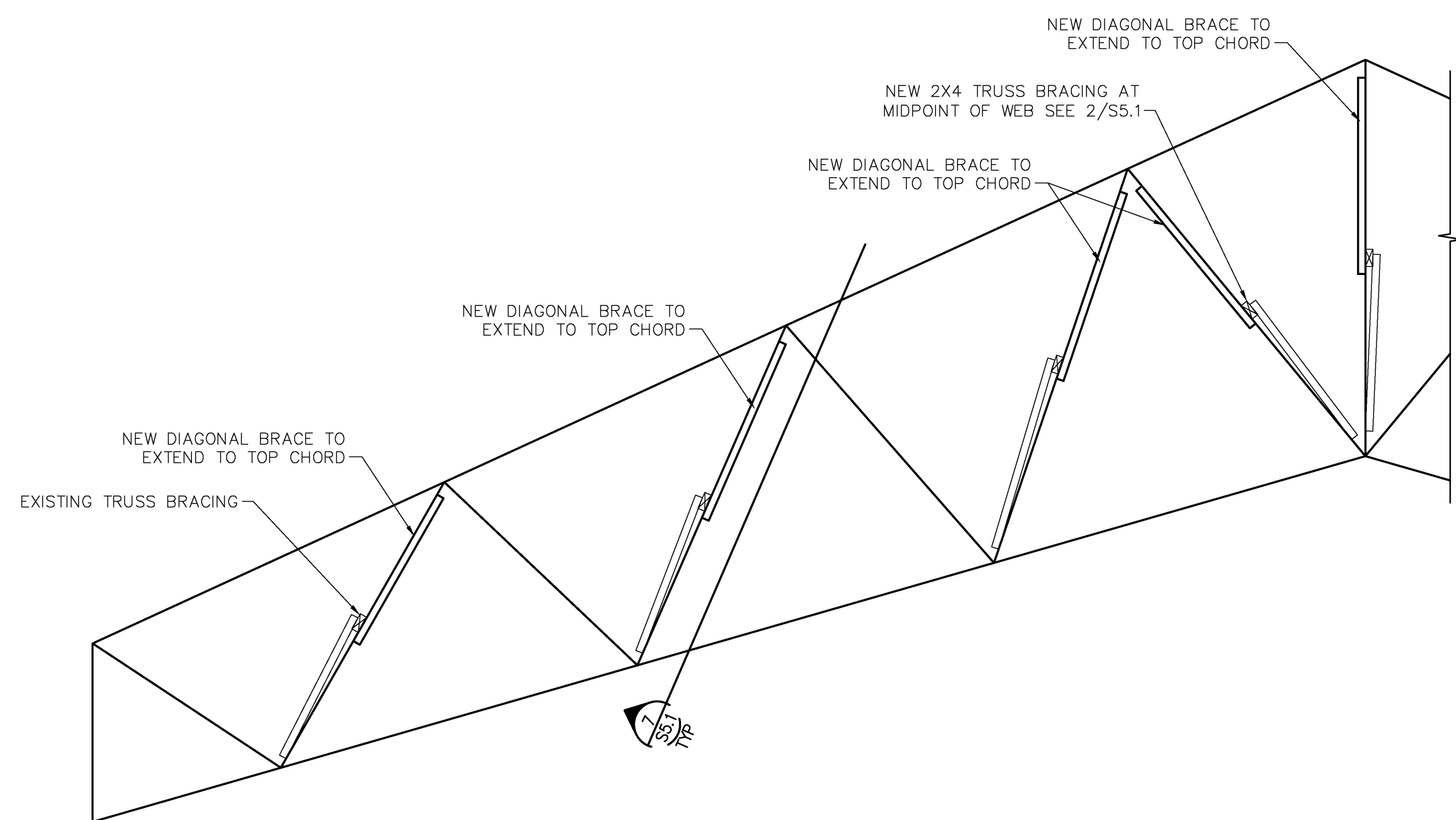
DETAIL (3) — 3"=1'-0"
DET1



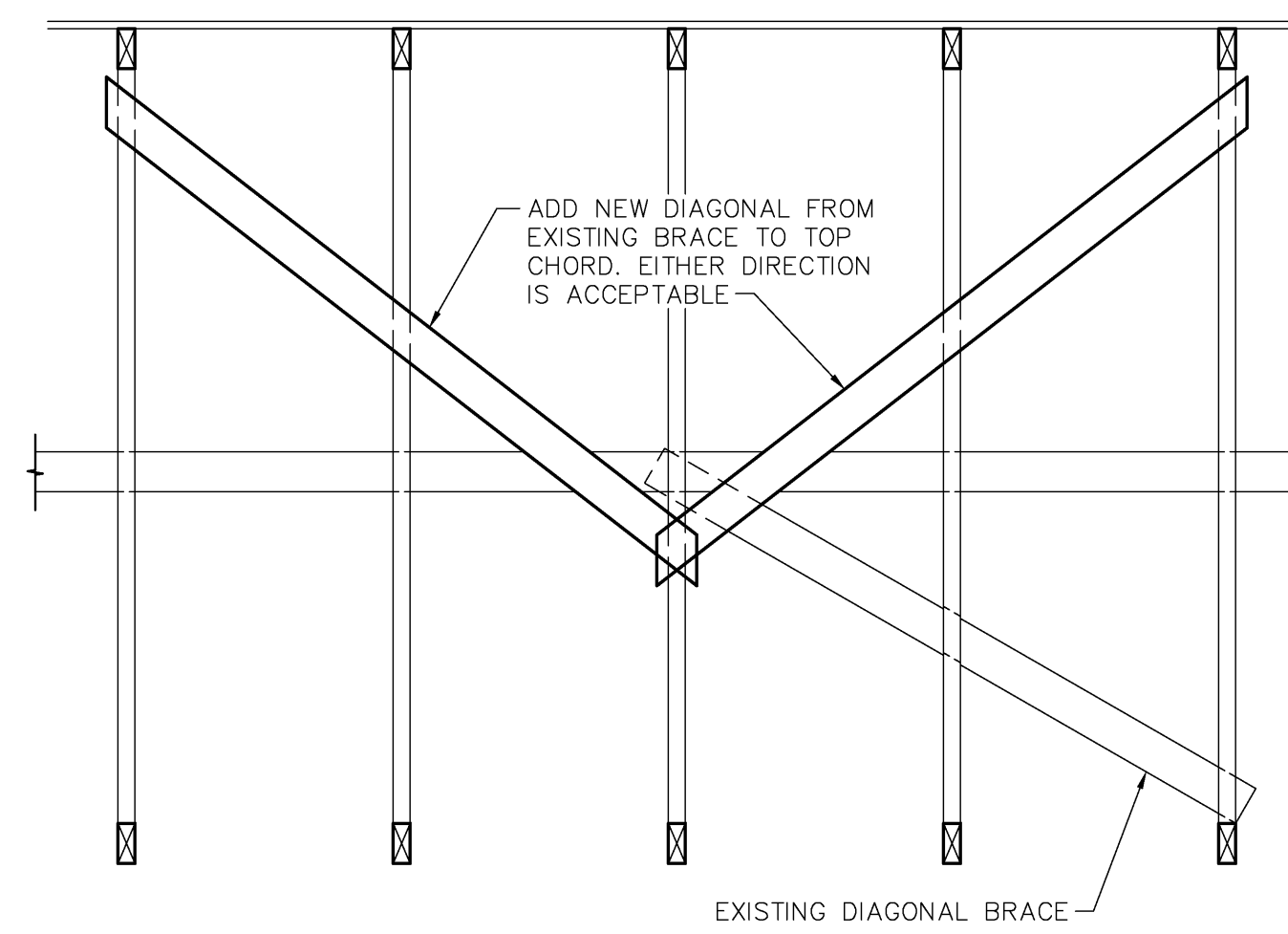
DETAIL (4) — 1"=1'-0"
DET2



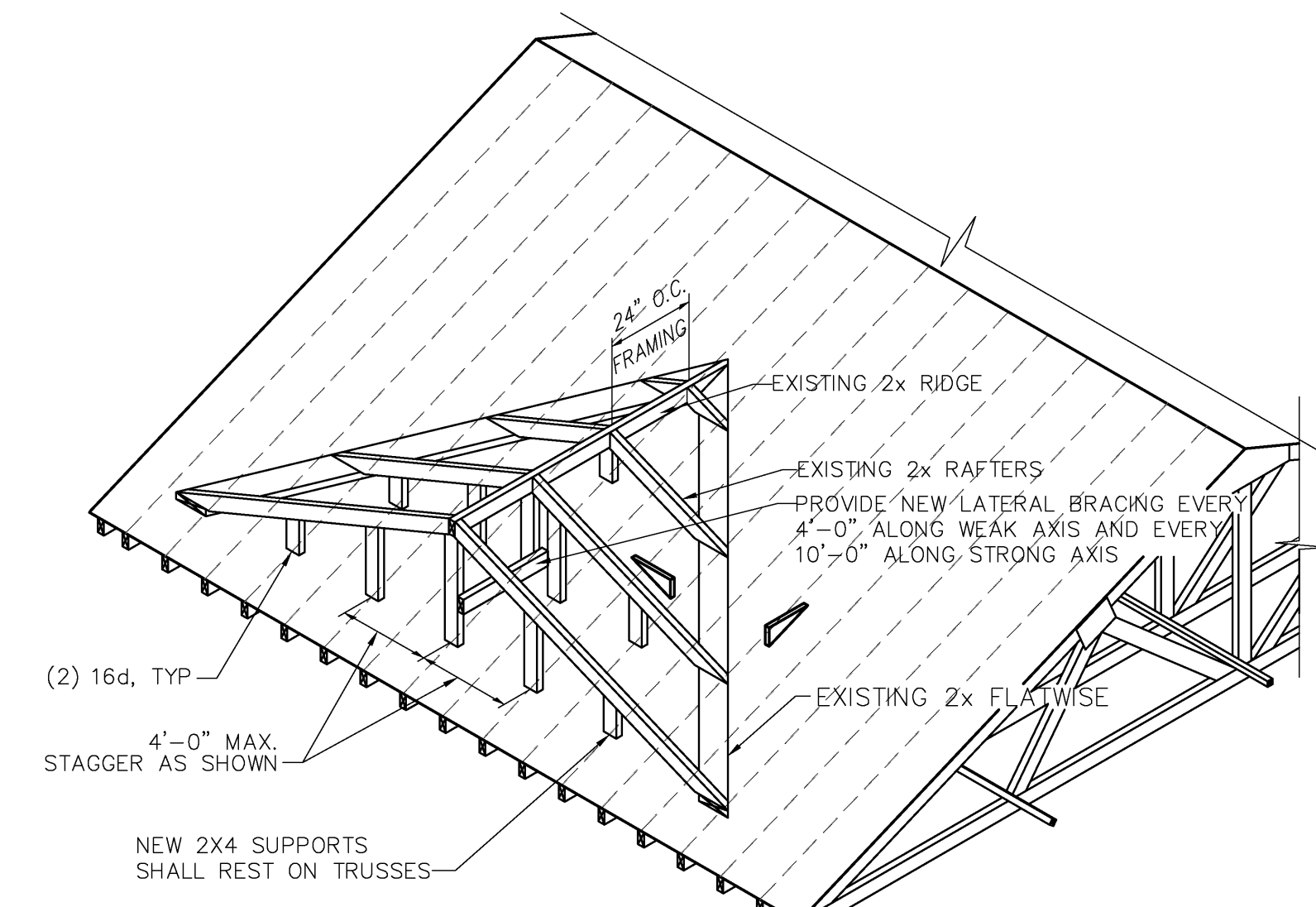
ALTERNATE DETAIL (5) — 1"=1'-0"
DET3



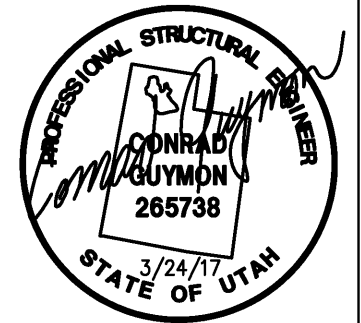
TR-2A (6) — 1/2"=1'-0"
DET4



DETAIL (7) — 3/4"=1'-0"
DET5



TYPICAL OVERBUILD (8) — 1/2"=1'-0"
RFOI



RE-ROOF FOR
BONNEVILLE 10,11,13
1498 EAST 800 SOUTH
PROVO, UTAH

PROJECT FOR
THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS

MARKING	DATE	DESCRIPTION

PROJECT NUMBER:
15-18
PLAN SERIES:
PROPERTY NUMBER:
529-4568
DATE:
03/03/2017

SHEET TITLE:
DETAILS

SHEET:
S5.1