

ROOFING REPLACEMENT



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OLEN UNDERWOOD JUVENILE JUSTICE CENTER

200 ACADEMY DRIVE
CONROE, TEXAS 77301



Montgomery County, Texas



AERIAL SITE PHOTO

GENERAL PROJECT NOTES:

1. PROVIDE ALL BUILDING PERMITS AS APPLICABLE.
2. CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS.
3. PERFORM ALL WORK IN CONFORMANCE WITH THE PROJECT DOCUMENTS. REPAIR OR REPLACE ANY WORK DEEMED UNACCEPTABLE BY THE OWNER OR OWNER'S REPRESENTATIVE TO THE SATISFACTION OF THE OWNER.
4. INSTALL CRICKETS BEHIND CURBS AND BETWEEN ROOF DRAINS AS NEEDED TO HELP PROMOTE DRAINAGE.
5. ALL SERVICE LINES SUCH AS GAS LINES, ELECTRICAL LINES AND CONDUITS, SHALL COMPLY WITH CURRENT CODE REQUIREMENTS.
6. PROVIDE FLEX CONDUIT CONNECTIONS TO ROOFTOP UNITS.
7. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS. CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SAFETY REQUIREMENTS FOR PROTECTION OF EMPLOYEES, SITE PERSONNEL, AND VISITORS.
8. CONTRACTOR IS RESPONSIBLE FOR ALL MATERIAL AND EQUIPMENT DELIVERY AND STORAGE. OWNER SHALL DESIGNATE STAGING AREA(S).
9. ALL MATERIALS ARE TO BE COVERED WITH WATERPROOF TARPULINS. USING ONLY THE MANUFACTURER'S PROVIDED MATERIAL COVERS IS NOT ACCEPTABLE. ANY MATERIALS DEEMED DEFECTIVE OR UNACCEPTABLE SHALL BE MARKED UP BY THE OWNER'S REPRESENTATIVE AND REMOVED FROM THE SITE WITHIN 24 HOURS.
10. WORK SHALL NOT INTERFERE WITH SITE'S DAILY OPERATIONS. COORDINATE ALL WORK WITH OWNER AND/OR OWNER'S REPRESENTATIVE.
11. CONTRACTOR IS TO PROVIDE PHOTOGRAPHIC DOCUMENTATION OF ALL EXISTING CONDITIONS PRIOR TO COMMENCING ANY WORK.
12. CONTRACTOR TO VERIFY WORKING CONDITION OF ALL EXISTING ROOFTOP EQUIPMENT AND PROVIDE WRITTEN DOCUMENTATION OF CONDITION TO OWNER AND OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK.
13. CONTRACTOR IS TO REPAIR OR REPLACE ANY DAMAGE CAUSED BY CONSTRUCTION TO OWNER'S SATISFACTION.
14. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE BUILDING CODES, LAWS, RULES, AND REGULATIONS. IF CONFLICT ARISES BETWEEN CODE AND PROJECT DOCUMENTS, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE FOR CLARIFICATION.
15. IF SUB-CONTRACTORS ARE REQUIRED TO PERFORM MECHANICAL, PLUMBING, ELECTRICAL, OR OTHER SPECIALTY WORK, CONTRACTOR SHALL PROVIDE A PROPERLY LICENSED SUB-CONTRACTOR TO PERFORM SAID WORK.
16. WHERE DETAILS ARE NOT SHOWN, CONFORM TO SIMILAR WORK ON THE PROJECT. WHERE SPECIFICATION AND DETAILS DON'T COVER THE INSTALLATION OF A PRODUCT, CONFORM TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS/SPECIFICATIONS.
17. ALL MATERIALS USED SHALL BE NEW UNLESS OTHERWISE NOTED.
18. UNLESS OTHERWISE NOTED, ALL BASE FLASHINGS SHALL BE A MINIMUM OF 8" IN HEIGHT. SOME EQUIPMENT MAY NEED TO BE RAISED IN ORDER TO COMPLY WITH THIS REQUIREMENT. CONTRACTOR IS RESPONSIBLE FOR RAISING CURBS, TENDING DUCTWORK, AND EXTENDING PIPES AS NECESSARY TO PROVIDE THE PROPER BASE FLASHING HEIGHT.
19. ALL WORK AND MATERIALS SHALL BE PROVIDED AS REQUIRED BY ROOFING MEMBRANE MANUFACTURER FOR THE SPECIFIED WARRANTY.
20. INSTALL ALL NEW WALKPADS WHERE INDICATED ON DRAWINGS AND AROUND ALL SERVICEABLE EQUIPMENT, AND AT ALL ROOF ACCESS LOCATIONS SUCH AS DOORS AND HATCHES.
21. CONTRACTOR SHALL CLEAN THE SITE DAILY AND DISPOSE OF ALL PROJECT-GENERATED DEBRIS IN PROPER CONTAINERS AND IN ACCORDANCE WITH ALL APPLICABLE CODES, LAWS, AND REQUIREMENTS.

DRAWING INDEX

- C1.0 COVER PAGE
- R1.0 ROOF PLANS
- R1.1 ROOF DETAILS
- R1.2 ROOF DETAILS
- R1.3 ROOF DETAILS
- R1.4 TYPICAL ROOF DETAILS
- R1.5 TYPICAL ROOF DETAILS
- R1.6 INSULATION LAYOUTS

Design Summary:
Design Code : 2015 IBC
Risk Category = III
Wind Speed : V = 132 mph (Ultimate)
Wind Speed : V = 102 mph (Nominal)
Wind Exposure Category : C
New roof assembly weight to be 3.0 PSF
Mean Building Roof Height = 24'-0"
Building Roof Slope = 0.25:12 or 1.19%
Parapet Height = 24"
Components and Cladding Pressures (Nominal)
Zone 1 P = -25.2 psf
Zone 2 P = -42.2 psf
Zone 3 P = -63.5 psf
Positive All Zones : P = 10.2 psf
a = 6'-0"

NOTE: ROOF GUTTER, DOWNSPOUT SIZE AND LOCATION ARE PER THE EXISTING CONDITIONS.
ROOF GUTTER, DOWNSPOUT SIZE AND LOCATION DESIGN ARE NOT PART OF OUR SCOPE OF WORK.

Texas COA # F-17281



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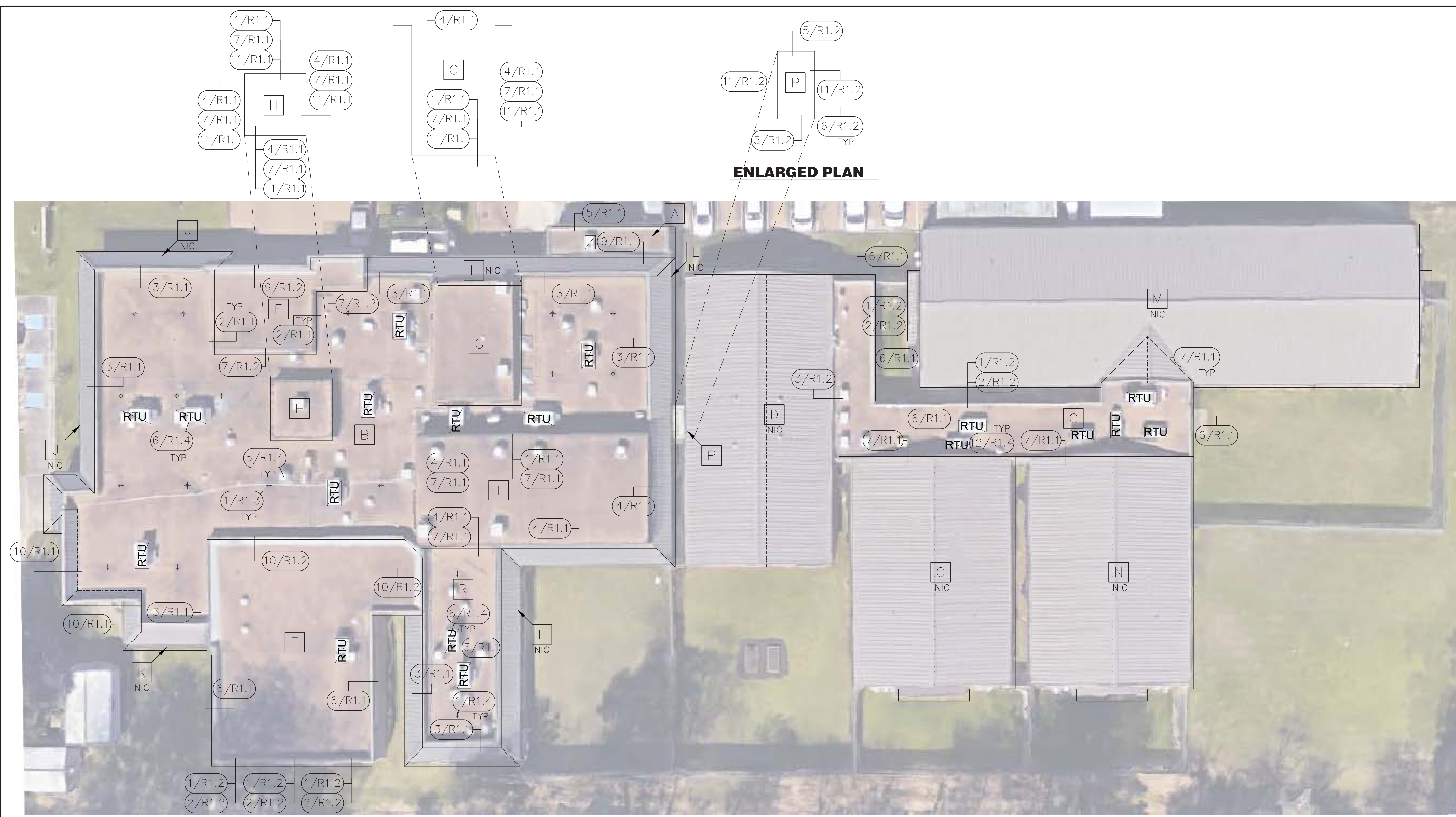


DRAWING TITLE
COVER PAGE

SHEET NUMBER

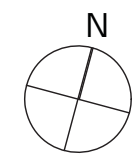
C1.0

ENLARGED PLAN



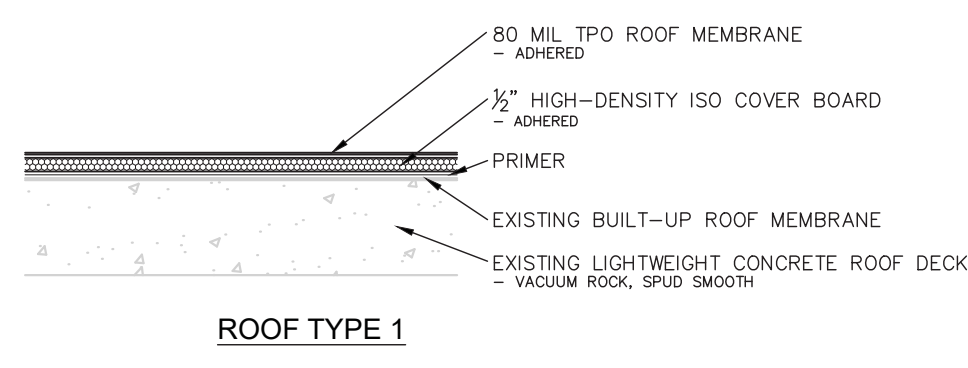
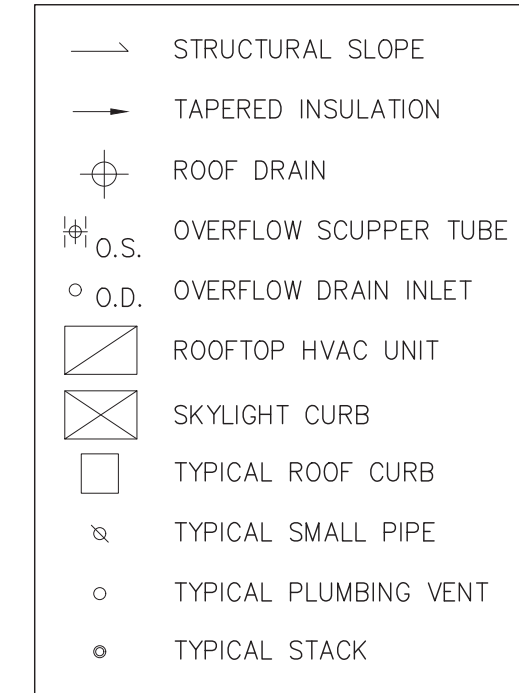
JUVENILE CENTER DETAIL REFERENCE ROOF PLAN

N.T.S.



- SCOPE OF WORK:**
- EXISTING STANDING SEAM MANSARD ROOF TO REMAIN.
 - ROOF AREAS B, C, E, F, G, H, I, R:
 - REMOVE EXISTING GRAVEL FROM ALL AREAS, LEAVING EXISTING BUILT-UP MEMBRANE IN PLACE.
 - REMOVE ALL FLASHINGS, COUNTER FLASHINGS, COPINGS. REMOVE FACE OF EXISTING GRAVEL GUARD EDGE METAL. REMOVE ALL GUTTER AND DOWNSPOUTS. ROOF GUTTER, DOWNSPOUT SIZE AND LOCATION ARE PER THE EXISTING CONDITIONS. ROOF GUTTER, DOWNSPOUT SIZE AND LOCATION DESIGN ARE NOT PART OF OUR SCOPE OF WORK.
 - REMOVE WALL PANELS WHERE INDICATED.
 - ADHERE 1/2-INCH COVER BOARD IN ADHESIVE AS REQUIRED BY MEMBRANE MANUFACTURE
 - ROOF AREA A:
 - REMOVE ALL ROOFING TO THE DECK.
 - INSTALL 1/8-INCH PER FOOT TAPERED POLYISOCYANURATE ROOF INSULATION WITH A MINIMUM 1" THICKNESS.
 - ADHERE 1/2-INCH COVER BOARD.
 - ROOF AREA P:
 - REMOVE ALL ROOFING TO THE DECK.
 - ADHERE 4-INCH POLYISOCYANURATE ROOF INSULATION IN TWO (2) LAYERS.
 - ADHERE 1/4-INCH PER FOOT TAPERED POLYISOCYANURATE ROOF INSULATION.
 - ADHERE 1/2-INCH COVER BOARD.
 - INSTALL ROOFING AS STATED BELOW.
 - ADHERE AN 80 MIL (.080") TPO ROOF MEMBRANE.
 - INSTALL ALL NEW FLASHINGS IN ACCORDANCE WITH THE MEMBRANE MANUFACTURER'S REQUIREMENTS AND THE PROJECT DOCUMENTS.
 - INSTALL NEW SCUPPERS AND OVERFLOW SCUPPERS AS INDICATED ON THE DRAWINGS.
 - INSTALL ALL NEW GUTTER, DOWNSPOUTS, COPINGS, COUNTER FLASHINGS, AND OTHER SHEET METAL AS REQUIRED BY THE PROJECT DOCUMENTS.
 - RAISE ALL EQUIPMENT CURBS AS REQUIRED TO ACHIEVE A MINIMUM BASE FLASHING HEIGHT OF 8 INCHES (8").
 - INSTALL ALL NEW PIPE SUPPORTS UNDER ALL SERVICE LINES. PIPE SUPPORTS ARE TO BE SPACED WITHIN 1 FOOT OF EACH ELBOW OR "T" AND NO MORE THAN EIGHT FEET (8') ON CENTER FOR RIGID SERVICE LINES. NON-RIGID LINES SHALL HAVE PIPE SUPPORTS PLACED FIVE FEET (5') ON CENTER. DISCONNECT ALL SERVICE LINES AND EQUIPMENT AS REQUIRED TO PROPERLY PERFORM THE WORK. RECONNECT UPON COMPLETION TO A SERVICEABLE CONDITION. ALL WORK TO BE PERFORMED BY PROPERLY LICENSED CONTRACTORS.
 - ALL LIGHTNING PROTECTION SHALL BE DISCONNECTED AS NEEDED TO PERFORM THE WORK. REINSTALL IN SAME LOCATIONS UPON COMPLETION, REPLACING ALL DAMAGED/MISSING APPURTENANCES. RECERTIFY ALL LIGHTNING PROTECTION.
 - AT ALL ROOF DRAIN AND OVERFLOW DRAIN LOCATIONS, REPLACE THE CONNECTION WHERE THE ROOF DRAIN TIES INTO THE INTERIOR PLUMBING.
 - A LICENSED PLUMBER SHALL TEST ALL ROOF DRAINS UPON COMPLETION OF THE PROJECT.
 - PROTECT ALL ADJACENT BUILDINGS AND ROOF AREAS FROM DAMAGE. REPLACE OR REPAIR ANY DAMAGE TO OWNER'S SATISFACTION. CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO ALL LANDSCAPE DAMAGE RESULTING FROM EXECUTION OF THE WORK.

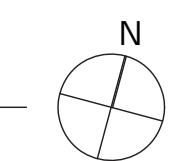
KEY



AREA OF WORK

JUVENILE CENTER KEY PLAN

N.T.S.



DRAWING DATES		
NUMBER	DATE	COMMENTS

1 12/11/17 ISSUE FOR BID

DRAWING TITLE

ROOF PLANS

SHEET NUMBER

R1.0

Texas COA # F-17281



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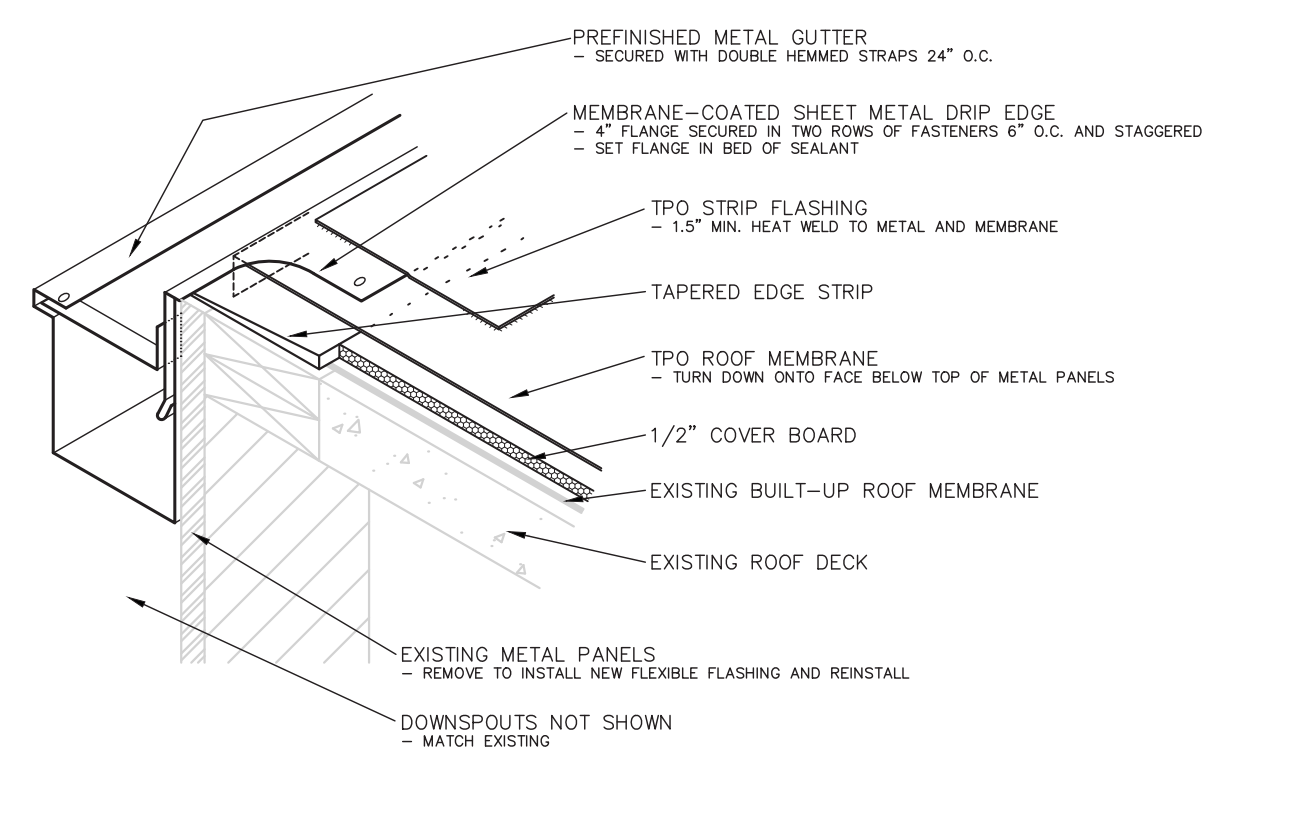
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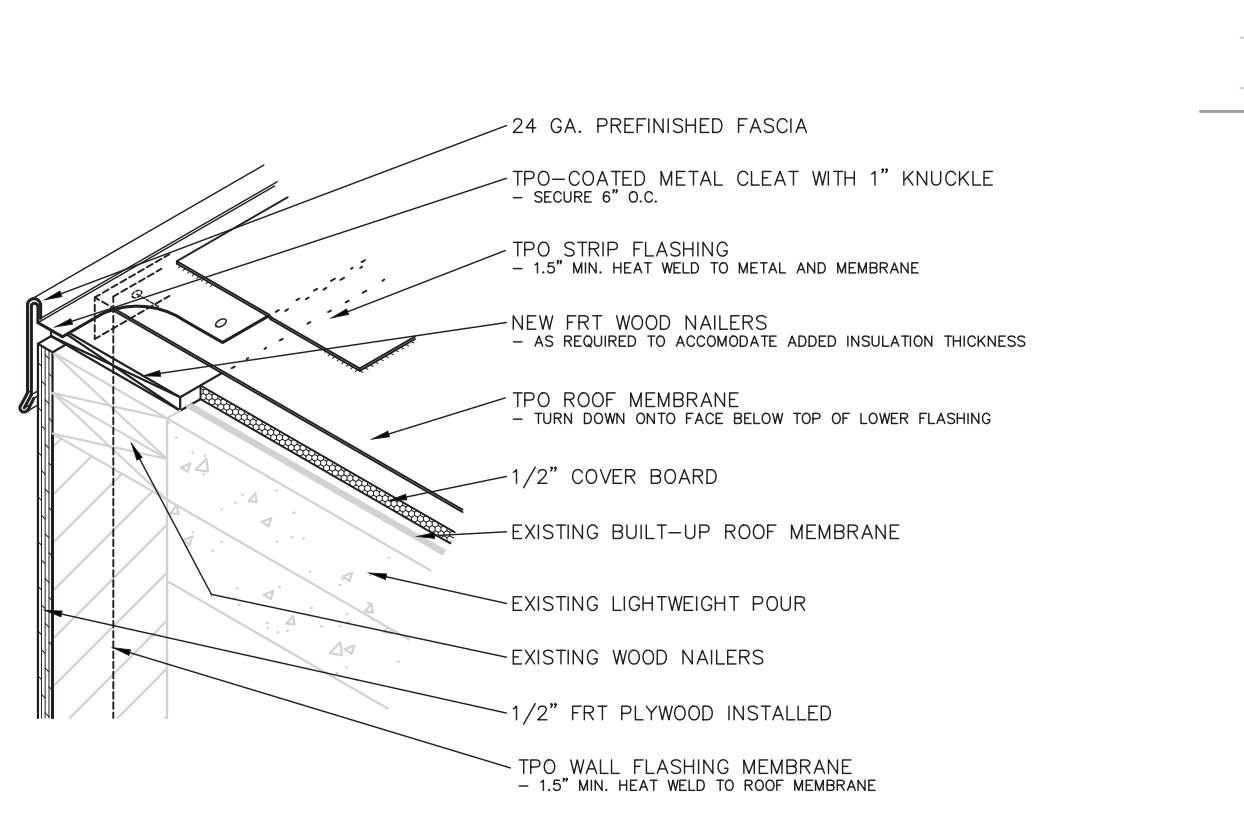
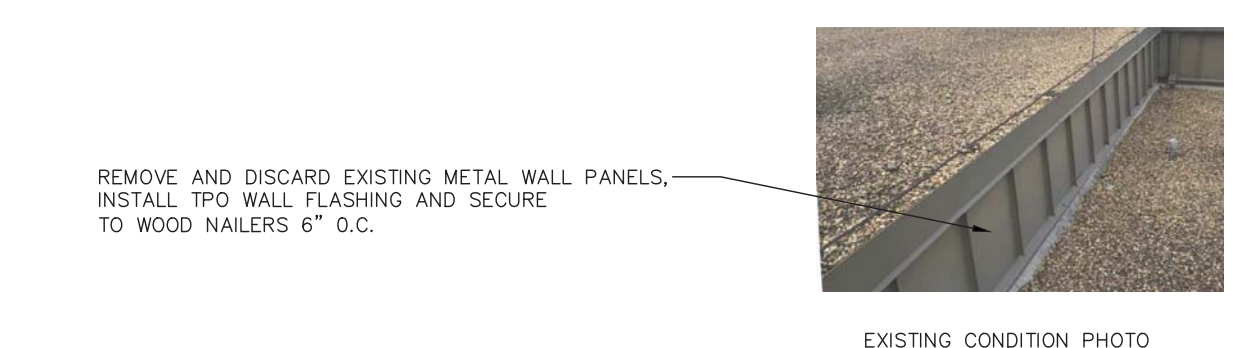
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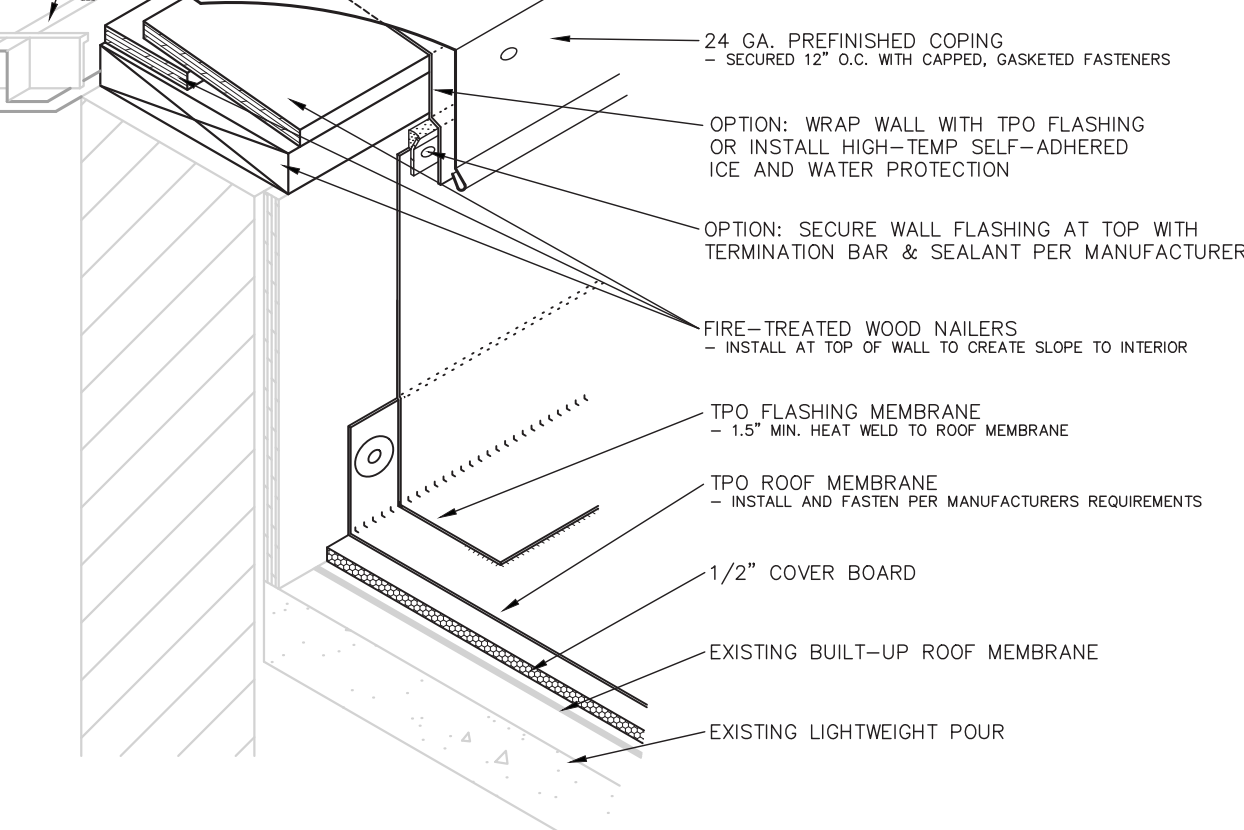
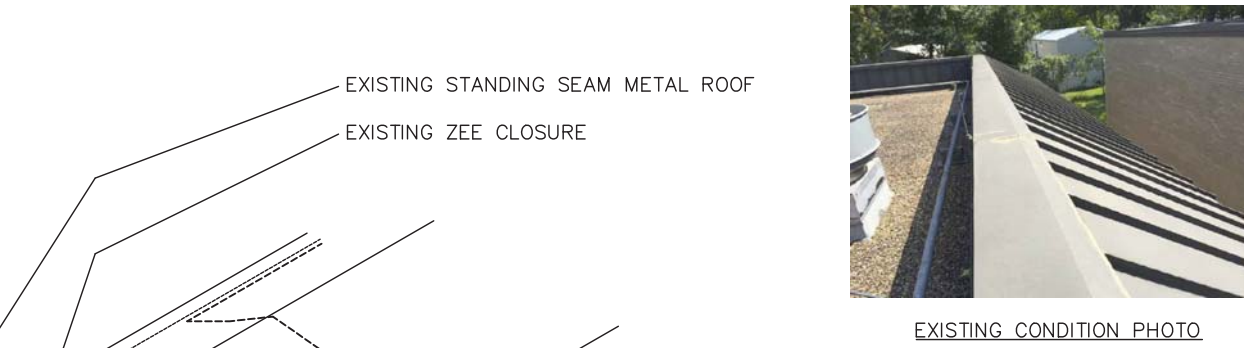
12/11/17



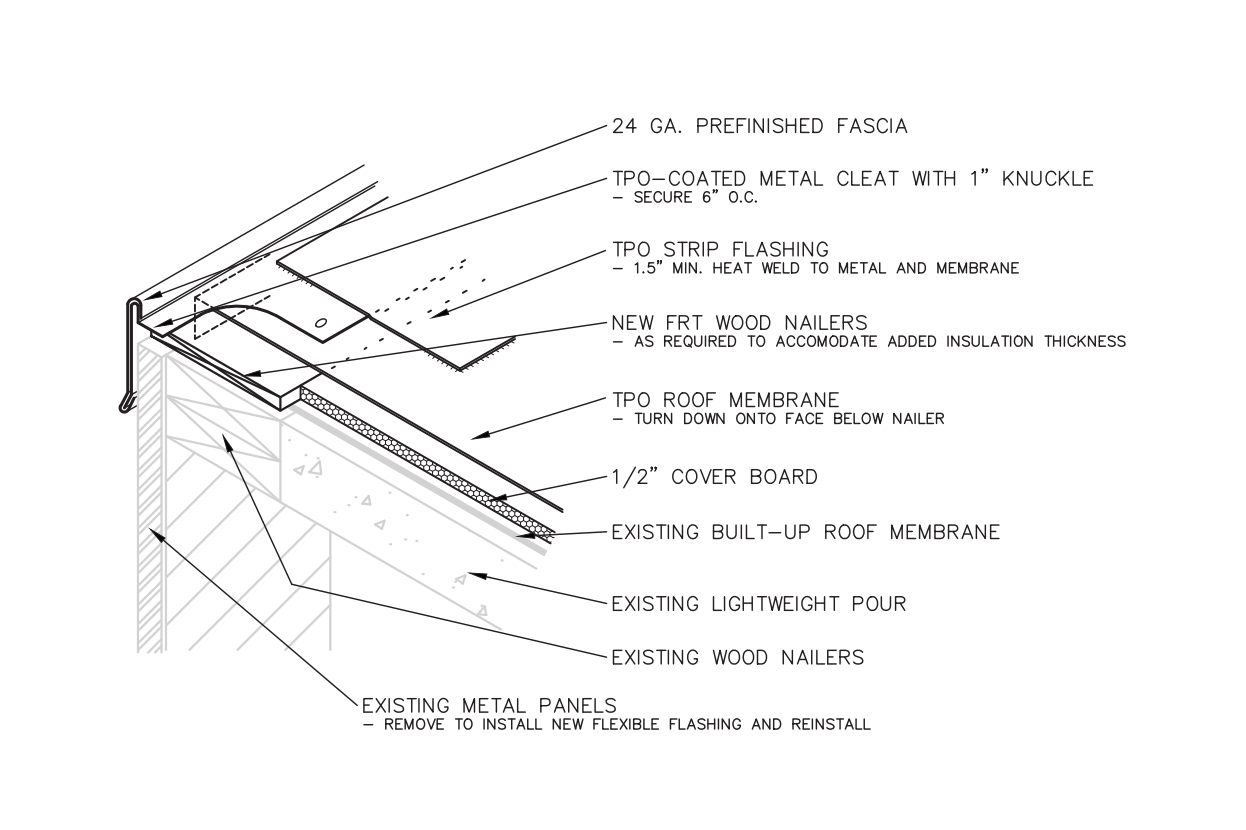
1 GUTTER EDGE
N.T.S



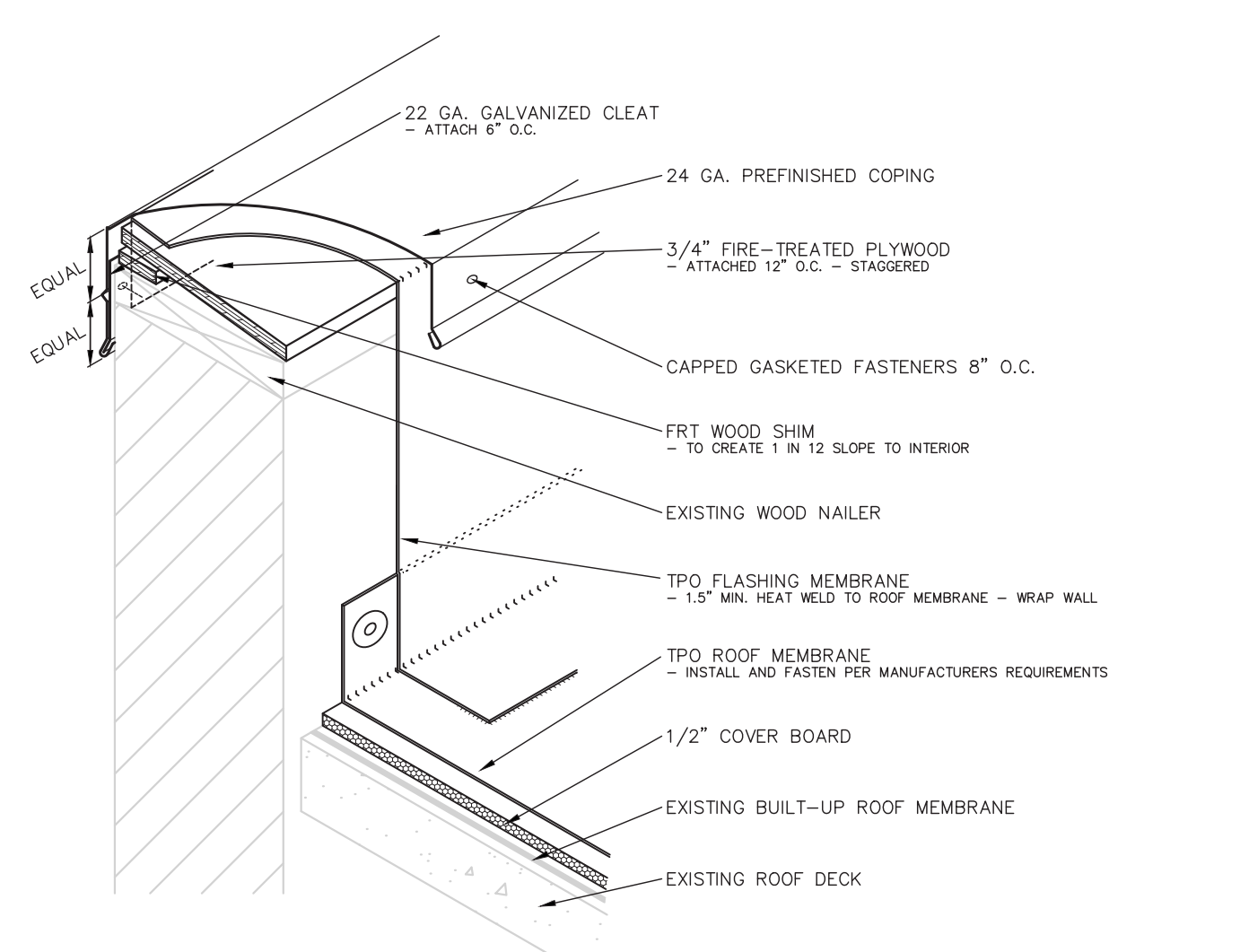
2 CLEARSTORY/PENTHOUSE RAKE
N.T.S



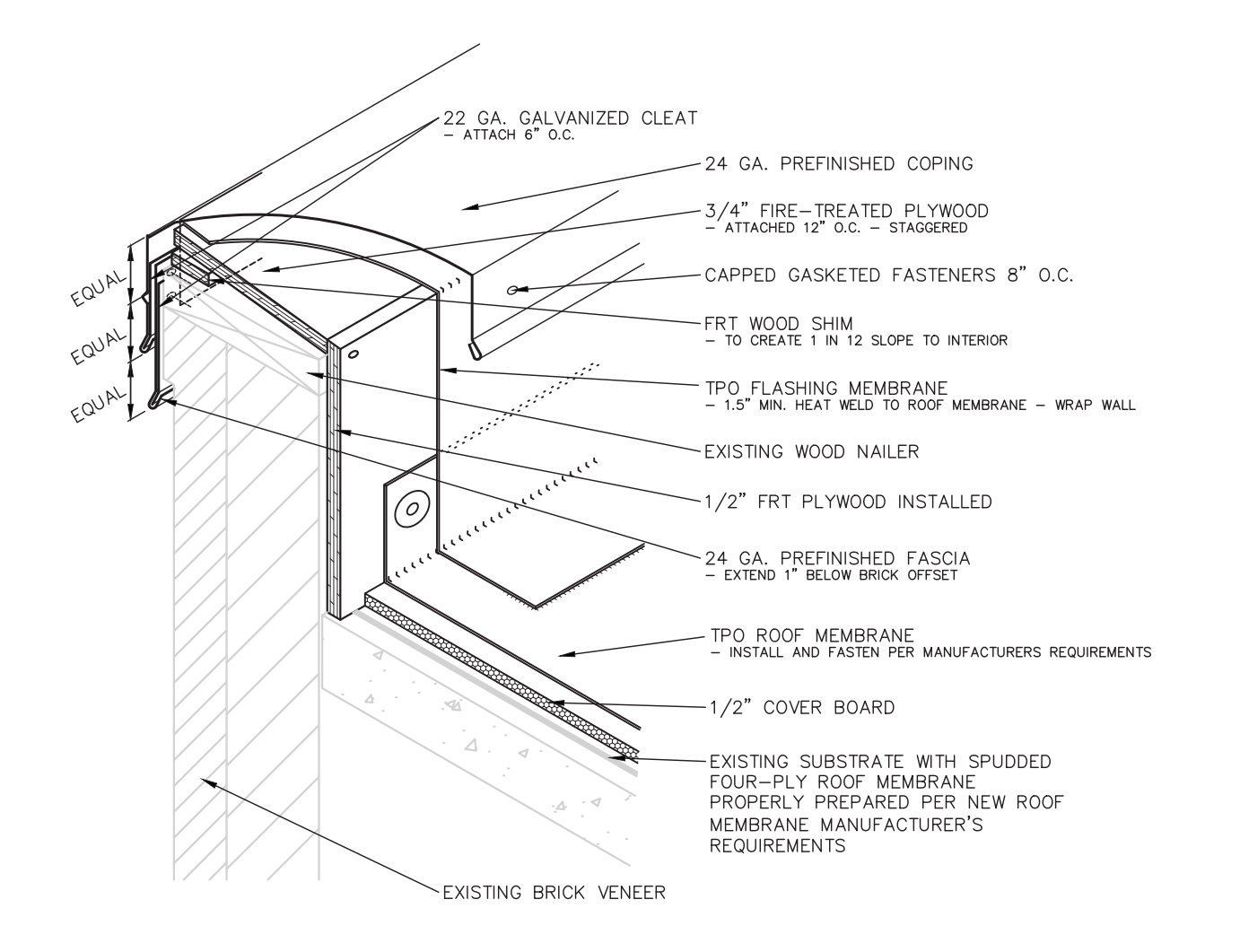
3 PERIMETER WALL WITH MANSARD
N.T.S



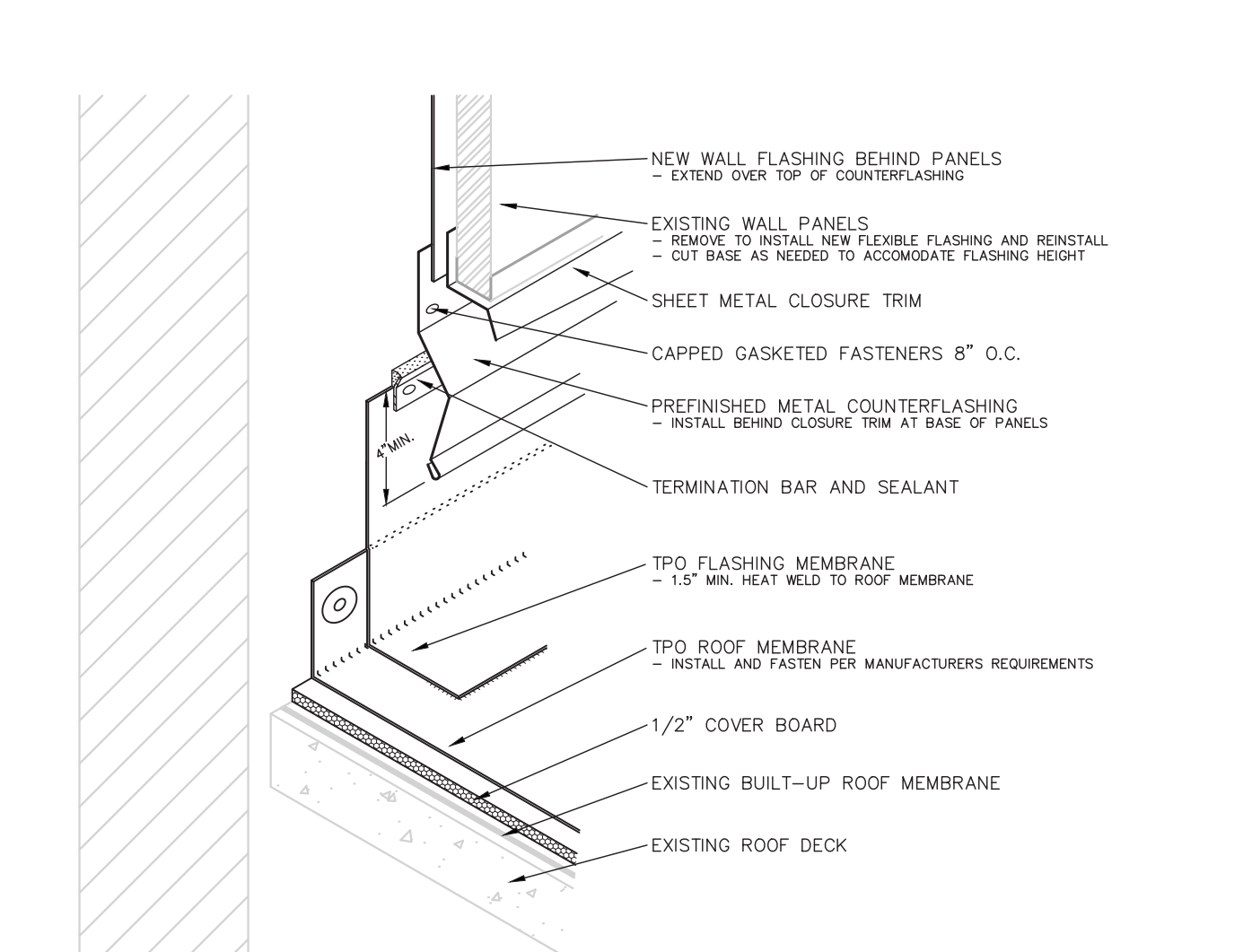
4 RAKE EDGE FLASHING
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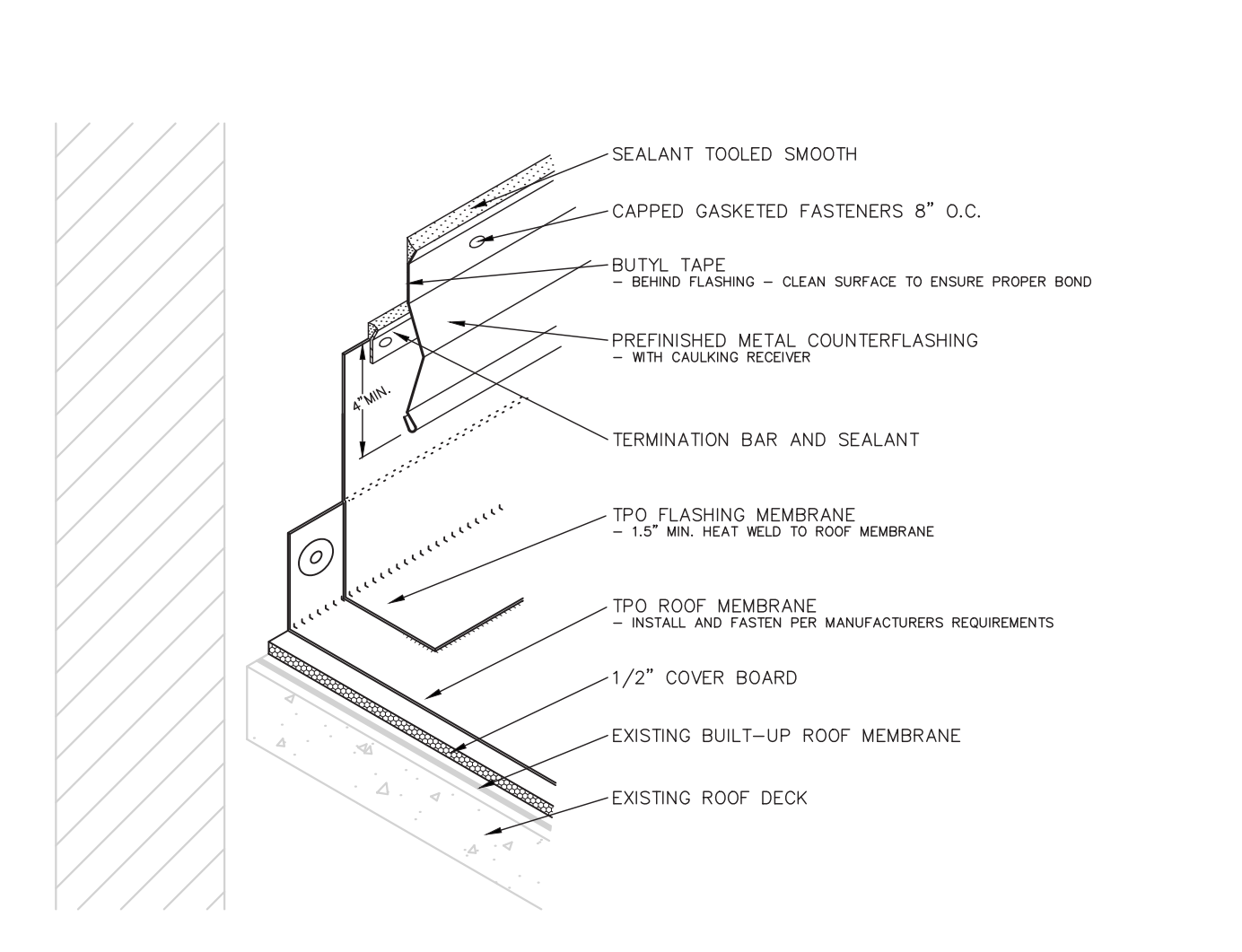
5 PARAPET
N.T.S



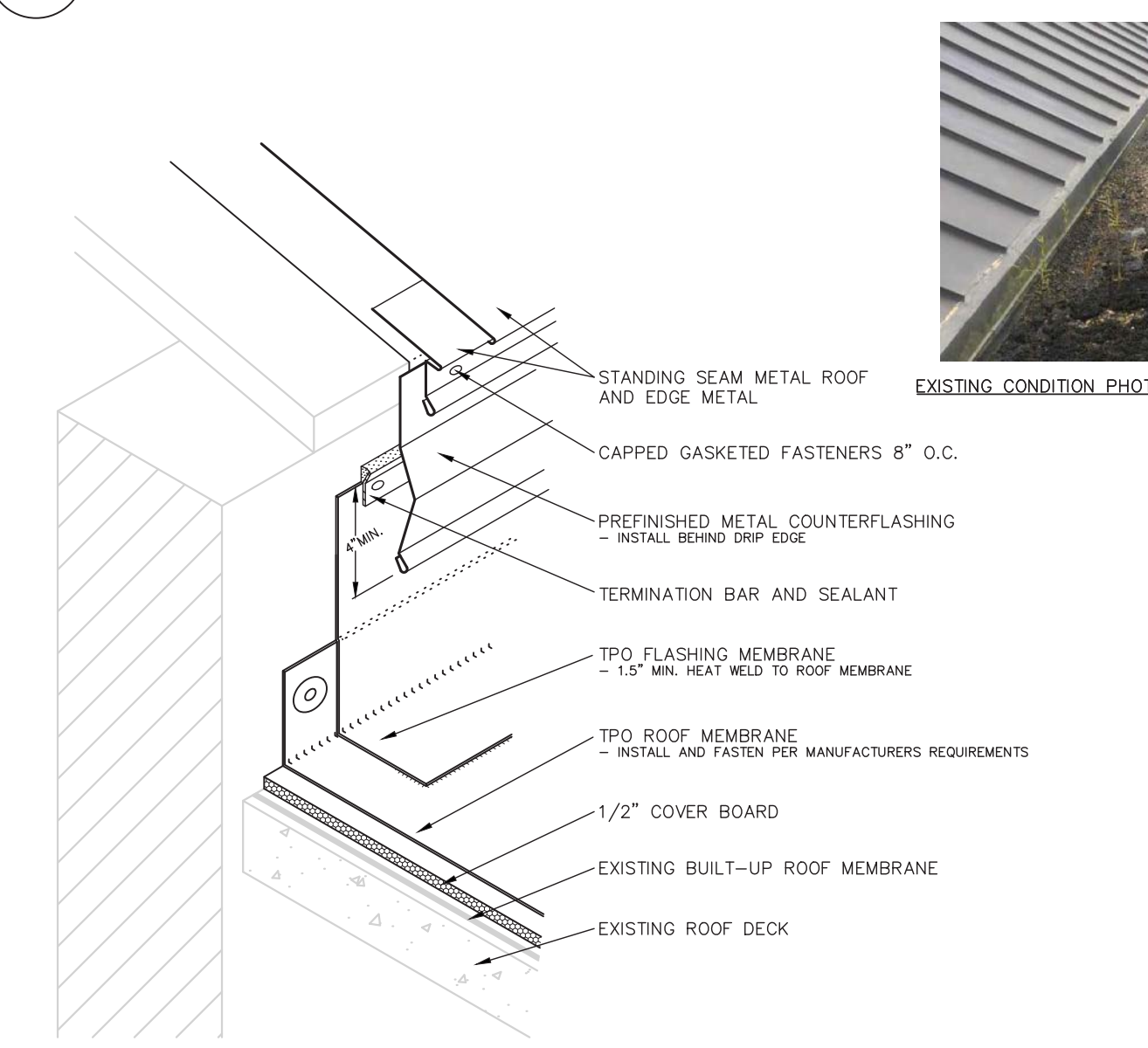
6 PARAPET
N.T.S



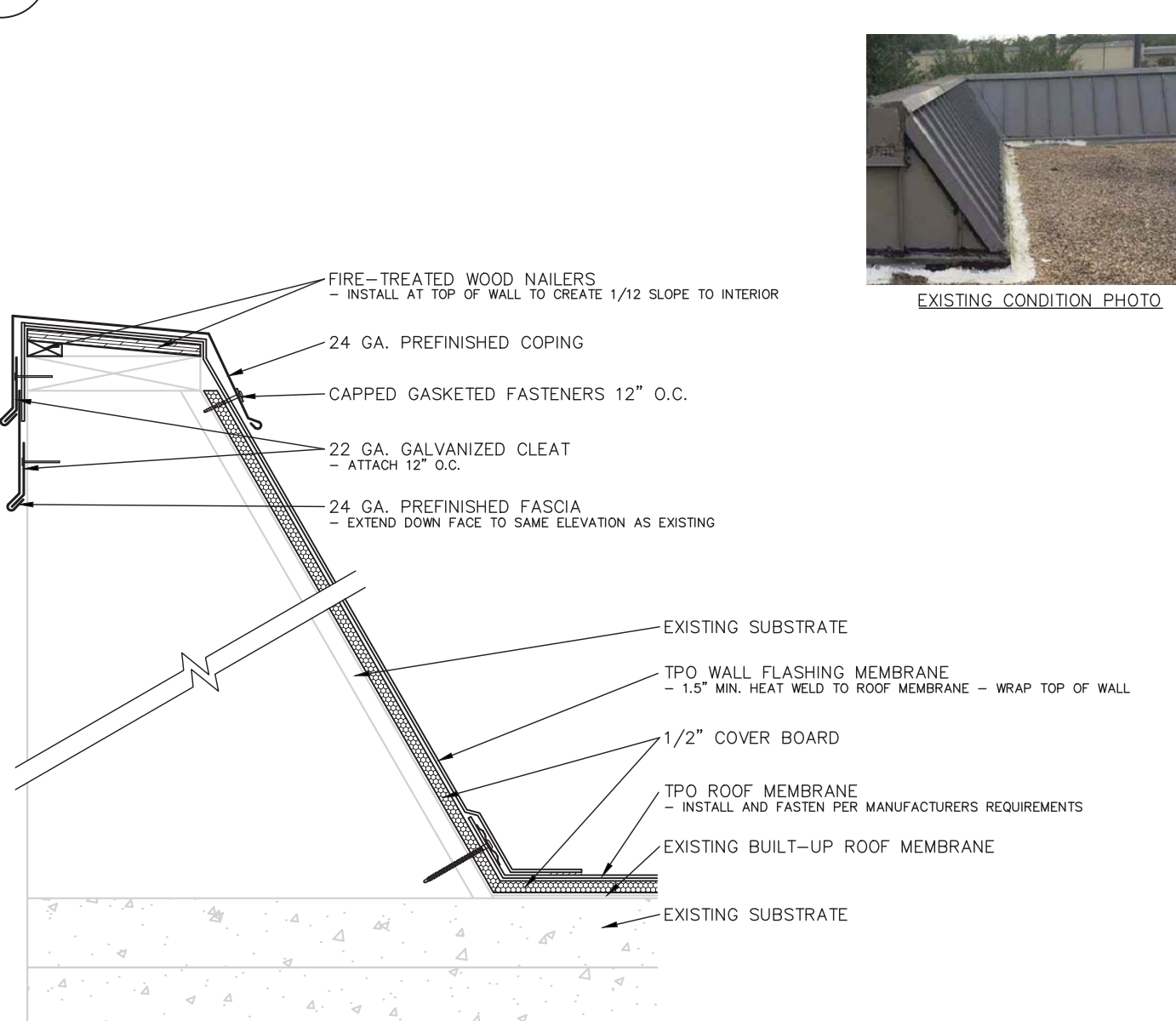
7 WALL FLASHING
N.T.S



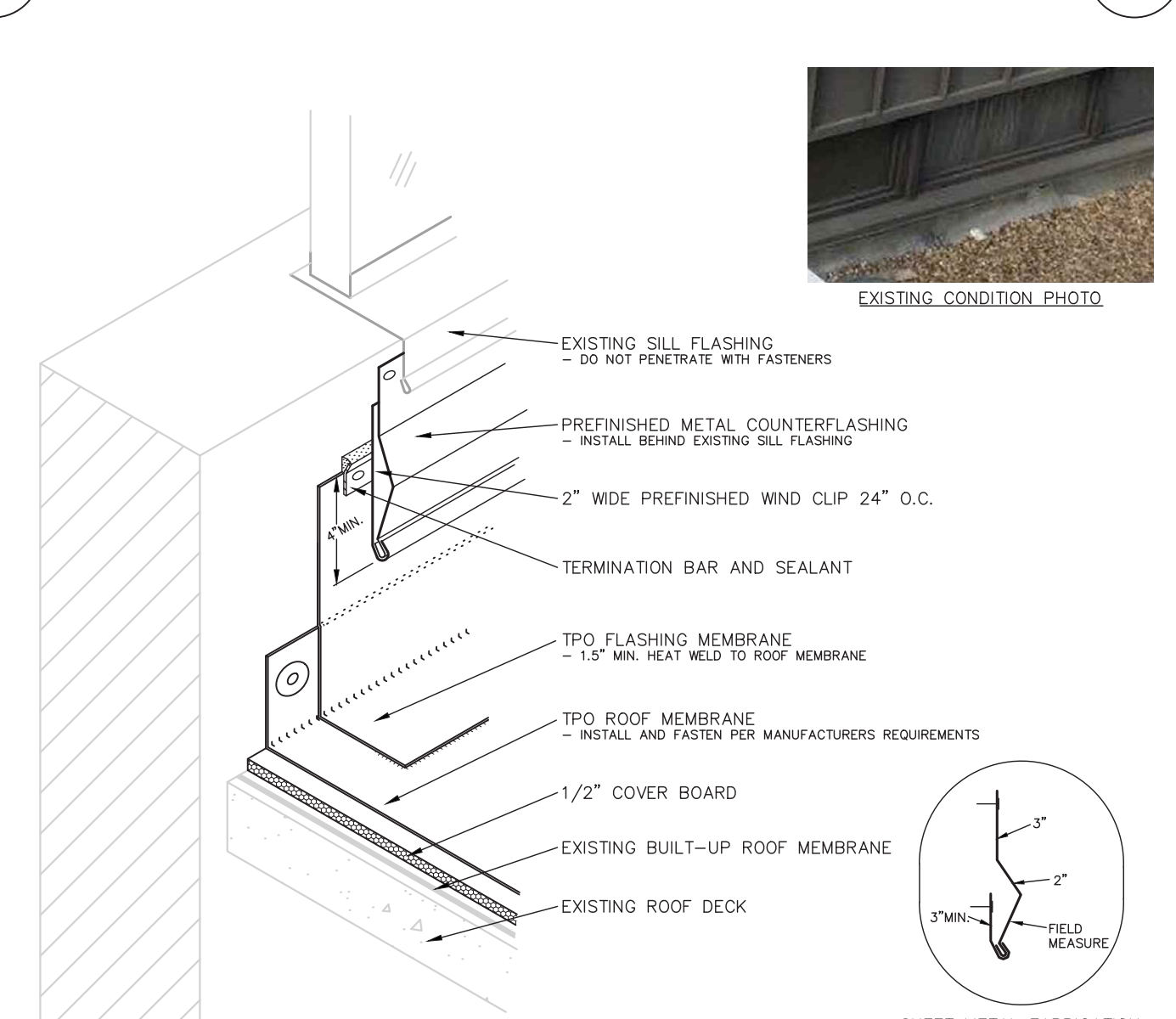
8 WALL FLASHING
N.T.S



9 TRANSITION
N.T.S



10 INVERTED MANSARD
N.T.S



11 SILL FLASHING
N.T.S



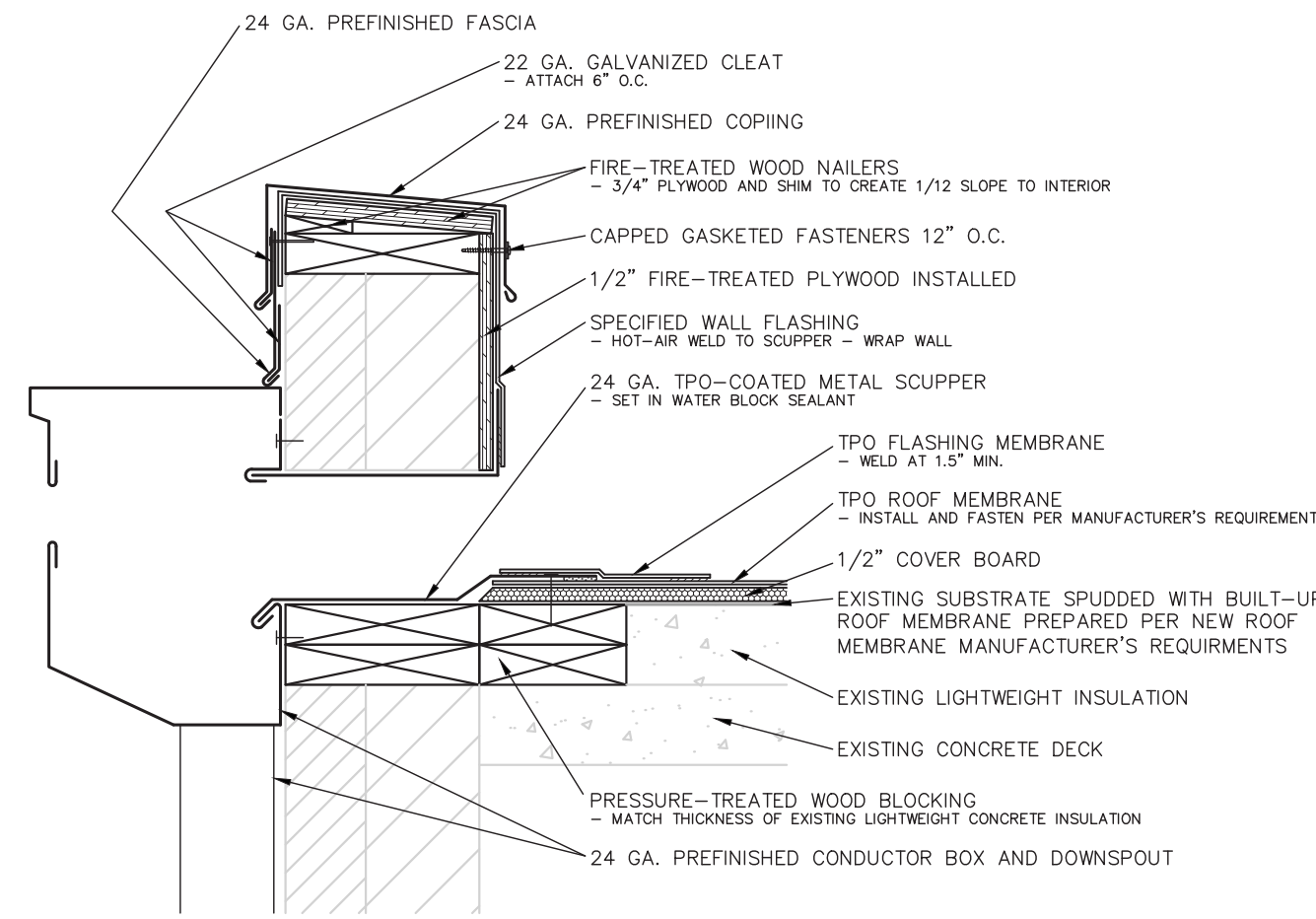
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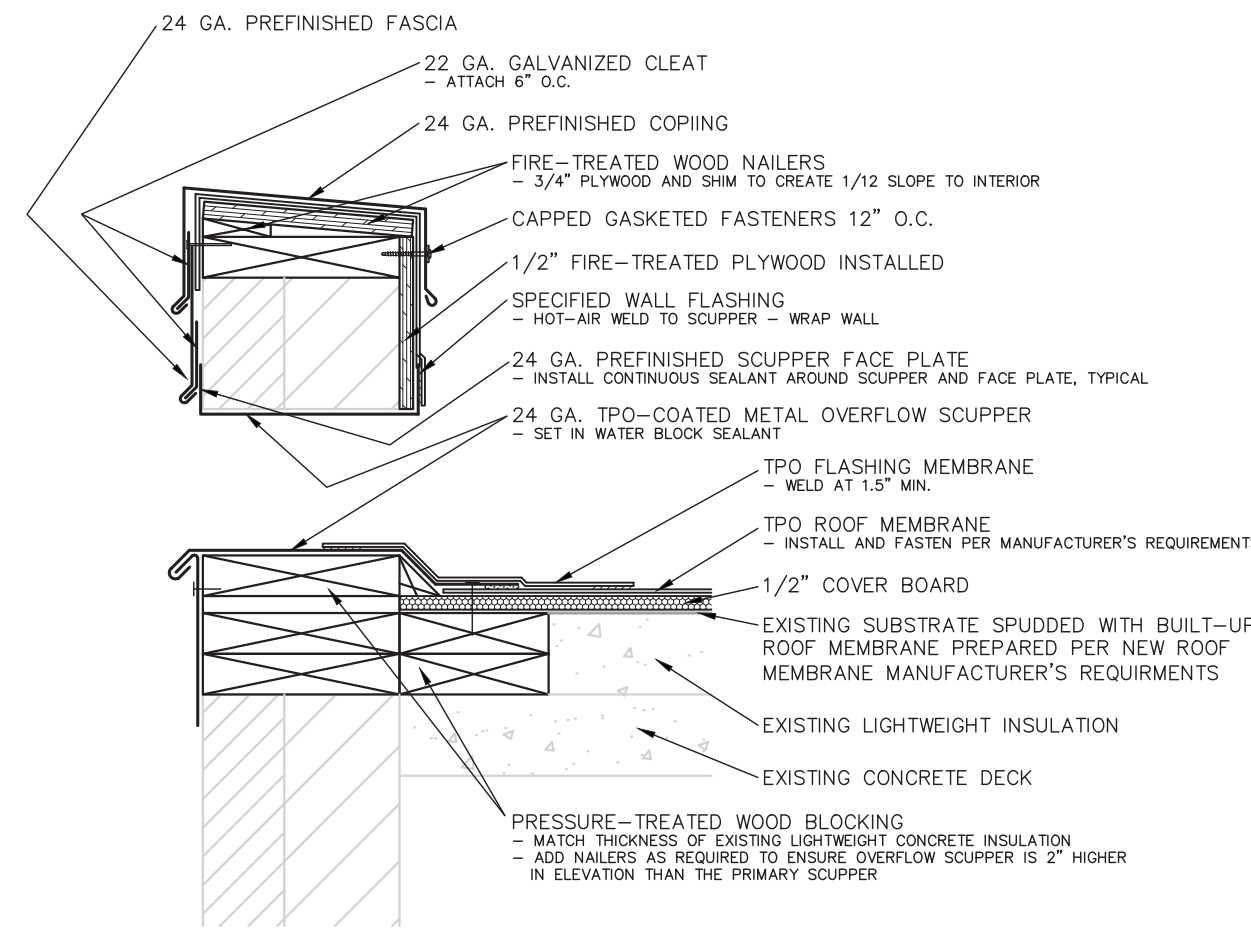
DRAWING DATES		
NUMBER	DATE	COMMENTS
1	12/11/17	ISSUE FOR BID

DRAWING TITLE
ROOF DETAILS

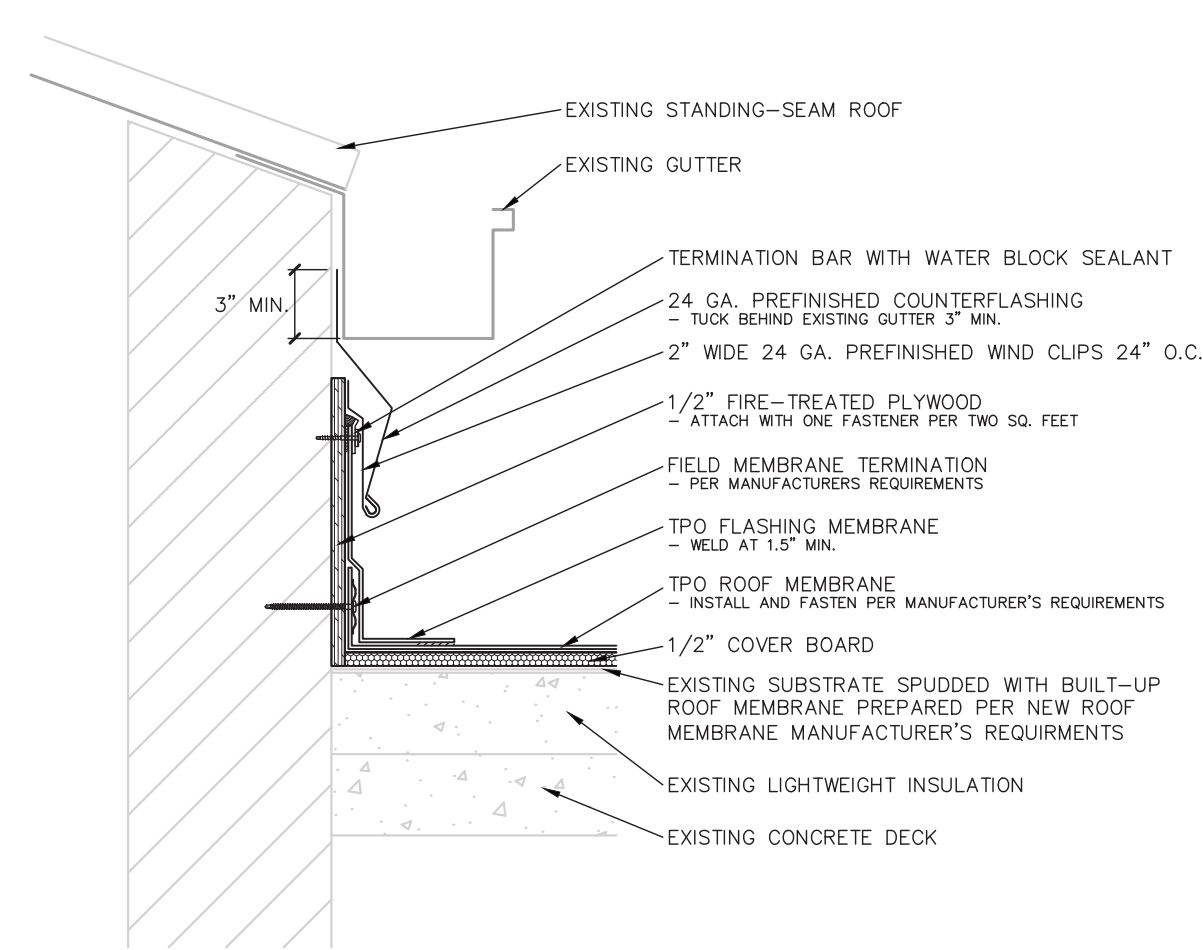
SHEET NUMBER
R1.1



1 THRU-WALL SCUPPER
N.T.S.

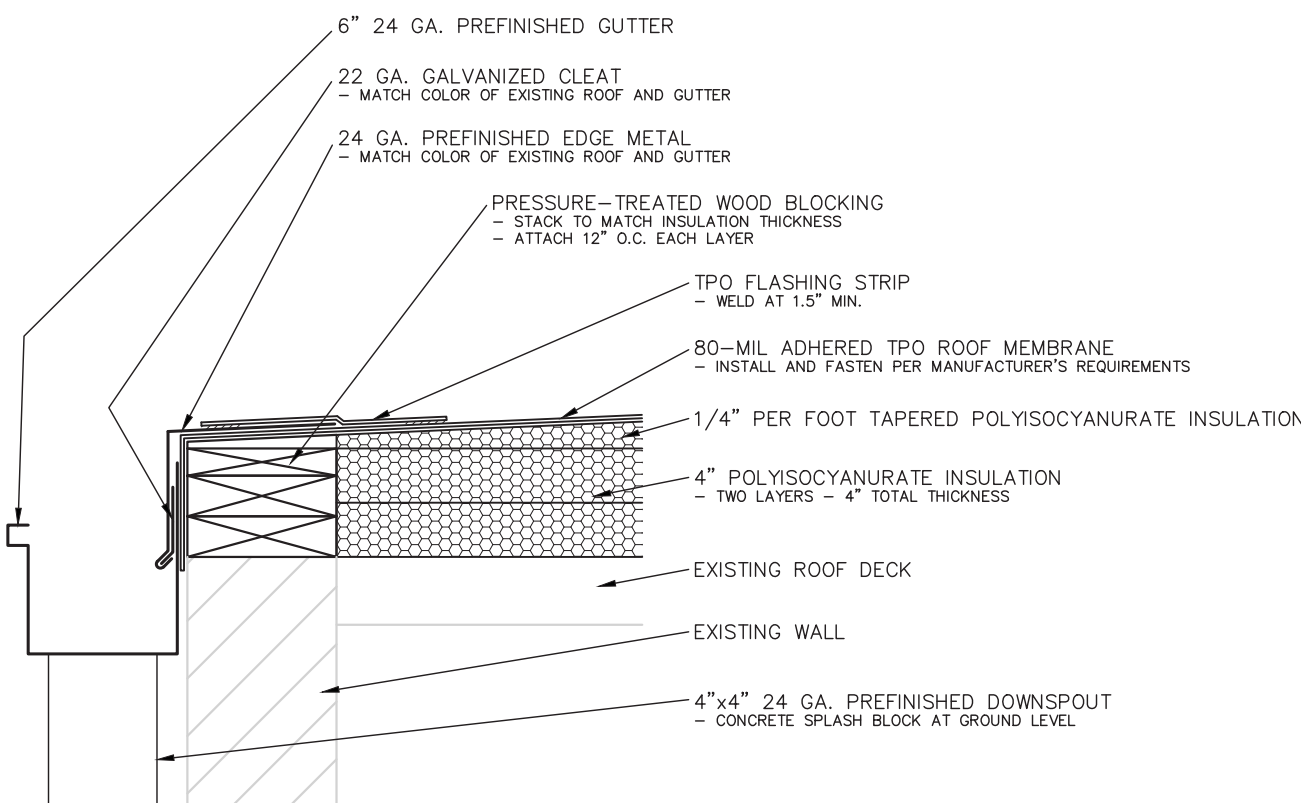


2 OVERFLOW SCUPPER
N.T.S.

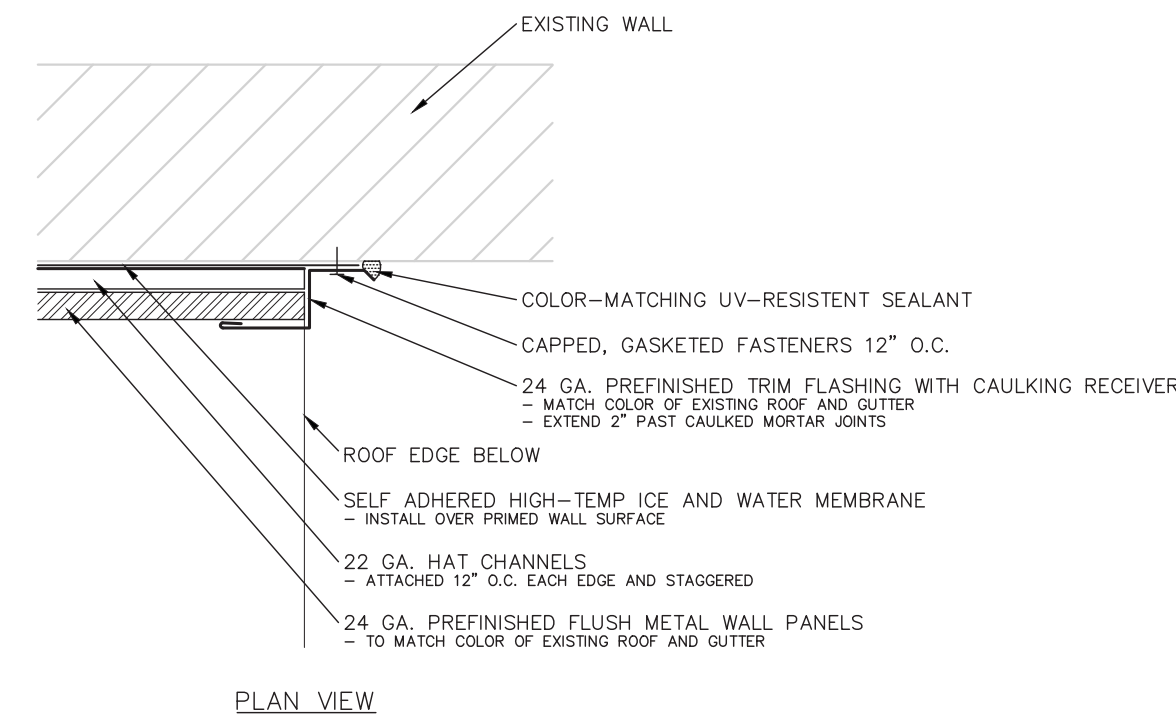


3 RISE WALL WITH EXISTING GUTTER
N.T.S.

4 NOT USED
N.T.S.



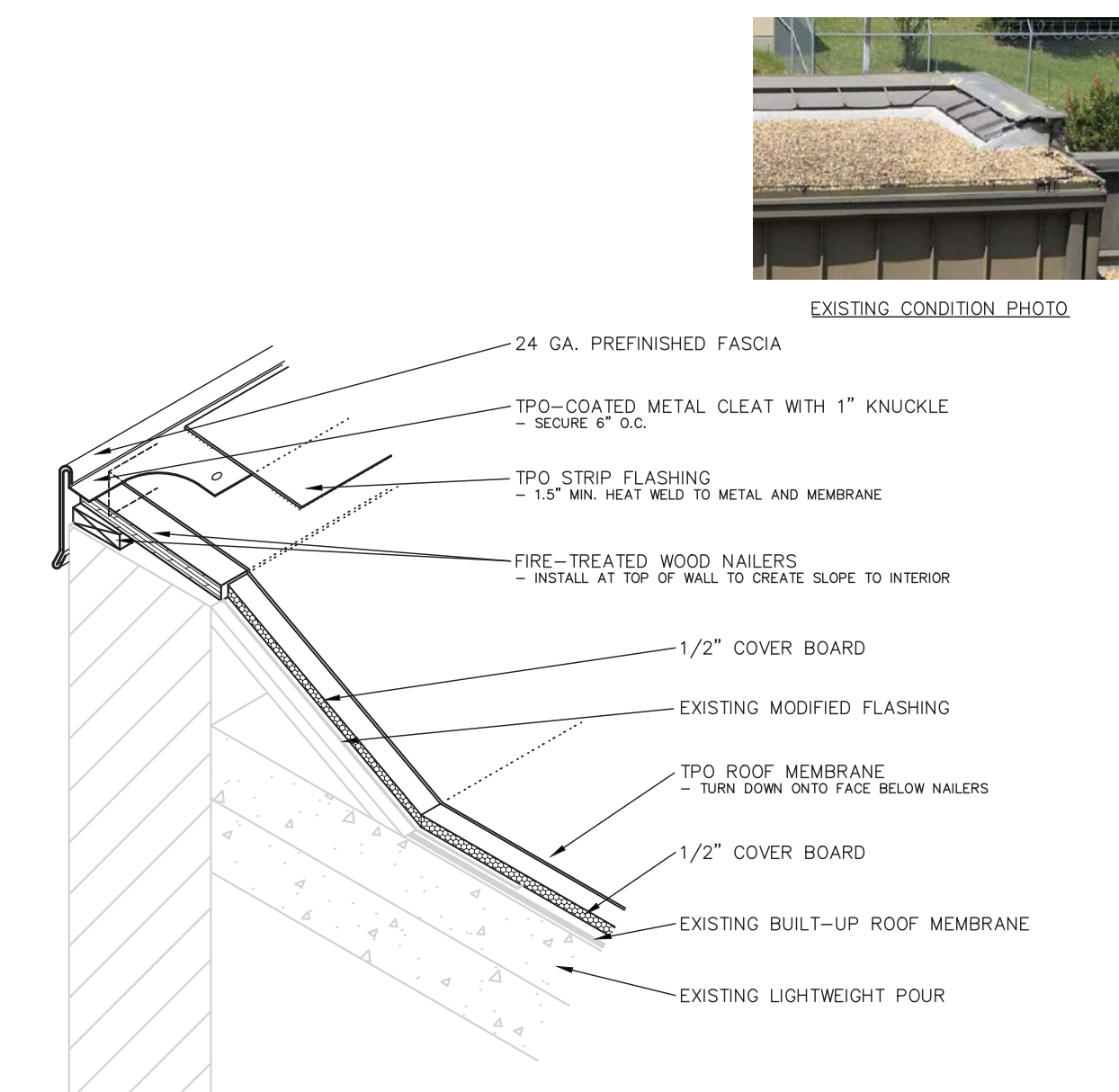
5 GUTTER EDGE AT CONNECTOR ROOF
N.T.S.



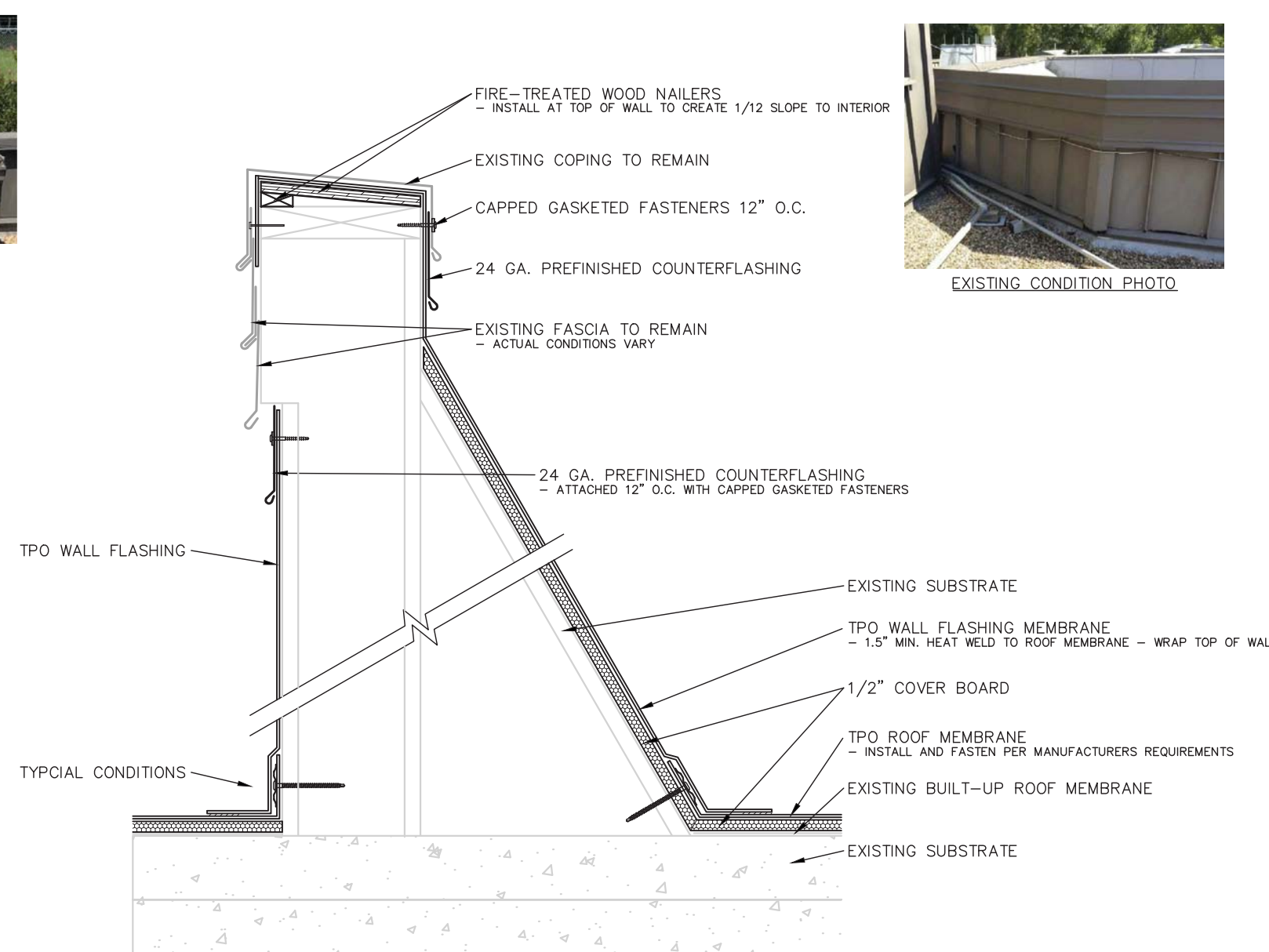
6 WALL PANEL TRIM AT CONNECTOR ROOF
N.T.S.

7 NOT USED
N.T.S.

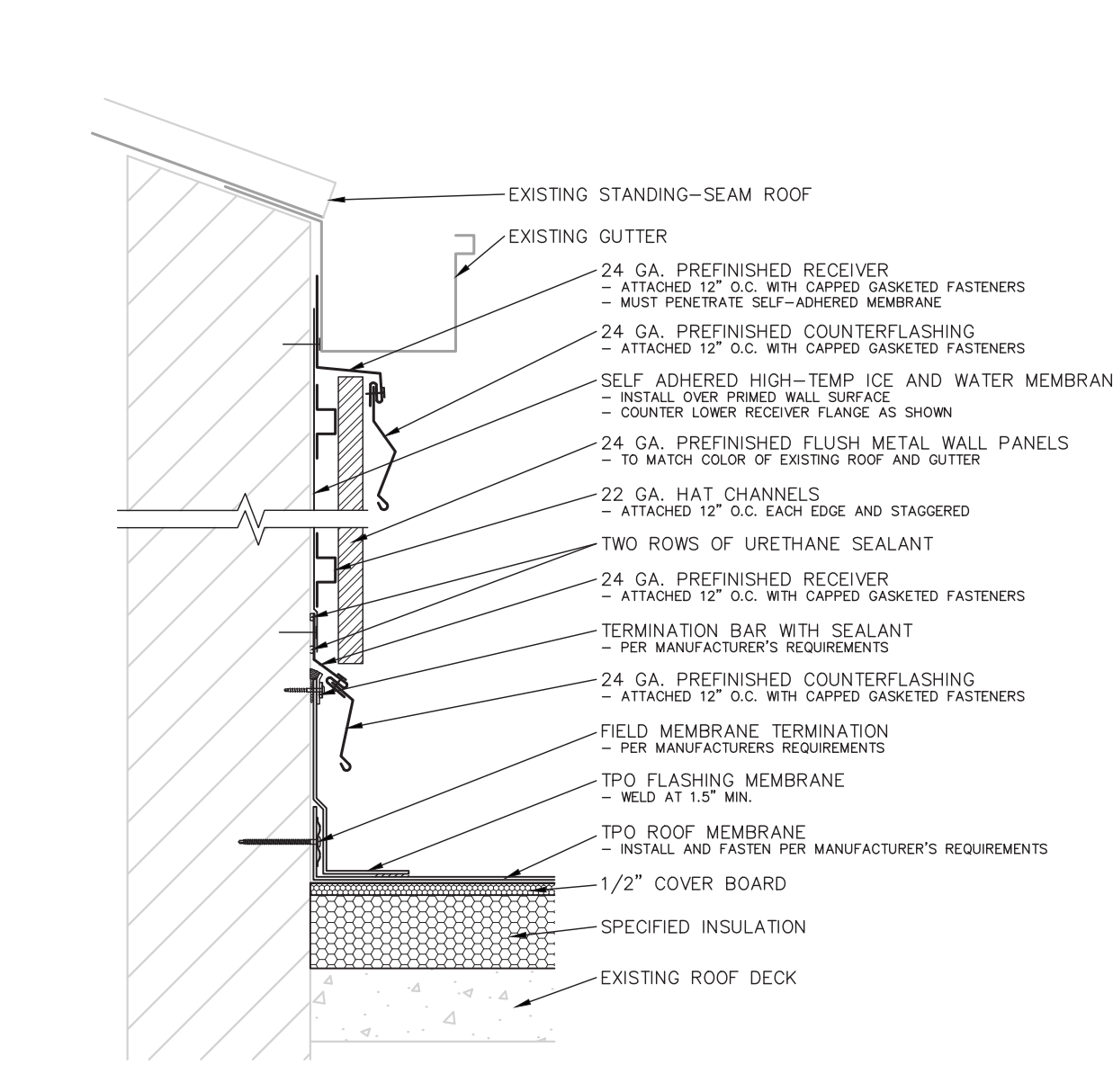
8 NOT USED
N.T.S.



9 CLEARSTORY HIGH END
N.T.S.



10 INVERTED MANSARD
N.T.S.



11 RISE WALL AT CONNECTOR ROOF
N.T.S.



EXISTING CONDITION PHOTO



EXISTING CONDITION PHOTO

DRAWING DATES		
NUMBER	DATE	COMMENTS
1	12/11/17	ISSUE FOR BID

DRAWING TITLE
ROOF DETAILS

SHEET NUMBER
R1.2

Texas COA # F-17281



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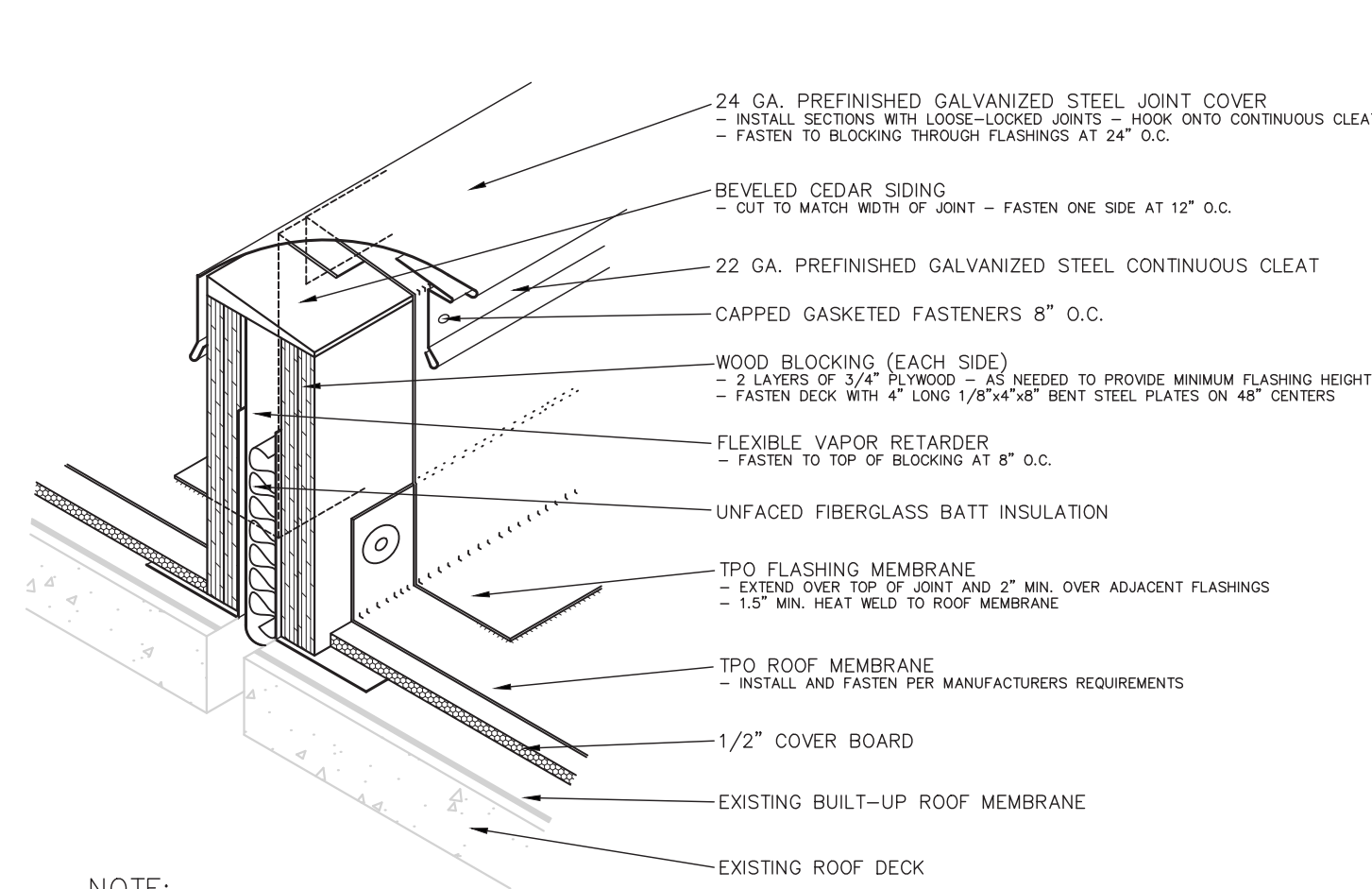
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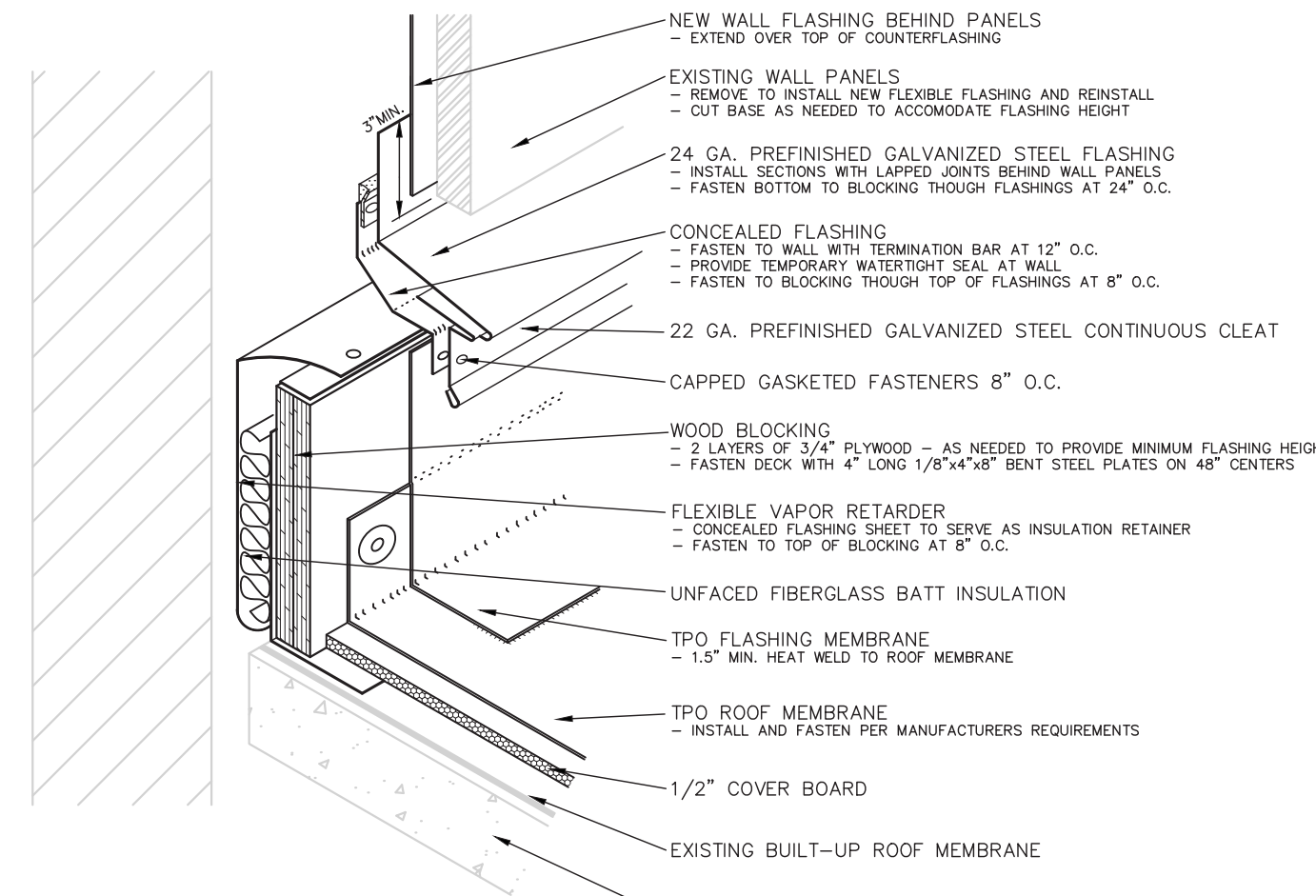
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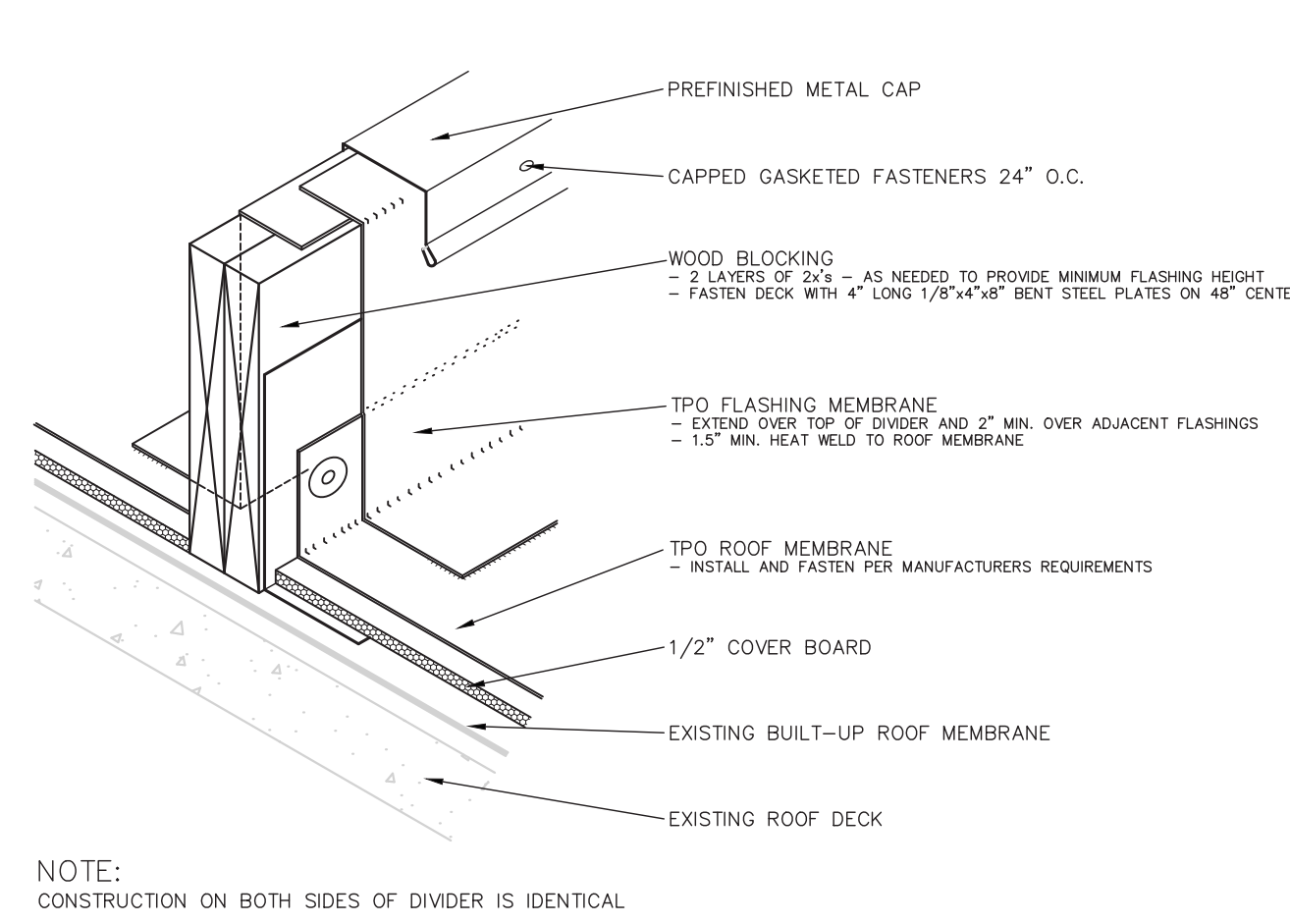
12/11/17



1 EXPANSION JOINT
N.T.S.

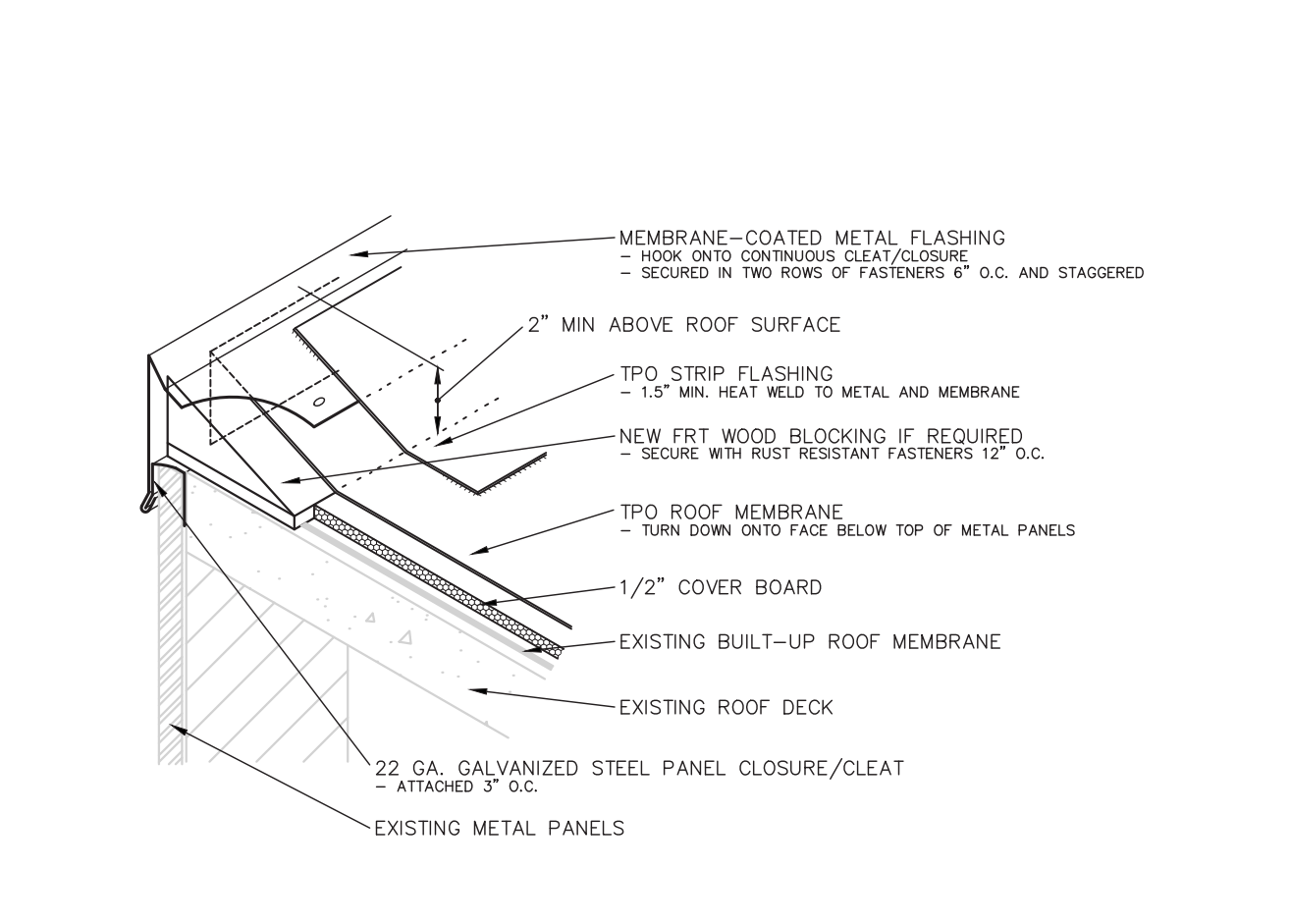


2 WALL JOINT
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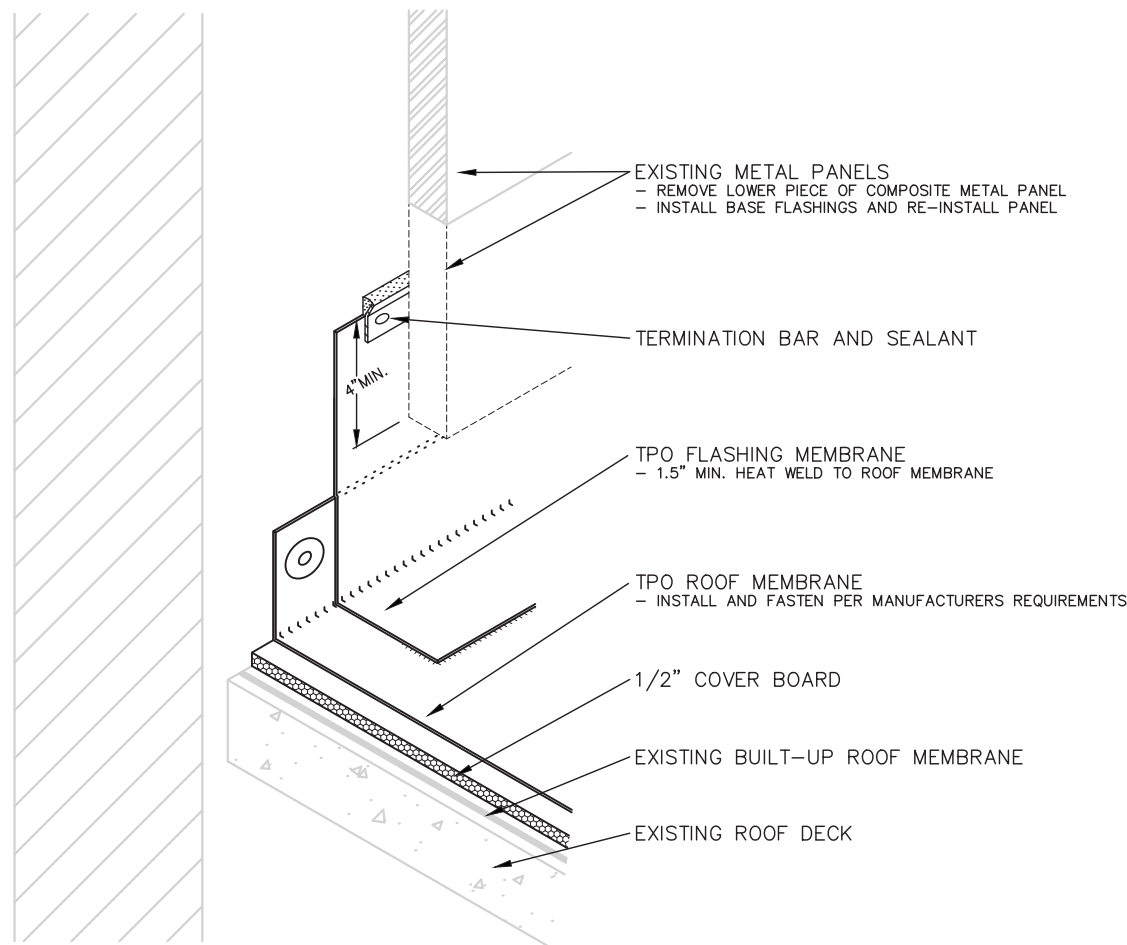


NOTE:
CONSTRUCTION ON BOTH SIDES OF DIVIDER IS IDENTICAL

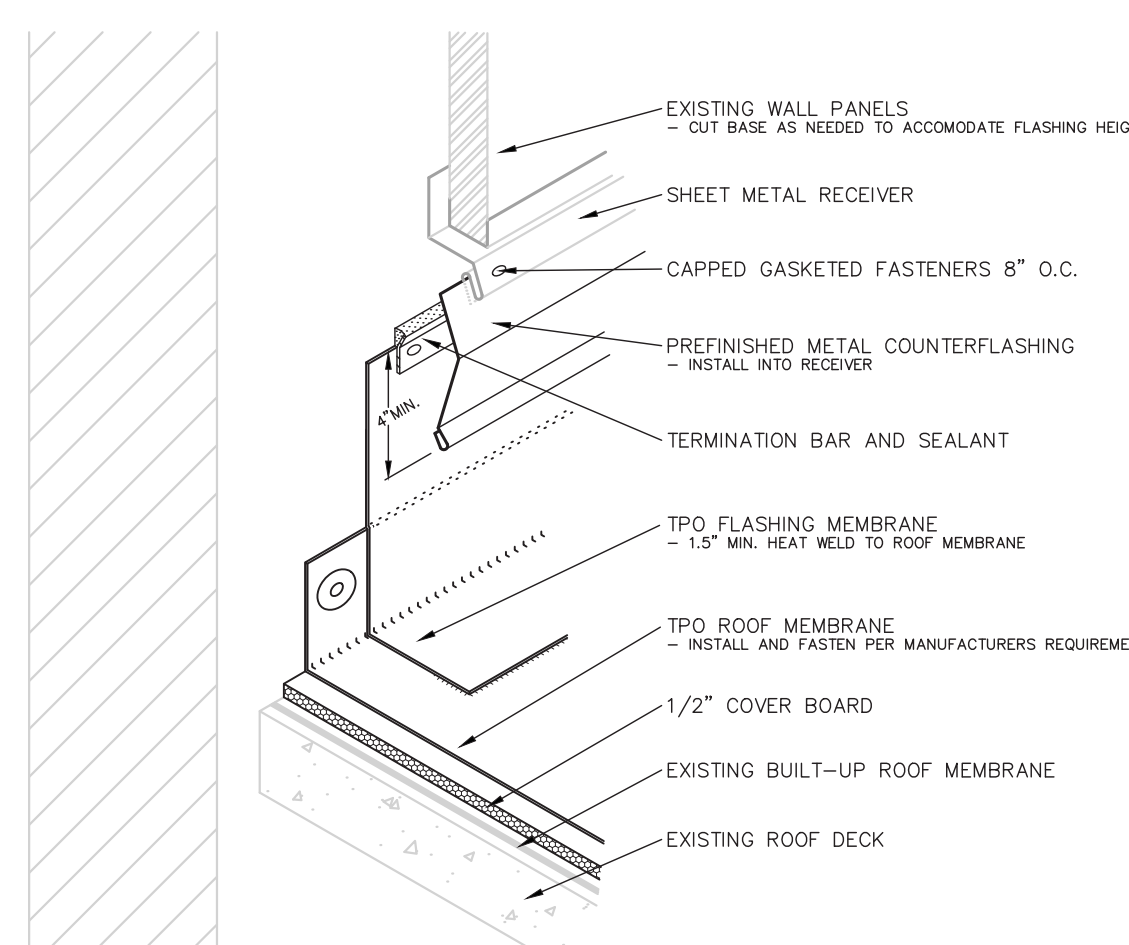
3 AREA DIVIDER
N.T.S.



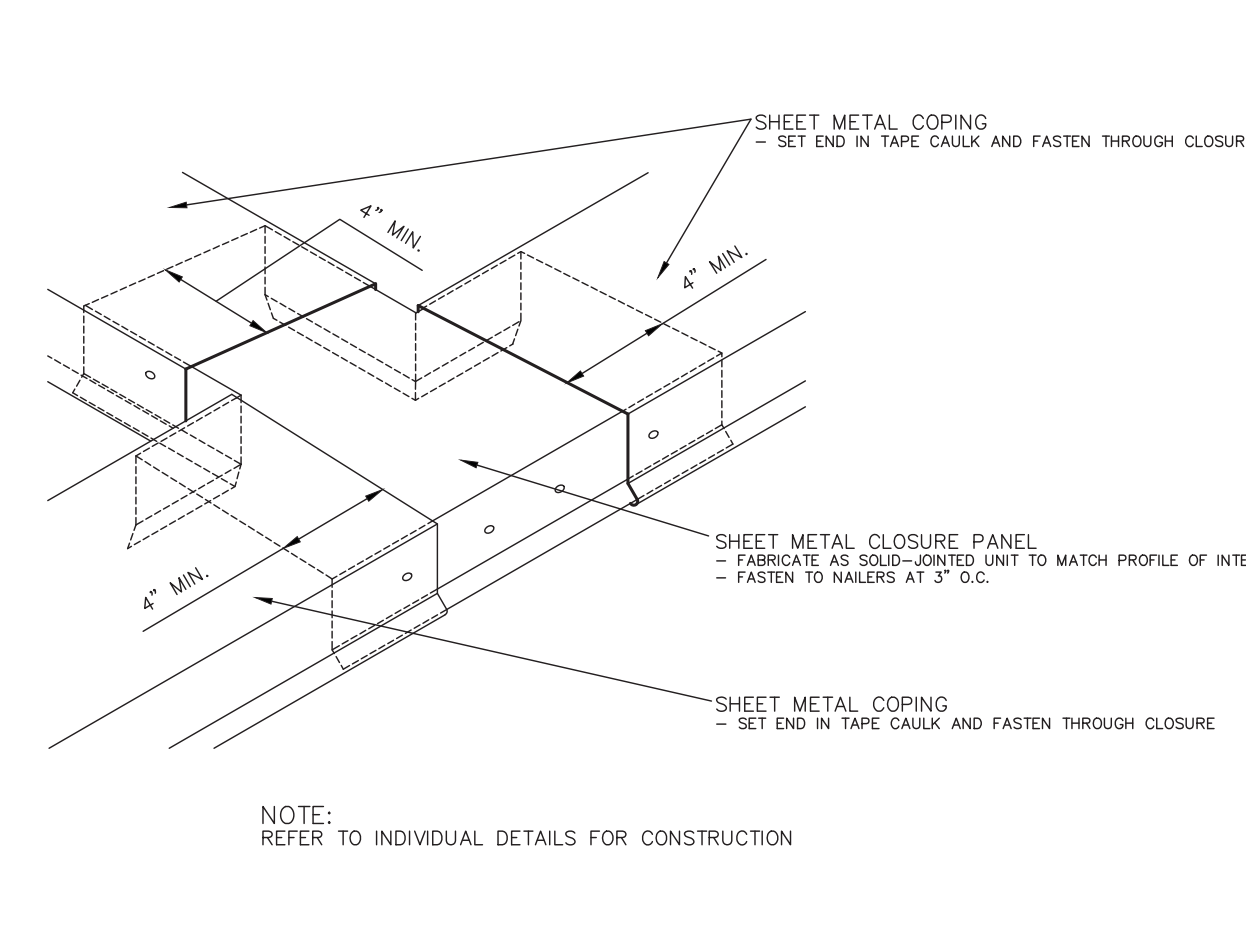
4 ROOF EDGE
N.T.S.



5 WALL FLASHING
N.T.S.

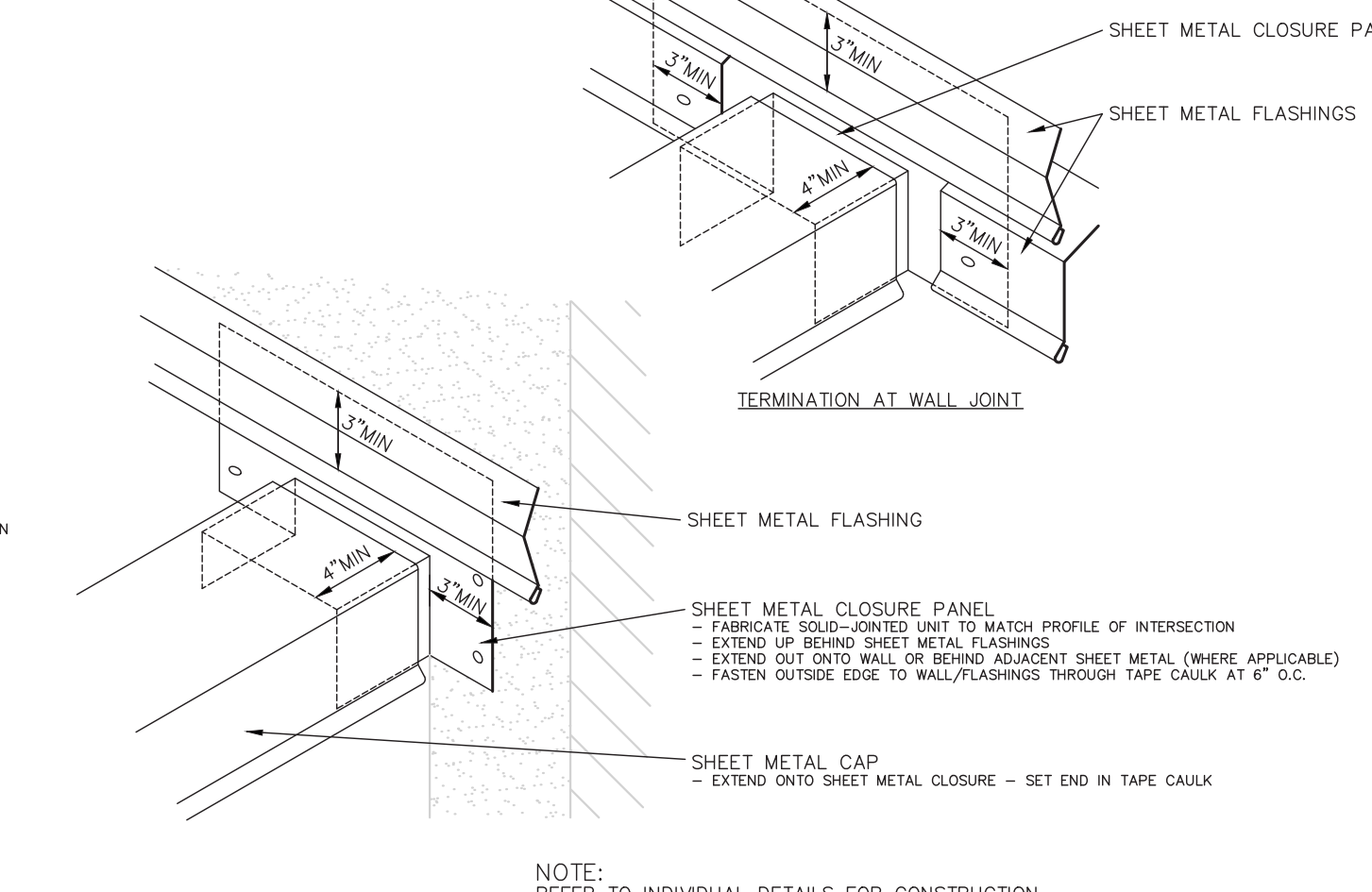


6 WALL FLASHING
N.T.S.



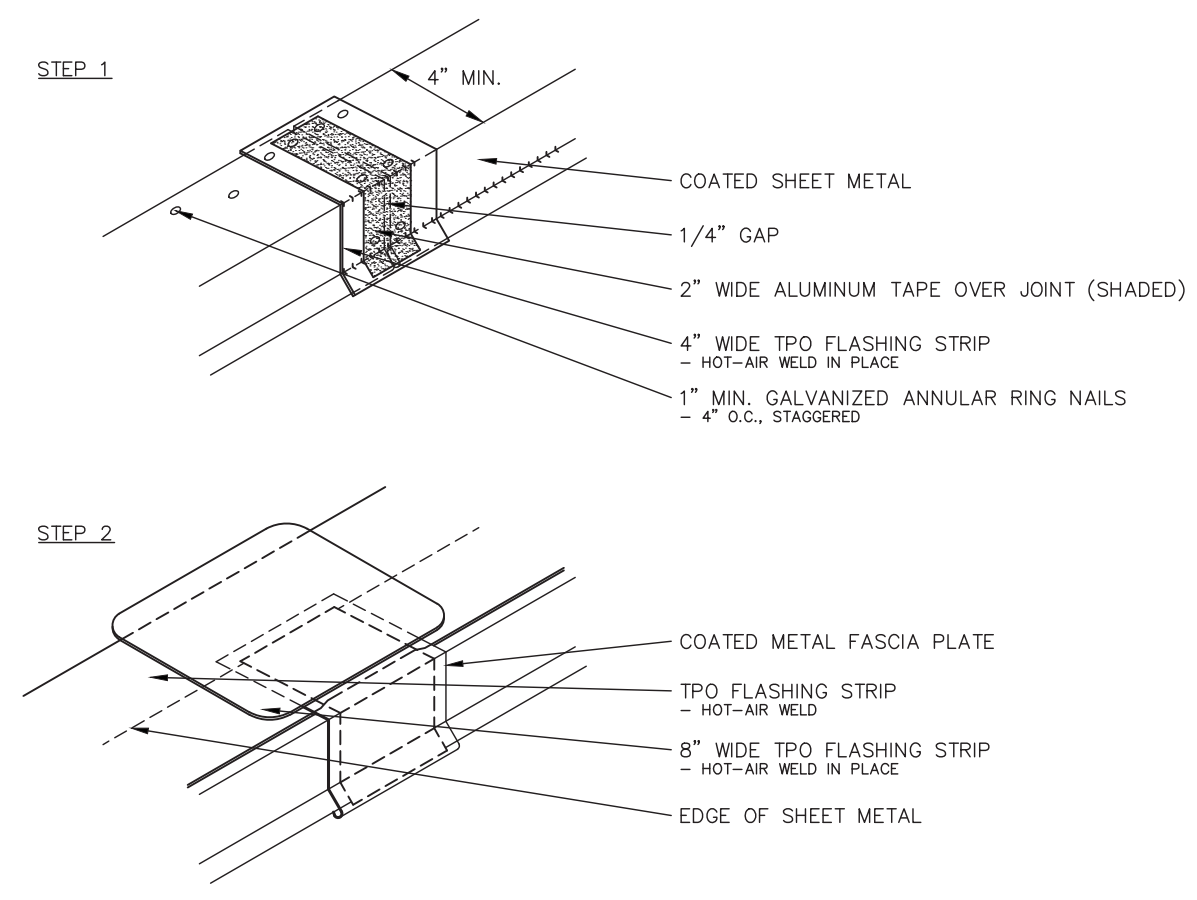
NOTE:
REFER TO INDIVIDUAL DETAILS FOR CONSTRUCTION

7 CLOSURE
N.T.S.



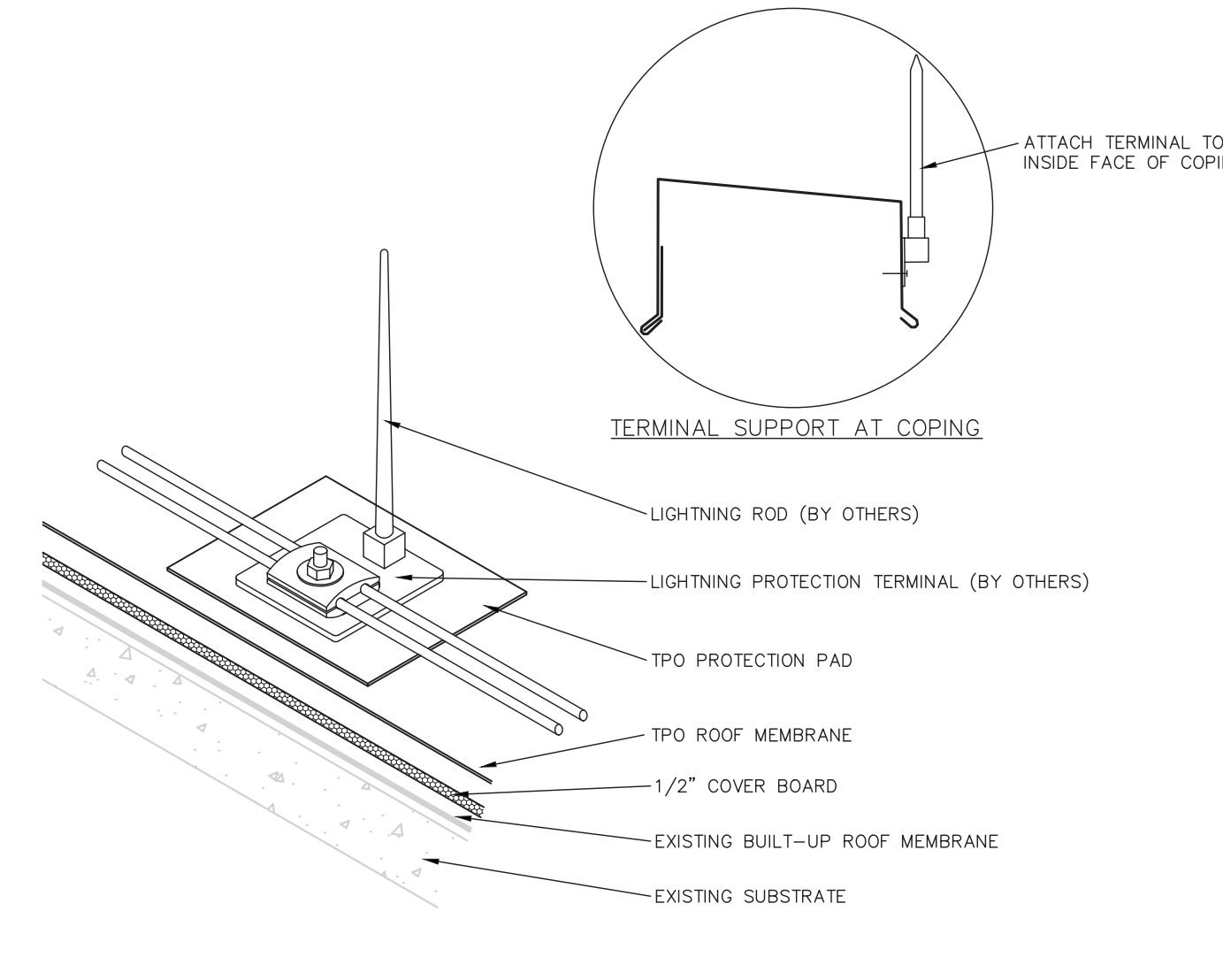
NOTE:
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8 CLOSURE
N.T.S.



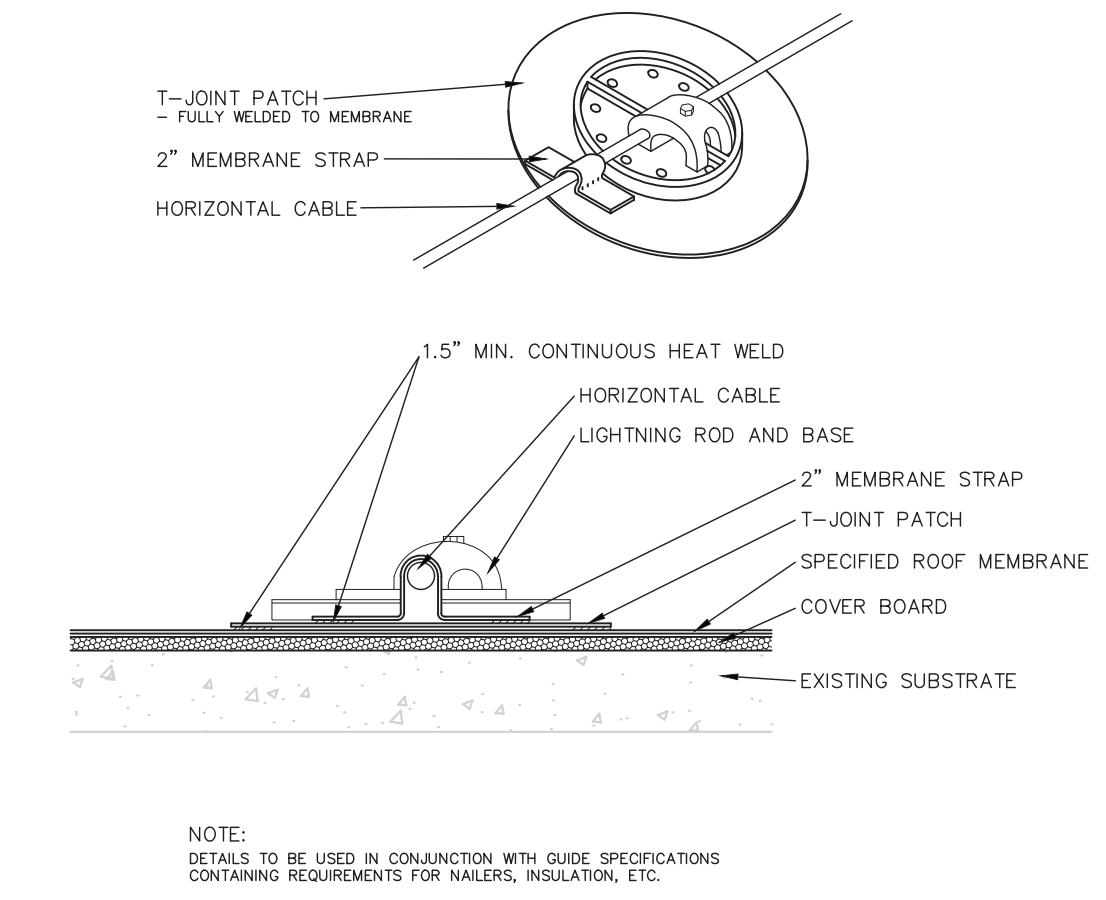
NOTE: REFER TO INDIVIDUAL DETAILS FOR CONSTRUCTION

9 METAL JOINTS
N.T.S.



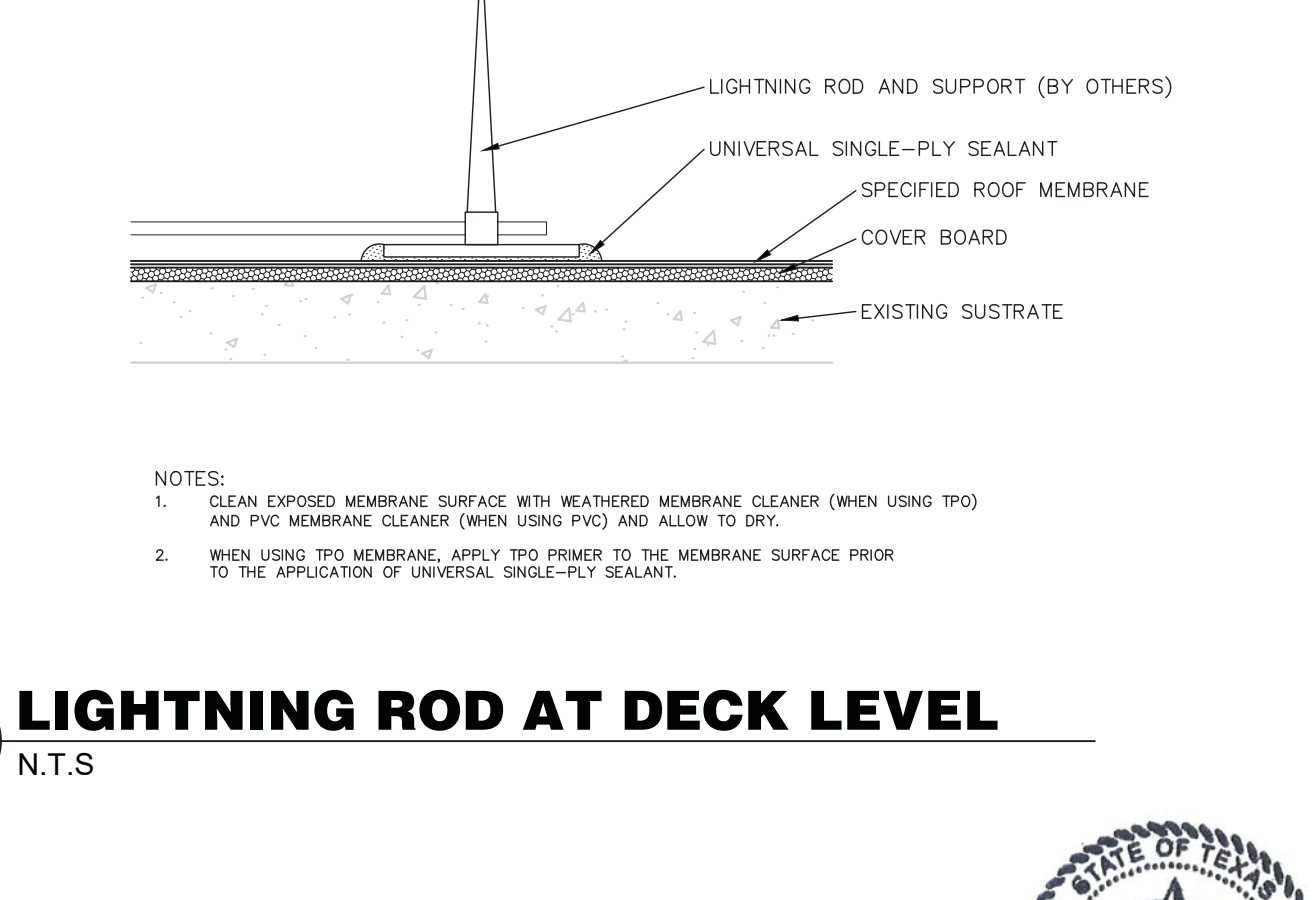
NOTES:
1. THIS DETAIL IS APPLICABLE FOR MOP, COLD OR TORCH-APPLIED FLASHING SYSTEMS
2. DETAIL DEPICTS THE WEATHERPROOFING PROTECTION AND DOES NOT REPRESENT LIGHTNING PROTECTION DESIGN
3. FOR ROOF SYSTEMS WITH FACTORY-APPLIED GRANULE SURFACING, PROPERLY PREPARE CAP SHEET TO RECEIVE FLASHING.

10 LIGHTNING PROTECTION
N.T.S.



NOTE:
DETAILS TO BE USED IN CONJUNCTION WITH GUIDE SPECIFICATIONS CONTAINING REQUIREMENTS FOR NAILED, INSULATION, ETC.

11 LIGHTNING CABLE BASE
N.T.S.



NOTES:
1. CLEAN EXPOSED MEMBRANE SURFACE WITH WEATHERED MEMBRANE CLEANER (WHEN USING TPO) AND PVC MEMBRANE CLEANER (WHEN USING PVC) AND ALLOW TO DRY.
2. WHEN USING TPO MEMBRANE, APPLY TPO PRIMER TO THE MEMBRANE SURFACE PRIOR TO THE APPLICATION OF UNIVERSAL SINGLE-PLY SEALANT.

12 LIGHTNING ROD AT DECK LEVEL
N.T.S.

NUMBER	DATE	COMMENTS

• 1 12/11/17 ISSUE FOR BID

DRAWING TITLE
ROOF DETAILS

SHEET NUMBER
R1.3

Texas COA # F-17281
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12/11/17

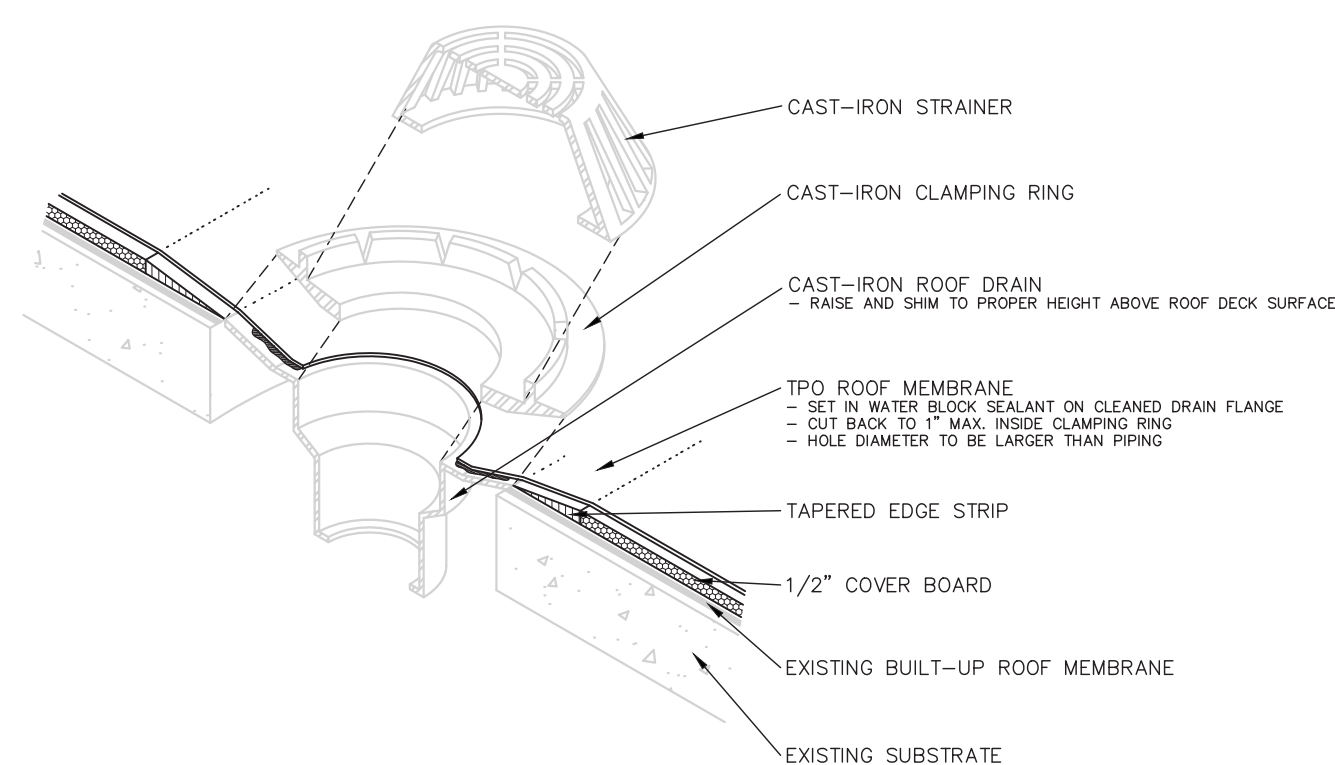
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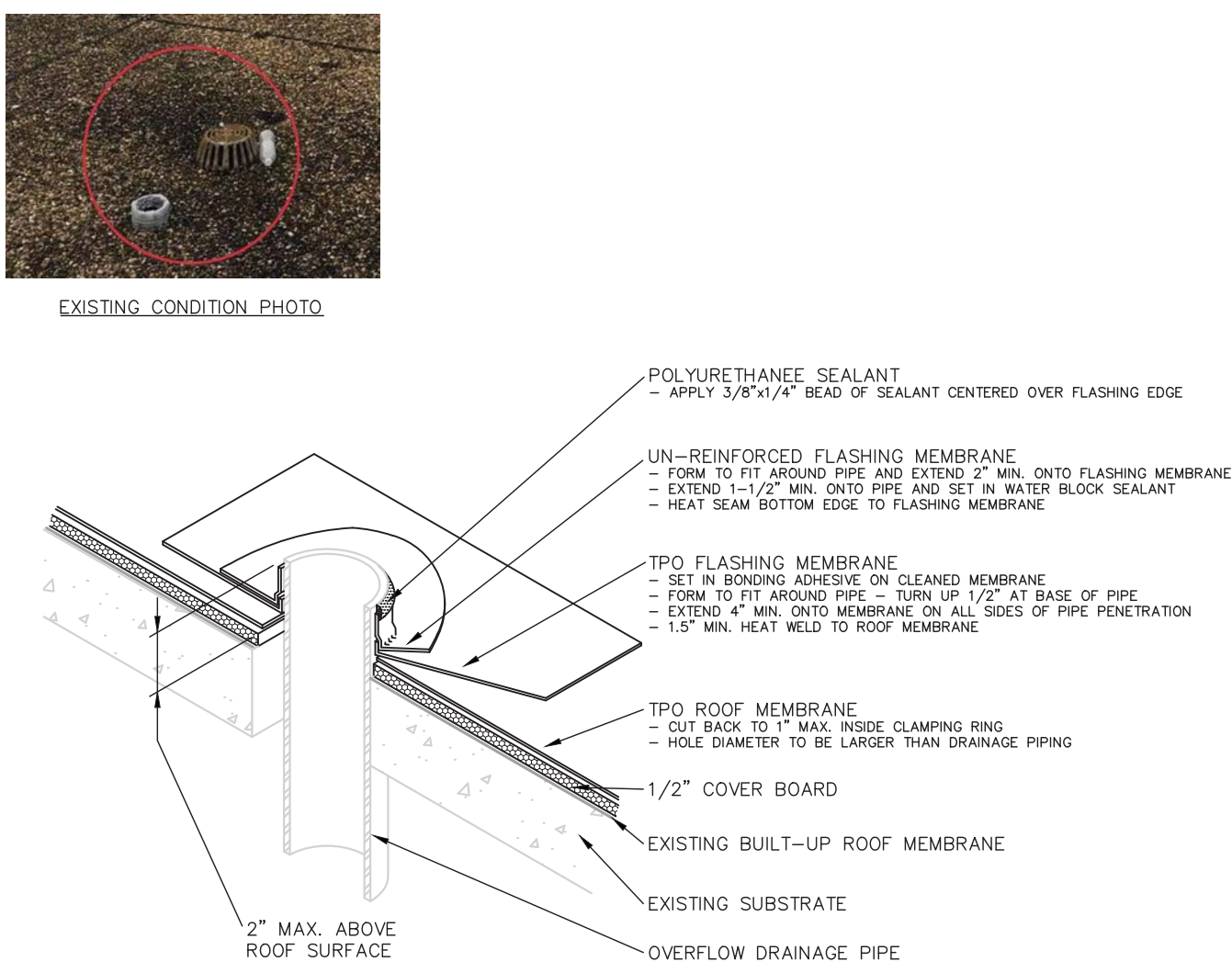
1 ROOF DRAIN

N.T.S



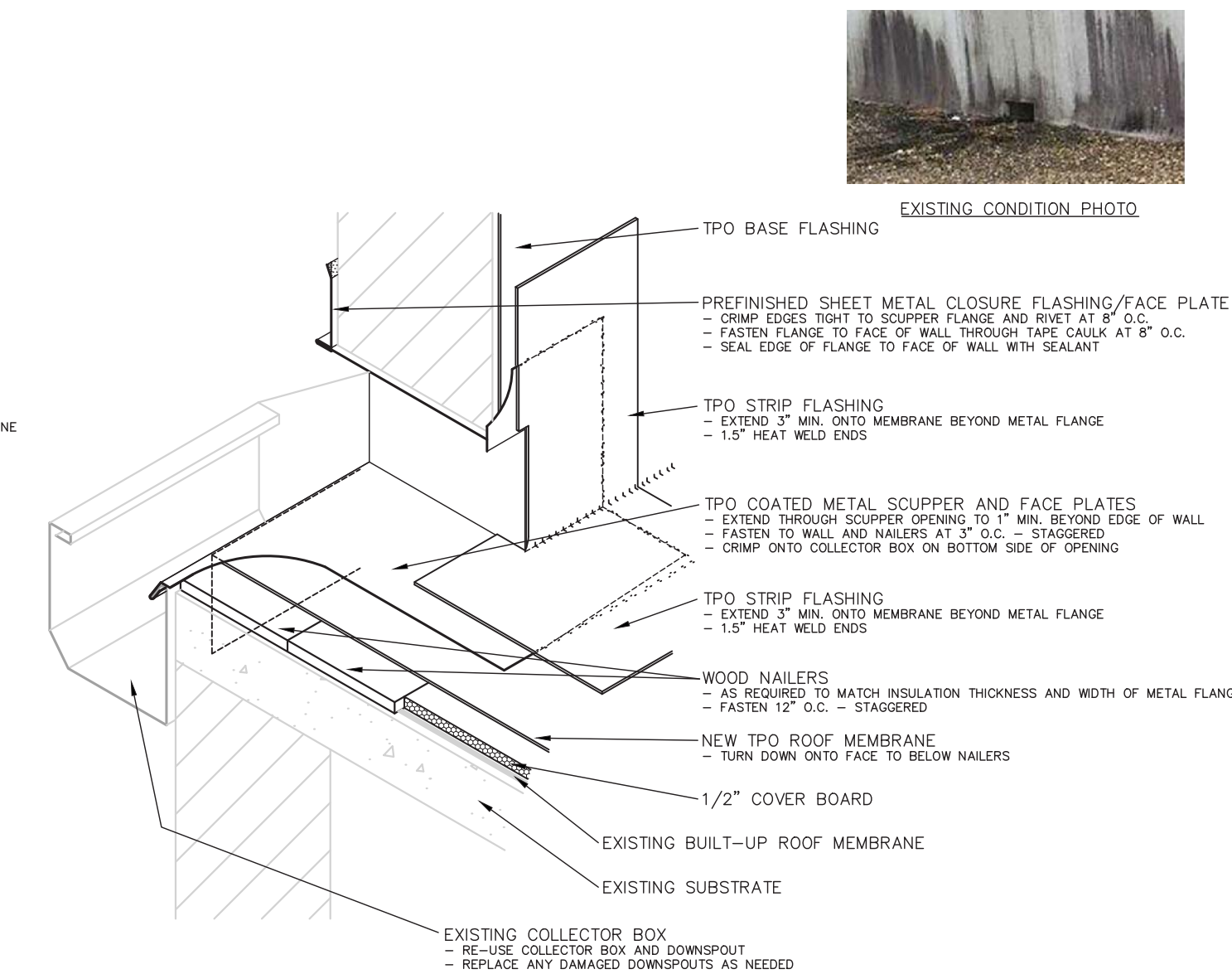
2 OVERFLOW DRAIN

N.T.S



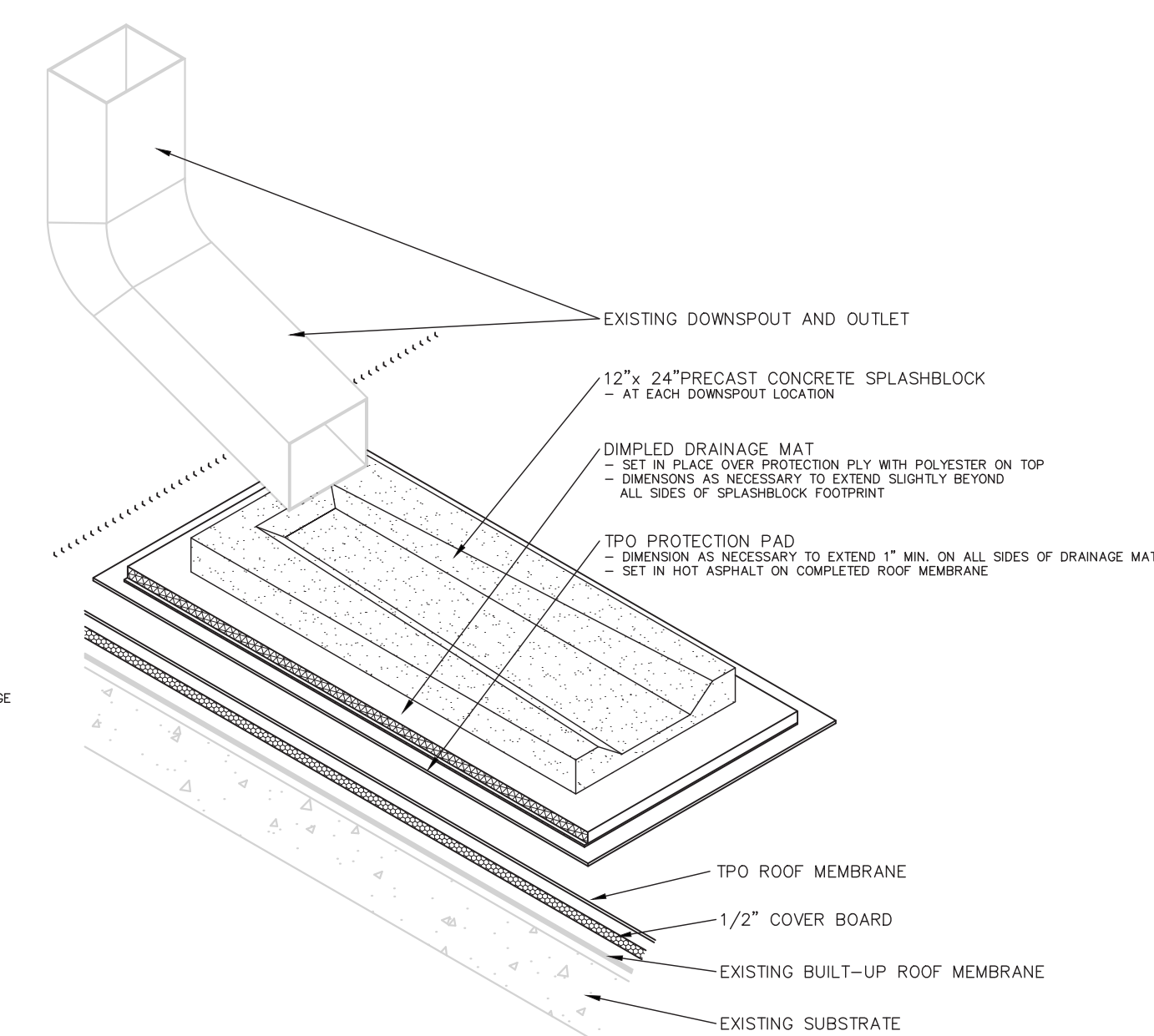
3 SCUPPER

N.T.S



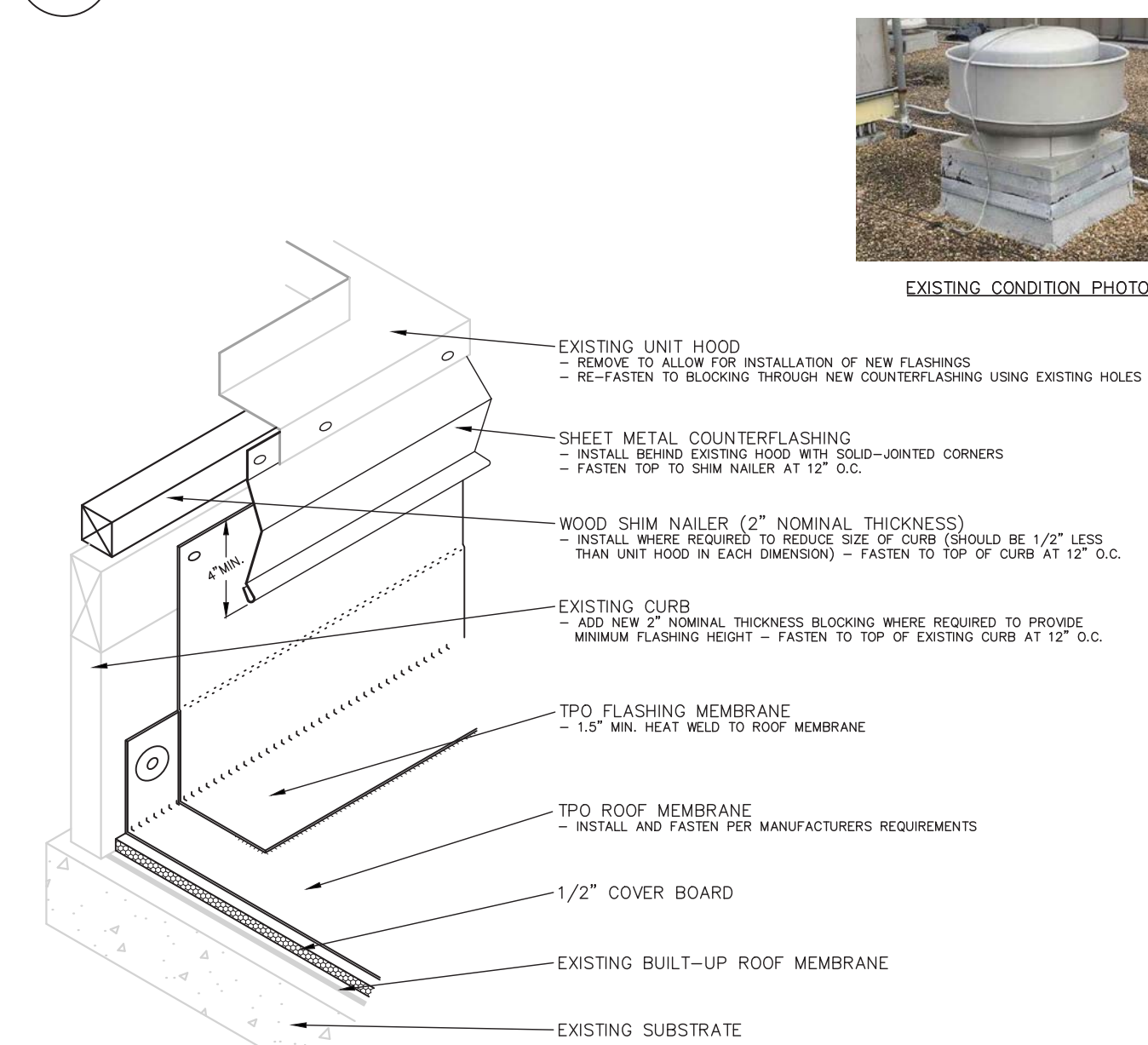
4 SPLASHBLOCK

N.T.S



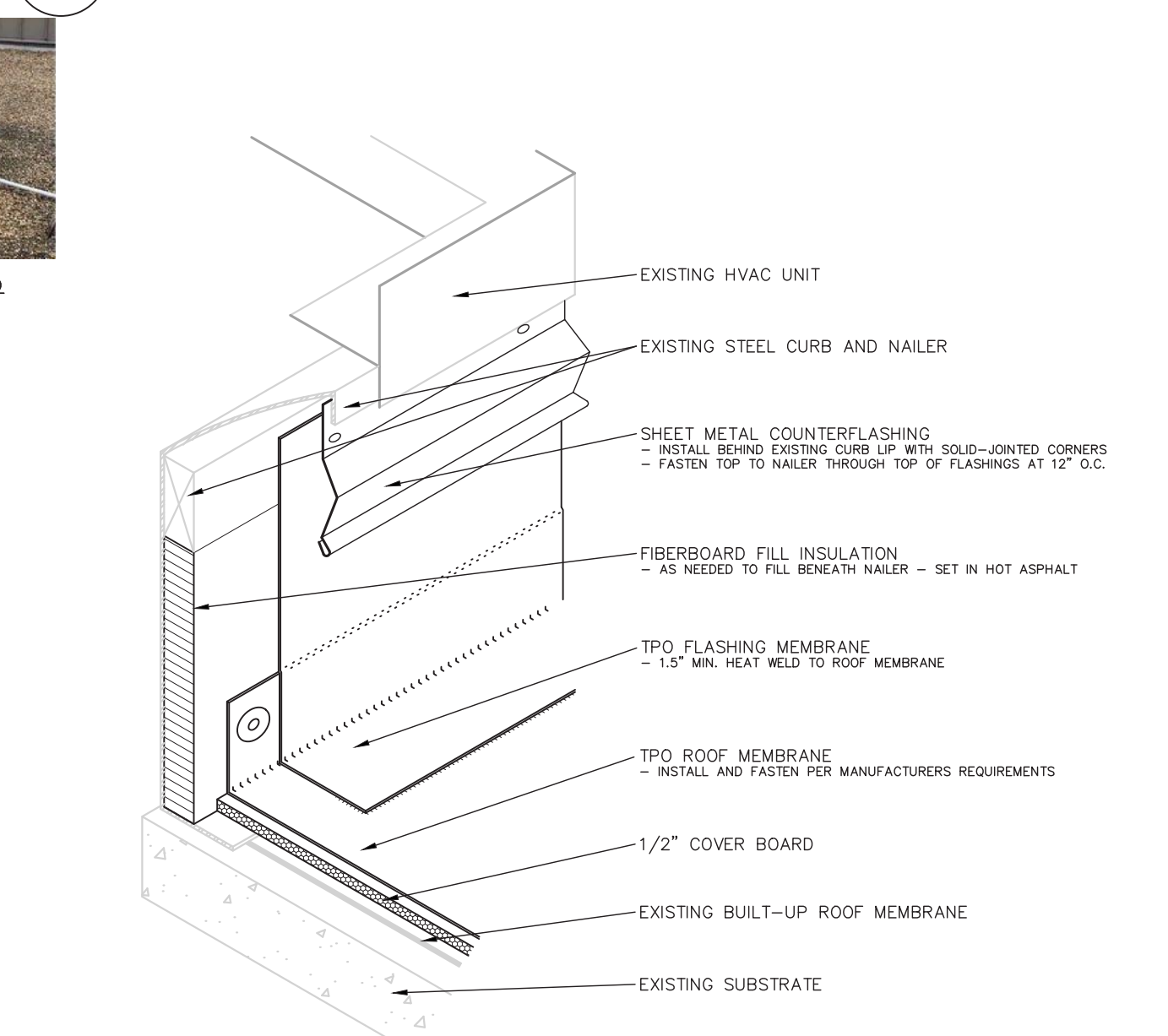
5 EXISTING CURB

N.T.S



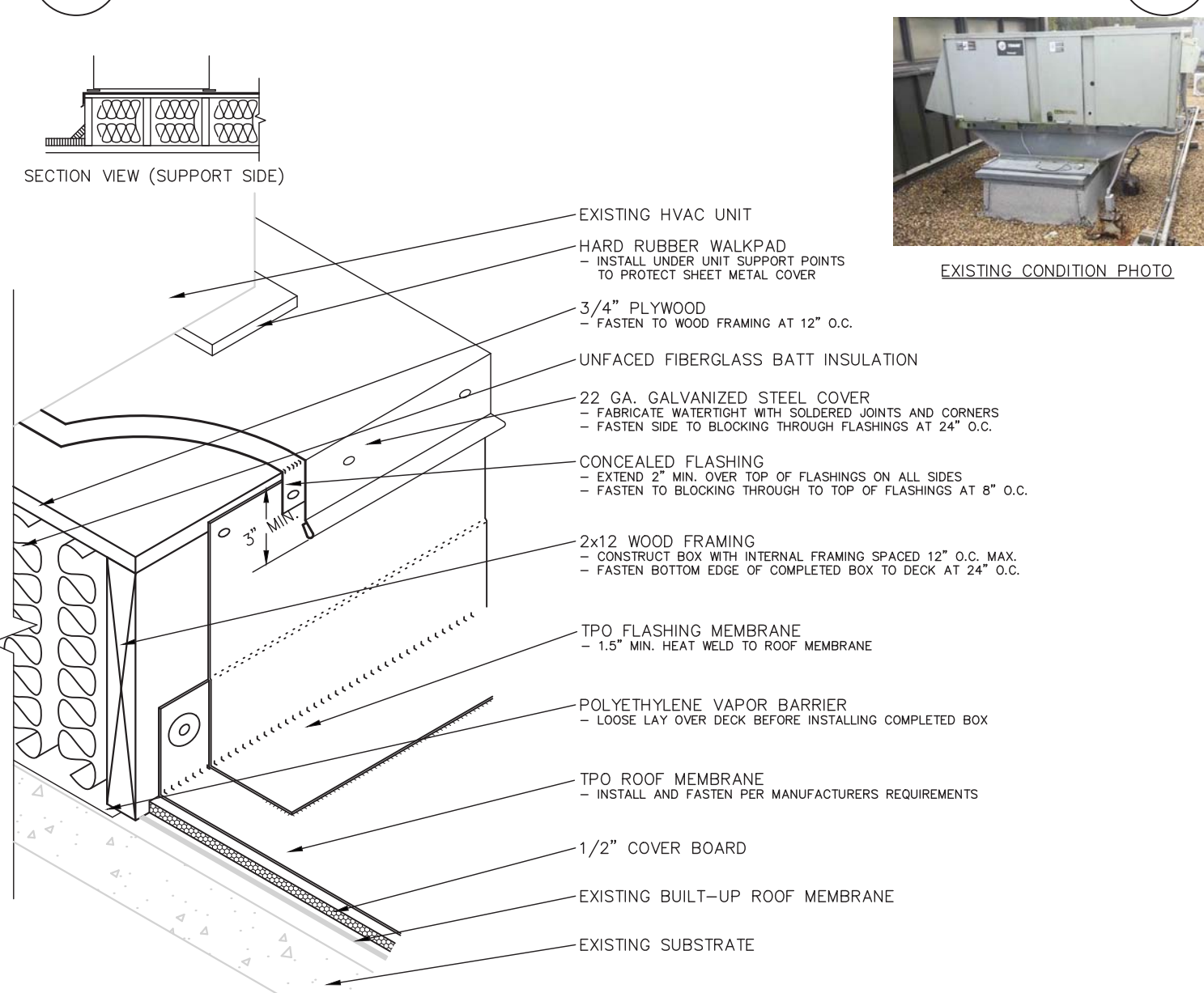
6 HVAC CURB

N.T.S



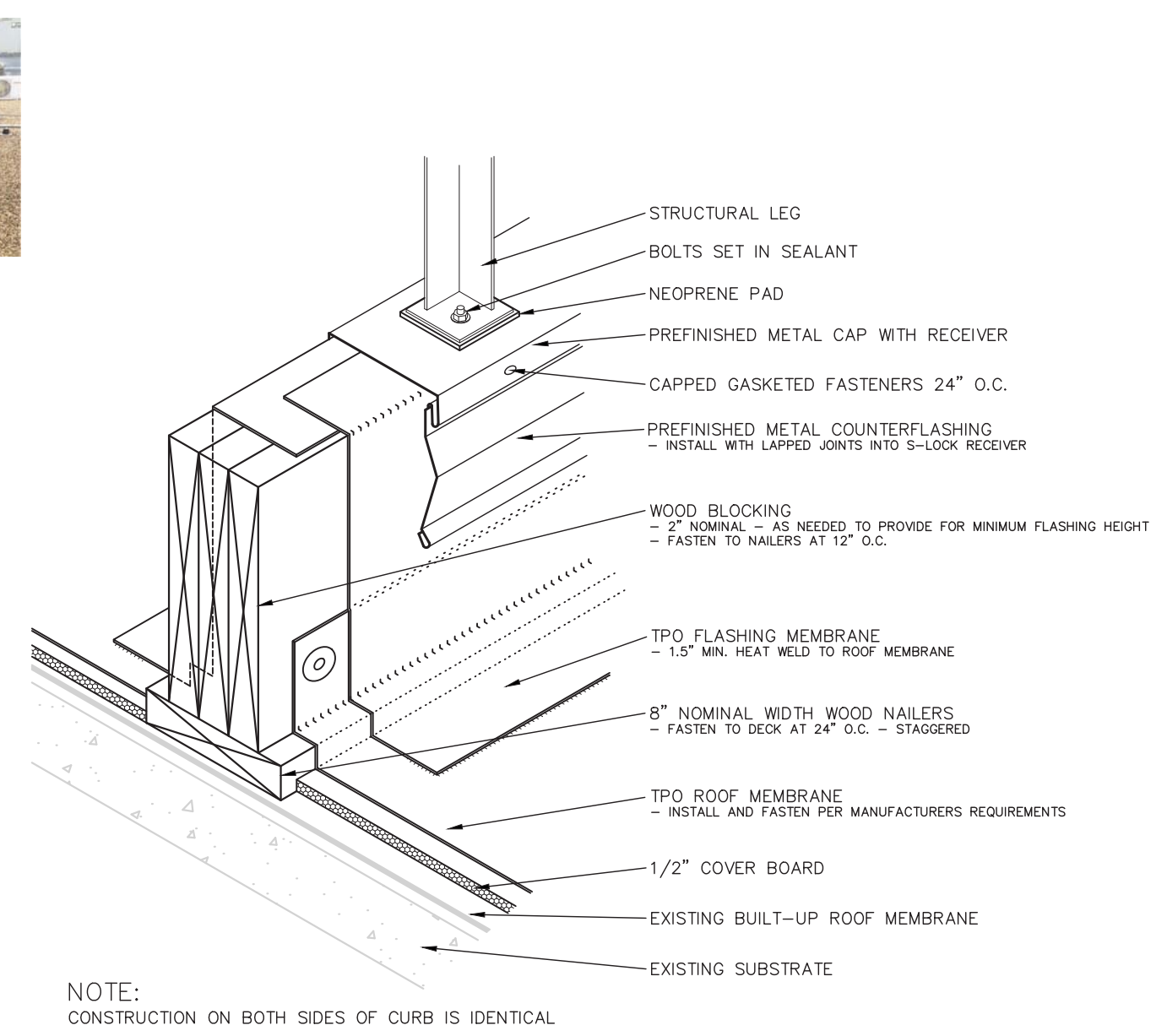
7 SLEEPER BOX

N.T.S



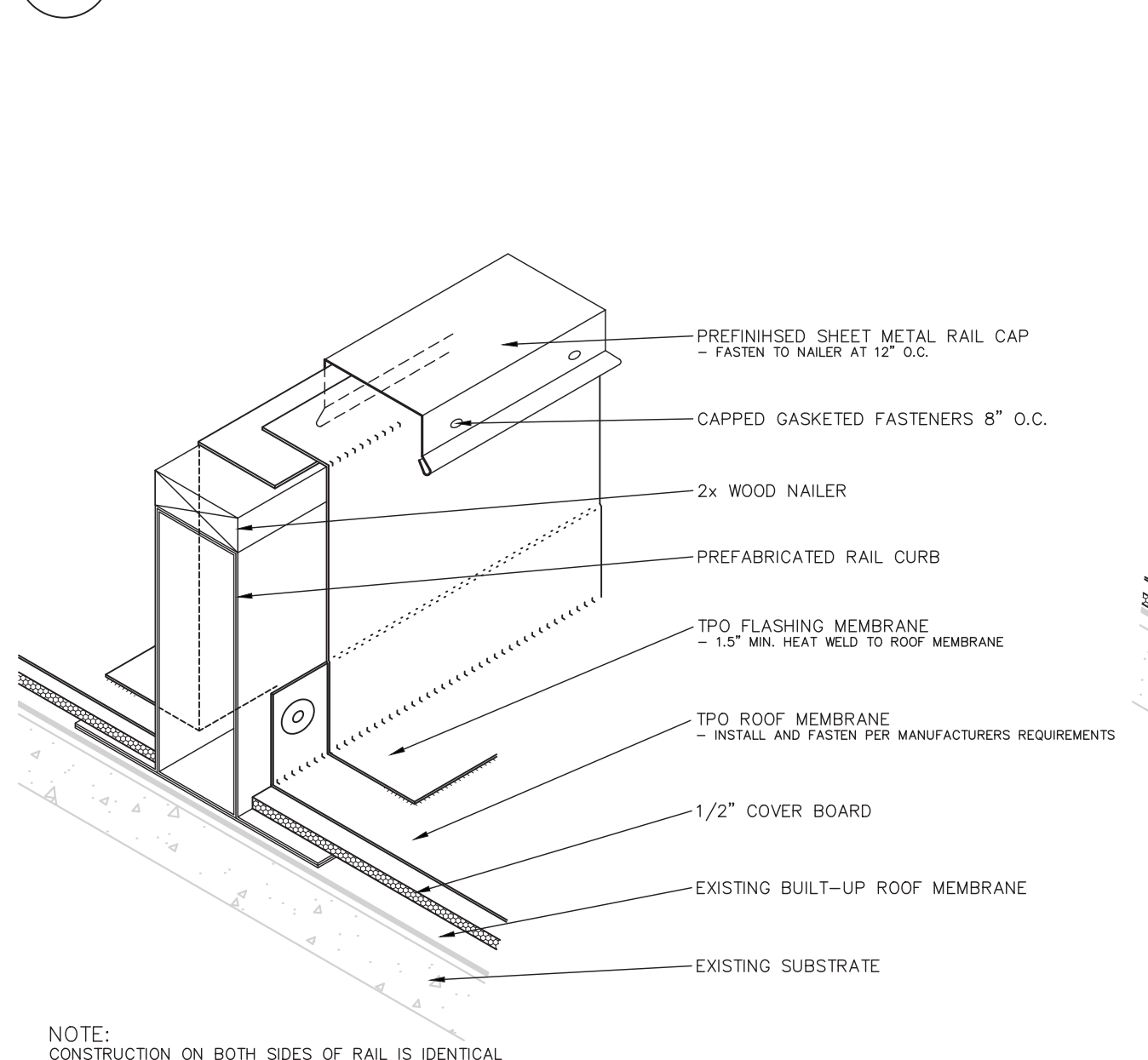
8 STRUCTURAL LEG SUPPORT

N.T.S



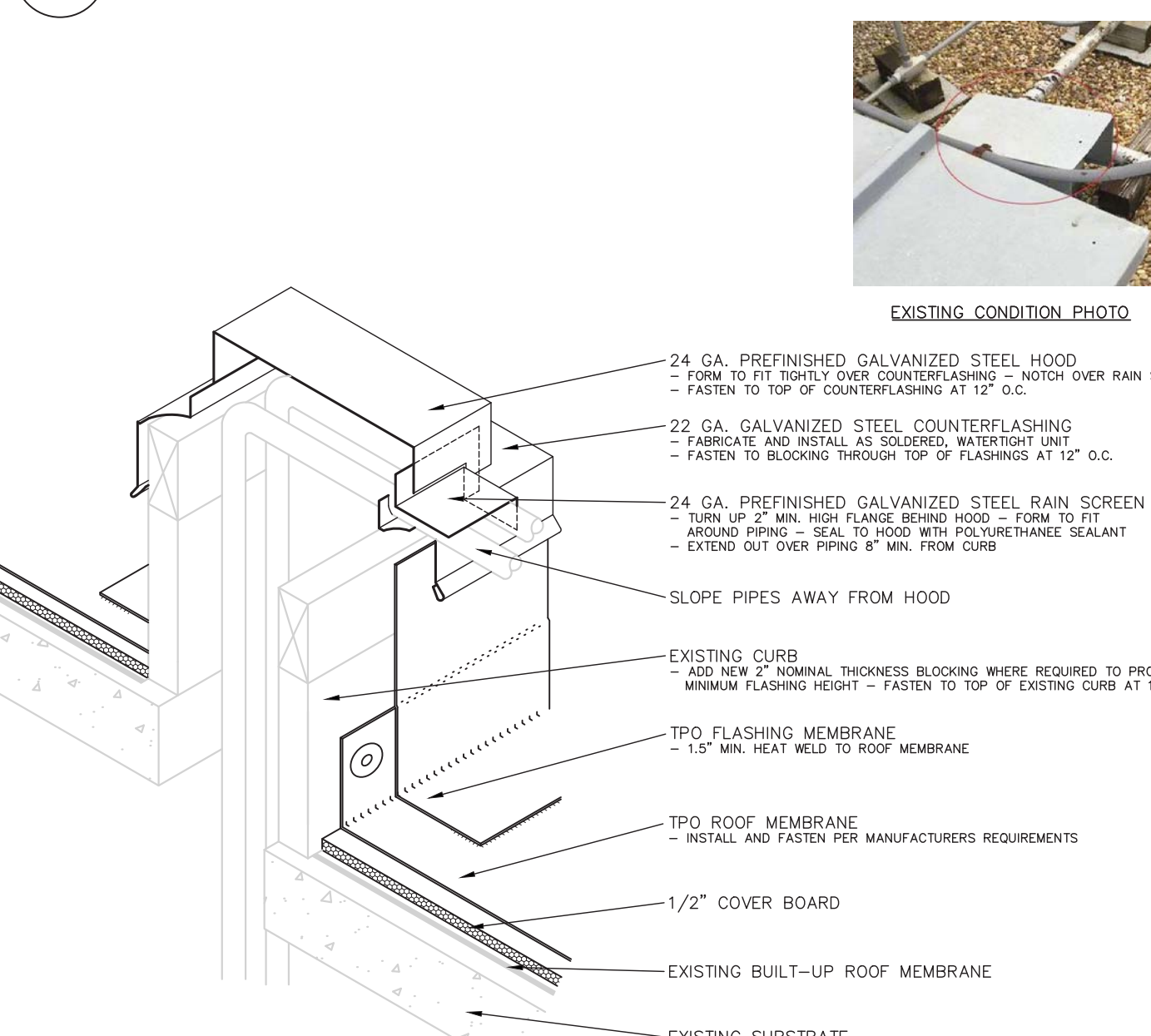
9 RAIL SUPPORT

N.T.S



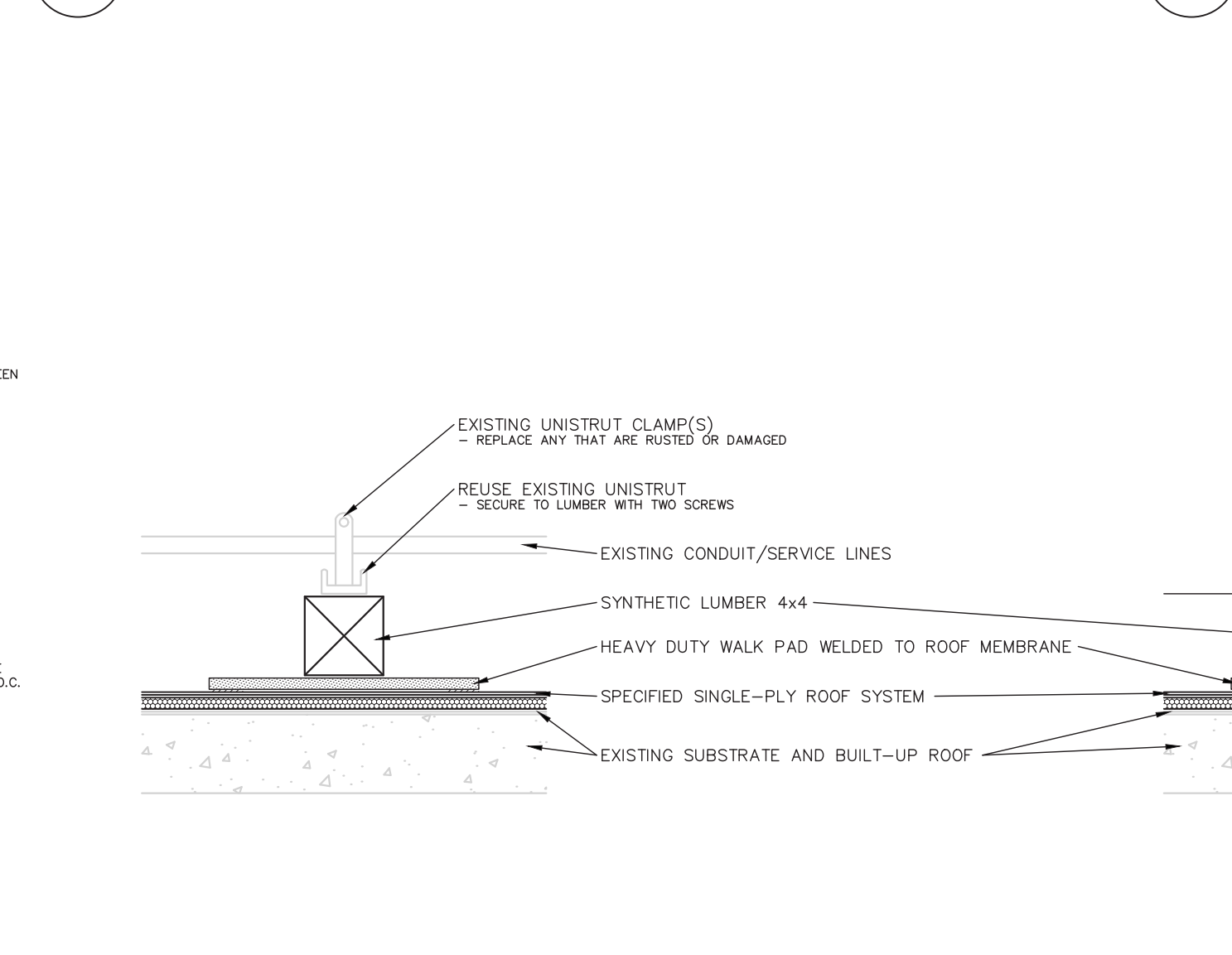
10 CURBED PIPES

N.T.S



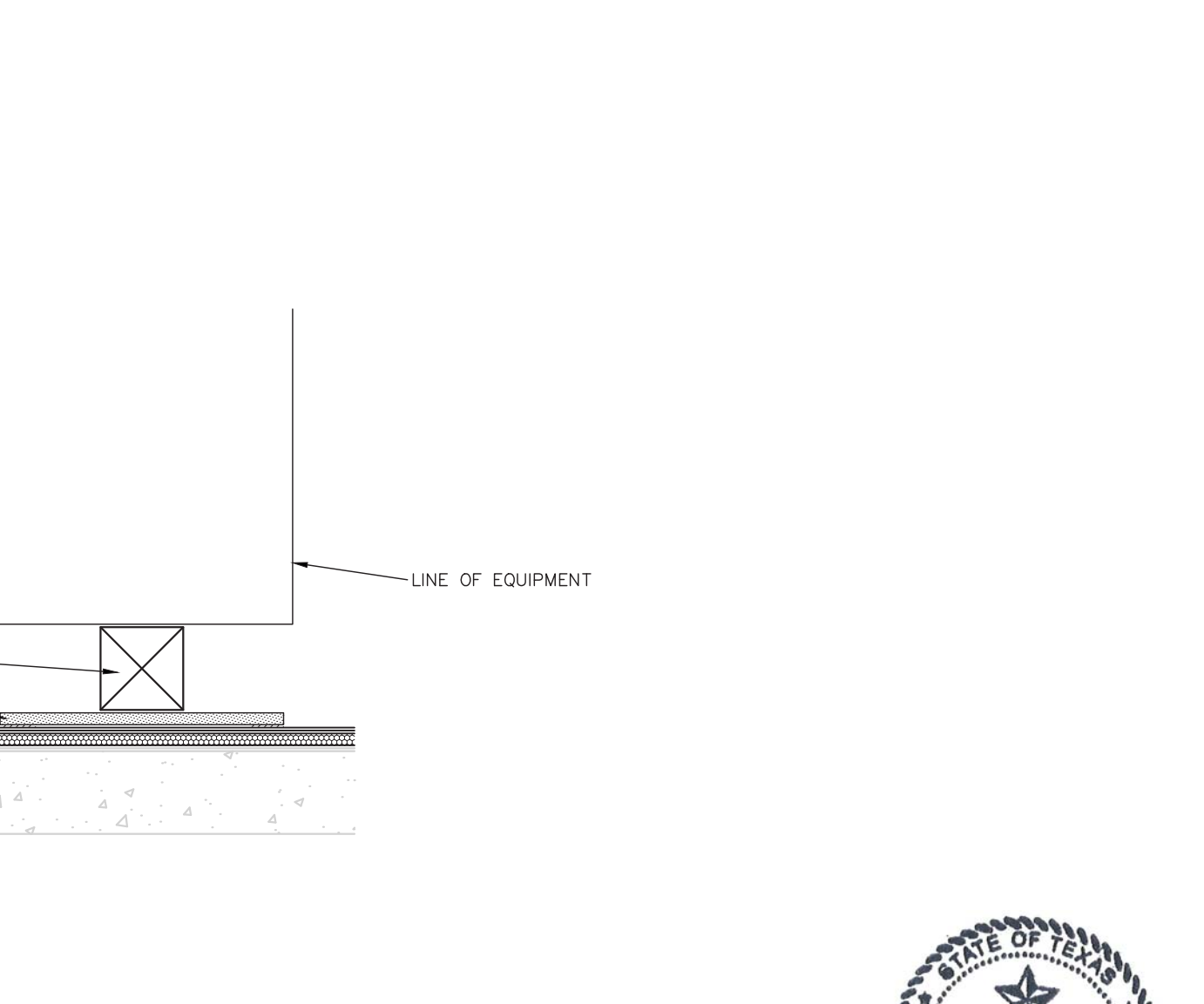
11 CONDUIT SUPPORT

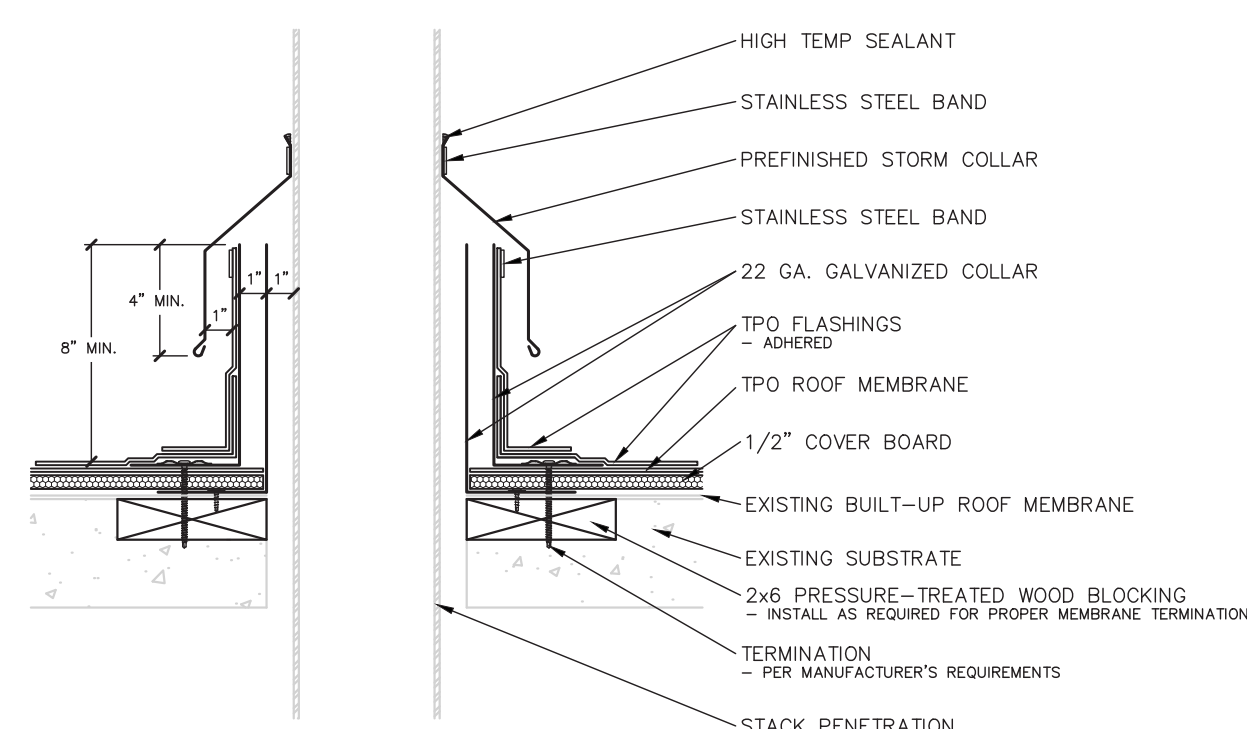
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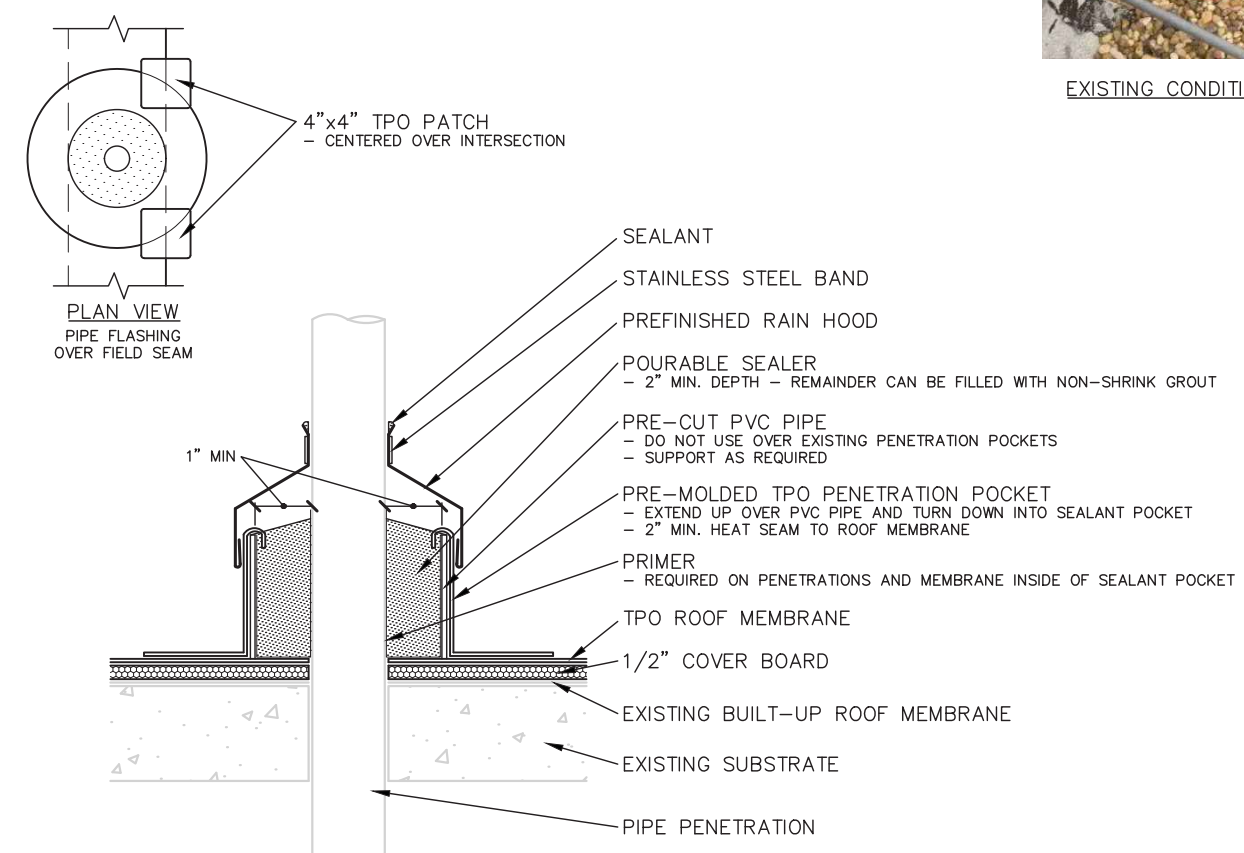
12 EQUIPMENT SUPPORT

N.T.S

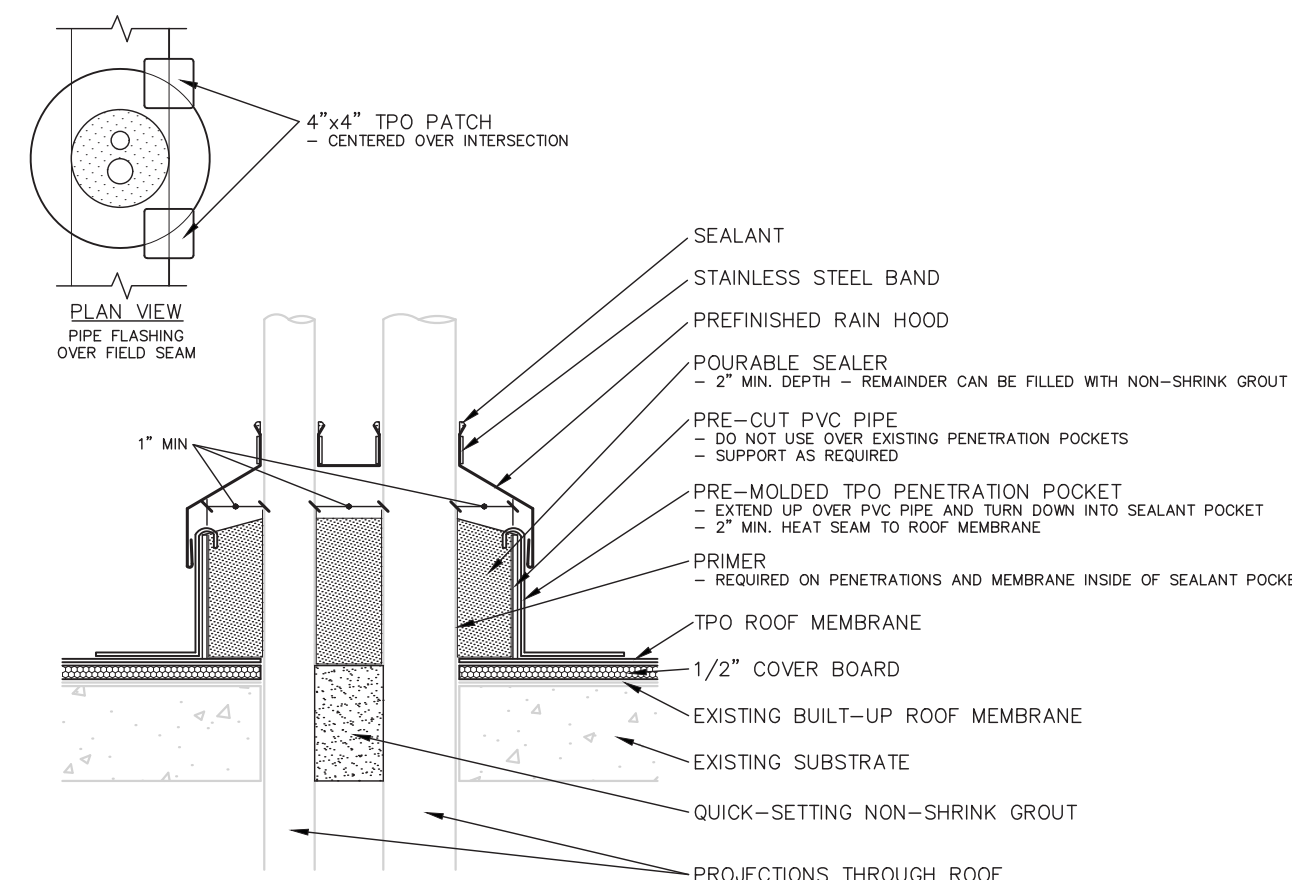




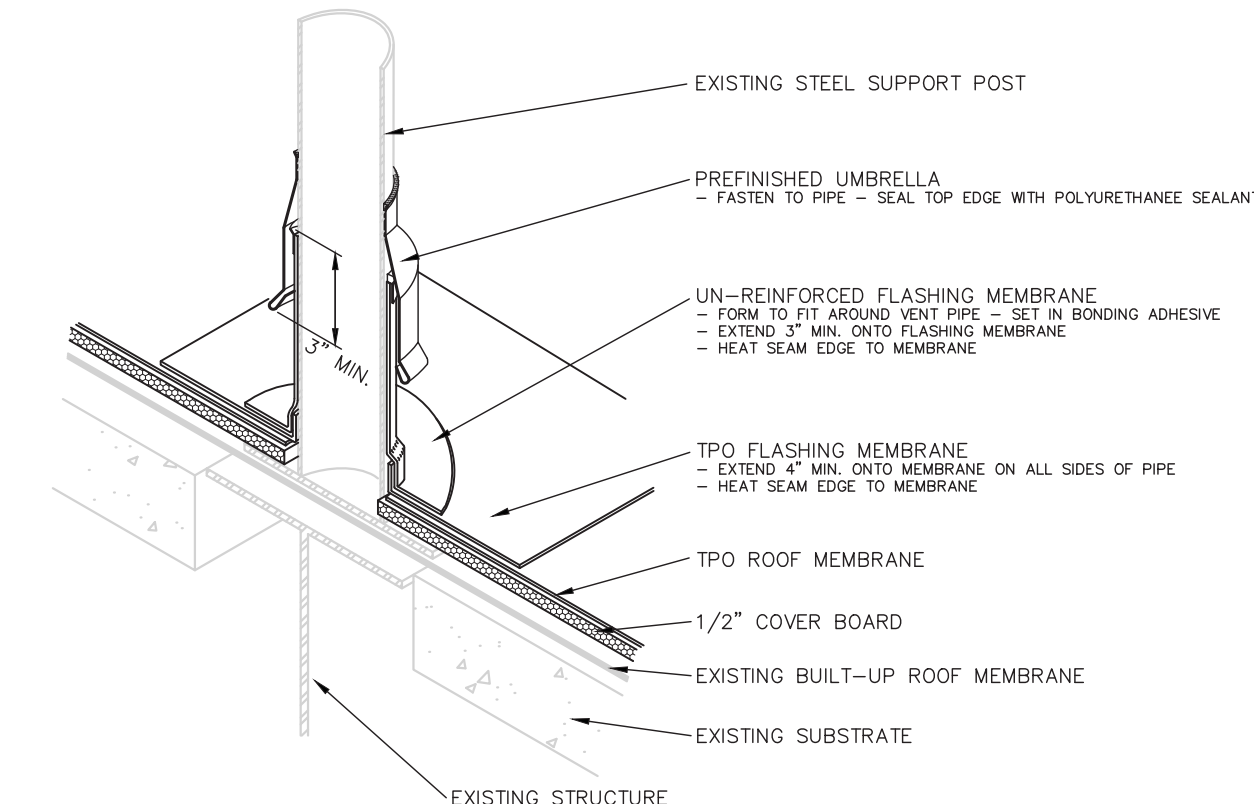
1 HOT STACK
N.T.S



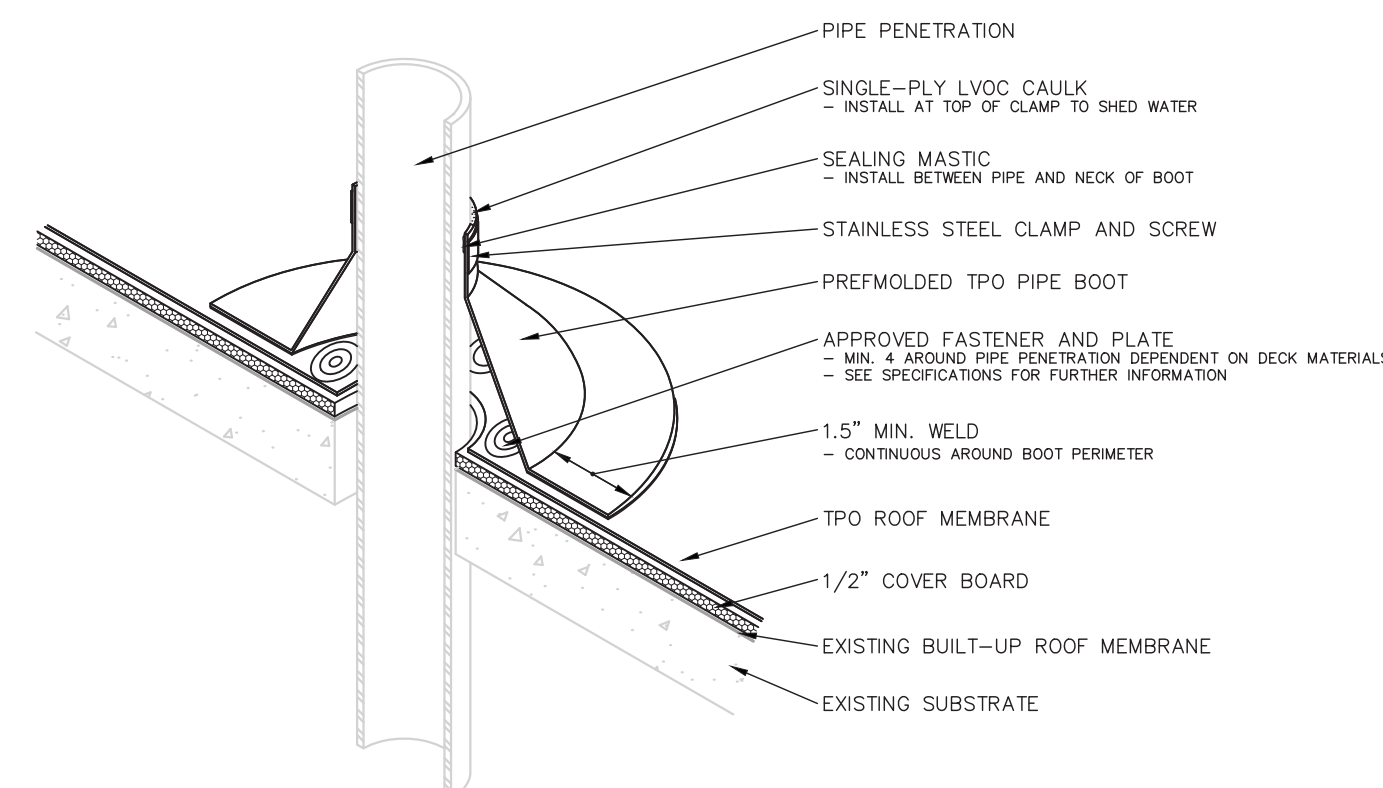
2 PITCH POCKET
N.T.S



3 PITCH POCKET
N.T.S

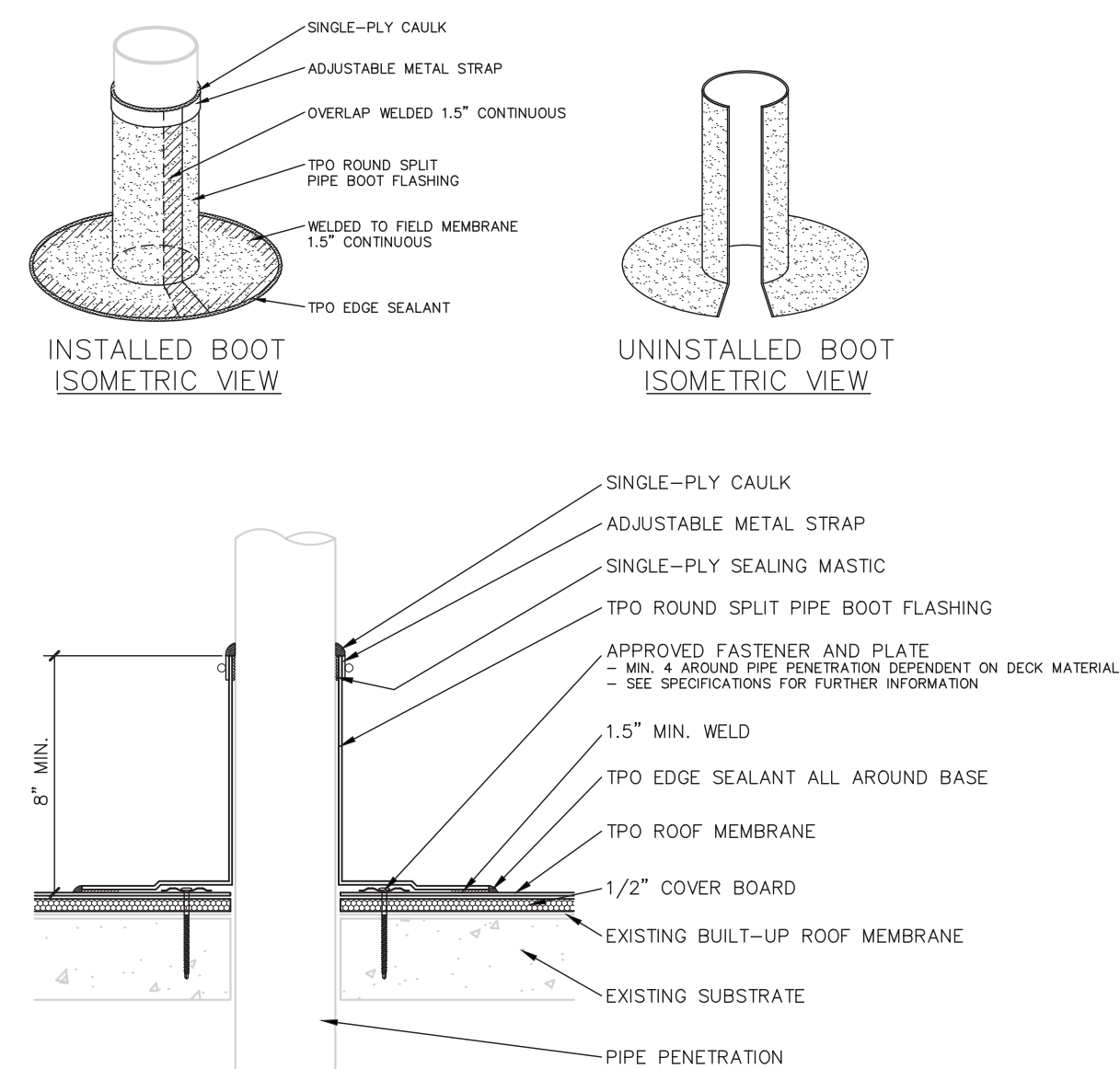


4 PIPE SUPPORT
N.T.S

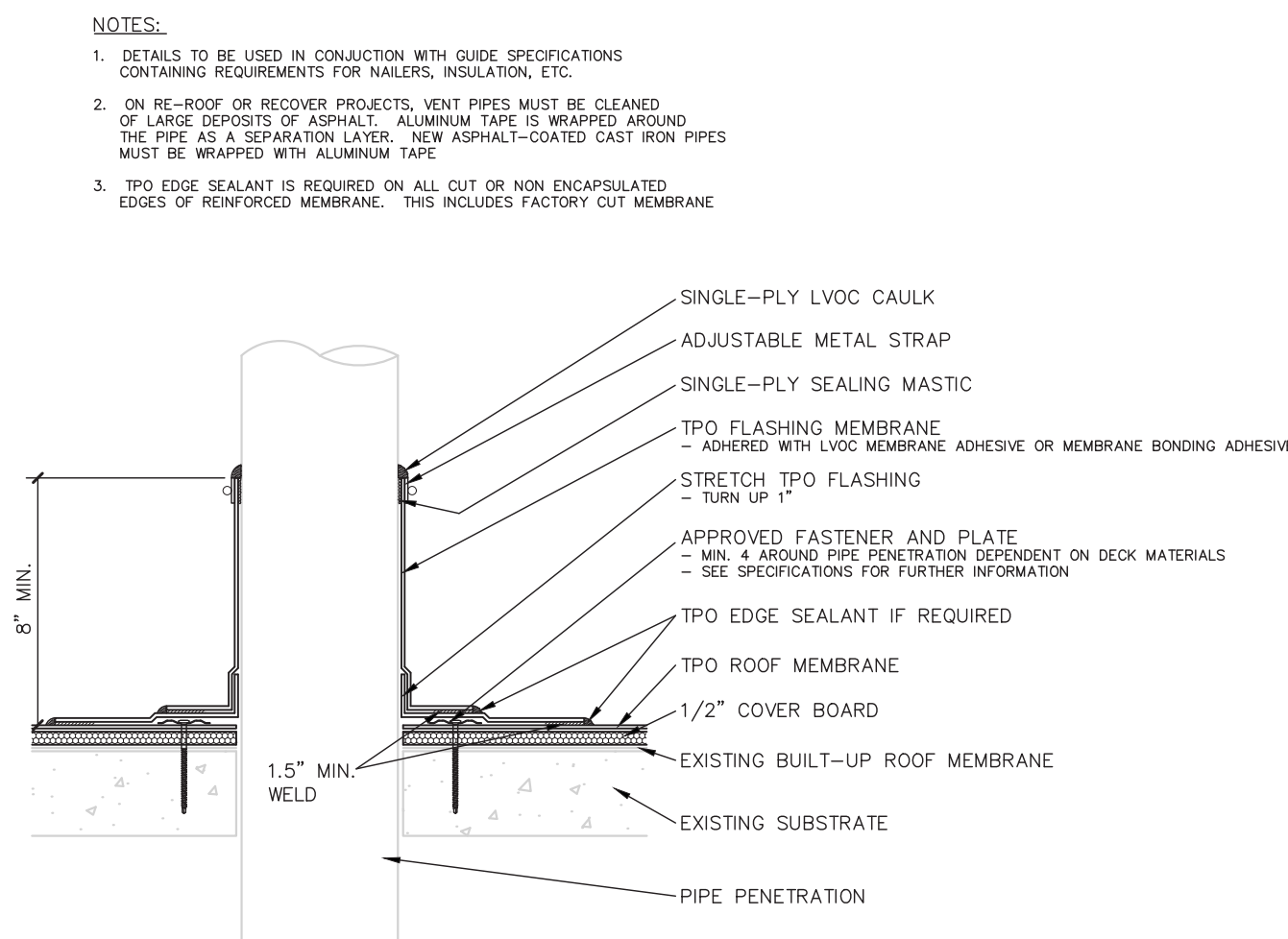


NOTE:
1. REFER TO SINGLE-PLY MANUFACTURER'S SPECIFICATIONS FOR FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED PART OF THIS DETAIL.

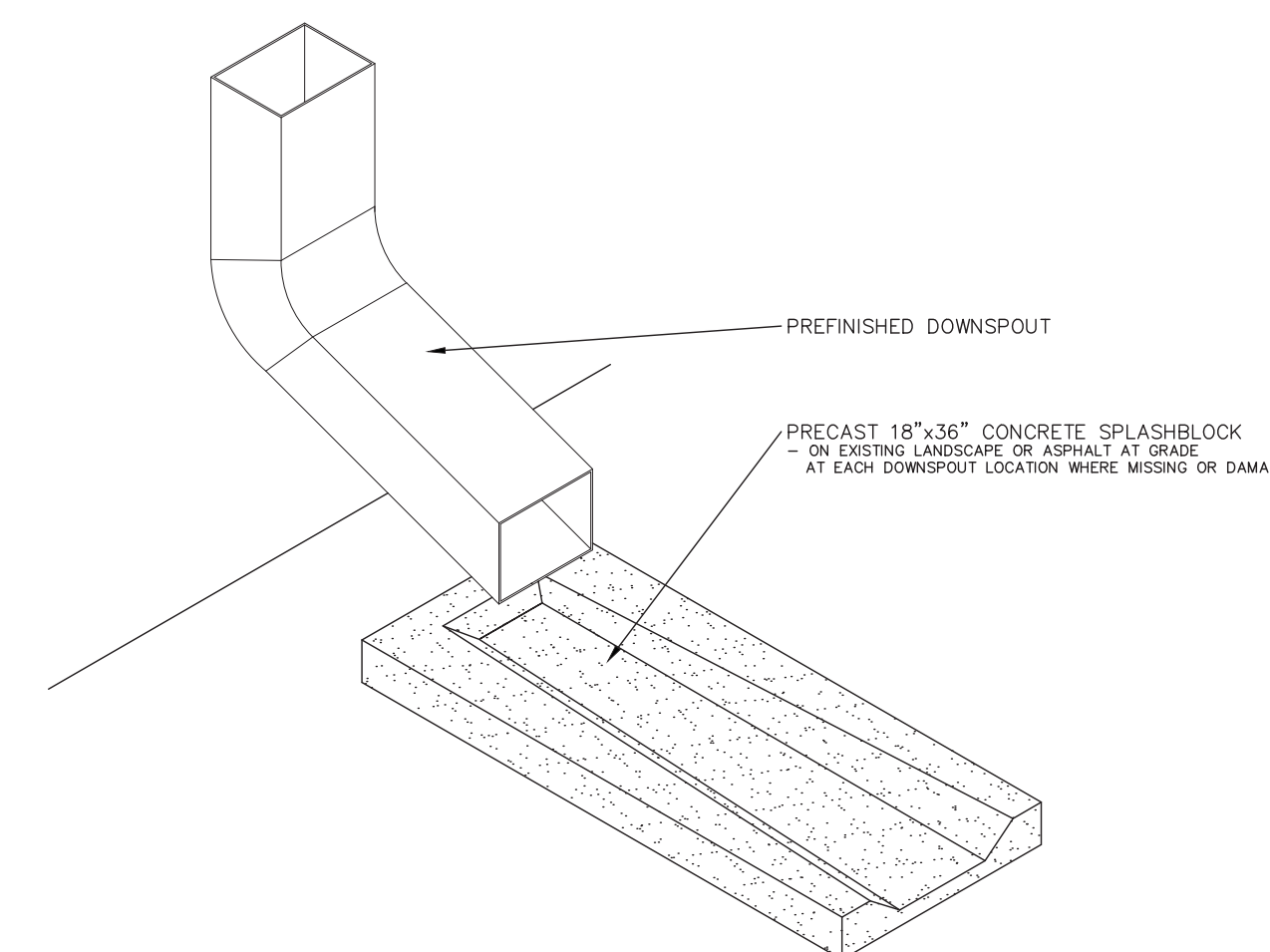
5 SOIL STACK
N.T.S



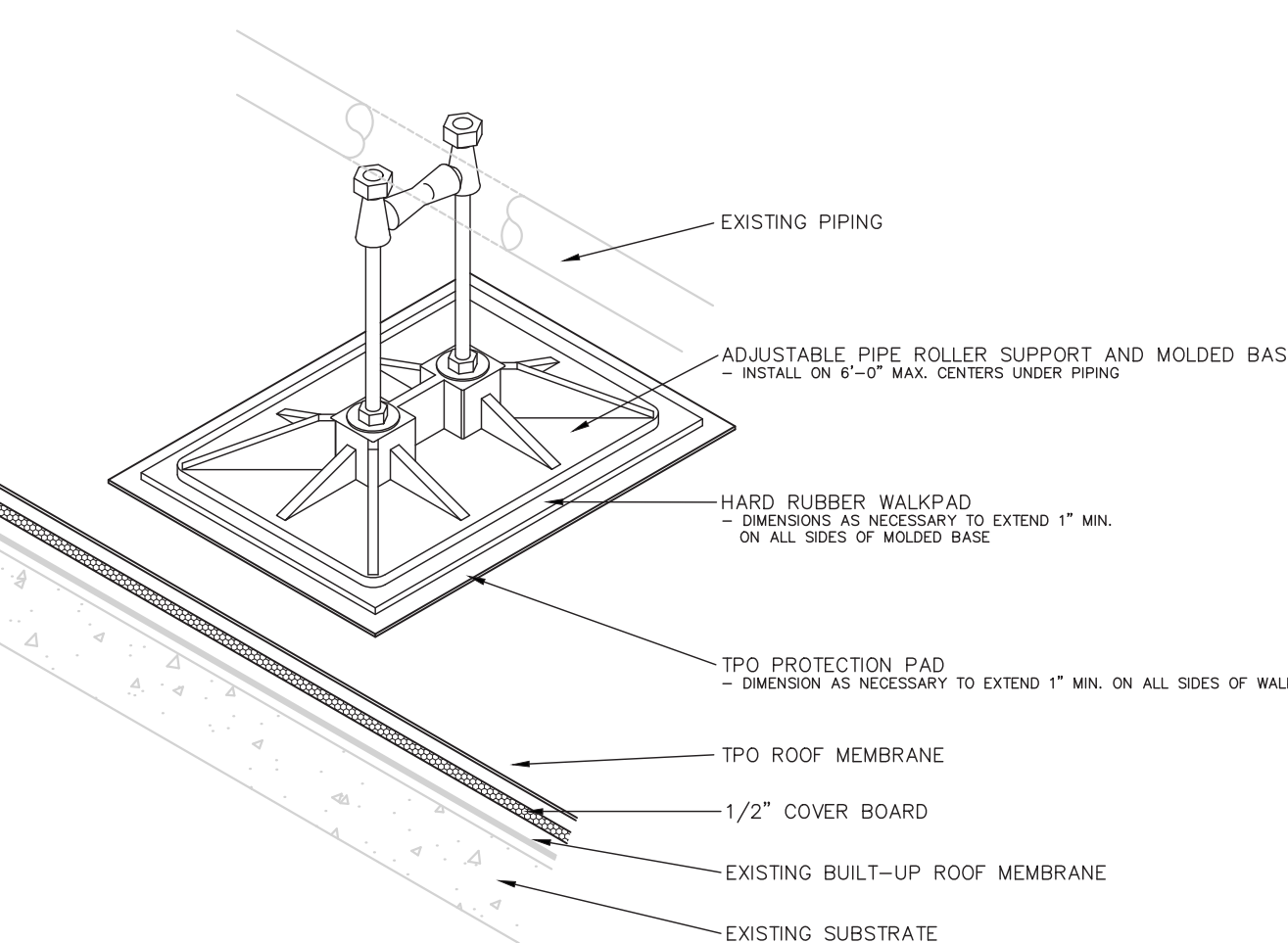
6 TPO SPLIT PIPE BOOT
N.T.S



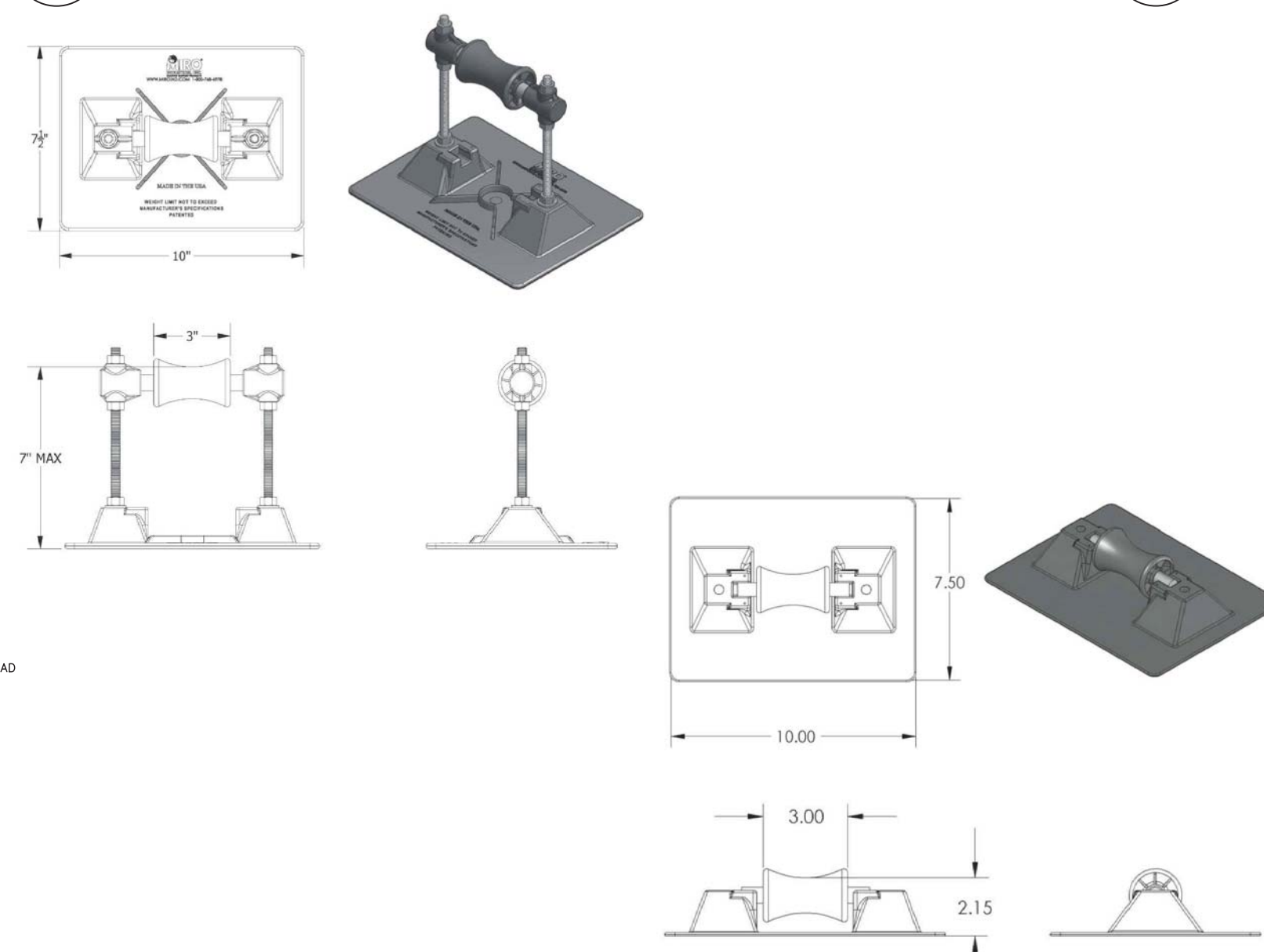
7 FIELD FABRICATED PIPE PENETRATION
N.T.S



8 SPLASH BLOCK AT GRADE
N.T.S



9 PIPE ROLLER SUPPORT
N.T.S



10 PIPE SUPPORTS
N.T.S

NOTES:
1. DETAILS TO BE USED IN CONJUNCTION WITH GUIDE SPECIFICATIONS CONTAINING REQUIREMENTS FOR HALOSIS, INSULATION, ETC.
2. ON RE-ROOF OR RECOVER PROJECTS, VENT PIPES MUST BE CLEANED OF LARGE DEPOSITS OF ASPHALT. ALUMINUM TAPE IS WRAPPED AROUND THE PIPE AS A SEPARATION LAYER. NEW ASPHALT-COATED CAST IRON PIPES MUST BE WRAPPED WITH ALUMINUM TAPE.
3. TPO EDGE SEALANT IS REQUIRED ON ALL CUT OR NON ENCAPSULATED EDGES OF REINFORCED MEMBRANE. THIS INCLUDES FACTORY CUT MEMBRANE.

DRAWING DATES		
NUMBER	DATE	COMMENTS

• 1 12/11/17 ISSUE FOR BID

DRAWING TITLE
TYPICAL
ROOF DETAILS

SHEET NUMBER

R1.5

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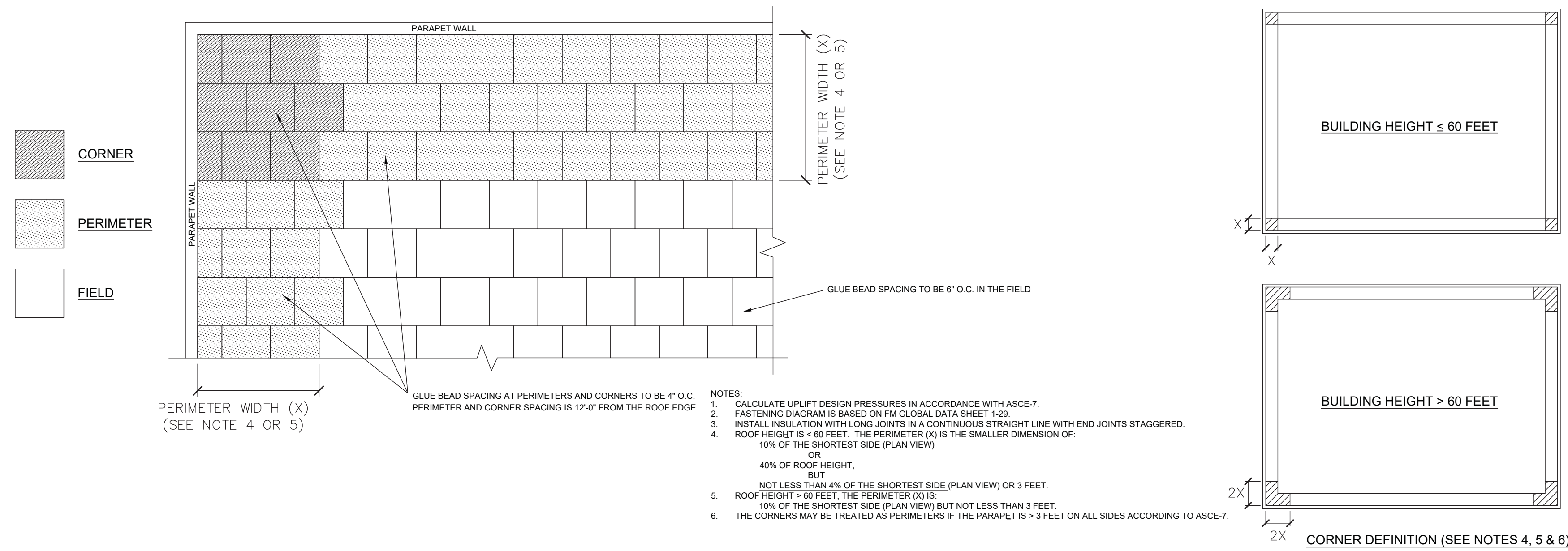
Salvatore R. Granata, P.E., S.E.

Phone: (878) 367-3151
Cell: (770) 301-5817
Toll Free: (877) 346-5126

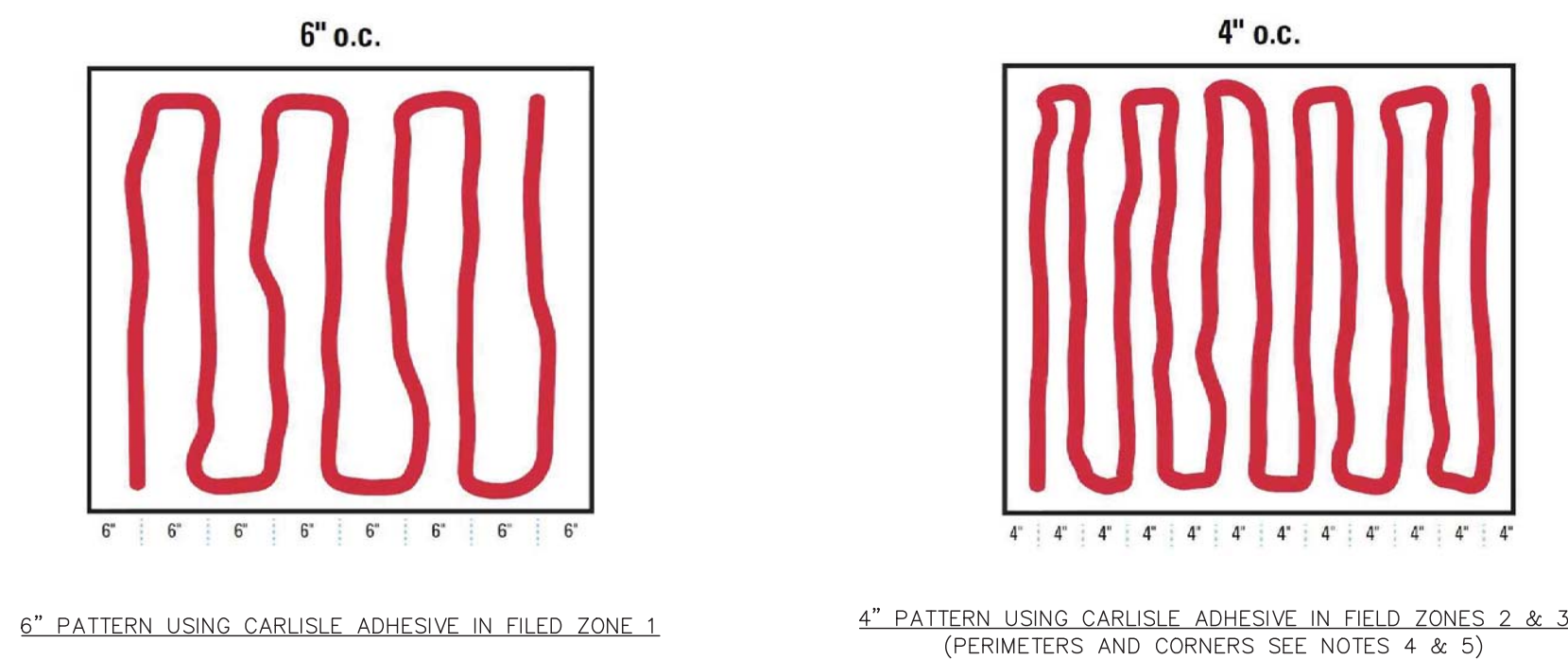
146 Lee Road 2012
Opelika, AL 36804

Fax: 866-815-4682
sal@srpce.net
srpce.com

12/11/17



2 BUILDING CORNER DEFINED
N.T.S



3 GLUE BEAD SPACING
N.T.S

1 INSULATION BOARD LAYOUT DEFINED
N.T.S

Figure 3-9: Aggregate blow-off associated with building irregularities. Hurricane Hugo (South Carolina, 1989)



Figure 3-10: The irregularity created by the stair tower (covered with a metal roof) caused turbulence resulting in wind speed-up and roof damage. Hurricane Andrew (Florida, 1992)

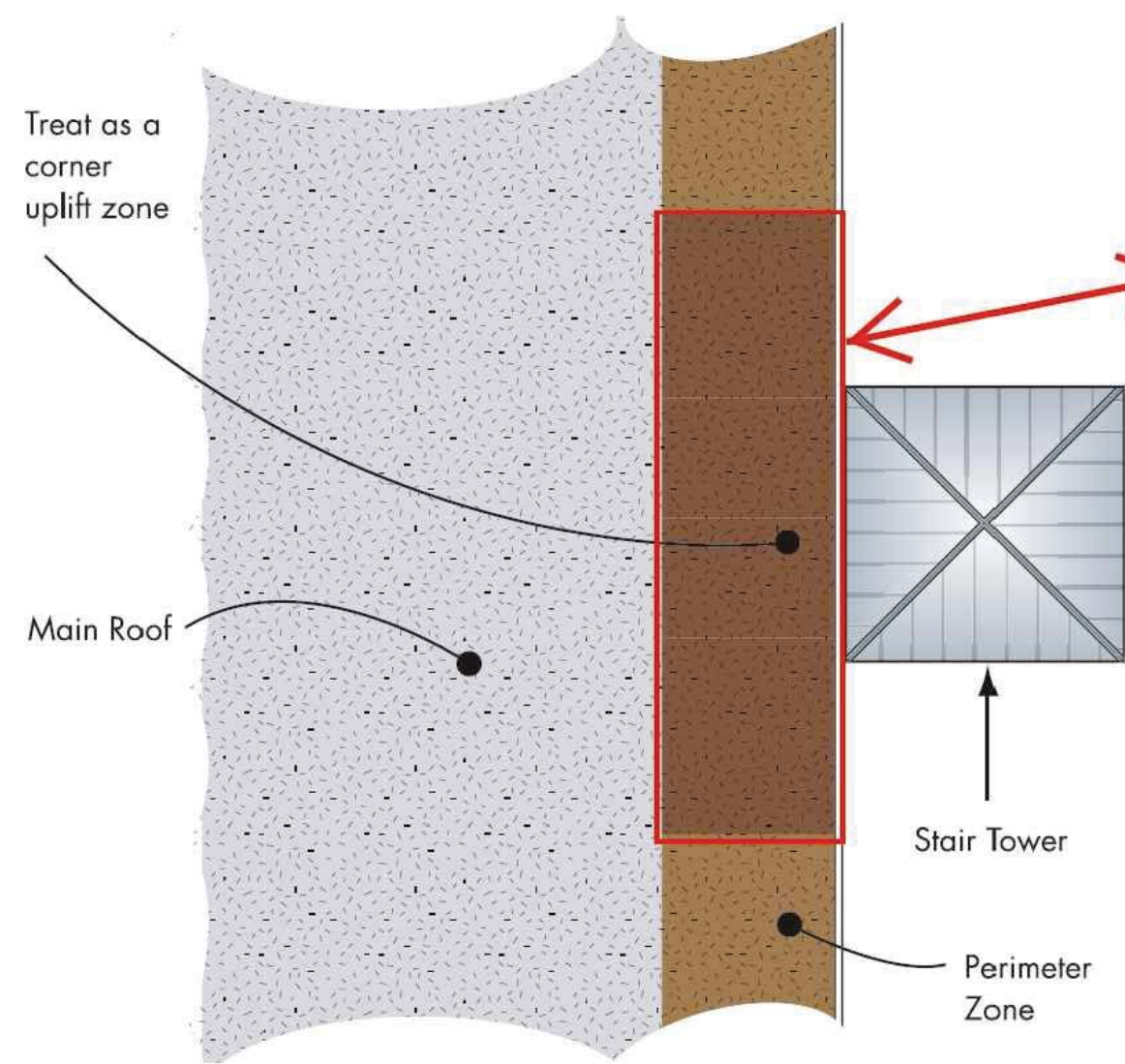
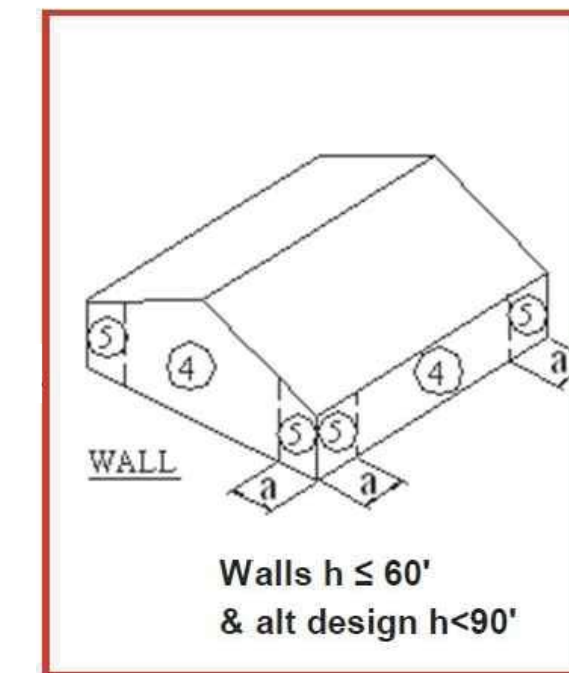
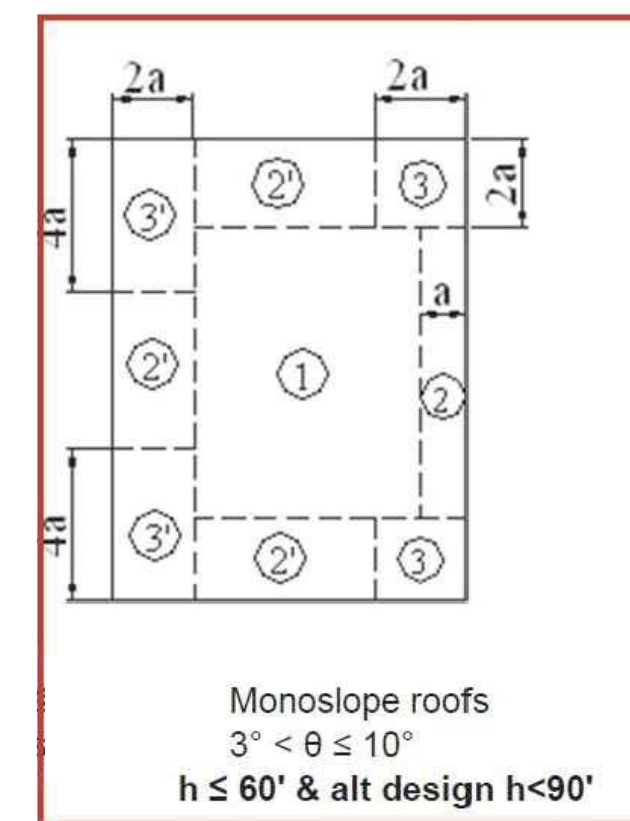


Figure 3-11: Plan view of a portion of the building in Figure 3-10 showing the use of a corner uplift zone in lieu of a perimeter uplift zone on the low-slope roof in the vicinity of the stair tower

Location of C&C Wind Pressure Zones



Use $2 * a = 12'-0"$



5 WIND PRESSURE ZONES
N.T.S

4 FEMA ILLUSTRATIONS <http://www.wbdg.org/ccb/FEMA/fema543.pdf>
N.T.S

DRAWING DATES
NUMBER DATE COMMENTS

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DRAWING TITLE
INSULATION LAYOUTS

SHEET NUMBER
R1.6

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