



Span-Lok™ *hp*

w/ Low Profile Clip

Installation Guide

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General Notes

The attached installation details are intended to be a design aid and do not depict all situations. Modifications are the responsibility of the designer/user and should take into account climate conditions such as wind and snow, governing code requirements, and the actual usage and maintenance of the structure.

Flashings:

Where possible, flashings should be lapped away from prevailing winds. Certain flashings should be supported if it is likely that equipment (ladder, etc.) will be used against them or if foot traffic is anticipated. Check with AEP Span any time you intend to specify a prefinished flashing in a gauge or finish different than the roof panels. It is good practice to specify that all flashings be of the same material (gauge, color, finish) as the roof panels to ensure long-term durability. Field-painted flashings rarely equal the durability and color fastness of factory baked-on paint systems. The enclosed details have minimized the use of exposed fasteners where possible. The edges of flashings have also been shown hemmed to strengthen and to minimize the exposure of cut edges.

Flashing design and fabrication is generally the responsibility of the contractor. For convenience, we have provided some flashing drawings on our website at <https://www.aepspan.com/products/trim-flashings/>. Applicable Span-lok *hp* flashing part numbers are referenced within this installation guide.

Substrates:

Span-lok *hp* roofing panels can be used over solid substrates or over spaced supports.

Slope Requirements:

Panels should be used on slopes of 1/4":12 or greater.

Panel Attachment:

Consult the Span-lok *hp* fastener attachment schedule or contact your AEP Span representative for proper clip spacing and fastener size, type, and quantities to meet the project's wind uplift (negative) load requirements. The details in this guide show two fasteners per clip. A minimum of two fasteners is always recommended although three fasteners may be required based on panel load requirements.

Condensation, Insulation, & Ventilation:

It is the designer's responsibility to determine the need and composition of condensation control materials including insulation and vapor retarders, as well as ventilation requirements. Metal roofing is susceptible to condensation and its control should be carefully considered. Applications over rigid insulation may require solid blocking/framing for installation of perimeter flashings and drag load fasteners.

Underlayments:

Prior to installation of metal roofing panels, it is recommended that an underlayment be installed over the roof substrate. AEP Span encourages the use of *AEP Span Underlayment HT* as it is designed specifically for use under all AEP roofing systems and is suitable for use under any metal roofing system or coping. *AEP Span Underlayment HT* is **required** by AEP Span for AEP Span Full System Weathertightness Warranties. *AEP Span Underlayment HT* is a high temperature, self-healing, self-adhering, peel and stick underlayment with a non-abrasive surface that will not mar, scratch, or abrade the underside of metal panels and flashings. Please note that additional protection may be required to

meet Class A fire ratings as defined in UL790 classified assemblies.

"Pinning" Requirements:

The panels must only be "pinned" at one location only to resist the "drag" loads caused by the panel weight, live loads, and snow loads. The intensity of the drag load is a function of the slope, the loads involved, and the length of the panels. Panels must not be pinned at more than one location otherwise damages induced by thermal movement will occur.

Thermal Movement:

Both panels and flashings must allow for thermal movement (expansion and contraction) of the materials, especially where long lengths are used. Appropriate gaps or provisions must be provided to accommodate thermal movement.

Snow Design:

Span-lok *hp* panels are suitable for light snow loads only. If possible, valleys, gutters, roof elevation changes and penetrations should be minimized or eliminated in snow areas. Roof penetrations should be located as close to the ridge or peak of the roof as possible to minimize accumulations of ice and snow and the effects of thermal movement of the roof panels. Premium membrane underlayments like *AEP Span Underlayment HT* or equivalent should be used. Valleys in snow areas require special consideration due to the accumulation of snow and ice from tributary roof areas.

Valleys:

Valley dimensions must be the proper width to account for slope, snow, ice, and rain conditions. Valleys should receive a premium underlayment since they are susceptible to water buildup. Valleys must have positive slope for drainage and be kept

free of debris so that water does not back up and intrude under the panels.

Oil Canning:

Flat metal surfaces often display waviness commonly referred to as 'oil canning'. This can be caused by variations in raw material, processing variations, product handling, or variations in the substrate and roofing underlayments. Oil canning is a characteristic, not a defect, of panels manufactured from light-gauge metal. Panels are factory "corrective leveled" to minimize oil canning. Oil canning is not a cause for panel rejection. Additional information is available upon request.

References:

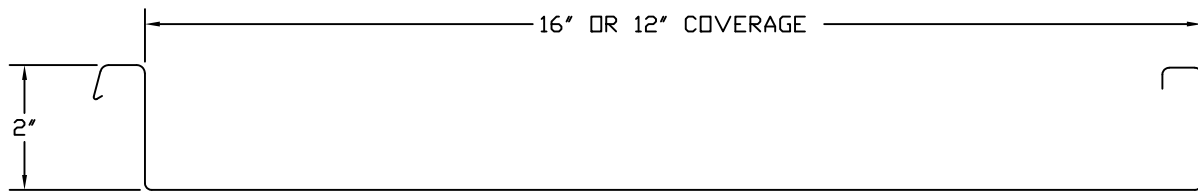
The Sheet Metal and Air Conditioning Contractors' National Association Inc. (SMACNA) manual is an excellent reference for sheet metal contractors. It's guidelines for underlayments, gutter and downspout size requirements, and expansion/contraction of metals and flashing joints should be followed.

Technical Assistance:

Contact your AEP Span Sales Representative for additional information.



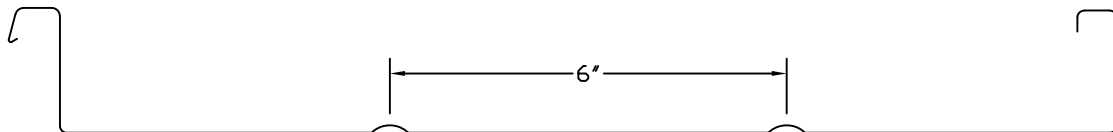
SPAN-LOK HP (UNSEAMED):



FLAT FINISH

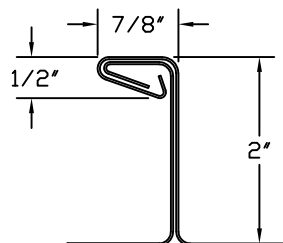


STRIATED
16" PANEL ONLY



PENCIL RIBS
16" PANEL ONLY

SPAN-LOK HP (SEAMED):



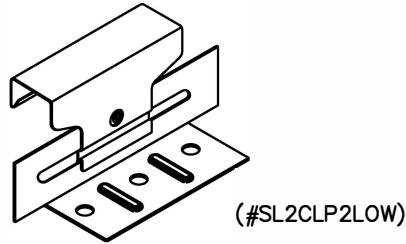
DIMENSIONS
APPROXIMATE



SPAN-LOK hp
(W/ LOW CLIP)

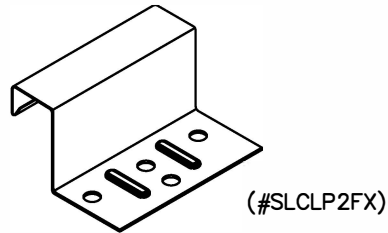
PANEL INFORMATION

SL-LOW-01

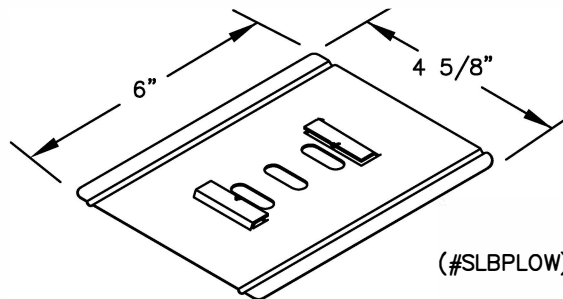


LOW PROFILE CLIP

- HOLDS PANEL CLOSE TO SUBSTRATE
- FOR USE OVER WOOD DECK, RIGID INSULATION WITH BEARING PLATE) OR OPEN FRAMING WITHOUT INSULATION.
- MINIMAL 3/16" GAP PROVIDES JUST ENOUGH FASTENER CLEARANCE.

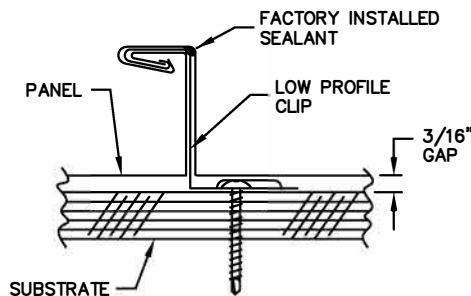


LOW PROFILE FIXED CLIP



BEARING PLATE FOR LOW CLIP

- FOR INSTALLING PANELS OVER RIGID INSULATION



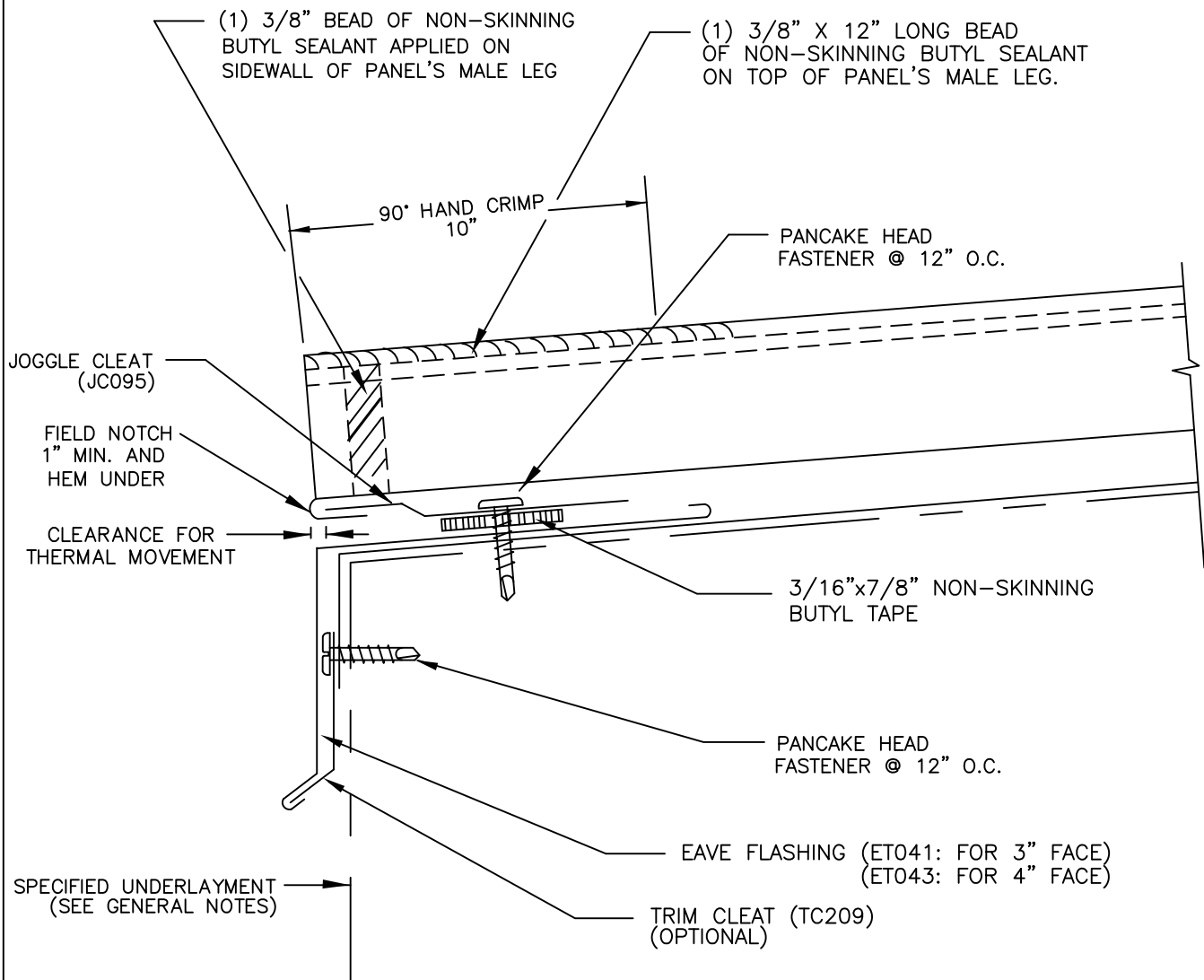
SEAMED LOW CLIP



SPAN-LOK hp
(W/ LOW CLIP)

CLIP INFORMATION

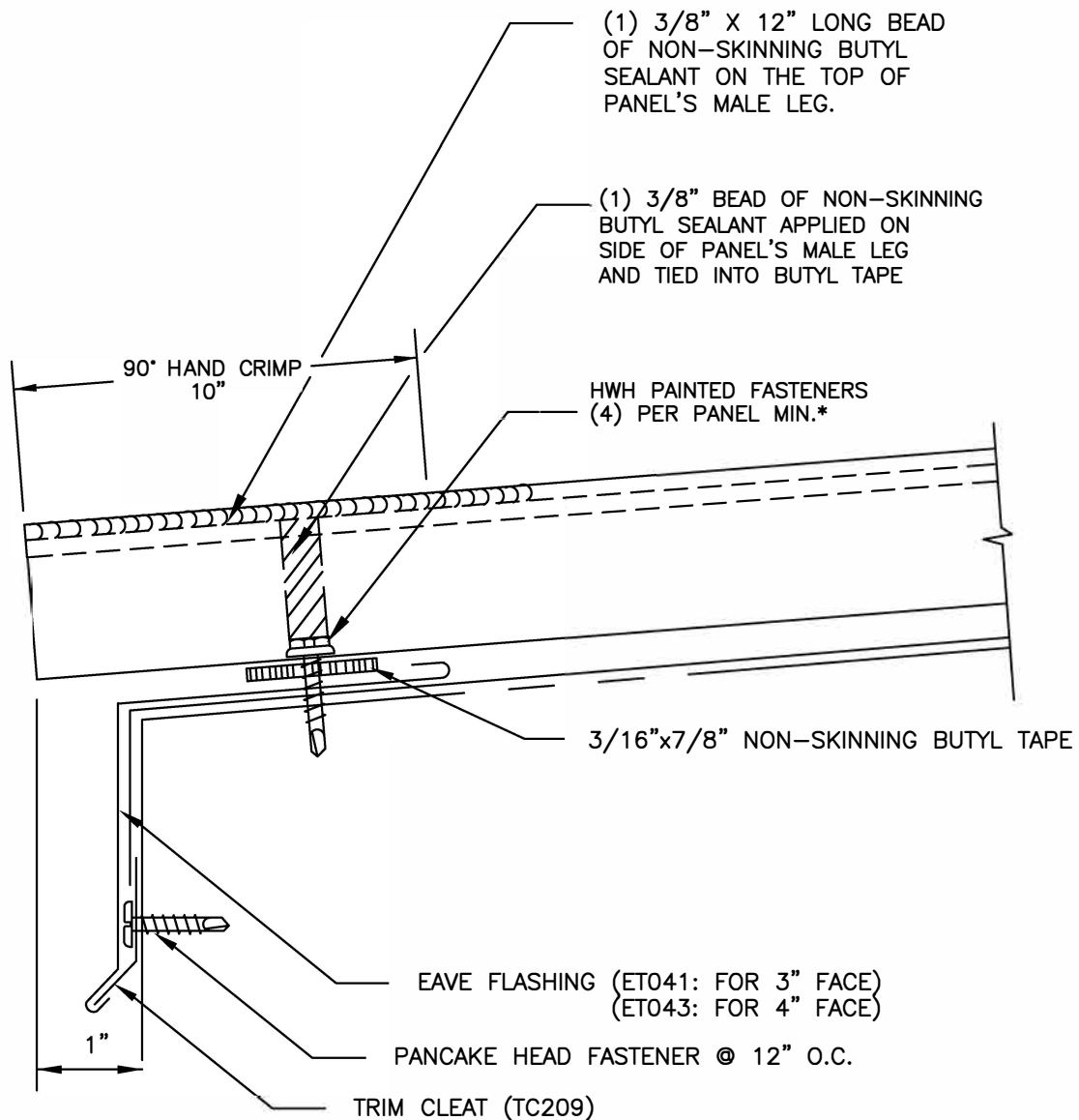
SL-LOW-02



SPAN-LOK hp
(W/ LOW CLIP)

EAVE - FLOATING

SL-LOW-03



NOTE:

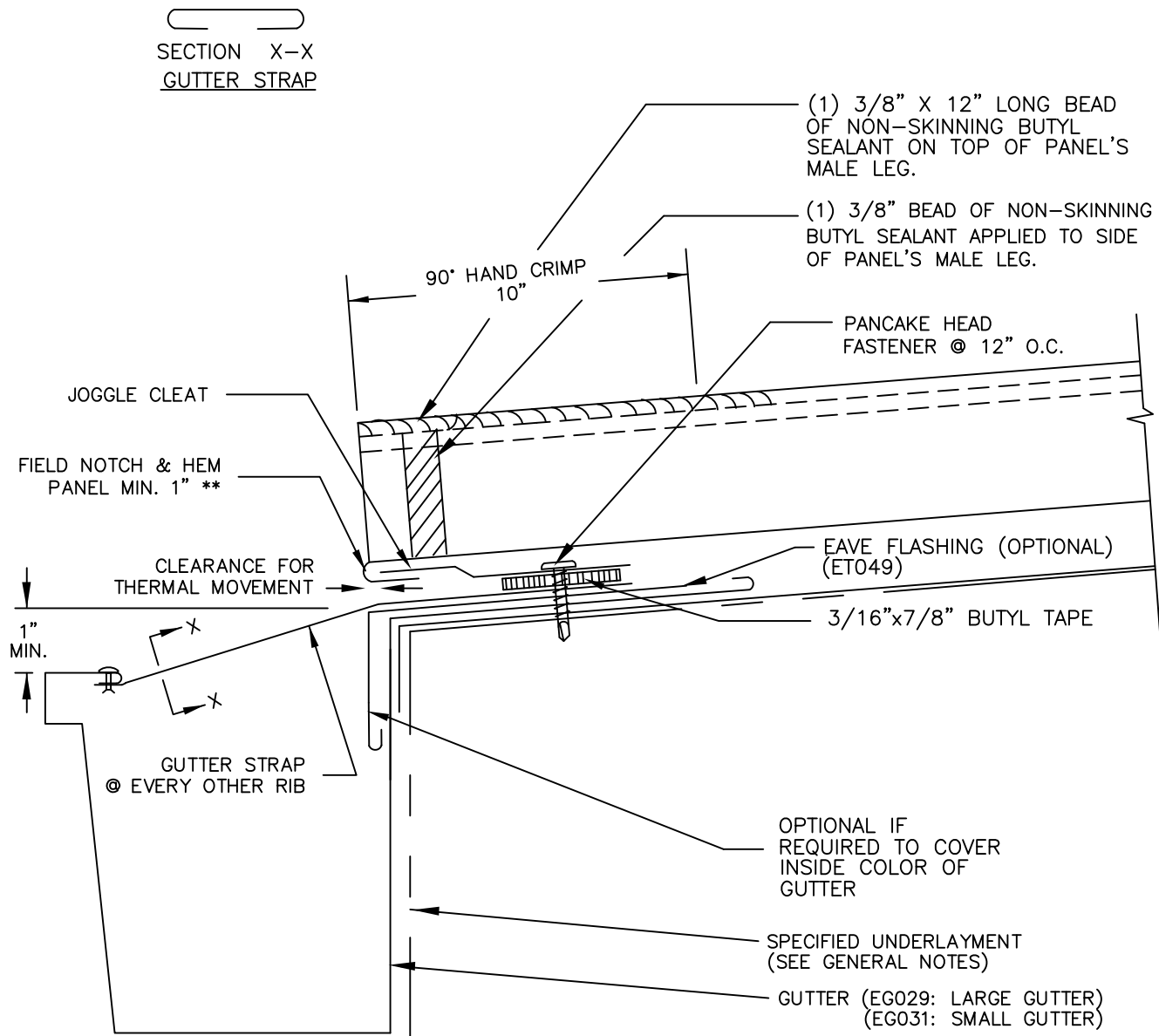
* — ADDITIONAL FASTENERS MAY BE REQUIRED TO RESIST DRAG LOADS.



SPAN-LOK hp
(W/ LOW CLIP)

EAVE - FIXED

SL-LOW-04



** ASK YOUR AEP SPAN REPRESENTATIVE ABOUT FACTORY NOTCHING.

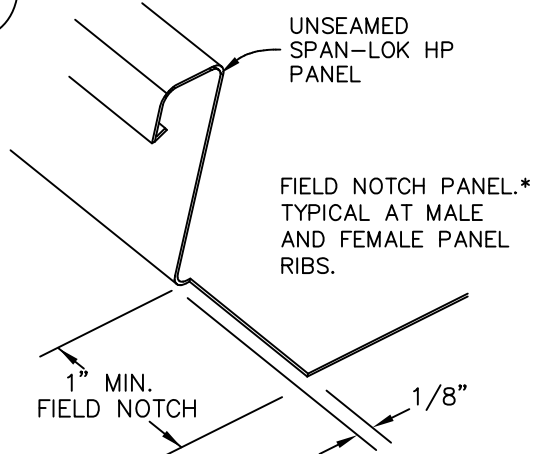


SPAN-LOK hp
(W/ LOW CLIP)

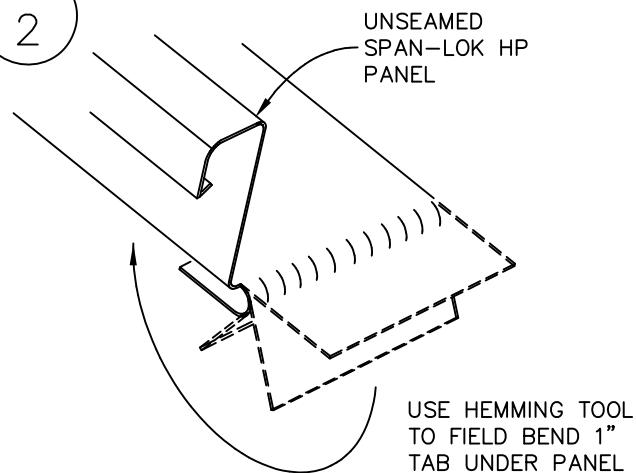
**EAVE WITH GUTTER
- FLOATING**

SL-LOW-05

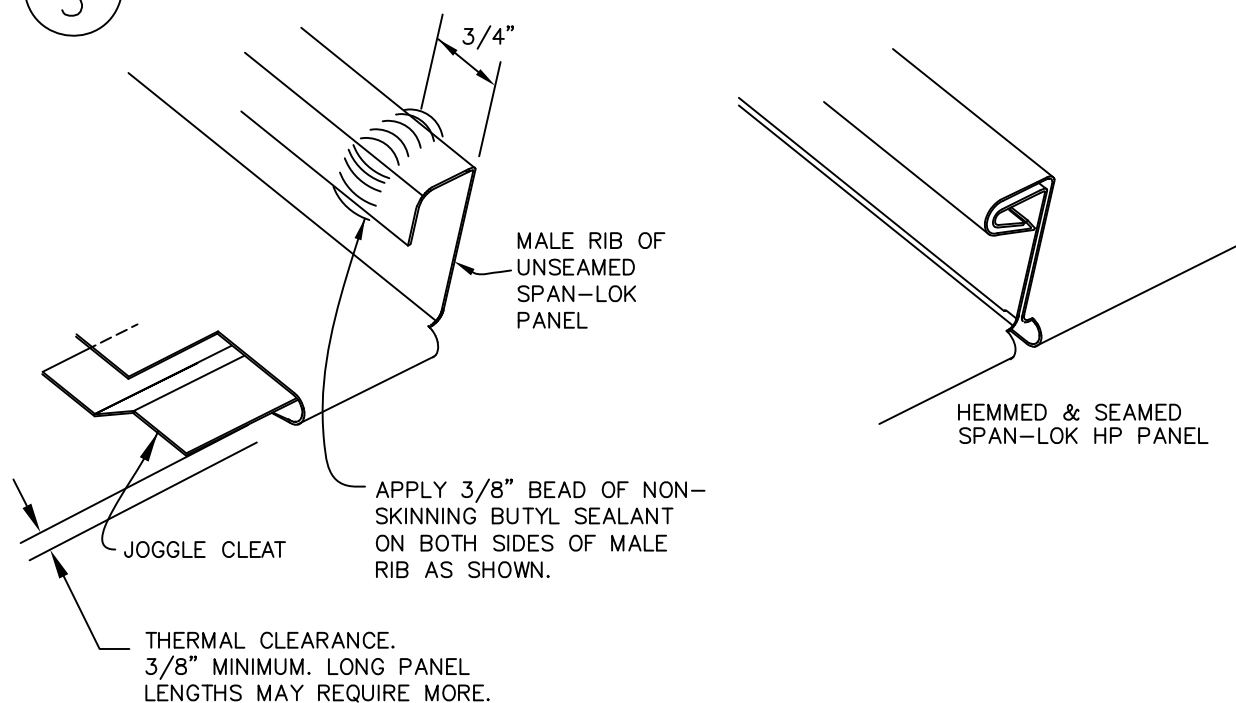
STEP
1



STEP
2



STEP
3



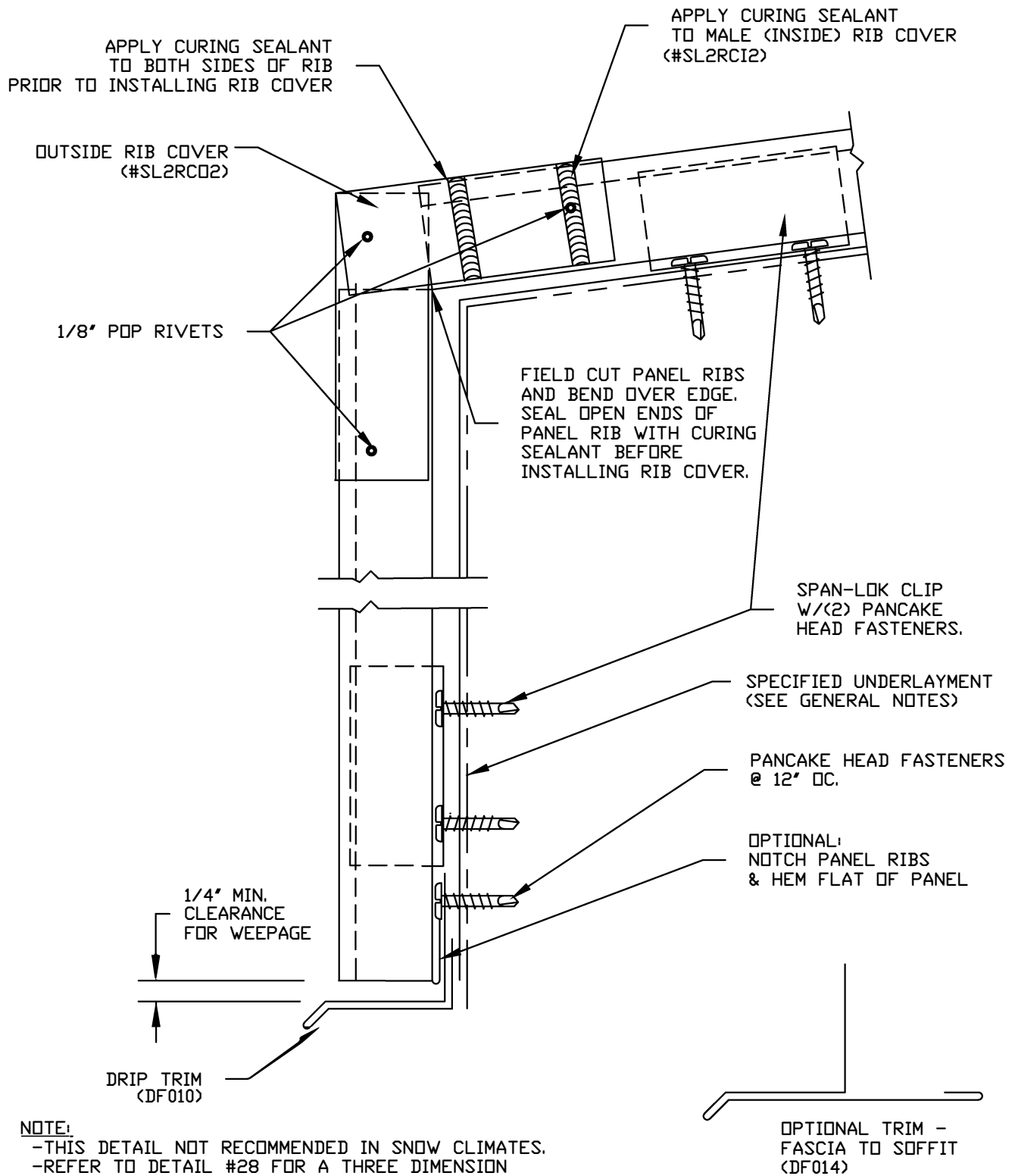
* ASK YOUR AEP SPAN REPRESENTATIVE ABOUT FACTORY NOTCHING.



SPAN-LOK hp
(W/ LOW CLIP)

EAVE HEM

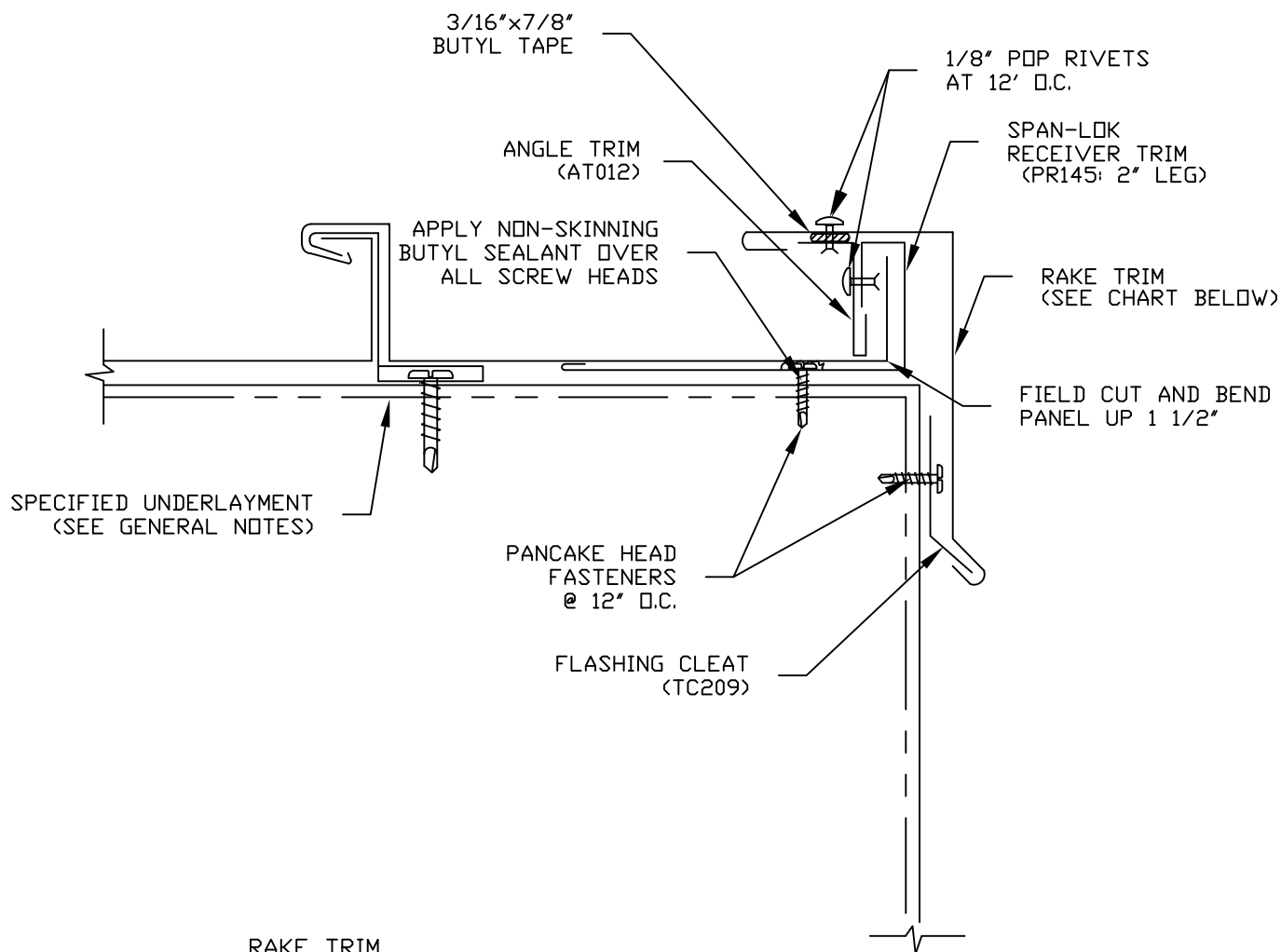
SL-LOW-06



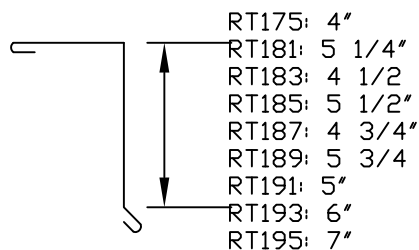
SPAN-LOK hp
(W/ LOW CLIP)

RIB COVER

SL-LOW-07



RAKE TRIM



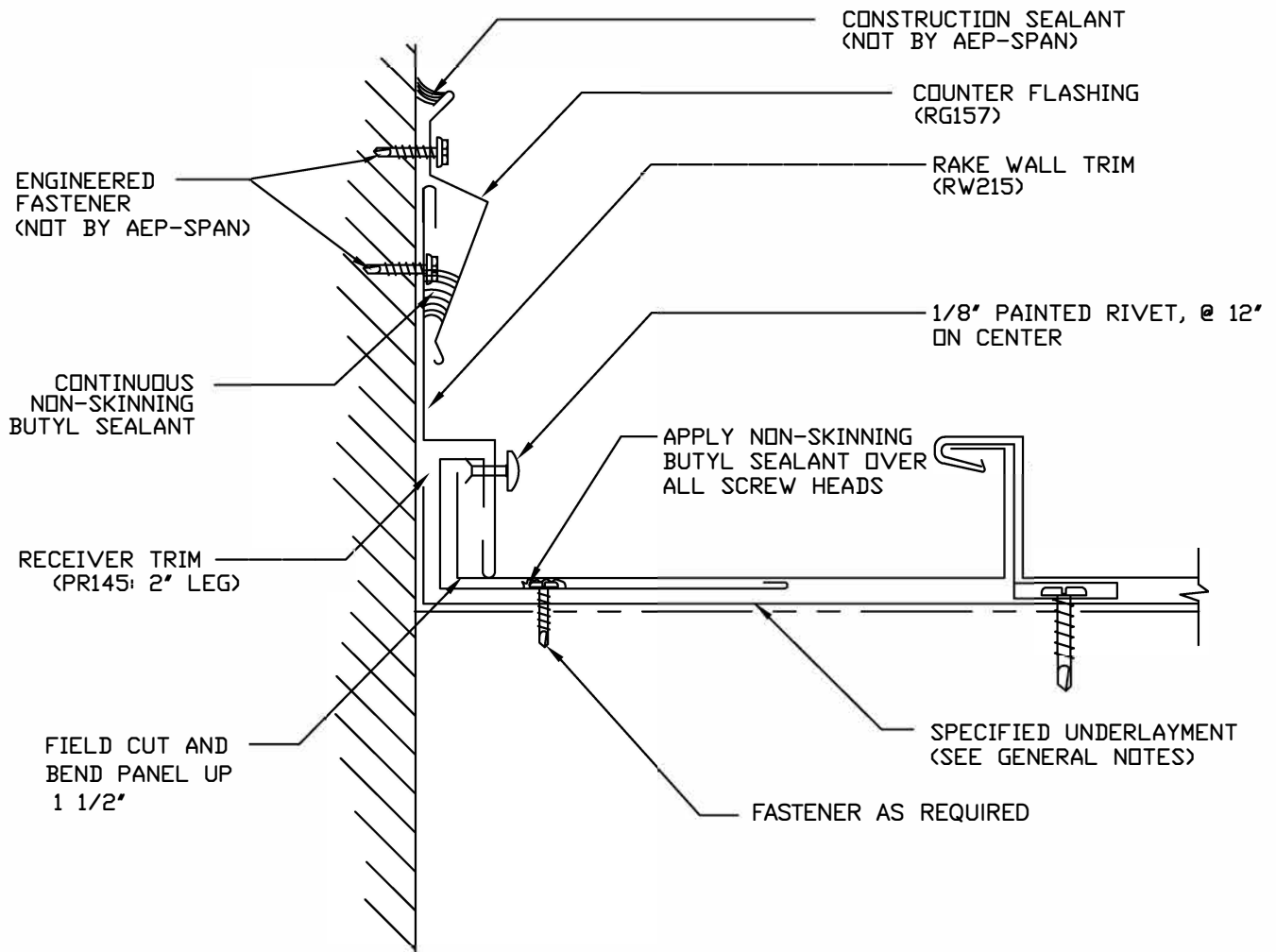
NOTE:
FIELD CUT FIRST
AND LAST PANELS
TO EQUAL WIDTH.



SPAN-LOK hp
(W/ LOW CLIP)

RAKE

SL-LOW-08



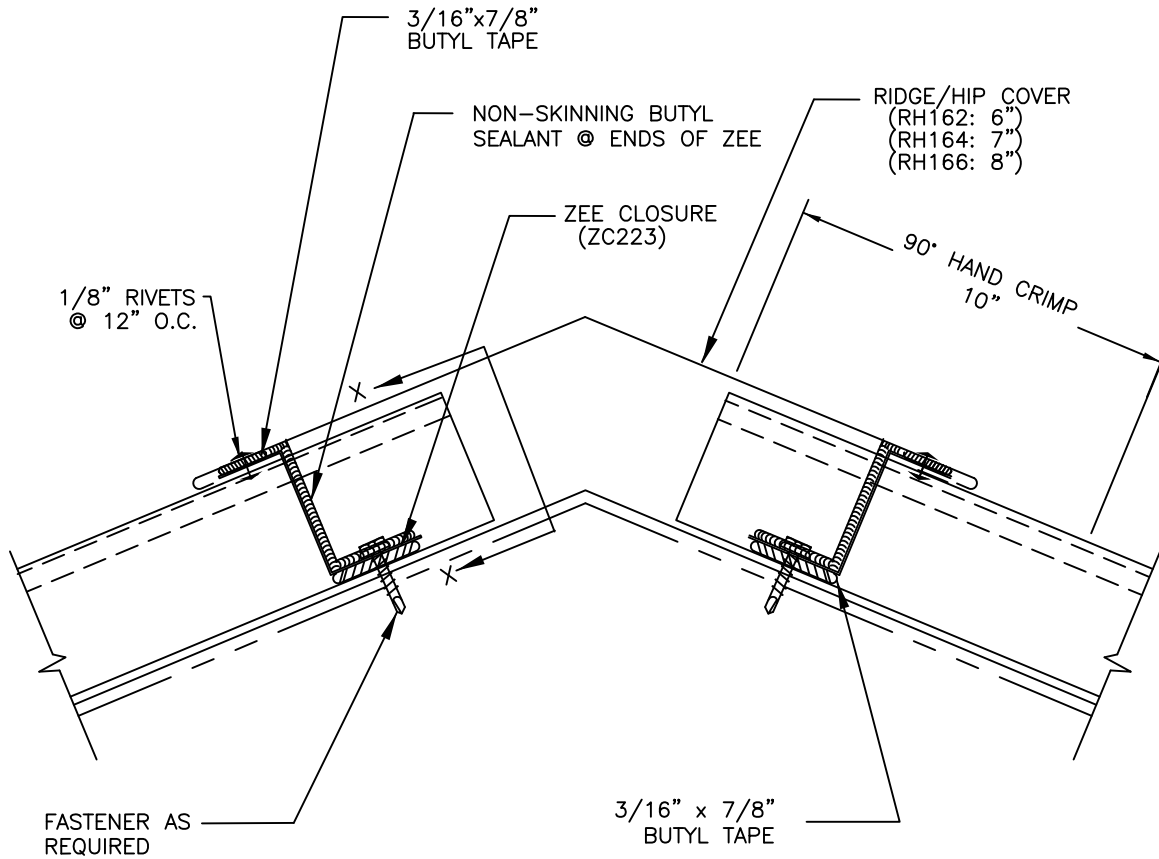
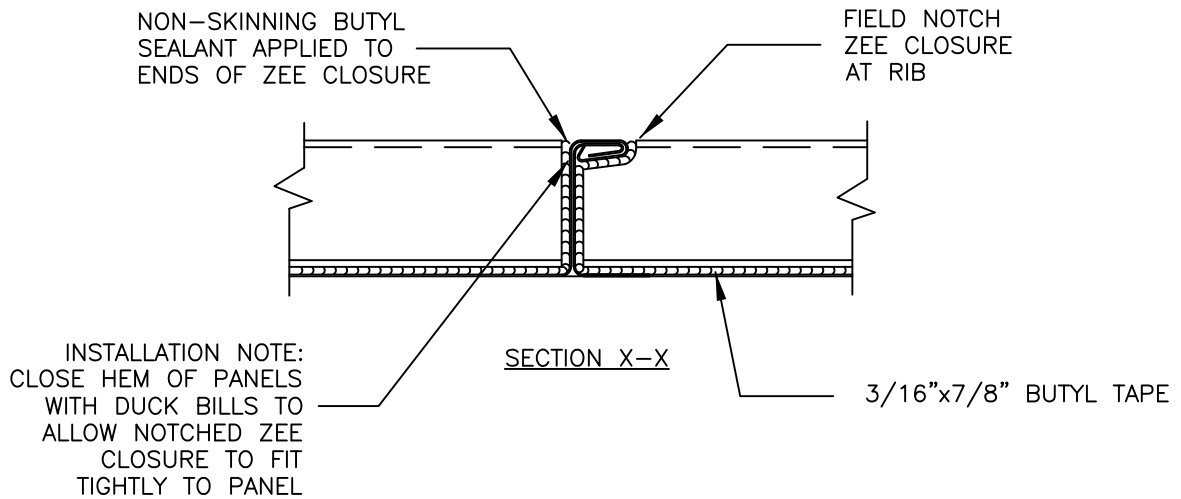
NOTE:
FIELD CUT FIRST
AND LAST PANELS
TO EQUAL WIDTH.



SPAN-LOK hp
(W/ LOW CLIP)

RAKE WALL

SL-LOW-09



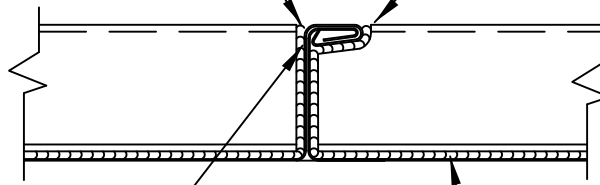
SPAN-LOK hp
(W/ LOW CLIP)

RIDGE/HIP - FIXED

SL-LOW-10

NON-SKINNING BUTYL
SEALANT APPLIED TO
ENDS OF ZEE CLOSURE

FIELD NOTCH
ZEE CLOSURE
AT RIB



INSTALLATION NOTE:
CLOSE HEM OF PANELS
WITH DUCK BILLS TO
ALLOW NOTCHED ZEE
CLOSURE TO FIT
TIGHTLY TO PANEL

SECTION X-X

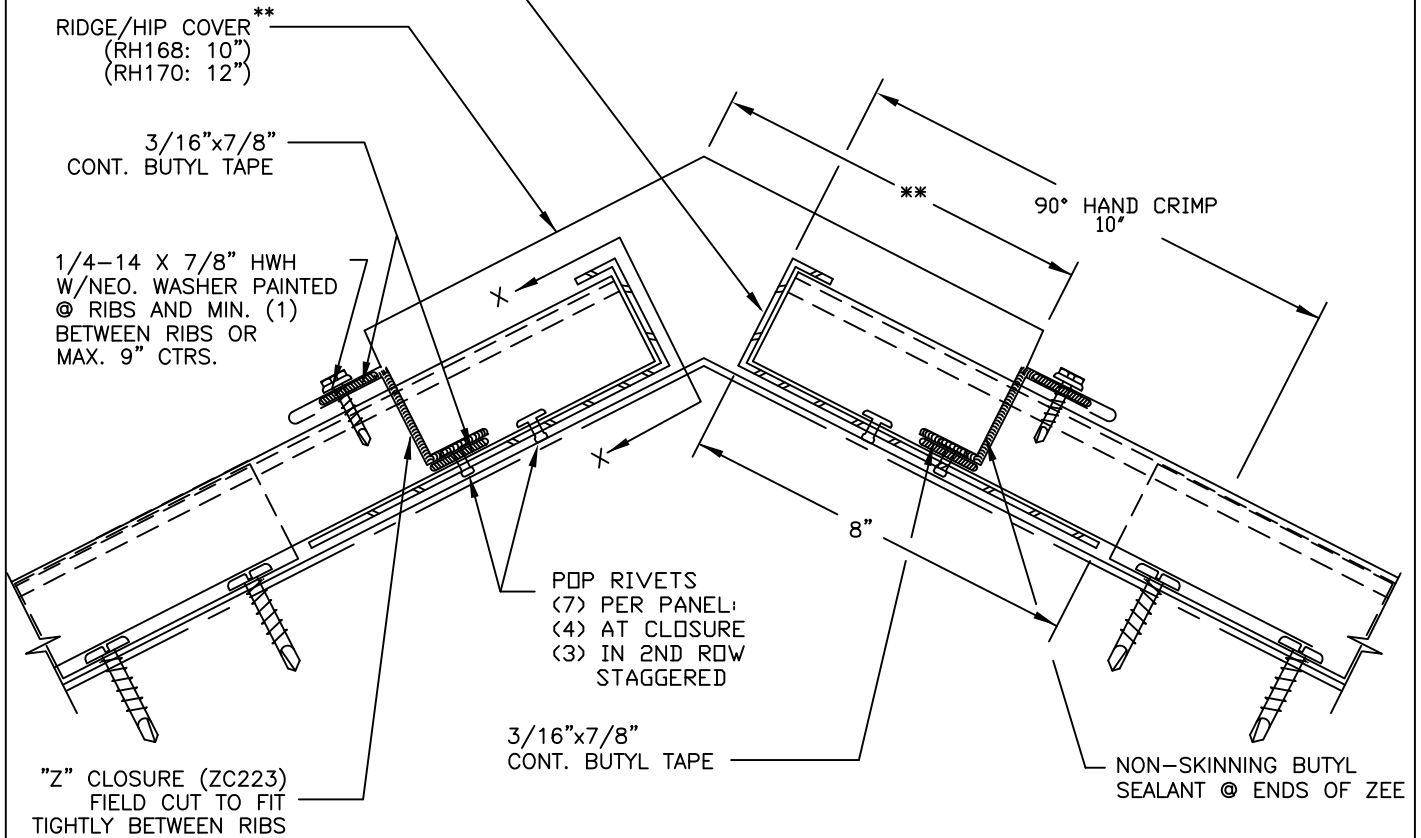
3/16"x7/8" BUTYL TAPE

18 GA. CONT. PANEL
END SUPPORT (SL2ES2)

RIDGE/HIP COVER**
(RH168: 10")
(RH170: 12")

3/16"x7/8"
CONT. BUTYL TAPE

1/4-14 X 7/8" HWH
W/NEO. WASHER PAINTED
© RIBS AND MIN. (1)
BETWEEN RIBS OR
MAX. 9" CTRS.



"Z" CLOSURE (ZC223)
FIELD CUT TO FIT
TIGHTLY BETWEEN RIBS

POP RIVETS
(7) PER PANEL:
(4) AT CLOSURE
(3) IN 2ND ROW
STAGGERED

3/16"x7/8"
CONT. BUTYL TAPE

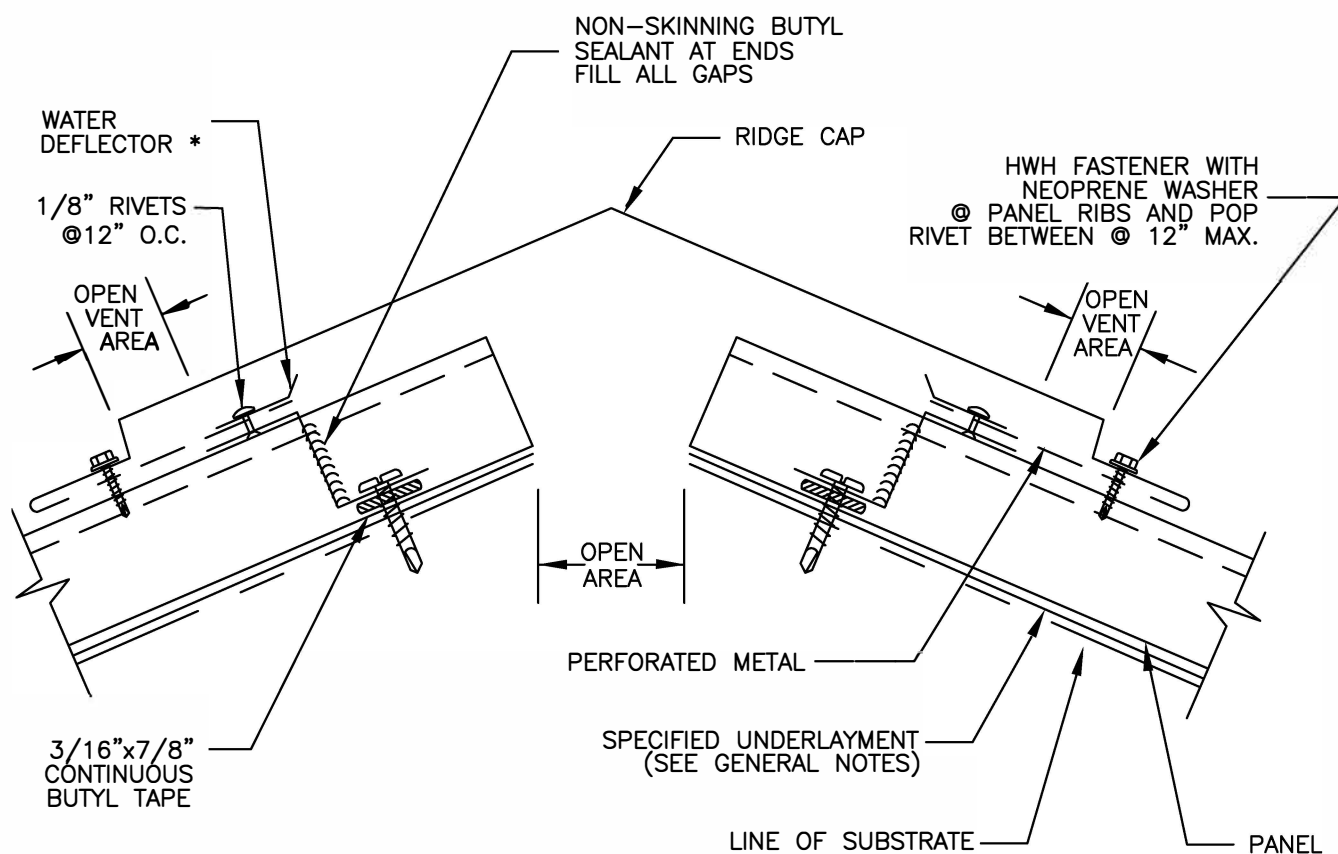
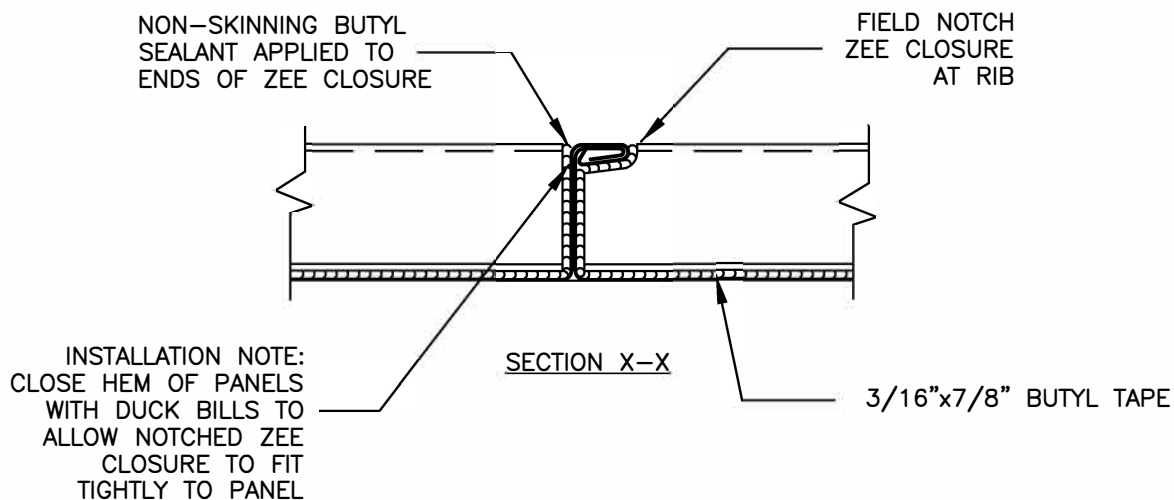
NON-SKINNING BUTYL
SEALANT © ENDS OF ZEE



SPAN-LOK hp
(W/ LOW CLIP)

RIDGE/HIP - FLOATING

SL-LOW-11



NOTE:

- CUSTOMER MUST PROVIDE VENT AREA REQUIREMENTS.
- *- DEFLECTOR USED FOR SEVERE RAIN/SNOW CLIMATES.



SPAN-LOK hp
(W/ LOW CLIP)

VENTED RIDGE

SL-LOW-12

NON-SKINNING BUTYL
SEALANT APPLIED TO
ENDS OF ZEE CLOSURE

FIELD NOTCH
ZEE CLOSURE
AT RIB

CONSTRUCTION SEALANT
(NOT BY AEP-SPAN)

ENGINEERED FASTENER
(NOT BY AEP-SPAN)

SURFACE MOUNT
REGLET TRIM
(RG157)

CONTINUOUS
NON-SKINNING
BUTYL SEALANT

RAKE WALL
TRIM

INSTALLATION NOTE:
CLOSE PANEL HEM
WITH DUCK BILLS TO
ALLOW NOTCHED ZEE
CLOSURE TO FIT
TIGHTLY TO PANEL

SECTION X-X

3/16"x7/8"
BUTYL TAPE

ALTERNATE DETAIL
WITH SURFACE
MOUNT REGLET

CONSTRUCTION SEALANT
(NOT BY AEP-SPAN)

CONTINUOUS 3/8" BEAD
NON-SKINNING BUTYL SEALANT

REGLET FLASHING*
(RG145: 4")
(RG147: 5")
(RG149: 6")

HEAD WALL FLASHING**
(PB113: 6")
(PB115: 7")
(RG117: 8")

ENGINEERED
FASTENER
(NOT BY AEP-SPAN)

1/8" POP RIVETS
@12" O.C.

90° HAND CRIMP
10"

3/16"x7/8"
BUTYL TAPE

ZEE CLOSURE
(ZC223)

NON-SKINNING BUTYL SEALANT
APPLIED TO ENDS OF ZEE
CLOSURE

FASTENER AS REQUIRED

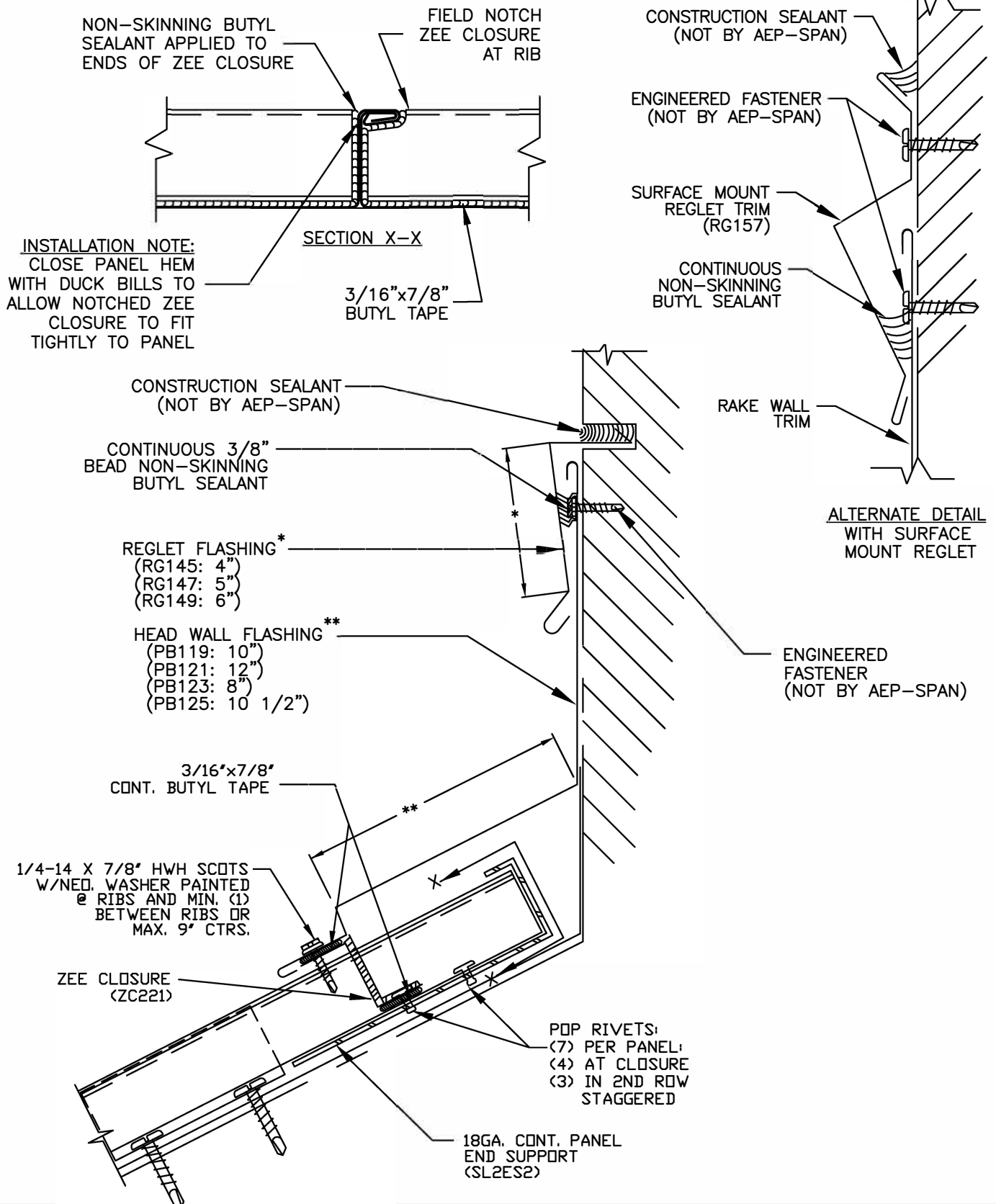
3/16"x7/8" CONT. BUTYL TAPE



SPAN-LOK hp
(W/ LOW CLIP)

HEAD WALL - FIXED

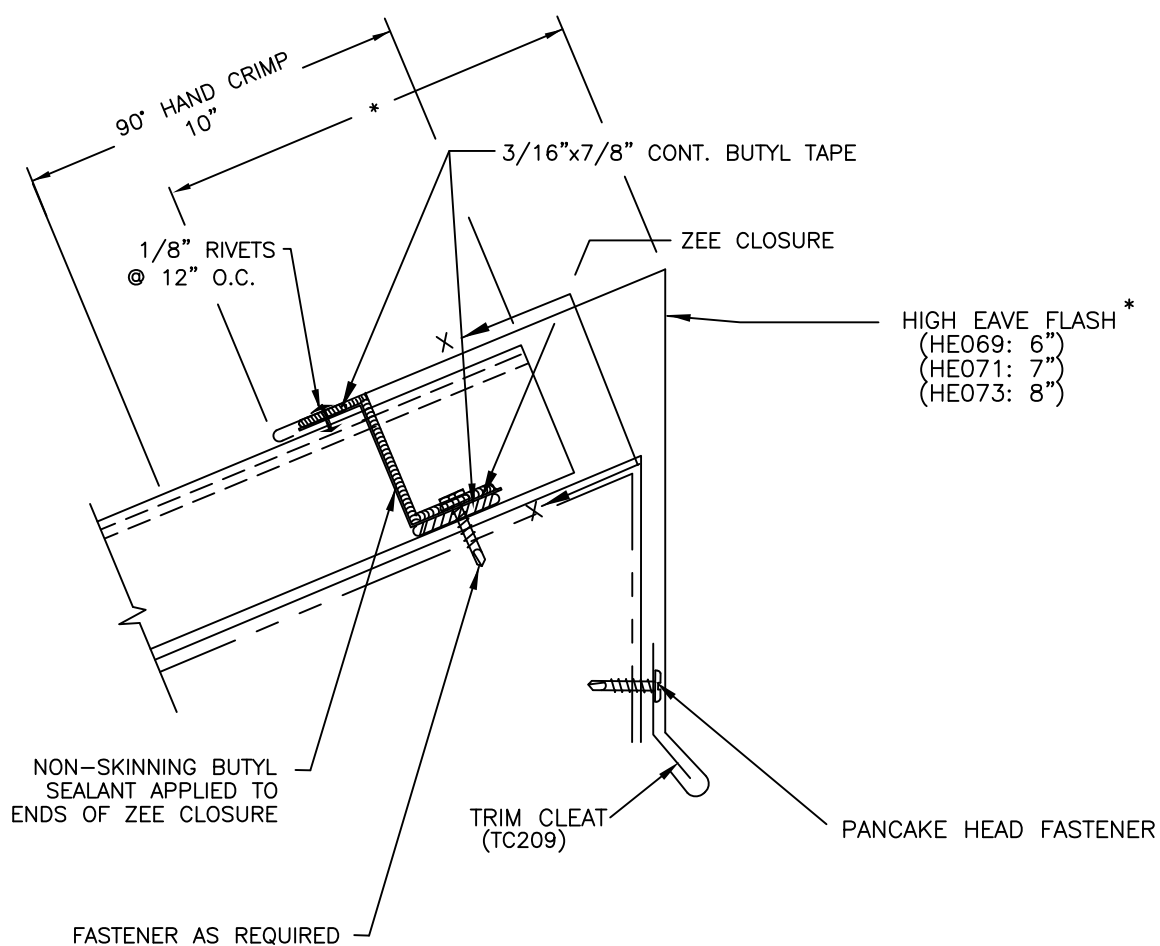
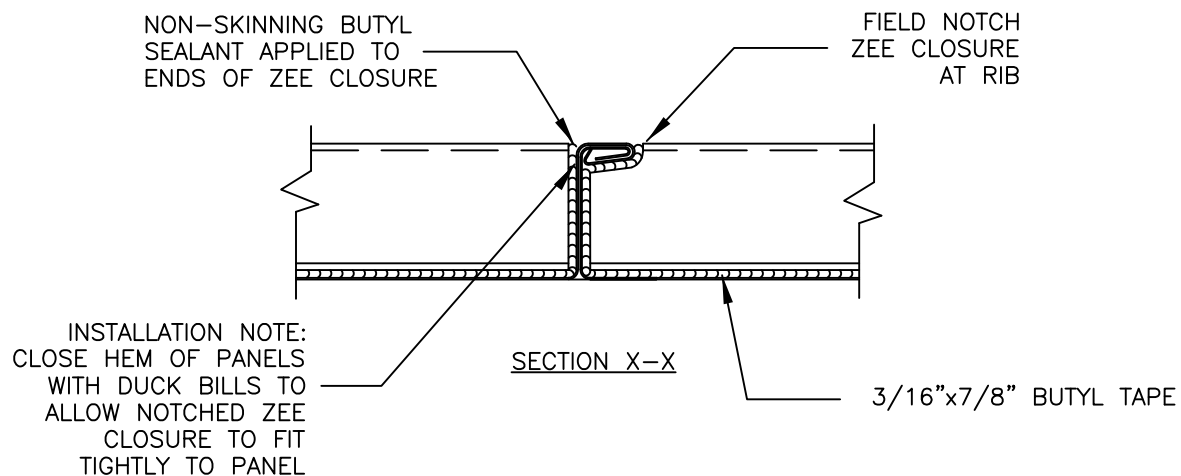
SL-LOW-13



SPAN-LOK hp
(W/ LOW CLIP)

HEAD WALL - FLOATING

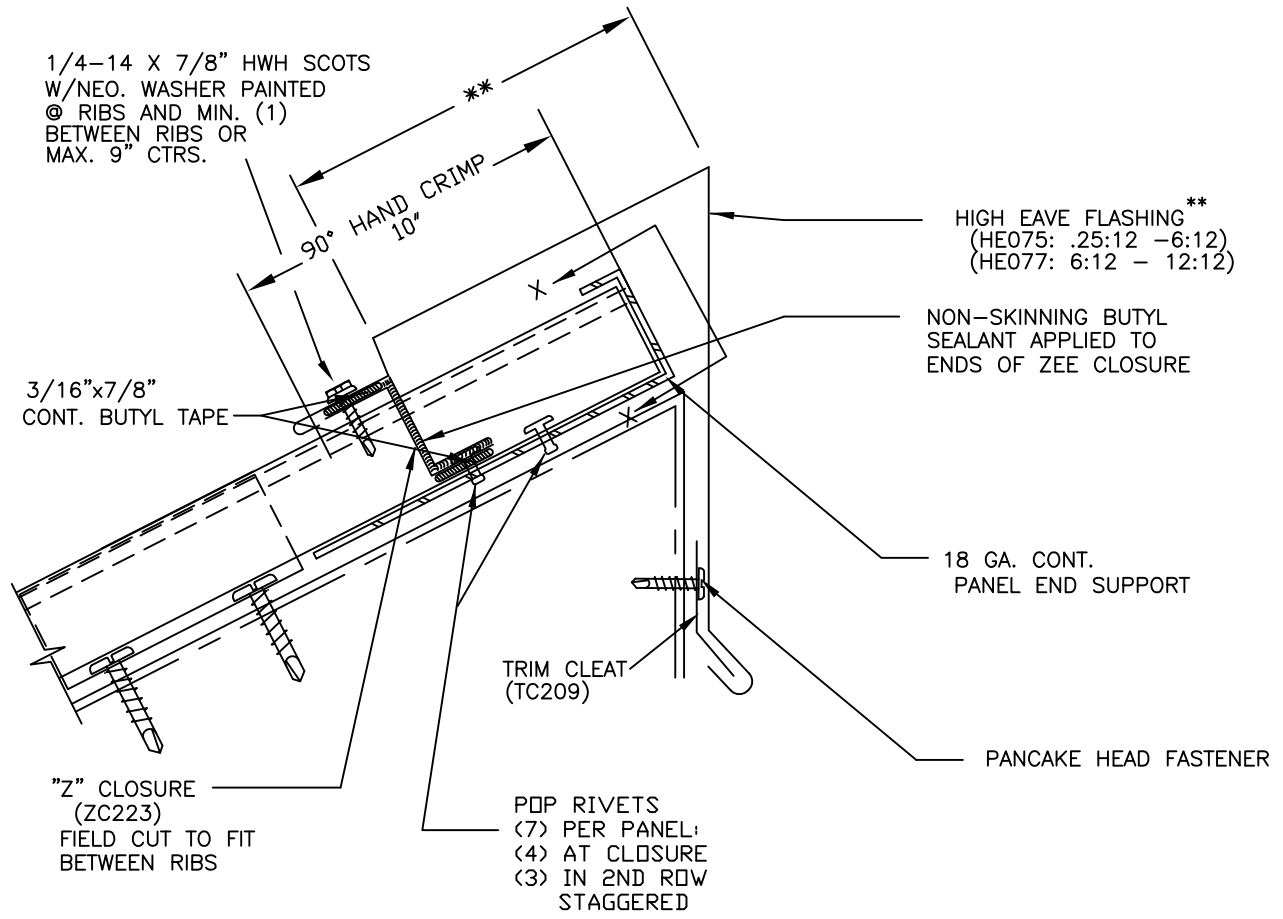
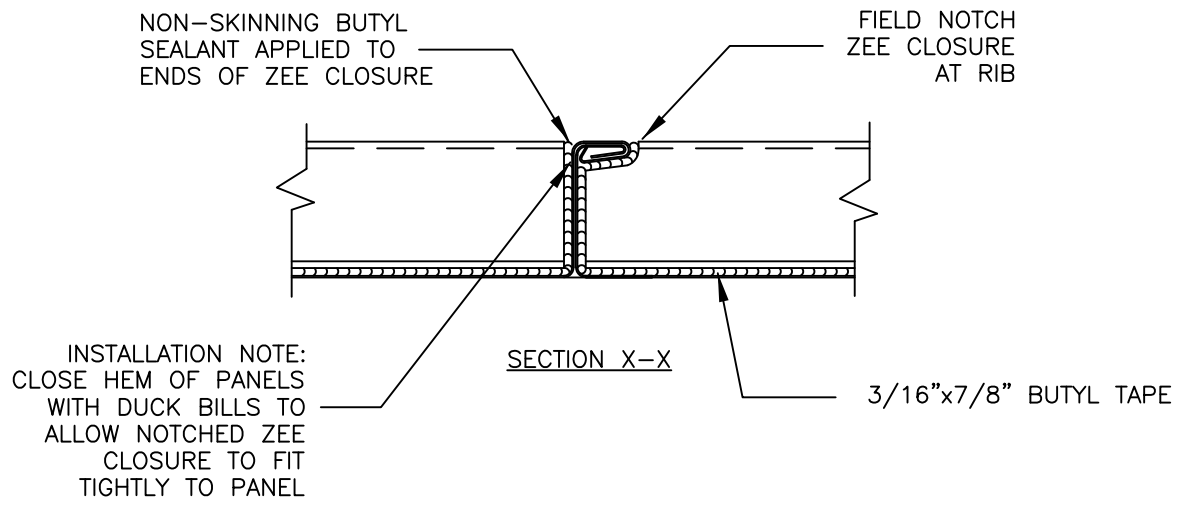
SL-LOW-14



SPAN-LOK hp
(W/ LOW CLIP)

HIGH EAVE - FIXED

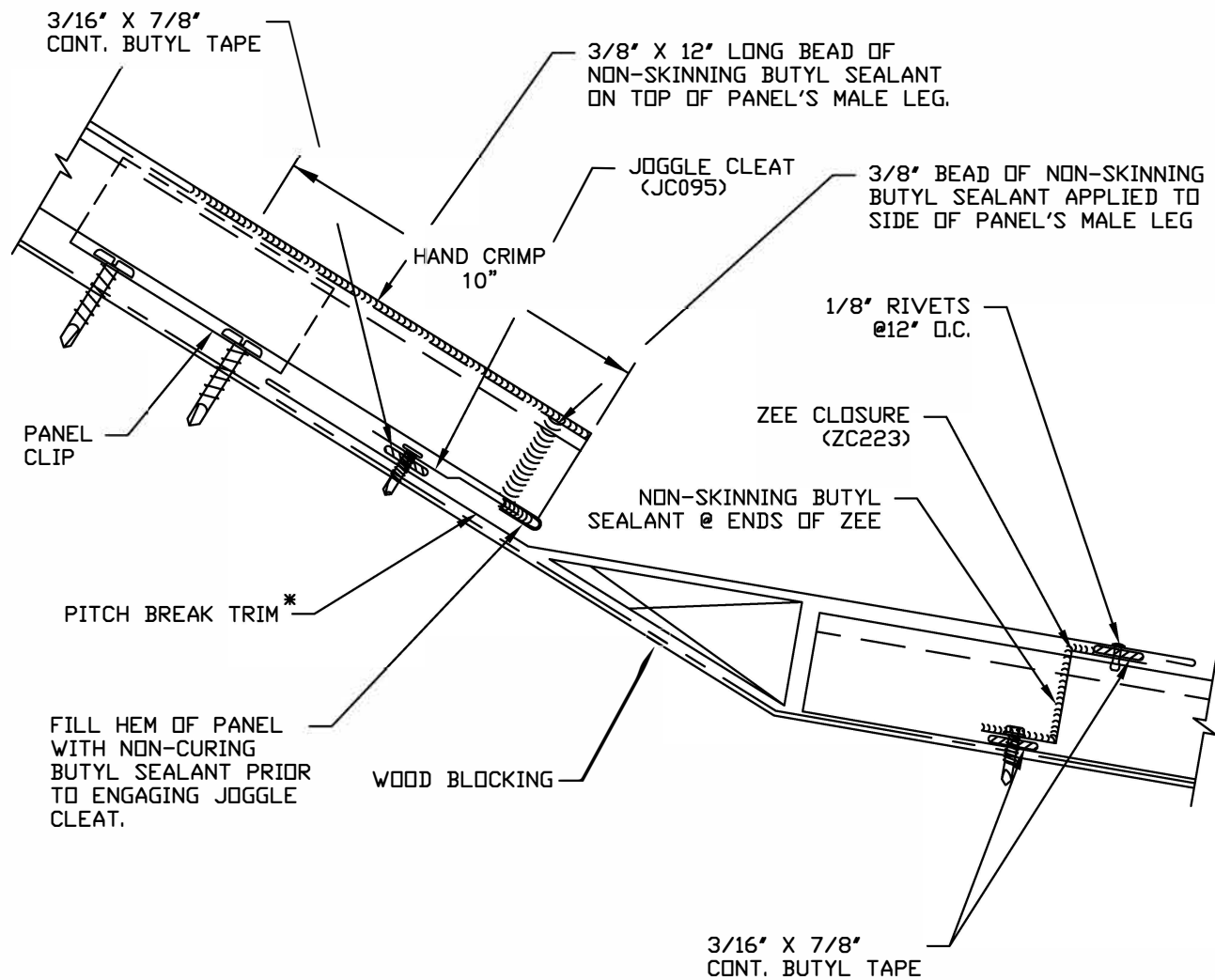
SL-LOW-15



SPAN-LOK hp
(W/ LOW CLIP)

HIGH EAVE - FLOATING

SL-LOW-16



NOTE:

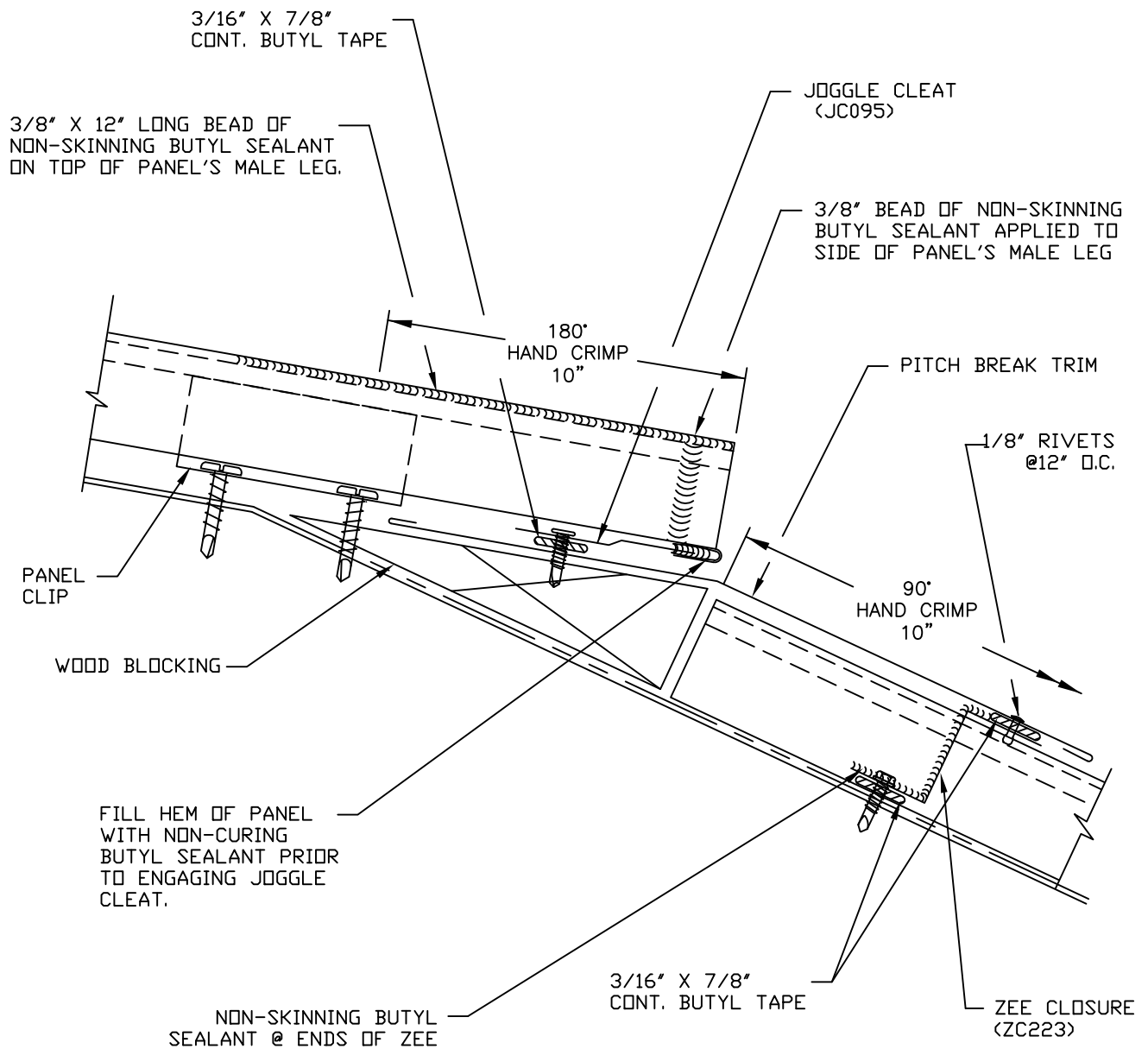
*- SLOPE CHANGE DETERMINES TRIM SIZE.



SPAN-LOK hp
(W/ LOW CLIP)

**SLOPE TRANSITION
HI-LO**

SL-LOW-17



NOTES:

FIRST 10" OF PANEL DOWNHILL OF PITCH BREAK TRIM WILL NEED TO BE 180° HAND CRIMPED TO GET SEAMER ON/OFF.

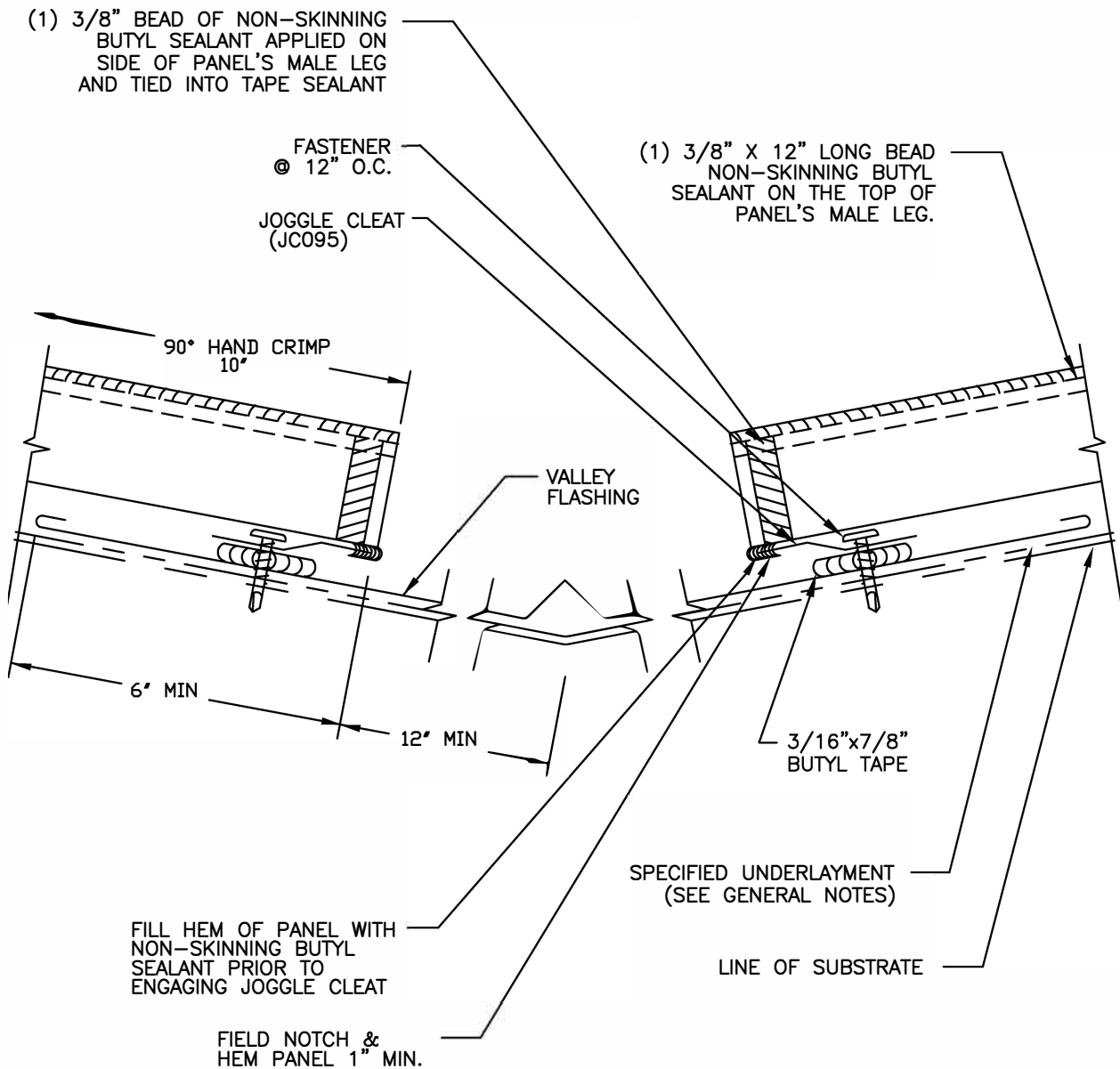
*- SLOPE CHANGE DETERMINES TRIM SIZE.



SPAN-LOK hp
(W/ LOW CLIP)

SLOPE TRANSITION
LO-HI

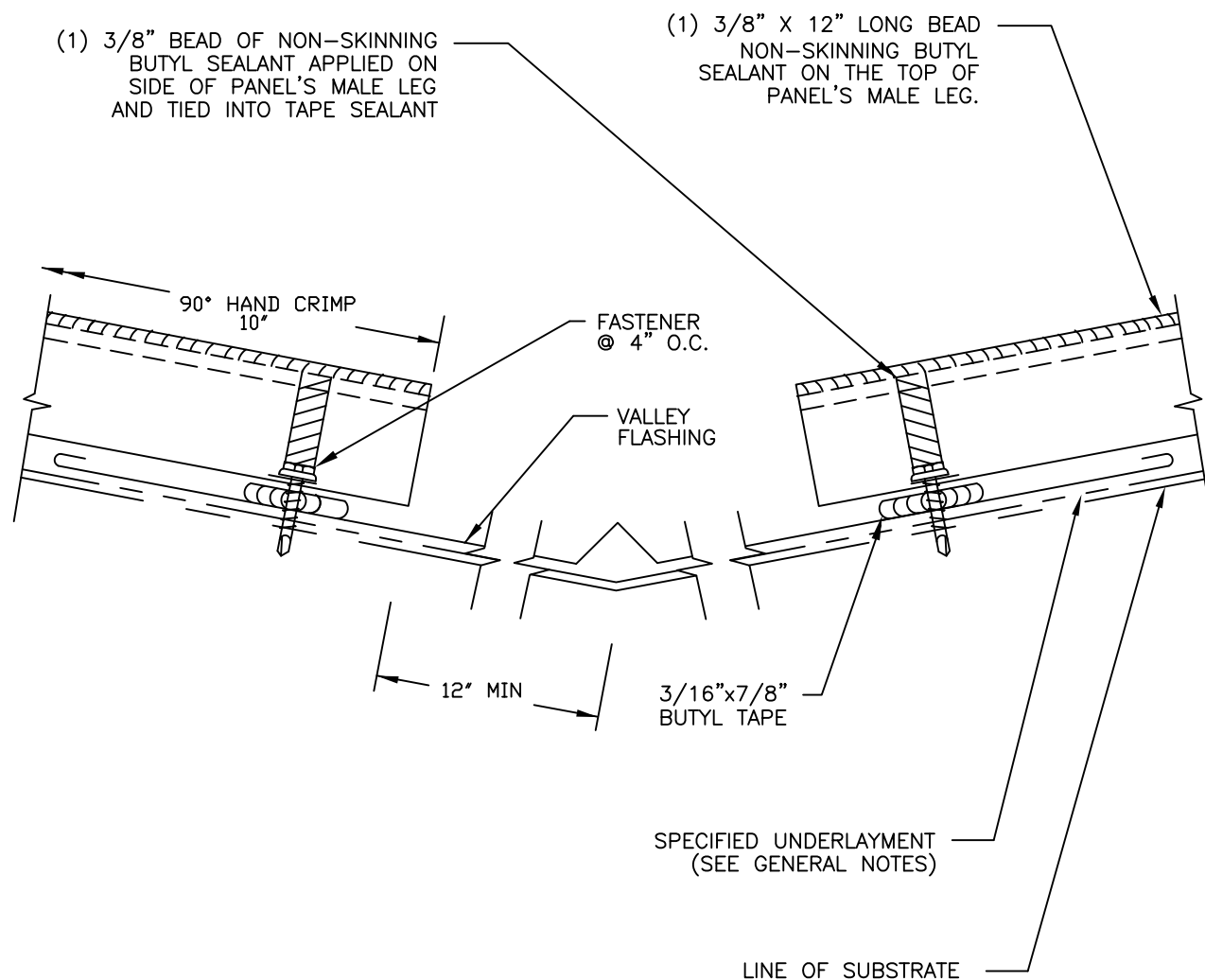
SL-LOW-18



SPAN-LOK hp
(W/ LOW CLIP)

VALLEY - FLOATING

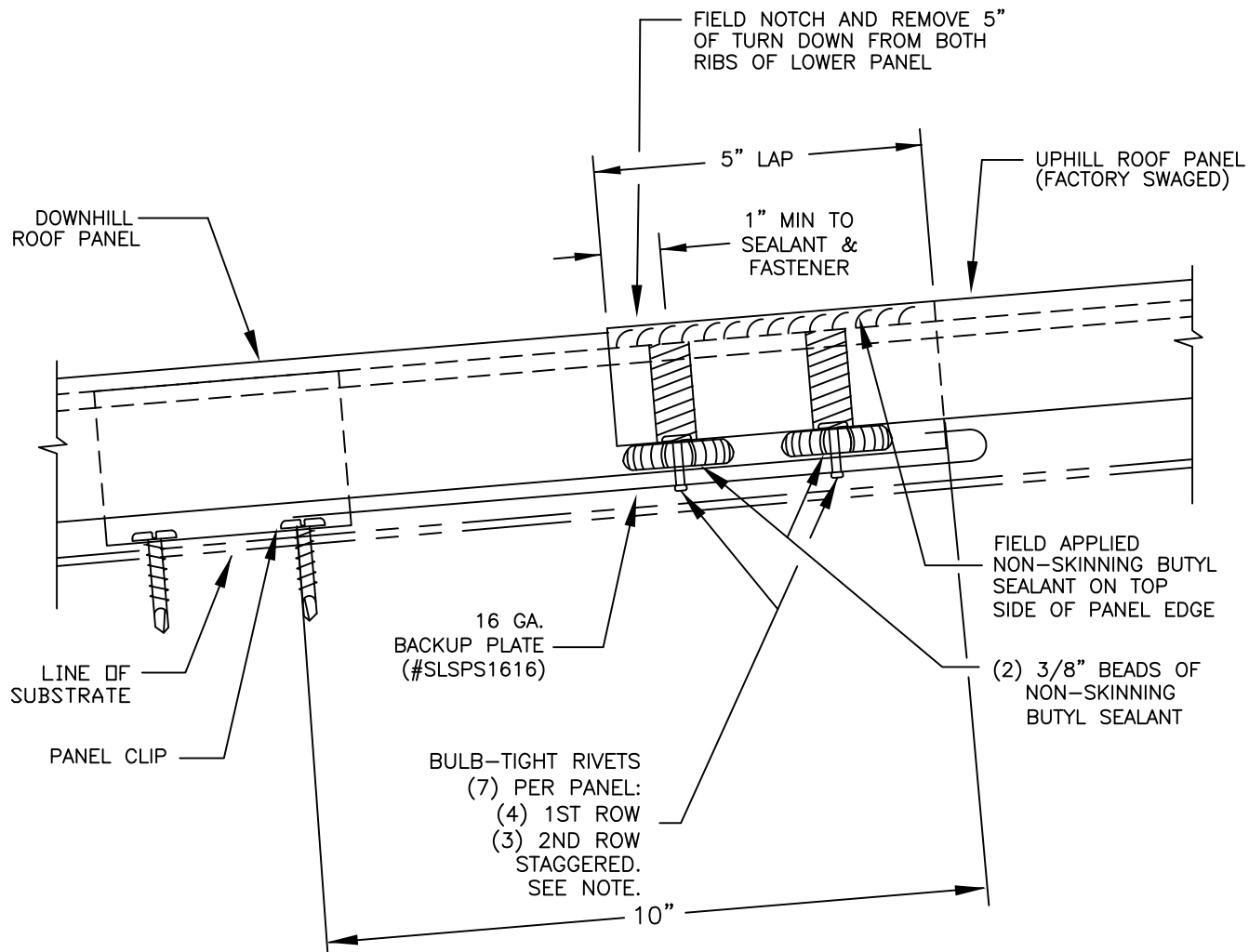
SL-LOW-19



SPAN-LOK hp
(W/ LOW CLIP)

VALLEY - FIXED

SL-LOW-20



INSTALLATION NOTES:

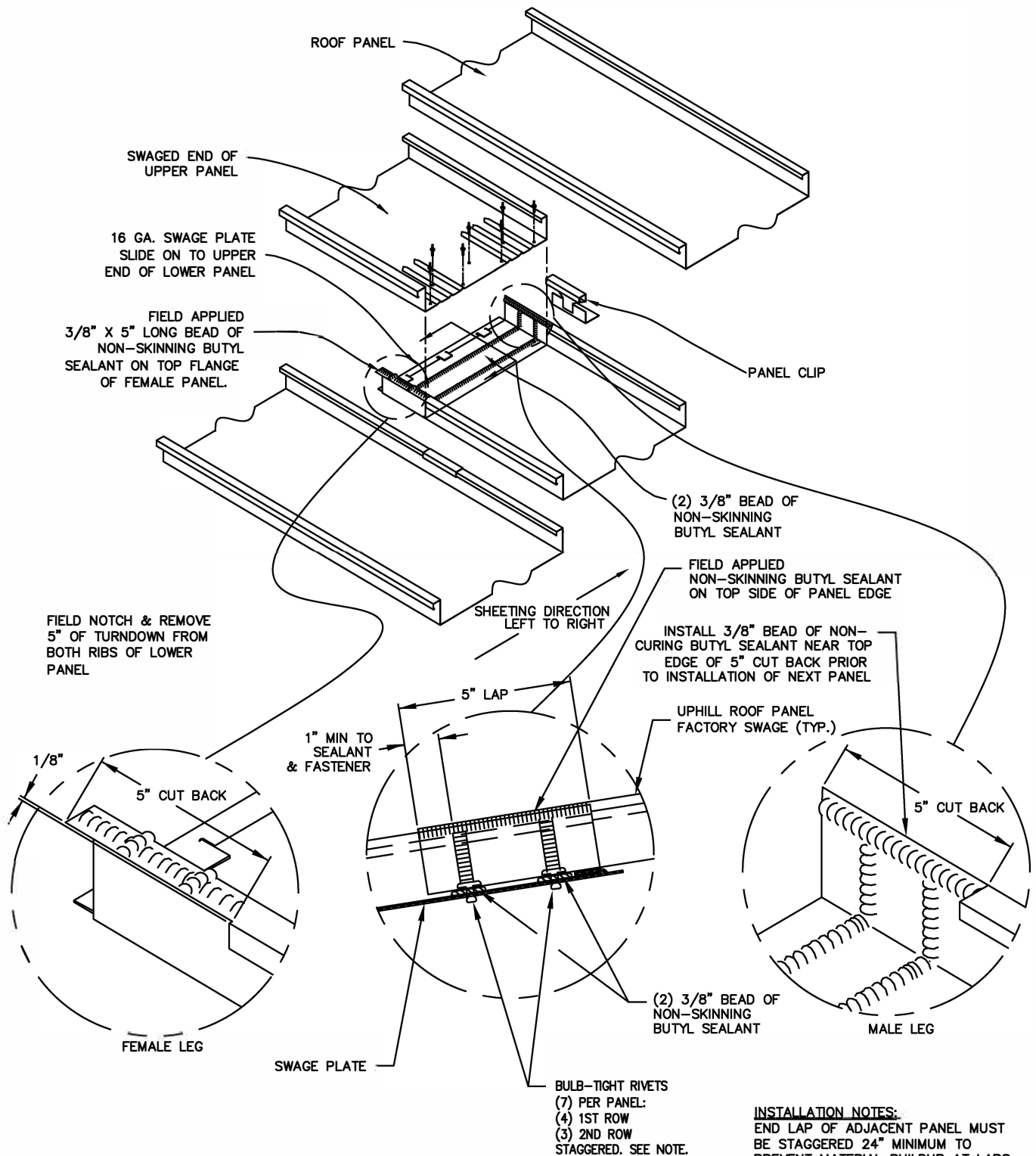
- SWAGE TOP PANEL ONLY
- PANELS MUST BE INSTALLED LEFT TO RIGHT ONLY
- END LAPS OF ADJACENT PANELS MUST BE STAGGERED AT LEAST ONE PURLIN OR A MINIMUM OF 24" TO PREVENT MATERIAL BUILD-UP AT LAPS.
- (4) 1ST ROW LAP SCREWS MAY BE USED IN LIEU OF (7) BULB RIVETS (2 ROWS) IF INSTALLATION OVER OPEN FRAMING.



SPAN-LOK hp
(W/ LOW CLIP)

PANEL LAP - FLOATING

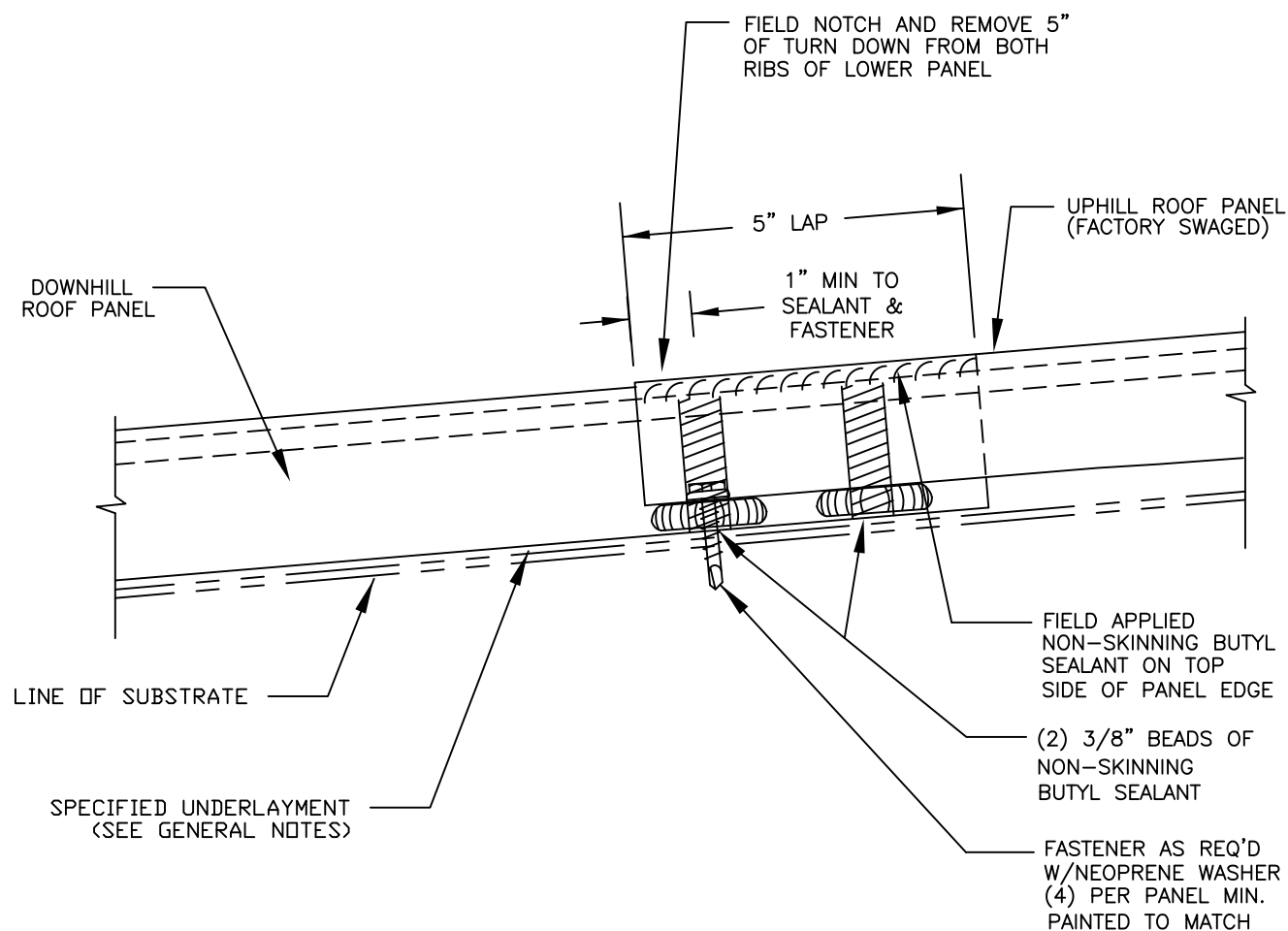
SL-LOW-21



SPAN-LOK hp
(W/ LOW CLIP)

PANEL LAP - FLOATING

SL-LOW-22



INSTALLATION NOTES:

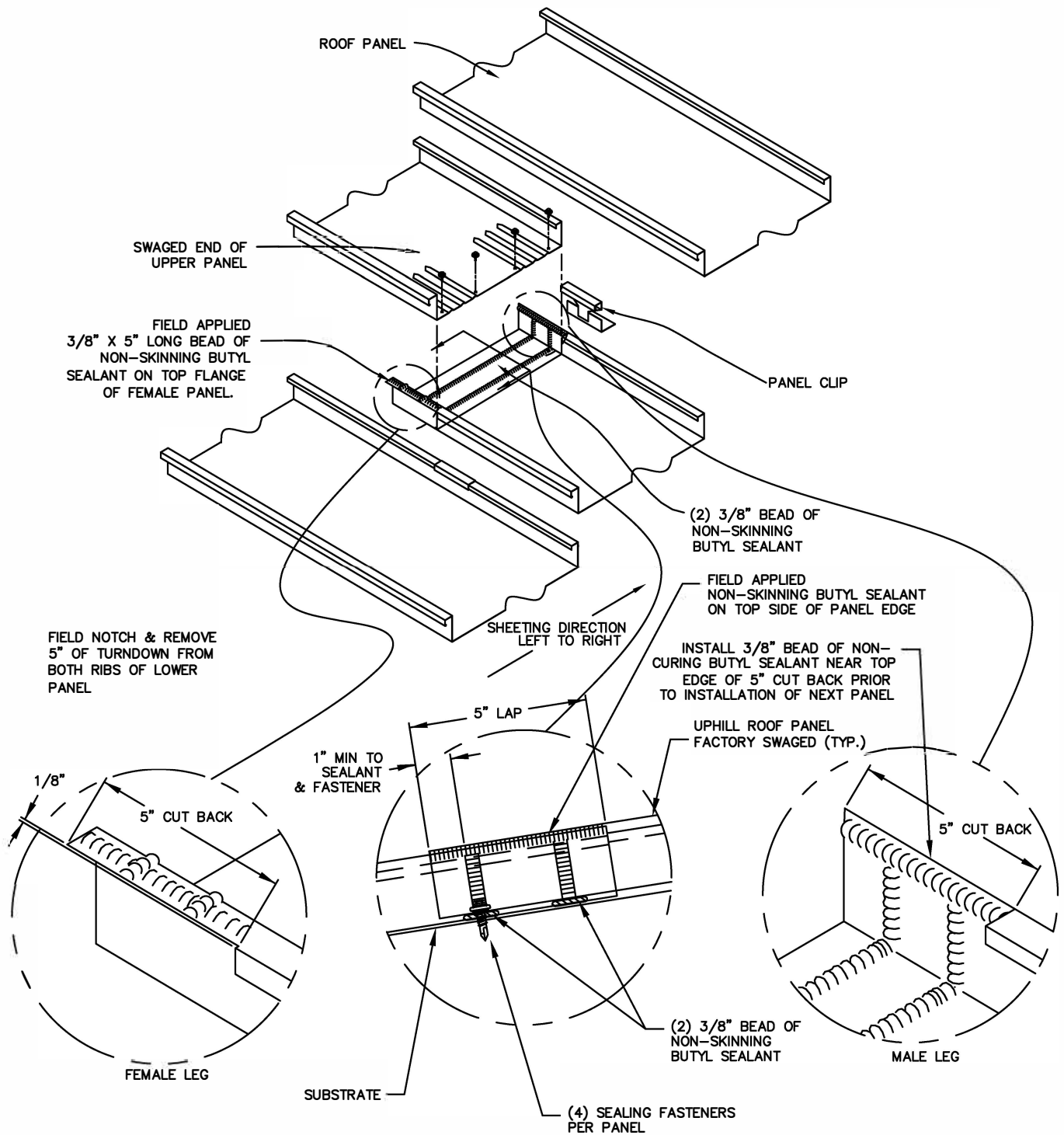
- SWAGE TOP PANEL ONLY
- PANELS MUST BE INSTALLED LEFT TO RIGHT ONLY
- END LAPS OF ADJACENT PANELS MUST BE STAGGERED AT LEAST ONE PURLIN OR A MINIMUM OF 24" TO PREVENT MATERIAL BUILD-UP AT LAPS.



SPAN-LOK hp
(W/ LOW CLIP)

PANEL LAP - FIXED

SL-LOW-23



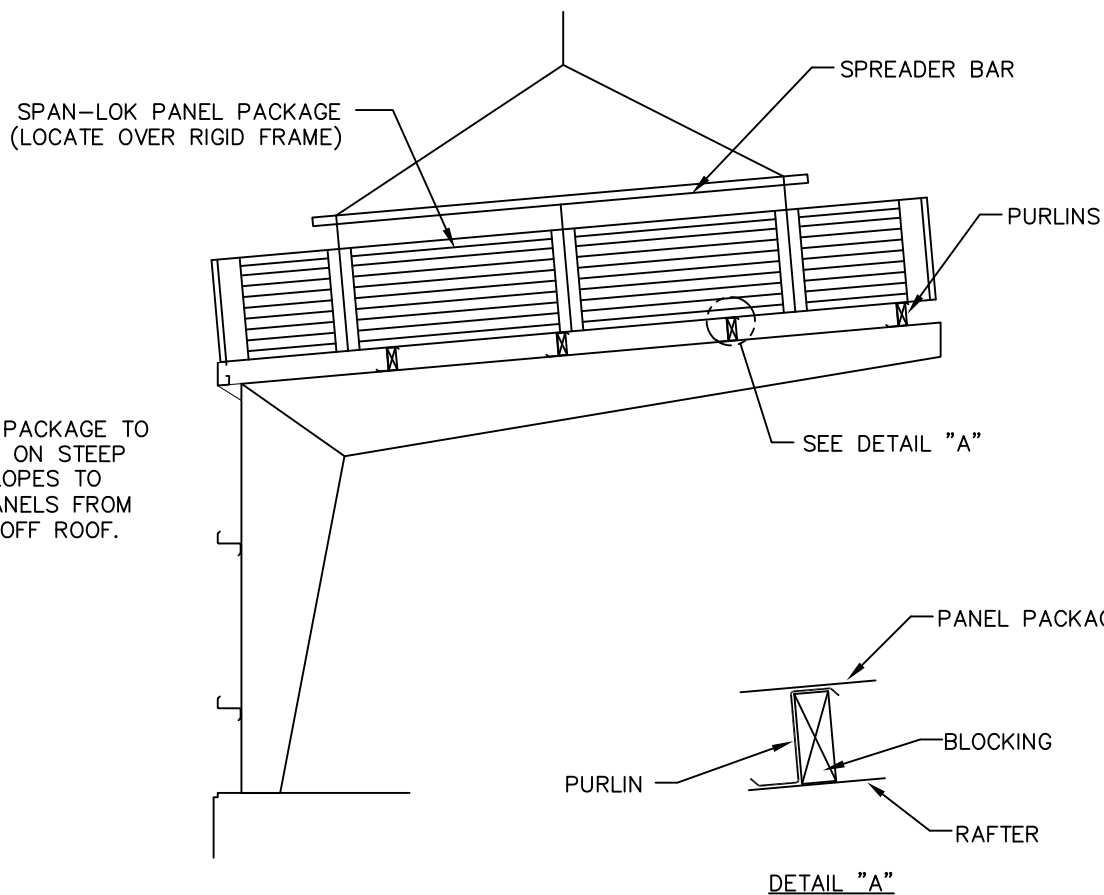
INSTALLATION NOTE
 END LAP OF ADJACENT PANEL MUST BE STAGGERED 24" MINIMUM TO PREVENT MATERIAL BUILDUP AT LAPS



SPAN-LOK hp
 (W/ LOW CLIP)

PANEL LAP - FIXED

SL-LOW-24



TO FACILITATE THE HANDLING OF SPAN-LOK PANELS, PANEL PACKAGES CAN BE LIFTED AND PLACED ON THE ROOF IF LOCATED AT A RIGID FRAME AND WITH BLOCKING PLACED TO PREVENT THE PURLINS FROM ROLLING OVER.

WHEN LIFTING PACKAGED SHEETS, MAKE CERTAIN THAT THEY ARE ADEQUATELY SUPPORTED, PANELS LESS THAN 20' IN LENGTH CAN NORMALLY BE LIFTED WITH A FORKLIFT: WHEN LIFTING PANELS IN EXCESS OF 20', IT IS RECOMMENDED THAT A SPREADER BAR AND SLINGS BE USED. AS A RULE WHEN LIFTING, NO MORE THAN 1/3 OF THE LENGTH OF THE PANEL SHOULD BE LEFT UNSUPPORTED, AND NO MORE THAN 8' SHOULD BE CANTILEVERED BEYOND SPREADER BARS.

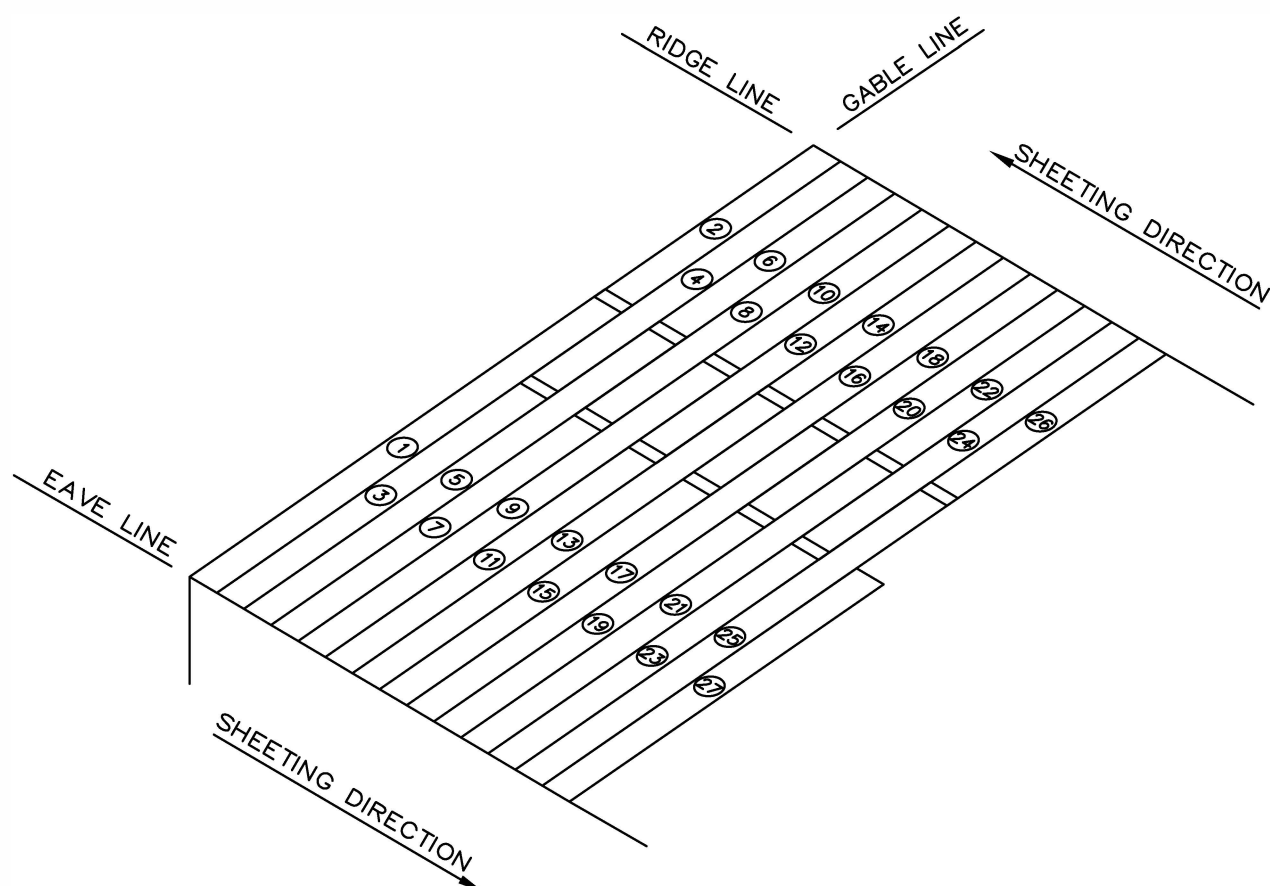


SPAN-LOK hp
(W/ LOW CLIP)

PANEL PACKAGE
HANDLING

SL-LOW-25

GABLE BUILDINGS WITHOUT PANEL ENDLAPS CAN BE SHEETED SIMULTANEOUSLY FROM EITHER END OF THE BUILDING. HOWEVER, IF THE BUILDING HAS PANEL ENDLAPS, THE ROOF MUST BE SHEETED LEFT TO RIGHT LOOKING UP THE SLOPE.



SHEETING DIRECTION AND PANEL SEQUENCE

THE SHEETING SEQUENCE FOR THE SPAN-LOK PANEL IS AS INDICATED ABOVE. PLEASE NOTE THE PLACEMENT OF THE PANELS BY THE CIRCLED NUMBERS. THE UPHILL PANEL AT AN ENDLAP WILL BE SWAGED ON THE LOWER END FOR NESTING PURPOSES. ENDLAPS OF ADJACENT PANELS MUST BE STAGGERED AT LEAST ONE PURLIN SPACE, OR A MINIMUM 24", TO PREVENT MATERIAL BUILD-UP.



SPAN-LOK hp
(W/ LOW CLIP)

PANEL INSTALLATION
LAYOUT

SL-LOW-26

PANEL SEAMING

ROOF PERFORMANCE

THE ROOF PANELS MUST BE CORRECTLY SEAMED BEFORE THE ROOF SYSTEM CAN PROVIDE THE FULLY DESIGNED WIND LOAD AND WEATHER RESISTANCE CAPABILITY.

WHEN TO SEAM

WHENEVER POSSIBLE, THE INSTALLED ROOF PANELS SHOULD BE SEAMED BY THE FINISH OF EACH DAY'S WORK. IF HIGH WIND OR RAIN/SNOW CONDITIONS ARE IMMINENT, THE INSTALLED ROOF PANELS MUST BE SEAMED BEFORE SUCH CONDITIONS OCCUR.

TEMPORARY SEAMING

IT MAY NOT ALWAYS BE PRACTICAL OR FEASIBLE TO SEAM THE ROOF PANELS UNTIL AFTER THE ROOF PANEL INSTALLATION IS COMPLETE. SEAMED ROOF PANELS ARE DIFFICULT TO REPOSITION OR REPLACE. SEAMERS MAY NOT ALWAYS BE AVAILABLE DURING THE ENTIRE ROOF INSTALLATION. IN SUCH CASES, IT MAY BE DESIRABLE TO TEMPORARILY HAND CRIMP THE ROOF PANELS AT CLIPS, THEN LATER COMPLETE THE INSTALLATION WITH THE SEAMER.

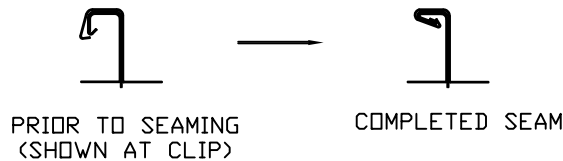
IMPORTANT: TEMPORARY HAND CRIMPING MUST BE APPROVED BY THE PROJECT'S DESIGNER.

SEAMER NOTES / SPECIFICATIONS

ALL AEP SPAN CUSTOMERS MUST WORK DIRECTLY WITH DI ROOF SEAMERS OR QUALITY ROOF SEAMERS FOR SEAMER RENTALS. THESE ARE THE ONLY AEP SPAN CERTIFIED SEAMER SUPPLIERS.

SEAMING CAPABILITIES:

SPAN-LOK HP:



SPAN-LOK / SPANSEAM:



SEAMER OPERATION – IMPORTANT NOTES

ALWAYS ATTACH SAFETY HOOK TO PREVENT SEAMER FROM FALLING OFF ROOF.

REMOVE ANY PROTECTIVE PLASTIC FILM FROM PANELS PRIOR TO SEAMING.

ALL CLIPS REQUIRE HAND CRIMPING PRIOR TO SEAMING TO ENSURE PROPER PANEL INSTALLATION AND TO REDUCE POTENTIAL FOR PANEL SCRATCHING. HAND CRIMP FIRST 10" OF PANEL ENDS BEFORE SETTING SEAMER IN PLACE.

DO NOT RUN SEAMER PAST END OF PANELS; DOING SO INCREASES THE RISK FOR PERSONAL INJURY AND/OR PROPERTY DAMAGE. THIS IS ESPECIALLY TRUE AT EAVES, ON HIGH SLOPES, OR AT OTHER COMMON RISK AREAS.

DO NOT RUN SEAMER BEYOND UPPER END OF PANEL OR ONTO ANY PREVIOUSLY SEAMED AREA. NEVER RUN THE SEAMER WITHIN 6" OF THE PANEL END OR PREVIOUSLY SEAMED AREA; FINISH WITH A HAND CRIMPER.

MORE DETAILED SEAMING INSTRUCTIONS ARE AVAILABLE FROM THE SEAMER SUPPLIERS.



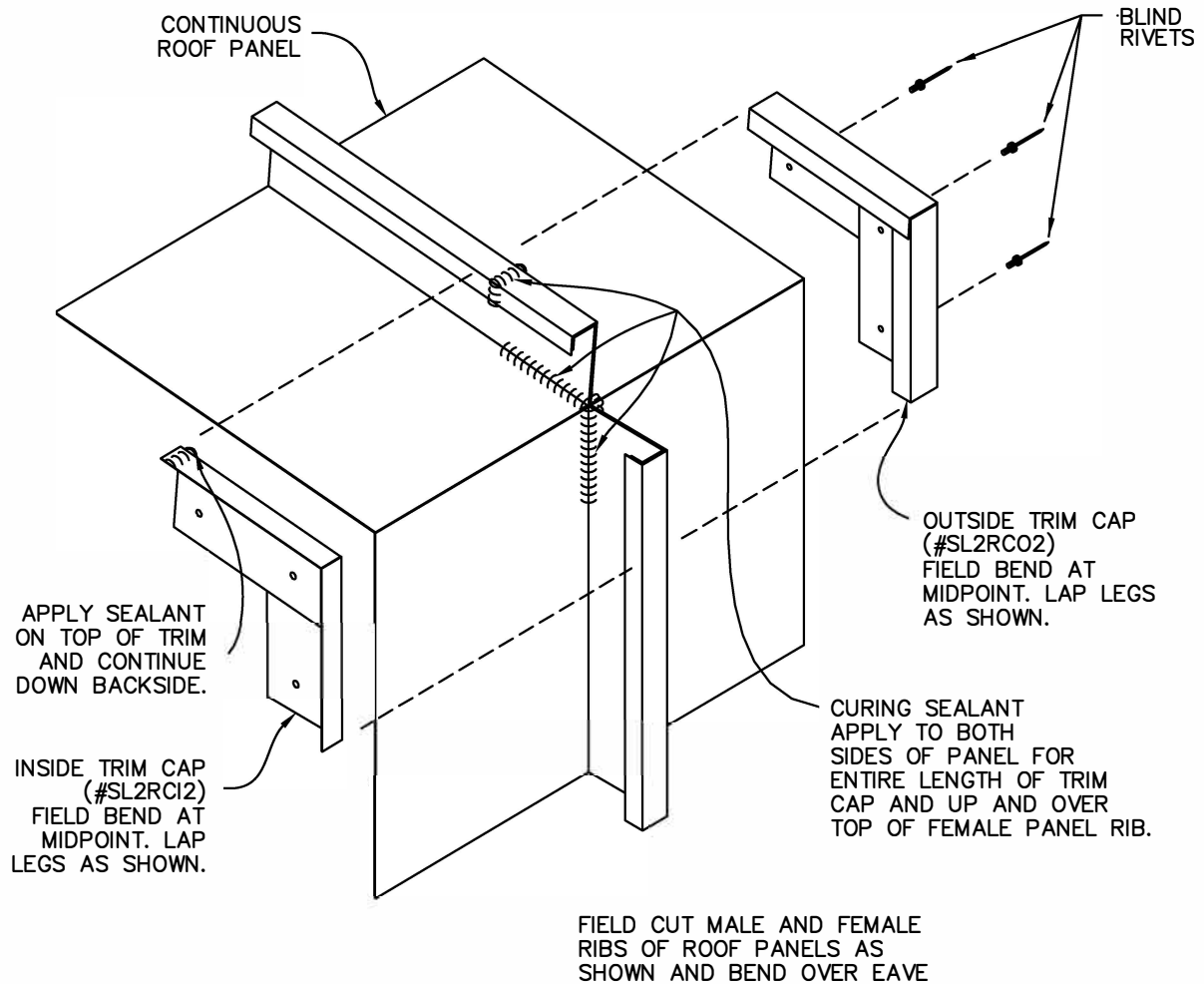
SPAN-LOK hp
(W/ LOW CLIP)



PANEL SEAMING

SL-LOW-27

DESIGN CAUTION:
 ROOF SLOPE TRANSITIONS
 SUCH AS FASCIAS MAY
 ESTABLISH AN UNWANTED
 POINT OF PANEL FIXITY.



APPLY NON-SKINNING BUTYL SEALANT
 BETWEEN PANELS AT FIELD CUT.
 REFER TO EAVE DETAIL FOR
 LOCATION OF SEALANT. BEADS
 REQUIRED ON BOTH SIDES OF CUT.

NOTE:
 THIS DETAIL NOT RECOMMENDED IN SNOW CLIMATES.

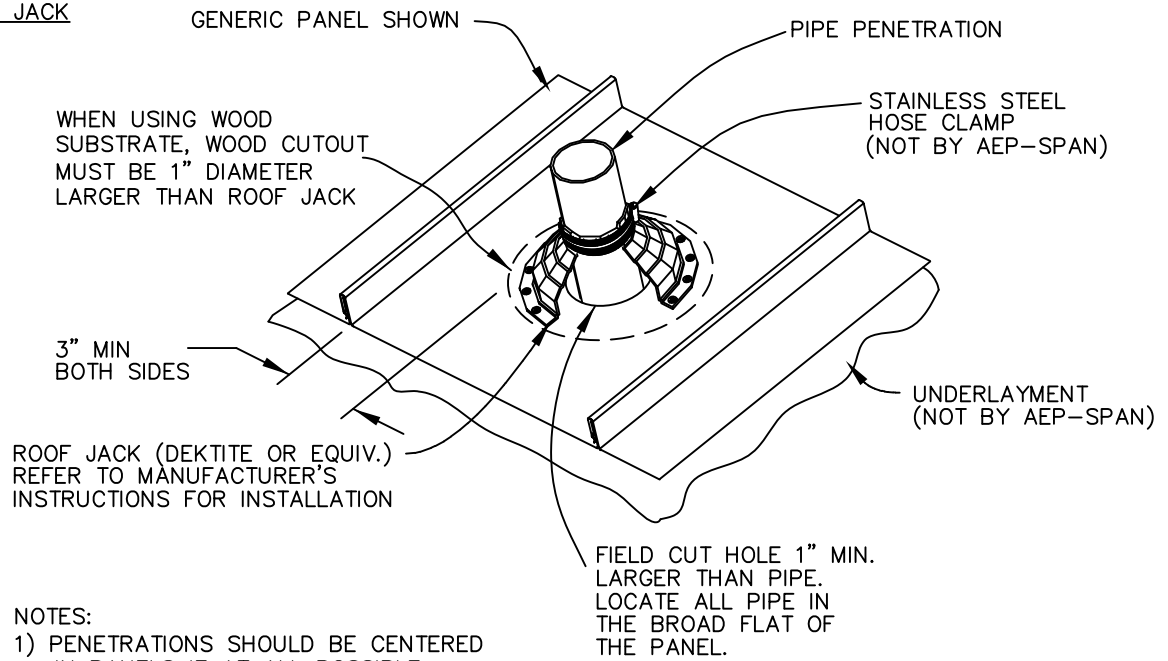


SPAN-LOK hp
 (W/ LOW CLIP)

RIB COVER

SL-LOW-28

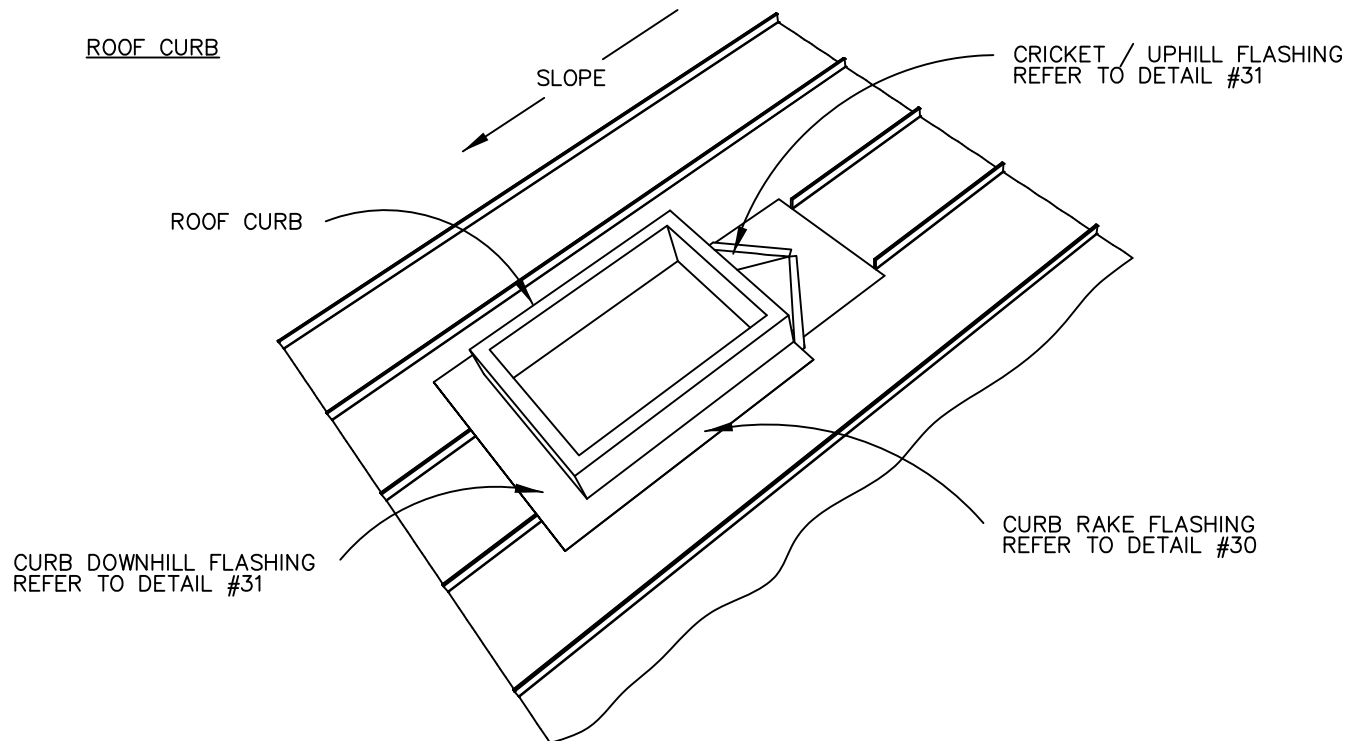
ROOF JACK



NOTES:

- 1) PENETRATIONS SHOULD BE CENTERED IN PANELS IF AT ALL POSSIBLE
- 2) SUBSTRATE MUST BE CUT OUT ENOUGH SO THAT ROOF JACK IS ONLY ATTACHED TO ROOF PANEL.

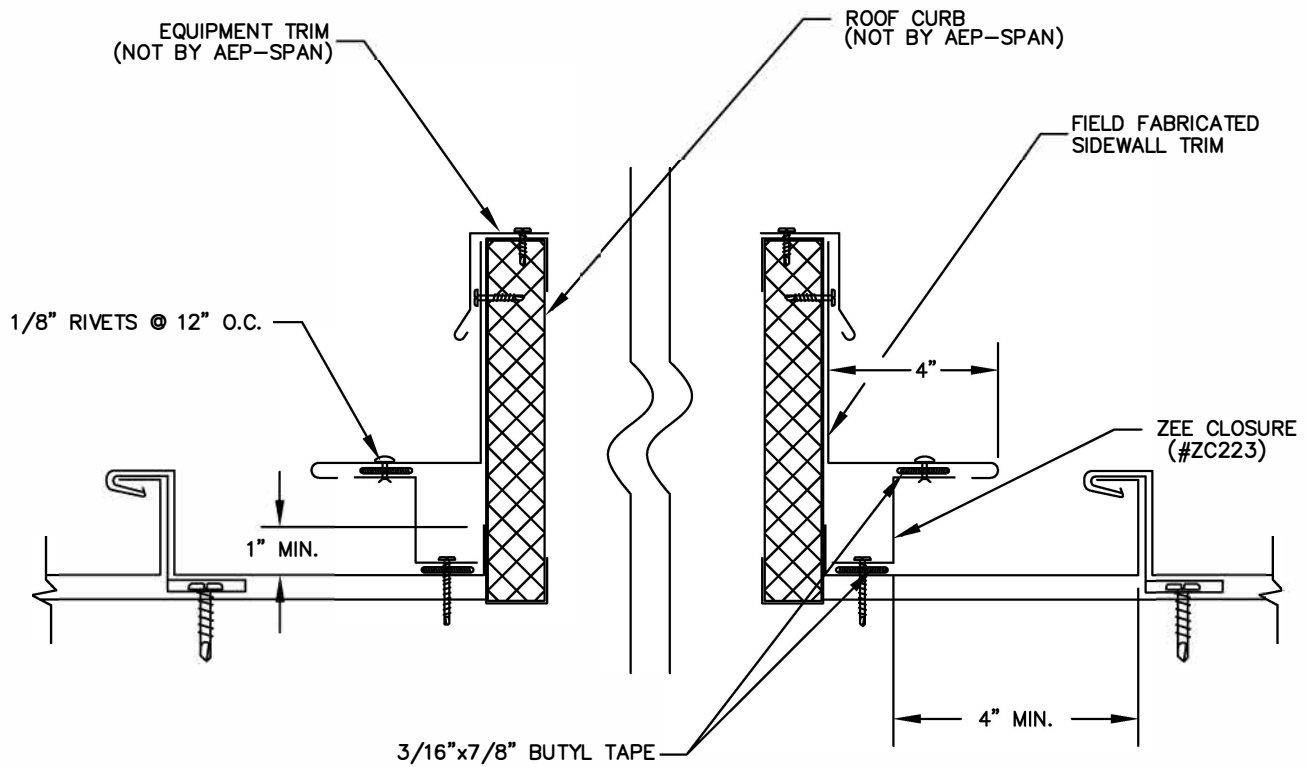
ROOF CURB



SPAN-LOK hp
(W/ LOW CLIP)

ROOF PENETRATIONS

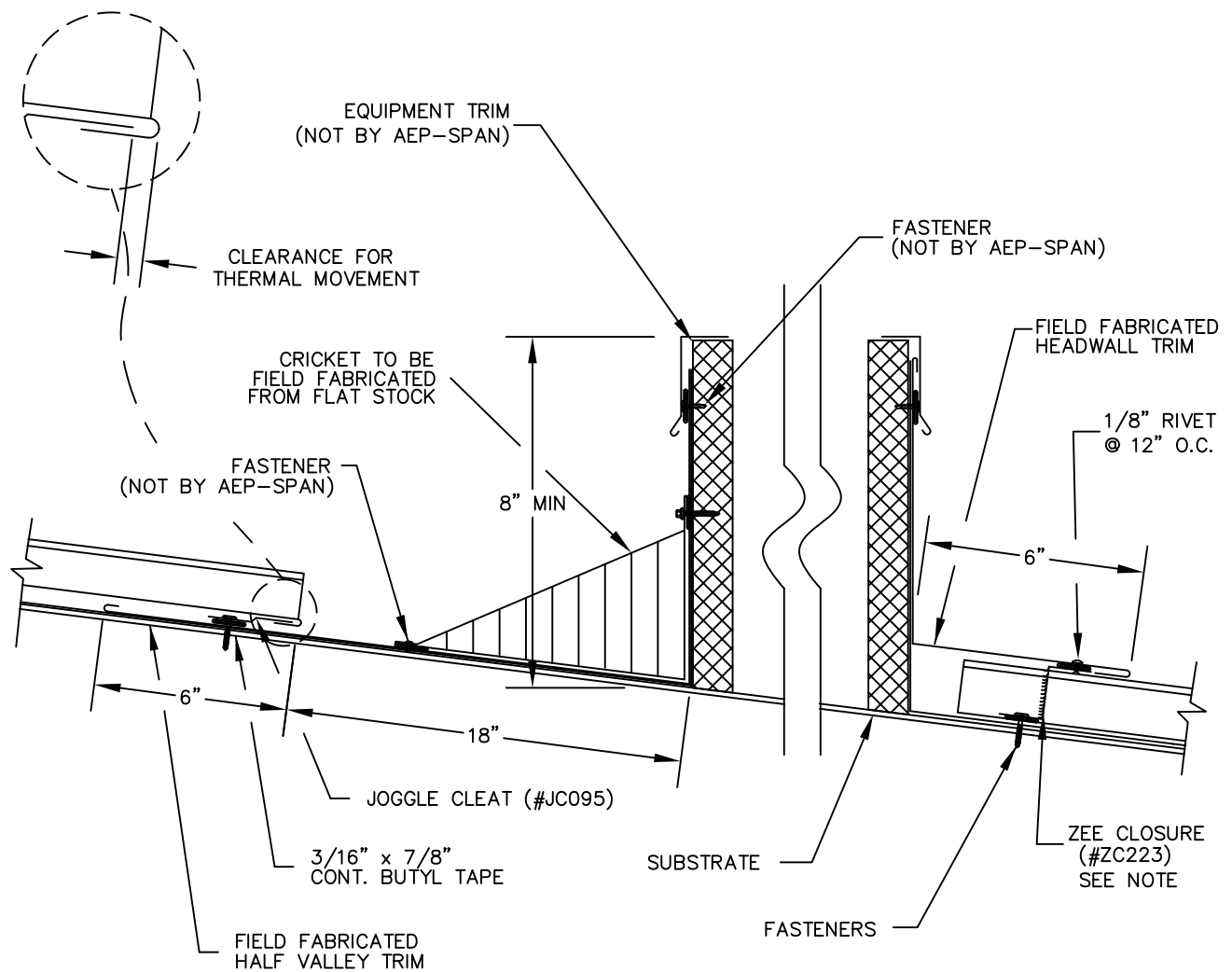
SL-LOW-29



SPAN-LOK hp
 (W/ LOW CLIP)

ROOF CURB
 (RAKE FLASHING)

SL-LOW-30



NOTE:
REFER TO DETAIL #13 FOR ADDITIONAL INFORMATION
REGARDING PROPER INSTALLATION OF THIS ZEE CLOSURE.



SPAN-LOK hp
(W/ LOW CLIP)

ROOF CURB (UPHILL /
DOWNHILL DETAIL)

SL-LOW-31

MANUFACTURING FACILITY:

Sacramento, California

2110 Enterprise Boulevard
West Sacramento, CA 95691

Tacoma, Washington

2141 Milwaukee Way
Tacoma, WA 98421

CUSTOMER SERVICE:

800-733-4955

Visit us at:

www.aepspan.com

