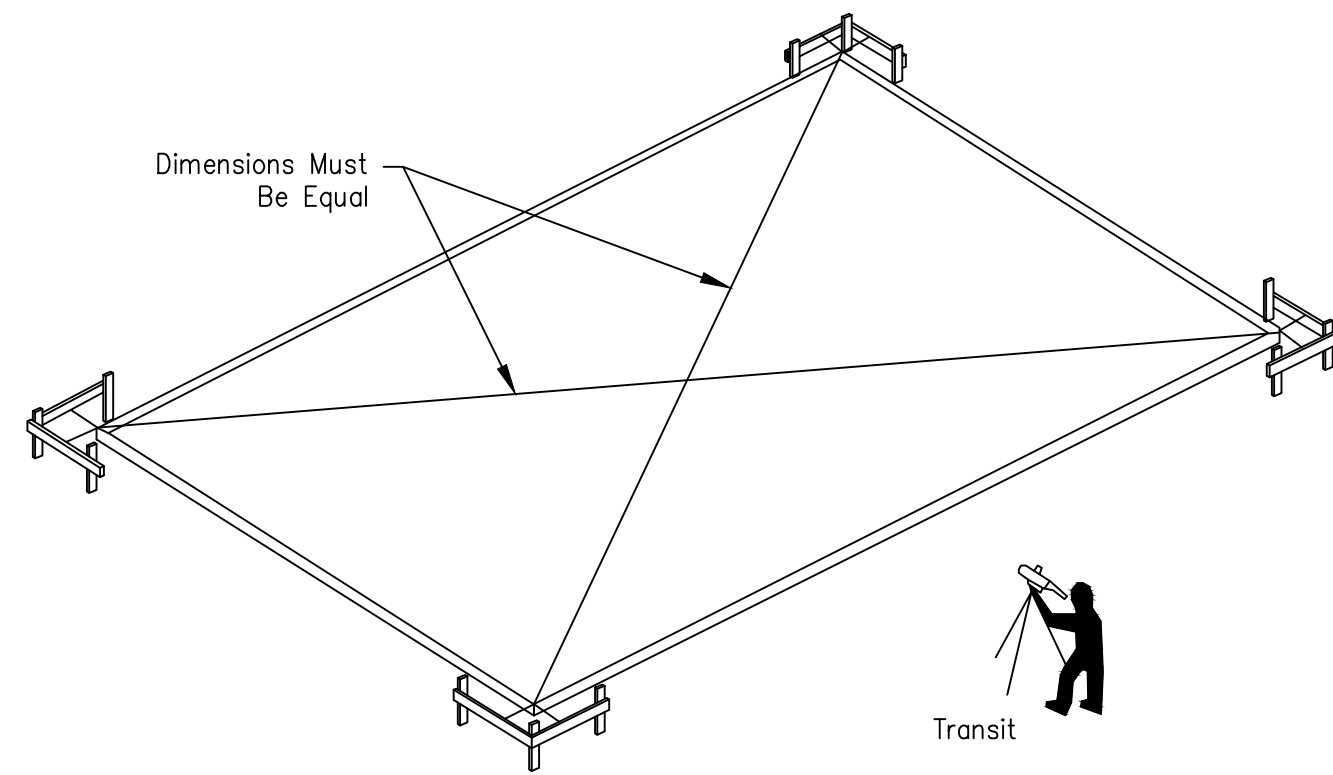


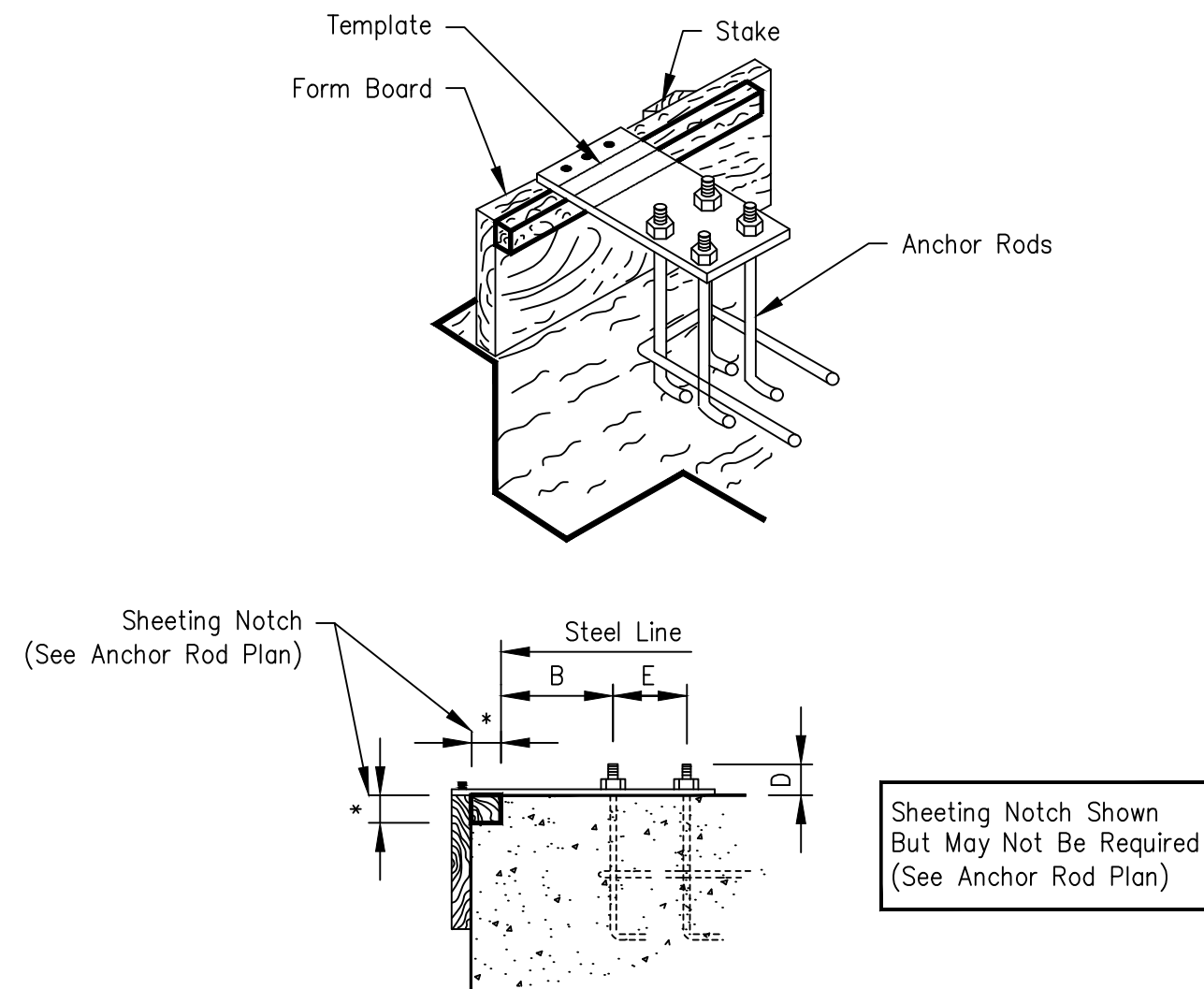


**Building Anchorage**

- To Determine That The Foundation Is Square, Measure Diagonal Dimensions To Be Sure They Are Of Equal Length.
- To Determine That The Foundation Is Level, Set Up A Transit Or Level And Use A Level Rod To Obtain The Elevation At All Columns.
- Carefully Check The Location Of All Anchor Rods Against The Anchor Rod Setting Plan Furnished By The Manufacturer. All Dimensions Must Be Identical To Assure A Proper Start-up.



It Is Extremely Important That Anchor Rods Are Placed Accurately And In Accordance With The Anchor Rod Setting Plan. All Anchor Rods Should Be Held In Place With A Template Or Similar Means, So That They Will Remain Plumb And In Correct Location During The Placement Of The Concrete. A Final Check Should Be Made After Completion Of The Concrete Work And Prior To The Steel Installation. This Will Allow Necessary Corrections To Be Made Before Costly Installation Labor And Equipment Arrives.



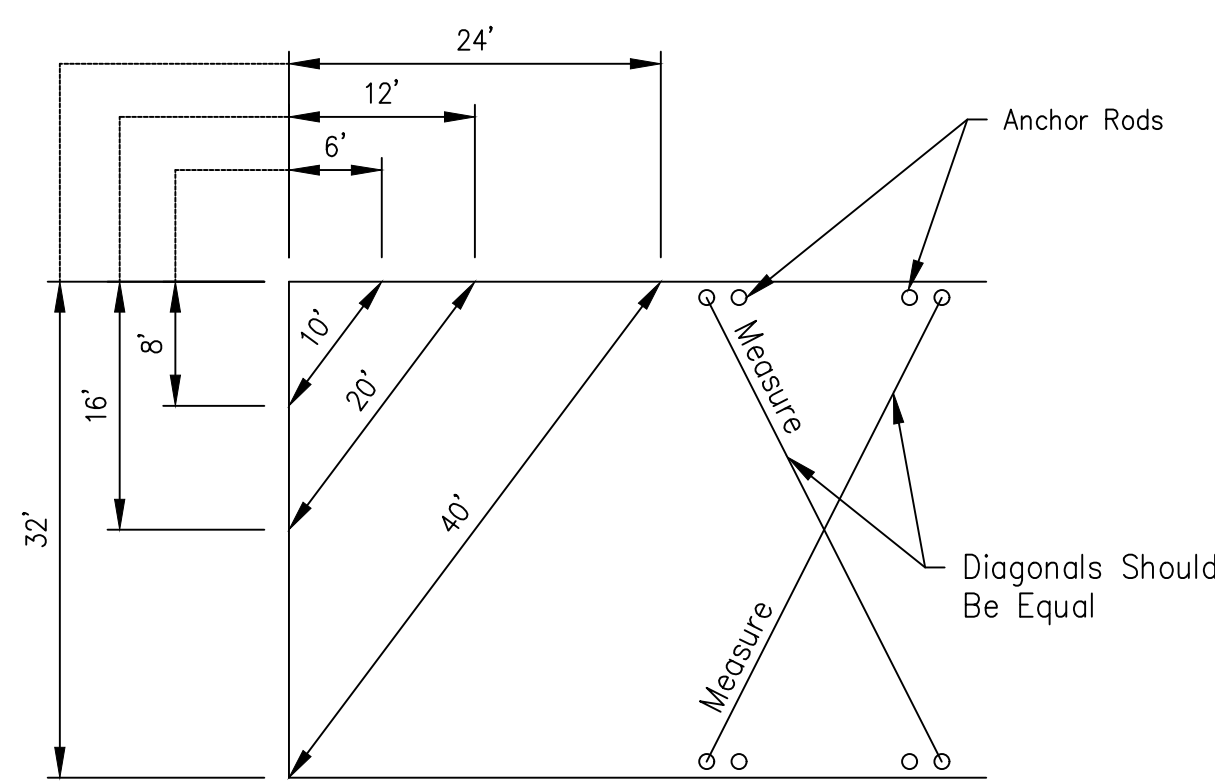
Projection Of Anchor Rods (D) Given On Anchor Rod Plan

**Pre-Erection Notes:**

The Following Notes, Procedures And Suggested Recommendations Are Important Parts Of The Pre-Erection Process.

- Prior To The Time The Erection Crew Arrives, A Responsible Person Should Check The Job Site For Foundation Readiness, Square, And Accuracy And Anchor Rod Size And Location.

The Drawing Shown Below Indicates A Method Which May Be Used To Check The Foundation And Bolts For Square.

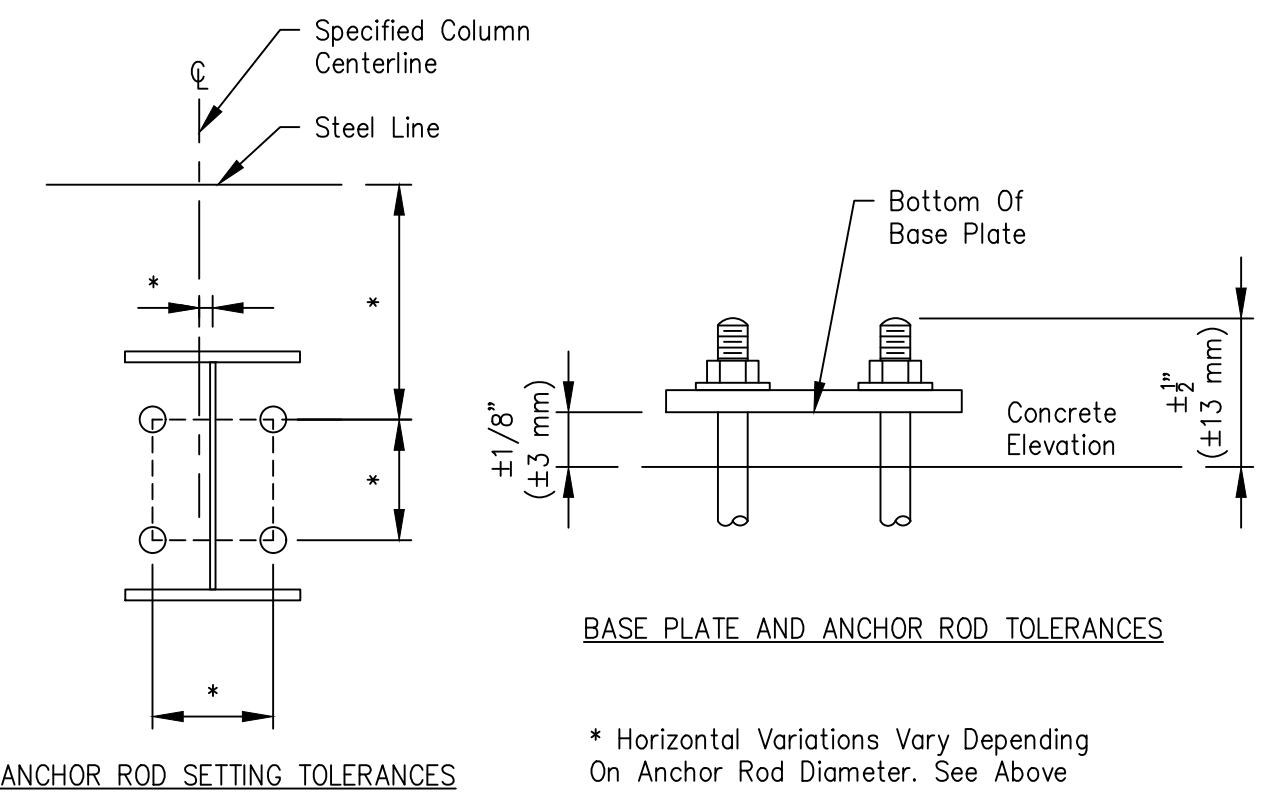


Measure Along Adjacent Sides Of Foundation Using A Pair Of Dimensions Shown. If The Diagonal Distance Between These Points Is As Noted, The Corner Is Square. Diagonal Measurements Between Opposite Anchor Rods Will Indicate If These Bolts Are Set Square.

**AISC Code Of Standard Practice For Steel Building And Bridges Tolerances For Setting Anchor Rods**

Anchor Rod Diameter, Inches (mm) \*Horizontal Variation, Inches (mm)

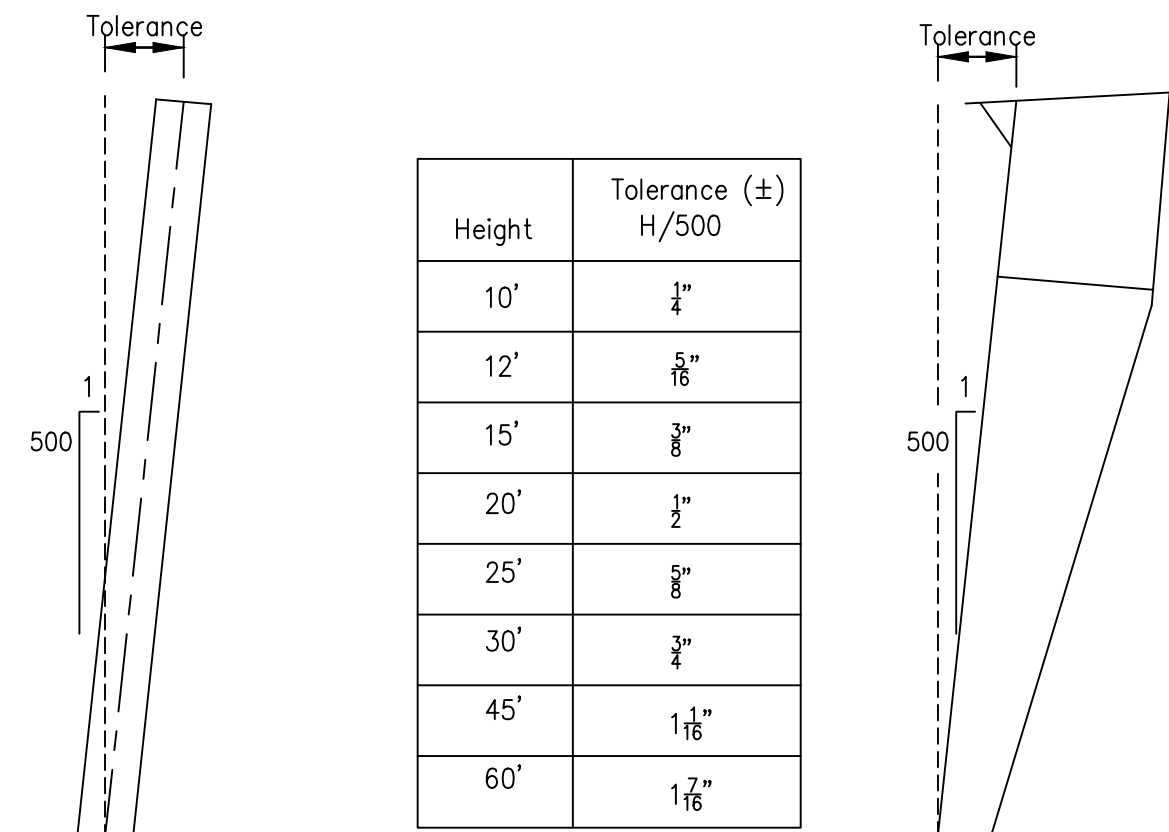
3/8" and 1/2" (19 And 22 mm)	1/8" (6 mm)
1", 1 1/4", 1 1/2" (25, 31, 38 mm)	3/16" (10 mm)
1 3/4", 2", 2 1/4" (44, 50, 63 mm)	1/4" (13 mm)



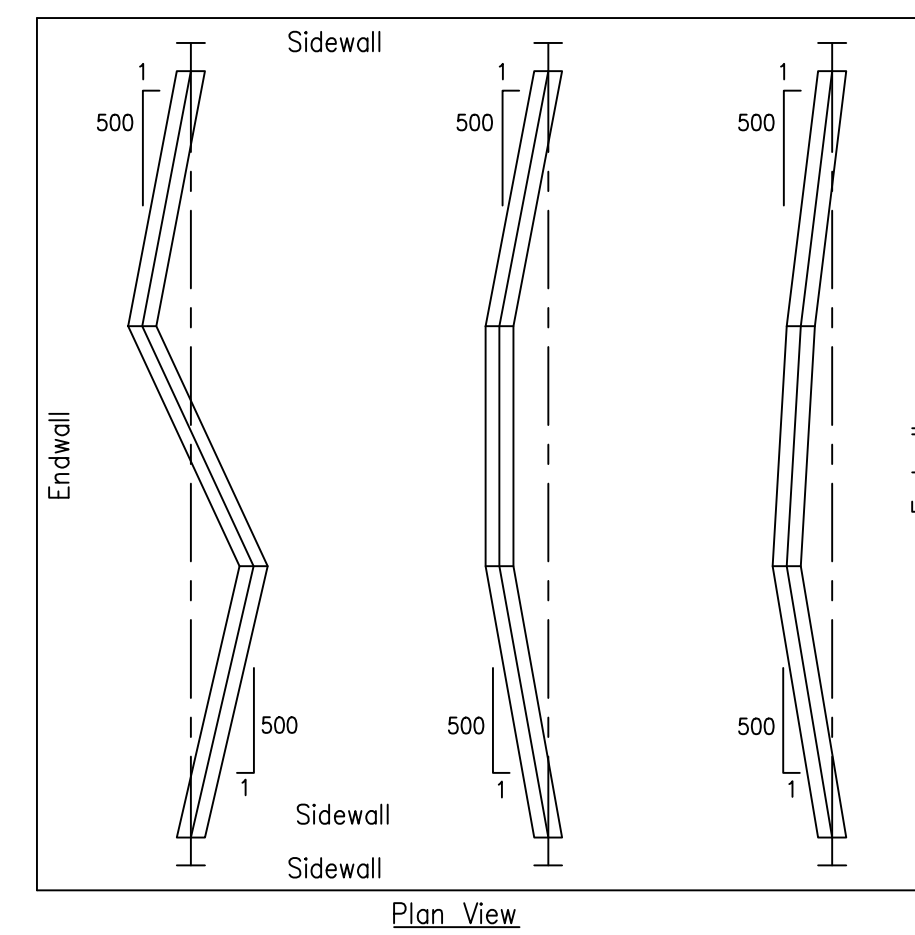
**Erection Tolerances**

**ERECTION BRACING:**  
It Is The Responsibility Of The Erector To Determine, Furnish And Install All Temporary Supports Such As Temporary Guys, Beams, Falsework, Cribbing, Or Other Elements Required For The Erection Operation (In Accordance With Section 7.10.3 Of ANSI/AISC 303, Code Of Standard Practice For Steel Building And Bridges).

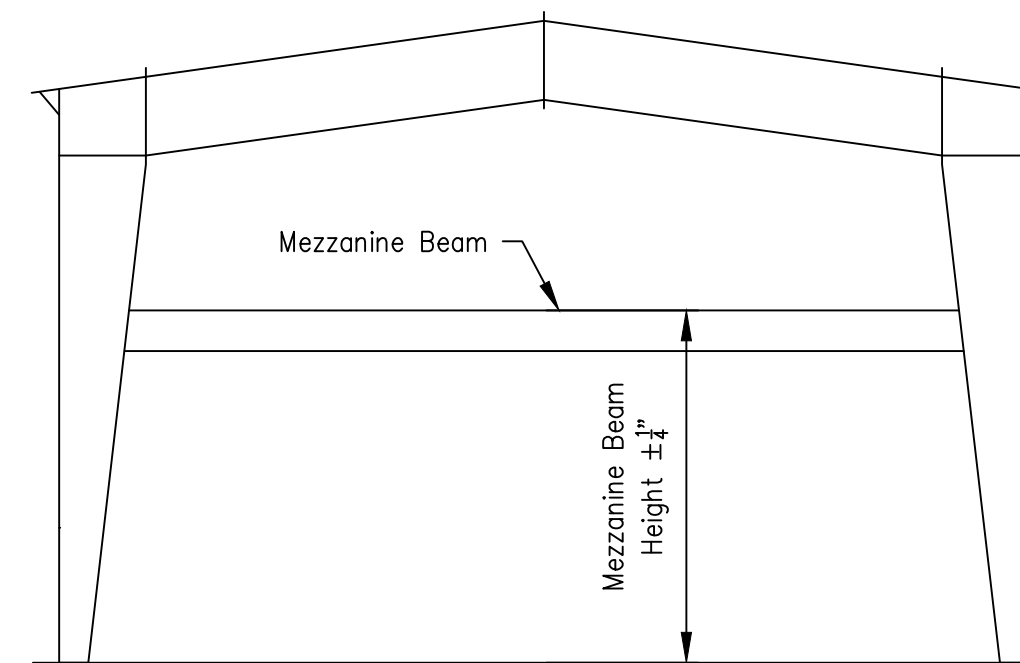
**COLUMN ALIGNMENT TOLERANCES**



**ALIGNMENT TOLERANCE FOR MEMBERS WITH FIELD SPLICES**



**MEZZANINE BEAM HEIGHT TOLERANCE**



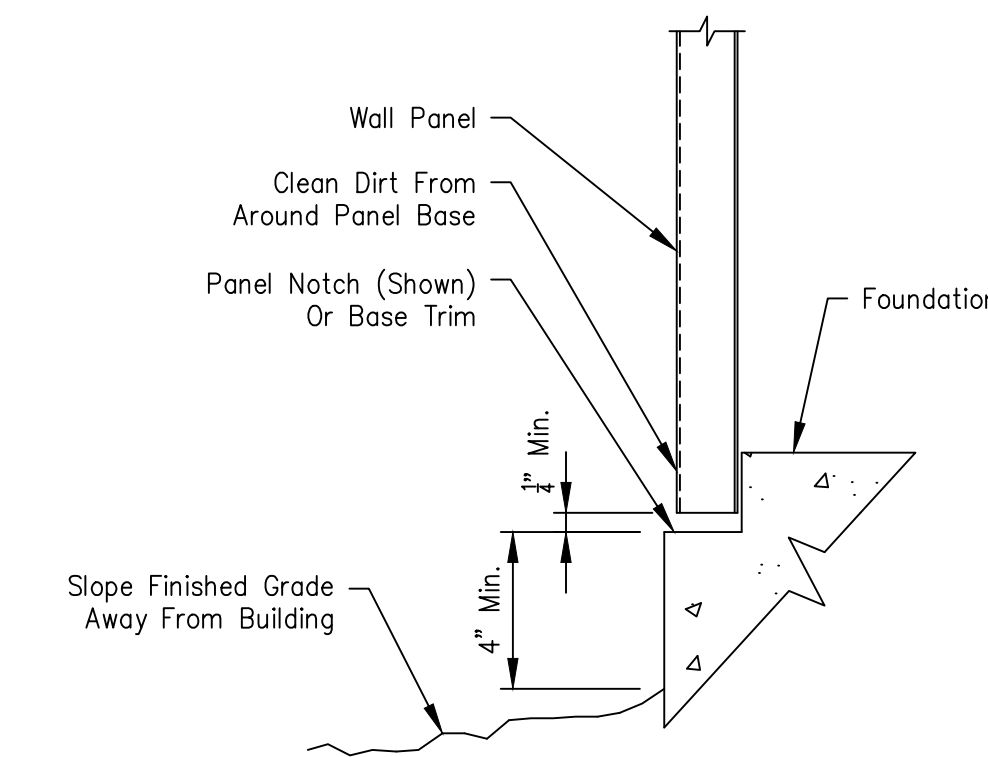
**General Erection Notes**

- All Structural Framing Members, Purlins, Girts, Clips, Flange Braces, Bolts, Bracing Systems, Roof And Wall Panels, Etc. Must Be Installed As Shown On Erection Drawings.
- It Is Extremely Important, Especially During Construction, That Panels At The Eaves, Rakes And Ridges Be Kept Secure.

**Panel Cautions And Notes**

To Minimize Potential Of Corrosive Action At The Bottom Edge Of Wall Panels, The Contractor Must Assure That The Following Procedures Are Followed:

- The Concrete Foundation Should Be Cured For A Minimum Of Seven (7) Days Before Wall Panels Are Installed. (Uncured Concrete Is Highly Alkaline And Metal Panels Can Undergo Varying Degrees Of Corrosive Attack When In Direct Contact With The Concrete.) After The First Week Of The Curing Cycle, The Reaction Between Metallic Coatings On Steel And The Concrete Is Essentially Halted.
- Top Of Finish Grade At Building To Be A Minimum Of Four (4) Inches Below Bottom Of Panel.
- Finish Grade Is To Slope Away From Building To Ensure Proper Drainage.
- Upon Completion Of Finish Grading, All Dirt Is To Be Cleaned From Around Base Of Wall Panel Where It May Have Collected In Panel Notch Or On Base Trim.



**Fastener Installation**

Correct Fastener Installation Is One Of The Most Critical Steps When Installing Roof/Wall Panels. Drive The Fastener In Until It Is Tight And The Washer Is Firmly Seated. Do Not Overdrive Fasteners. A Slight Extrusion Of Neoprene Around The Washer Is A Good Visual Tightness Check. Always Use The Proper Tool To Install Fasteners. A Fastener Driver (Screw Gun) With A RPM Of 1700-2000 Should Be Used For Self-Drilling Screws. A 500-600 RPM Fastener Driver Should Be Used For Self-Tapping Screws. Discard Worn Sockets, These Can Cause The Fastener To Wobble During Installation.

**Note:** Always Remove Metal Filings From Surface Of Panels At The End Of Each Work Period. Rusting Filings Can Destroy The Paint Finish And Void Any Warranty.



**Tape And Tube Sealant**

Proper Tape And Tube Sealant Application Is Critical To The Weather Tightness Of A Building. Tape Sealant Should Not Be Stretched When Installed. Apply Only To Clean, Dry Surfaces. Keep Only Enough Sealants On The Roof That Can Be Installed In A Day. During Warm Weather, Store Sealants In A Cool Dry Place. During Cold Weather (below 60°) Sealants Must Be Kept Warm (60°-90°) Until Application. After Tape Sealant Has Been Applied, Keep Protective Paper In Place Until Panel Is Ready To Be Installed.

**Important Note**

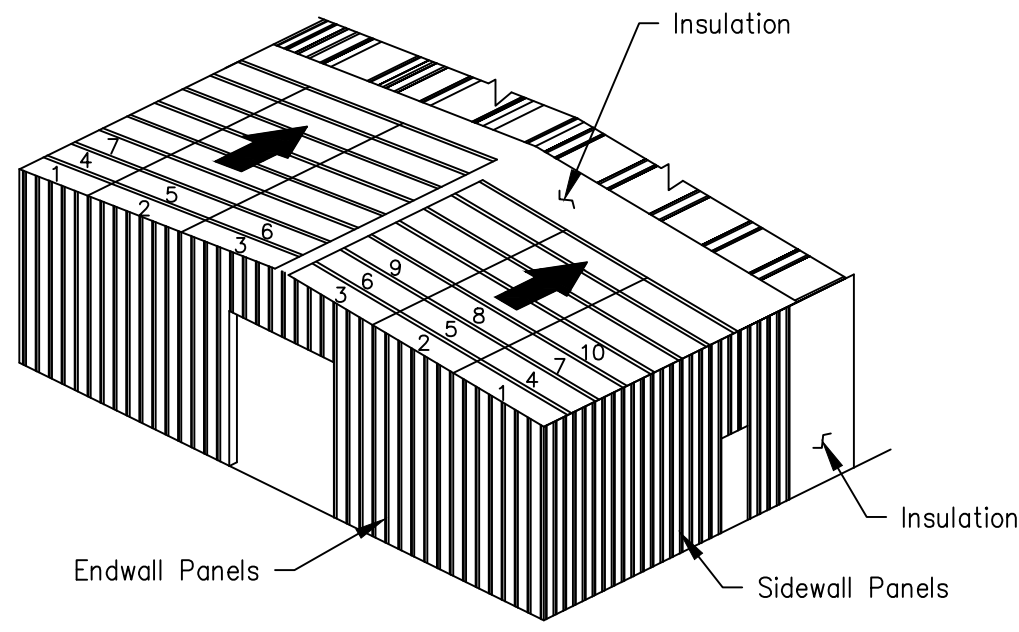
All Details, Recommendations And Suggestions Contained In This Erection Guide Of This Drawings Set Are For General Guidelines Only, And Not Meant To Be All-inclusive. Industry Accepted Installation Practices With Regard To All Areas Not Specifically Discussed In This Section Should Be Followed. Only Experienced, Knowledgeable Installers Familiar With Accepted Practices Should Be Used To Assure A Quality Project.

It Is Emphasized That The Manufacturer Is Only A Manufacturer Of Metal Building Components And Is Not Engaged In The Installation Of Its Products. Opinions Expressed By The Manufacturer About Installation Practices Noted In The Erection Guide Are Intended To Represent Only A Guide. Both The Quality And Safety Of Installation And The Ultimate Customer Satisfaction With The Completed Building Are Determined By The Experience, Expertise, And Skills Of The Installation Crews, As Well As The Equipment Available For Handling The Materials. Actual Installation Operations, Techniques And Site Conditions Are Beyond The Manufacturers Control.

Check'd	
By	
Revision	
Date	
Description	
8600 SOUTH I-35 SERVICE RD. OKLAHOMA CITY, OK 73149 <b>STAR BUILDING SYSTEMS</b> AN INCL COMPANY (405) 636-2010	
<b>Project Name &amp; Location:</b> ALASKA RAILROAD CORPORATION GIRDWOOD, AK	
Customer: NORTHERN MANAGEMENT SERVICES INC SANDPOINT, ID	Drawing Status: <input type="checkbox"/> (Not For Construction) <input checked="" type="checkbox"/> For Approval <input type="checkbox"/> (Not For Construction) <input checked="" type="checkbox"/> For Erection/Installation
Scale: NOT TO SCALE	
Drawn by: EBF 5/17/18	
Checked by: CLS 5/17/18	
Project Engineer:	
Job Number: 16-B-42908	
Sheet Number: R2 of 15	
The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.	
DRSTIC ENSTIA	

## PBR Roof Panels

For PBR Roofs With Ridge Panels, It Is Recommended That Both Sides Of The Ridge Be Sheeted Simultaneously. This Will Keep The Insulation Covered For The Maximum Amount Of Time And The Panel Ribs Can Be Kept In Proper Alignment For The Ridge Panel. This Is Critical On The PBR Panels So That The Ridge Caps Can Be Properly Installed. Check For Proper Coverage As The Sheeting Progresses.



Install The First Run Of Roof Panels Across The Building From Eave To Eave Or Eave To Ridge. To Allow Proper Installation Of The Rake Trim, The Starting Location For The First Panel Must Be As Shown In The Rake Details Included With The Erection Drawings. When The First Run Is Properly Located And Aligned With The Correct Endlaps And Eave Overhangs, Fasten To Purlins. Roof Panels Should Be Installed So That The Sidelap Is In A Direction Away From Prevailing Wind. Refer To Appropriate Lap Details Included With The Erection Drawings.

Install Remaining Roof Insulation And Panels. To Avoid Accumulative Error Due To Panel Coverage Gain Or Loss, Properly Align Each Panel Before It Is Fastened. Occasional Checks Should Be Made To Ensure That Correct Panel Coverage Is Maintained. Special Attention Should Be Given To Fastener, Sealant And Closure Requirements. Refer To Details Included With The Erection Drawings.

At Finishing End Of Roof, The Last Panels May Require Field Modification For Installation Of Rake Trim. Refer To Rake Details Included With The Erection Drawings. DO NOT BACK LAP THROUGH FASTENED ROOF PANELS.

**NOTE:** Roof Types And Installation Requirements Will Vary. Refer To The Appropriate Details For Specific Panel Used.

**IMPORTANT:** Loose Fasteners, Blind Rivets, Drill shavings, Etc., Must Be Removed From The Roof To Guard Against Corrosion.

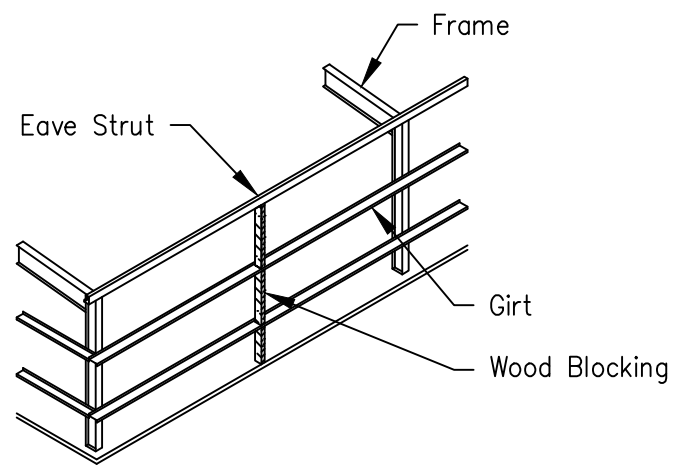
## Wall Panels

Proper Horizontal And Vertical Alignment Of Supporting Structure (Girts Or Other Framing) Is The Responsibility Of The Installer. Failure To Align The Secondary members Properly Prior To Wall Installation Can Have A Direct Impact On The Final Appearance And Performance Of The Installed Wall System For Which The Metal Building Manufacturer Is Not Responsible.

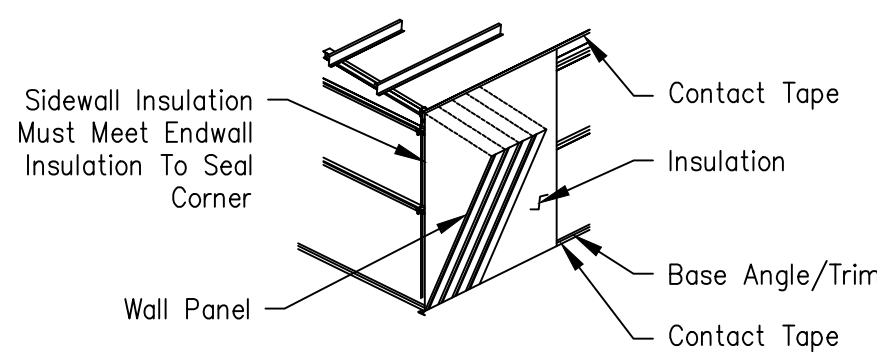
Before Installing Wall Panels, The Girts Must Be Aligned To A Level Position So That There Is No Visible Sag. This Should Be Done Directly Ahead Of Panel Installation.

Girt Leveling May Be Accomplished By Standing A Section Of Gable Angle Vertically Against The Outside Girt Flanges At Approximate Mid-bay Location. When Girts Are Level, Attach The Girt Flanges To The Angle With Vise Grip Pliers Or Temporary Screws. Wood Blocking Cut To Fit The Spaces May Also Be Used For Alignment.

**Note:** Temporary Girt Blocking Is Not Recommended On Concealed Fastener Panels. The Removal Of The Blocks After Panel Installation Can Cause Oil Canning.

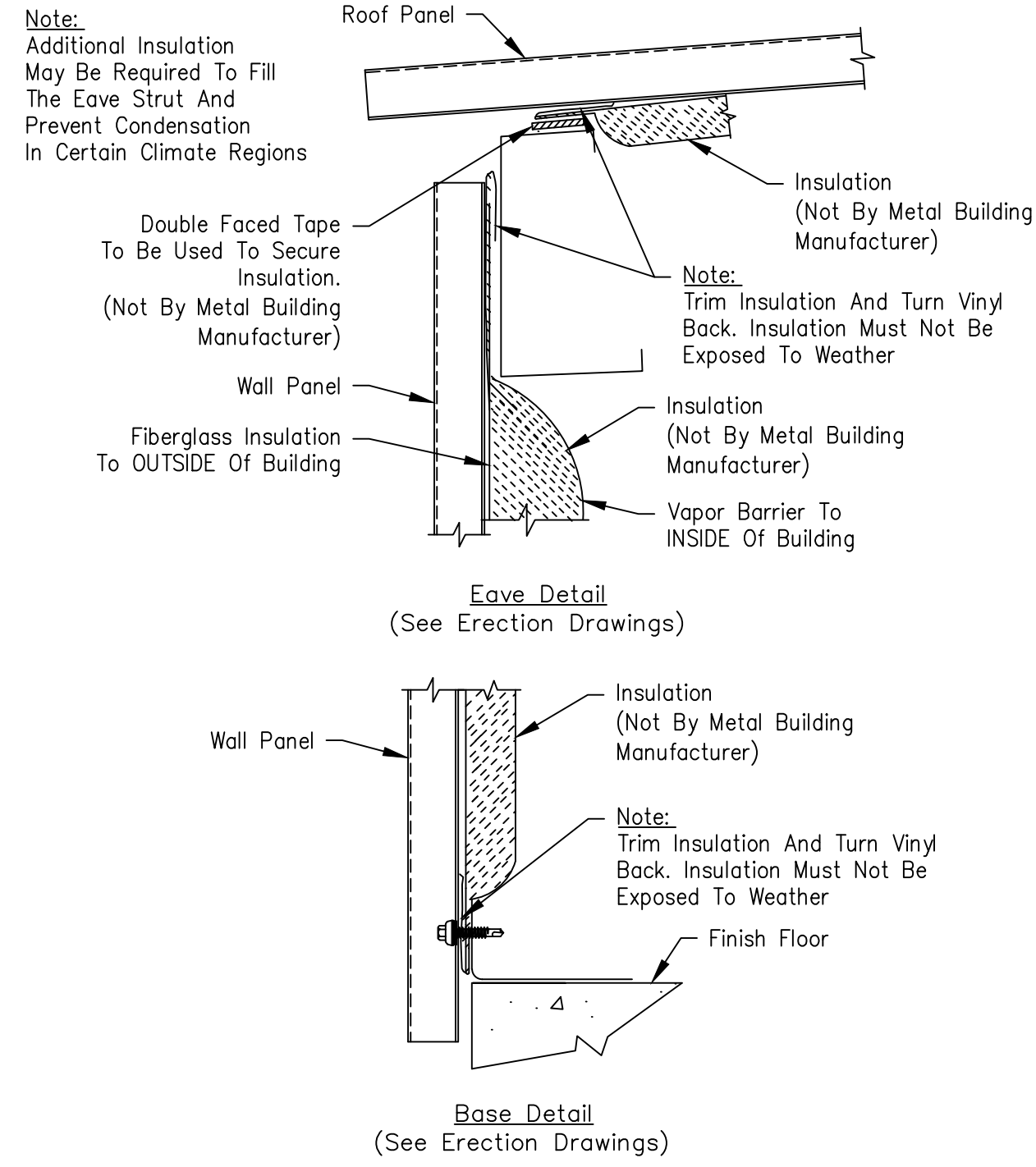


**Note:** Wall Panel Type And Installation Details Will Vary. Refer To The Erection Drawings And Details For The Specific Panel Used For Your Building.

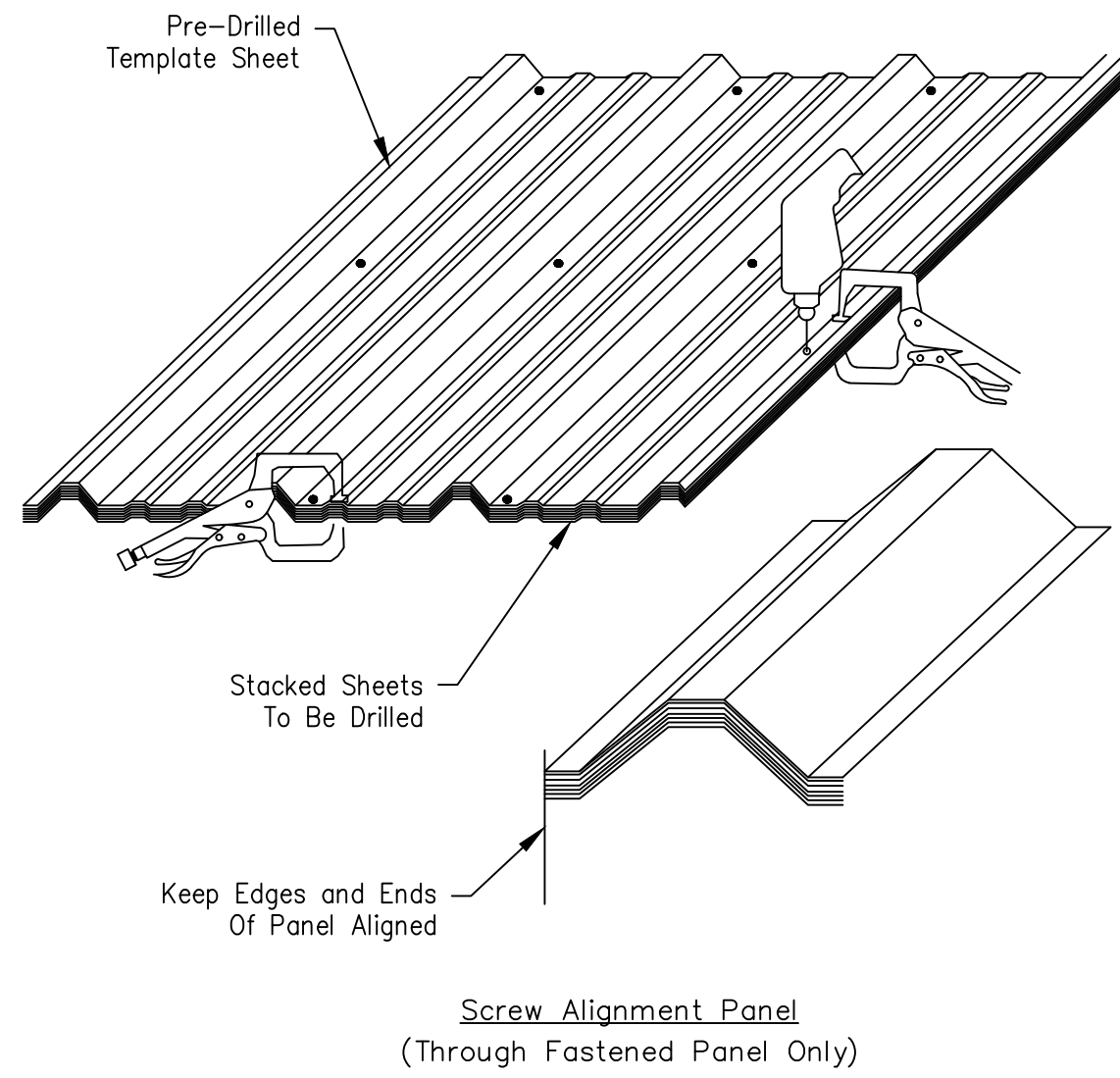


If Walls Are To Be Insulated With Blanket Insulation Over Girt/Girt Flanges, Base And Eave, Place A Continuous Run Of Contact Tape Along The Eave Strut And Base Member.

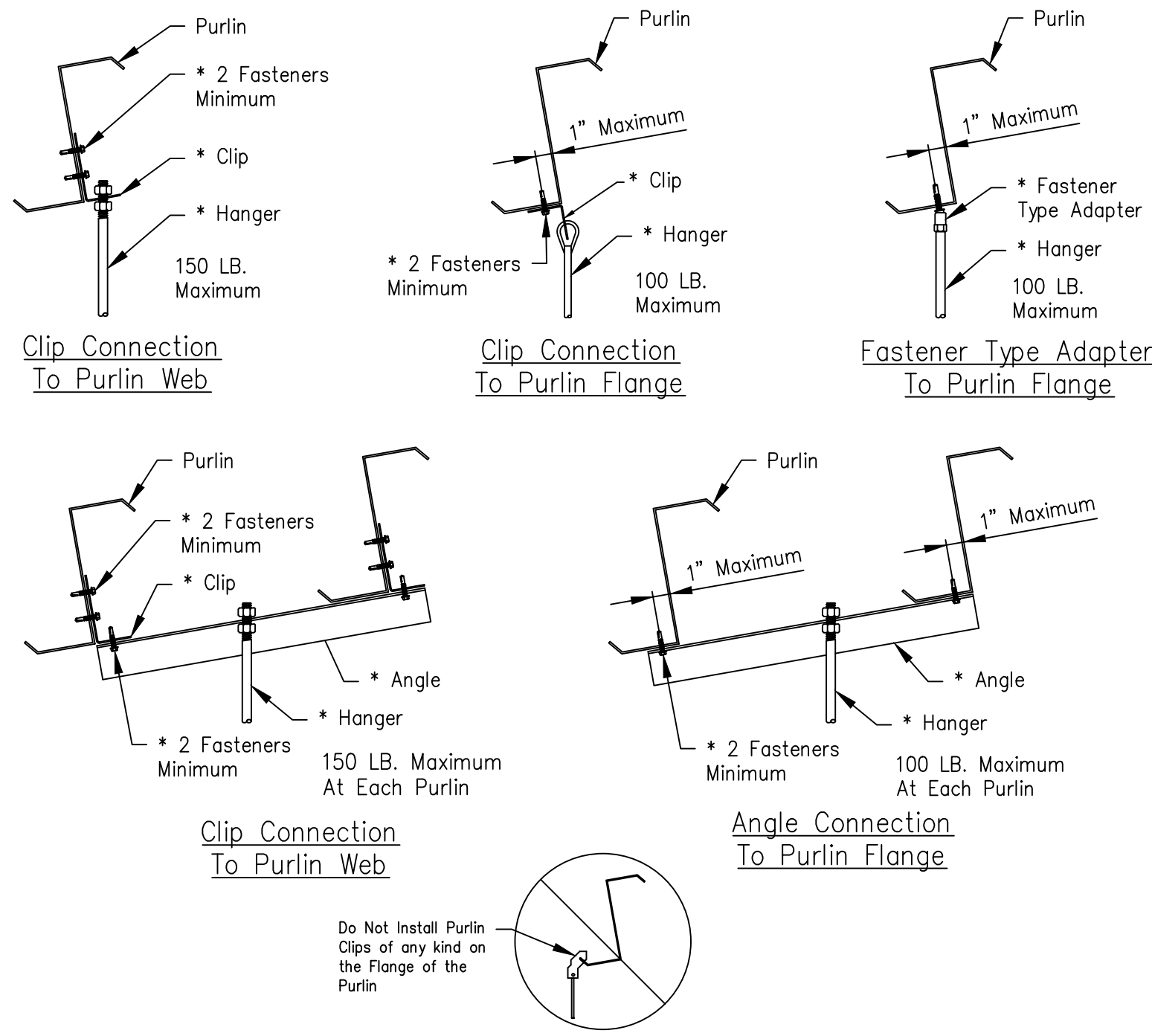
**Note:** At The Base, Cut Off The Insulation A Minimum Of 1/4" Above The Bottom Of The Wall Panel. This Will Prevent The Insulation From Hanging Below The Wall Panel And Wicking Moisture.



Sidewall Panels Should Be Installed So That The Panel Sidelap Is In A Direction Away From The Prevailing Wind. Refer To Appropriate Lap Detail Included With Erection Drawings.)



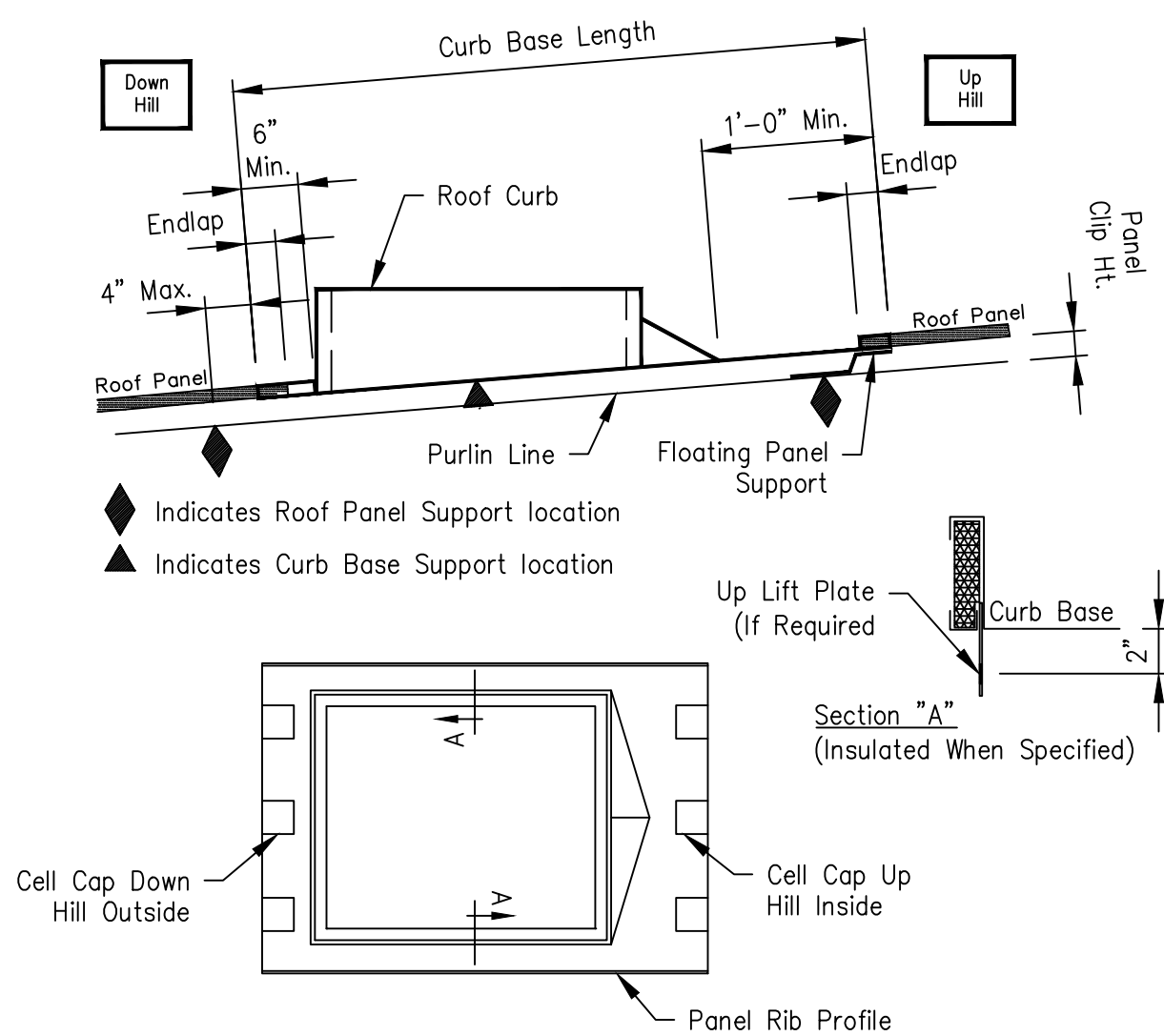
## Suggested Method Of Purlin Attachment For Building Accessories



\* Denotes Material Not Provided By Metal Building Manufacturer.

The Total Hanger Load Shall Not Exceed The Design Collateral Load For The Building. Example: 5'-0" (Purlin Spacing) X 5'-0" (Hanger Spacing) X 6 PSF (collateral Load) = 150 Lbs. See Cover Sheet For Design Collateral Load For This Building. Note: If The Building Is Designed For 0 PSF Collateral Load, Then Adding Any Suspended System (I.e. Duct Work, Piping, Lights, Ceilings, Etc.) Will Correspondingly Reduce The Design Live Load.

## Roof Curbs When Not Supplied By Building Manufacturer



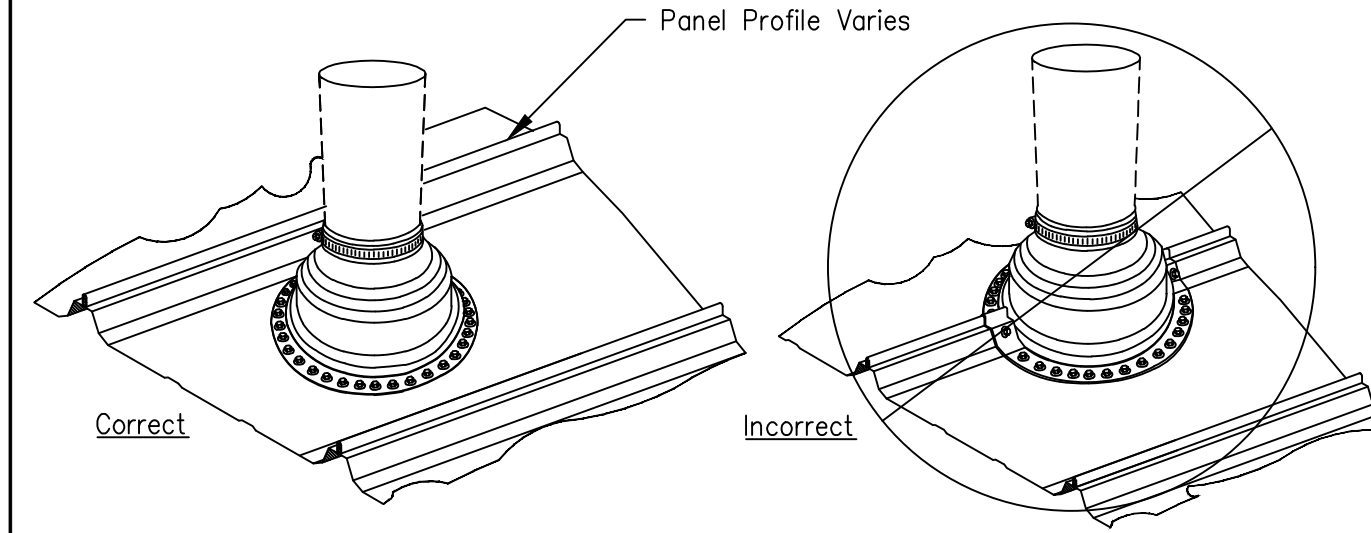
The Curb Details Shown Illustrate The Building Manufacturer's Recommended Curb Style And Installation Method. It Is The Erector/Installer's Responsibility To Provide The Proper Curb Style And Install Them In Accordance With The Procedures Established By These Details. Failure By The Erector/Installer To Follow These Recommendations May Result In The Curbs Damaging The Roof System Or Excluded From Warranties.

- All Roof Curbs To Be:
- .080 Aluminum Or 18 Ga. Stainless Steel (No Galvalume<sup>®</sup> Or Galvanized).
  - Panel Rib To Panel Rib (No Flat Skirt Or Lay-Over Curbs).
  - Installed With Down Hill End Over Panel And Up Hill End Under Panel Application For Water Flow At Panel Splice.
  - Up Lift Prevention For Clip Applied Roof Systems Are Required If:
    - Wind Loads Exceed 110 MPH.
    - Curb Base Crosses A Purlin.
  - Supported on (4) Sides By Primary Or Secondary Framing.
  - Maximum Single Curb Weight Recommended Is 1500 Lbs.

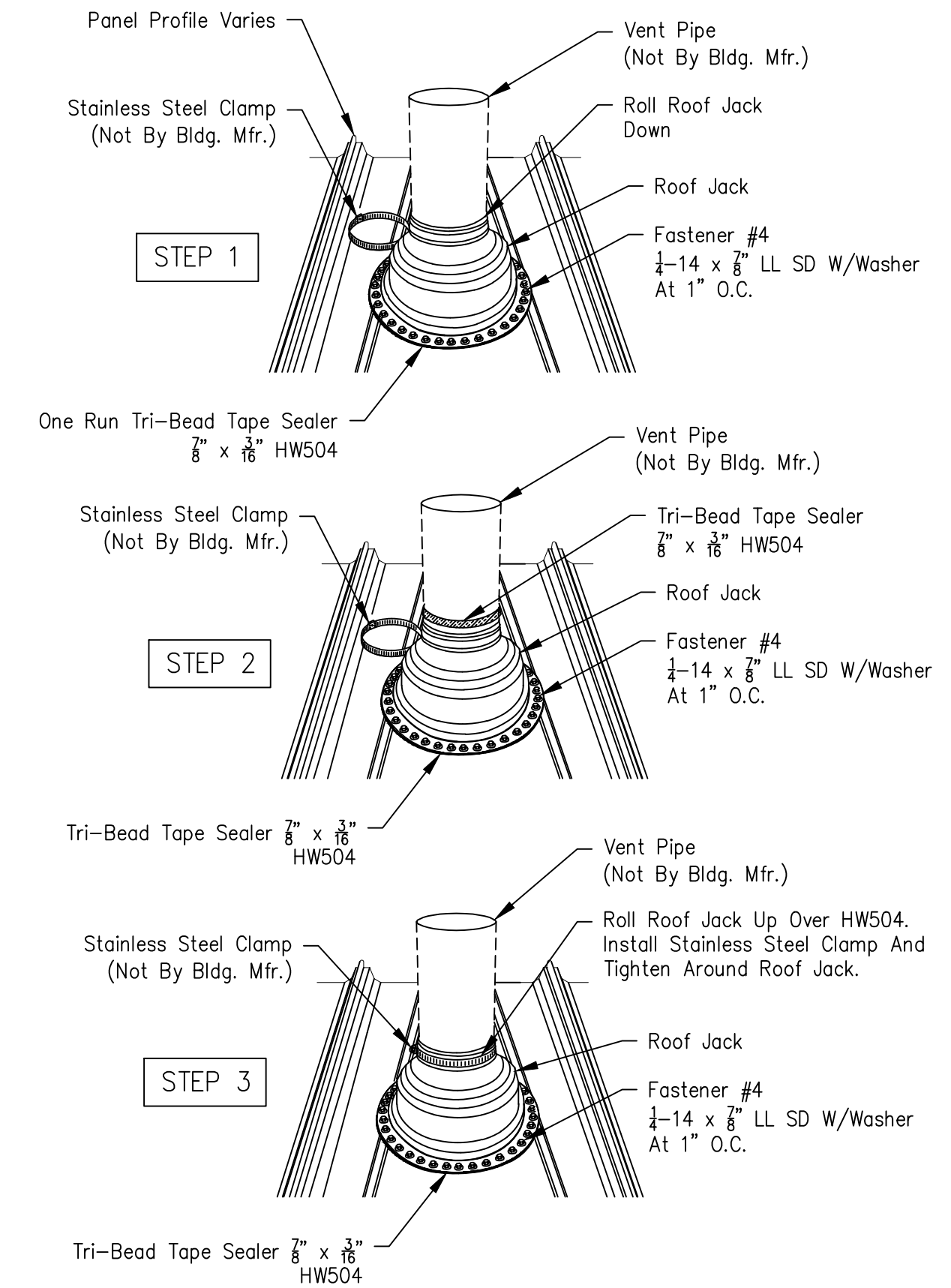
## Roof Jack Installation when Not Supplied By Building Manufacturer

### General Installation Notes

- Do Not Use Galvanized Roof Jacks, Lead Hats, Or Other Residential Grade Roof Jacks. These Roof Jacks Do Not Have 20 Year Service Life And In Case Of Lead Hats Will Cause Galvanic Corrosion Of The Roof Panel.
- Use EPDM Rubber Roof Jacks With An Integral Aluminum Band Bonded Into The Perimeter Of The Base. EPDM Roof Jacks Have A Temperature Range From -65°F To 212°F. Use Silicone Roof Jacks For High Temperatures. Silicone Roof Jacks Have A Temperature Range Of -100°F To 437°F.
- Retrofit Roof Jacks Are Available For Applications In Which The Top Of The Pipe Is Inaccessible, Eliminating The Possibility Of Sliding The Roof Jack Over The Top Of The Pipe.
- Do Not Use Tube Sealant To Seal The Roof Jack To The Roof Panels. Use Roll Tape Sealer Between The Roof Jack And The Roof Panel And Attach The Roof Jack To The Roof Panel With Fastener #4 1/4 x 3/8" LL SD W/Washer At 1" O.C. Around The Base Of The Roof Jack. See Table Below For Quantities.
- Trim The Top Of The Roof Jack To Fit Over The Pipe, Roll Down The Roof Jack Over The Pipe And Apply Tape Sealer For The Perimeter Of The Roof Jack Base Between The Roof Jack And The Roof Panel. Apply Tape Sealer Around The Pipe And Install A Stainless Steel Clamp (Not By Bldg. Mfr.) Over The Top Of The Roof Jack And Firmly Tighten To Form A Secure Compression Seal.
- If The Pipe Diameter Is So Large To Block The Flow Of Water Down The Roof Panel, A Flat Base Roof Curb Must Be Installed Into The Roof And The Roof Jack Will Be Sealed To The Curb. A Two Piece Curb May Be Required When The Top Of The Pipe Is Inaccessible.
- In Northern Climates, The Pipe Penetration Should Be Protected From Moving Ice Or Snow With A Snow Retention System Immediately Up Slope From The Pipe.



Install Pipe In Center To Allow Base Of Roof Jack To Lay Flat on Panel. Cannot Encompass More Than 75% Of Panel.



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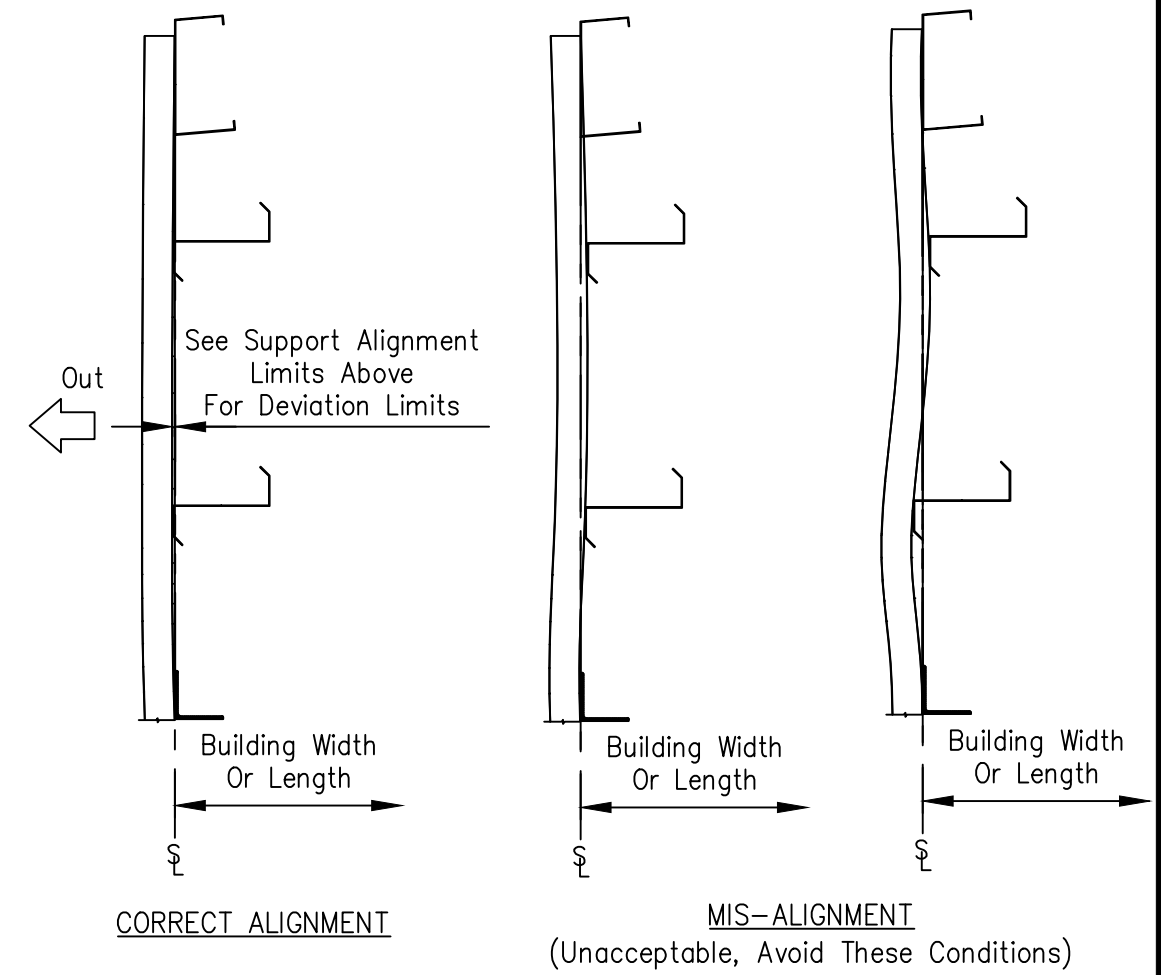
8600 SOUTH 1-35 SERVICE RD. OKLAHOMA CITY, OK 73149  
**STAR BUILDING SYSTEMS** AN INCOMPANY  
 (405) 636-2010  
**Project Name & Location:** ALASKA RAILROAD CORPORATION SANDPOINT, ID  
**Customer:** NORTHERN MANAGEMENT SERVICES, INC.  
 Drawing Status:  Preliminary (Not For Construction)  For Approval (Not For Construction)  For Construction Permit  For Erector Installation

Scale: NOT TO SCALE  
 Drawn by: EBF 5/17/18  
 Checked by: CLS 5/17/18  
 Project Engineer:  
 Job Number: 16-B-42908  
 Sheet Number: R3 of 15  
 The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.

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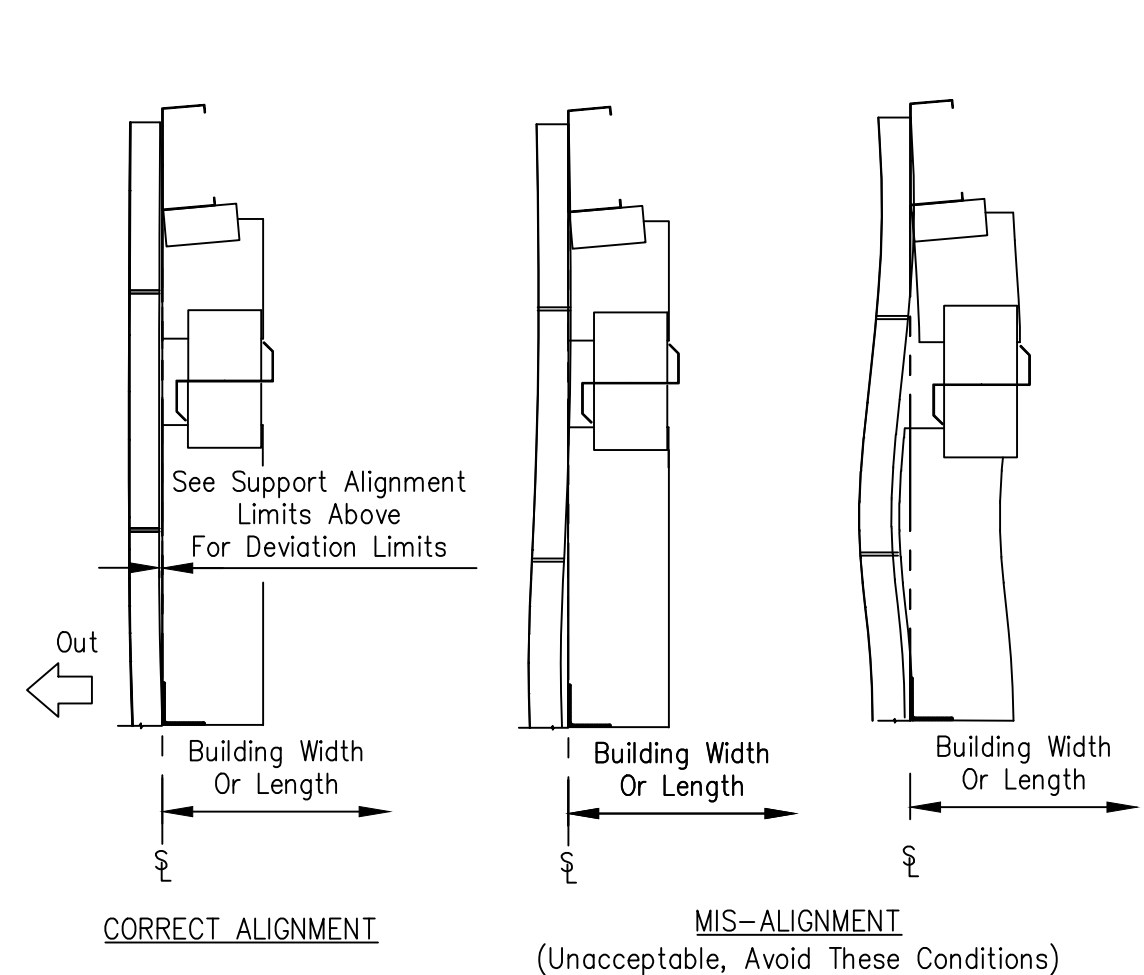
Secondary Steel Alignment For All Vertical IMP Project

Support Span	Maximum Deviation Limit
5'-0" Or Less	0" to 1/16"
5'-0" To 10'-0"	0" to 1/8"
10'-0" And Up	0" to 1/4"



Secondary Steel Alignment For All Horizontal IMP Project

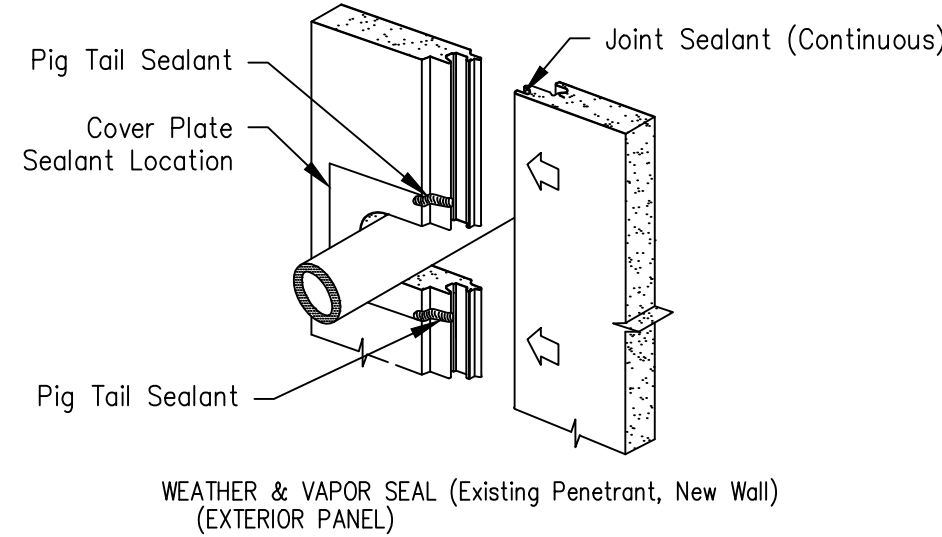
Support Span	Maximum Deviation Limit
4'-0" Or Less	0" to 1/16"
4'-0" To 8'-0"	0" to 1/8"
8'-0" And Up	0" to 1/4"



Penetration Flashing Through IMP Walls

Weather Seal – If The Penetration Is Through An Exterior Wall With Vertical Wall Panel Joints, It Is Best To Avoid Locating The Penetration Where It Will Intersect A Wall Panel Joint And Be Subject To Water Draining From The Panel Joint Into The Penetration Cavity.

Shown Below Are Weather Seal Details When Intersecting A Panel Joint Cannot Be Avoided.

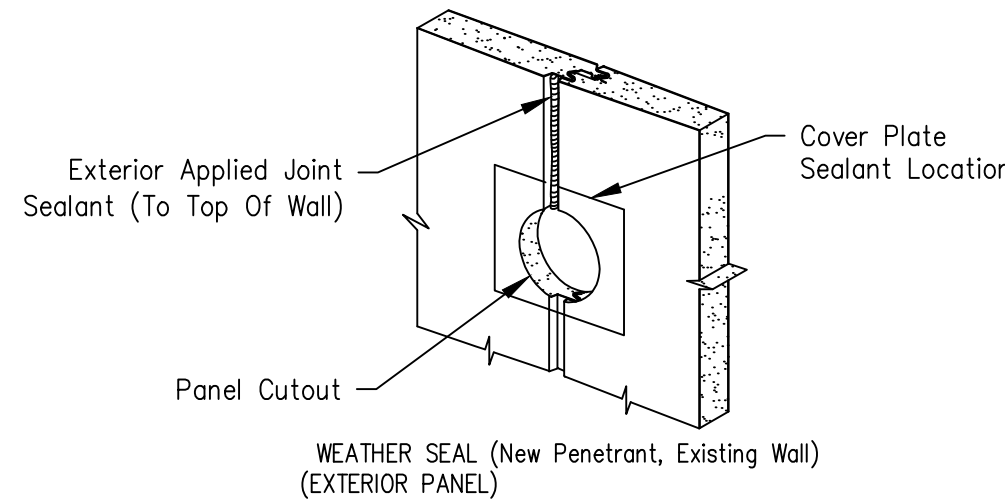


WEATHER & VAPOR SEAL (Existing Penetrant, New Wall)  
(EXTERIOR PANEL)

Existing Penetrant – New Wall  
If A New Wall Is Installed Around An Existing Penetrant, Sealant Must Be Applied To The Exterior Tongue & Groove Of The Wall Panel Joint To Prevent Water Entering The Panel Joint.

Sealant Pigtail Must Also Be Applied To The Interface With The Perimeter Sealant Of The Penetration Cover Plates.

New Penetrant – Existing Wall  
If The Penetrant Is Installed Through An Existing Wall, Either The Existing Wall Must Have Been Installed With The Exterior Joint Sealant Or An Exterior Grade Sealant Must Now Be Applied Along The Exterior Fillet Of The Panel Joint For The Full Height Of The Wall.



WEATHER SEAL (New Penetrant, Existing Wall)  
(EXTERIOR PANEL)

Penetration Flashing Through IMP Walls (Con't.)

Vapor Seals – Depending Upon The Buildings Vapor Control Requirements, Either The Exterior Or Interior Side Of The Wall Panel Joints May Have Joint Sealant To Function As The Vapor Barrier.

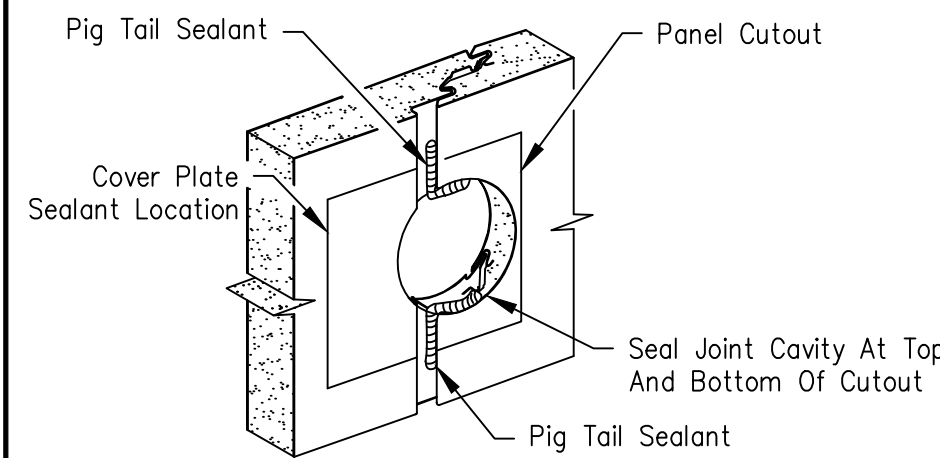
Existing Penetrant – New Wall  
On An Exterior Wall With The Vapor Barrier On The Exterior Side Of The Wall, The Weather Seal Described Above Also Functions As The Vapor Seal.

For Interior Walls And For Exterior Walls With Vapor Barrier On The Interior Side Of The Wall, Install The Pigtail Sealants To The Interface With The Cover Plate Sealant In The Same Manner As Described Above For The Weather Seal.

New Penetrant – Existing Wall  
To Prevent Water Vapor Entering The Penetration Cavity On The Vapor Barrier Side Of The Wall, Pigtail Sealants Must Be Applied On The Panel Joint To Interface With The Perimeter Sealant Of The Penetration Cover Plates.

Apply The Pigtail Sealant To The Seal Of The Tongue-And-Groove Joint Cavities At The Top And Bottom Edges Of The Panel Cut Out.

Extend The Pigtail Sealant Along The Exterior Fillet Of The Panel Joint To Interface With The Cover Plate Sealant.



VAPOR SEAL (New Penetrant, Existing Wall)  
(INTERIOR PANEL)

Insulated Metal Panel Joint Sealants

Joint Sealant Requirements – Depending Upon The Project's Requirements, Sealants May Be Required In The Panel Joints On Either Or Both Interior And Exterior Side Of The Wall. On Some Projects, Different Wall Areas May Have Different Sealant Requirements.

The Panel May Be Delivered With The Sealant Factory Applied, Or The Sealant May Require Field Installation.

Important: Refer To The Installation Drawings Or Project Specifications For The Specified Sealant And Locations.

Field Installation Of Sealant – Apply The Panel Joint Sealant Into The Specified Interior And Exterior Metal Groove On The Panel's Female Edge. The Sealant Must Be Applied Continuously And As Close As Possible To The Bottom Of The Groove.

The Suggested Continuous Bead Size Is 3/8" To 1/2". Adjust The Sealant Bead Size To Ensure There Is Complete And Continuous Contact Of The Sealant With The Tongue Of The Adjacent Panel After The Joint Is Assembled, But Not So Much That Sealant Is Extruded Onto The Panel Face.

Sealant Pigtails – It Is Critical To Ensure Continuity Of The Sealants At The Intersections Between The Panel Joints And The Perimeter Flashing Assemblies.

After Each Panel Is Installed, Apply Sealant Pigtails Around The Panel's Interior Edge To Provide A Sealant Bridge Between The Panels Joint Sealant And The Interior Perimeter Sealants.

At The Panel's Exterior Face, Determine Where The Exterior Perimeter Sealants Will Be Located. Apply Sealant Pigtails Along The Panel Edge To Provide A Sealant Bridge Between The Panel's Joint Sealant And Exterior Perimeter Sealants.

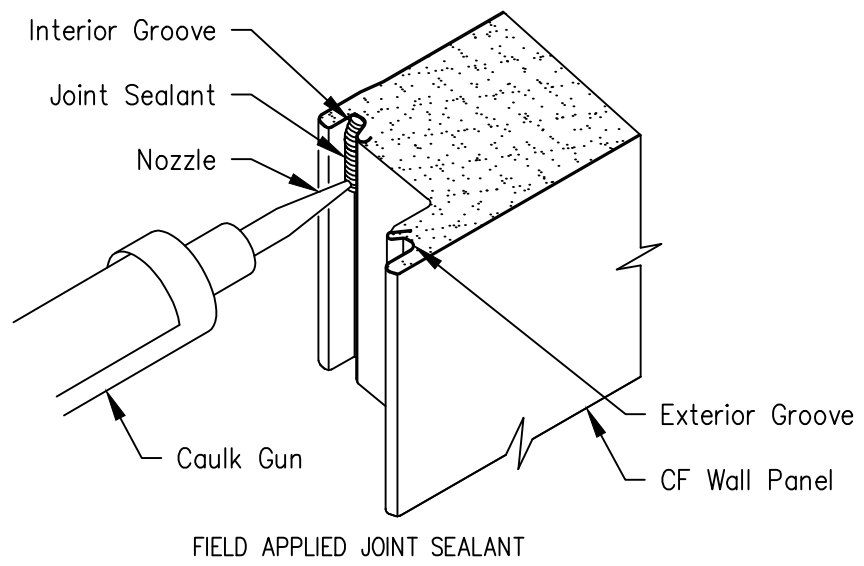
Joint Assembly – Slide The Panel Joint Together In A Smooth Motion To Help Ensure The Uniform Dispersion Of The Sealant Within The Joint Cavity.

Do Not Assemble The Panel Joint In A Manner That Causes The Joint To Engage And Then Disengage. This May Cause The Sealant To Be Drawn Out Of The Cavity, Leaving The Joint Unsealed.

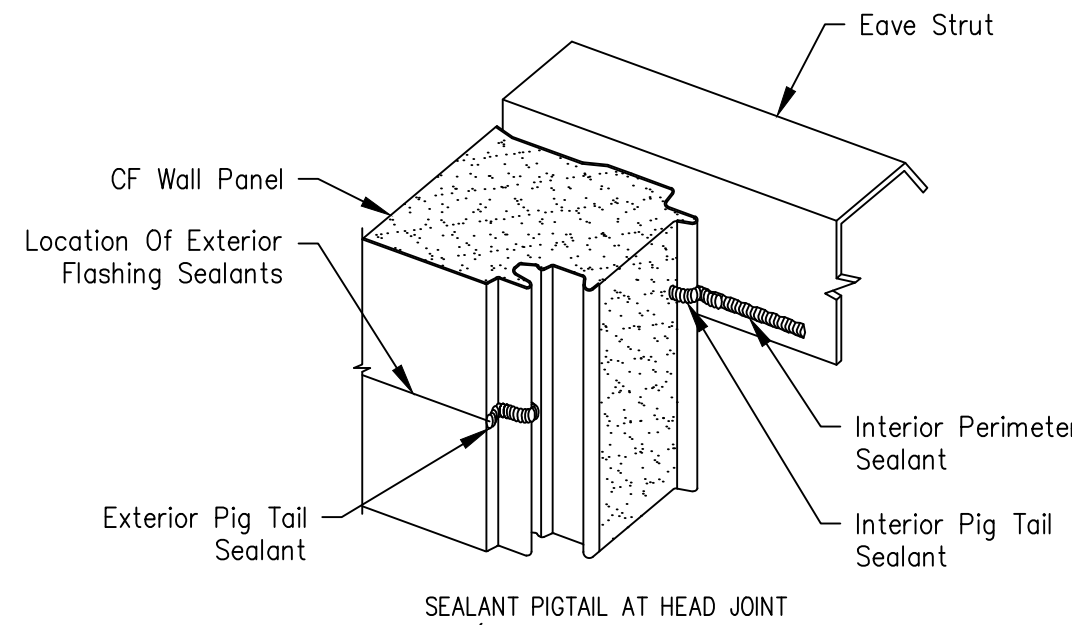
Caution: If The Joint Is Assembled And Then Disassembled The Sealant Must Be Checked And Any Displaced Sealant Must Be Replaced.

Reference "Pig Tail Sealants" For Installation Illustrations.

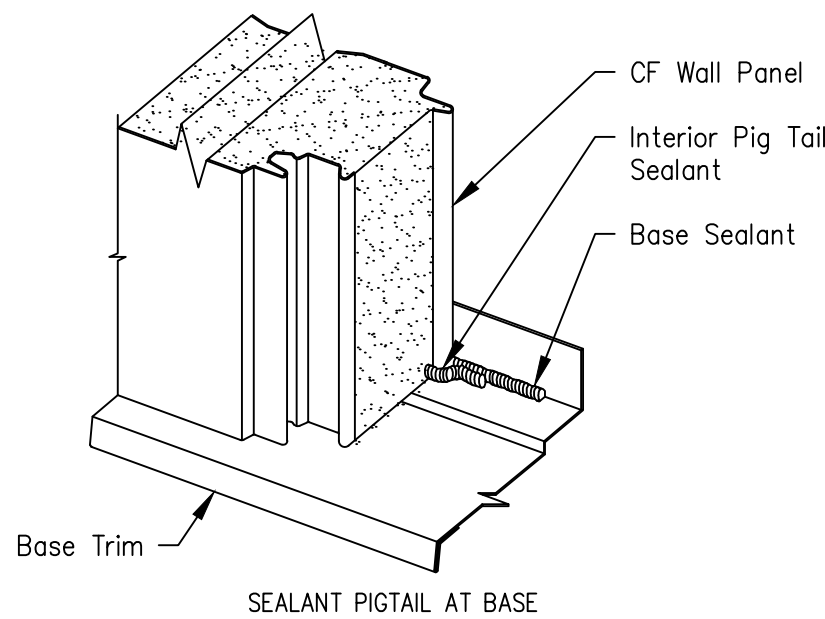
Pig Tail Sealants



FIELD APPLIED JOINT SEALANT

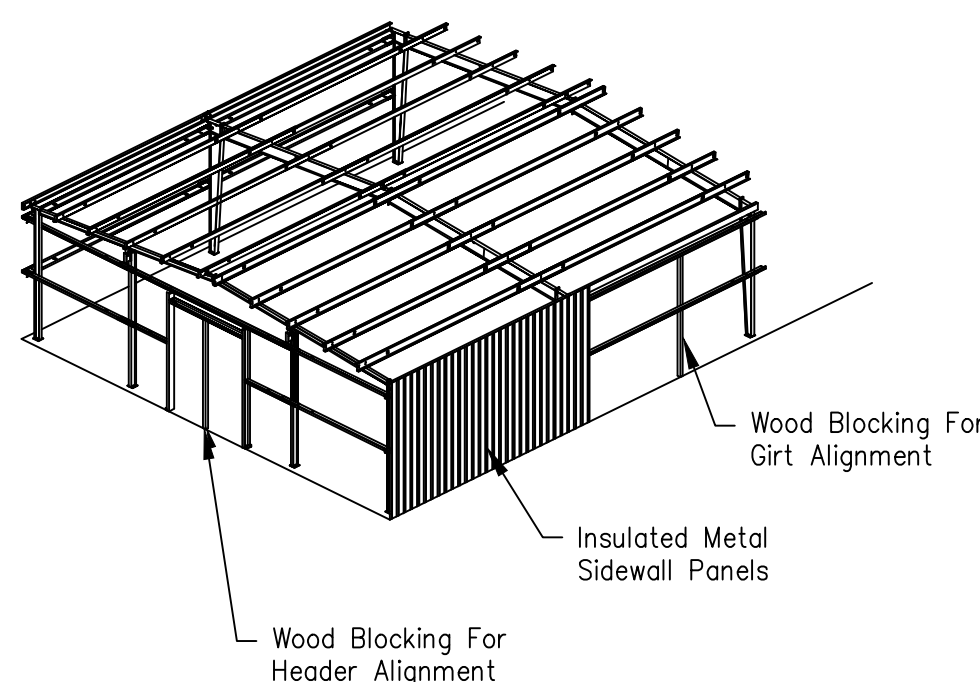


SEALANT PIGTAIL AT HEAD JOINT



SEALANT PIGTAIL AT BASE

Secondary Framing Alignment



Note: Before Installing Insulated Metal Wall Panels, The Girts Must Be Aligned To A Level Position So That There Is No Visible Sag. This Also Should Be Done At The Framed Opening Until Over Head Insulated Metal Panels Have Been Installed. This Should Be Done Directly Ahead Of Panel Installation.

Girt Leveling May Be Accomplished By Standing A Section Of Cable Angle Vertically against The Outside Girt Flanges At Approximate Mid-bay Location. When Girts Are Level, Attach The Girt Flanges To The Angle With Vise Grip Pliers Or Temporary Screws. Wood Blocking Cut To Fit The Spaces May Also Be Used For Alignment.

ThermalSafe And Applied Finishes

ThermalSafe Panel Notes:

ThermalSafe Panel Details Are General Use/unrated Construction Details And Do Not Offer Any Fire Resistance Continuity, Even When The Wall Assembly Itself Is Fire Resistance Rated. Furthermore, No Fire Resistance Rating Of Structural Members Or Openings Is Provided By The Manufacturer, Even Though It May Be Required On The Project. Consult The Engineer Of Record For The Overall Project Or Your Local Building Official Or Code To Determine If Fire Resistance Continuity Or Protection For Structural Members Or Openings Is Required.

Fire Protection Of The Wall Support Framing Ordered May Be Required, Subject To The Project's Building Code Requirements. Fire Protection Of The Structural Members Is Not By The Metal Building Manufacturer.

To Conform To The Requirements Of The ASTM E-119 Fire Resistance Rating, The Filler Insulation Must Have An Approved Classification Marking For Surface Burning Characteristics Or Fire Resistance.

To Conform To The Requirements Of The Panel's E-119 Fire Resistance Rating, The Joint Sealants Are Specified As A Silicone Sealant.

Applied Finishes

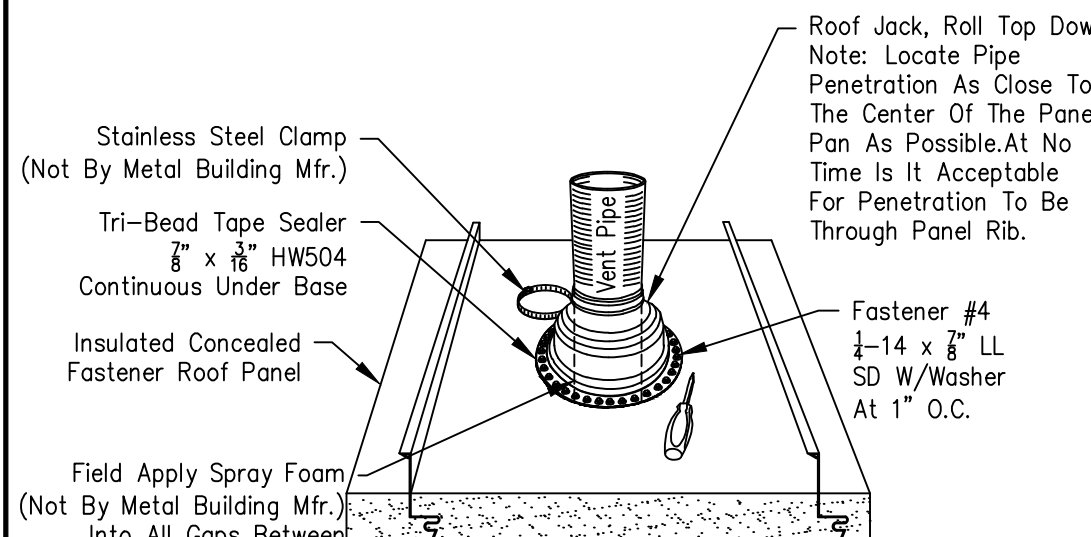
STORAGE:  
It Is Important To Properly Store The Panels Such That No Moisture Becomes Trapped Between The Panels Or In The Applied Finish For Extended Periods Of Time. Under Certain Conditions, Extended Exposure To Moisture During Improper Storage Can Cause The Coating To Soften, Peel Or Stain. Be Certain To Store The Panel Bundles Off The Ground High Enough To Allow For Air Flow To Circulate Beneath The Bundle And Prevent Water, Mud Or Snow From Entering. One End Of The Bundles Should Be Slightly Elevated. It Is Recommended That The Plastic Wrapping Be Cut All The Way Around The Bundle Near The Base Intermittently So That Air May Flow Freely Around The Panels. Tearing Of The Panels Will Reduce The Possibility Of Rain Or Snow From Entering The Stack Of Panels. If The Panels Or The Trim Pieces Get Wet Or Moisture Is Noted Within The Packaging, Immediately Remove The Items For Separation And To Dry. Once Dry, Panels/trim Can Be Stacked For Storage And Should Be Tarp'd And Elevated.

INSTALLATION:  
Post Textured Products Are Batch Sensitive. Panels May Show Pattern Variations Between Phases, And Could Vary From Production Run To Production Run. Panel Elevations Should Be Identified When Materials Are Supplied. Bundles Are Labeled By Coating Day And Should Not Be Mixed During Installation. Reference Panel Bundle Label For Prod. Date 00/00/00 Located At The Bottom Of The Label.

Inspect Panels Prior To Installation. All Efforts Are Made During Manufacturing Of Panels To Ensure No Applied Coatings Becomes Adhered To The Interior Of Panel Sidelap Grooves. If Applied Coatings Is Present In The Panel Sidelap Grooves, Contact Panel Supplier For Instructions. Do Not Install Panels As The Applied Coating In The Grooves Can Interfere With Vapor Sealant Application As Well As Prevent The Panels From Fully Engaging.

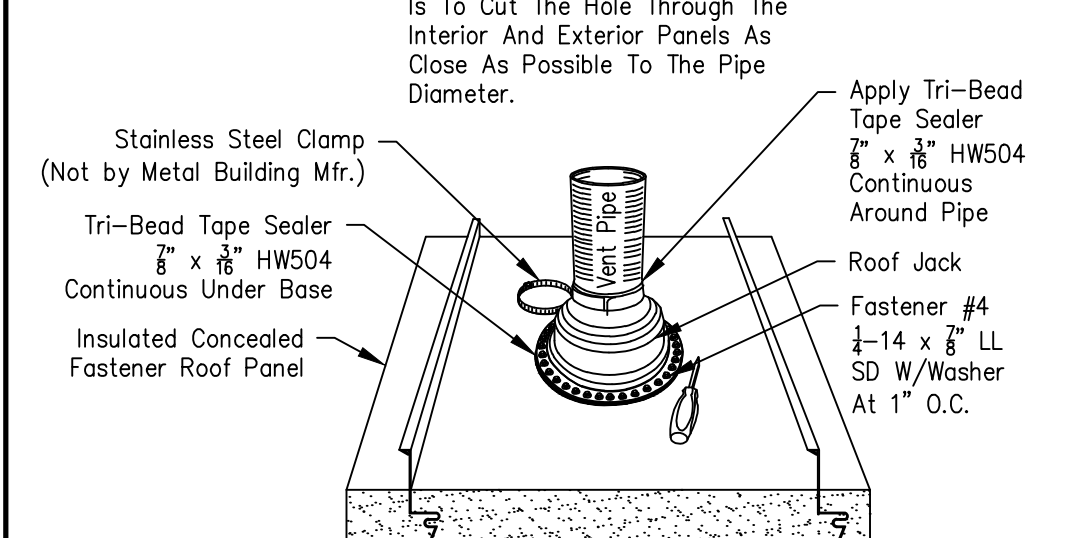
Field Remove Applied Coatings From Roof And Wall Trim At Lap Locations. (Min. 2" Lap Required)

Roof Jack Installation On CFR Roof or Vent Pipes 8"Ø Or Less

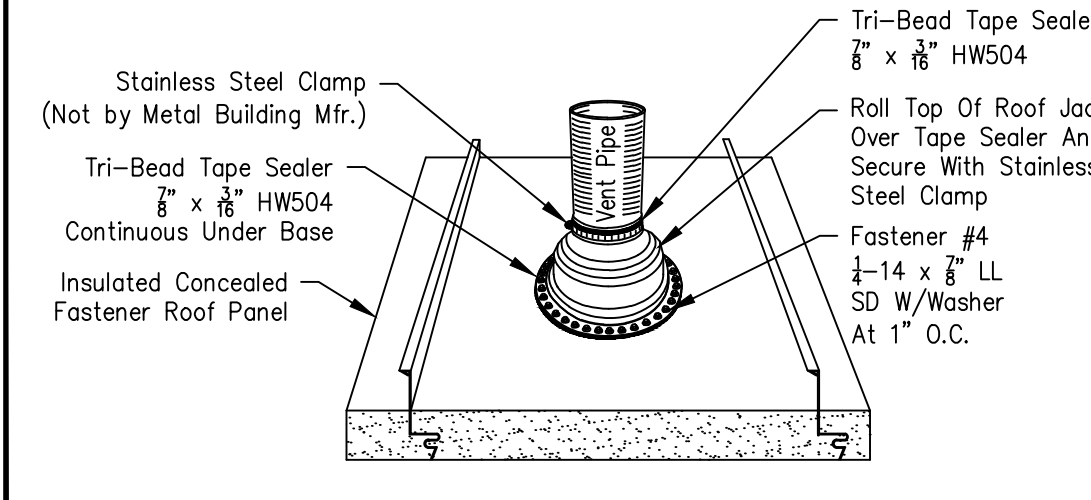


Step 1

Note: To Minimize Excessive Moisture And Condensation, The Erector Is To Cut The Hole Through The Interior And Exterior Panels As Close As Possible To The Pipe Diameter.

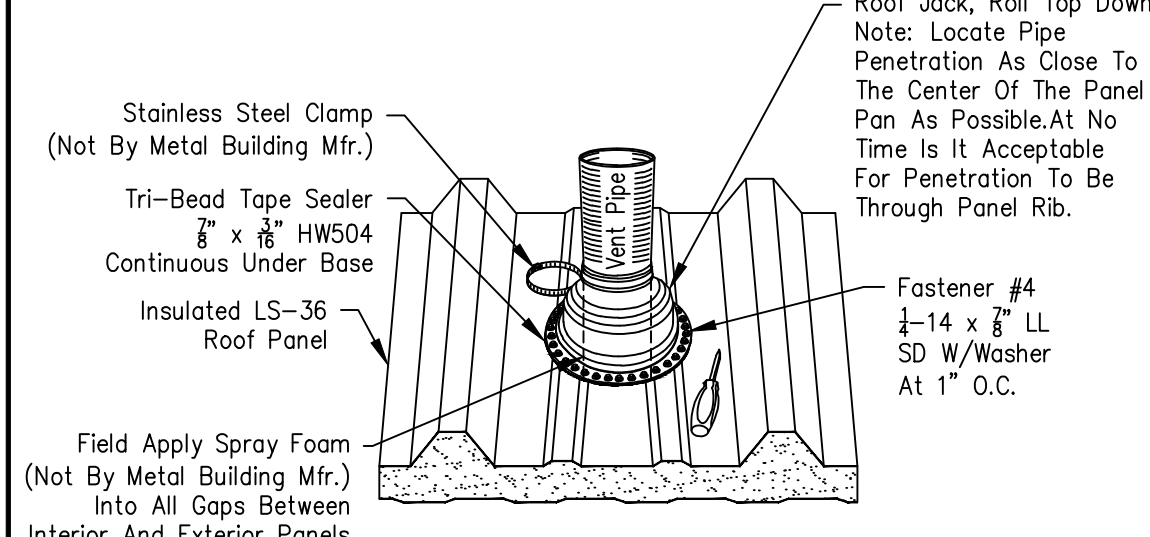


Step 2



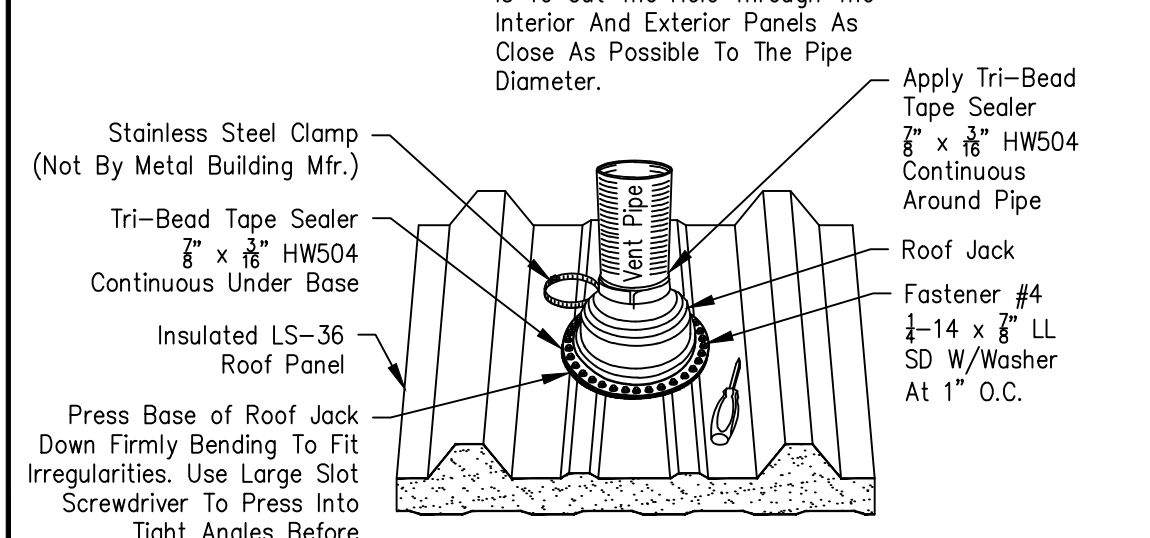
Step 3

Roof Jack Installation On LS-36 Roof or Vent Pipes 8"Ø Or Less

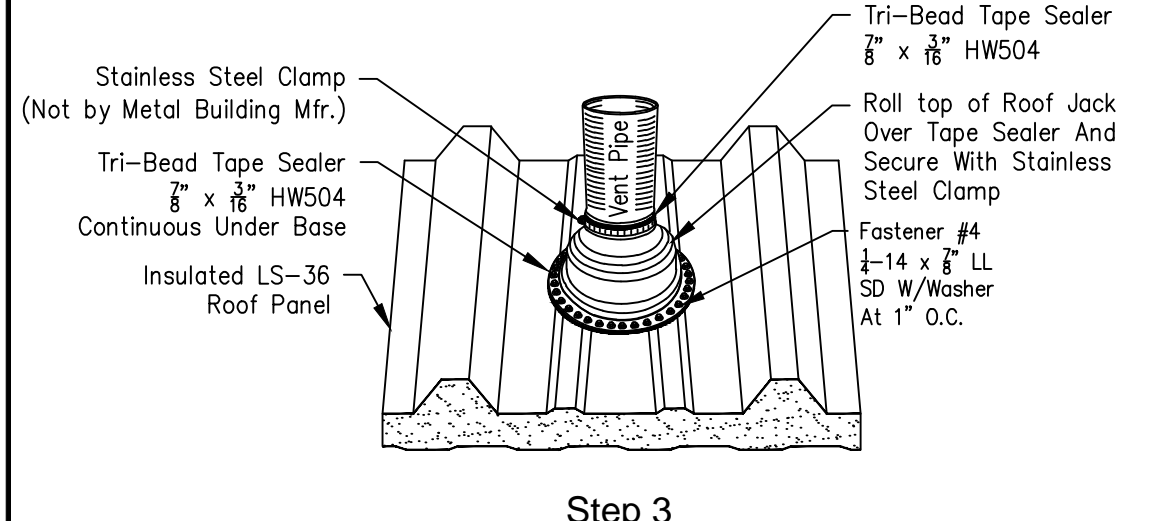


Step 1

Note: To Minimize Excessive Moisture And Condensation, The Erector Is To Cut The Hole Through The Interior And Exterior Panels As Close As Possible To The Pipe Diameter.



Step 2



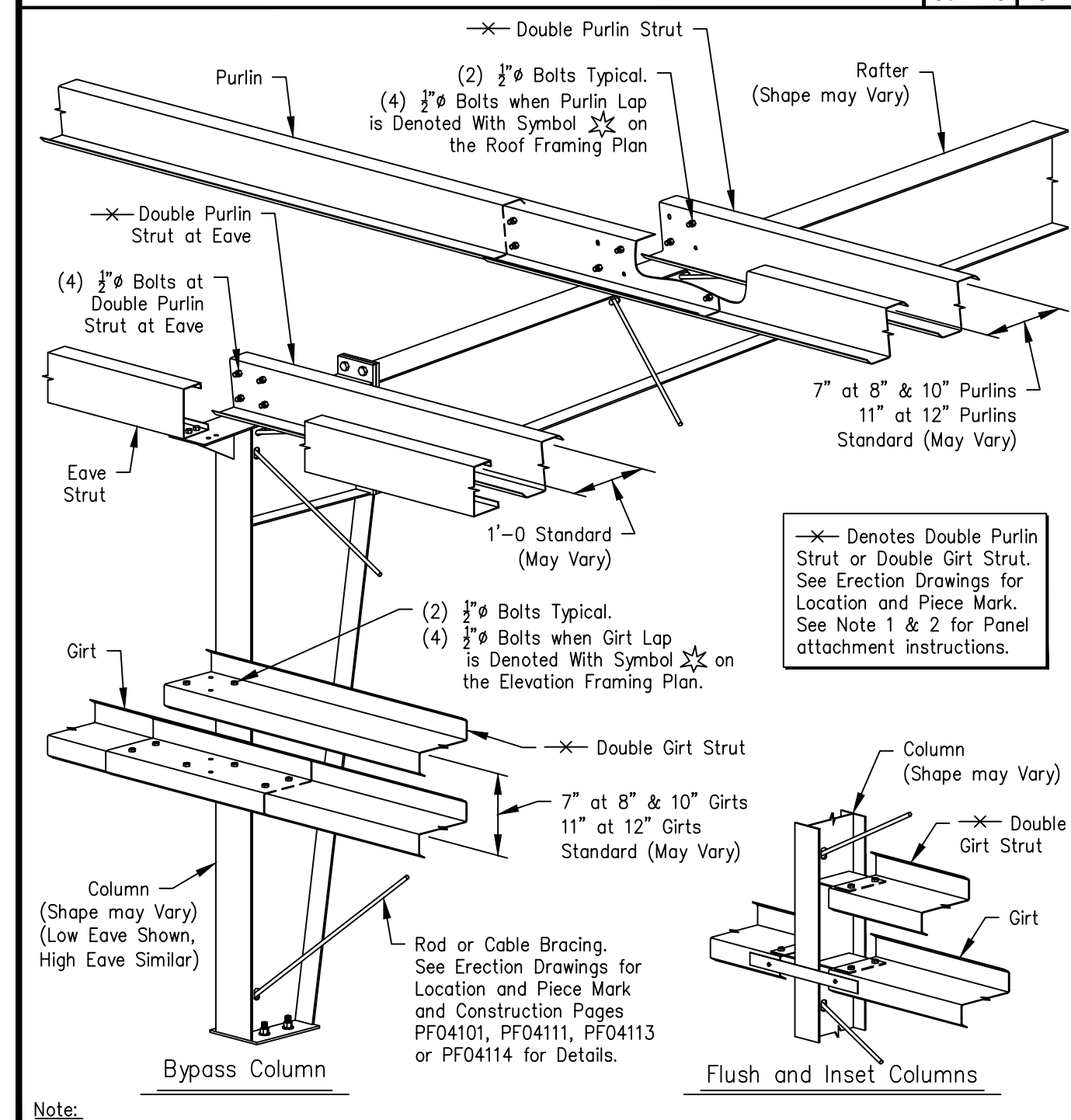
Step 3

Rev	Date	Description

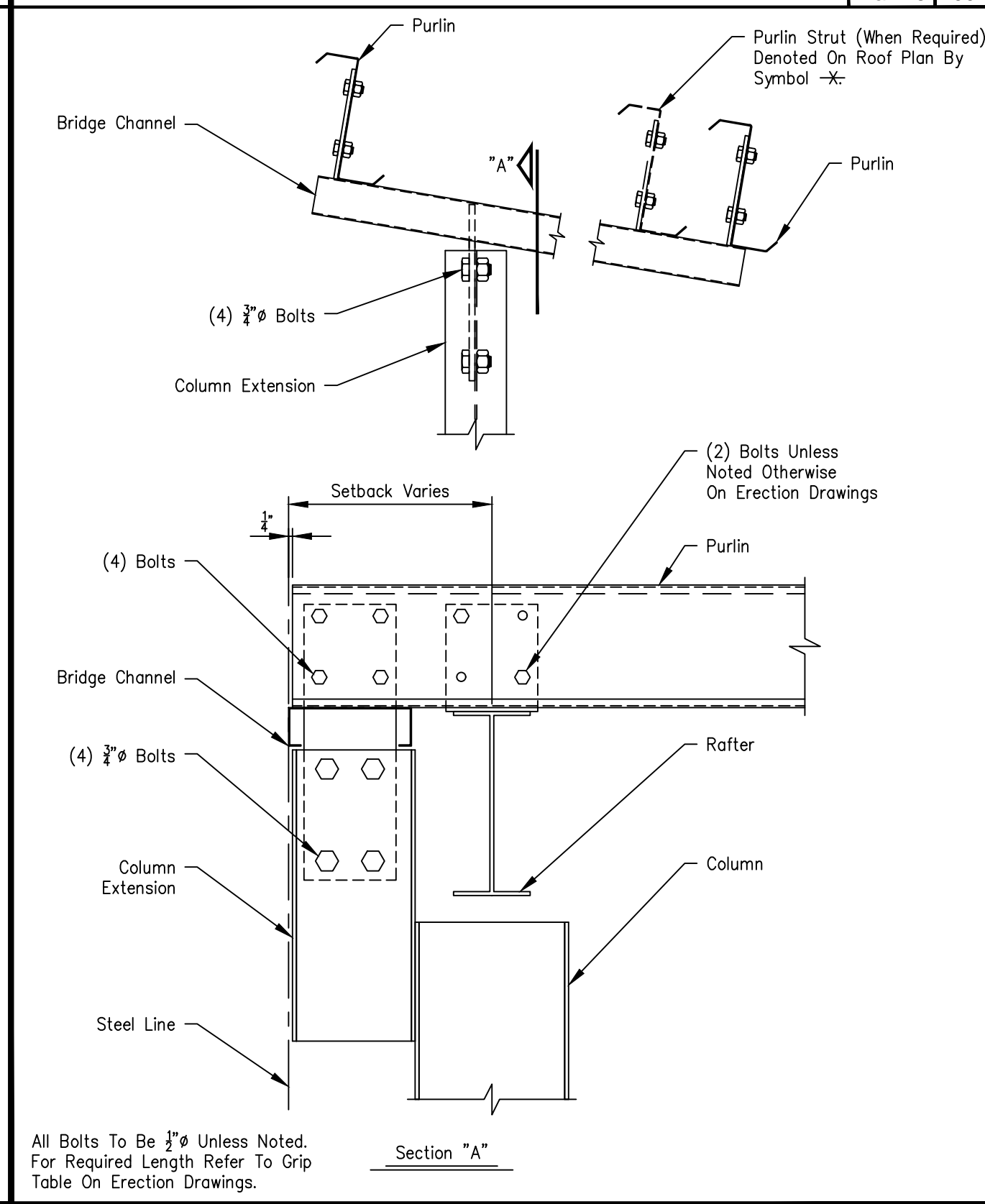
8600 SOUTH 1-35 SERVICE RD. OKLAHOMA CITY, OK 73149 (405) 636-2010	Project Name & Location: ALASKA RAILROAD CORPORATION SANDPOINT, ID	Customer: NORTHERN MANAGEMENT SERVICES INC
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Scale: NOT TO SCALE	Drawn by: EBF 5/17/18
Checked by: CLS 5/17/18	Project Engineer:
Job Number: 16-B-42908	Sheet Number: R4 of 15

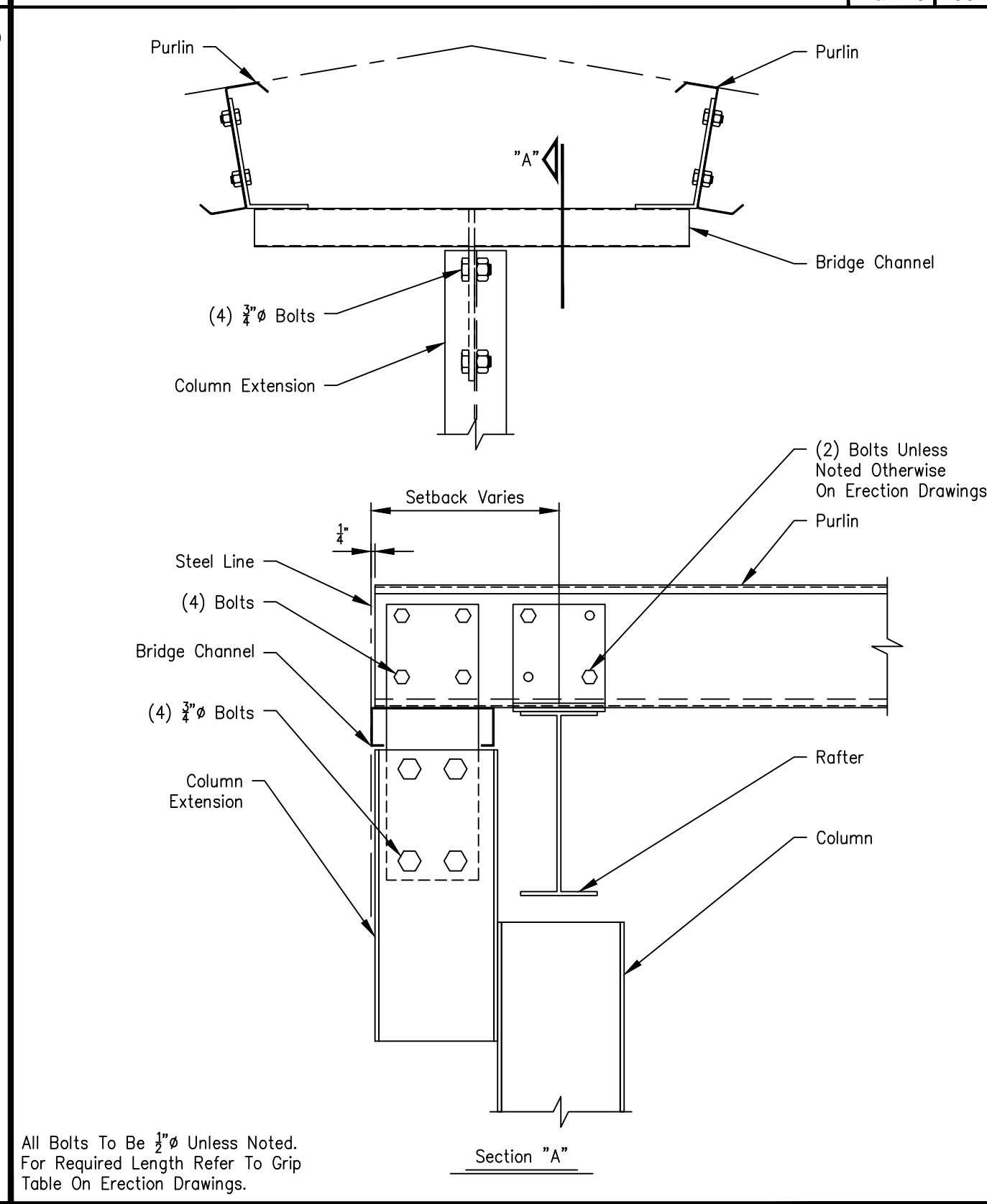
The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.



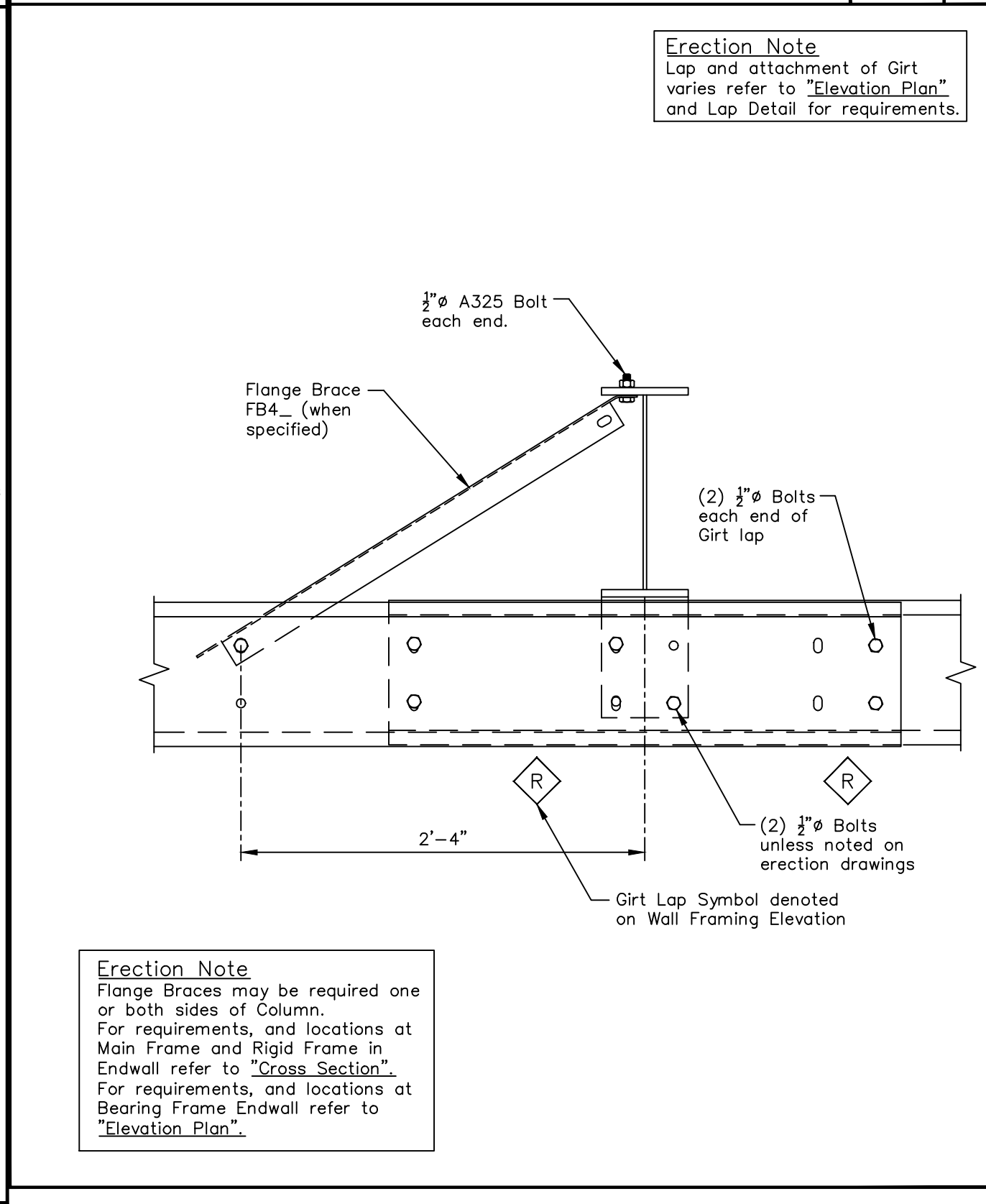
Notes:  
 1) For Standing Seam and Insulated Panels that use Clips for attachment to Purlins and Girts, the Clips are not required at the Double Purlin or Girt Struts and have not been provided for installation at these locations.  
 2) For Single Skin Panels and Insulated Panels that use through panel Fasteners for attachment to Purlins and Girts, the Fasteners ARE required at the Double Purlin or Girt Struts and have been provided for installation.  
 3) Bracing Members are permanent and may not be removed after erection unless noted for plumbing or erection purpose only on the Erection Drawings.  
 4) For required  $\frac{3}{8}$ " Bolt length refer to Grip Table on Erection Drawings.



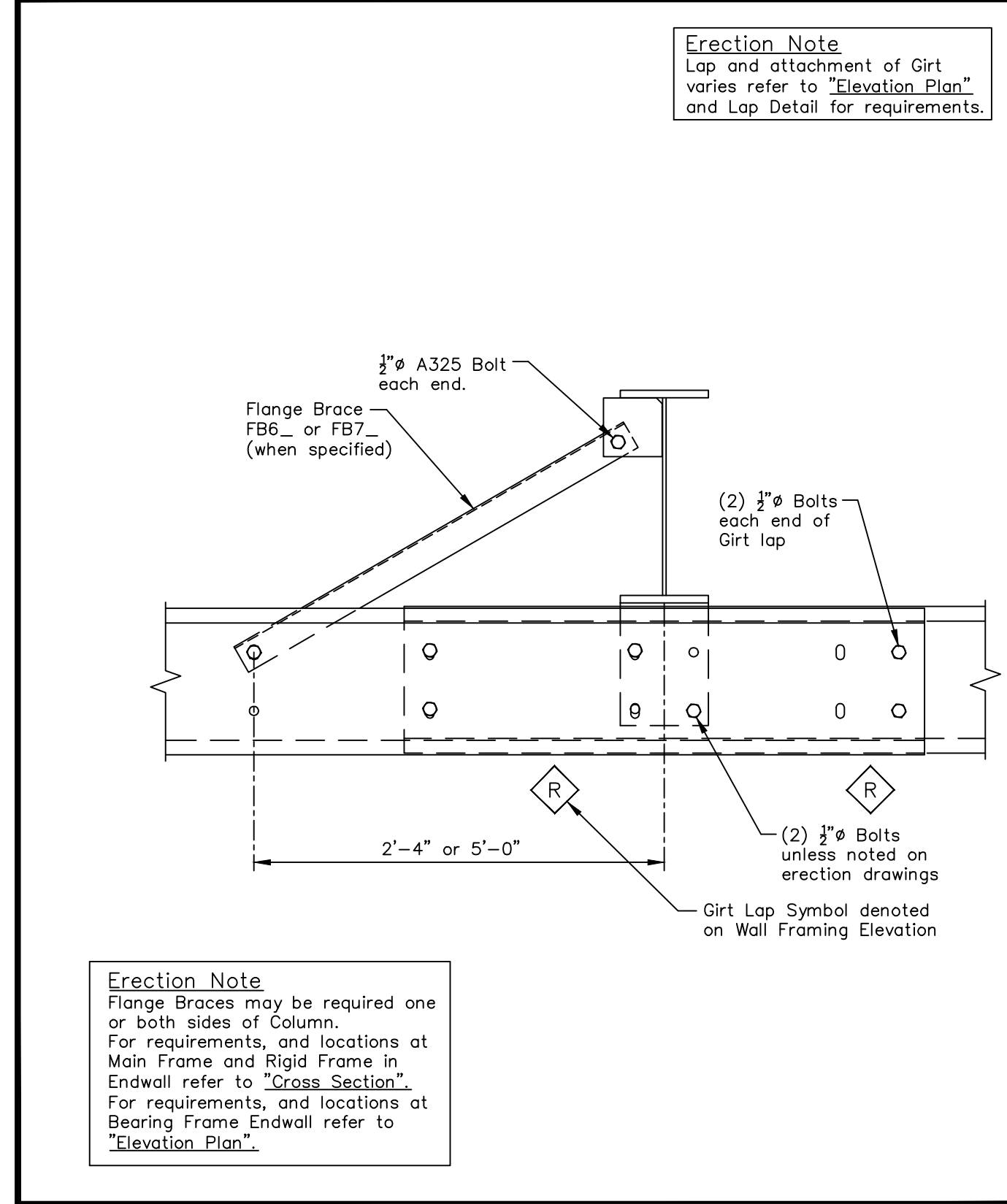
All Bolts To Be  $\frac{3}{8}$ " Unless Noted. For Required Length Refer To Grip Table on Erection Drawings.



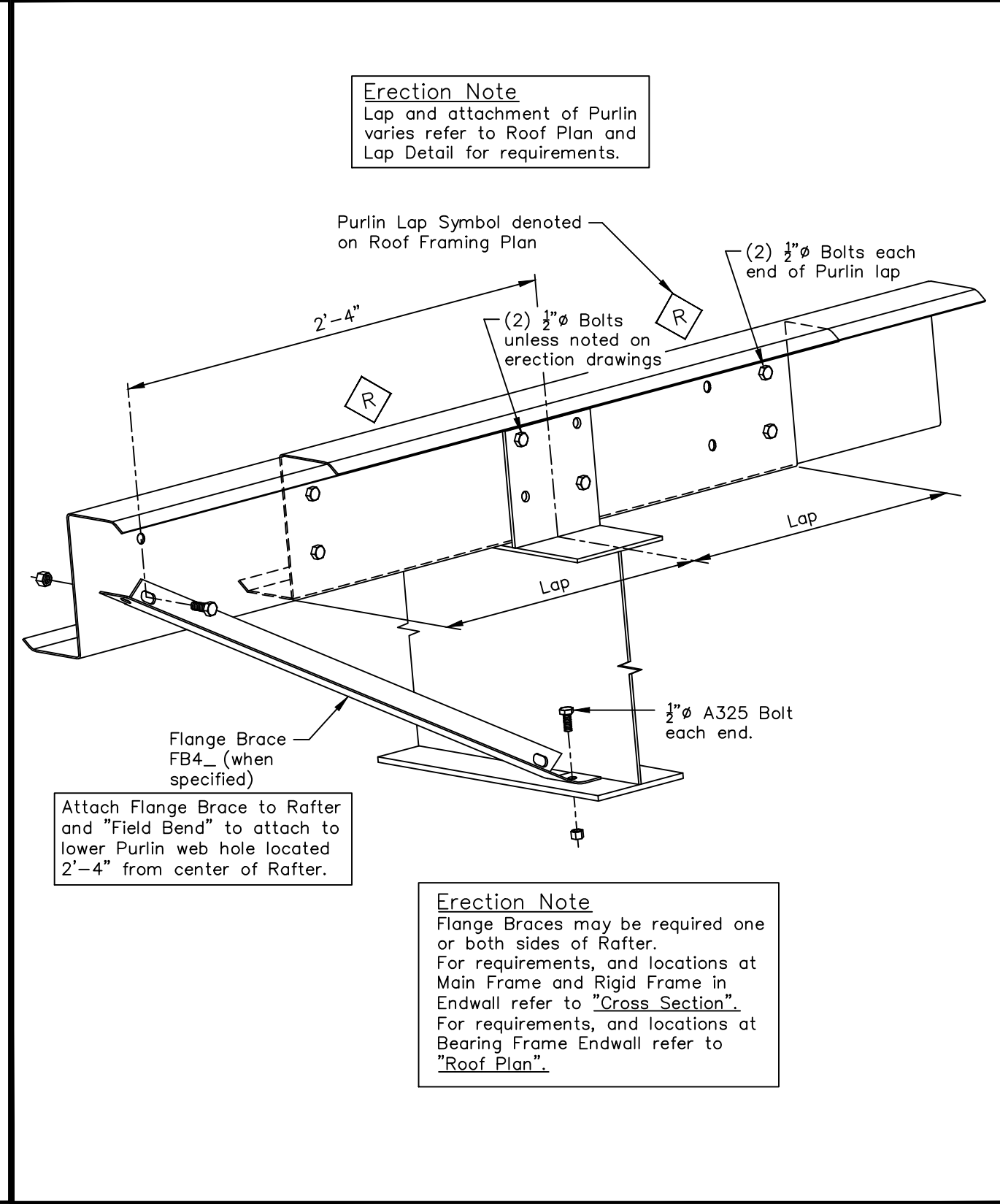
All Bolts To Be  $\frac{3}{8}$ " Unless Noted. For Required Length Refer To Grip Table on Erection Drawings.



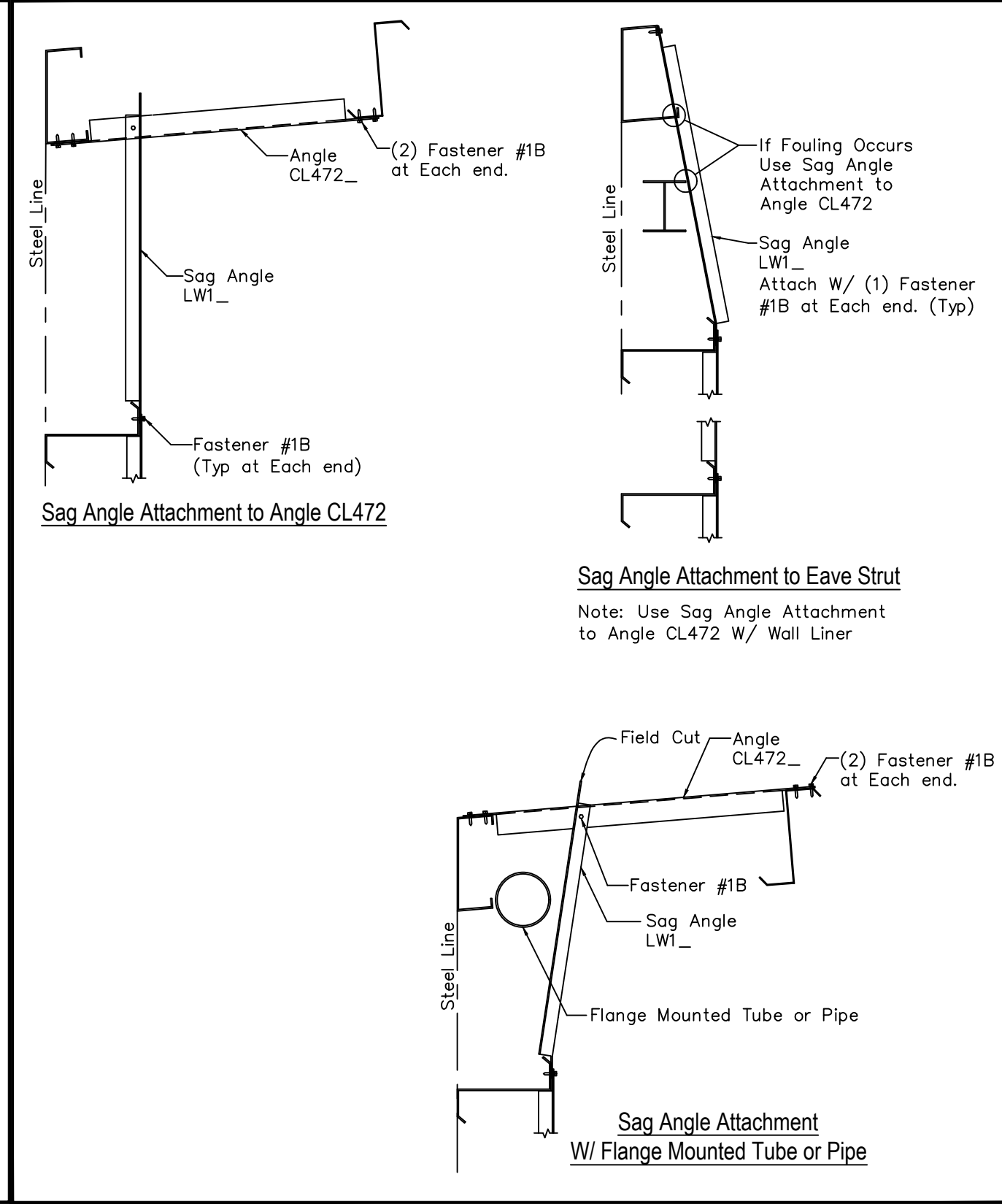
Erection Note:  
 Flange Braces may be required one or both sides of Column. For requirements, and locations at Main Frame and Rigid Frame in Endwall refer to "Cross Section". For requirements, and locations at Bearing Frame Endwall refer to "Elevation Plan".



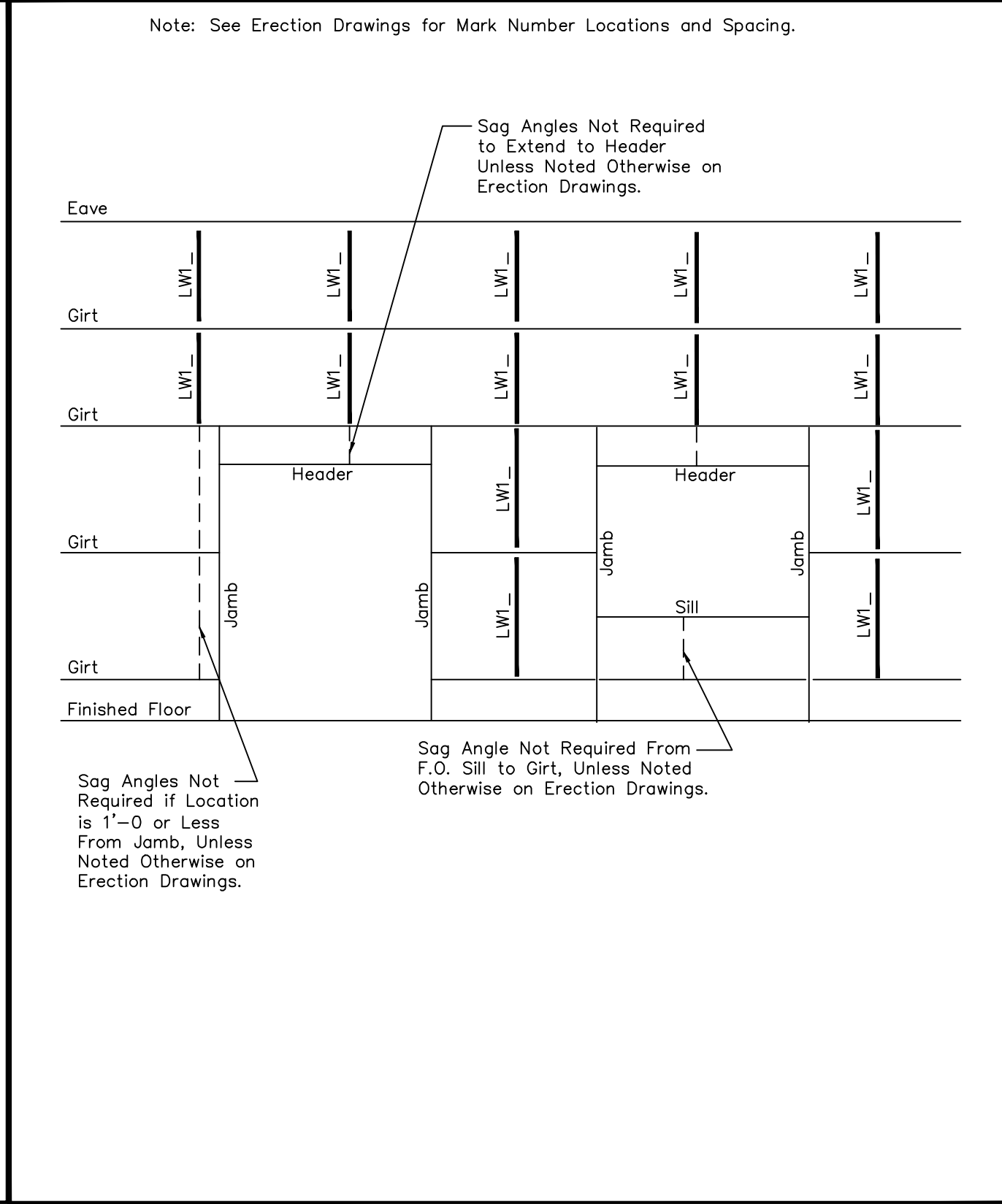
Erection Note:  
 Flange Braces may be required one or both sides of Column. For requirements, and locations at Main Frame and Rigid Frame in Endwall refer to "Cross Section". For requirements, and locations at Bearing Frame Endwall refer to "Elevation Plan".



Erection Note:  
 Flange Braces may be required one or both sides of Rafter. For requirements, and locations at Main Frame and Rigid Frame in Endwall refer to "Cross Section". For requirements, and locations at Bearing Frame Endwall refer to "Roof Plan".



Sag Angles Not Required to Extend to Header Unless Noted Otherwise on Erection Drawings.



Sag Angles Not Required if Location is 1'-0" or Less From Jamb, Unless Noted Otherwise on Erection Drawings.

Check'd	
By	
Description	
Date	
Revision	

8600 SOUTH I-35 SERVICE RD.  
 OKLAHOMA CITY, OK 73149

**STAR BUILDING SYSTEMS AN INC COMPANY**

Project Name & Location:  
 ALASKA RAILROAD CORPORATION  
 SANDPOINT, AK

Customer:  
 NORTHERN MANAGEMENT SERVICES, INC  
 SANDPOINT, ID

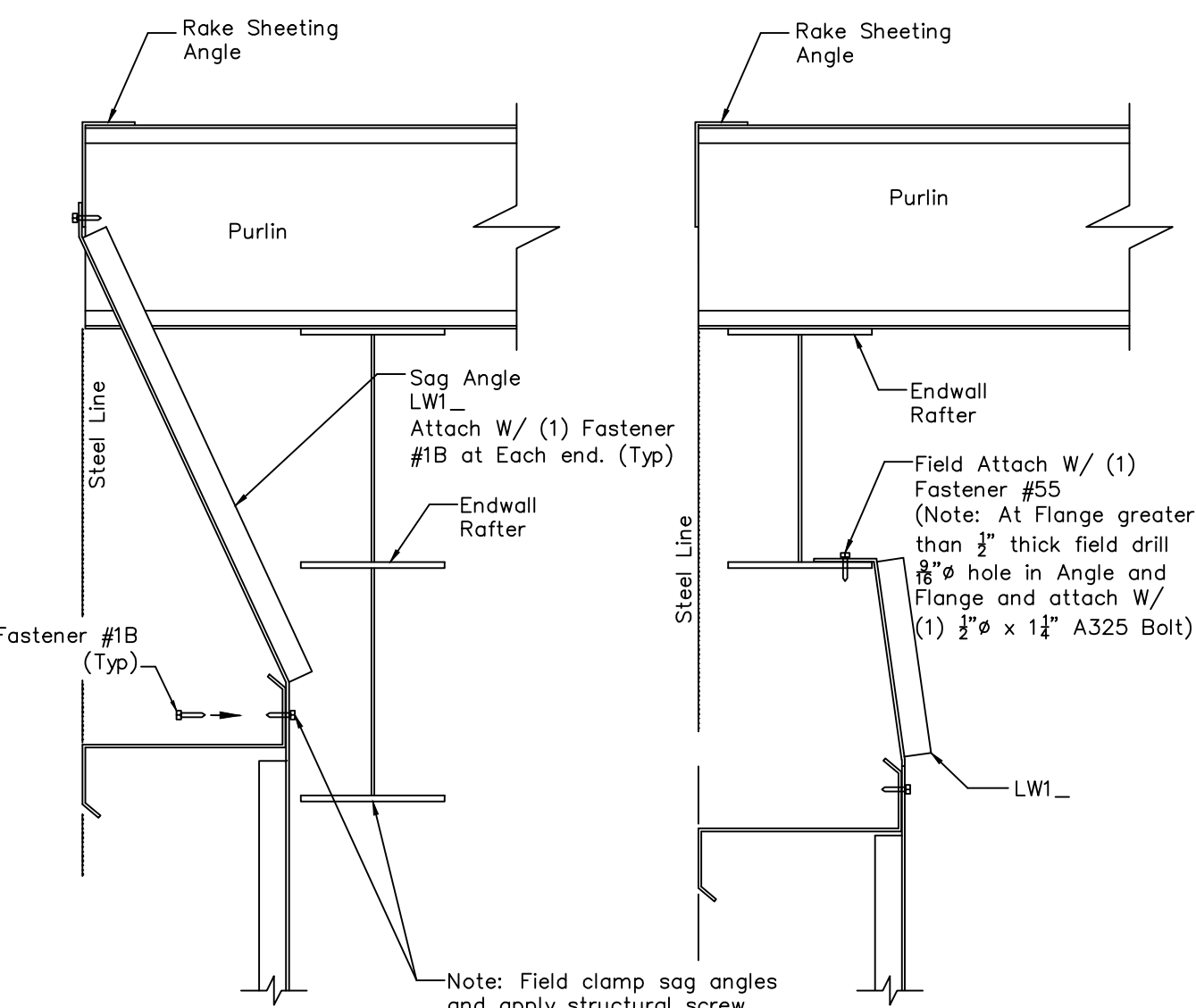
Drawing Status:  
 Preliminary  
 Not For Construction  
 For Approval  
 Not For Construction  
 For Erector Installation

Scale: NOT TO SCALE  
 Drawn by: EBF 5/17/18  
 Checked by: CLS 5/17/18  
 Project Engineer:  
 Job Number: 16-B-42908  
 Sheet Number: R5 of 15

The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.

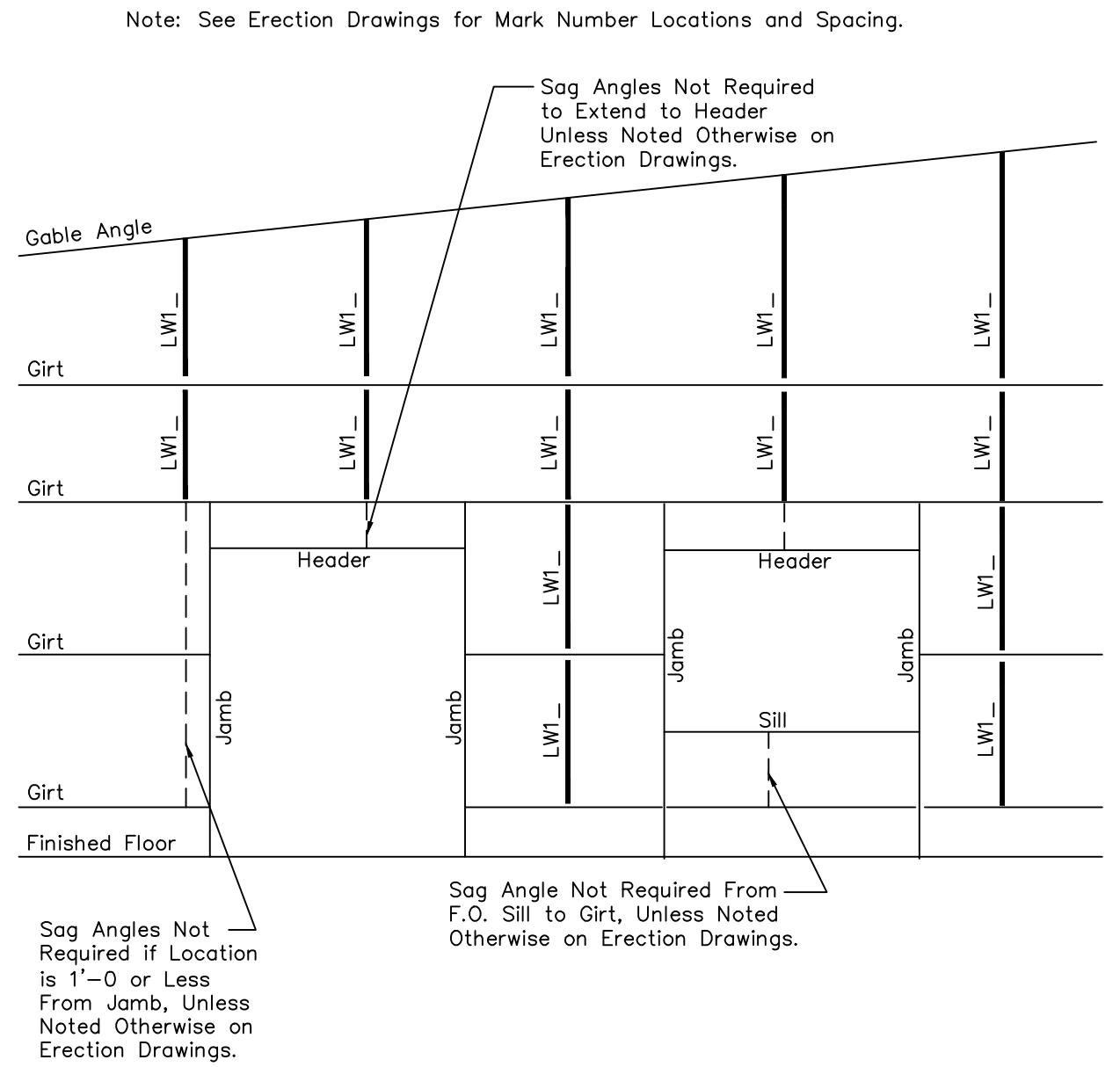
DRSTIC ENSTIA

**Sag Angle Attachment at Endwall Rake**



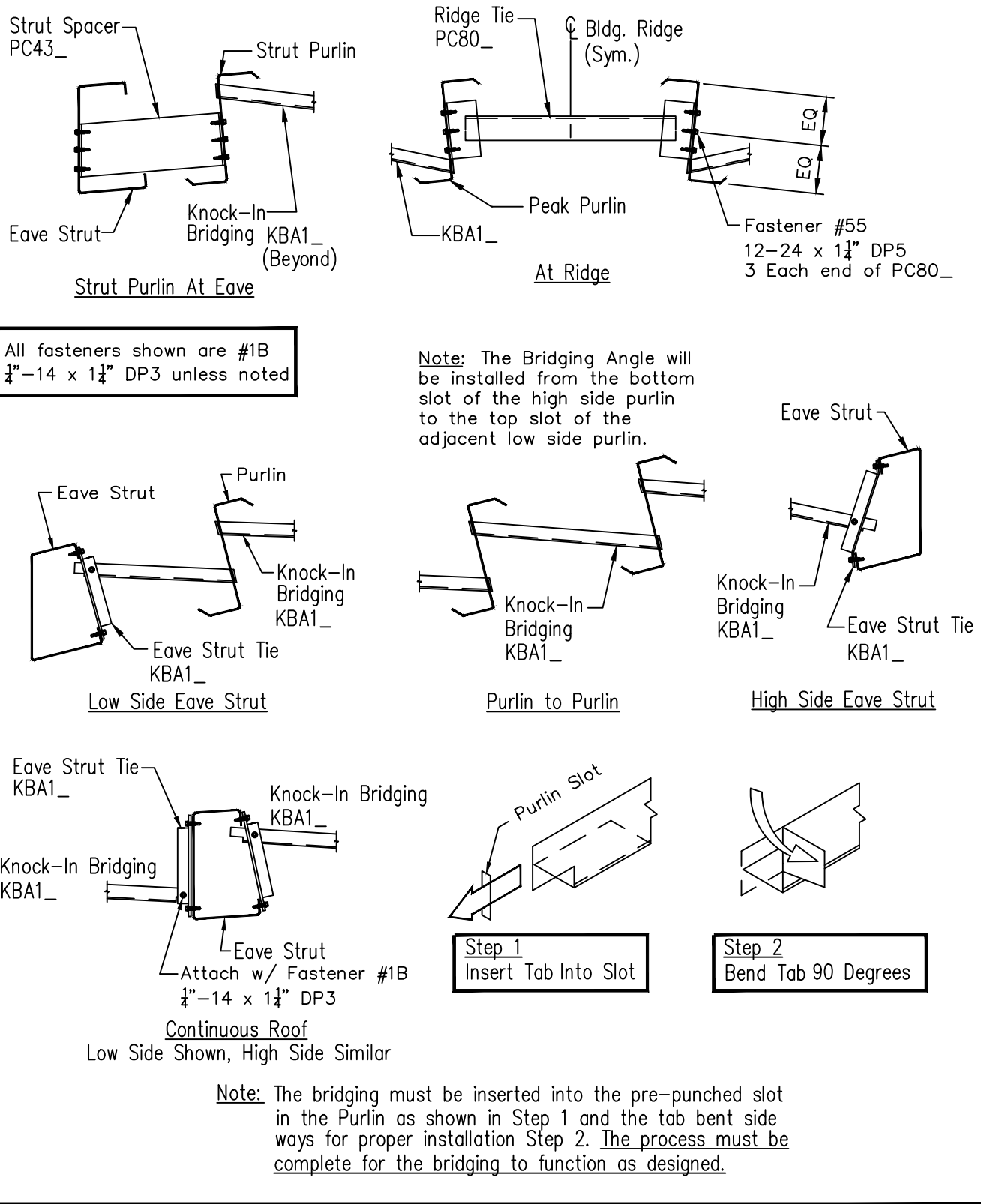
**Rafter Outside of Girt Space**      **Rafter Inside of Girt Space**

**Sag Angles at Endwall Framed Opening (3 or 4 Sided Framed Opening with Jamb to Floor)**



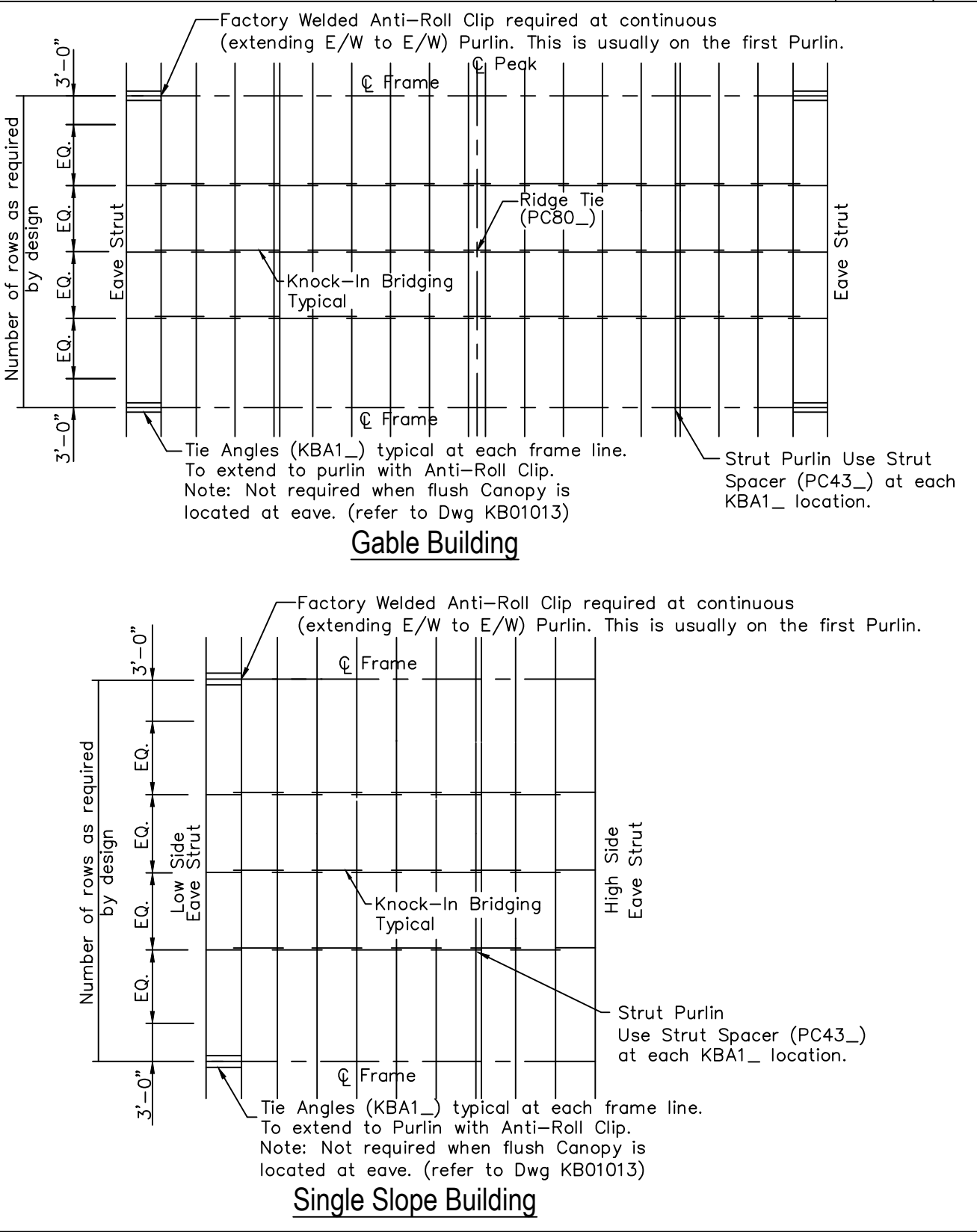
**Sag Angles at Endwall Framed Opening**

**Knock-In Bridging Installation 3:12 to 4½:12 Single Row**



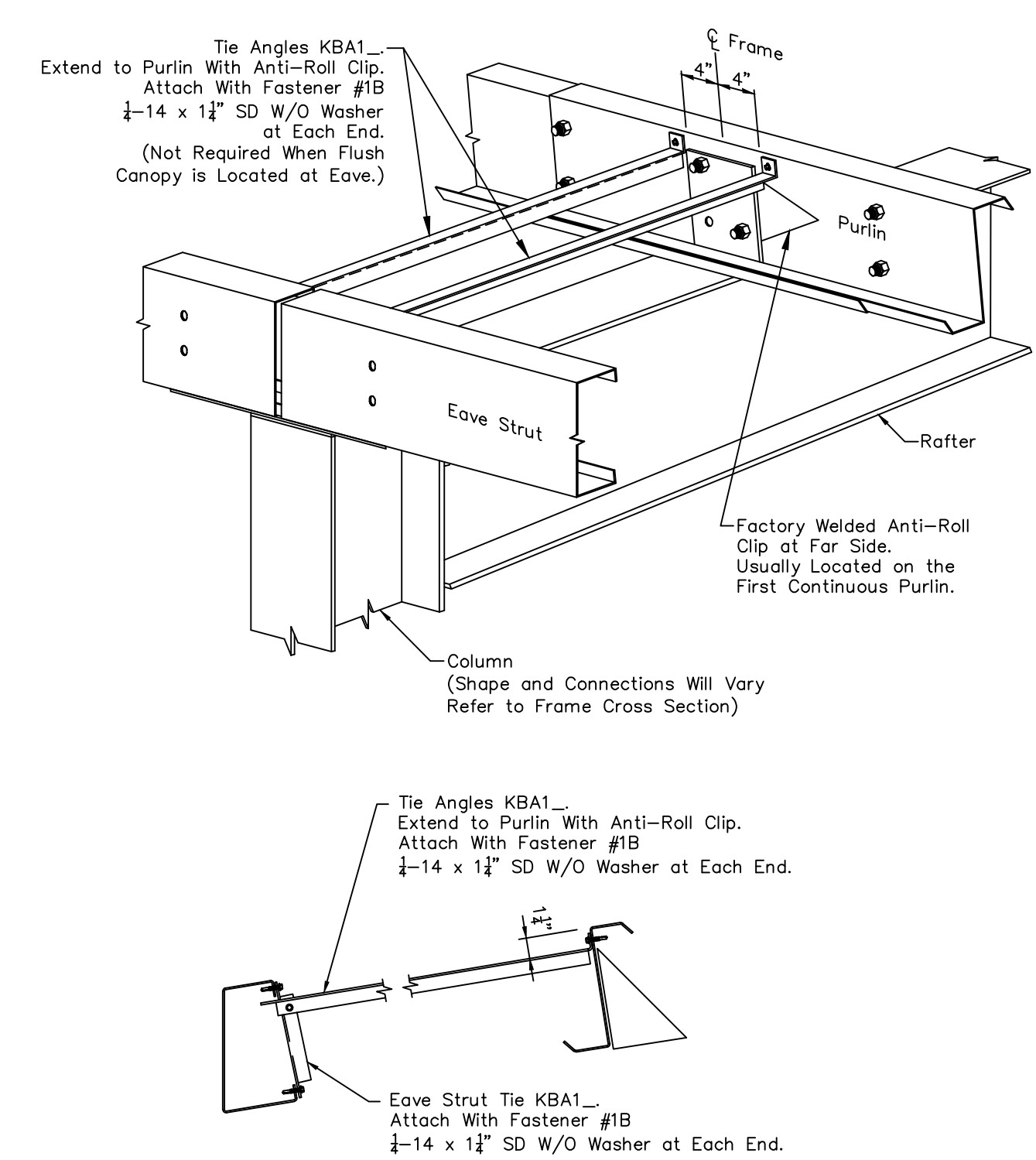
**Knock-In Bridging Installation**

**Knock-In Bridging Roof Layout Single Row**



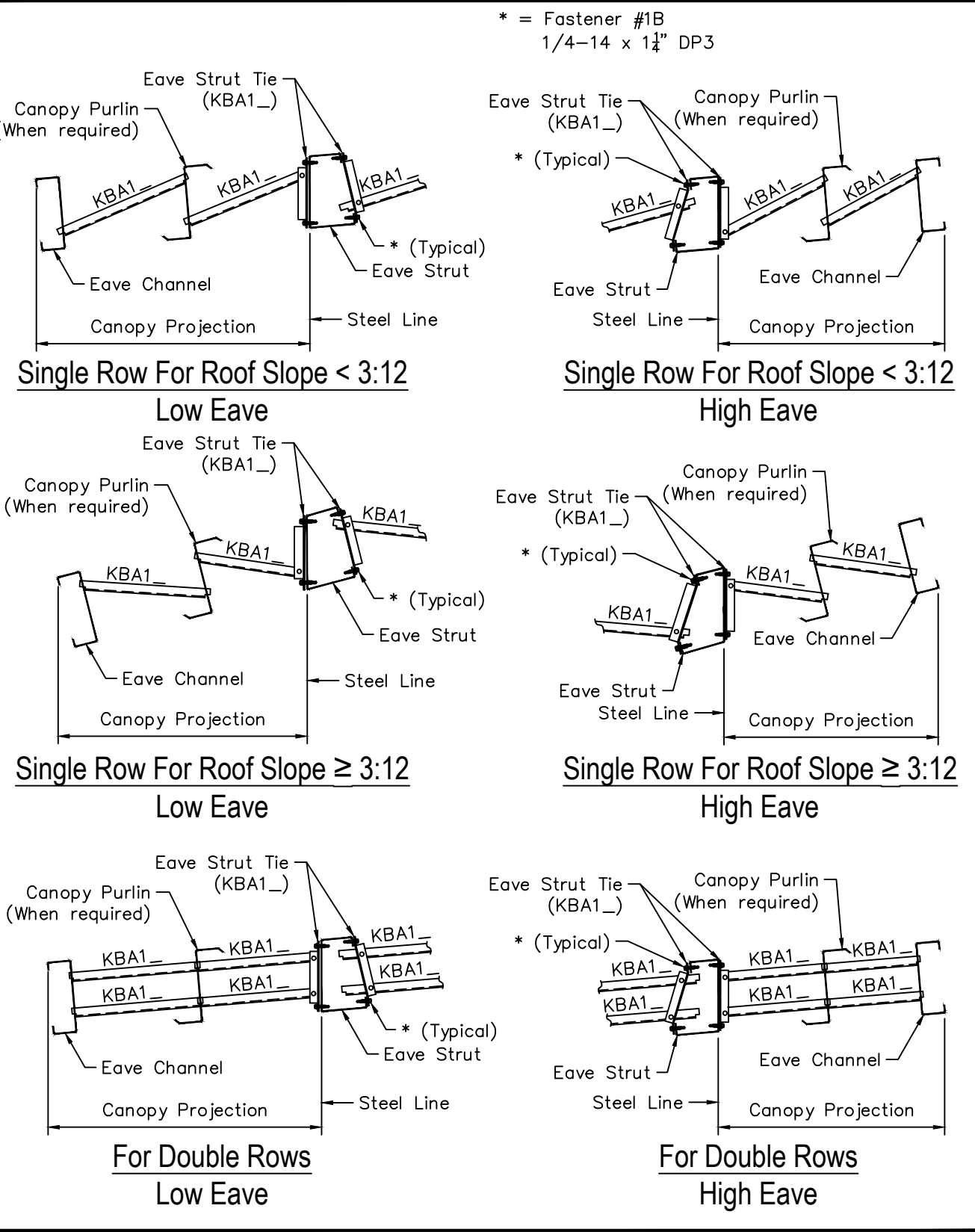
**Knock-In Bridging Roof Layout**

**Tie Angles at Eave for Knock-In Bridging and Top and Bottom Angle (TBA) Bridging**



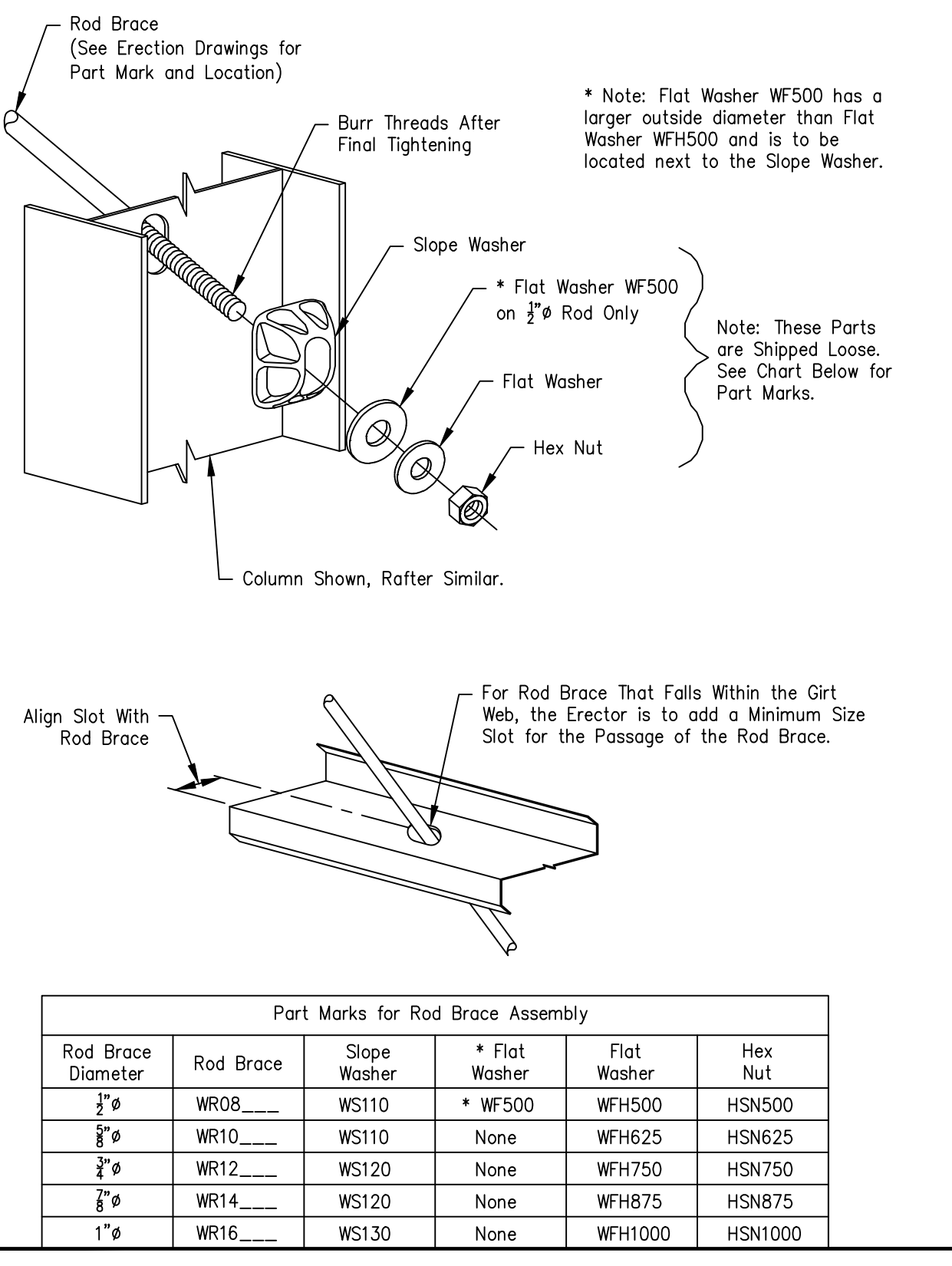
**Tie Angles at Eave**

**Knock-In Bridging Attachment at Slimline Canopy at Eave**



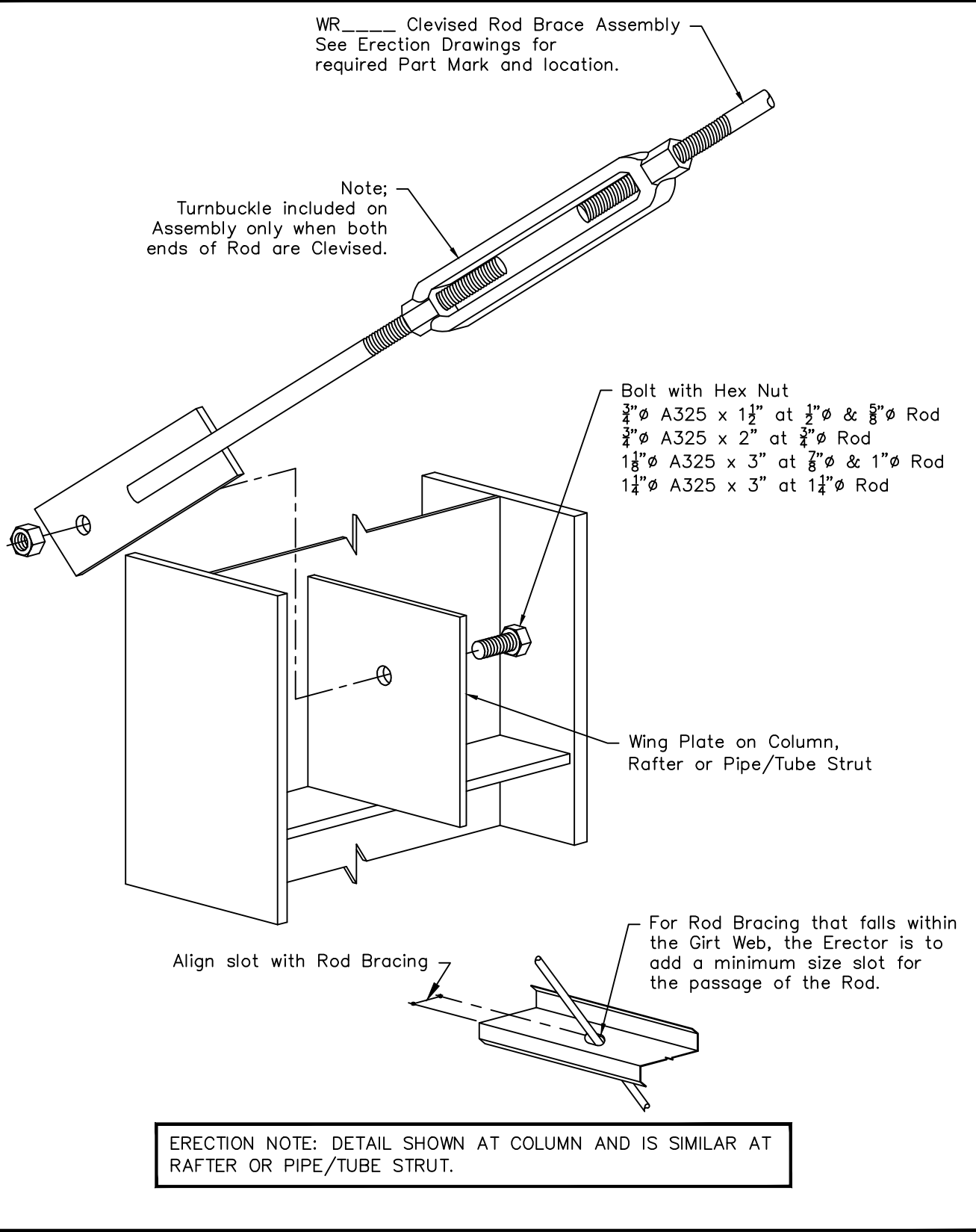
**Knock-In Bridging Attachment at Slimline Canopy at Eave**

**Rod Brace Attachment at Web**



**Rod Brace Attachment at Web**

**Single Clevised Rod Brace Attachment**



**Single Clevised Rod Brace Attachment**

Rev	Date	Description

8600 SOUTH I-35 SERVICE RD.  
OKLAHOMA CITY, OK 73149

**STAR** BUILDING SYSTEMS<sup>®</sup>  
AN INCE COMPANY

Project Name & Location:  
ALASKA RAILROAD  
CORPORATION  
GIRDWOOD, AK

Customer:  
NORTHERN MANAGEMENT  
SERVICES INC  
SANDPOINT, ID

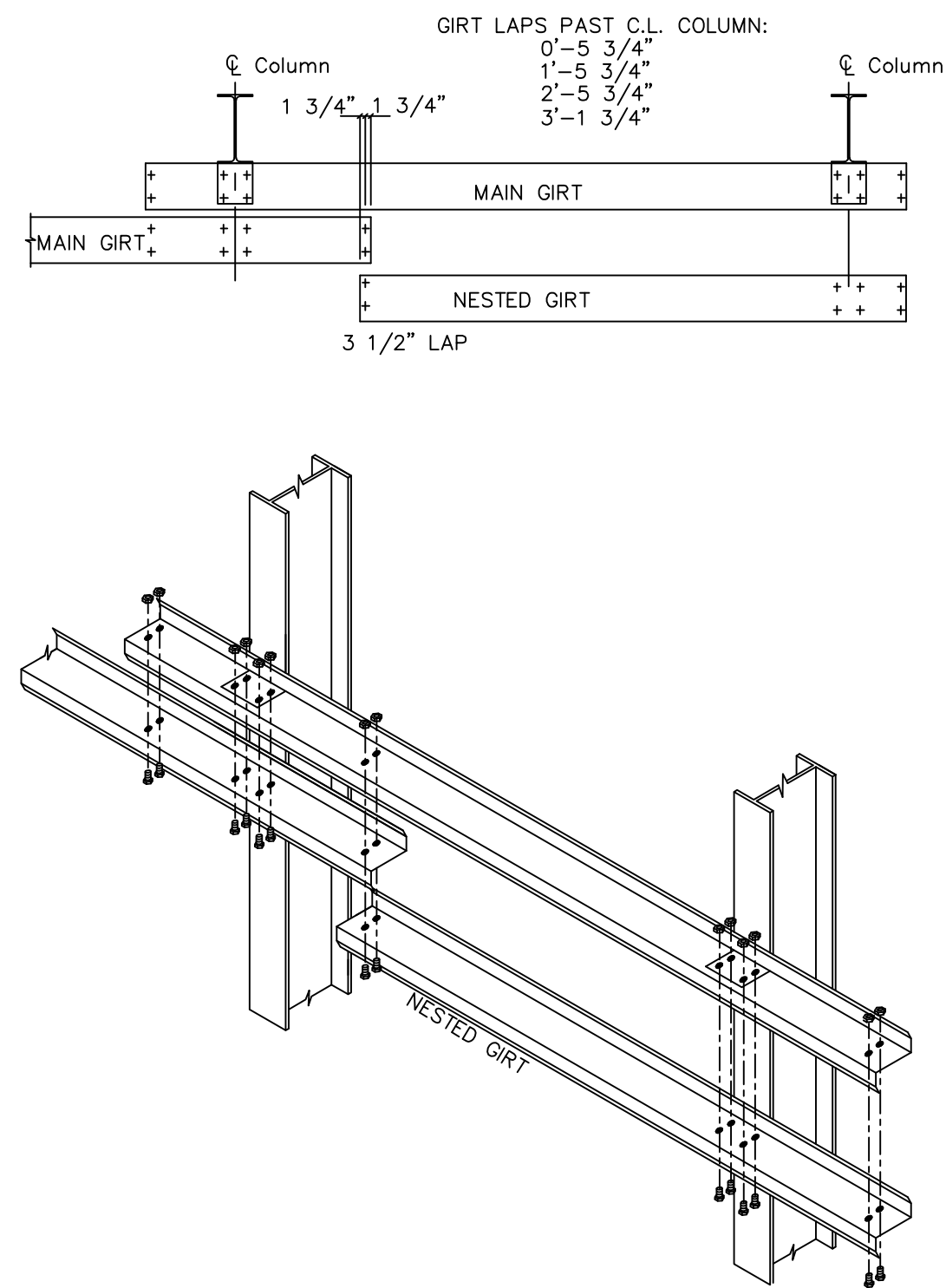
Drawing Status:  
 Preliminary  
 For Approval  
 For Construction  
 For Erector Installation

Scale: NOT TO SCALE  
 Drawn by: EBF 5/17/18  
 Checked by: CLS 5/17/18  
 Project Engineer:  
 Job Number: 16-B-42908  
 Sheet Number: R6 of 15

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**Welded Clip End Bay  
with Nested Zee Girt**

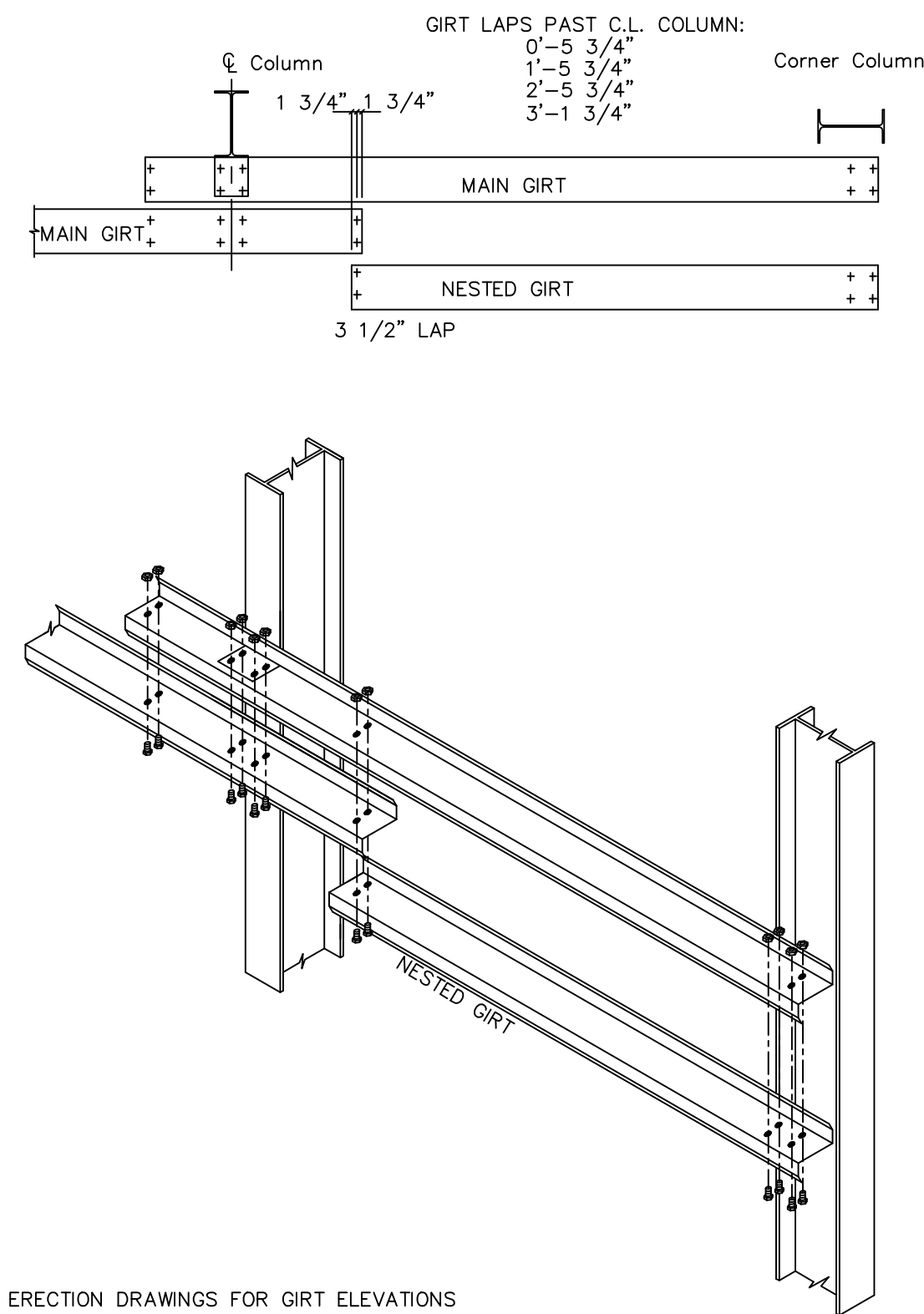
Page **CF01111**  
Date **Sep '13** Rev **01**



SEE ERECTION DRAWINGS FOR GIRTS ELEVATIONS

**Welded Clip Endwall End Bay  
with Nested Zee Girt**

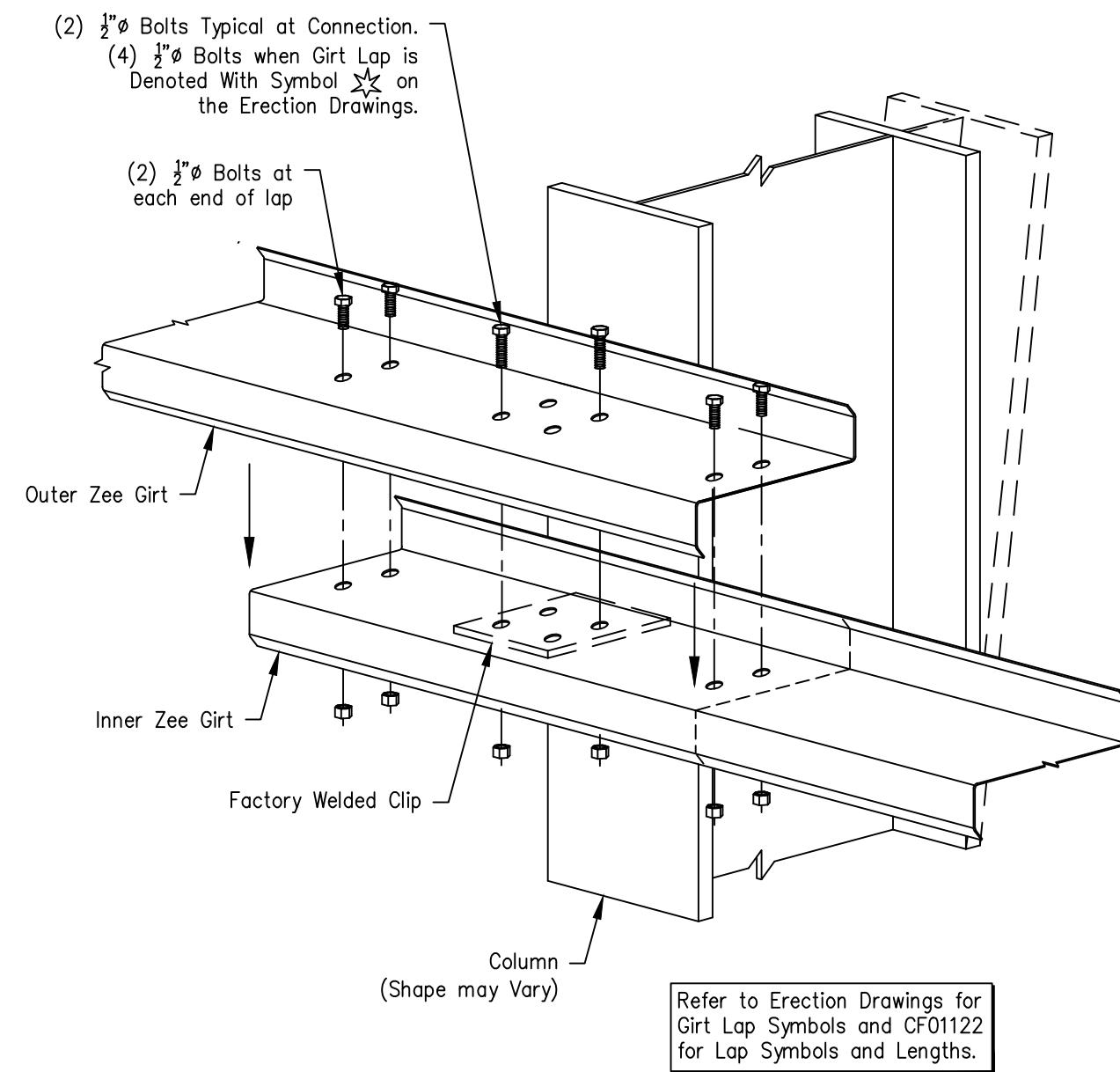
Page **CF01112**  
Date **Sep '13** Rev **01**



SEE ERECTION DRAWINGS FOR GIRTS ELEVATIONS

**Girt Connection  
At Bypass Column**

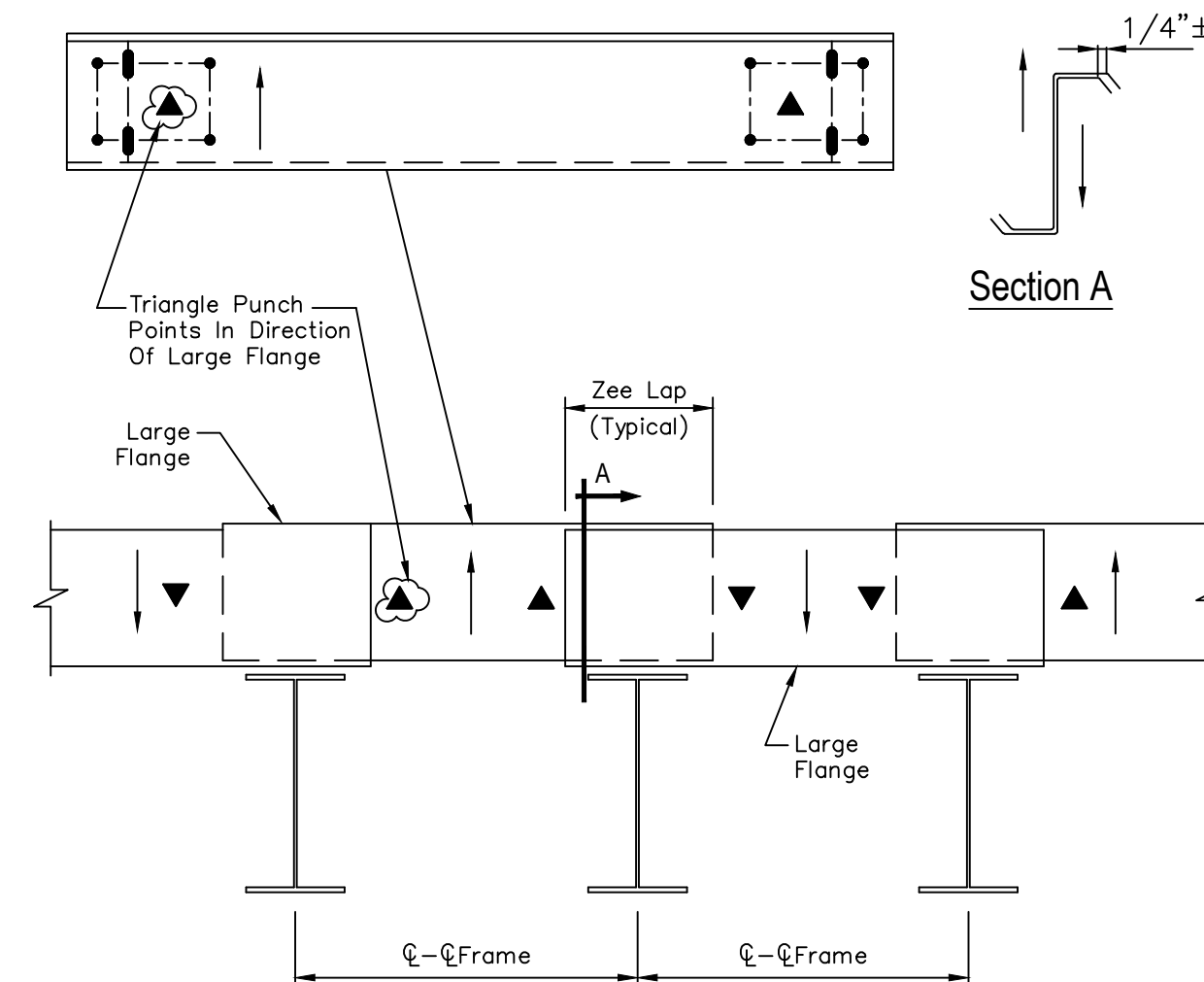
Page **CF01120**  
Date **Jun '16** Rev **02**



All Bolts to be 3/8" Unless Noted.  
For Required Length Refer to Grip  
Table on Erection Drawings.

**By-Pass Zee Installation**

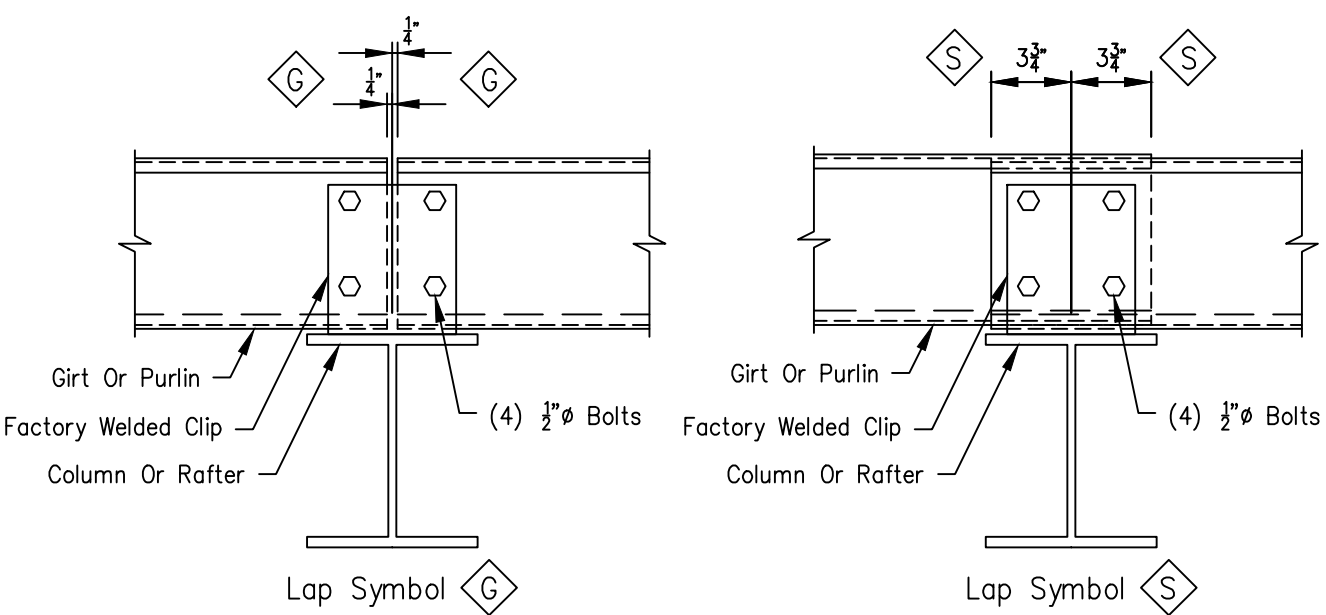
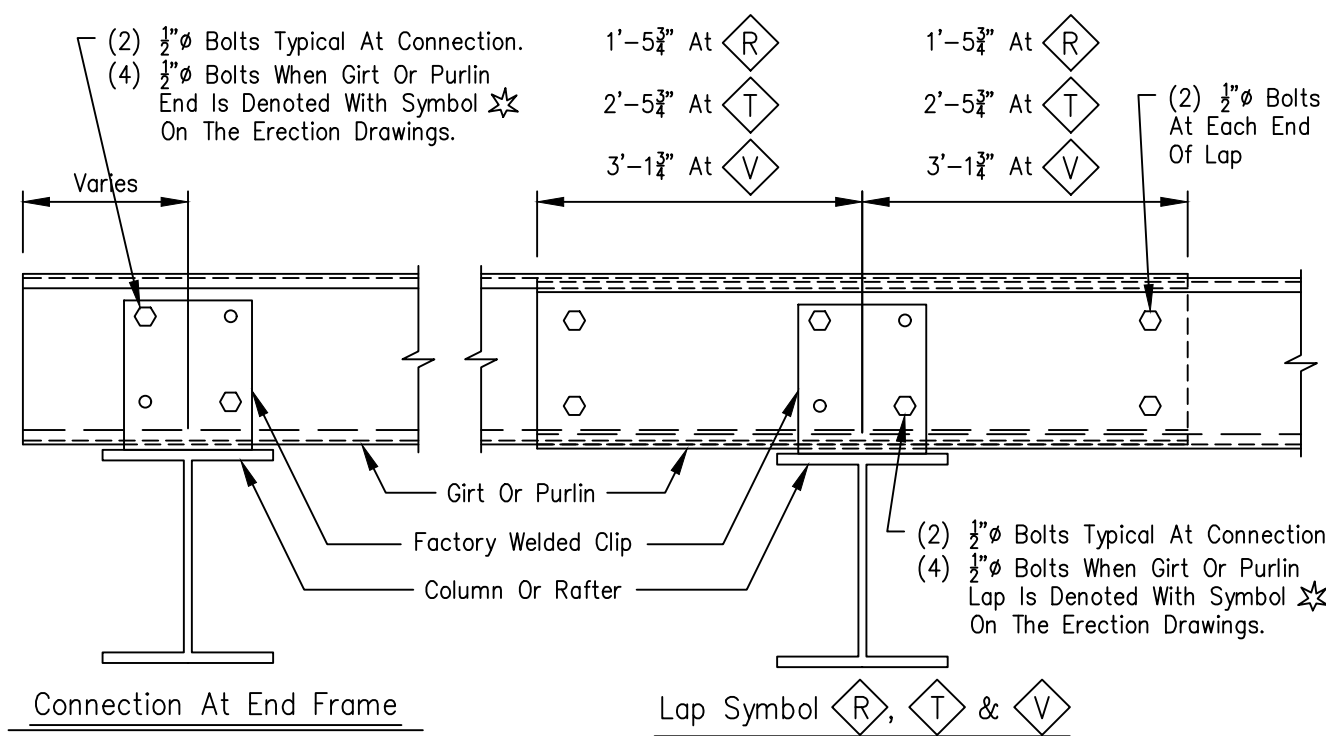
Page **CF01121**  
Date **Dec '10** Rev **00**



The large leg of the Zee must be alternated from top to bottom in order to nest the member correctly. A triangle has been added to the end of the Zee near the connection holes, that will point to the large leg of the member.

**Girt And Purlin Connection  
At Bypass Column And Rafter**

Page **CF01122**  
Date **Jul '17** Rev **03**

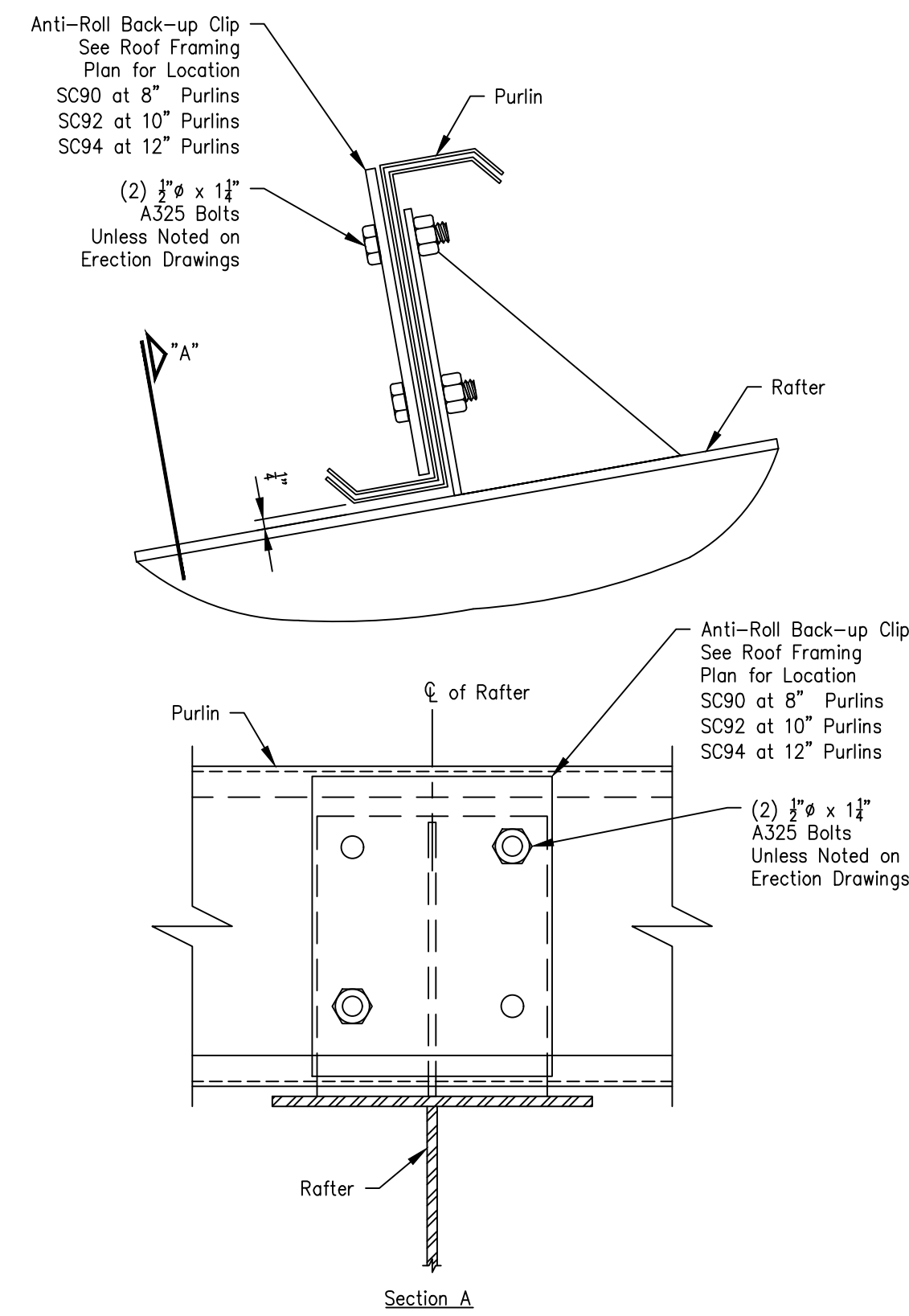


ZEE SECTION LAP TABLE			
SYMBOL	LAP LENGTH	SYMBOL	LAP LENGTH
	0'-0 3/4"		2'-5 3/4"
	0'-3 3/4"		3'-1 3/4"
	1'-5 3/4"		

Refer to Erection Drawings for Lap  
Symbol at Girt and Purlin Connection.  
All Bolts to be 3/8" Unless Noted.  
For Required Length Refer to Grip  
Table on Erection Drawings.

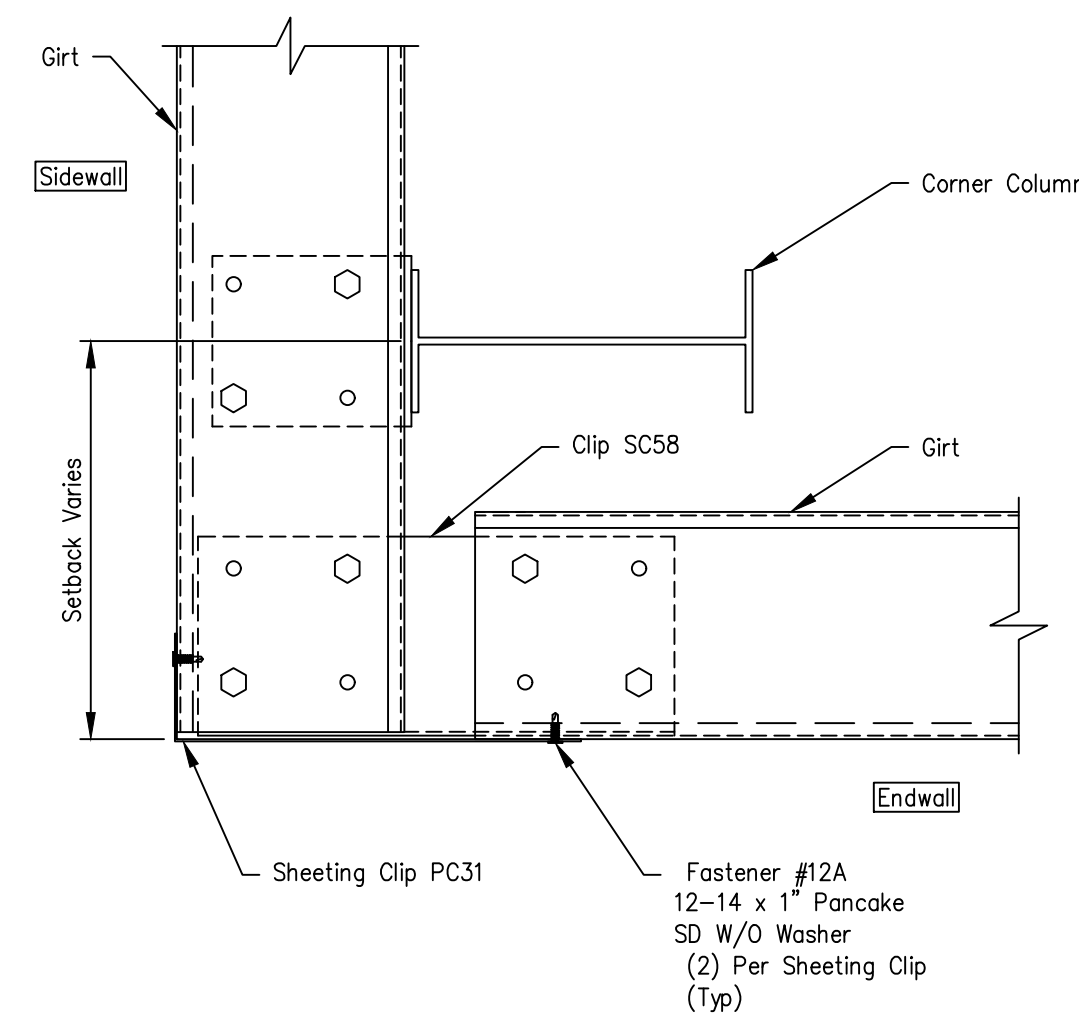
**Purlin with Anti-Roll Back-up Clip  
at Rafter**

Page **CF02035**  
Date **Dec '14** Rev **04**



**8" Sidewall Zee Girts and 8" Endwall Zee Girts  
at Bypass Corner Column with Variable Frame Setback**

Page **EF03500**  
Date **Jan '16** Rev **01**



All Bolts To Be 3/8" Unless Noted.  
For Required Length Refer To Grip  
Table On Erection Drawings.

Ch'd	By	Description	Date	Revision

8600 SOUTH I-35 SERVICE RD.  
OKLAHOMA CITY, OK 73149  
ALASKA RAILROAD CORPORATION  
GIRDWOOD, AK (405) 636-2010

Project Name & Location:  
ALASKA RAILROAD CORPORATION  
GIRDWOOD, AK

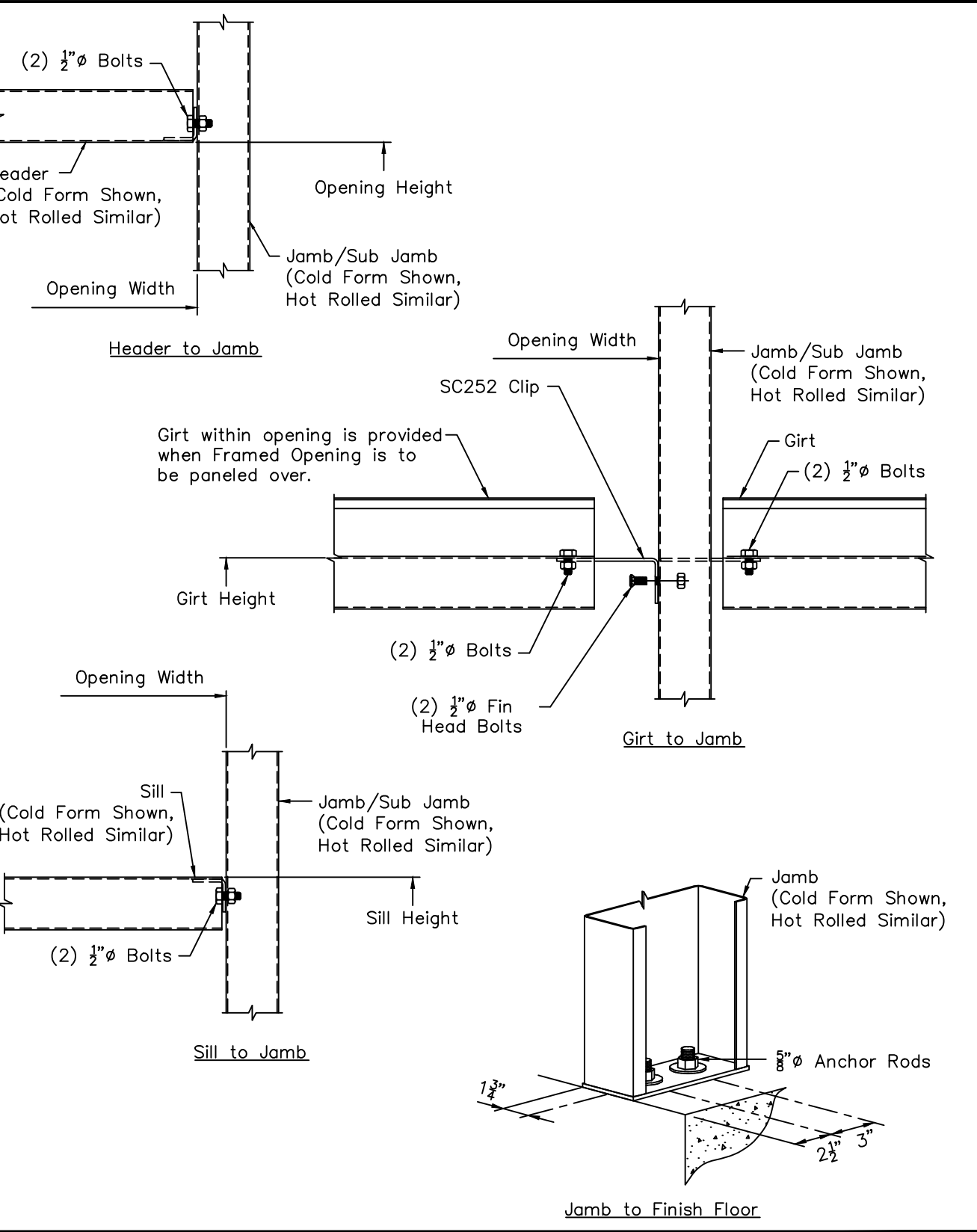
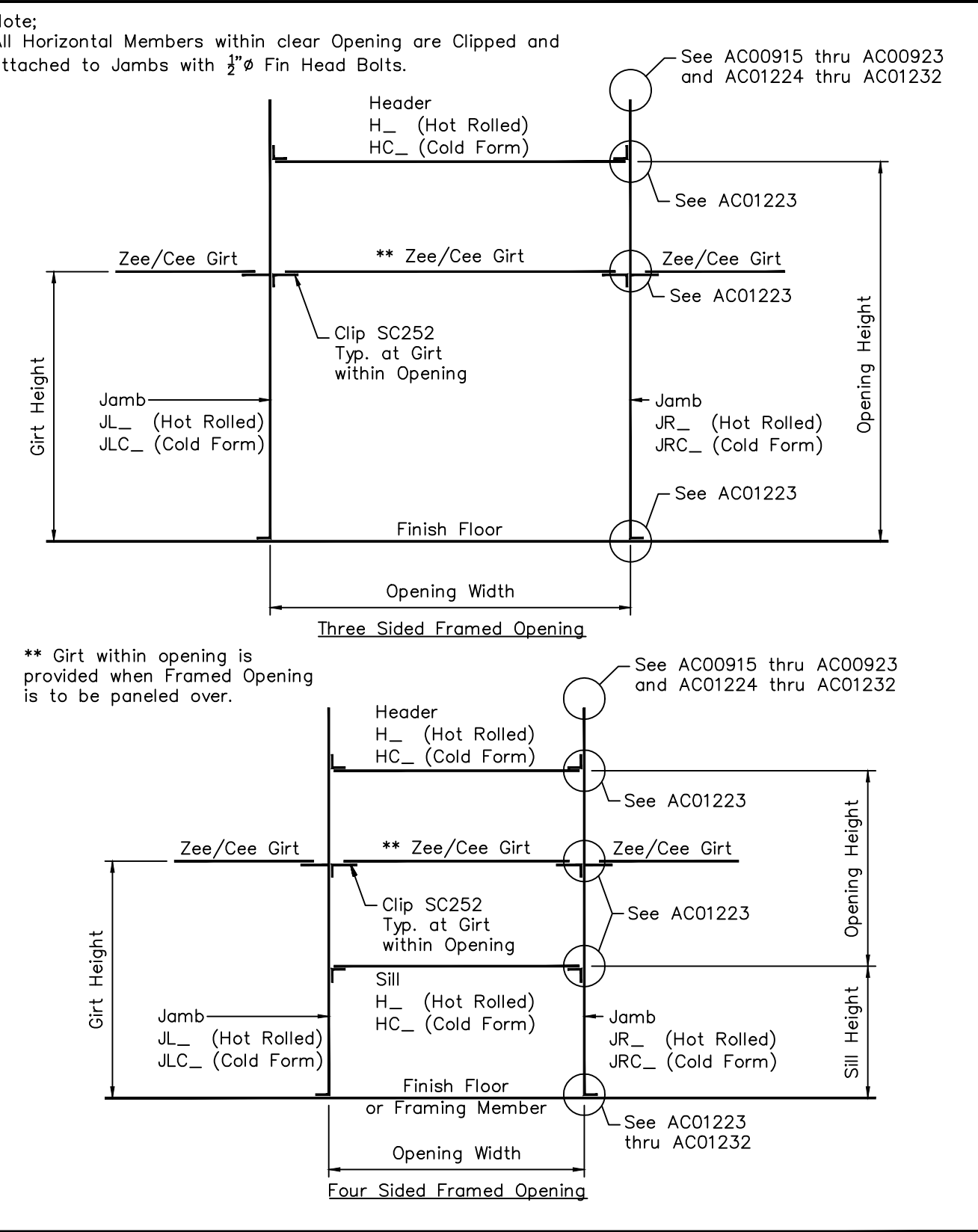
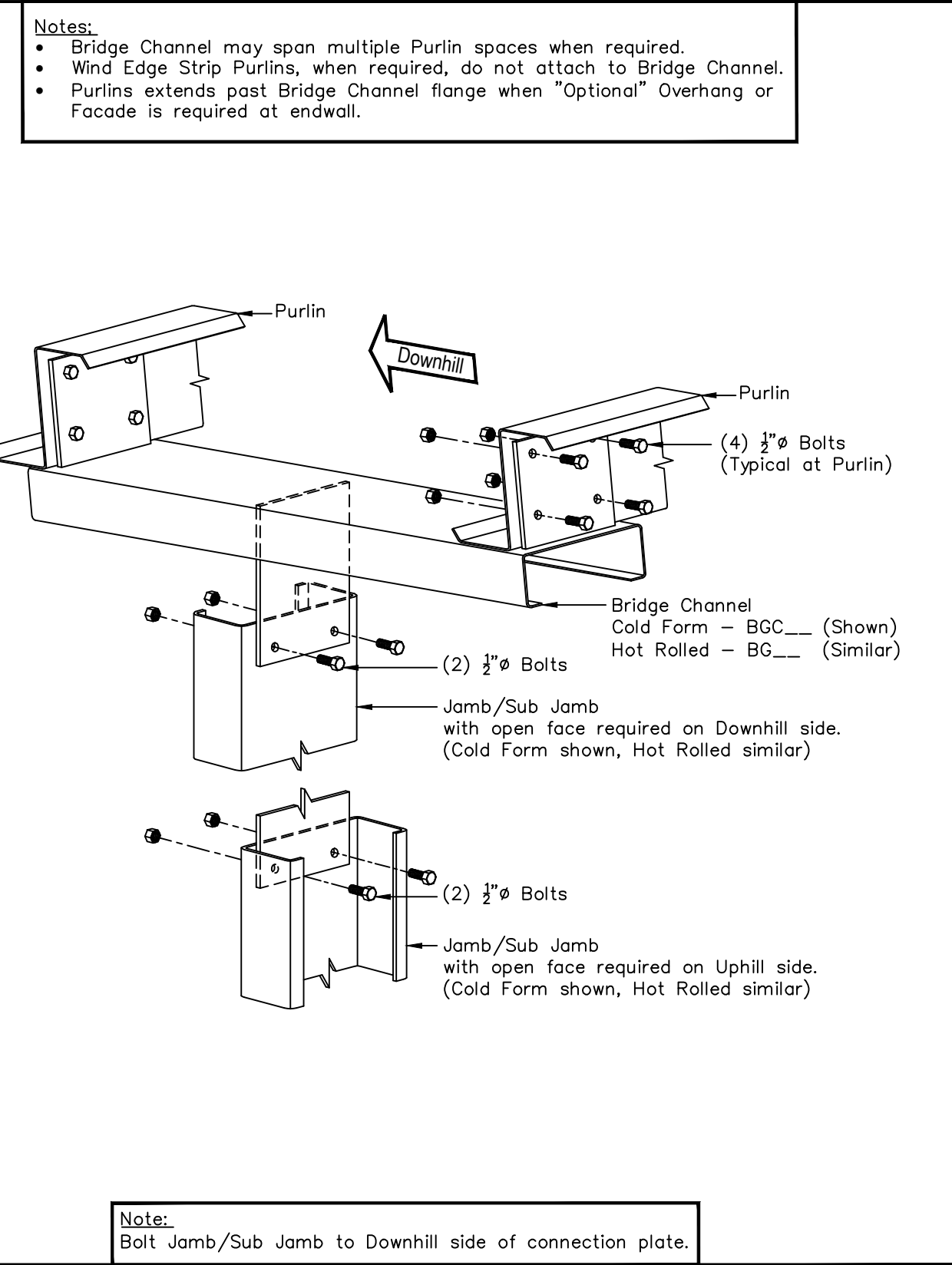
Customer:  
NORTHERN MANAGEMENT SERVICES INC  
SANDPOINT, ID

Scale: NOT TO SCALE  
Drawn by: EBF 5/17/18  
Checked by: CLS 5/17/18  
Project Engineer:  
Job Number: 16-B-42908  
Sheet Number: R7 of 15

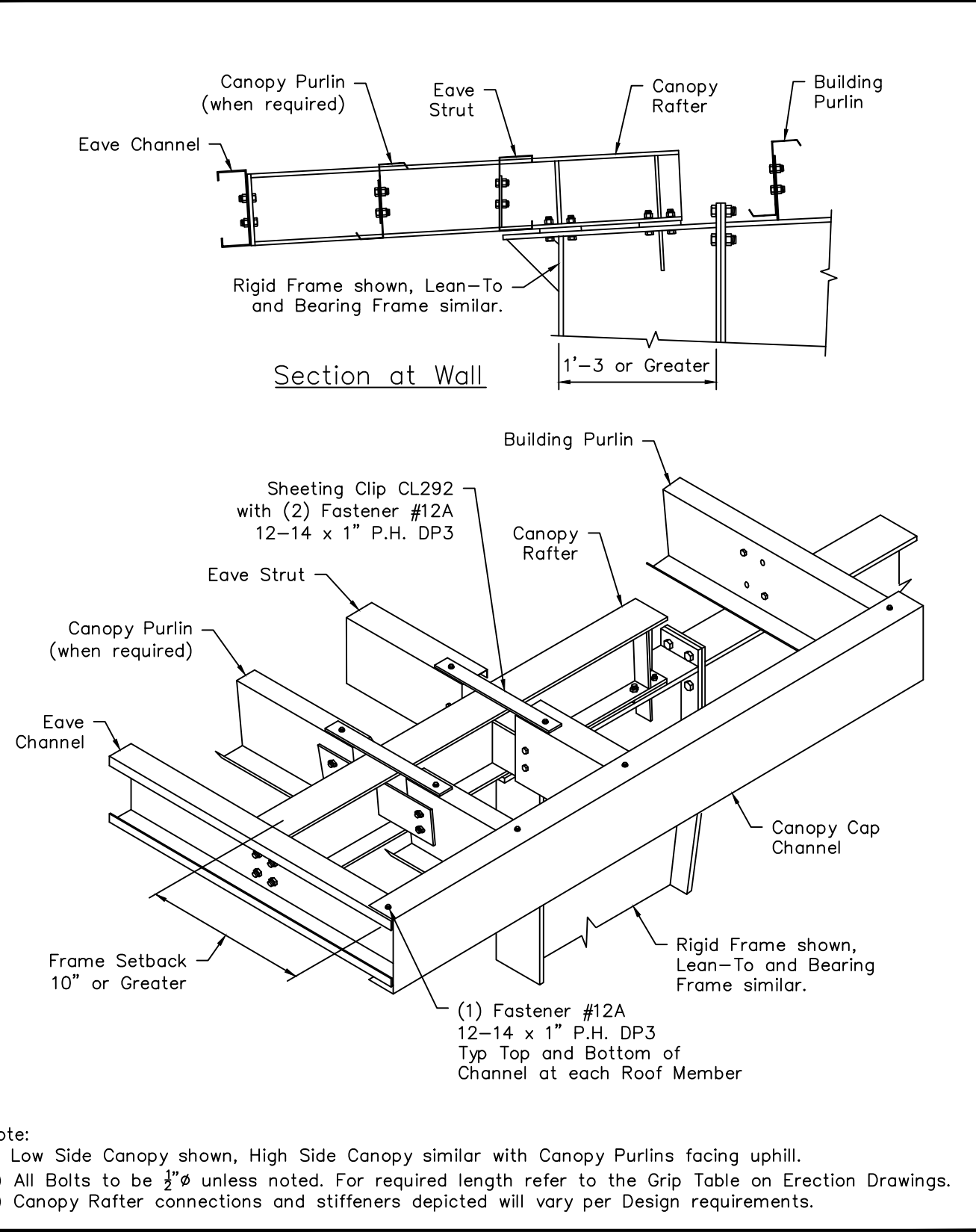
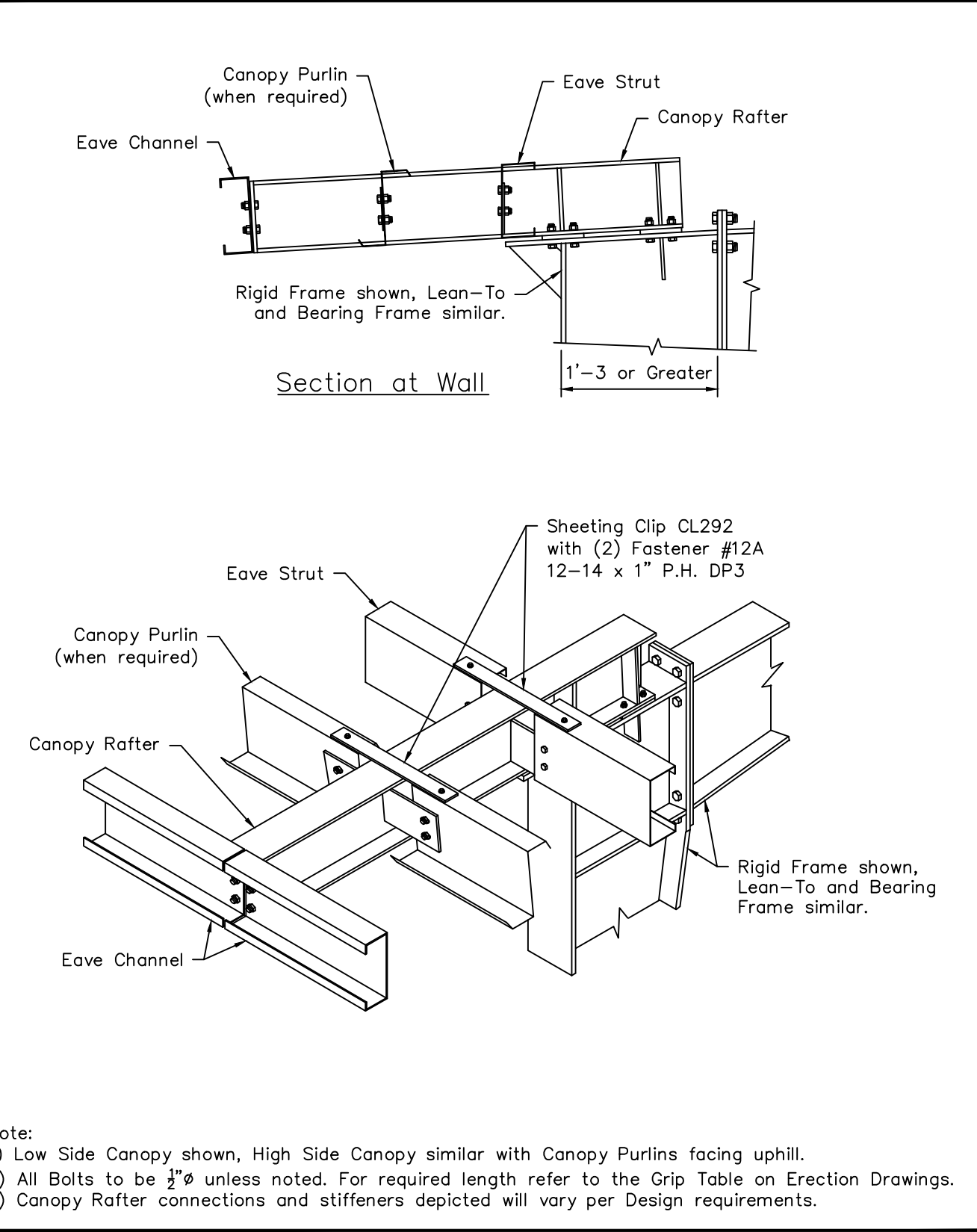
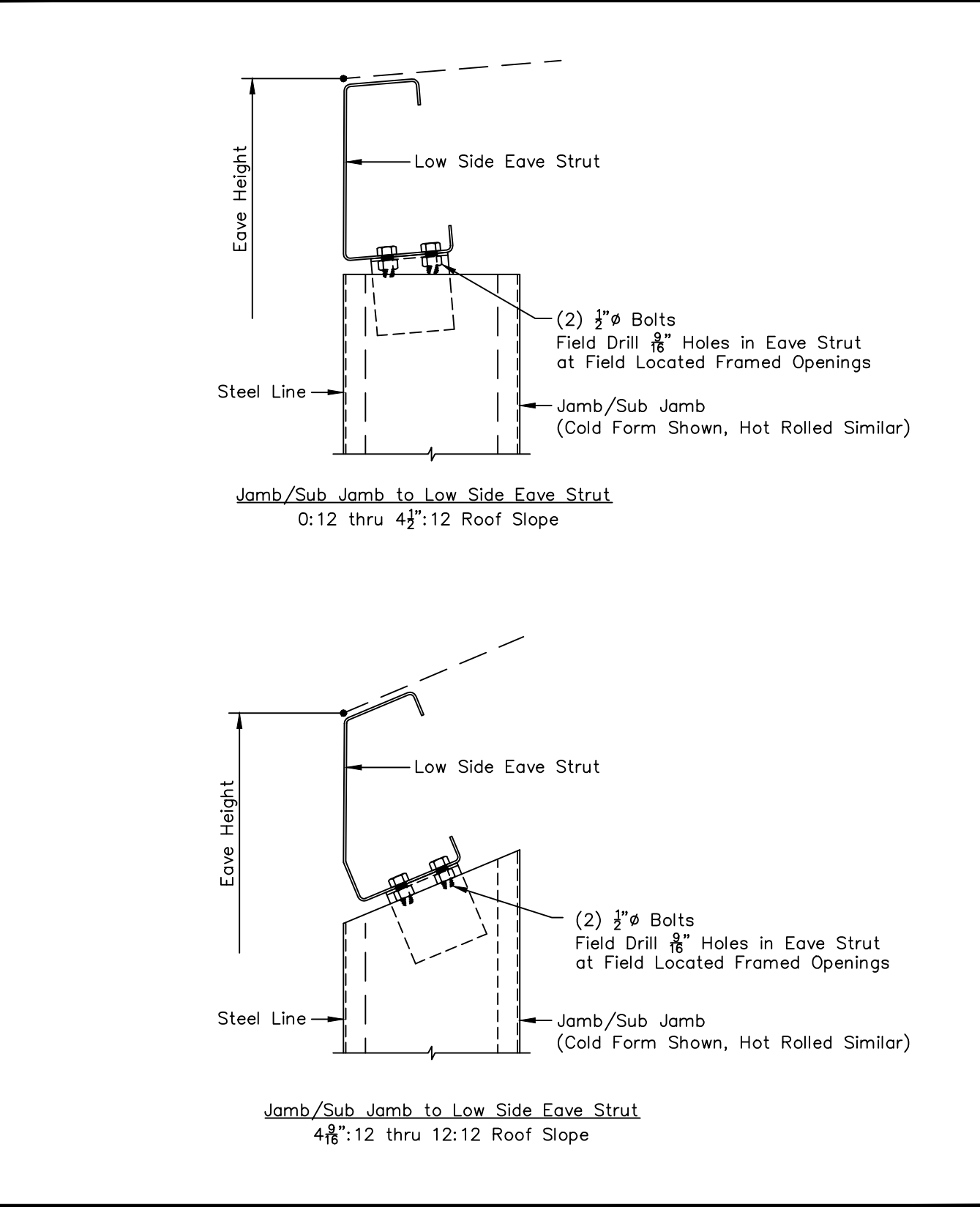
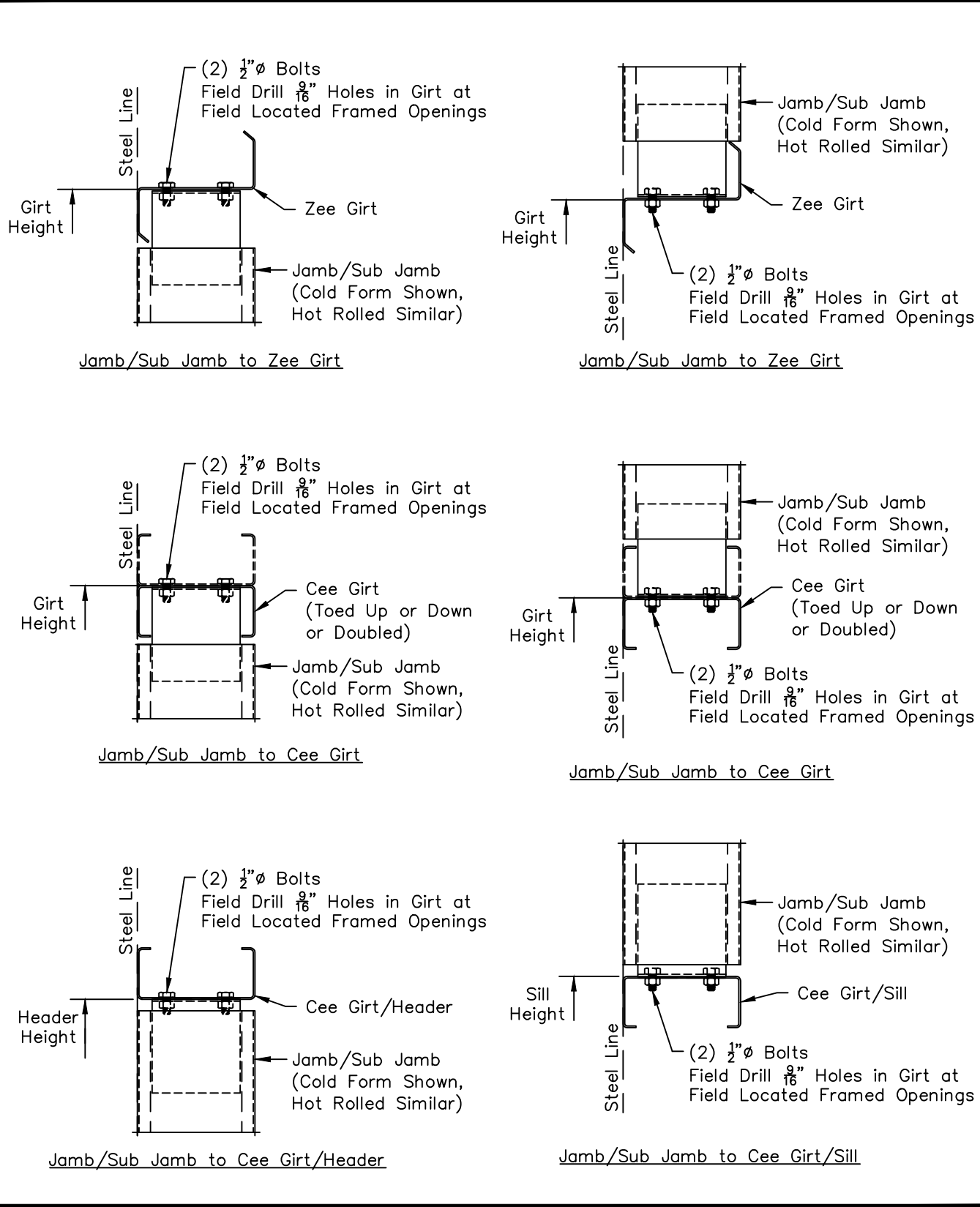
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Drawing Status:  
 Preliminary (Not For Construction)  
 For Approval (Not For Construction)  
 For Construction Permit  
 For Erector Installation

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Note:  
Zee Girt Shown  
Cee Girt Similar  
All Bolts To Be 1/2" Unless Noted.  
For Required Length Refer To Grip Table On Erection Drawings.



Rev	Date	Description

8600 SOUTH I-35 SERVICE RD.  
 OKLAHOMA CITY, OK 73149  
 ALASKA RAILROAD CORPORATION  
 GIRDWOOD, AK

**Project Name & Location:**  
 ALASKA RAILROAD CORPORATION  
 GIRDWOOD, AK

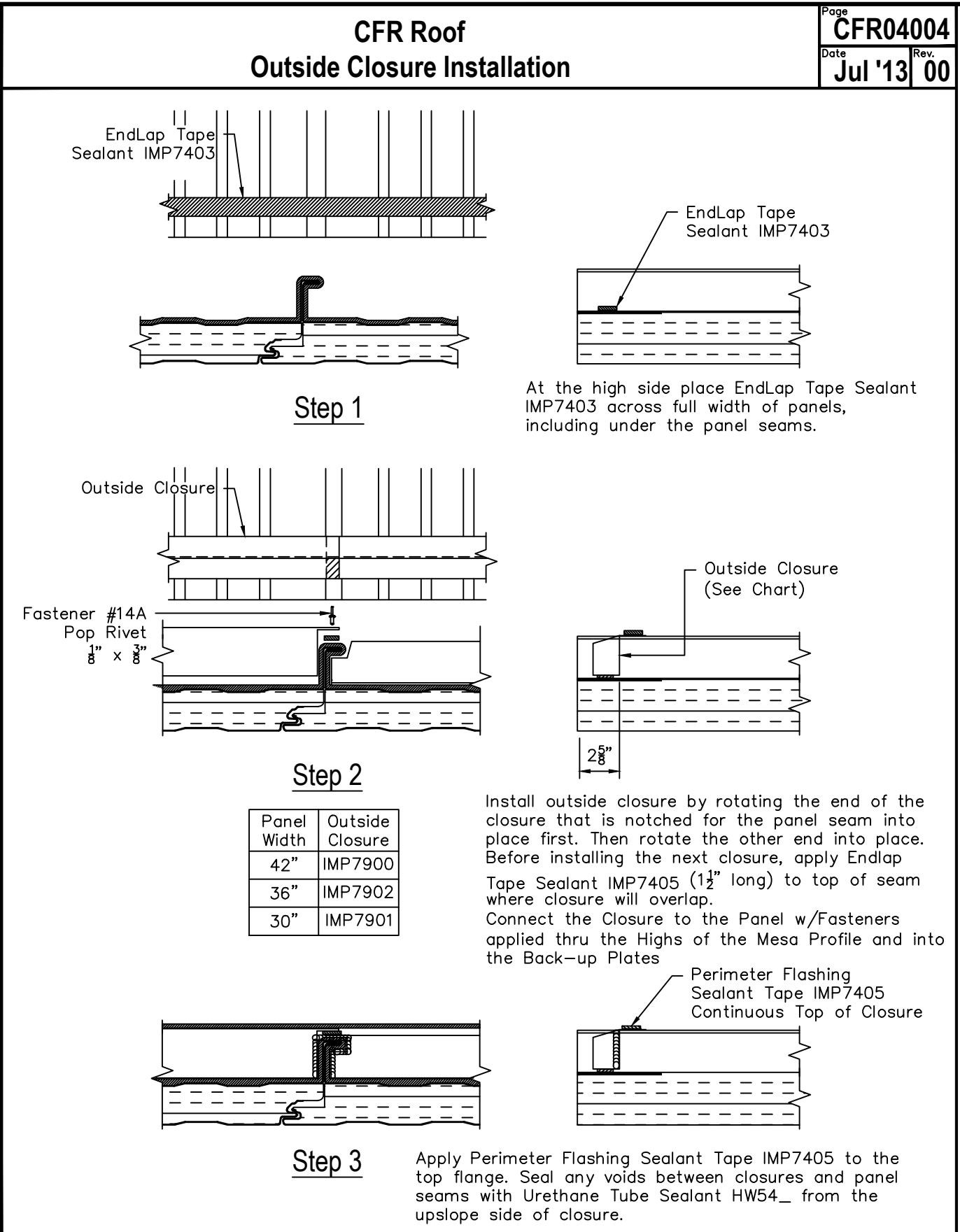
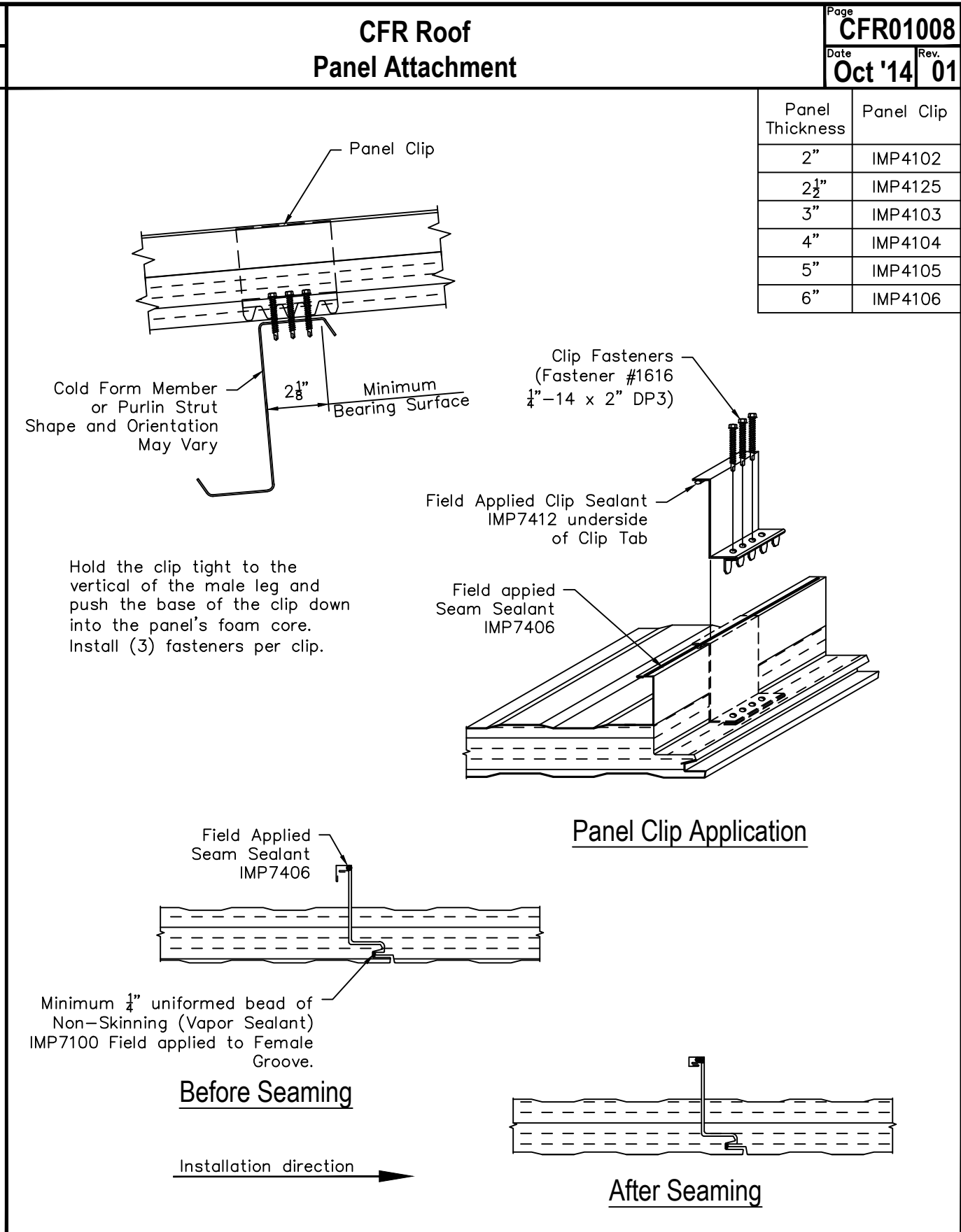
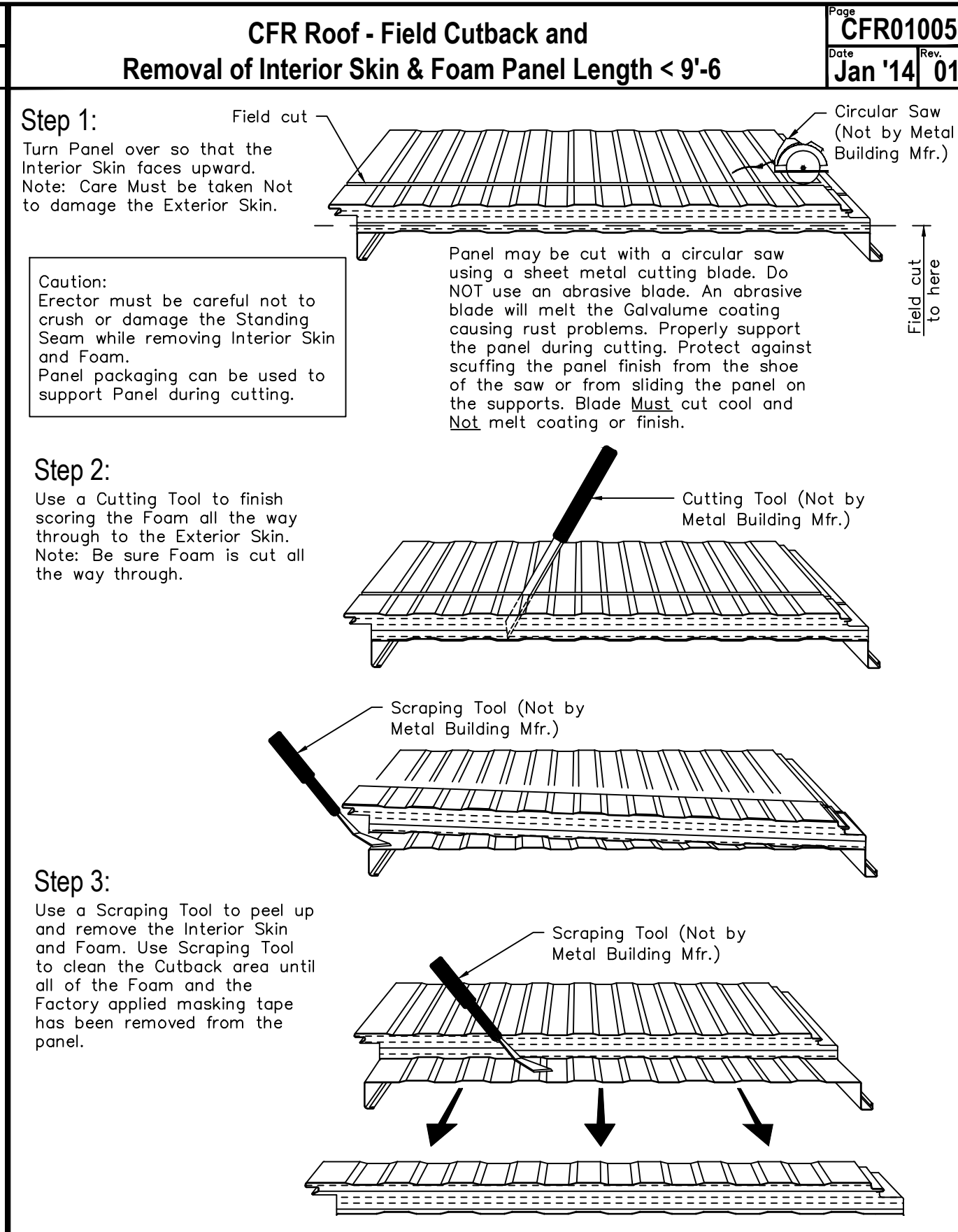
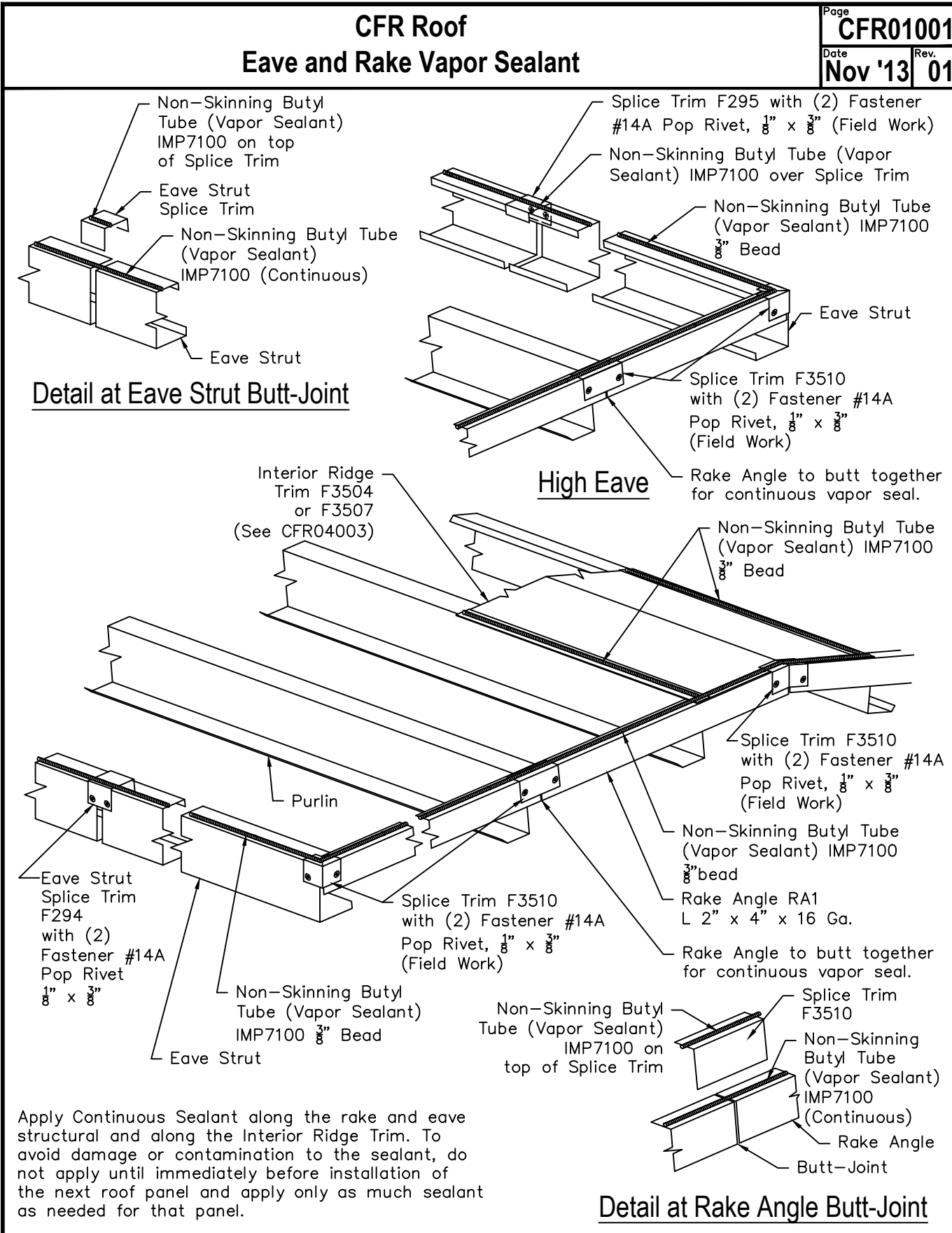
**Customer:**  
 NORTHERN MANAGEMENT SERVICES INC  
 SANDPOINT, ID

**Drawing Status:**  
 Preliminary (Not For Construction)  
 For Approval  
 For Erector Installation

Scale: NOT TO SCALE  
 Drawn by: EBF 5/17/18  
 Checked by: CLS 5/17/18  
 Project Engineer:  
 Job Number: 16-B-42908  
 Sheet Number: R8 of 15

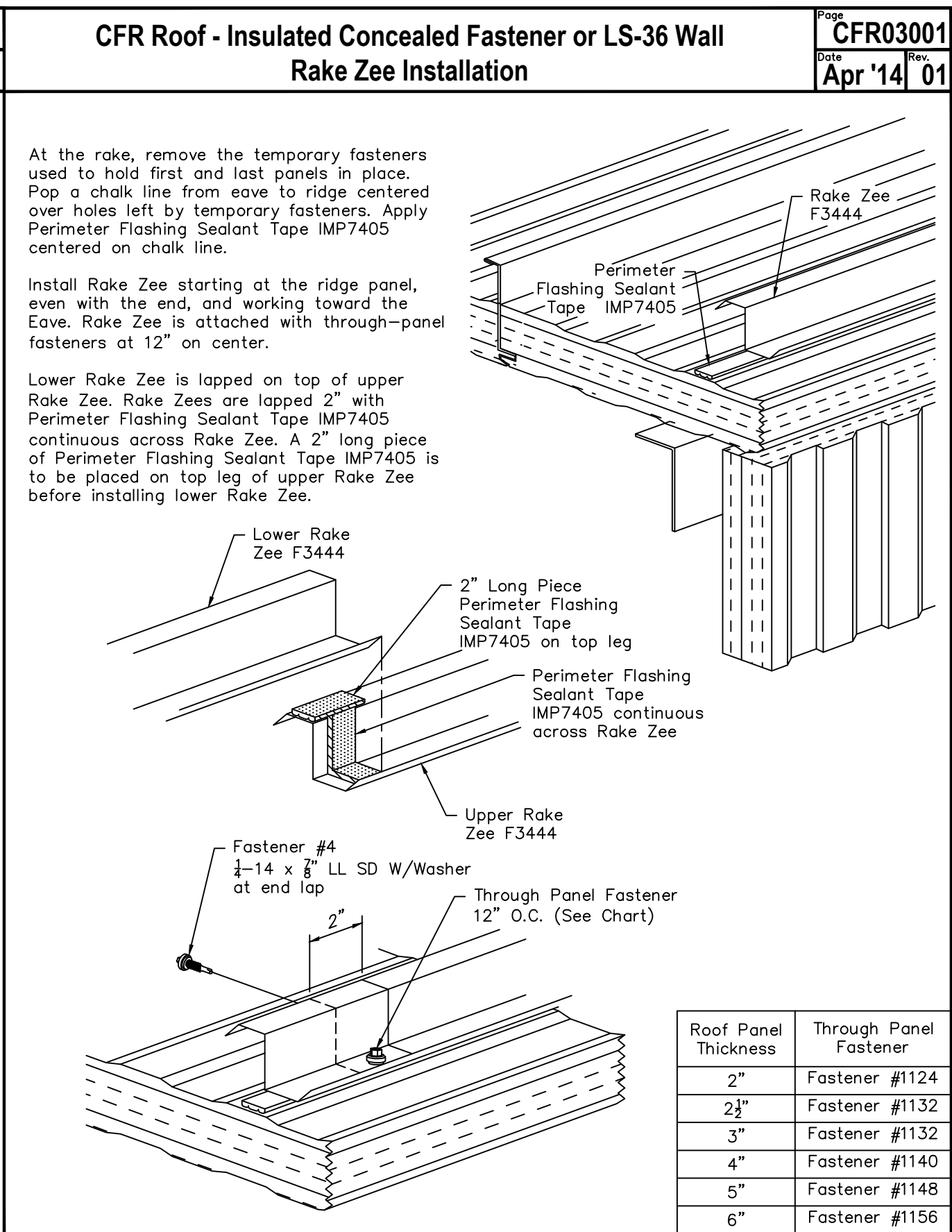
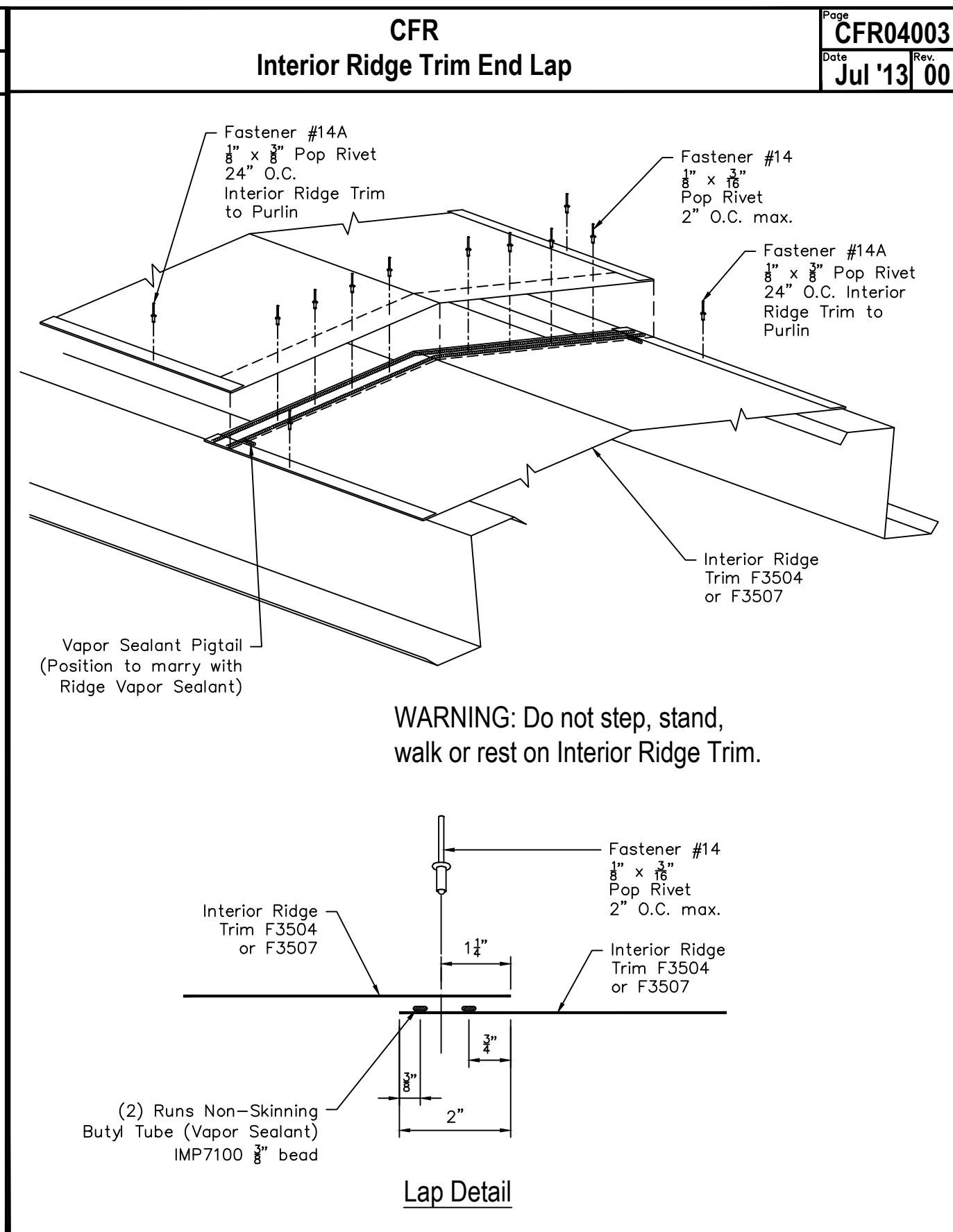
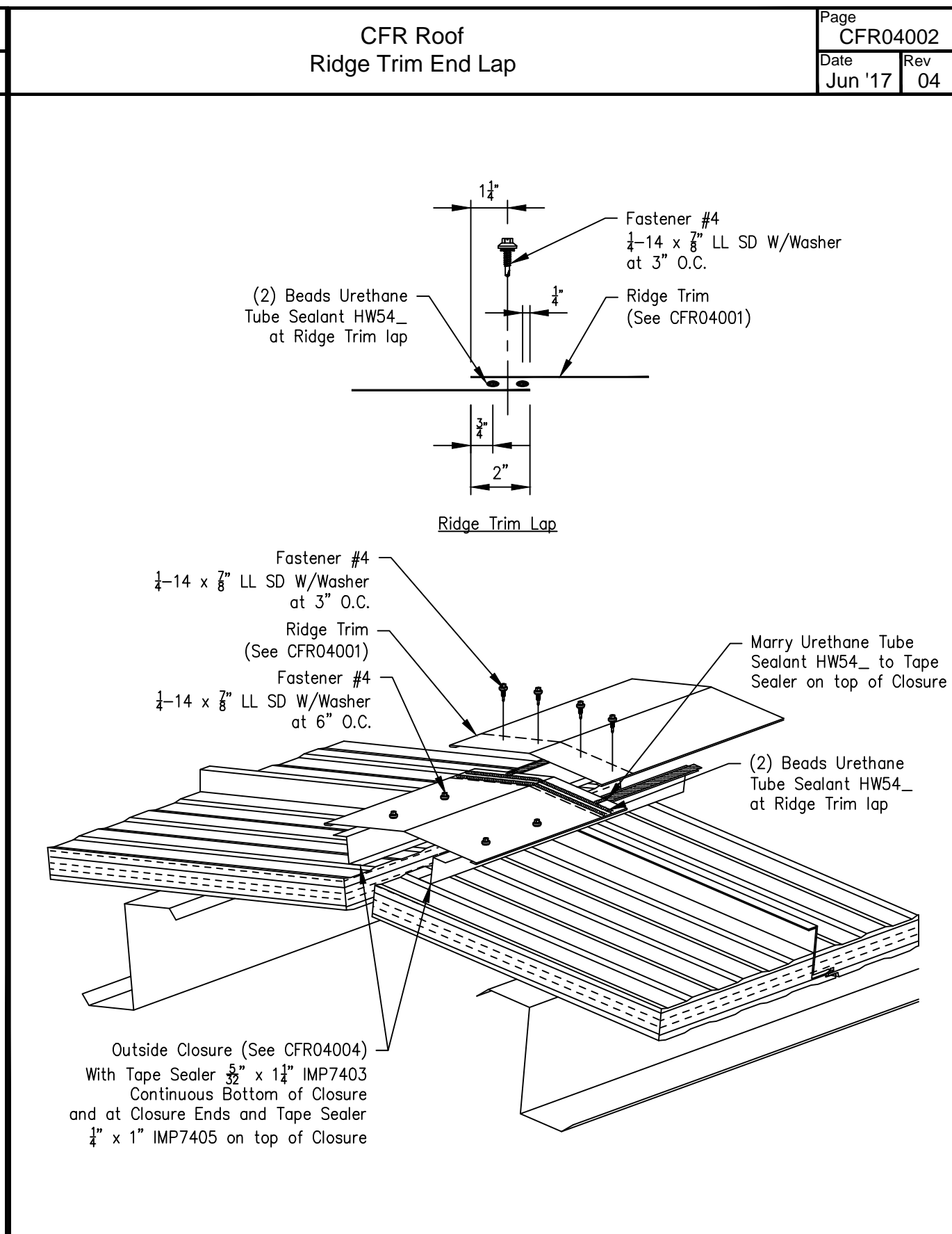
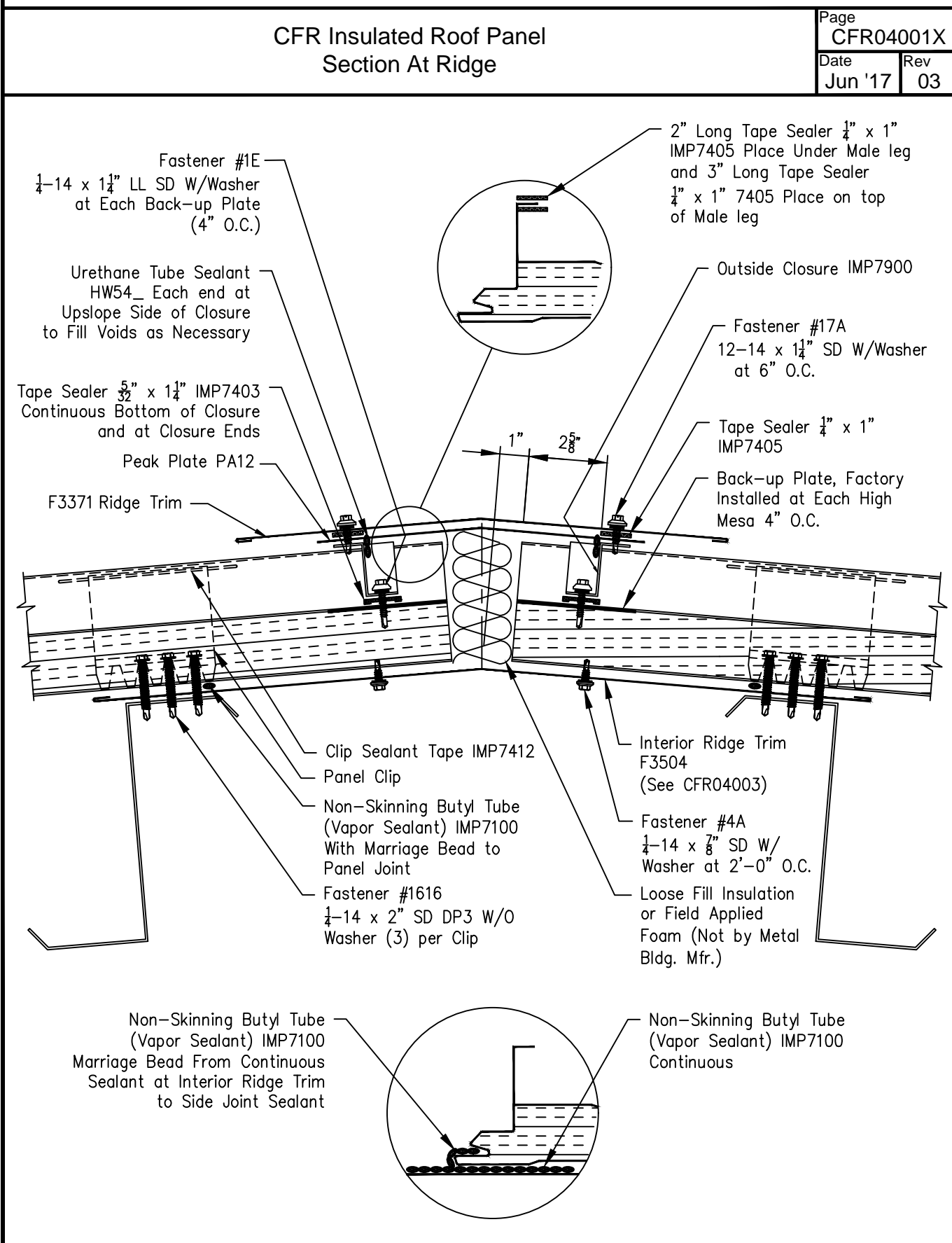
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**SUBSTITUTE ALL FASTENERS #4 WITH #4A**

**6" THICK CFR ROOF PANELS  
 4" THICK LS-36 WALL PANELS  
 FIELD CUT ALL FLASH TO LENGTH**



Revision	Date	Description

By: \_\_\_\_\_

8600 SOUTH I-35 SERVICE RD.  
 OKLAHOMA CITY, OK 73149  
 (405) 636-2010

**STAR BUILDING SYSTEMS AN INCELAN COMPANY**

Customer: **NORTHERN MANAGEMENT SERVICES, INC.**  
 SANDPOINT, ID

Project Name & Location: **ALASKA RAILROAD CORPORATION**  
 GIRDWOOD, AK

Drawing Status: Preliminary  (Not For Construction) Final  (Not For Construction)

For Construction Permit  For Erector Installation

Scale: **NOT TO SCALE**

Drawn by: \_\_\_\_\_

Checked by: \_\_\_\_\_

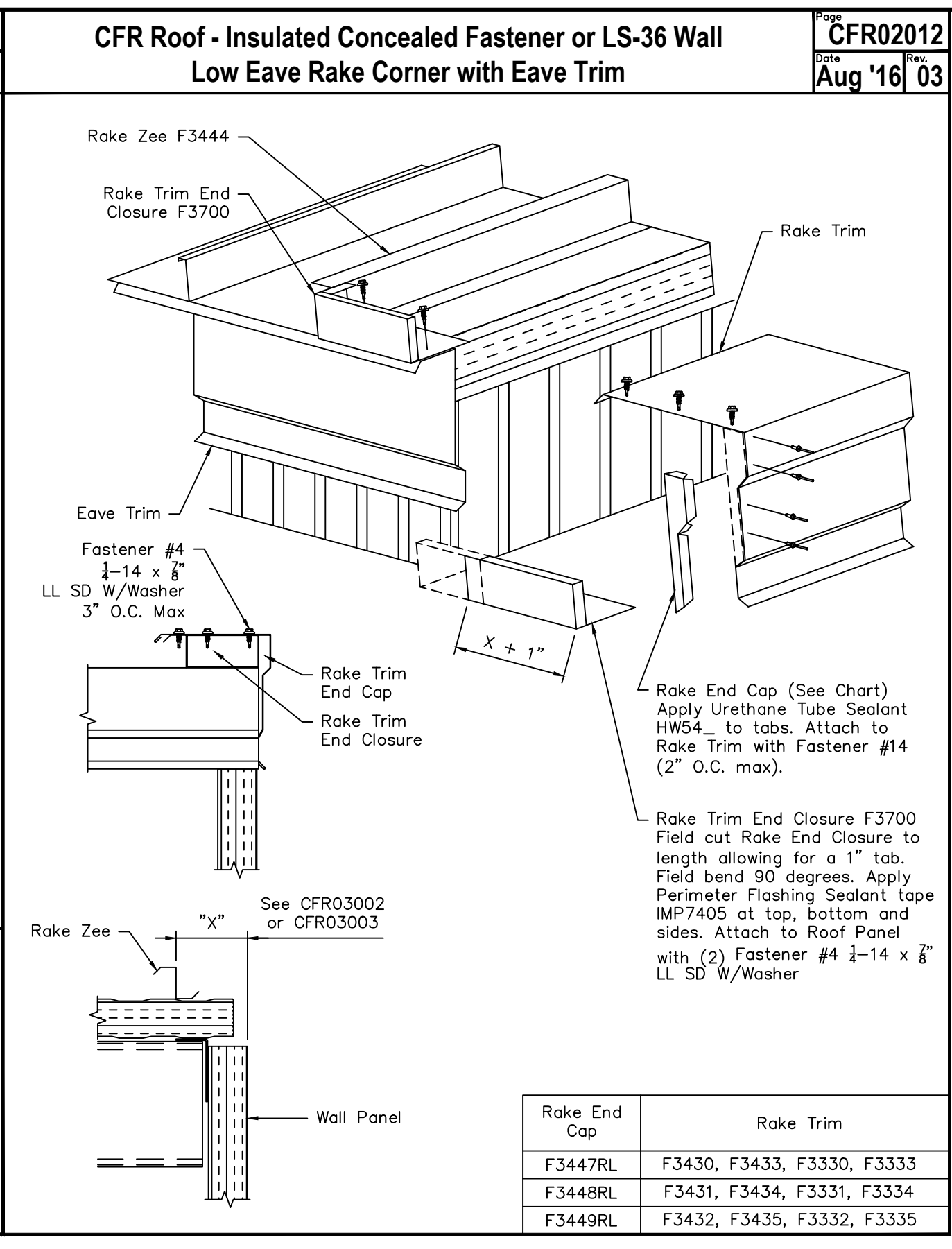
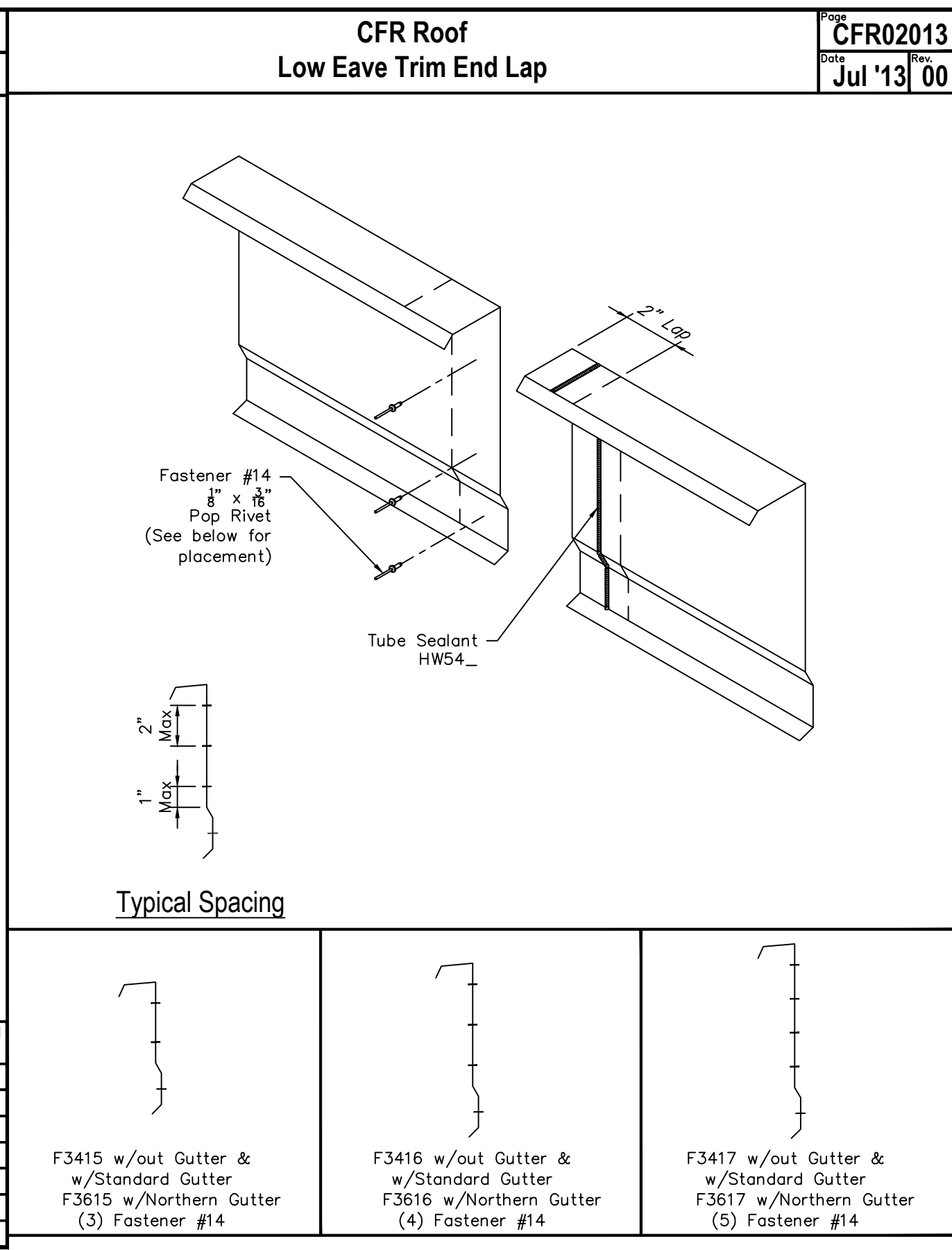
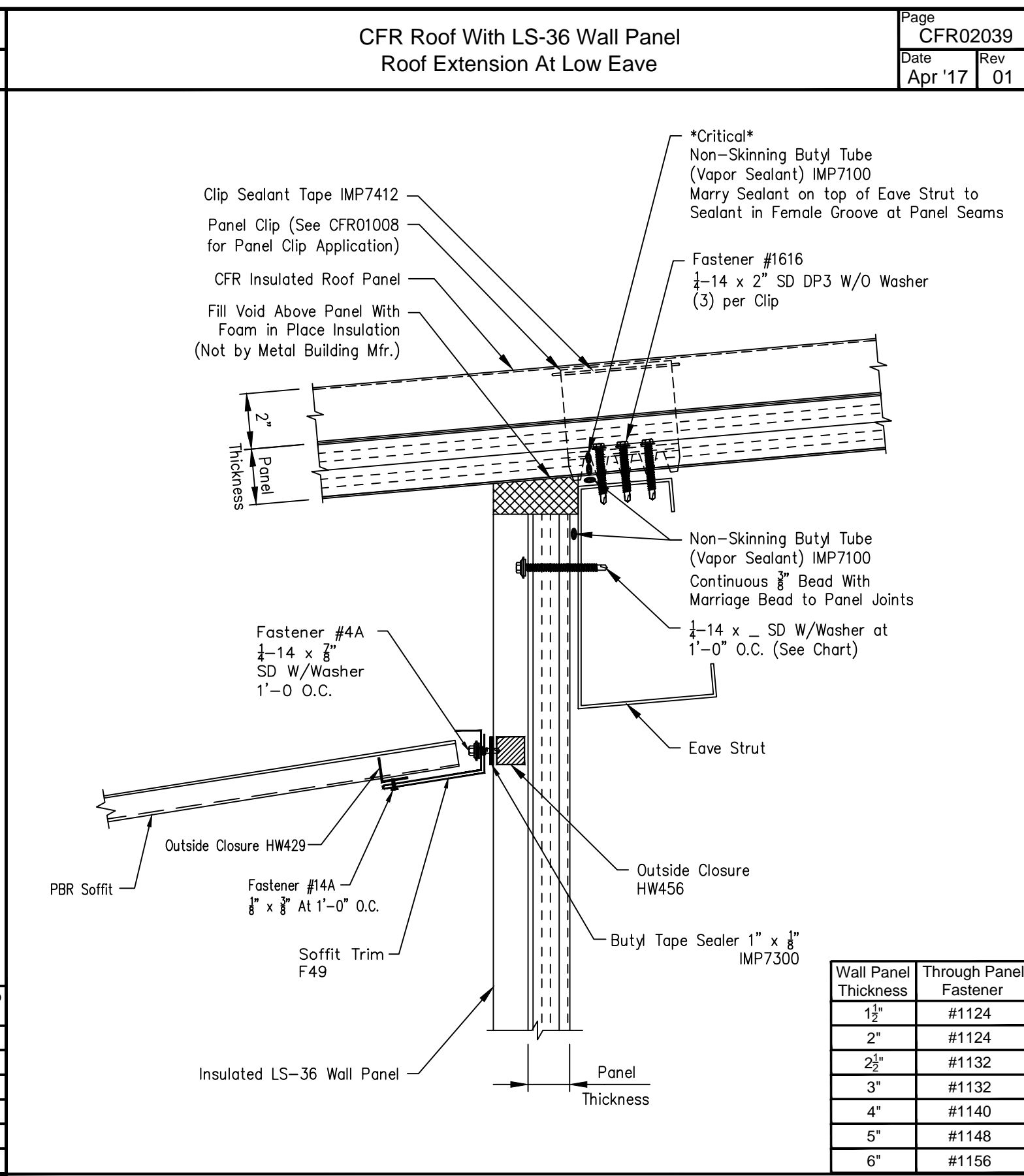
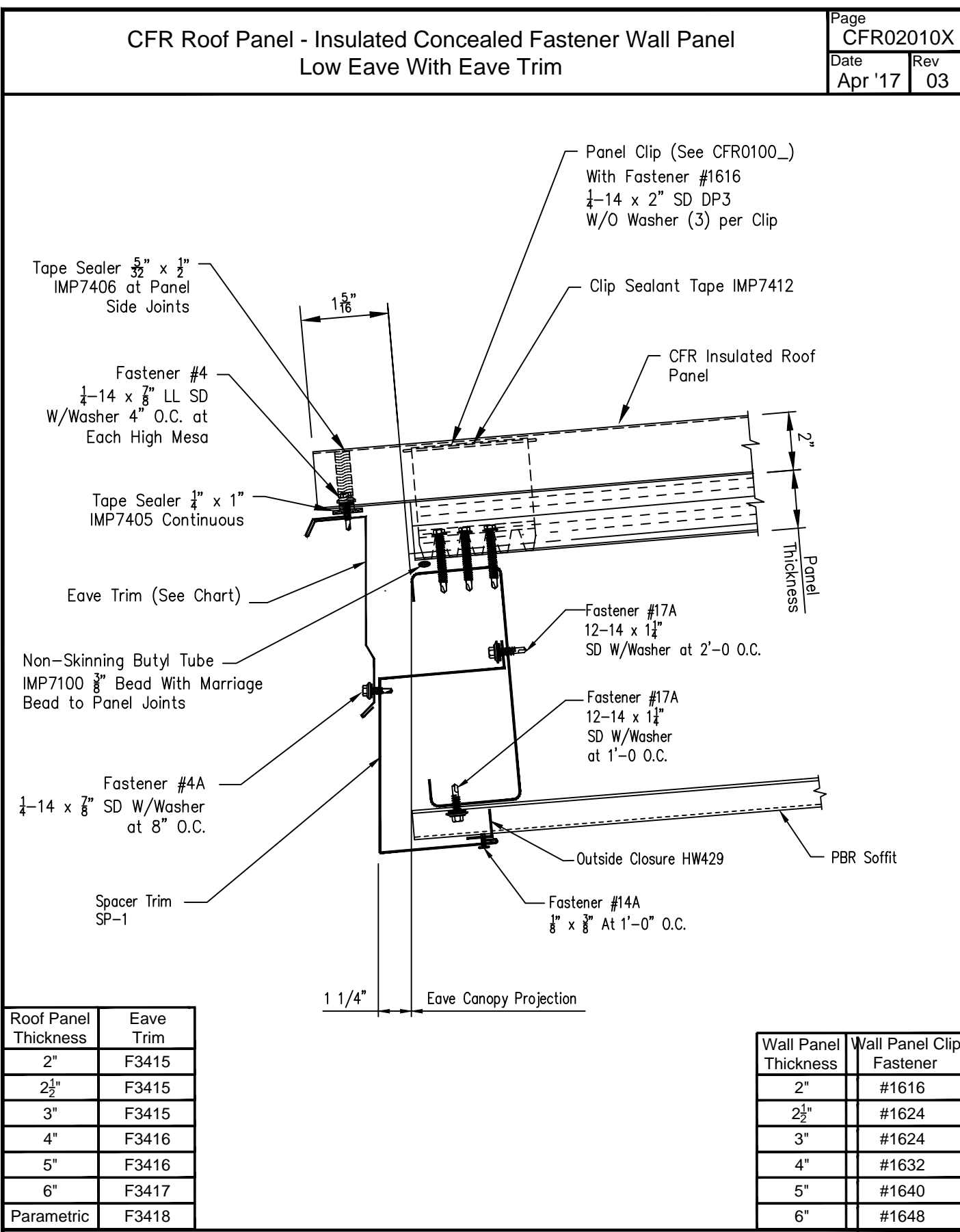
Project Engineer: \_\_\_\_\_

Job Number: **16-B-42908**

Sheet Number: **R9 of 15**

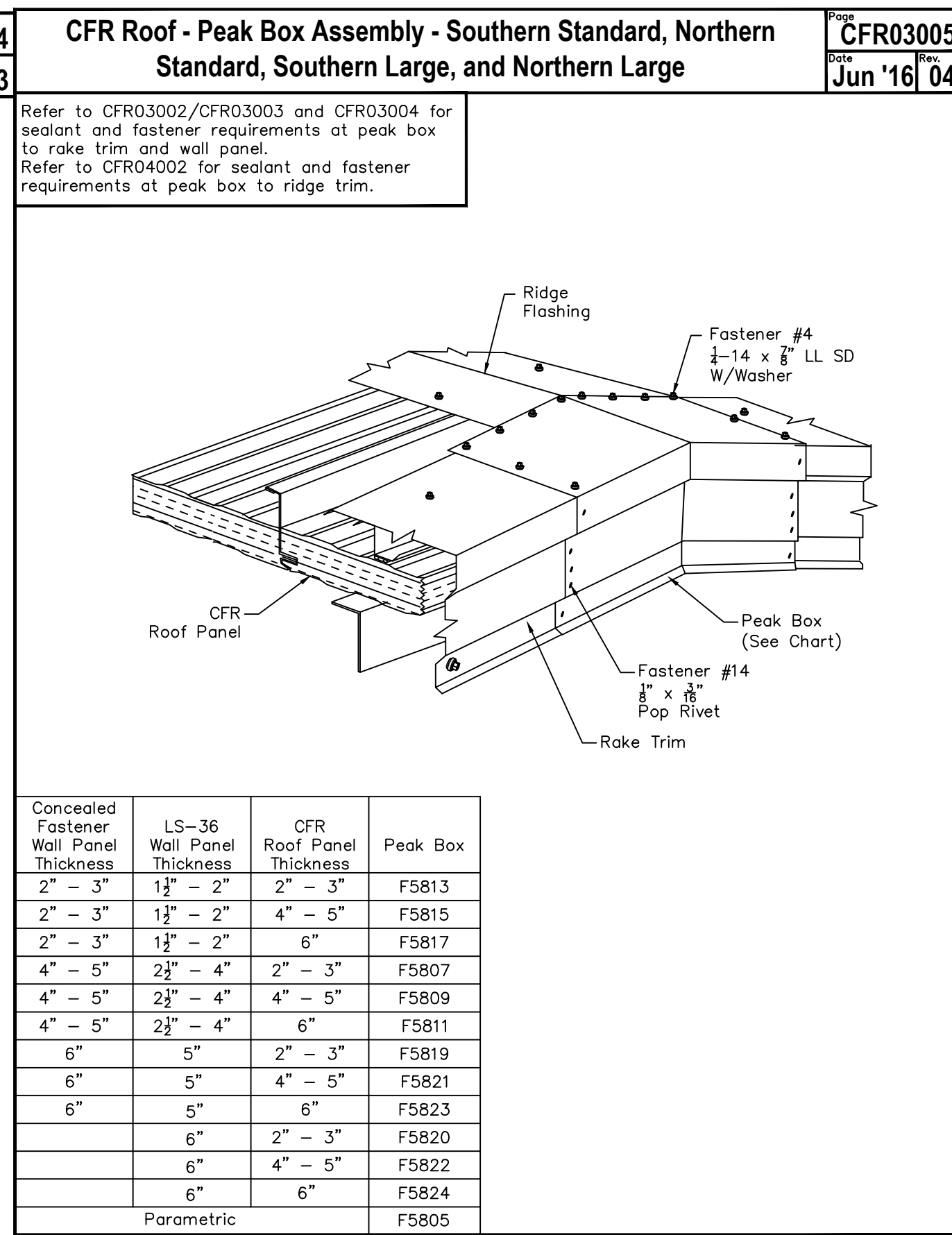
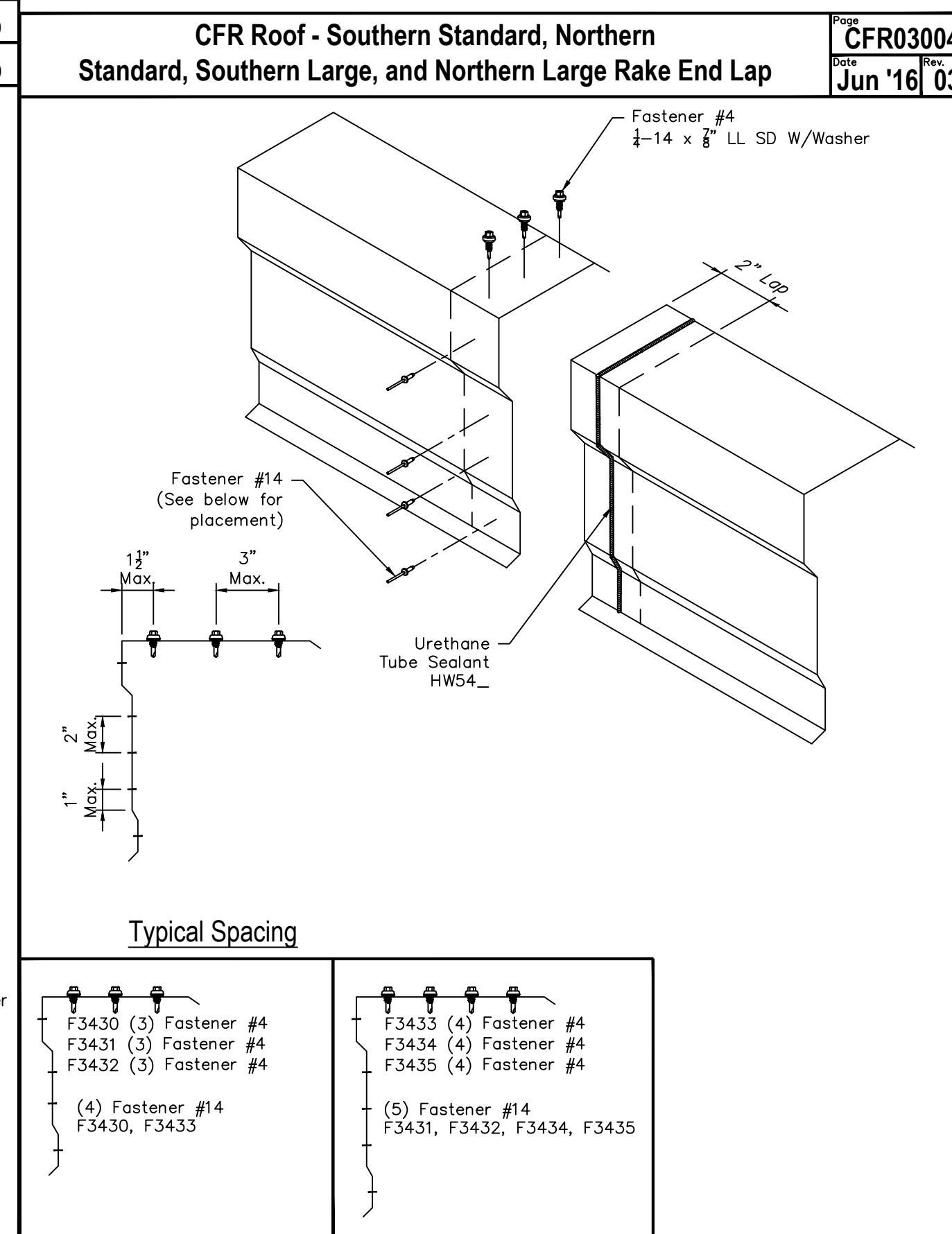
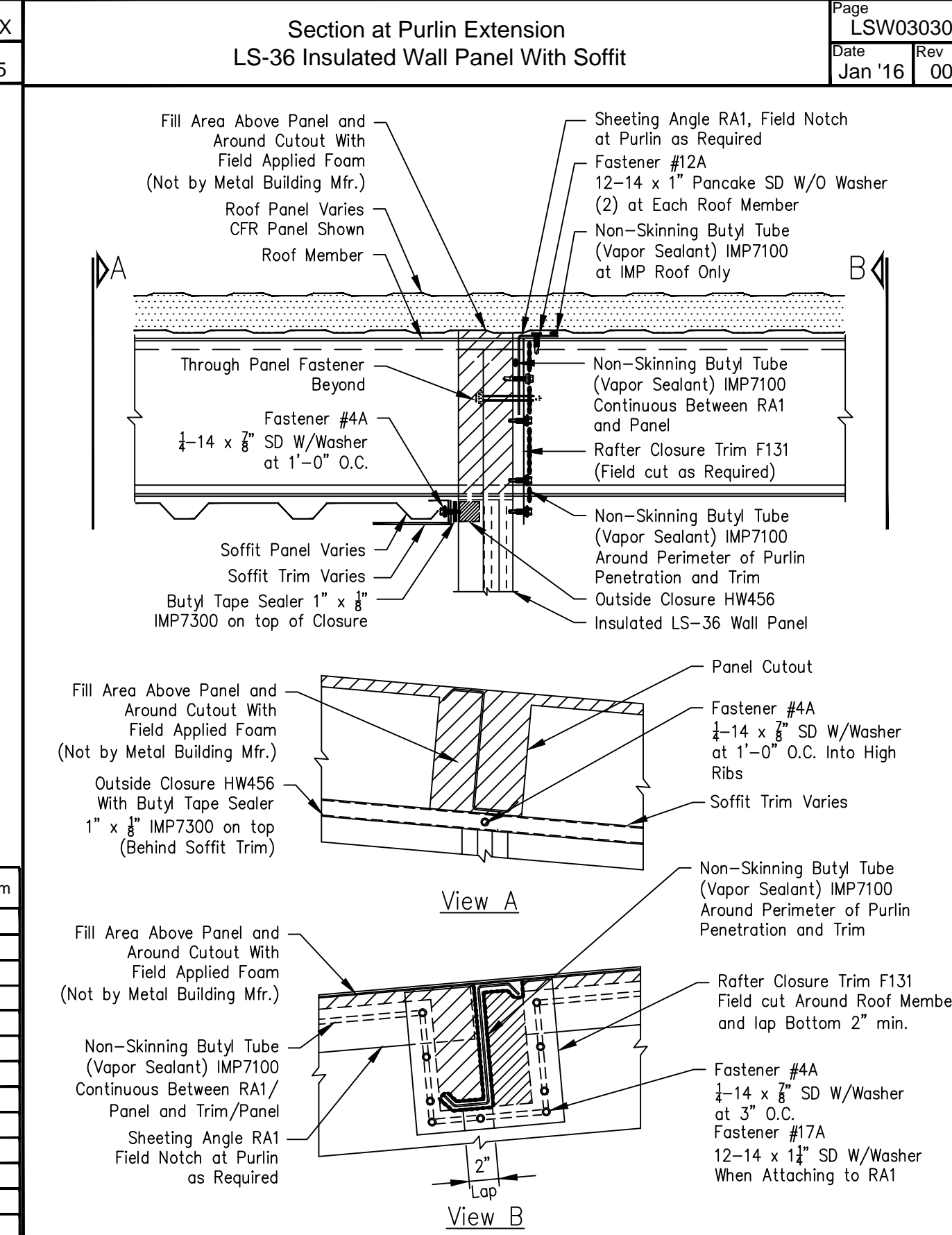
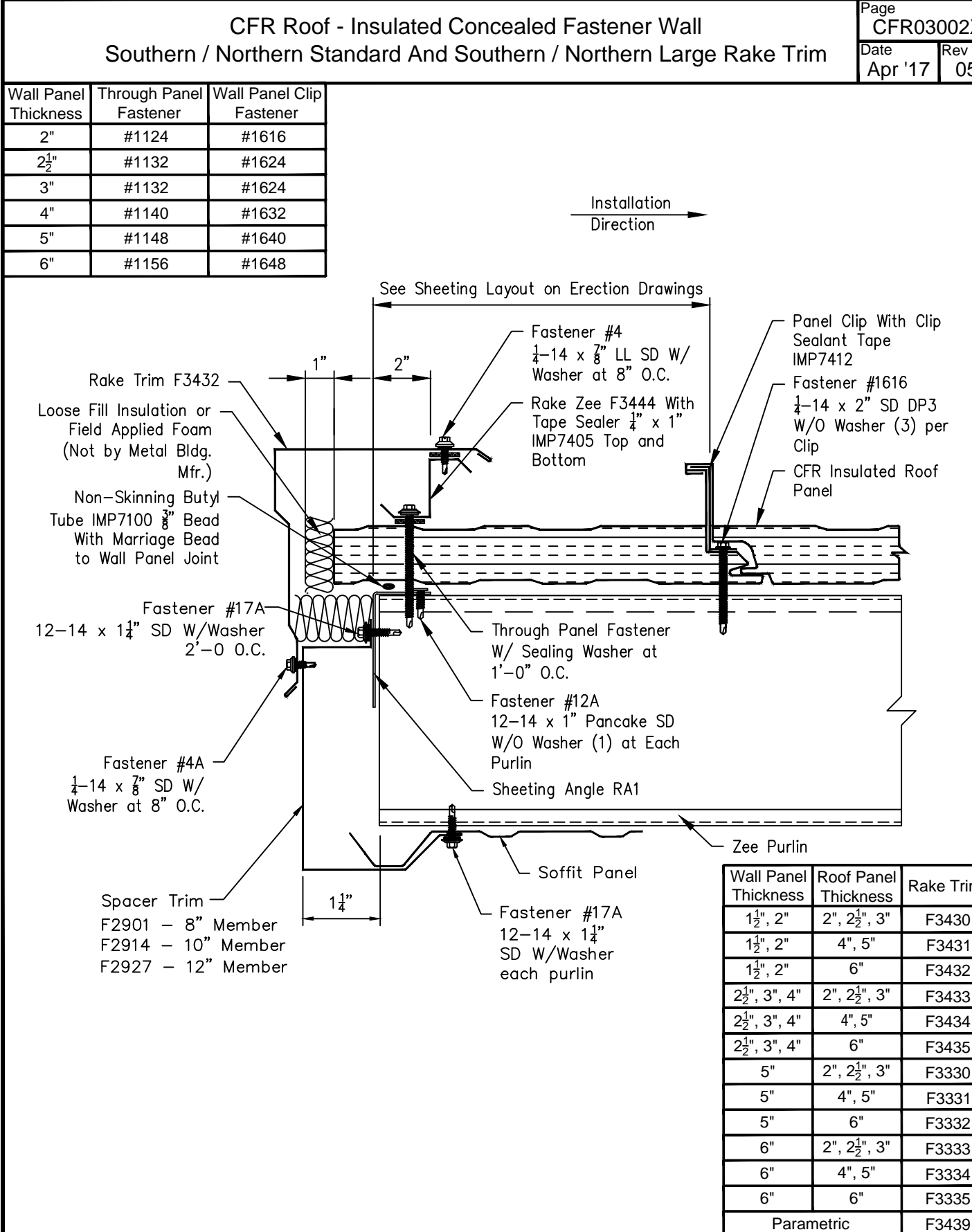
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DRSTIC ENS11A



**SUBSTITUTE ALL FASTENERS #4 WITH #4A**

**6" THICK CFR ROOF PANELS  
4" THICK LS-36 WALL PANELS  
FIELD CUT ALL FLASH TO LENGTH**



8600 SOUTH I-35 SERVICE RD. OKLAHOMA CITY, OK 73149  
ALASKA RAILROAD CORPORATION SANDPOINT, ID

**STAR BUILDING SYSTEMS**

Customer: NORTHERN MANAGEMENT SERVICES INC SANDPOINT, ID

Project Name & Location: ALASKA RAILROAD CORPORATION SANDPOINT, ID

By: \_\_\_\_\_  
Date: \_\_\_\_\_  
Revision: \_\_\_\_\_

Scale: NOT TO SCALE  
Drawn by: EBF 5/17/18  
Checked by: CLS 5/17/18  
Project Engineer:  
Job Number: 16-B-42908  
Sheet Number: R10 of 15

The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.

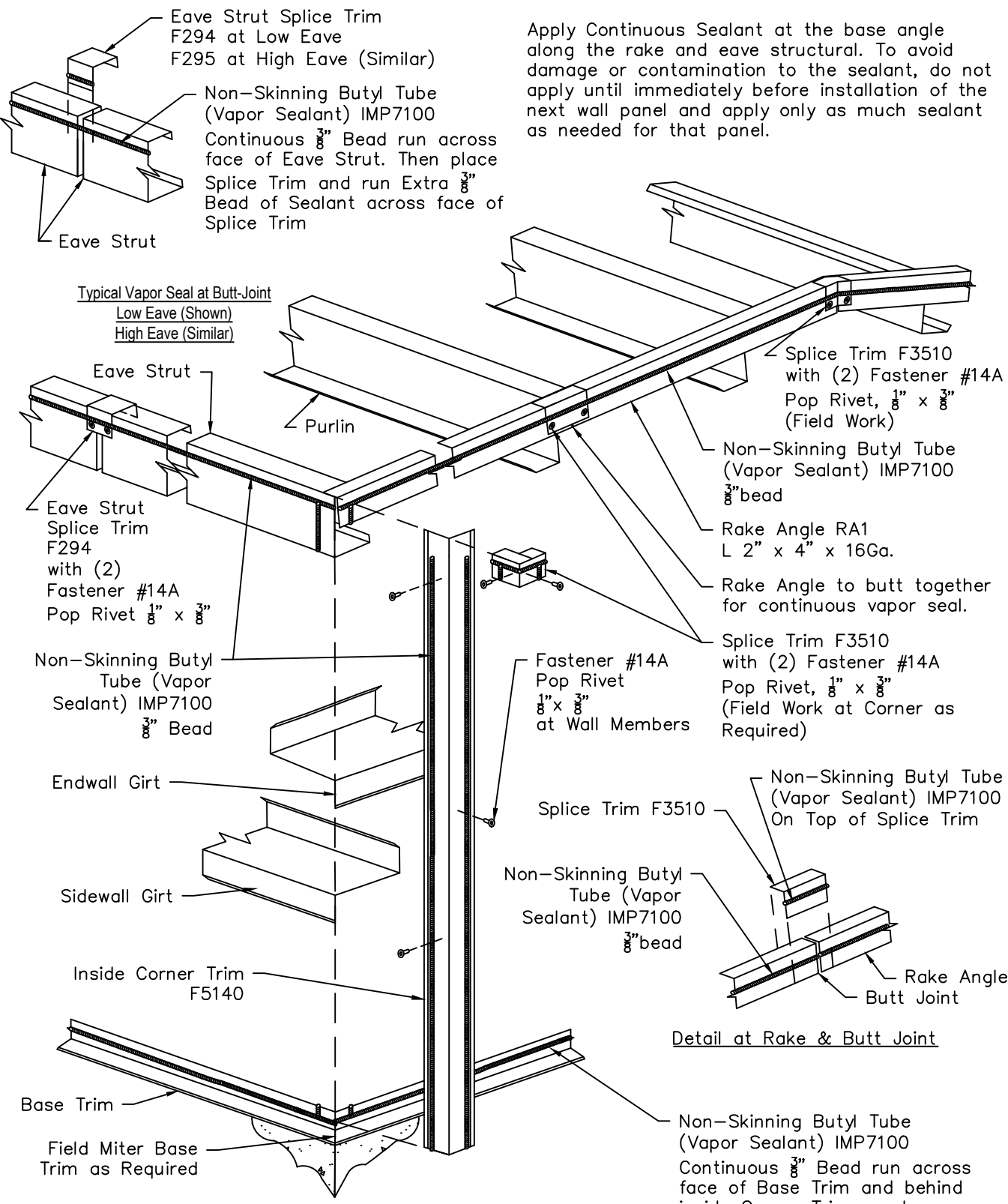
DRSTIC ENSTIA

For Construction Permit:   
For Erector Installation:

Preliminary (Not For Construction):   
For Approval (Not For Construction):

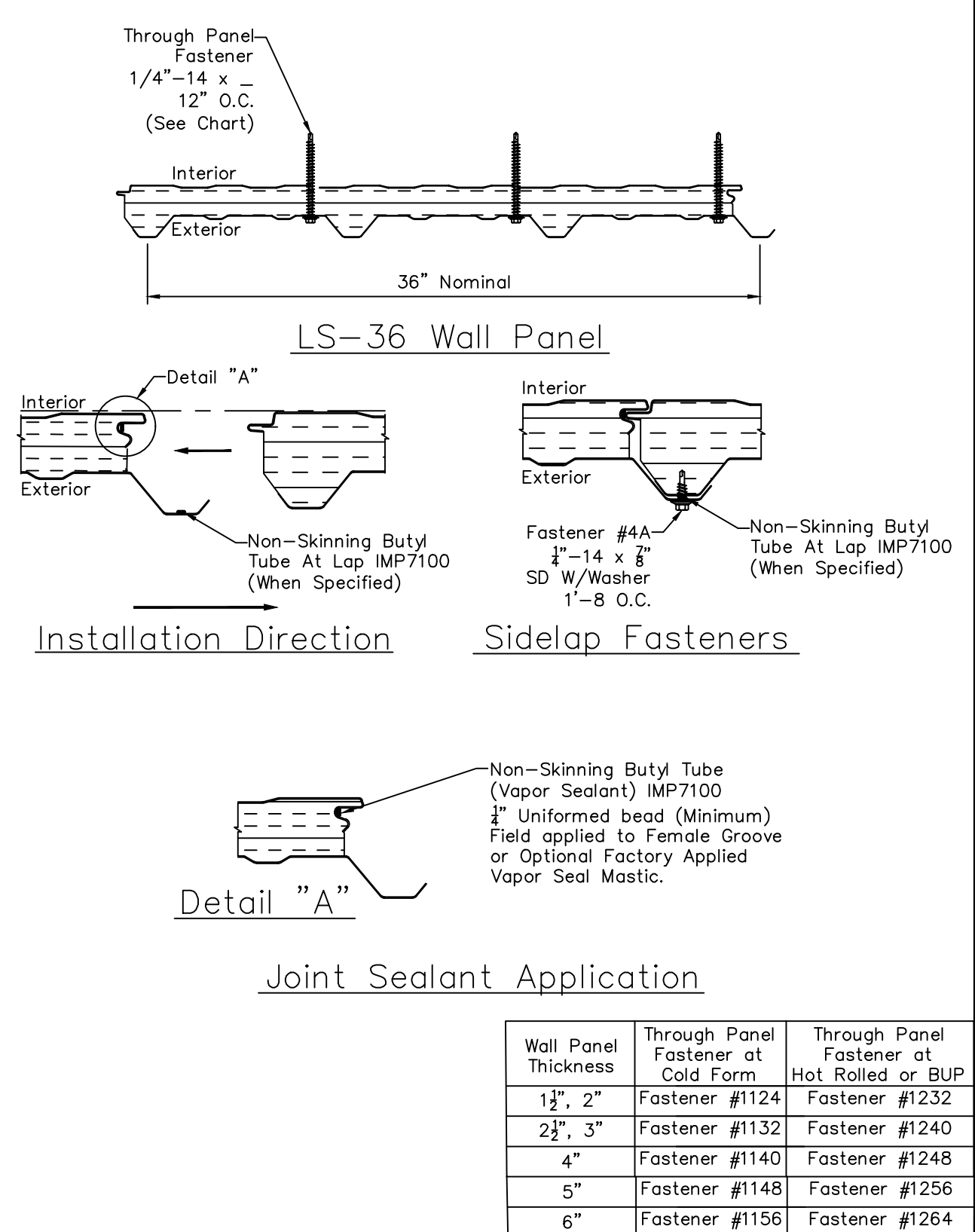
LS-36 Wall Panel - Wall Vapor Sealant

Page LSW03000  
Date Dec '14 '03



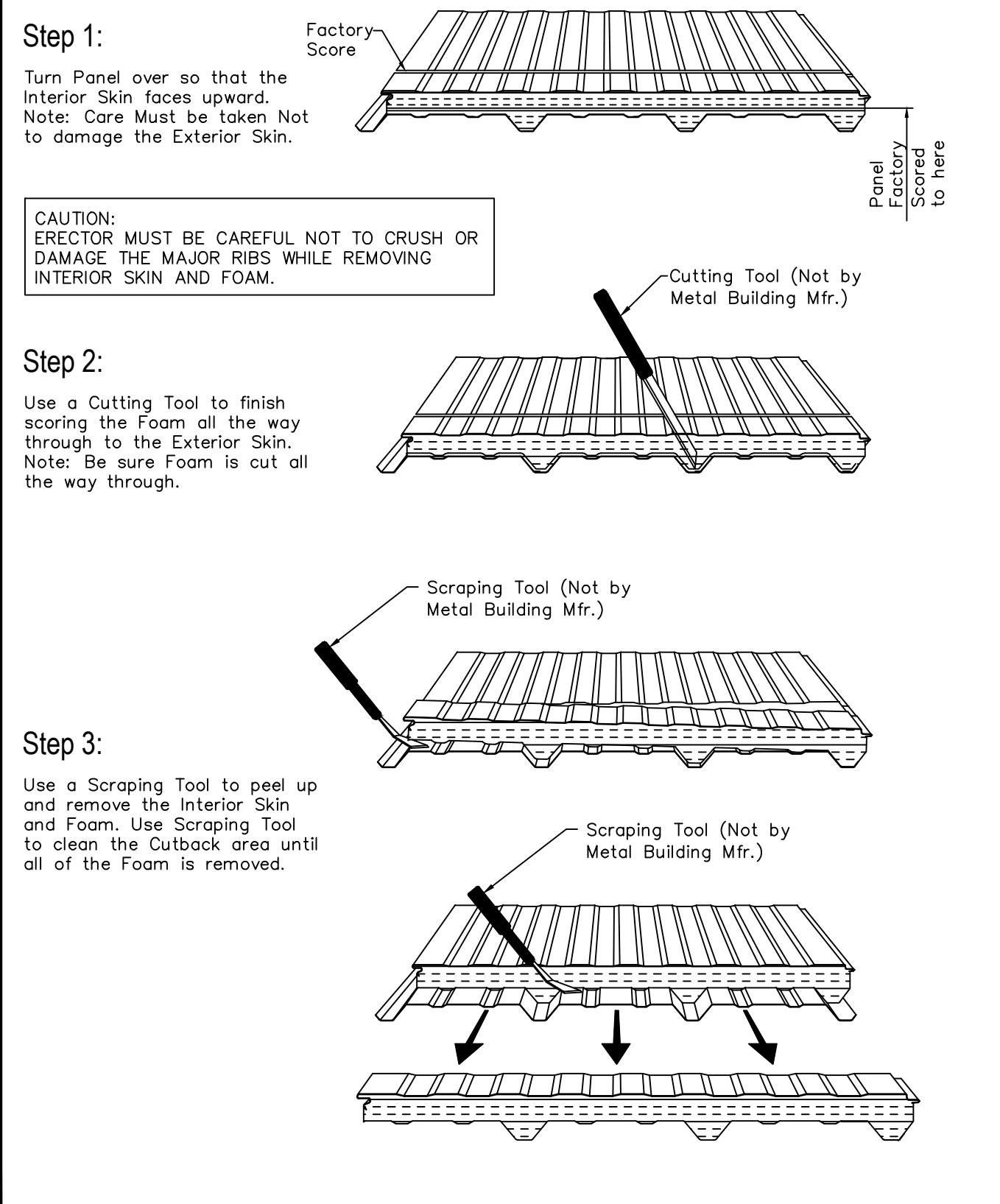
LS-36 Wall Panel - Wall Fastener Layout, Sidlap, and Sealant Application

Page LSW03002  
Date Apr '16 '05



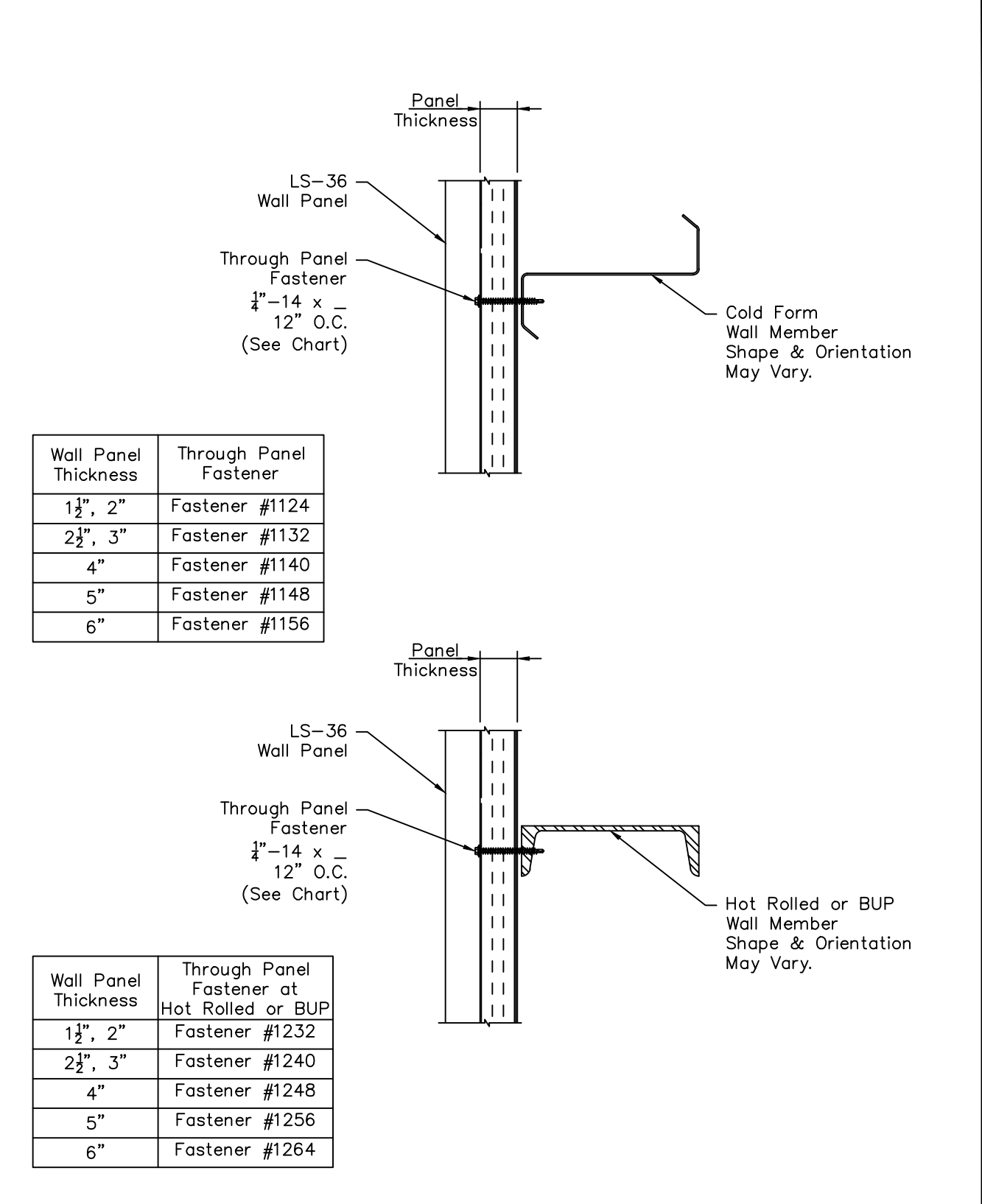
LS-36 Wall Panel - Field of Interior Skin and Foam

Page LSW03009  
Date Nov '13 '01



LS-36 Wall Panel - Standard Panel Attachment at Wall Framing Member

Page LSW03001  
Date Apr '16 '01

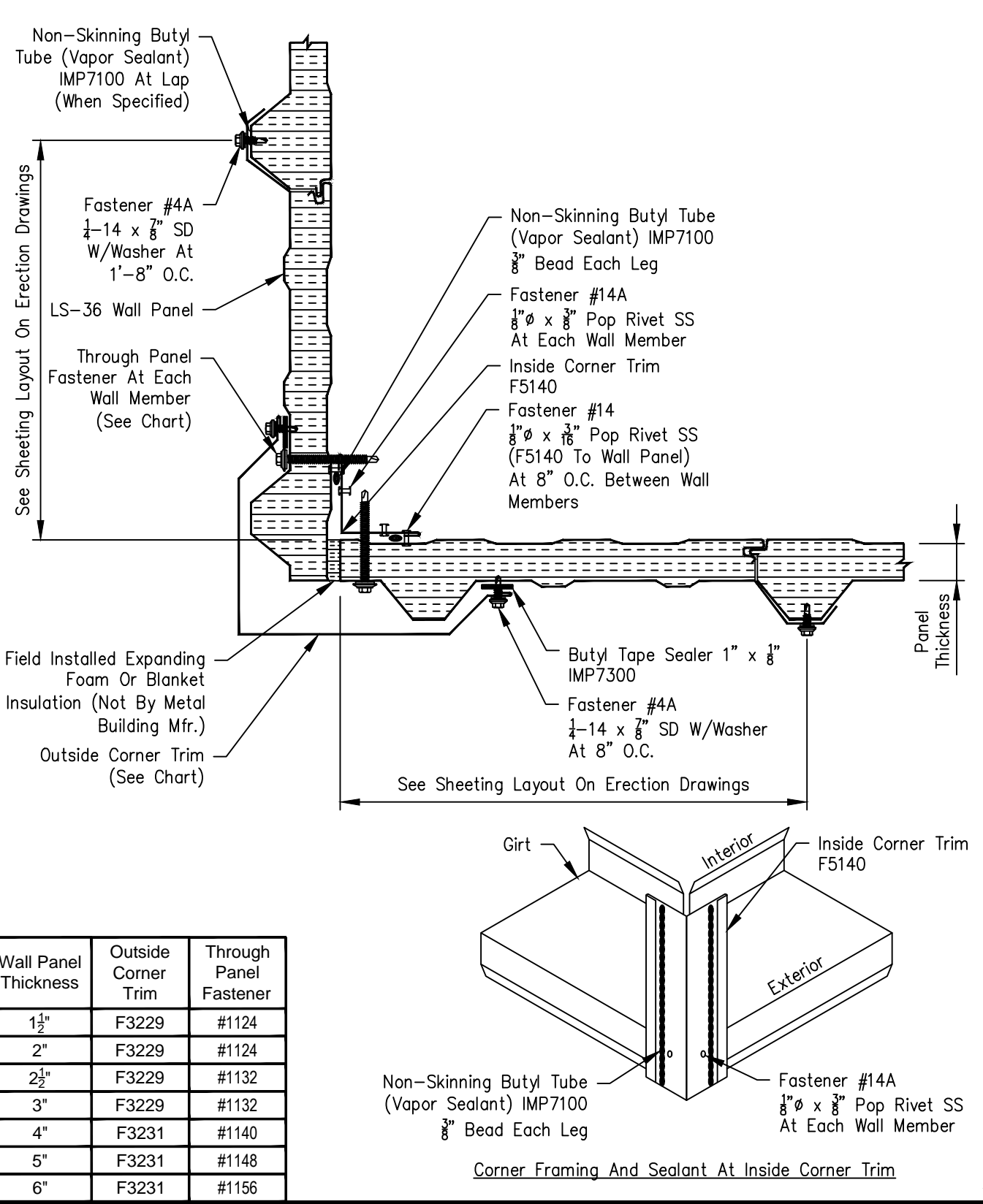


SUBSTITUTE ALL FASTENERS #4 WITH #4A

6" THICK CFR ROOF PANELS  
4" THICK LS-36 WALL PANELS  
FIELD CUT ALL FLASH TO LENGTH

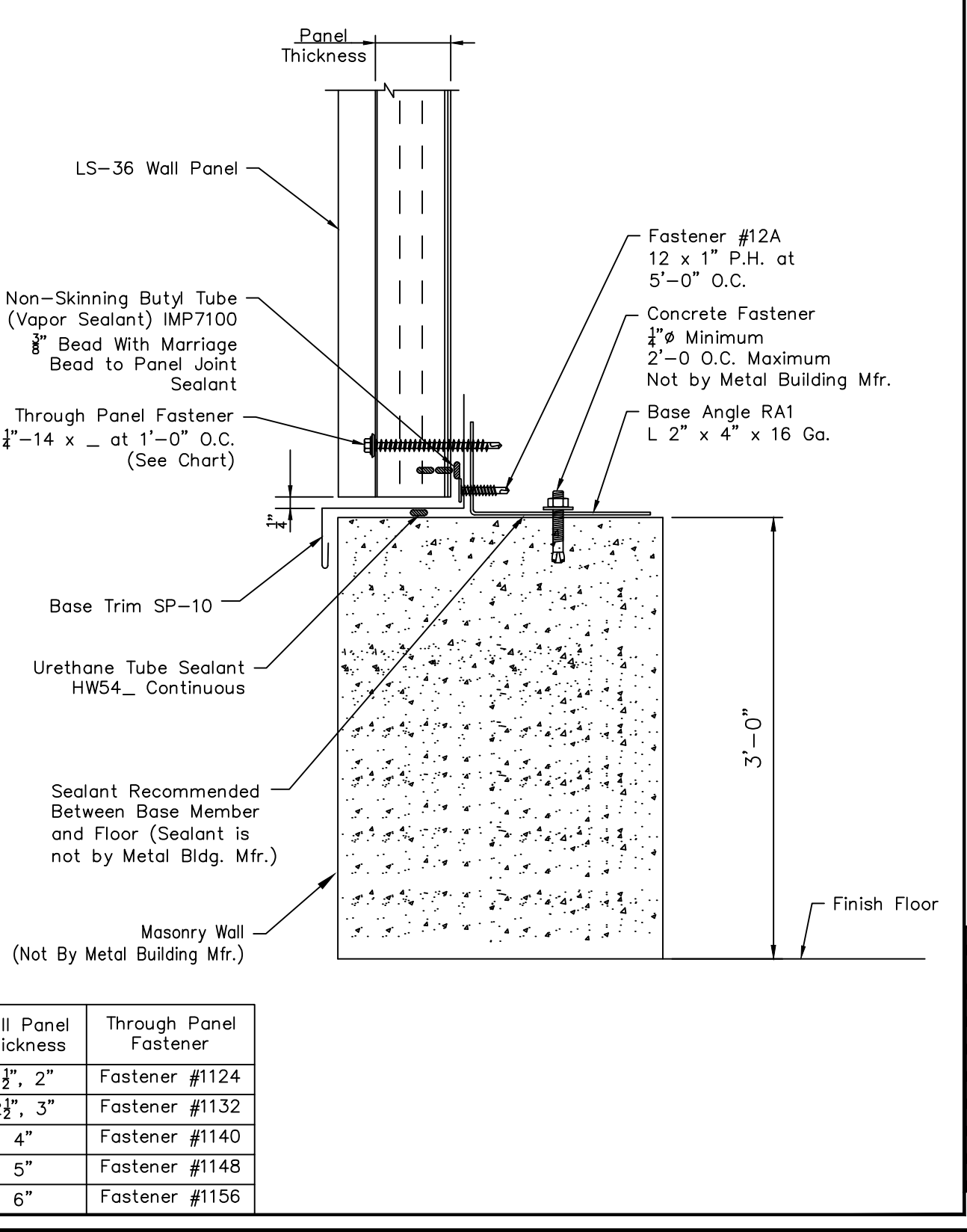
LS-36 Wall Panel Outside Corner With Offset Corner Trim

Page LSW02000  
Date Aug '17 '07



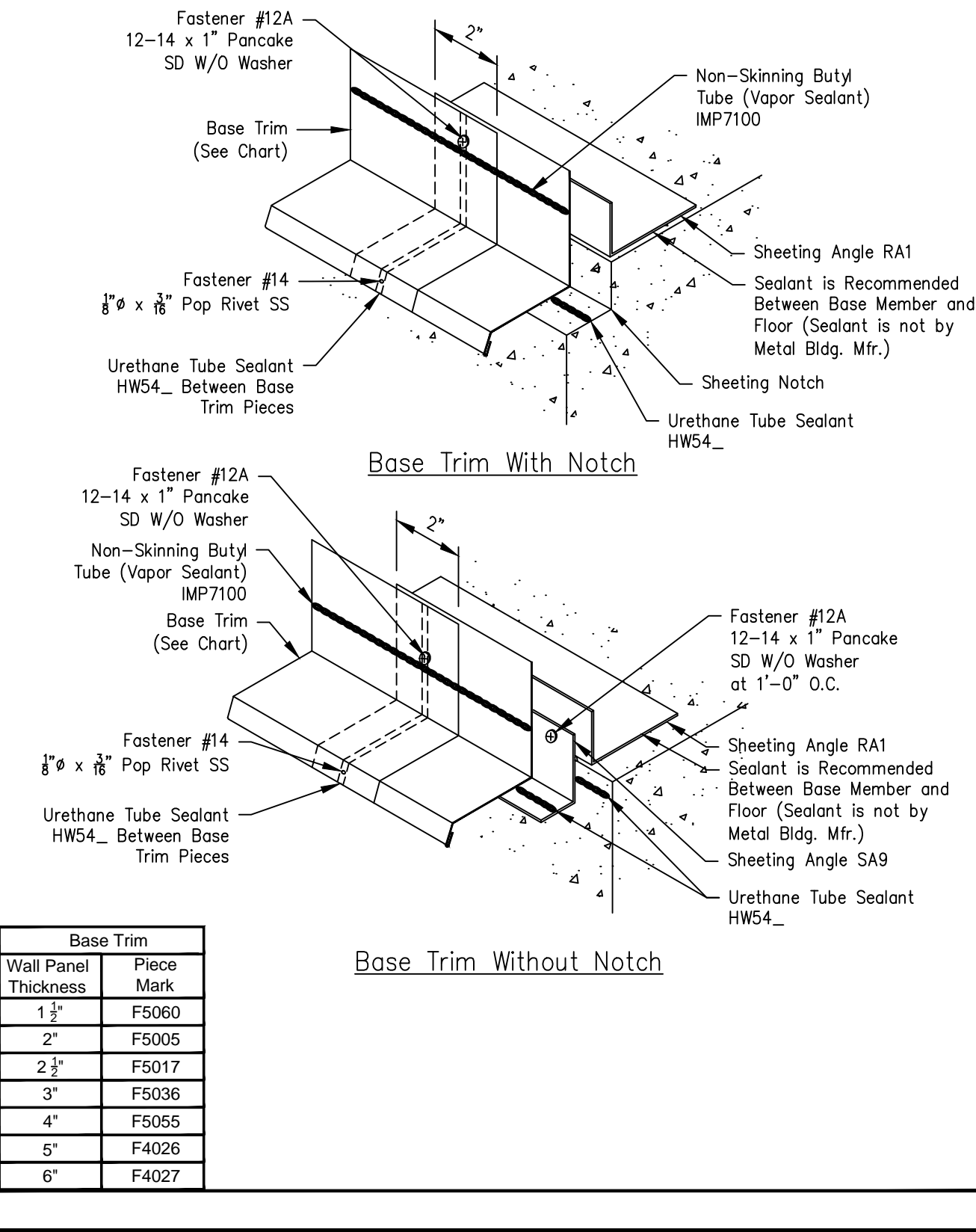
LS-36 Wall Panel - Base Detail

Page LSW01002X  
Date Apr '17 '03



LS-36 Wall Panel Base Trim Lap

Page LSW01010  
Date Apr '17 '02



By	Date	Revision	Description

8600 SOUTH I-35 SERVICE RD. OKLAHOMA CITY, OK 73149  
ALASKA RAILROAD CORPORATION GIRDWOOD, AK (405) 636-2010

Customer: NORTHERN MANAGEMENT SERVICES INC SANDPOINT, ID

Project Name & Location: ALASKA RAILROAD CORPORATION GIRDWOOD, AK

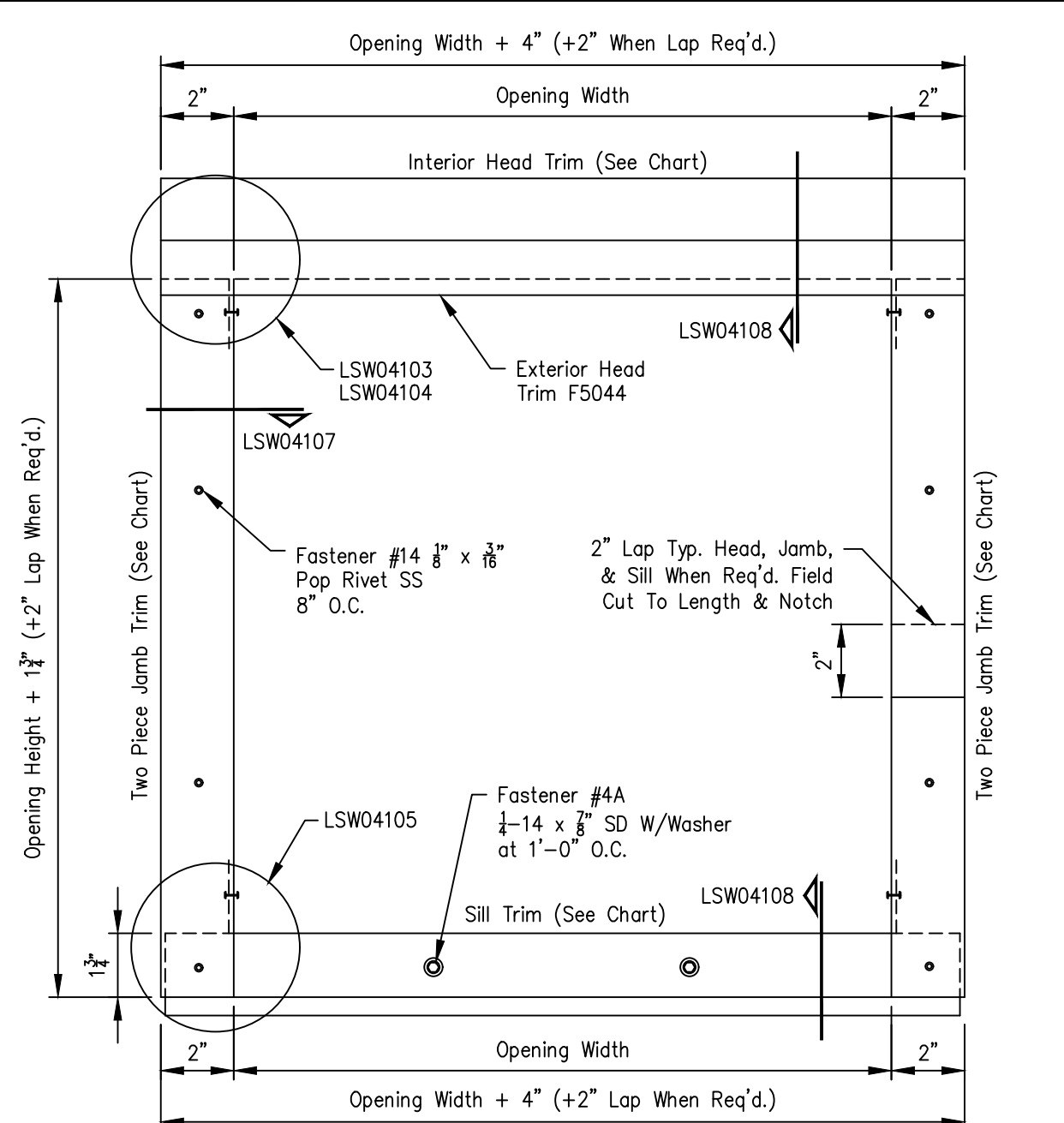
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Scale: NOT TO SCALE

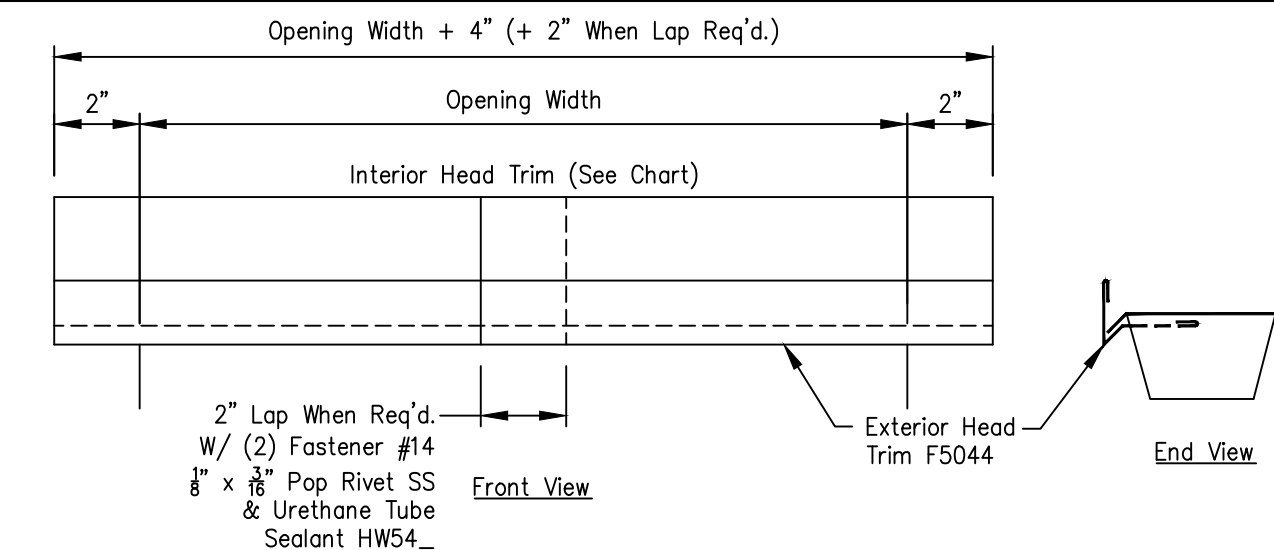
Drawn by:   
Checked by:   
Project Engineer:   
Job Number: 16-B-42908   
Sheet Number: R11 of 15

The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.

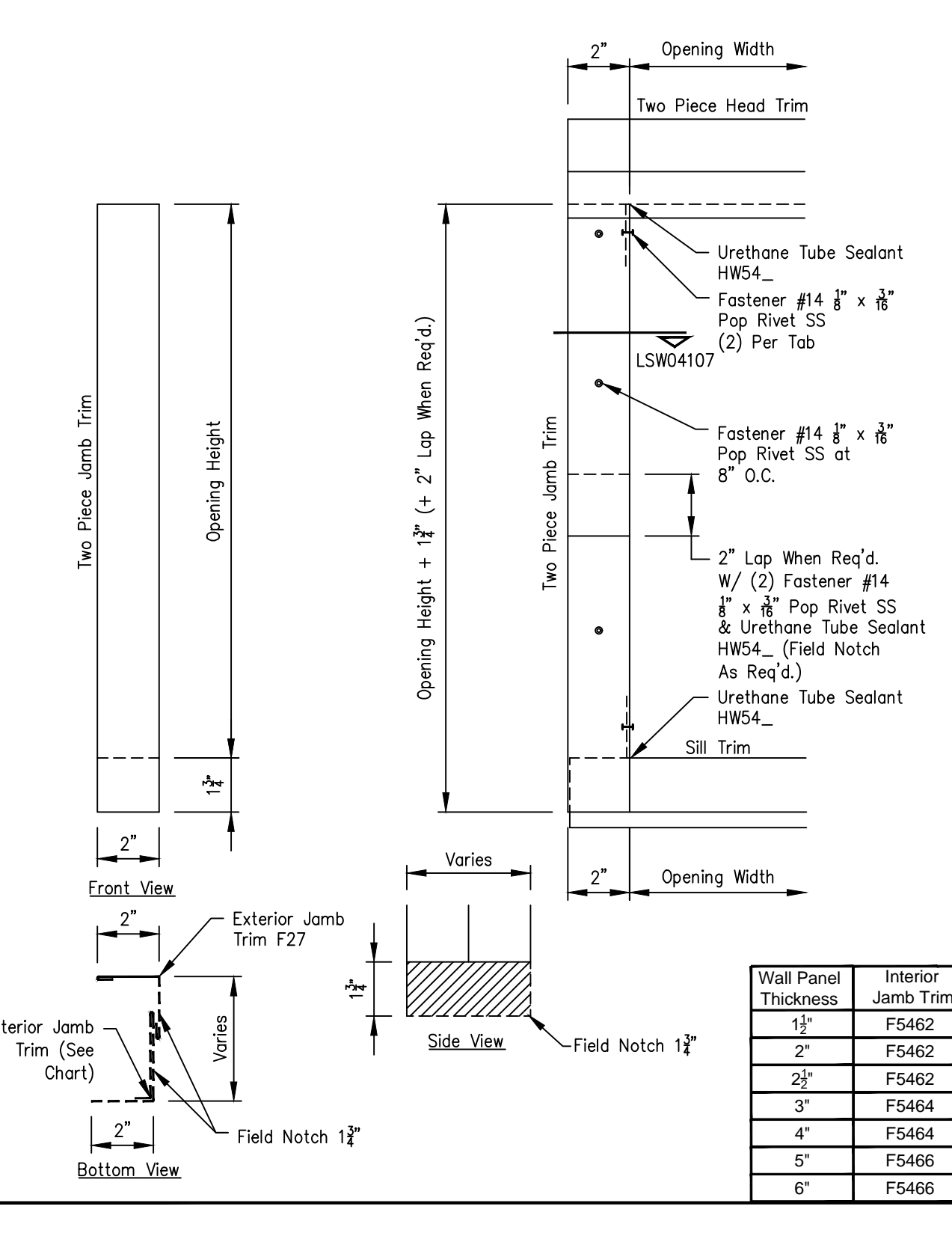
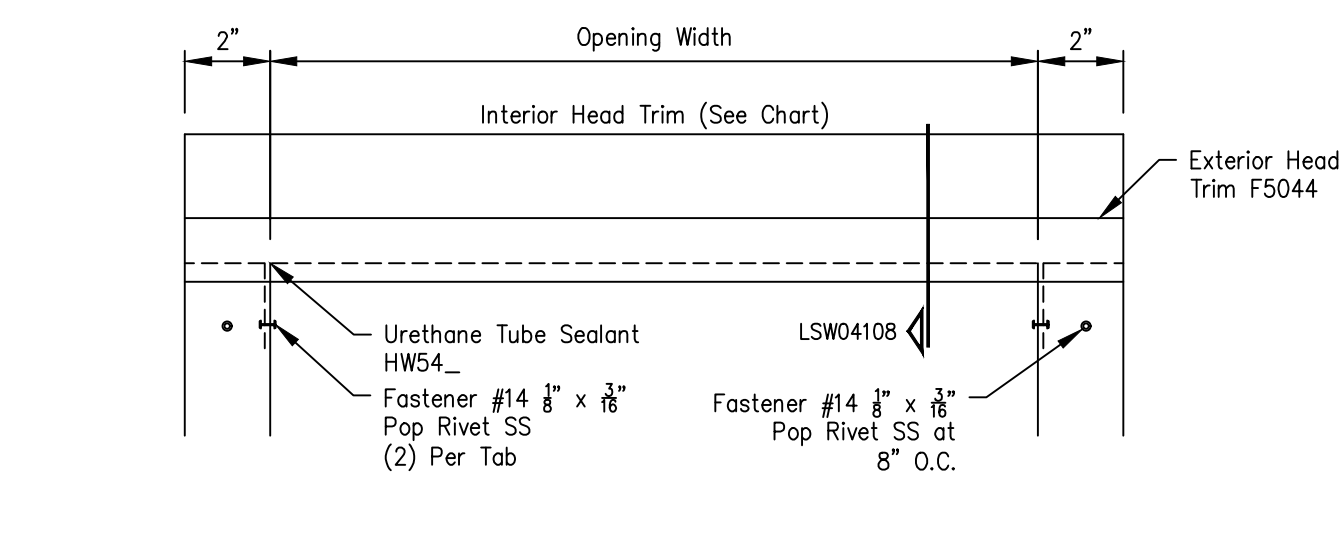
DRSTIC ENSTIA



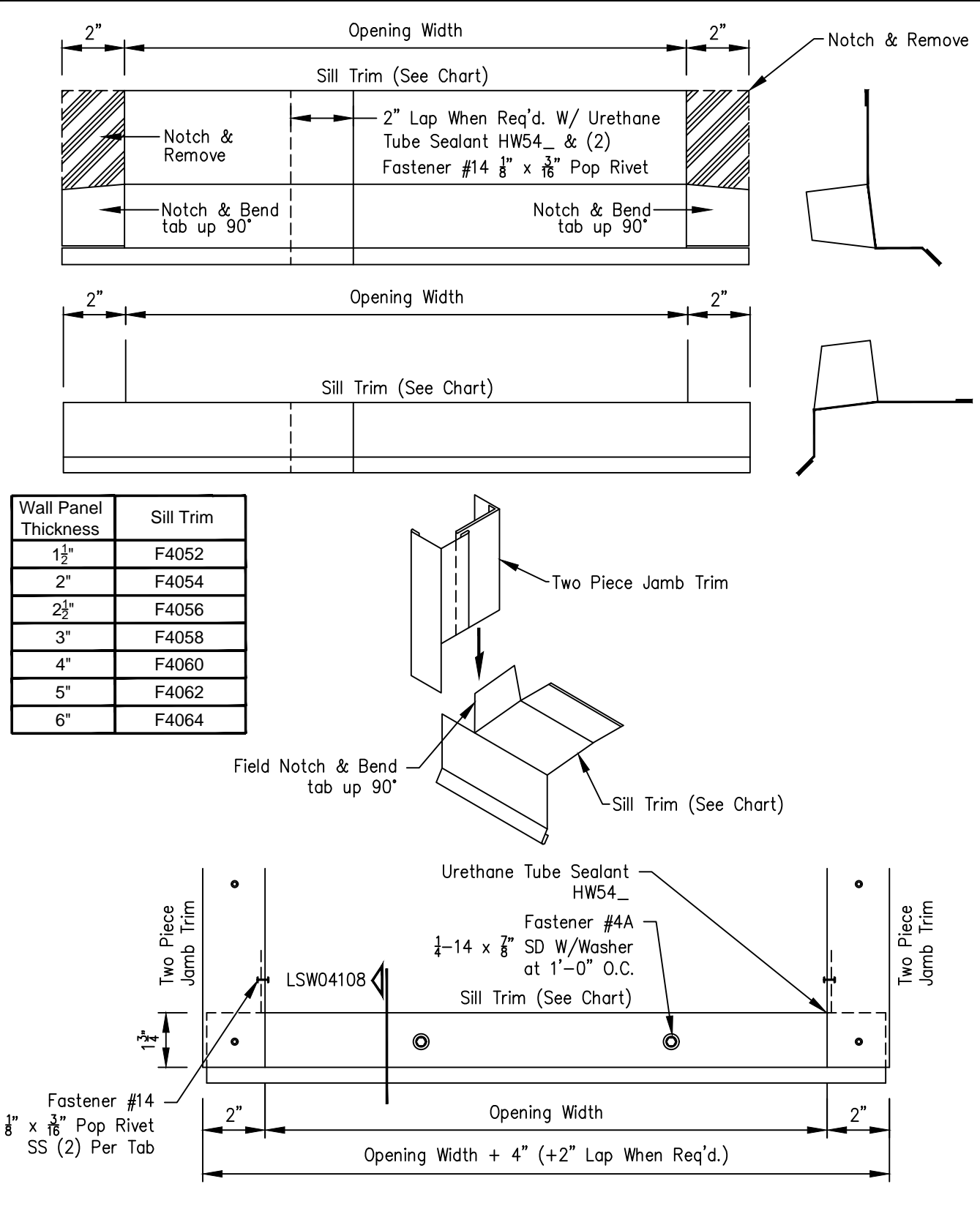
Wall Panel Thickness	Two Piece Head Trim	Two Piece Jamb Trim	Sill Trim
1 1/2"	F5044 / F5235	F27 / F5462	F4052
2"	F5044 / F5236	F27 / F5462	F4054
2 1/2"	F5044 / F5237	F27 / F5462	F4056
3"	F5044 / F5238	F27 / F5464	F4058
4"	F5044 / F5239	F27 / F5464	F4060
5"	F5044 / F5240	F27 / F5466	F4062
6"	F5044 / F5241	F27 / F5466	F4064



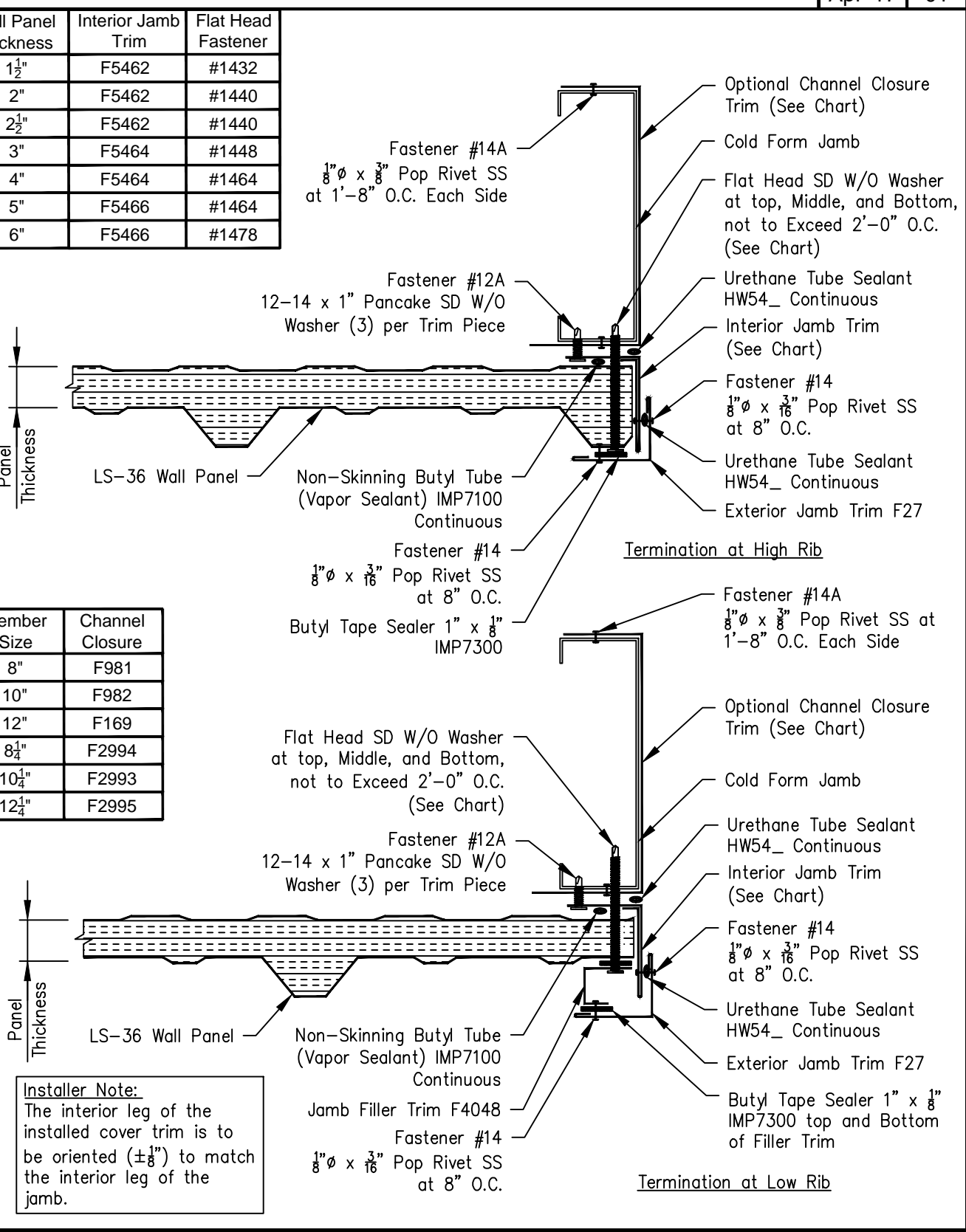
Wall Panel Thickness	Interior Head Trim
1 1/2"	F5235
2"	F5236
2 1/2"	F5237
3"	F5238
4"	F5239
5"	F5240
6"	F5241



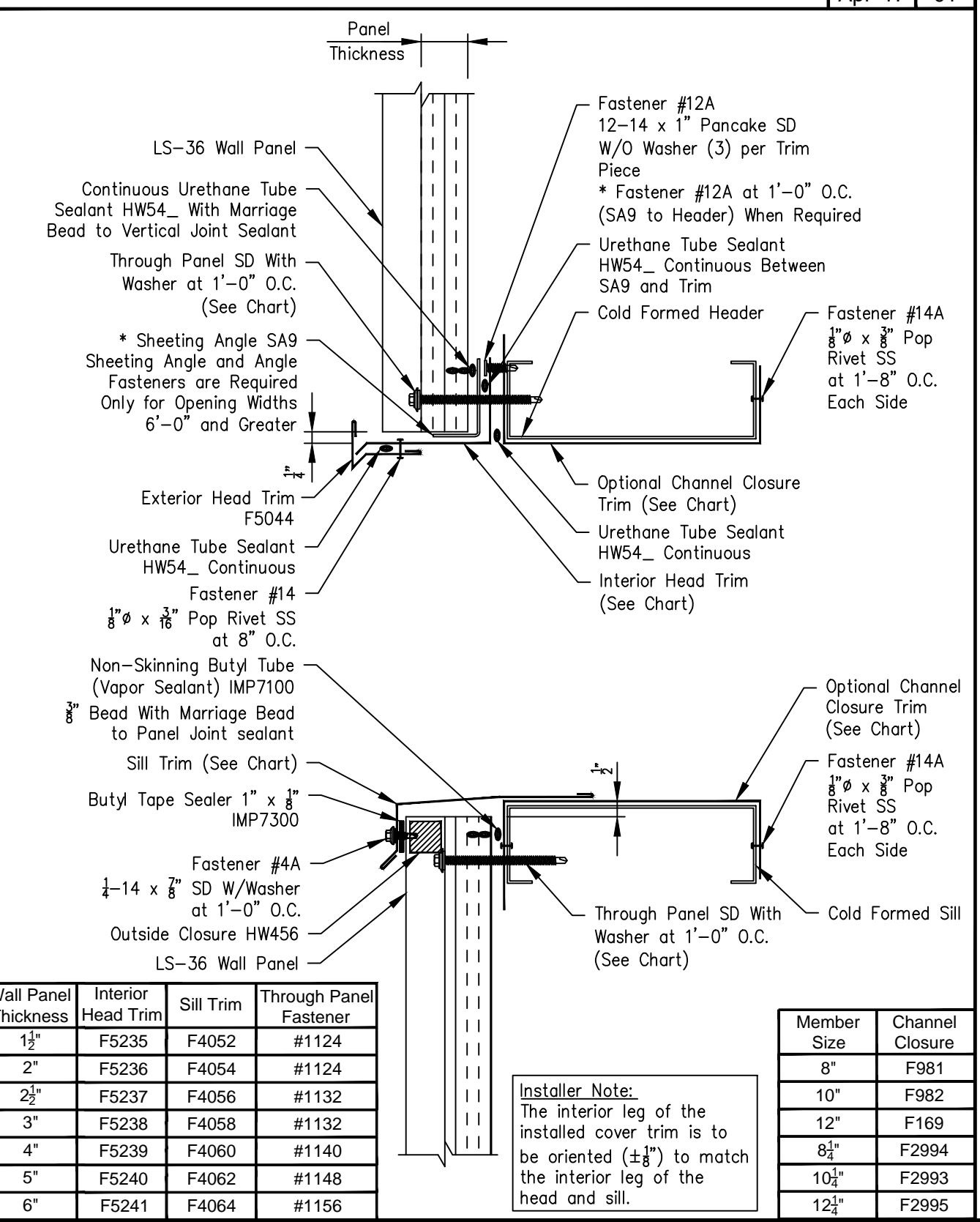
Wall Panel Thickness	Interior Jamb Trim
1 1/2"	F5462
2"	F5462
2 1/2"	F5462
3"	F5464
4"	F5464
5"	F5466
6"	F5466



Wall Panel Thickness	Sill Trim
1 1/2"	F4052
2"	F4054
2 1/2"	F4056
3"	F4058
4"	F4060
5"	F4062
6"	F4064



Member Size	Channel Closure
8"	F981
10"	F982
12"	F169
8 1/2"	F2994
10 1/2"	F2993
12 1/2"	F2995



Wall Panel Thickness	Interior Head Trim	Sill Trim	Through Panel Fastener
1 1/2"	F5235	F4052	#1124
2"	F5236	F4054	#1124
2 1/2"	F5237	F4056	#1132
3"	F5238	F4058	#1132
4"	F5239	F4060	#1140
5"	F5240	F4062	#1148
6"	F5241	F4064	#1156

6" THICK CFR ROOF PANELS  
4" THICK LS-36 WALL PANELS  
FIELD CUT ALL FLASH TO LENGTH

Revision	Date	Description

8600 SOUTH I-35 SERVICE RD.  
OKLAHOMA CITY, OK 73149  
ALASKA RAILROAD CORPORATION  
SANDPOINT, ID

**STAR BUILDING SYSTEMS**  
AN INCOMPANY

Customer:  
NORTHERN MANAGEMENT SERVICES INC  
SANDPOINT, ID

Project Name & Location:  
ALASKA RAILROAD CORPORATION  
SANDPOINT, ID

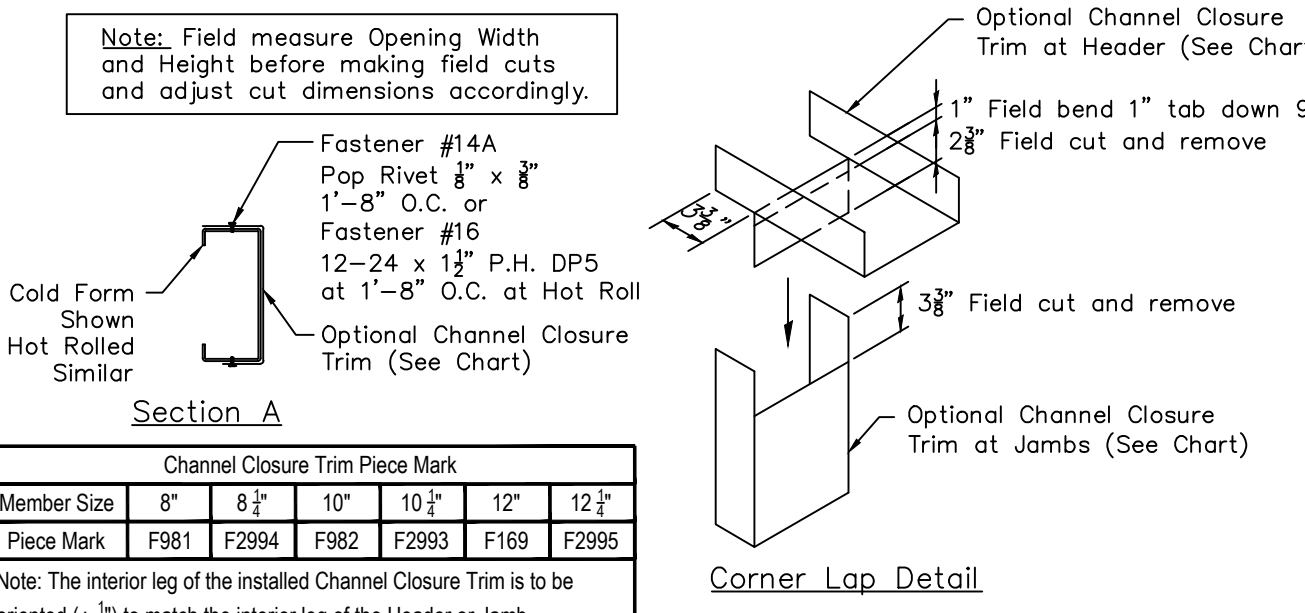
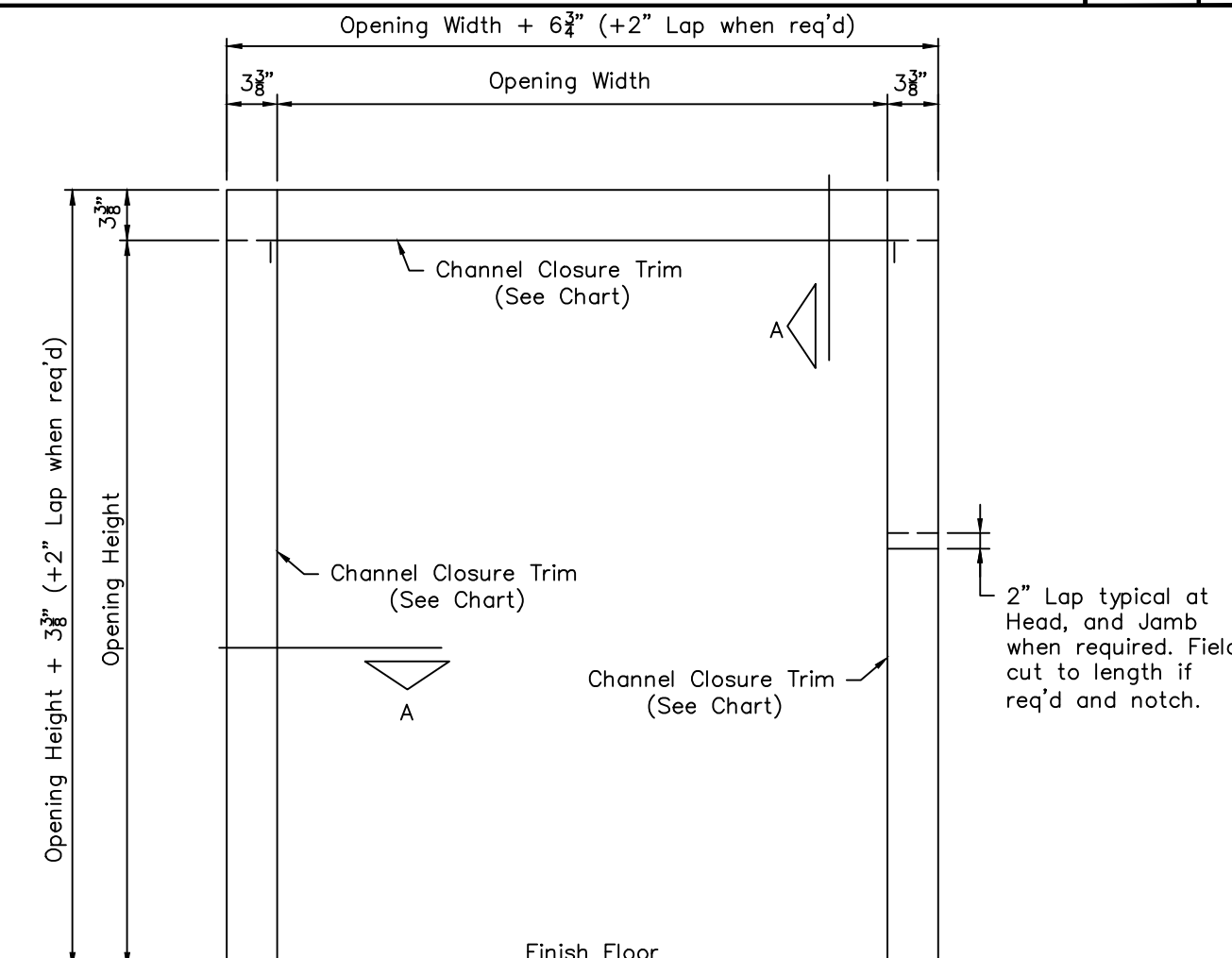
Drawing Status:  
 Preliminary (Not For Construction)  
 For Approval  
 For Construction Permit  
 For Erector Installation

Scale: NOT TO SCALE  
 Drawn by: EBF 5/17/18  
 Checked by: CLS 5/17/18  
 Project Engineer:  
 Job Number: 16-B-42908  
 Sheet Number: R12 of 15

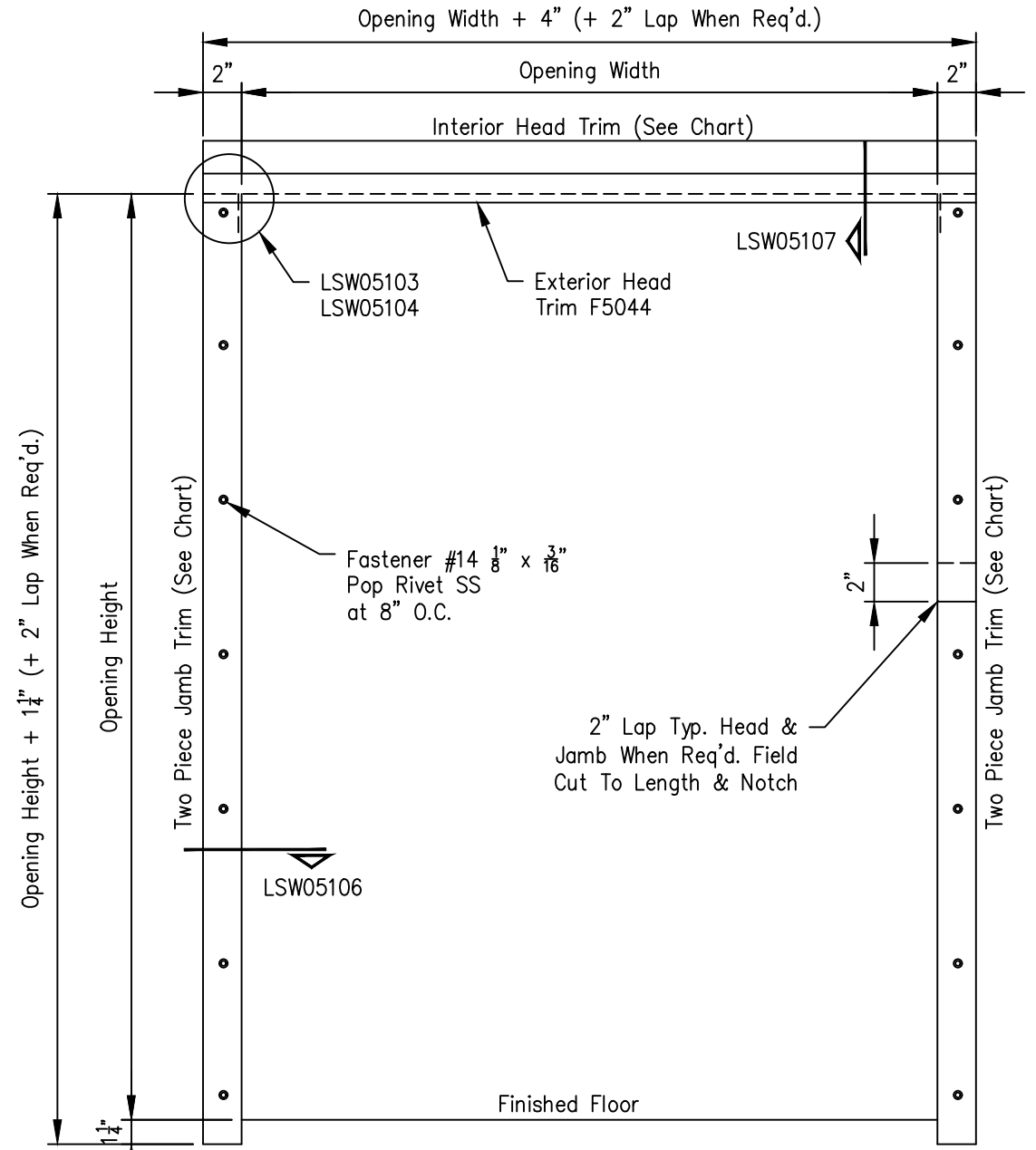
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DRSTIC ENSTIA

LS-36 Wall Panel - Three Sided Framed Opening  
Optional Channel Closure Trim Layout

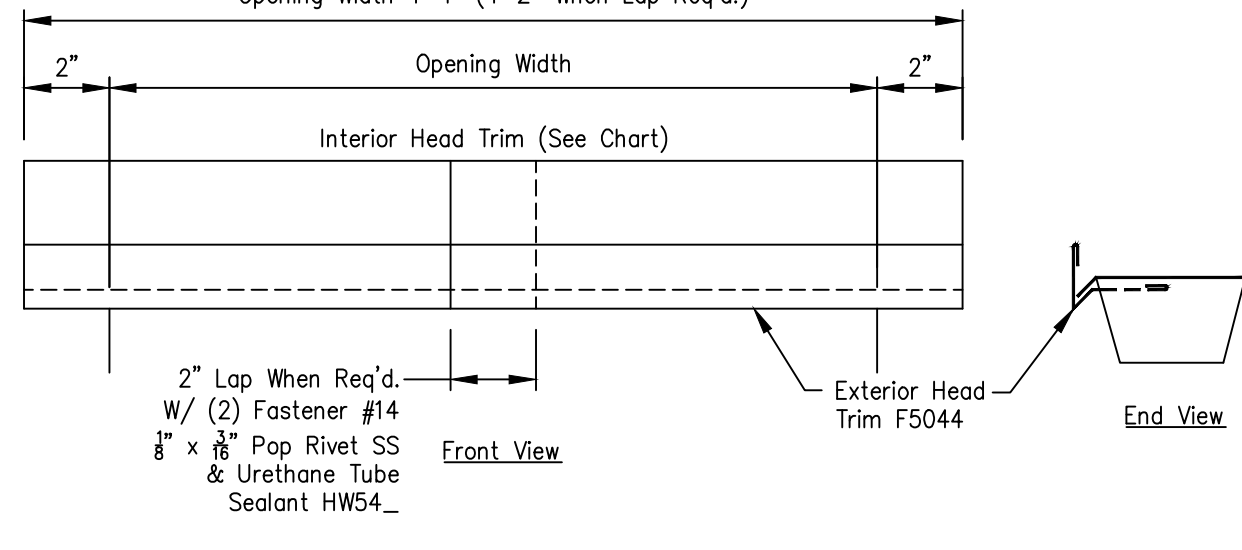


LS-36 Wall Panel - Three Sided Framed Opening  
Two Piece Trim Installation

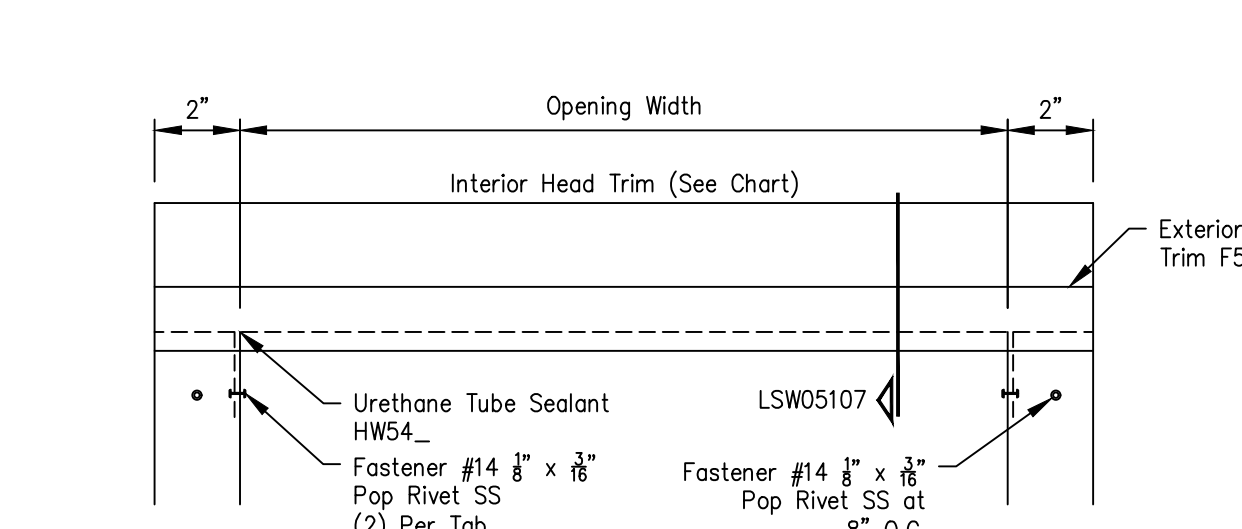
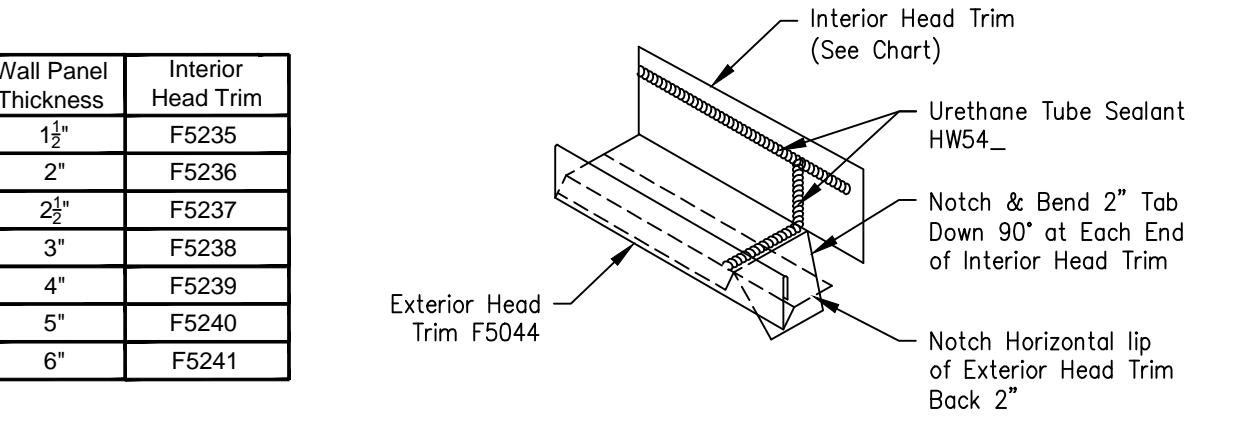


Wall Panel Thickness	Two Piece Head Trim	Two Piece Jamb Trim
1 1/2"	F5044 / F5235	F27 / F5462
2"	F5044 / F5236	F27 / F5462
2 1/2"	F5044 / F5237	F27 / F5462
3"	F5044 / F5238	F27 / F5464
4"	F5044 / F5239	F27 / F5464
5"	F5044 / F5240	F27 / F5466
6"	F5044 / F5241	F27 / F5466

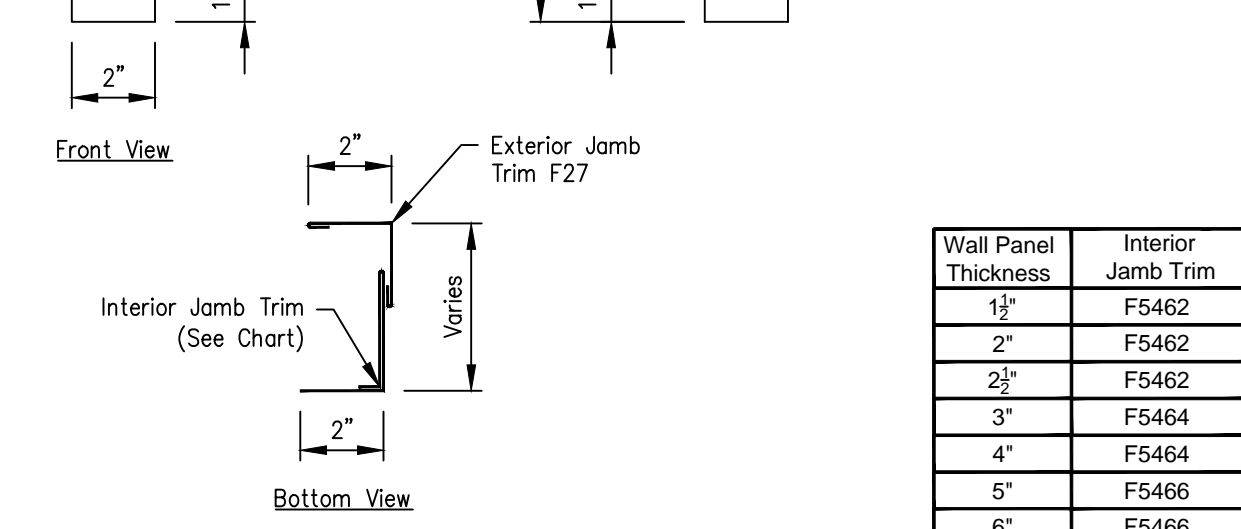
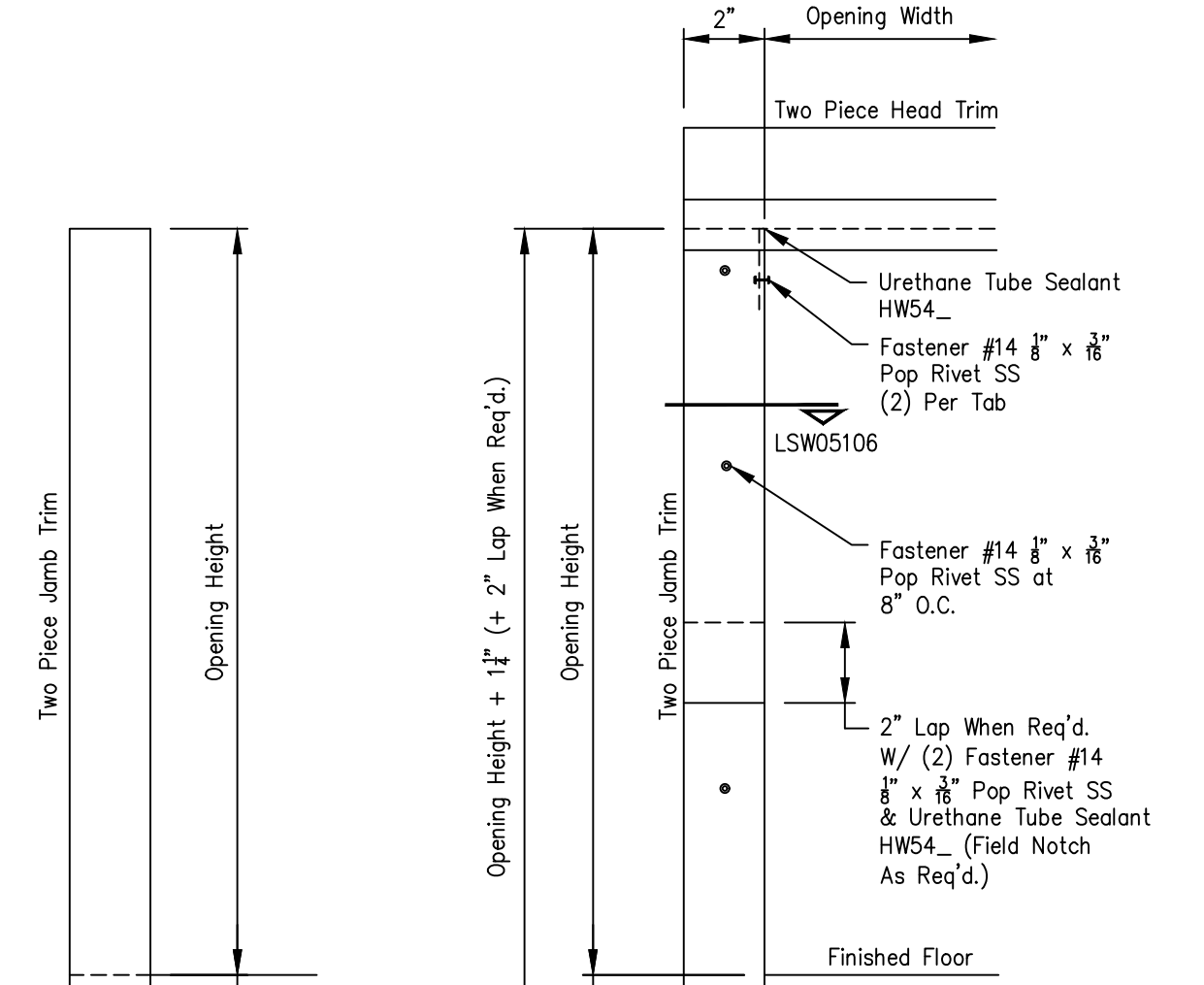
LS-36 Wall Panel - Three Sided Framed Opening  
Two Piece Head Trim Preparation And Installation



Wall Panel Thickness	Interior Head Trim
1 1/2"	F5235
2"	F5236
2 1/2"	F5237
3"	F5238
4"	F5239
5"	F5240
6"	F5241



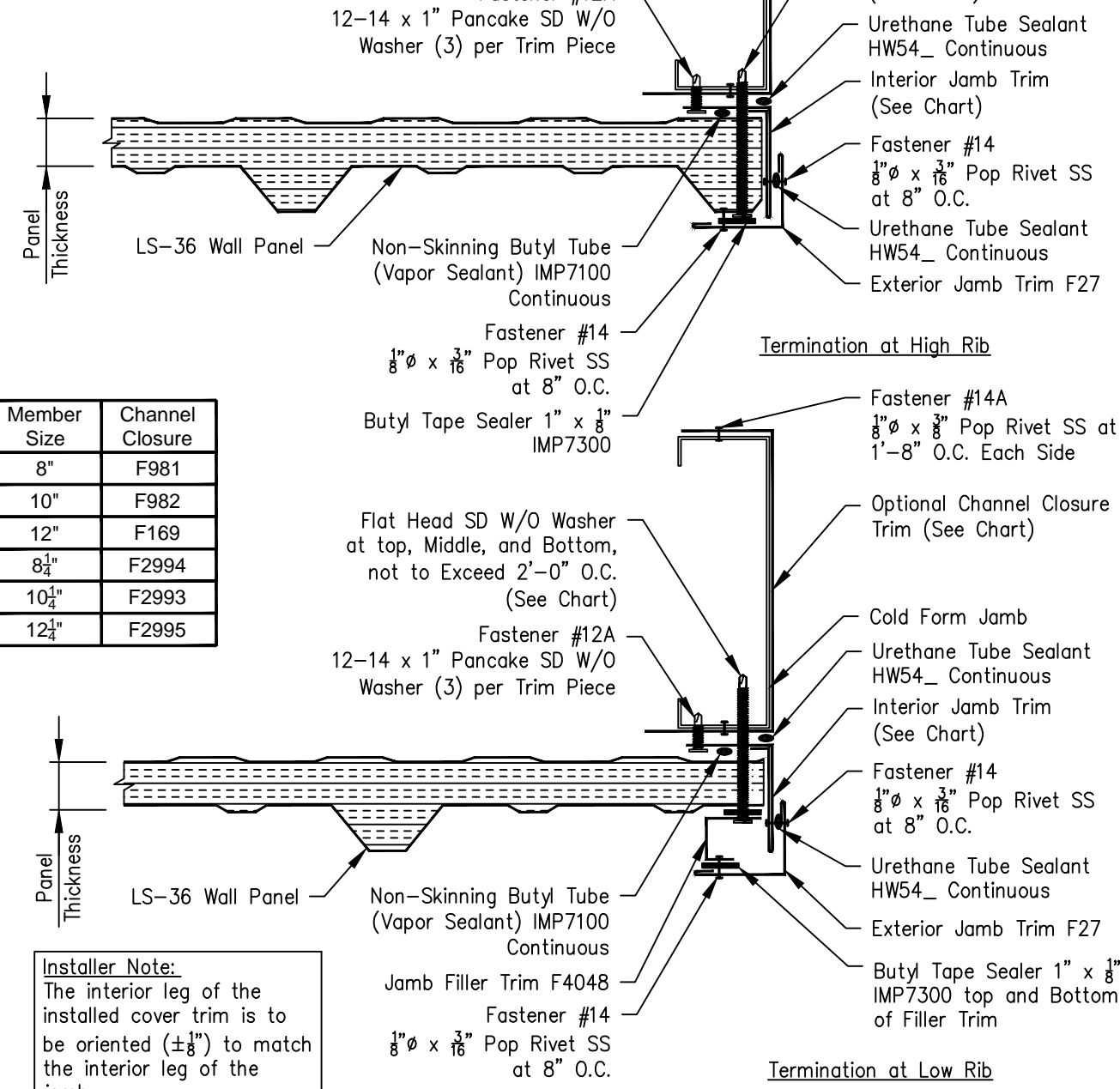
LS-36 Wall Panel - Three Sided Framed Opening  
Two Piece Jamb Trim Preparation And Installation



Wall Panel Thickness	Interior Jamb Trim
1 1/2"	F5462
2"	F5462
2 1/2"	F5462
3"	F5464
4"	F5464
5"	F5466
6"	F5466

LS-36 Wall Panel - Three Sided Framed Opening  
Section Through Jamb With Two Piece Trim

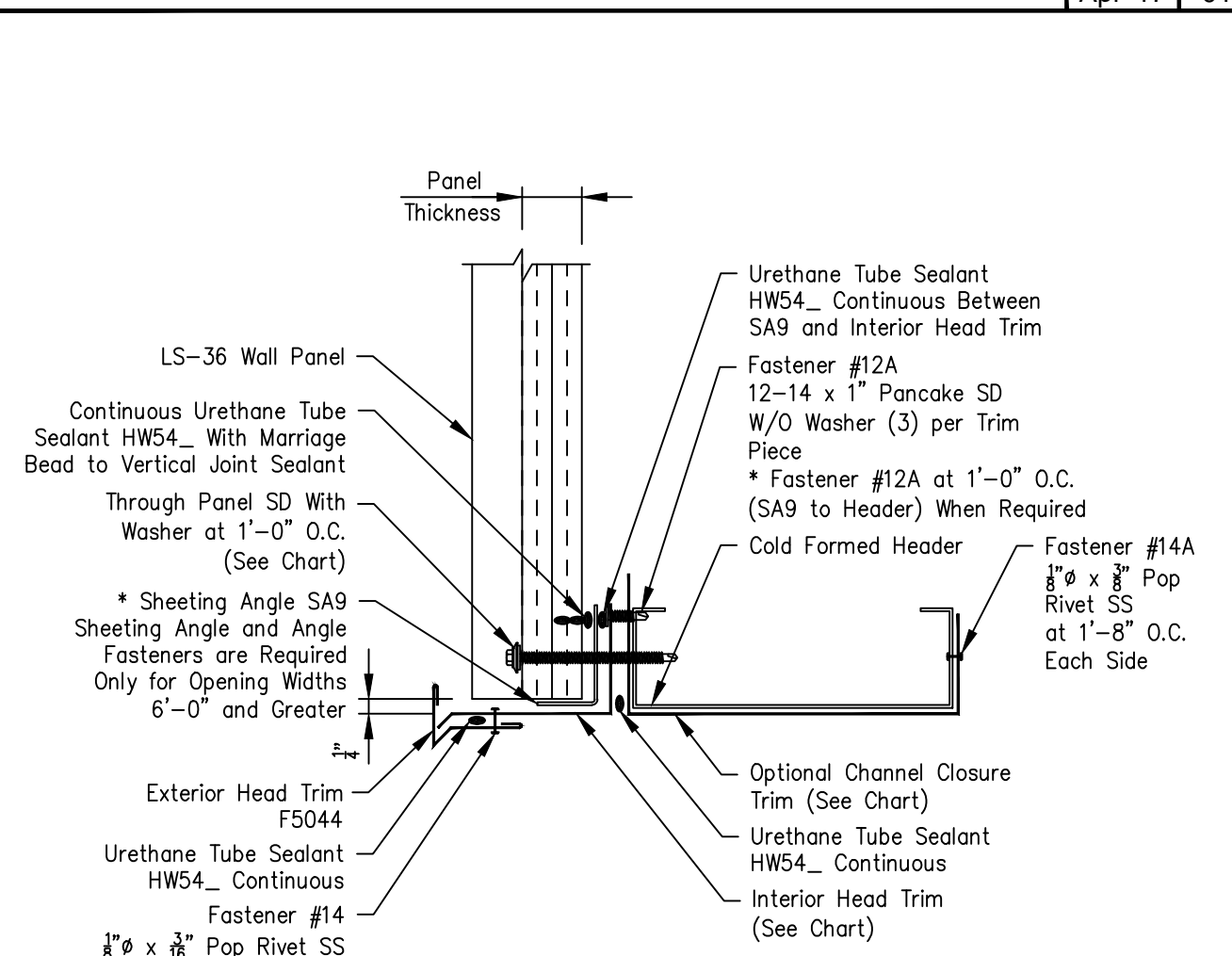
Wall Panel Thickness	Interior Jamb Trim	Flat Head Fastener
1 1/2"	F5462	#1432
2"	F5462	#1440
2 1/2"	F5462	#1440
3"	F5464	#1448
4"	F5464	#1464
5"	F5466	#1464
6"	F5466	#1478



Member Size	Channel Closure
8"	F981
10"	F982
12"	F169
8 1/2"	F2994
10 1/2"	F2993
12 1/2"	F2995

Installer Note: The interior leg of the installed cover trim is to be oriented (± 1/8") to match the interior leg of the jamb.

LS-36 Wall Panel - Three Sided Framed Opening  
Section Through Head With Two Piece Trim



Wall Panel Thickness	Interior Head Trim	Through Panel Fastener
1 1/2"	F5235	#1124
2"	F5236	#1124
2 1/2"	F5237	#1132
3"	F5238	#1132
4"	F5239	#1140
5"	F5240	#1148
6"	F5241	#1156

Member Size	Channel Closure
8"	F981
10"	F982
12"	F169
8 1/2"	F2994
10 1/2"	F2993
12 1/2"	F2995

Installer Note: The interior leg of the installed cover trim is to be oriented (± 1/8") to match the interior leg of the head and sill.

6" THICK CFR ROOF PANELS  
4" THICK LS-36 WALL PANELS  
FIELD CUT ALL FLASH TO LENGTH

Revision	Date	Description

8600 SOUTH 1-35 SERVICE RD.  
OKLAHOMA CITY, OK 73149  
ALASKA RAILROAD  
CORPORATION  
GIRDWOOD, AK

Project Name & Location:  
NORTHERN MANAGEMENT  
SERVICES INC  
SANDPOINT, ID

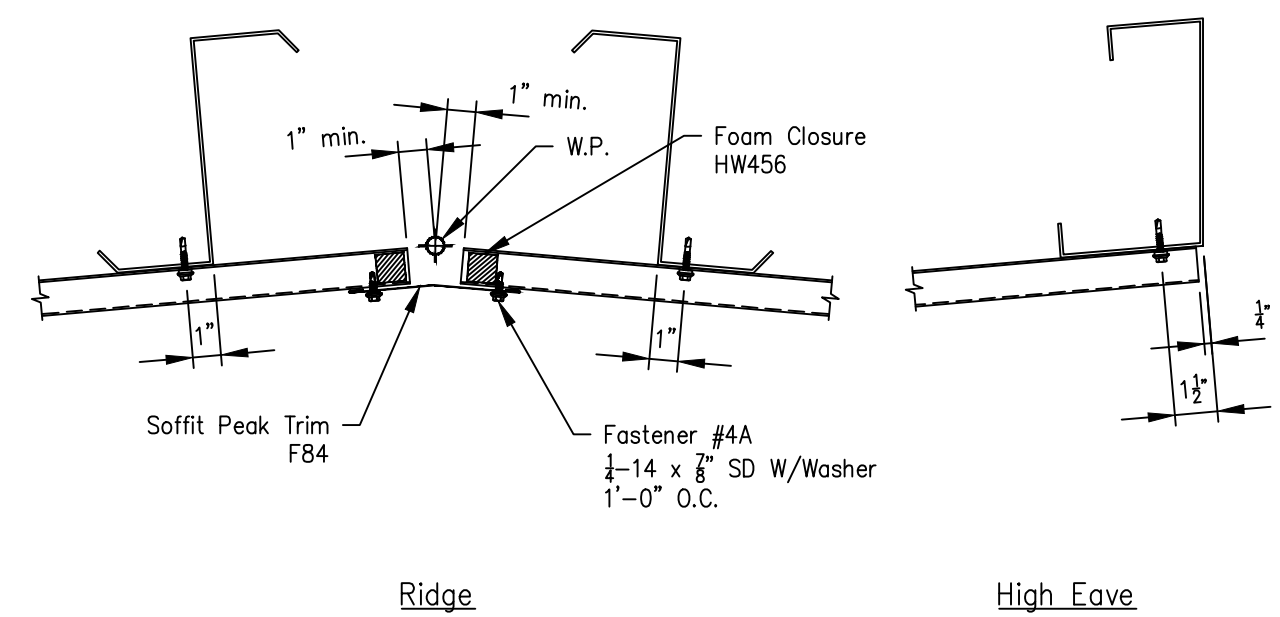
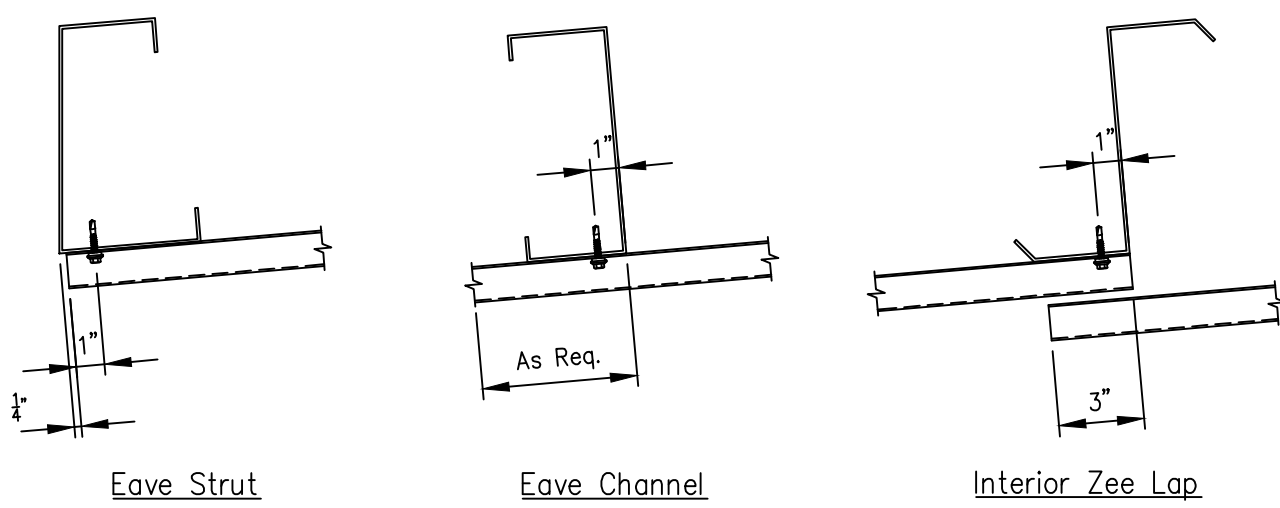
Drawing Status:  
 Preliminary  
 For Approval  
 For Construction  
 For Erector Installation

Scale: NOT TO SCALE  
 Drawn by: EBF 5/17/18  
 Checked by: CLS 5/17/18  
 Project Engineer:  
 Job Number: 16-B-42908  
 Sheet Number: R13 of 15

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DRSTIC ENSTIA

All fasteners shown are  
 Fastener #17A  
 12-14 x 1 1/2" SD W/Washer  
 at 1'-0" O.C. (unless noted)



Ck'd	By	Date	Revision	Description

8600 SOUTH I-35 SERVICE RD.  
 OKLAHOMA CITY, OK 73149

**STAR** BUILDING SYSTEMS  
AN INCEL COMPANY

**Project Name & Location:**  
 ALASKA RAILROAD  
 CORPORATION  
 GIRDWOOD, AK

**Customer:**  
 NORTHERN MANAGEMENT  
 SERVICES INC  
 SANDPOINT, ID

**Drawing Status:**  
 For Preliminary Approval  
 For Construction Permit  
 For Final Construction  
 For Contractor Installation  
 For Erector Installation

Scale: NOT TO SCALE  
 Drawn by: EBF 5/17/18  
 Checked by: CLS 5/17/18  
 Project Engineer:  
 Job Number: 16-B-42908  
 Sheet Number: R14 of 15  
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DRSTIC ENSTIA

Tape Sealant and Tube Sealant

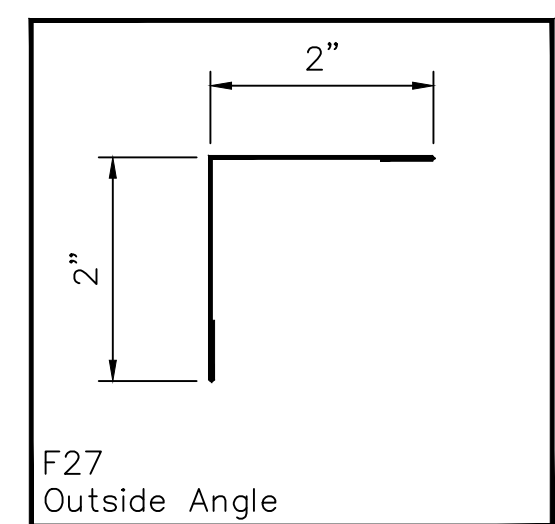
TRI-BEAD TAPE SEALER HW504  3/8" x 3/8" x 25'-0"	FLAT TAPE SEALER HW507  3/2" x 1/2" x 50'-0"	TAPE SEALER - SWAGED HW515  3/8" x 2 1/2" x 6" BattenLok HS SuperLok
TRIPLE BEAD TAPE SEALER HW502  3/8" x 2 1/2" x 20'-0"	FLAT TAPE SEALER HW506  3/2" x 1" x 45'-0"	NON-SKINNING BUTYL TUBE (VAPOR SEALANT)  IMP7100 (WHITE) Note: 25'-0" per Tube at 1/4" Bead
URETHANE TUBE SEALANT  HW540 (White) HW541 (Gray) HW542 (Bronze) Note: 25'-0" per Tube at 1/4" Bead	TAPE SEALER MINOR RIB HW512  3/2" x 1 1/8" x 4"	FLEXIBLE MEMBRANE (EPDM)  16" x 24" 1/2" thick
DEKSTRIP 7" WIDE = HW5227 DEKSTRIP 9" WIDE = HW5228 DEKSTRIP 12" WIDE = HW5229 COLOR = Gray SCREWS 2" O.C. MAX. PERIMETER TAPE SEALANT BOTH SIDES TUBE SEALANT EACH END TERMINATION STRIP HW5305 EACH END (1" Wide x 4'-0" Long Alum.)	2" WIDE X 24 GA. STRAPPING  <ul style="list-style-type: none"> <li>FL470 - 25'-0" Roll Galvalume Plus Only</li> <li>FL471 - 100'-0" Roll Galvalume Plus Only</li> <li>FL569 - 500'-0" Roll Galvalume Plus or White Wash Coat</li> </ul>	NOTE: Refer to bill of materials for specific job requirements

Various Fasteners

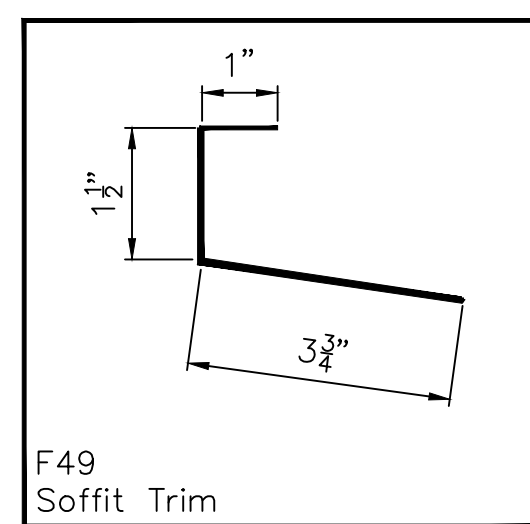
Fastener #17 12-14 x 1" SD W/Washer 	Fastener #38 1/4"-14 x 1/2" SD W/O Washer 	Fastener #55 12-24 x 1 1/2" SD DP5 W/O Washer 
Fastener #12A 12-14 x 1" Pancake SD W/O Washer 	Fastener #70 12-24 x 1 1/2" SD DP5 W/O Washer 	Fastener #76 12-14 x 2" SD W/O Washer 
Fastener #16 12-24 x 1 1/2" Pancake SD DP5 W/O Washer 	Fastener #61 12-14 x 1 1/2" SD W/O Washer 	NOTE: Refer to Bill of Materials for Specific Job Requirements
Fastener #42 1/4"-14 x 1 1/2" SD W/O Washer 	Fastener #18 1/4"-14 x 1 1/2" SD W/O Washer 	Fastener #46 1/4"-14 x 3/8" LL ST Type B W/Washer 

Fasteners

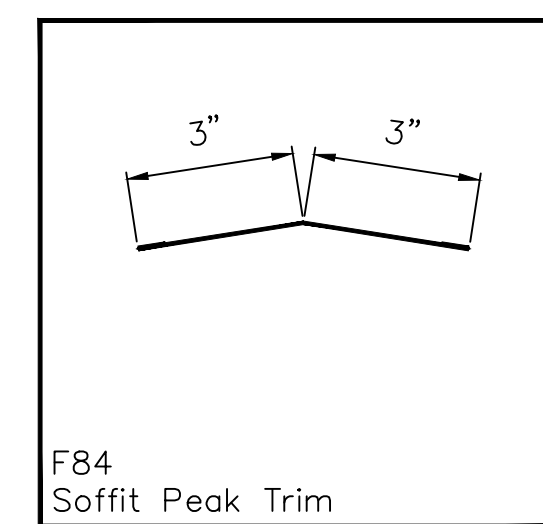
Fastener #14  1/8" x 3/16" Pop Rivet Stainless Steel	Fastener #14A  1/8" x 3/8" Pop Rivet Stainless Steel	Fastener #24  8 x 5/8" Nibbed Drill
Fastener #35  #14 x 1 1/8" O.D. Bonded Washer	Fastener #43L  L.T.P. Member Screw (Long Life) 1/4"-14 x 1 1/4" 5/16" Hex Washer Head W/ 1 1/8" O.D. Washer	Fastener #44L  L.T.P. Stitch Screw (Long Life) 1/4"-14 x 7/8" 5/16" Hex Washer Head W/ 1 1/8" O.D. Washer
Fastener #226  3/16" x 9/16" Closed End Rivet	Fastener #228  10 x 1/2" Grammet Washer	Fastener #271  8-18 x 1/2" Trim Screw
Fastener HW399  #6 x 1" Rubber Grammet 1/4" Hex Head w/ Washer	Note: Refer to bill of materials for specific job requirements.	



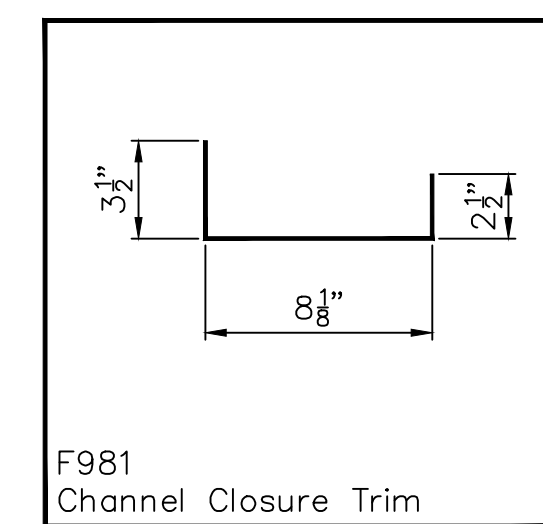
F27 Outside Angle



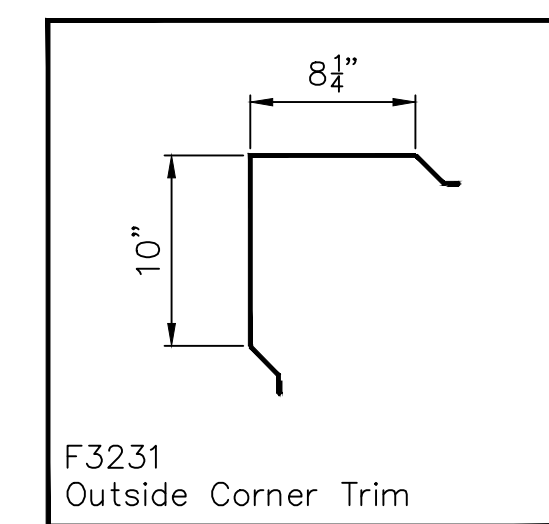
F49 Soffit Trim



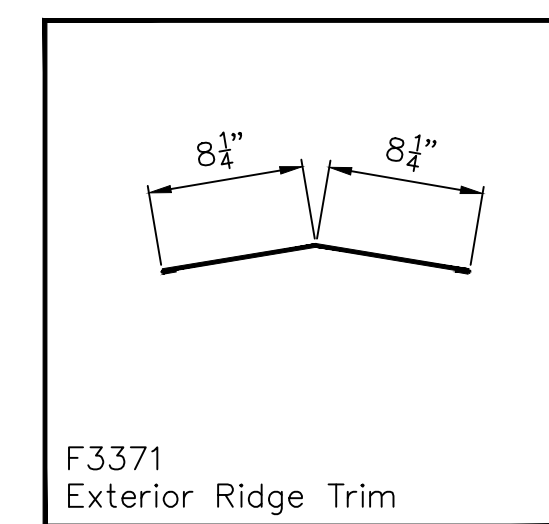
F84 Soffit Peak Trim



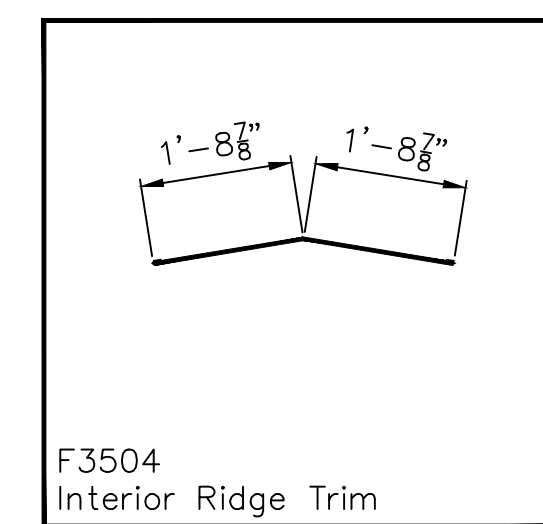
F981 Channel Closure Trim



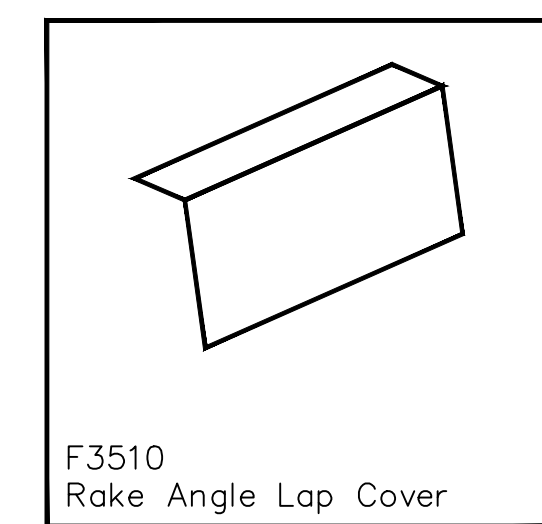
F3231 Outside Corner Trim



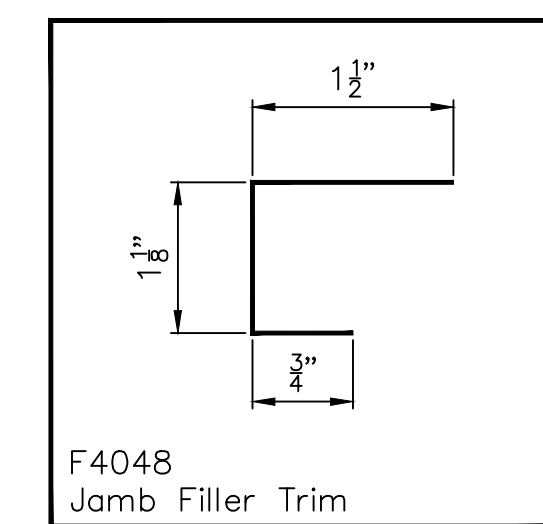
F3371 Exterior Ridge Trim



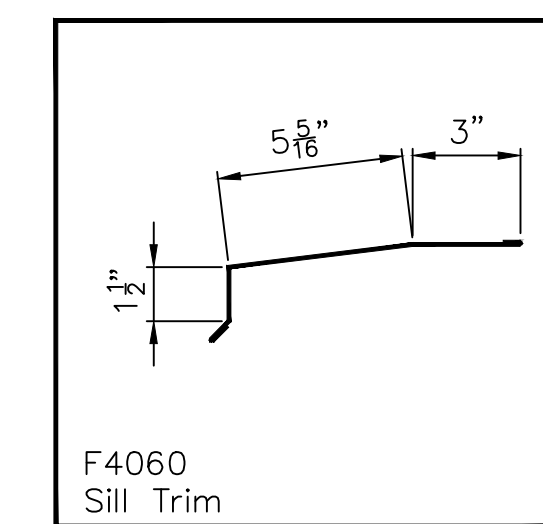
F3504 Interior Ridge Trim



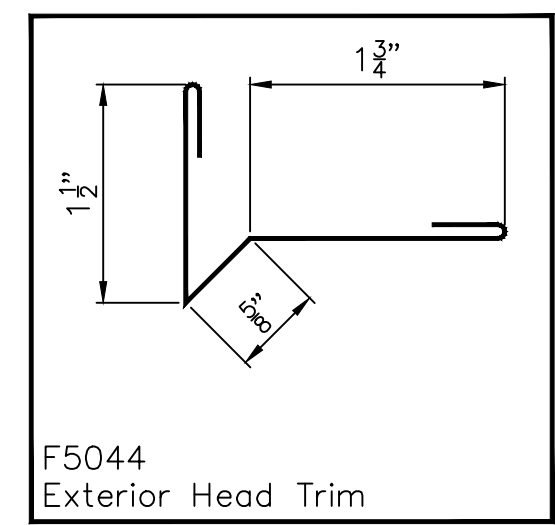
F3510 Rake Angle Lap Cover



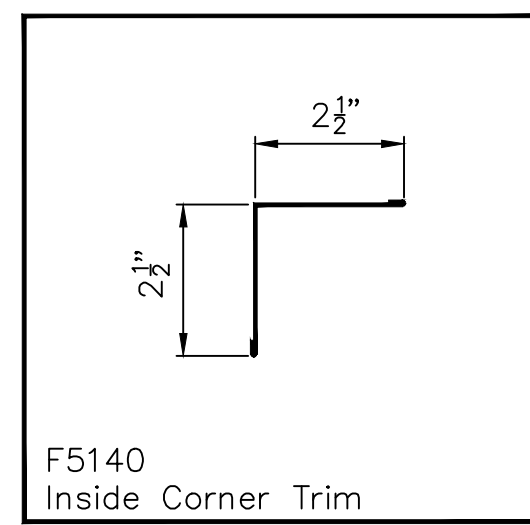
F4048 Jamb Filler Trim



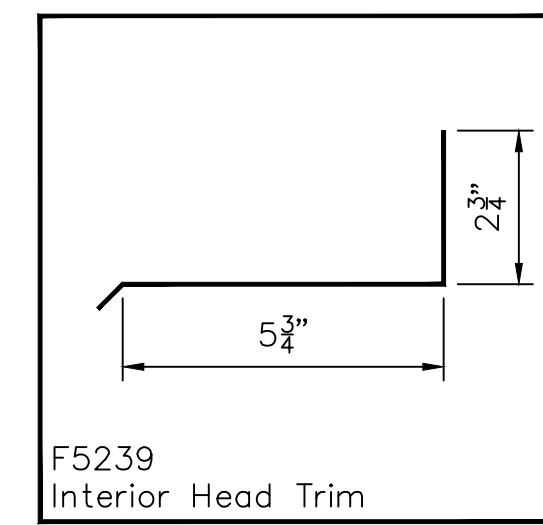
F4060 Sill Trim



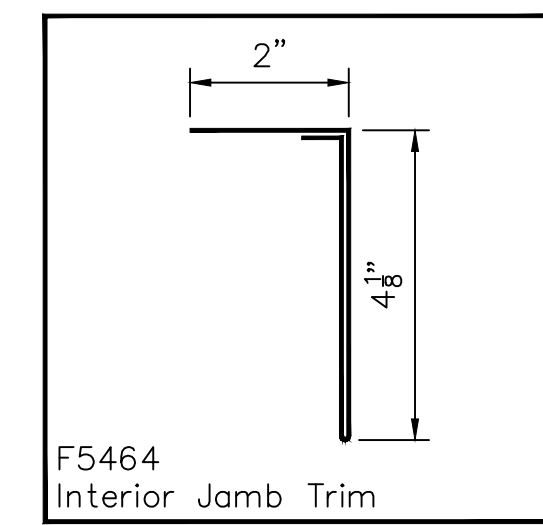
F5044 Exterior Head Trim



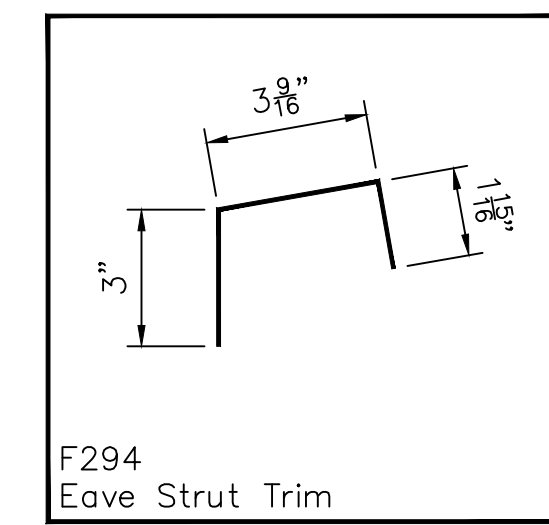
F5140 Inside Corner Trim



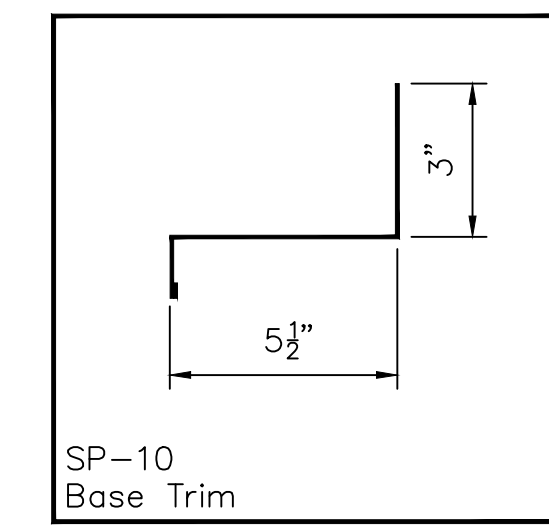
F5239 Interior Head Trim



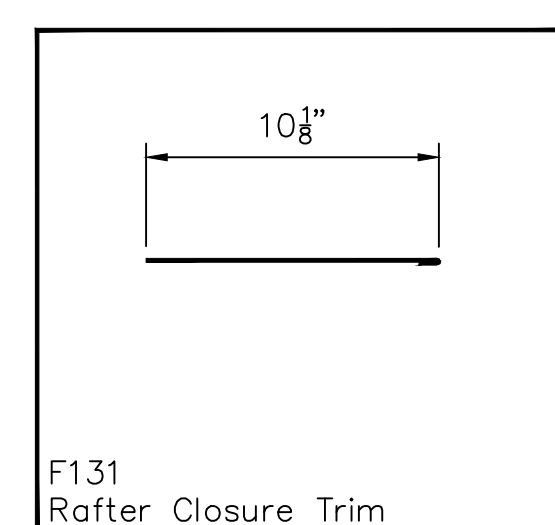
F5464 Interior Jamb Trim



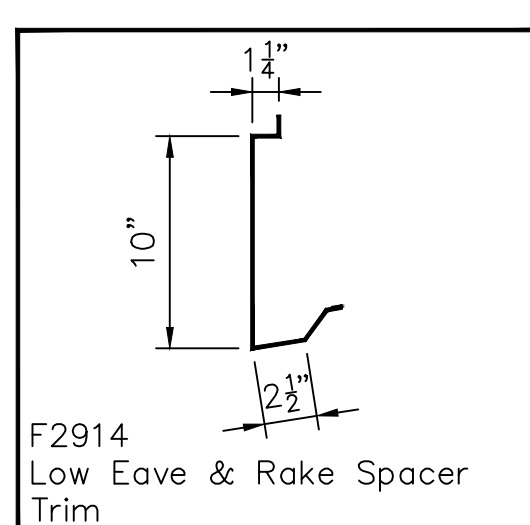
F294 Eave Strut Trim



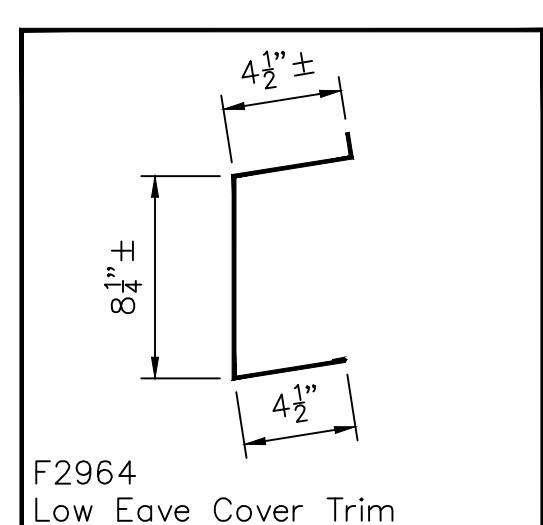
SP-10 Base Trim



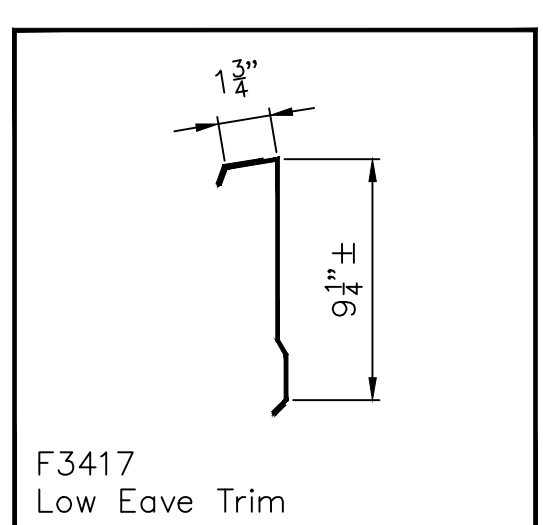
F131 Rafter Closure Trim



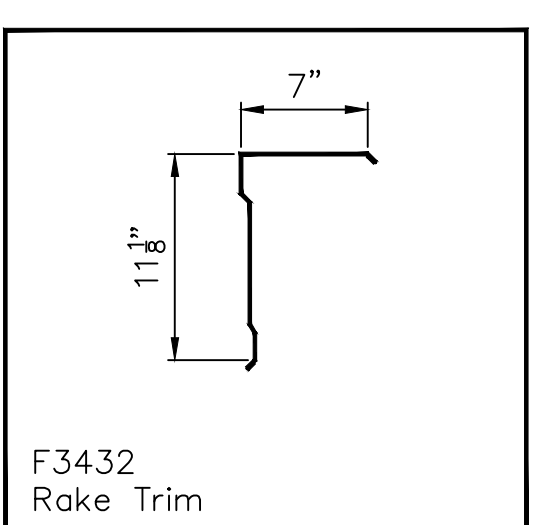
F2914 Low Eave & Rake Spacer Trim



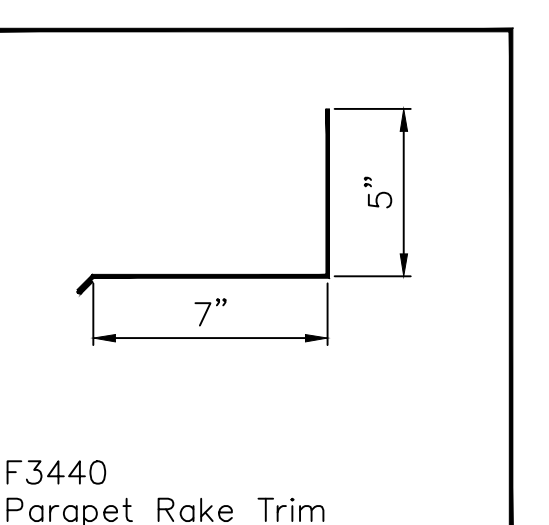
F2964 Low Eave Cover Trim



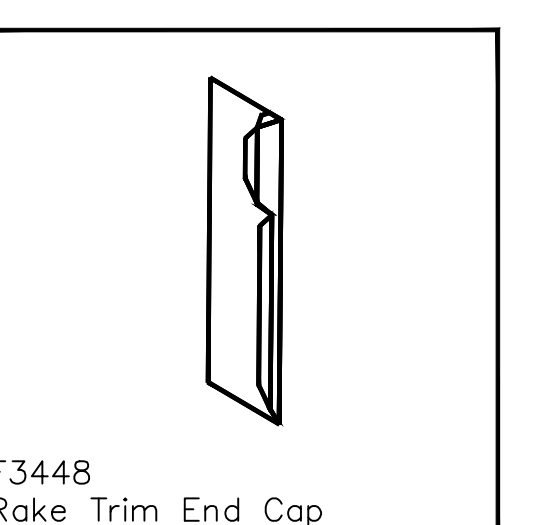
F3417 Low Eave Trim



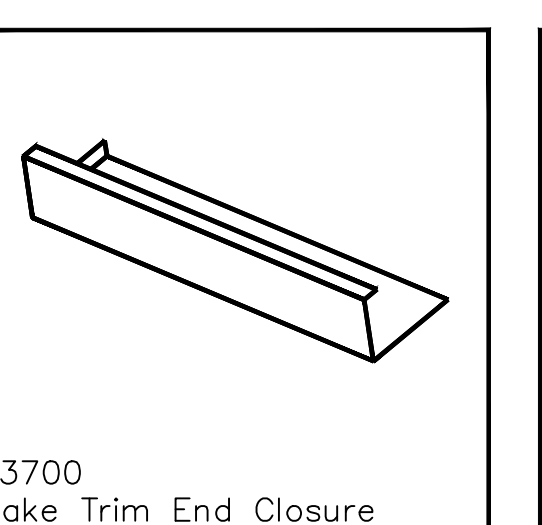
F3432 Rake Trim



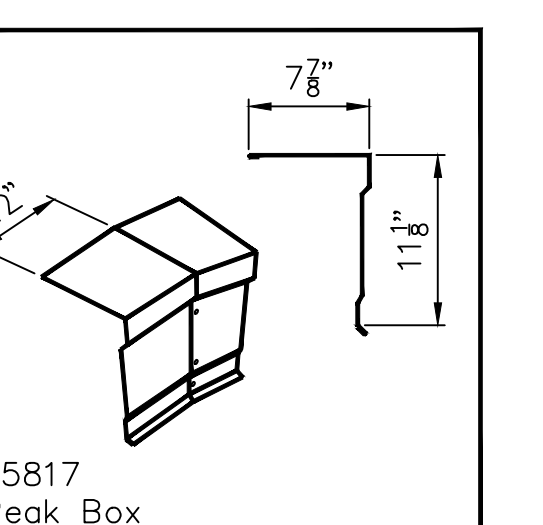
F3440 Parapet Rake Trim



F3448 Rake Trim End Cap



F3700 Rake Trim End Closure



F5817 Peak Box

Rev	Date	Description	By	Ckd

8600 SOUTH I-35 SERVICE RD.  
 OKLAHOMA CITY, OK 73149

**STAR** BUILDING SYSTEMS®  
 AN INGLE COMPANY (405) 636-2010

**Customer:**  
 NORTHERN MANAGEMENT SERVICES INC  
 SANDPOINT, ID

**Project Name & Location:**  
 ALASKA RAILROAD CORPORATION  
 GIRDWOOD, AK

**Drawing Status:**  
 Preliminary (Not For Construction)  
 For Approval  
 For Erector Installation

Scale: *NOT TO SCALE*

Drawn by: EBF 5/17/18

Checked by: CLS 5/17/18

Project Engineer:

Job Number: 16-B-42908

Sheet Number: R15 of 15

The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.