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Introduction

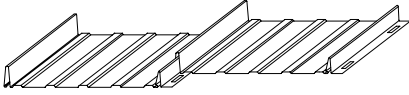
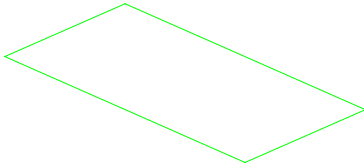
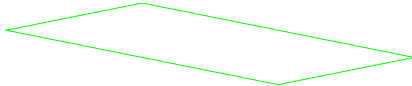
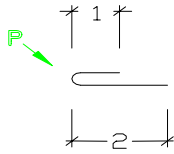
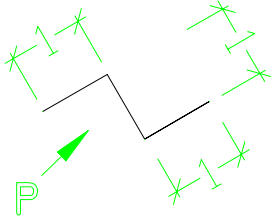
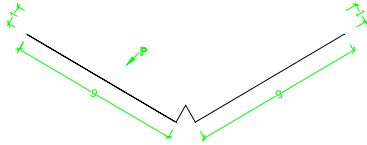
Our goal at Summit Pacific Metal Sales is to provide you with a highly qualified manufacturing, sales, and design team and furnish products and services that are second to none.

This product information and installation guide is designed to assist in the installation process and aid in the general understanding of Summit Pacific Metal Sales' *Perma-Lock Standing Seam* metal roofing.

Perma-Lock Standing Seam is renowned for its ease of installation. It has earned a long track record proving its economy, durability, and weathertightness. Should you have any questions or need clarification on any detail, please do not hesitate to contact Summit Pacific Metal Sales.

Note: “” indicates the painted side of the component.

Quick Find Reference Guide

Part #	Profile	Description / Uses	Sheet #
8		16" Perma-Lock Standing Seam Roofing Panels	
9		Flat Stock 41.5" x 120"	
10		Flat Stock 20.5" x 120"	
20		Termination Strip Use at gables..... 8 Use at sidewalls..... 29	
22		"Z" Closure Use at ridges..... 3, 4 Use at nosings..... 13, 14 Use at endwalls..... 17, 18 Use at skylights..... 21 Use at chimneys..... 25 Use at knee transitions..... 16 Use at elbow transitions..... 20	
27		"W" Valley Use at valleys (exposed)..... 5 Use at valleys (concealed)..... 6 (With #919 joggle)	

Note: These part numbers

14

indicate immediate availability.

Quick Find Reference Guide

Part #	Profile	Description / Uses	Sheet #
30		Elbow Roof Transition, Std.	
		Use at transition (concealed) ... 20 (With #919 joggle and #22 "Z" closure) Use at transition (exposed) 20 (With #22 "Z" closure) <i>(Specify BOTH roof pitches)</i>	
31		Elbow Roof Transition, Oversized	
		Use at transition (concealed) ... 20 (With #919 joggle and #22 "Z" closure) Use at transition (exposed) 19 (With #22 "Z" closure) <i>(Specify BOTH roof pitches)</i>	
32		Knee Roof Transition, Std.	
		Use at transition (concealed) ... 16 (With #919 joggle and #22 "Z" closure) Use at transition (exposed) 15 (With #22 "Z" closure) <i>(Specify BOTH roof pitches)</i>	
33		Knee Roof Transition, Oversized	
		Use at transition (concealed) 16 (With #919 joggle, and #22 "Z" closure) Use at transition (exposed) 15 (With #22 "Z" closure) <i>(Specify BOTH roof pitches)</i>	
36		Skylight Top Saddle	
		Use at skylights (exposed)..... 23 Use at skylights (concealed)..... 24 (With #919 joggle)	
37		Chimney Top Saddle	
		Use at chimneys (exposed)..... 27 Use at chimneys (concealed)..... 28 (With #919 joggle) <i>(Specify roof slope)</i>	

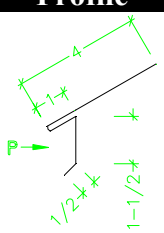
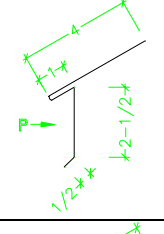
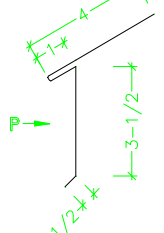
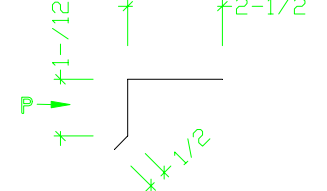
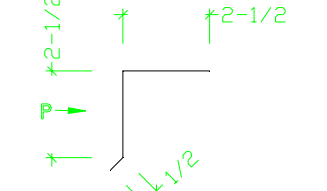
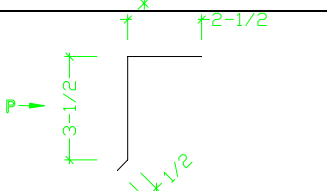
Note: These part numbers **14** indicate immediate availability.

Quick Find Reference Guide

Part #	Profile	Description / Uses	Sheet #
40		Standard 2" Eave	
		Use at eave, exposed fasteners... 9 Use at eave, concealed fasteners... 12	
41		3" Eave	
		Use at eave, exposed fasteners... 9 Use at eave, concealed fasteners... 12	
42		4" Eave	
		Use at eave, exposed fasteners... 9 Use at eave, concealed fasteners... 12	
44		Std. 2" Eave Trim w/ Hook	
		Use at eave..... 11	
45		3" Eave Trim w/ Hook	
		Use at eave..... 11	
46		4" Eave Trim w/ Hook	
		Use at eave..... 11	

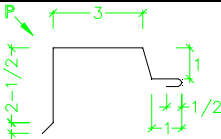
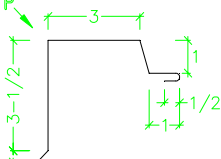
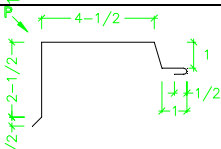
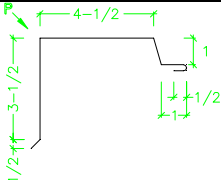
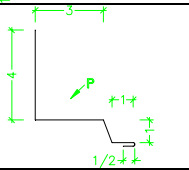
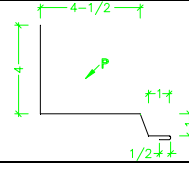
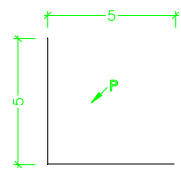
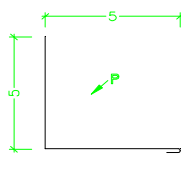
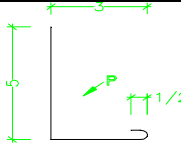
Note: These part numbers **14** indicate immediate availability.

Quick Find Reference Guide

Part #	Profile	Description / Uses	Sheet #
47		2" Drip Eave Use at eave, concealed fasteners... <i>(Specify up to 4/12 roof slope)</i>	10
48		3" Drip Eave Use at eave, concealed fasteners... <i>(Specify up to 4/12 roof slope)</i>	10
49		4" Drip Eave Use at eave, concealed fasteners... <i>(Specify up to 4/12 roof slope)</i>	10
50		Std. 2" Gable Trim Use at gable..... (Use with #20 termination strip)	8
51		3" Gable Trim Use at gable..... (Use with #20 termination strip)	8
52		4" Gable Trim Use at gable..... (Use with #20 termination strip)	8

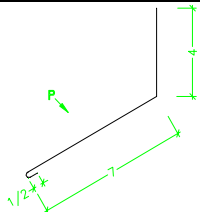
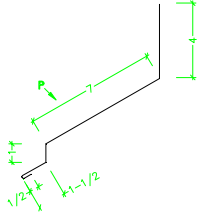
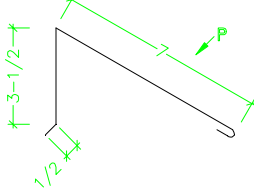
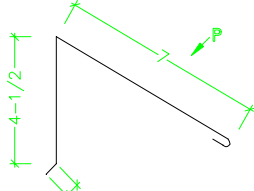
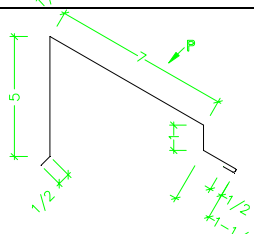
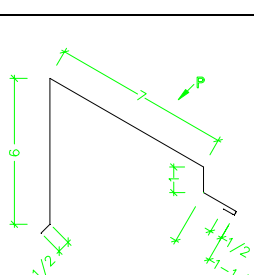
Note: These part numbers **14** indicate immediate availability.

Quick Find Reference Guide

Part #	Profile	Description / Uses	Sheet #
60		Old-Style Gable 3" Vertical, 3" Across Use at gable..... 7	
61		Old-Style Gable 4" Vertical, 3" Across Use at gable..... 7	
62		Old-Style Gable 3" Vertical, 4-1/2" Across Use at gable..... 7	
63		Old-Style Gable 4" Vertical, 4-1/2" Across Use at gable..... 7	
72		"Z" Sidewall 3" Across Use at sidewalls..... 30	
73		"Z" Sidewall 4-1/2" Across Use at sidewalls..... 30	
75		"L" Metal	
76		"L" Metal with Hem Use at skylight sides..... 22 Use at chimney sides..... 26 Use at skylight bottom saddles..... 21 (With #22 "Z" closure)	
77		"L" Metal with Hook Use at sidewalls..... 29 (With #20 termination strip)	

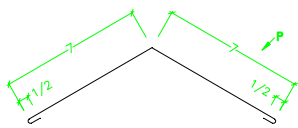
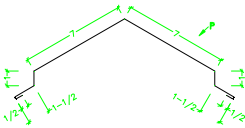
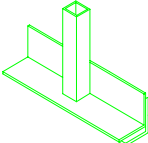
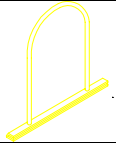
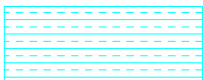
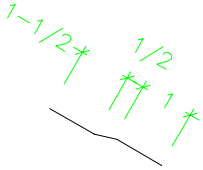

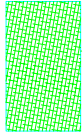
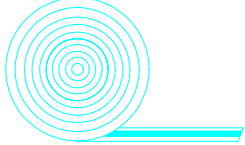
Note: These part numbers **14** indicate immediate availability.

Quick Find Reference Guide

Part #	Profile	Description / Uses	Sheet #
80		Endwall, Std.	
		Use at endwalls..... 17 Use at chimney bottom saddles... 25 (With #22 "Z" closure) <i>(Specify roof slope)</i>	
81		Vented Endwall	
		Use at walls with vent systems.. 18 (With #918 vent strip and #22 "Z" closure) <i>(Specify roof slope)</i>	
84		Nosing, Std. 4" Vertical	
		Use at walls..... 13 (With #22 "Z" closure) <i>(Specify roof slope)</i>	
85		Nosing, Std. 5" Vertical	
		Use at walls..... 13 (With #22 "Z" closure) <i>(Specify roof slope)</i>	
86		Vented Nosing 5-1/2" Vertical	
		Use at walls w/ vented systems.. 14 (With #918 vent strip and #22 "Z" closure) <i>(Specify roof slope)</i>	
87		Vented Nosing 6-1/2" Vertical	
		Use at walls w/ vented systems.. 14 (With #918 vent strip and #22 "Z" closure) <i>(Specify roof slope)</i>	

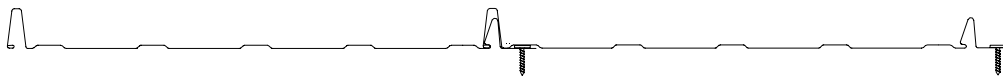
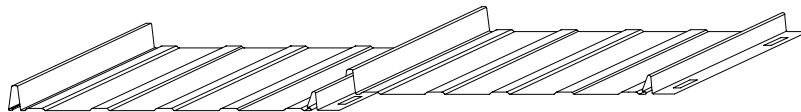
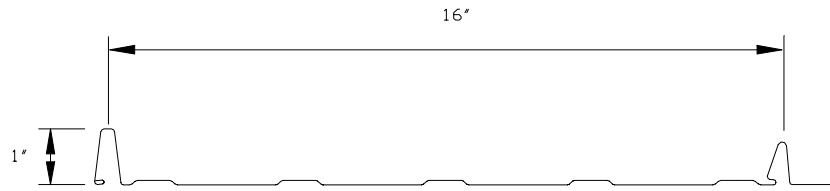
Note: These part numbers **14** indicate immediate availability.

Quick Find Reference Guide

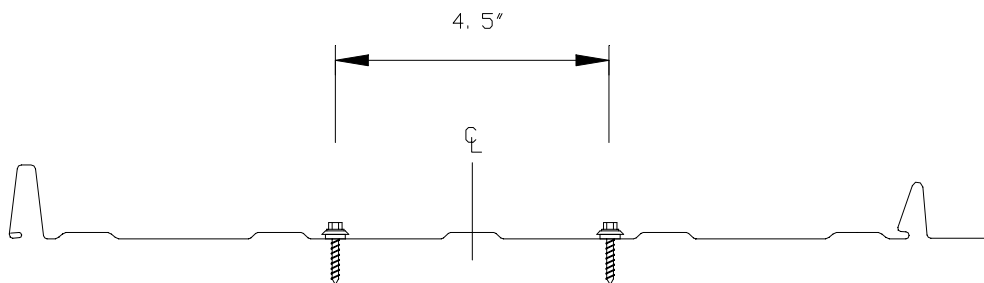
Part #	Profile	Description / Uses	Sheet #
90		Std. Ridge / Hip Cap	
		Use at ridge..... 3 (With #22 "Z" closure) <i>(Specify Roof slope)</i>	
91		Vented Ridge / Hip Cap	
		Use at ridge w/ vented systems.. 4 (With #918 vent strip and #22 "Z" closure) <i>(Specify roof slope)</i>	
910		Panel Head Bender Tool	
		Use at panel head..... 1	
912		Eave / Valley Bender Tool	
		Use at eaves and valleys..... 2	
918		1" x 3" Vent Strip	
		Use at endwall..... 18 Use at nosing..... 14 Use at ridge..... 4	
919		20 Ga. Joggle Cleat	
		Use at eaves..... 12 Use at valleys..... 6 Use at skylights..... 24 Use at chimneys..... 28 Use at knee transitions..... 16 Use at elbow transitions..... 20	
923		Latex Paint (1 Qt.)	
		(See Instructions)	
925		Polyethylene Closures	
		Use at ridge..... 3 Use at nosing..... 13 Use at knee..... 15, 16, 19, 20 Use at endwall..... 17 Use at skylights..... 21 Use at chimney..... 25	
926		Butyl Mastic Tape 3/32" x 1/2" x 50'	

Note: These part numbers **14** indicate immediate availability.

Perma-Lock Panel Profiles

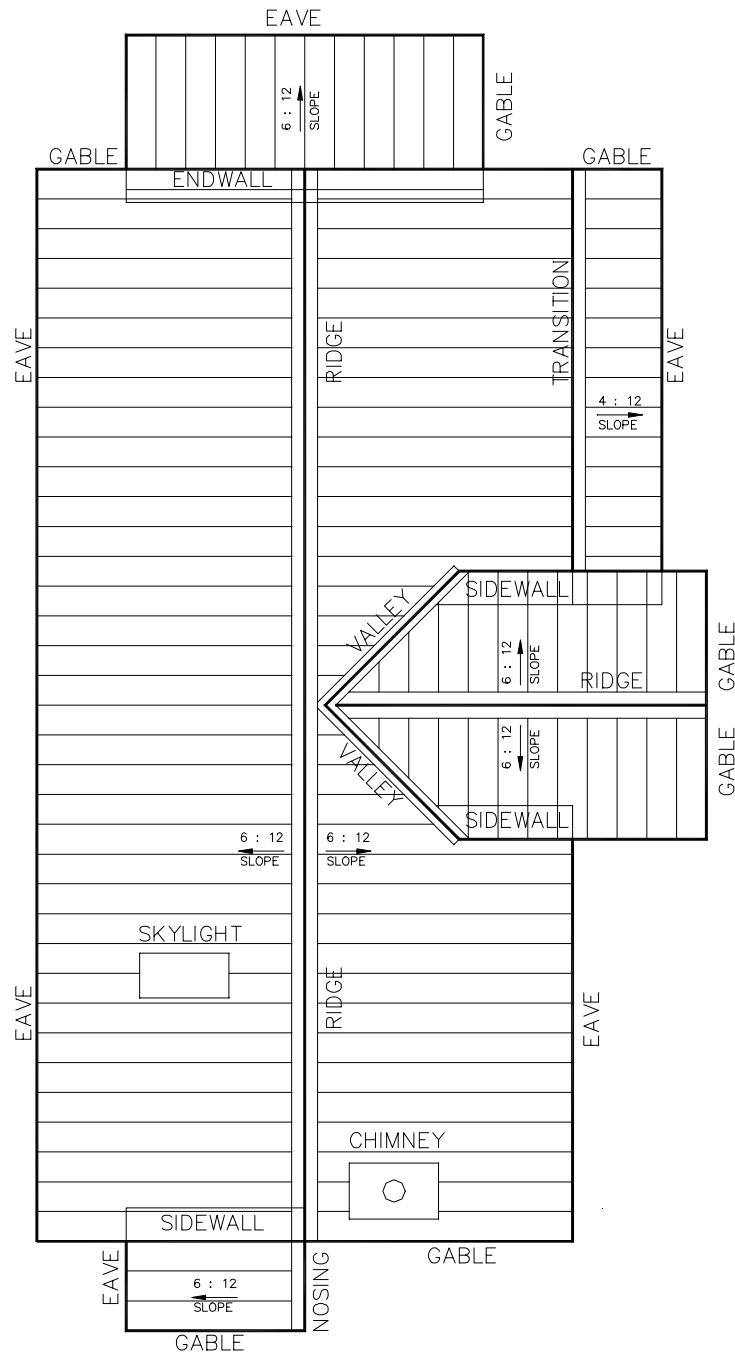


Location of Concealed 8C Panel Screws in Slotted Flange



Location of Exposed 8W Panel End Fasteners, When Used (See Notes)

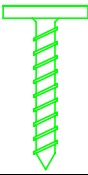
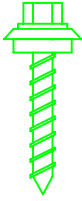
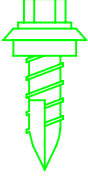
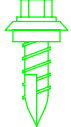
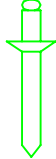
Typical Roof Plan



Flashing	Detail Sheet #(s)	Quick Find (Part #'s)
Chimney	25-28	37, 76-80
Eave	9-12	40-49
Endwall	17-18	80-81
Gable	7-8	50-63
Nosing	13-14	84-87

Flashing	Sheet #(s)	Quick Find (Part #'s)
Ridge	3-4	90-91
Sidewall	29-30	72-77
Skylights	21-24	36, 76
Transition	15-16, 19-20	30-33
Valley	5-6	27

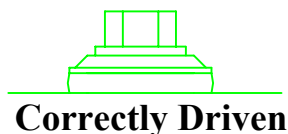
Fastener Guidelines

Profile	Description	Part #	Uses
	Clip & Panel Screws #10-12 x 1" & 2" Phillips Pancake Head (Requires a #2 Phillips driver)	# 8 C 10 (1") # 8 C 20 (2") Packaged 250 or 500 / Bag	Use for concealed attachment of panels (centered into slots), also for attaching joggle cleats at eaves and valleys, and certain trim components.
	#10 Woodgrip Screws (With Washer) #10 x 1", 1-1/2", & 2" In stock, all colors #10 x 2-1/2" & 3" Special Order (Requires a 1/4" nut driver)	# 8 W 10 (1") # 8 W 15 (1 1/2") # 8 W 20 (2") # 8 W 25 (2 1/2") # 8 W 30 (3") Packaged 250 or 500 / Bag <i>(Specify Color and Length)</i>	Use for exposed fastener applications into a wood substrate. If it is attaching two layers of metal to the substrate, use of sealant between the metals is recommended.
	#14 Woodgrip Screws (With Washer) #14 x 1 1/2" Plated Steel (Requires a 5/16" nut driver)	# 8 H Packaged 250 or 500 / Bag	Use head fasteners to pin panels to substrate. See instructions.
	Stitch Screws (With Washer) #12 x 3/4" (Requires a 1/4" nut driver)	# 8 S Packaged 250 or 500 / Bag <i>(Specify Color)</i>	Use when attaching metal to metal, but <i>not</i> to a wood substrate, e.g., attaching ridge cap or endwall to a panel rib top.
	Pop Rivets 1/8" x 1/8" Steel (Requires a 1/8" rivet setter)	# 8 R Packaged 1,000 / Bag <i>(Specify Color)</i>	Use in the same manner as stitch screws above. Pre-drilling is required.

- These are the standard fasteners recommended for Perma-Lock Standing Seam metal roofing.
- Refer to Notes For the Designer / User for fastener spacing.
- In all details where fasteners are used to attach components to a wood substrate, fasteners must penetrate into the decking a minimum of 1", or penetrate through the decking.
- Roofing nails, used to attach trim components, must be corrosion resistant. They are not provided by Summit Pacific Metal Sales.
- Exposed fasteners must match the color of the roofing, and have a rubber sealing washer.

Proper Setting of Washered Screws

(Woodgrips and Stitch Screws)



Important Notes For the Designer / User

Please read and understand the installation guide carefully and completely before starting work.

- Steel Substrates:** Perma-Lock uses a 26 gauge steel substrate, and it is protected with either a G-90 galvanized Zinalume[®], or Galvalume[®] coating. The steel is a very sturdy Grade D or AZ50, providing excellent strength and durability for long life standing seam roofing systems. You must isolate roofing and flashings from contact with dissimilar metals.
- Paint Finishes:** Summit Pacific Metal Sales provides an array of standard colors. Custom colors are available with certain minimums and cost considerations. We offer two distinct grades of paint coatings:
 - Kynar-500[®]** (70% resin) is *the* top-of-the-line paint finish for metal roofing products. Known chemically as polyvinylidene fluoride, it offers the greatest resistance to fading and chalking, maintaining its rich luster for decades. It is baked on the steel substrate at 475° in a continuous coating process. Our standard colors are available in low gloss formulations, dramatically lowering the glare common with metal roofing finishes, and have a Thirty-year limited warranty when certain site and installation criteria are met. Ask Summit Pacific Metal Sales for warranty details.
 - Endura-20** coated products offer high performance and good value. They provide good resistance to chalking and fading while being very economical. Limited warranties for up to twenty (20) years are available for Endura-20 finished roofing products and are subject to certain criteria and approval. Ask Summit Pacific Metal Sales for warranty details.
- Maintenance:** Very little, if any, maintenance is needed for the properly installed Perma-Lock Standing Seam roof system. All roof areas will need a fresh rainwater shower occasionally and removal of debris falling from trees, etc. Contact Summit Pacific Metal Sales should you wish more information regarding cleaning of the finish. Fastener maintenance depends greatly upon the way the roofing is installed. The owner, designer and installer are responsible for selecting the methods of installation, whether it be with concealed fasteners (very low maintenance) or exposed fastener (higher maintenance) terminations. As with all roofs, common sense suggests very heavy snowloads be lessened to reduce the likelihood of damage.
- Trim Components and Accessories:** A wide array of matching trim, accessories and fasteners, as shown in this installation guide, is available in matching steel and colors. Many of these items are readily available, while others will take additional time. Custom trim flashings, chase caps, beam caps, crickets, plumbing and heating jacks, and a wide variety of other accessories are available. See your Summit Pacific Metal Sales representative for pricing and details.
- Technical Services:** You may need some additional assistance with your project. Unusual roof layouts, for example, will require special attention. We have over twenty years of experience in the metal roofing installation industry. Consult your Summit Pacific Metal Sales representative for prompt, professional assistance in your project applications.
- Scope:** All details, recommendations and suggestions in this manual are general in nature, and the details and drawings herein are correct to the best of our knowledge and experience. This is not intended to cover all instances, building requirements, designs or codes. The details may require adaptations, changes or revisions for each project since conditions will vary from one project to another and may be unique for each application. This guide is no substitute for common sense and experience. It is solely the installer's responsibility to follow local and state building codes and any other job requirements, as well as observe all safety procedures.

Important Notes For the Designer / User (Cont'd.)

7. **Orders:** Ordering and purchasing of Summit Pacific Metal Sales' products are subject to our Standard Terms and Conditions Of Sale and Order Guide. Contact Summit Pacific Metal Sales for details. We offer a template to assist in ordering that will help you generate a complete list of what you'll need for your project the first time. Panel dimensions are nominal.
8. **Deliveries:** Check deliveries at the time of shipment and note any shortages or damage with the shipper. Check quantities against the packing slip. Panels over 30' long will require special handling. Contact Summit Pacific Metal Sales for further information regarding long panel handling. Proper handling will avoid damage due to bending and twisting.
9. **Material Storage:** Store materials out of the weather in a clean, dry place. One end of each container should be slightly elevated to allow any moisture to run off. Care should be taken to prevent contact with the ground or any substance which may cause a discoloration in the finish during storage. Store materials to provide ventilation and prevent bending, twisting or abrasion. Strippable film shall not be left exposed to the sunlight, and should be removed immediately prior to trim installation.
10. **Slope:** The minimum recommended slope is 3:12. Consult Summit Pacific Metal Sales regarding lower slope applications. Avoid areas where ponding or standing water occur as it will void the product warranty.
11. **Snow Area Considerations:** Careful consideration should be given to metal roofing in snow areas. The best building designs using metal roofing take into account building use, safe snow shed areas (particularly at ingress and egress), and roof penetrations (plumbing and heating vents, chimneys, skylights, etc.) which should be located near the top of the roof and away from snow shed areas. Use snow retention systems, if necessary. Use of valleys and gutter systems should be minimized or eliminated altogether. In areas of heavy snow, excessive snow buildup should be removed to prevent damage. A rubberized ice and water type membrane suitable for metal roofing should be used in all areas subject to ice buildup. Certain geographic areas and jurisdictions may require this type of membrane for proper waterproofing performance. Follow the recommendations of the membrane manufacturer. Snow diverters or crickets may be necessary behind chimneys, skylights, plumbing vents and heating flues. Consult the local building official for requirements for crickets and underlayments.
12. **Installation Tools:** Summit Pacific Metal Sales recommends the use of standard installation tools such as safety glasses, hammer, scratch awl, tape measure, left- and right-hand aviation snips, sheet metal shears, rubber mallet, sheet metal vice grips, rivet setter, eave hemming and ridge turn-up tools, screw gun with depth-sensing nose, caulking gun, chalk line, and drill. A 1/4" nut setter and #2 Phillips driver will also be needed for setting screws. Special custom bending tools for panel heads and eave are available from Summit Pacific Metal Sales.
13. **Drag Load Resistance:** Panels must be attached with an adequate number of head fasteners to the substructure at top of the panel to prevent them from sliding down the slope of the roof. Head fasteners are typically located at the top of all panels, including panels adjacent to ridges, endwalls, skylights, and chimney chases. The head fasteners must be staggered, penetrate into solid framing, and not compromise the structure. Use bare #14 x 1-1/2" Woodgrips for head fasteners. Consult Summit Pacific Metal Sales for more details.

Important Notes For the Designer / User (Cont'd.)

14. **Prior to Roof Installation:** Never install any material if its quality, or the quality of the subframing, is in question. Substructure must be on an even plane from eave to ridge to avoid panel distortion. The installer shall examine the substrate to ensure that it and all supporting members are straight, level, plumb and true. Report any variations and potential problems to the general contractor or architect in writing. Do not start work until unsatisfactory conditions have been corrected. Installation of any products shall deem acceptance of products and substrate. We recommend solid plywood sheathing minimum ½" thick. Do not install roofing over decks with structural damage or trapped moisture. Make sure the building is square and plumb to maintain proper roof alignment and coverage. The rake angles must be straight and square with roof plane. Use Summit Pacific Metal Sales' Termination Strip to allow for thermal movement.
15. **Underlayments:** After verifying that the roof is true and square, the roof deck is ready for underlayments. A 30# asphalt saturated felt underlayment is recommended and should be used in conjunction with rubberized ice and water shield type membranes as necessary. Apply underlayments starting at the eave of the roof. Continue upwards to the top of the roof and over the ridge or nosing, or up the endwall. Follow underlayment manufacturer's installation recommendations. Underlayments are not shown in all locations in all drawings for clarity.
16. **Fasteners:** Concealed fasteners for trim should be a corrosion resistant steel that provides adequate penetration into the roof deck and are typically installed at 16" on center (o.c). Panels must be fastened using #10-12 x 1" "Clip & Panel Screw" Phillips pancake head screws. For normal environments, fastener spacing of 12" o.c. is sufficient, except 6" o.c. is recommended at the panel ends for the first 18". Heavy wind and snow areas will require additional fasteners.

Use care to ensure fasteners are installed perpendicular into the roof substrate. Do not over-tighten this fastener to panel, which allows for panel expansion and contraction. Consult Summit Pacific Metal Sales for further details. Exposed fasteners used to attach components to wood substrates shall be "Woodgrip" screws with an integrated washer and shall be painted to match. "Stitch" screws or pop rivets, painted to match, should be used when attaching metal to metal, e.g., when attaching a ridge cap to a rib top. See Page 11, "Fastener Guidelines" for further details.

17. **Panel Installation:** Order panels in continuous lengths to eliminate end laps. Integrate trim accessories with underlayments and panels as shown. Panel and trim component installation should always start at the leeward side of the building and be applied into the direction of the *source* of the prevailing winds. Begin installation once alignment of the panels and squareness of the roof is determined. Panel installations shall be held true, plumb, and straight. Periodic checks and measurements should be made to ensure panels series are not gaining or losing width.

Important Notes For the Designer / User (Cont'd.)

18. **Thermal Expansion Considerations:** Remember to never pull the panel up tight to the eave hook or joggle cleat, as it will impede thermal movement. The amount of thermal movement extremes (which increases when roof has sun exposure) is a function of panel material, panel length, and seasonal temperature. Generally, panel movement is about 1/10" per 10' of panel. The gap between the panel hem and the cleat or hook must take this expansion into consideration and must be increased when the roof is installed in warmer weather conditions. Check this gap prior to snapping panels into place and installing fasteners. When panel is properly attached to the roof, snap the female rib of the next panel down onto the male rib. Begin snapping at the bottom of the panel and work up the roof plane. Never snap the panel down at the top and the bottom and work your way to the middle, as this will stress the panel.
19. **Ventilation:** Metal roofing is subject to condensation and provisions for ventilation should be considered. Designs in this guide are only a part of a complete ventilation system. It is up to the designer to create a system that will address condensation problems, including flow-through ventilation. Consult the architect and a qualified HVAC contractor for assistance.
20. **Panel End Detailing:** The ends of all panels must be attached to the roof substrate, including eaves and valleys. Panel ends must either be held down with concealed cleats (either integrated or joggle cleats), or exposed fasteners must be used. See details regarding alternate methods of attachments. Failure to properly attach panels will allow damage due to wind uplift, ice and snow damage, etc.
21. **Sealants:** Sealants are recommended in the installation of metal roofing systems. A high-grade butyl caulking and butyl sealant tape help ensure the weathertight integrity of the roof. Sealants should be used as noted in the guide and should be applied to the "wet side" of fasteners at joints and overlap conditions to prevent water intrusion. Sealants are not shown in all drawings for clarity.
22. **Roof Traffic:** During installation, use rubber-soled safety shoes while working on metal roofs. When walking on the roof panels is unavoidable, walk only in the flat. Walking on the ribs can cause damage to the panels. Step in the center of the panel only and never on top of a rib or immediately next to a rib. Ensure that workers' shoes do not pick up abrasive materials that could damage roofing materials.
23. **Clean-Up:** All product surfaces shall be free of debris at all times. Installed surfaces should be wiped clean at the end of each work period. Never cut panels over metal surfaces. Metal shavings will rust on the surface - possibly voiding any warranty.
24. **Touch Up:** Touching up of panels is not recommended by Summit Pacific Metal Sales. If desired, only minor scratches should be touched up. Touch up should be done only with a very fine tipped hobby painter's brush. The original baked-on finish cannot be restored with field touch up, so panels with excessive scratches or damage should be completely replaced. Touch up paint does not have the same durability as the factory finish; it will fade at a greater rate than the factory finish.

Important Notes For the Designer / User (Cont'd.)

25. **Limitation of Liability:** We (Summit Pacific Metal Sales) are providing the information regarding installation an advisory capacity only and do not warrant the details, recommendations, and suggestions provided in this capacity. Summit Pacific Metal Sales is not liable for damages resulting from improper use or installation procedures. Summit Pacific Metal Sales reserves the right to change, modify or eliminate any and all details, components, recommendations and suggestions used in this manual without notice and without incurring any obligation. Complete Standard Limited Warranty information is available from Summit Pacific Metal Sales upon request. No other warranty, whether express or implied, applies. Summit Pacific Metal Sales shall not be liable for special, indirect, or consequential damages. Remedies of the purchaser set forth therein are exclusive, and the liability of Summit Pacific Metal Sales with respect to any sale or anything done in connection therewith, will in no case exceed the invoice price of the production on which such liability is based.
26. **Oil Canning:** Because of the inconsistencies in the base steel tolerances, alloys and the galvanizing process of light-gauge steel products and uneven substrates over which they are applied, it is commonly accepted in the industry that a certain amount of waviness, or "oil canning," may be evident in the rollformed product. This is more evident with longer and wider panels, and is reduced when Low-Gloss paint finishes are used. Oil canning shall not be construed as a product defect and shall not be cause for product rejection.
27. **Standards:** Standards of the following societies should be strictly adhered to in the design and installation stages of any project using metal panels, light-gauge framing members, and associated accessories:
- American Iron and Steel Institute (AISI), "Light-Gauge Cold-Formed Steel Design Manual"
 - American Society of Testing Materials (ASTM), A-446 Structural, Physical Quality for Galvanized Steel Sheet
 - National Roofing Contractors Association (NRCA), "The NRCA Construction Details"
 - Sheet Metal and Air Conditioning Contractors National Association (SMACNA), "Architectural Sheet Metal Manual"

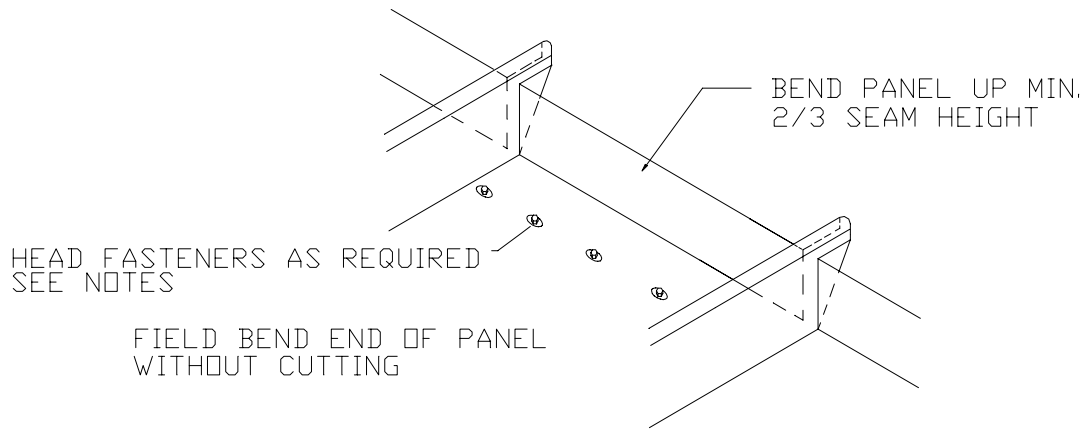
Review the *Perma-Lock Standing Seam Metal Roofing Guide Specifications* and the *Ordering Guide* provided by Summit Pacific Metal Sales for additional details.

Perma-Lock Standing Seam

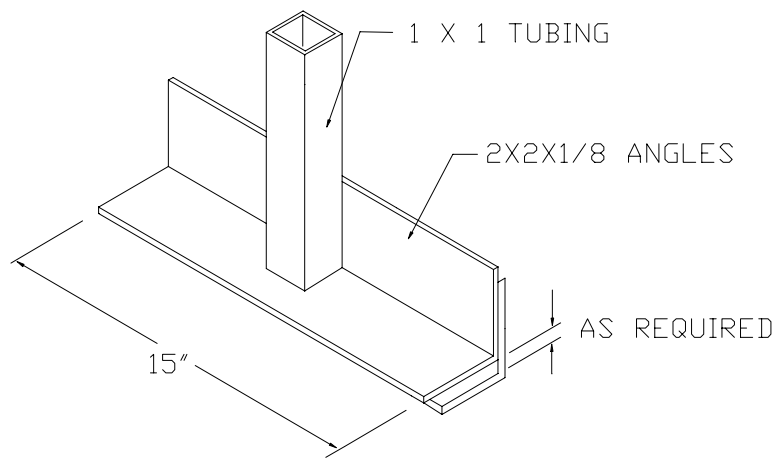
Metal Roofing

Detail Drawings

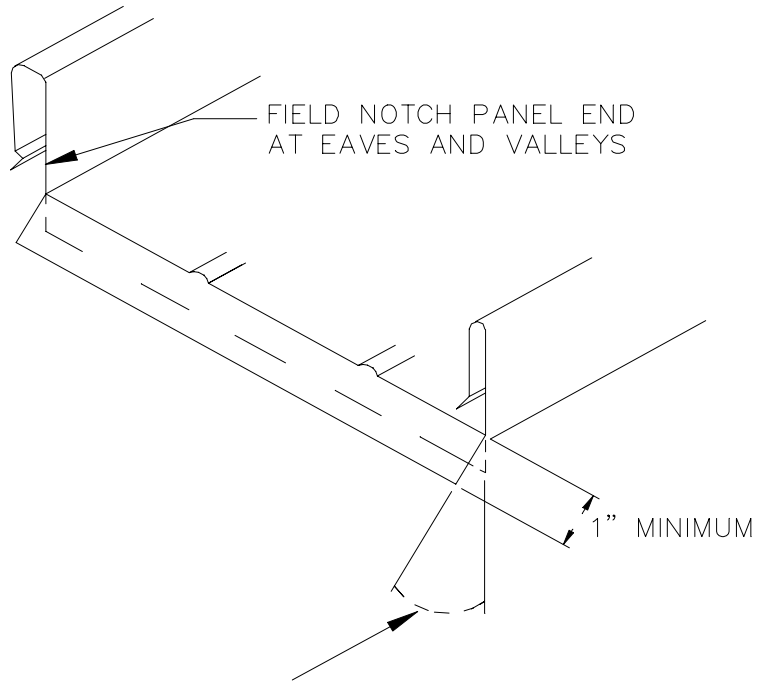
<u>Detail Drawing</u>	<u>SHEET #</u>	<u>Detail Drawing</u>	<u>SHEET #</u>
Panel Head Detailing.....	1	Standard Endwall.....	17
Eave Hook Detail.....	2	Vented Endwall.....	18
Std. Ridge / Hip	3	Elbow Flashing (Exposed)	19
Vented Ridge.....	4	Elbow Flashing (Concealed)	20
Valley (Exposed).....	5	Skylight, Downhill	21
Valley (Concealed).....	6	Skylight, Sidewall	22
Old-Style Gable	7	Skylight Top Saddle (Exposed)	23
Gable Standard.....	8	Skylight Top Saddle (Concealed).....	24
Eave Standard	9	Chimney Flashing, Downhill	25
Eave With Drip.....	10	Chimney Flashing, Sidewall	26
Eave W/ Hook.....	11	Chimney Top Saddle (Exposed).....	27
Eave W/ Joggle Cleat	12	Chimney Top Saddle (Concealed)....	28
Standard Nosing	13	Sidewall, W/ Hook & T-Strip	29
Vented Nosing	14	Sidewall.....	30
Knee (Exposed).....	15		
Knee (Concealed).....	16		



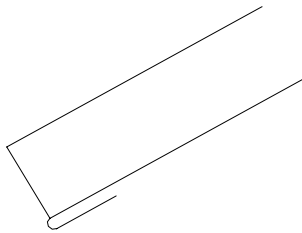
PANEL HEAD TURN-UP DETAIL (FIELD FABRICATE)



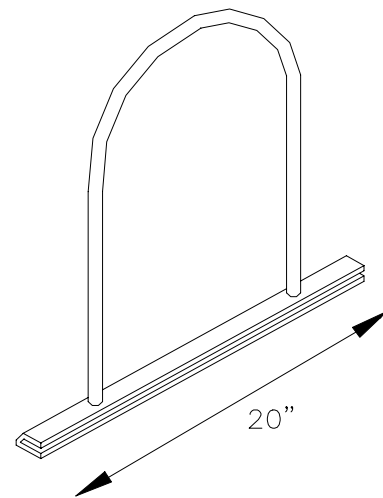
#910 SNAP-LOCK TURN-UP TOOL



FIELD NOTCH, FOLD DOWN, AND BEND PAN UNDERNEATH PANEL WITH #912 BENDER. HOOK ONTO JOGGLE CLEAT / EAVE TRIM HOOK. DO NOT PULL TIGHT TO HOOK SO AS TO ALLOW FOR EXPANSION AND CONTRACTION.

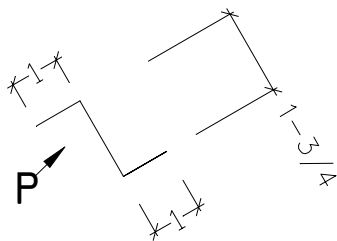
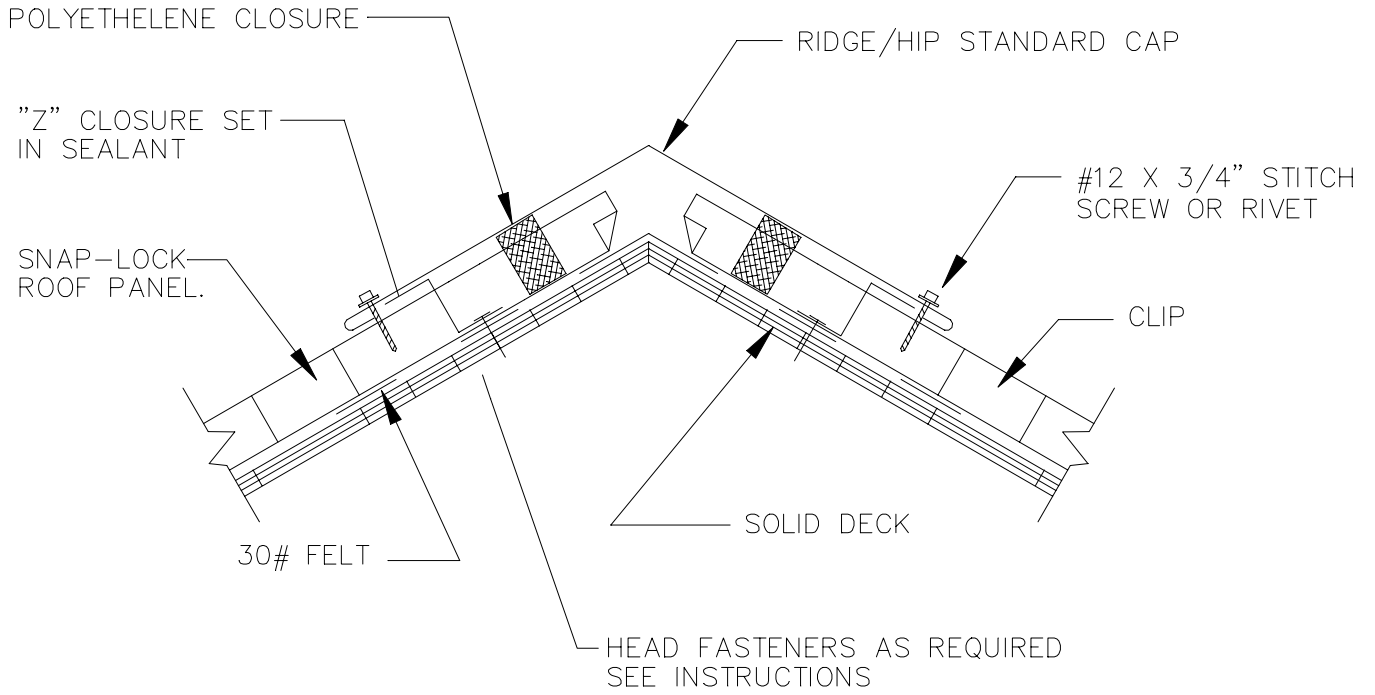


FINISHED PANEL
SIDE VIEW

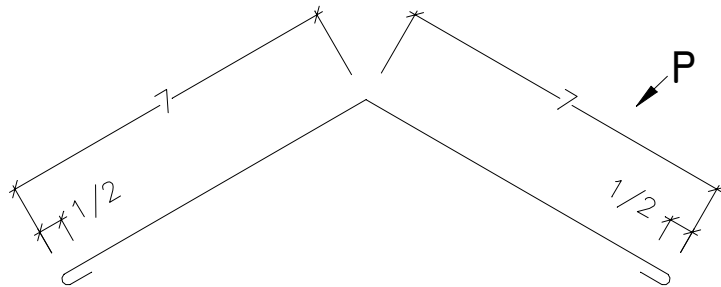


#912 EAVE / VALLEY BENDING TOOL

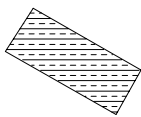
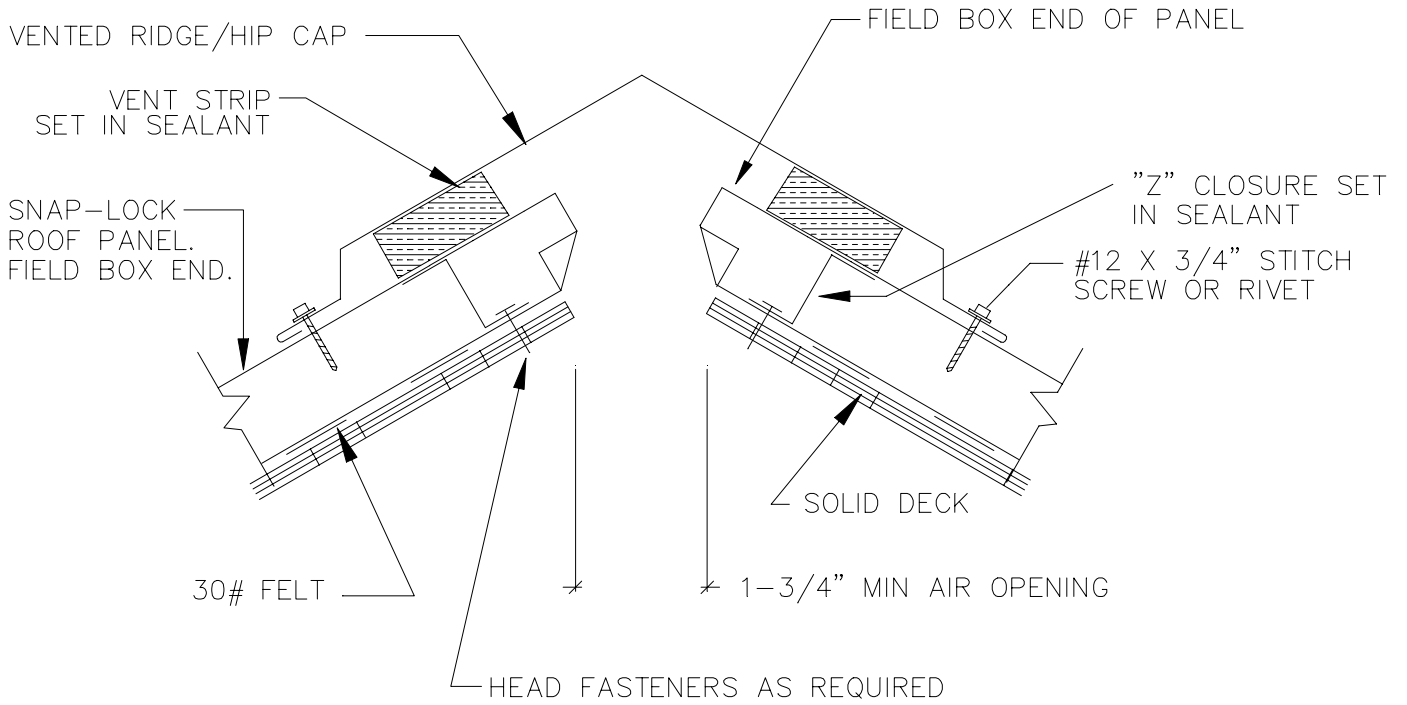
PANEL END HEM DETAIL (FIELD FORM)



#21 "Z" CLOSURE

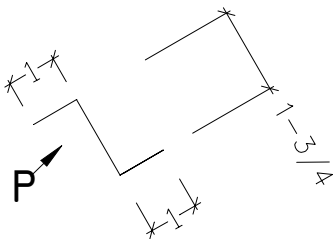


#90 RIDGE/HIP STANDARD CAP
 (SPECIFY ROOF SLOPE)

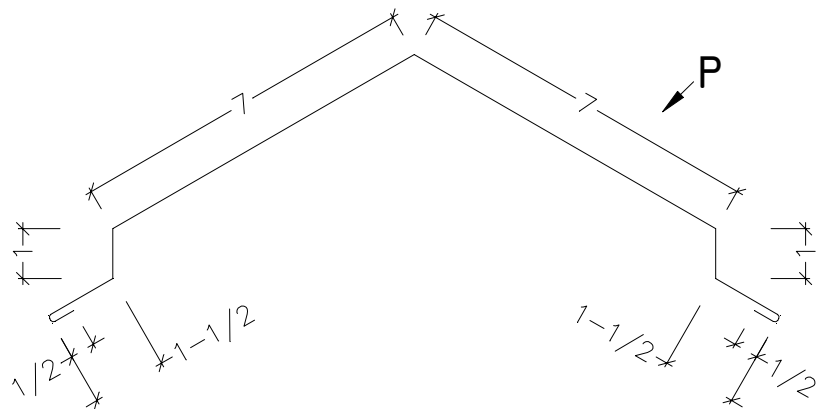


#918 VENT STRIP

SEE ARCHITECT/DESIGNER AND VENT
MANUFACTURER FOR APPROVAL OF
ANY VENTILATION DESIGN

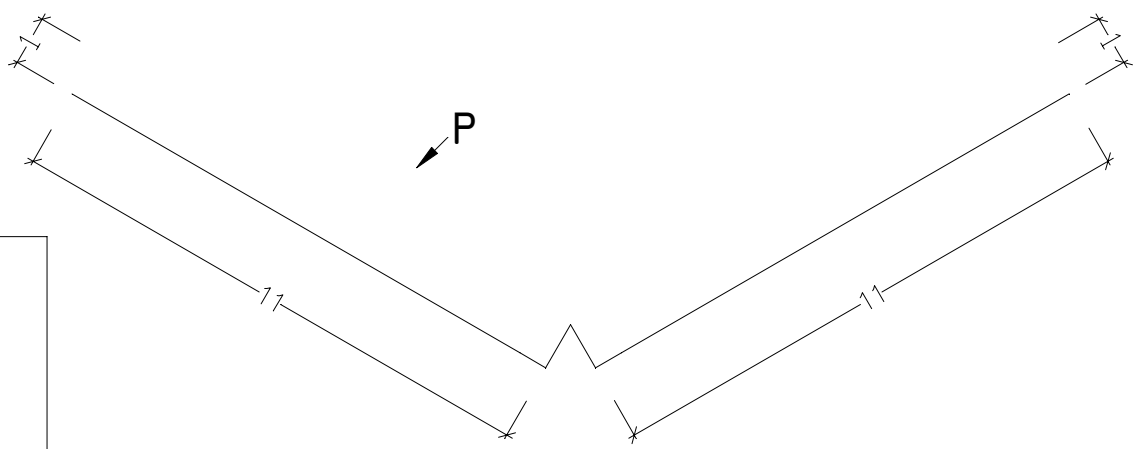
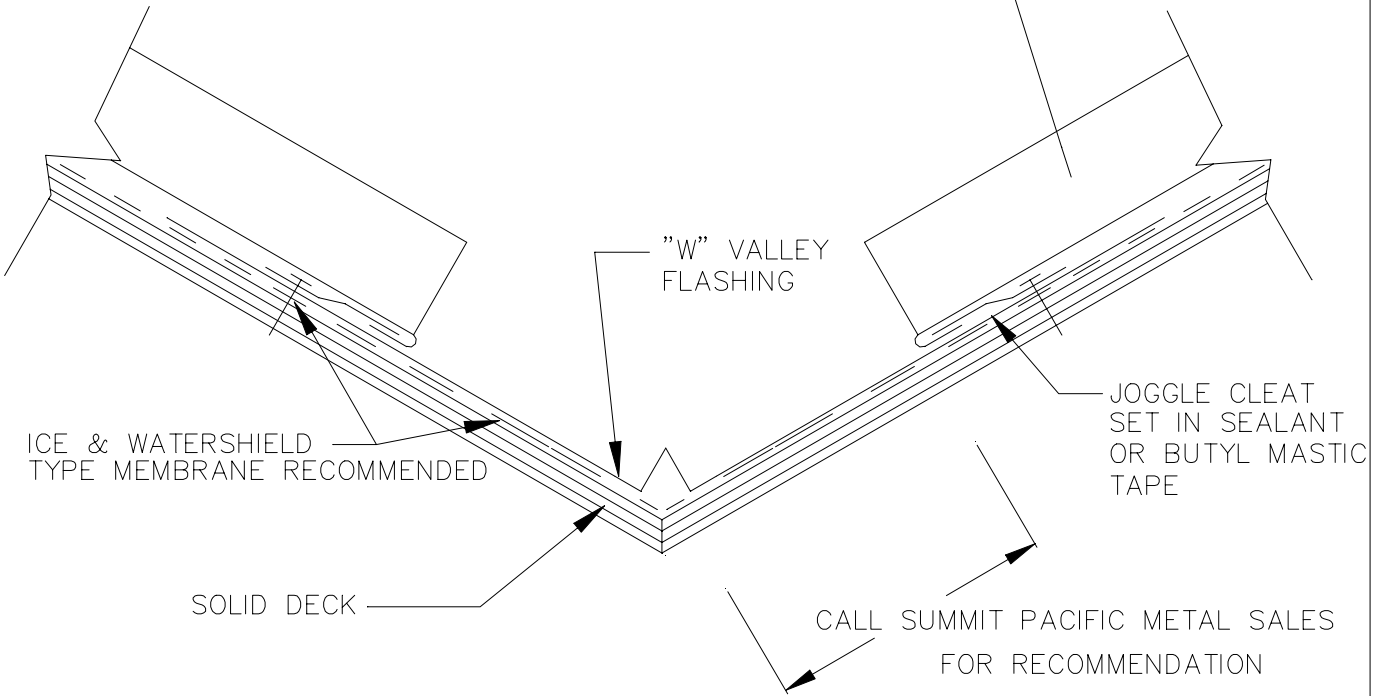


#21 "Z" CLOSURE

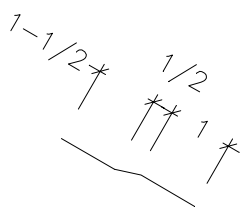


#91 RIDGE/HIP CAP, VENTED
(SPECIFY ROOF SLOPE)

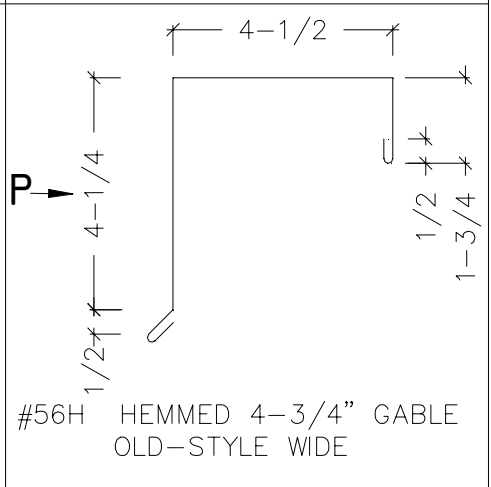
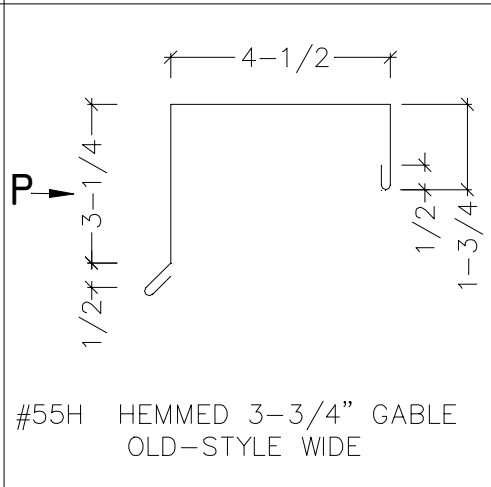
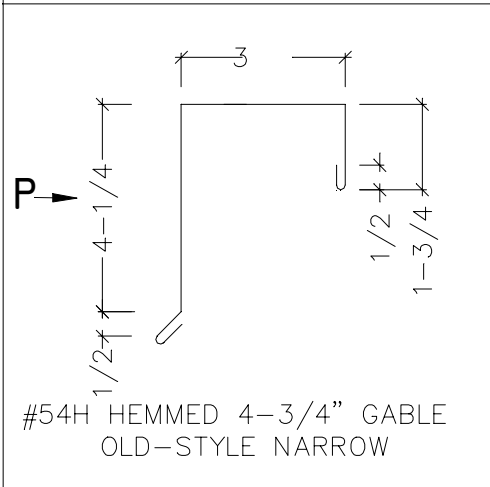
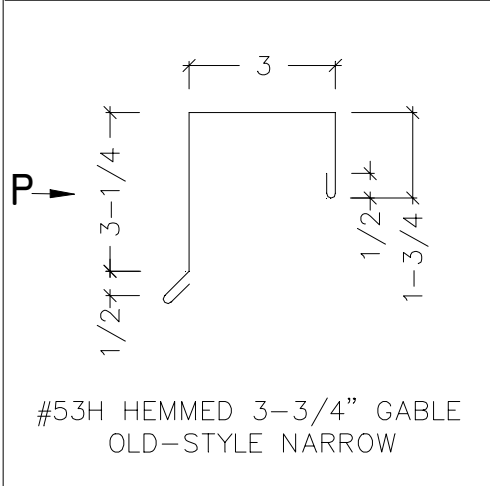
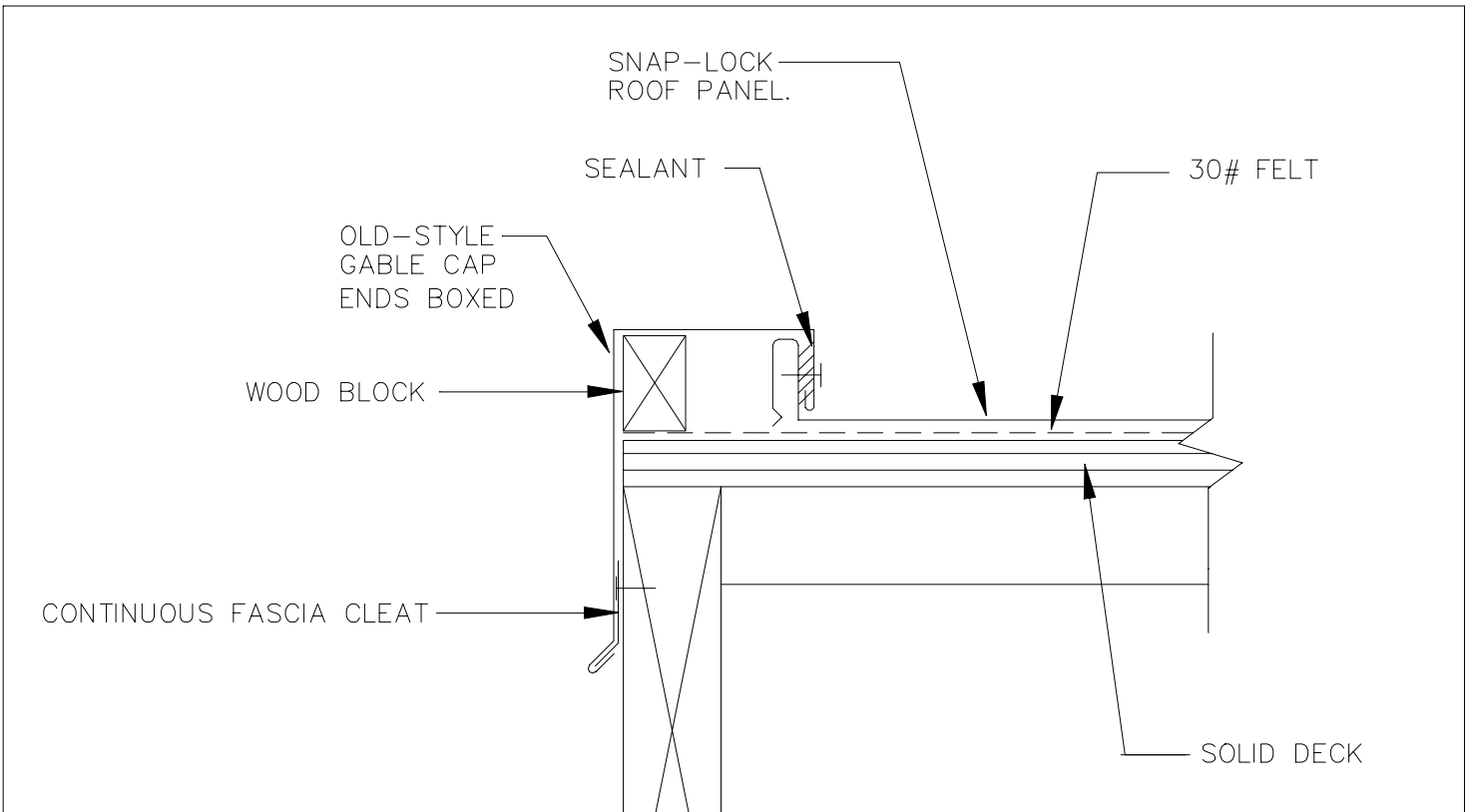
FIELD NOTCH, FOLD DOWN, AND BEND PAN
UNDERNEATH PANEL. HOOK ONTO JOGGLE CLEAT. DO
NOT PULL PANEL TIGHT TO CLEAT SO AS TO ALLOW FOR
PANEL EXPANSION AND CONTRACTION.

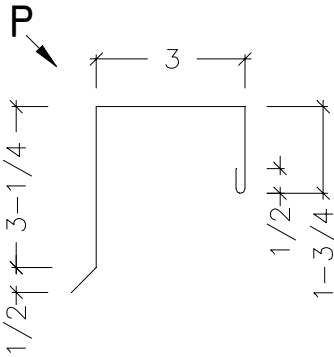
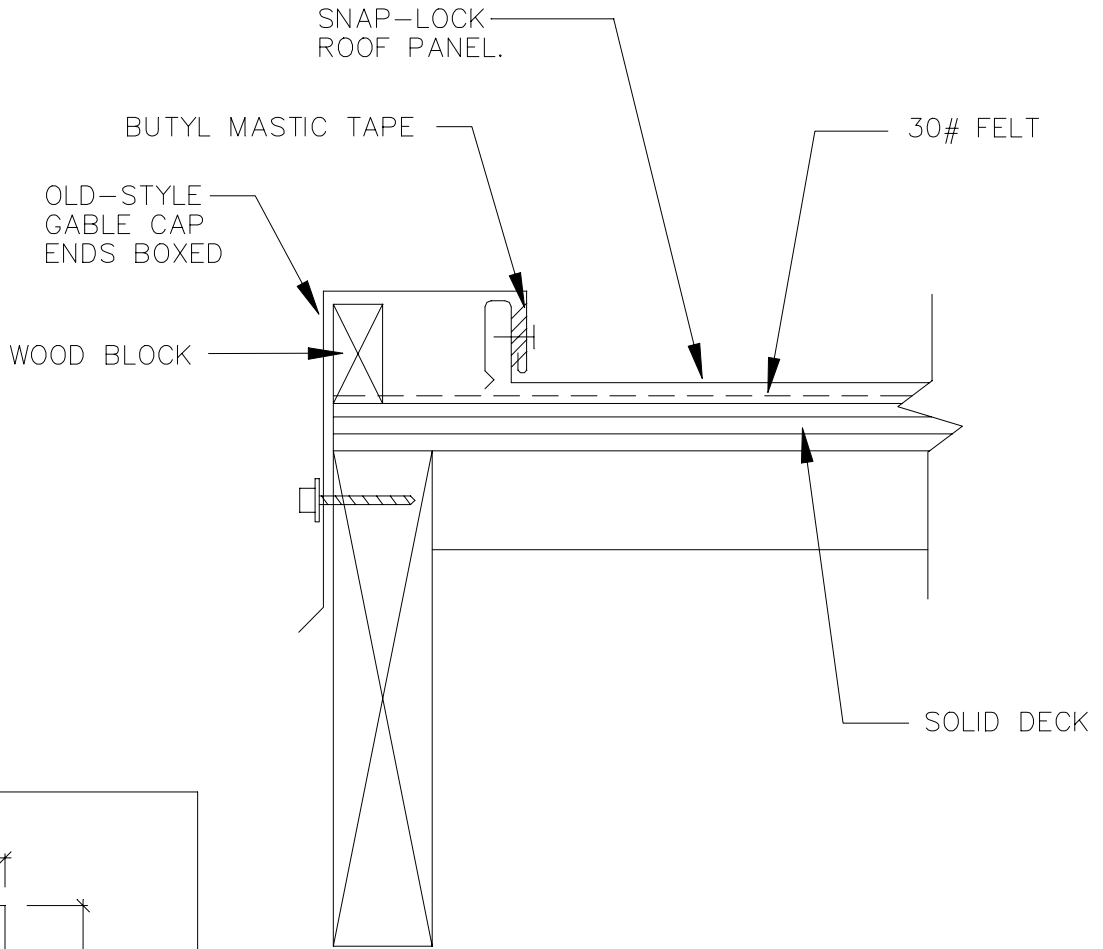


#26 "W" VALLEY FLASHING

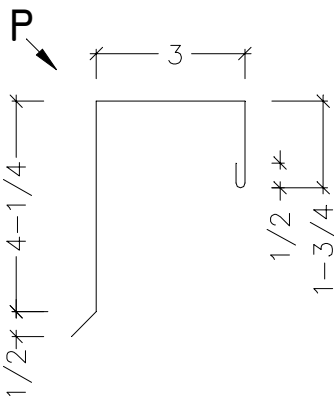


#919 JOGGLE CLEAT

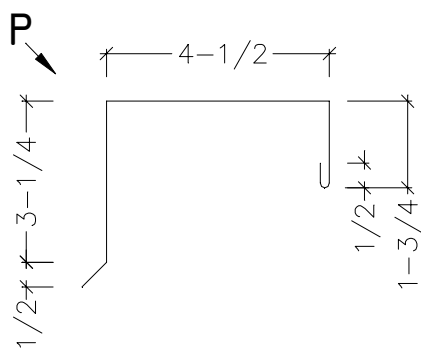




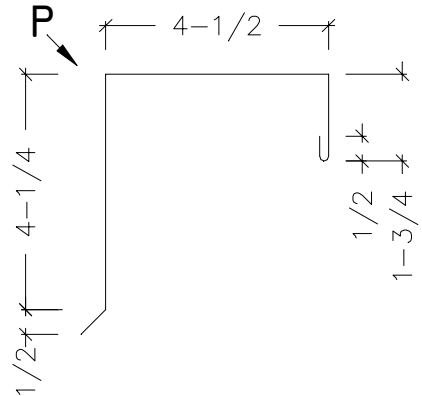
#53 3-3/4" GABLE OLD-STYLE NARROW



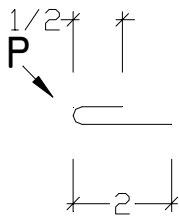
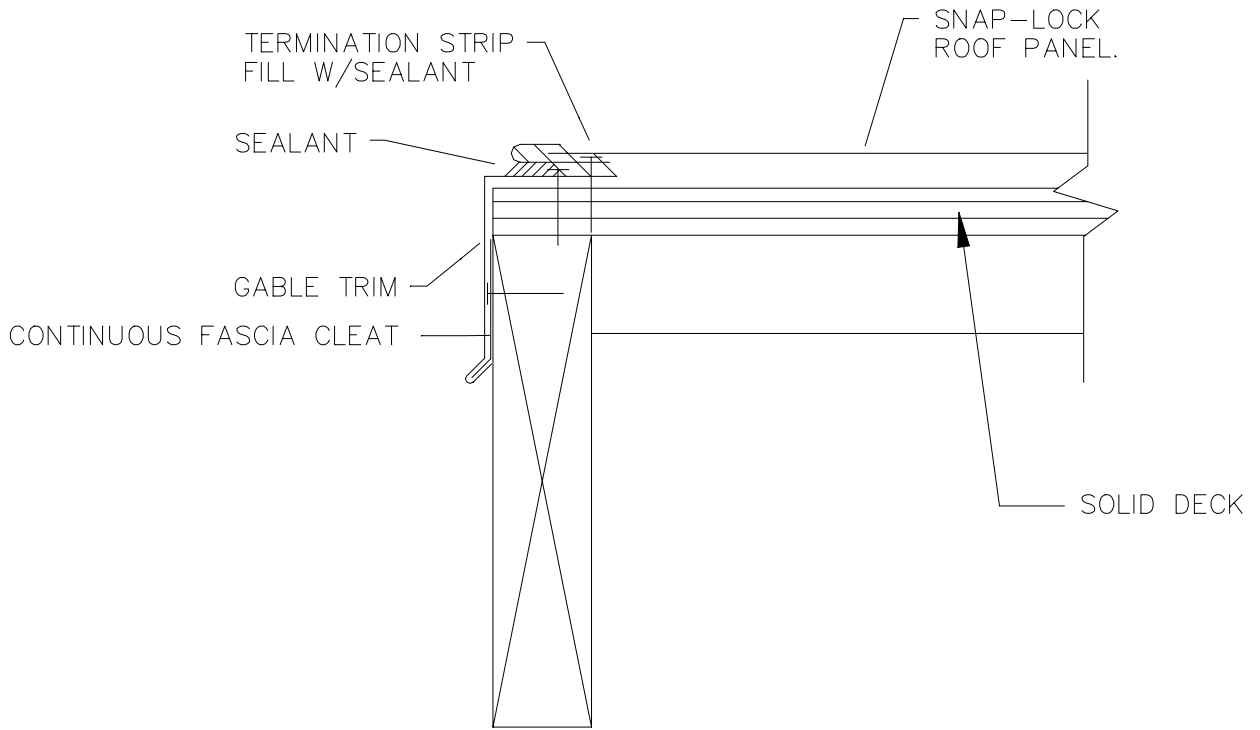
#54 4-3/4" GABLE OLD-STYLE NARROW



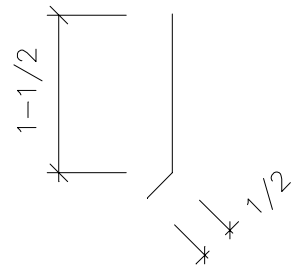
#55 3-3/4" GABLE OLD-STYLE WIDE



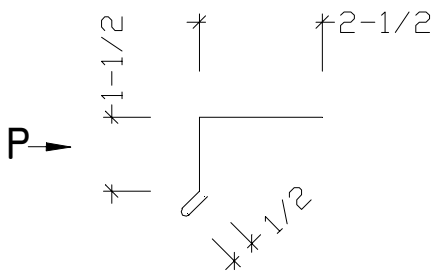
#56 4-3/4" GABLE OLD-STYLE WIDE



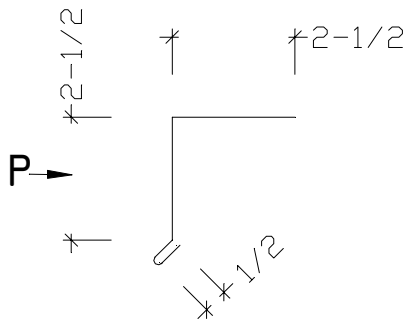
#20 TERMINATION STRIP



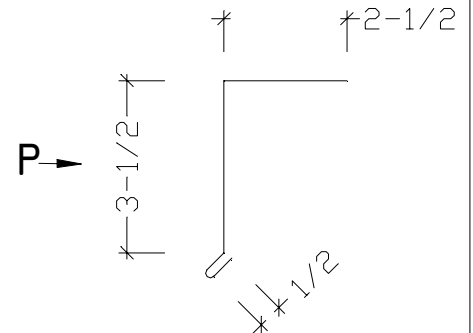
#917 FASCIA CLEAT



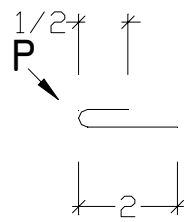
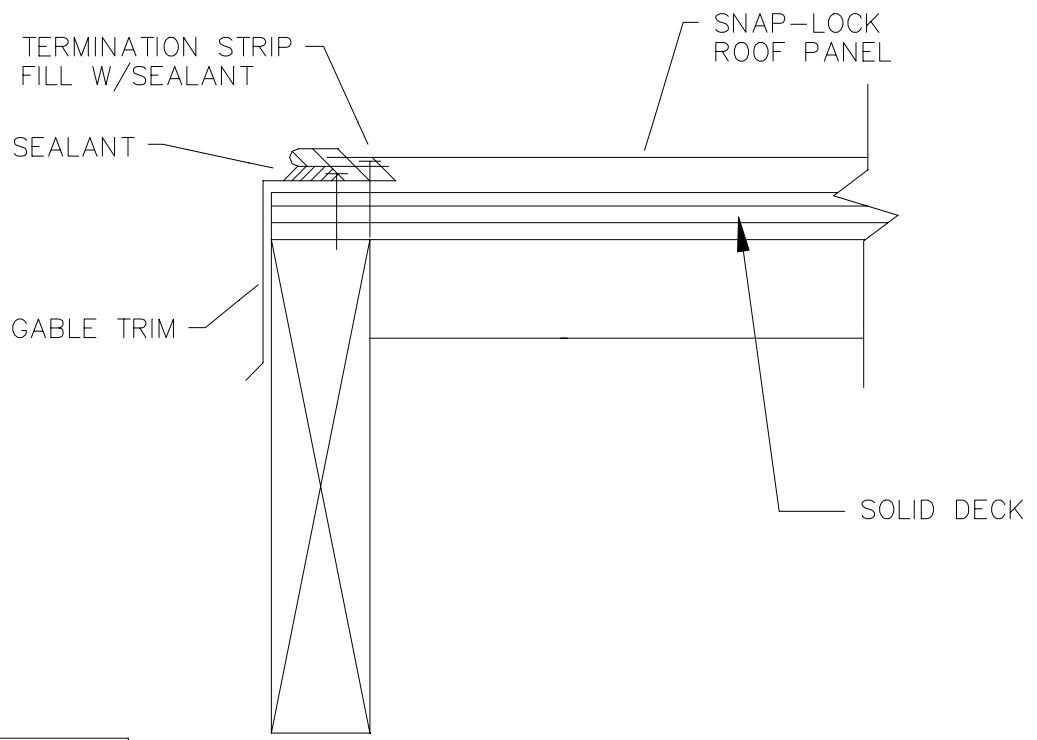
#50H HEMMED 2" GABLE TRIM



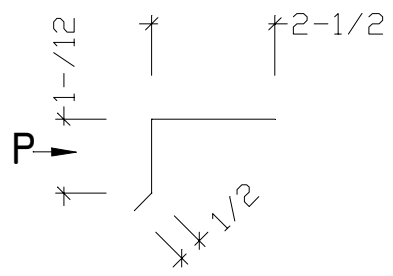
#51H HEMMED 3" GABLE TRIM



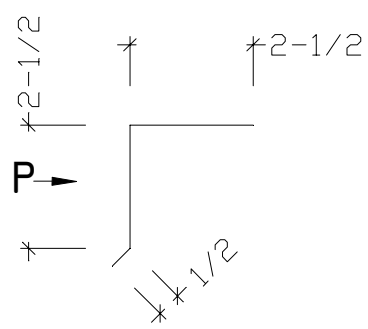
#52H HEMMED 4" GABLE TRIM



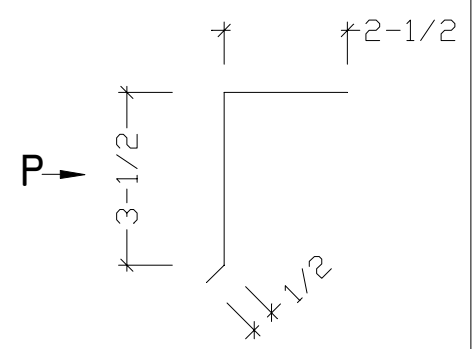
#20 TERMINATION STRIP



#50 2" STD. GABLE TRIM

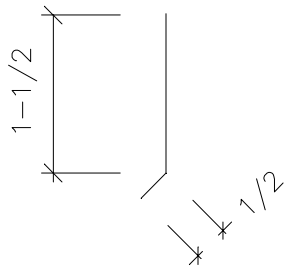
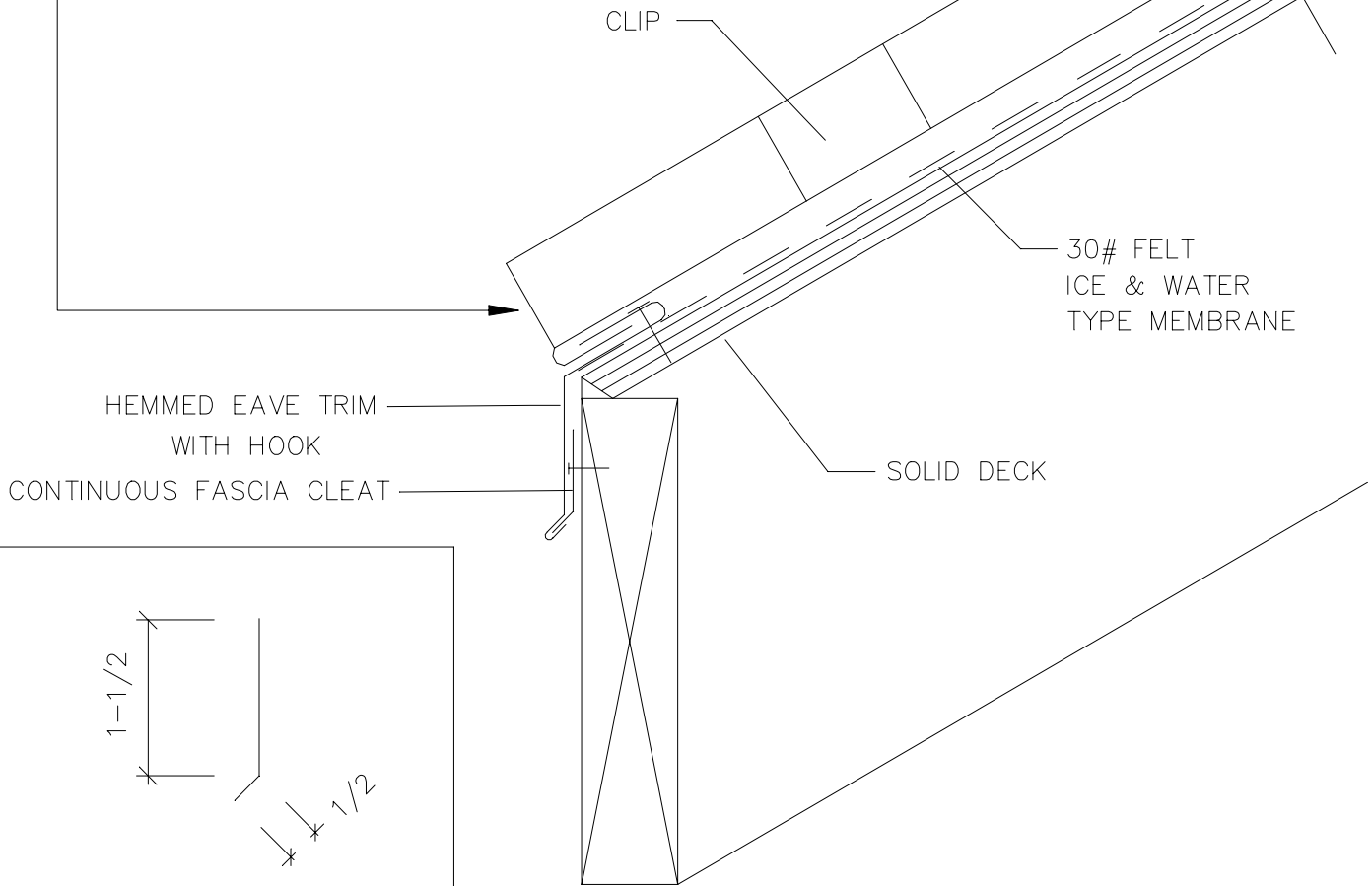


#51 3" STD. GABLE TRIM

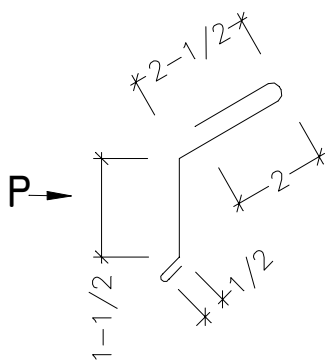


#52 4" STD. GABLE TRIM

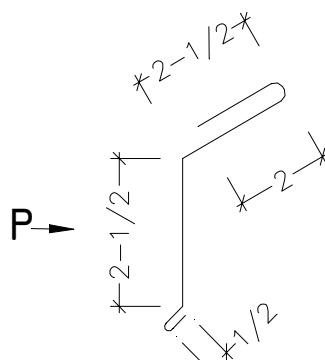
FIELD NOTCH, FOLD DOWN, AND BEND PAN
UNDERNEATH PANEL. HOOK ONTO EAVE TRIM HOOK.
DO NOT PULL PANEL TIGHT TO CLEAT SO AS TO ALLOW
FOR PANEL EXPANSION AND CONTRACTION.



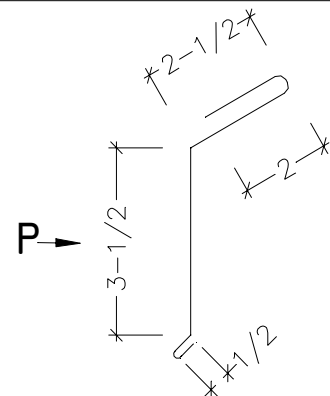
#917 FASCIA CLEAT



#44H HEMMED 2" EAVE TRIM
WITH HOOK
(SPECIFY ROOF SLOPE)

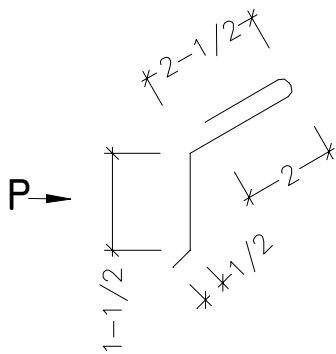
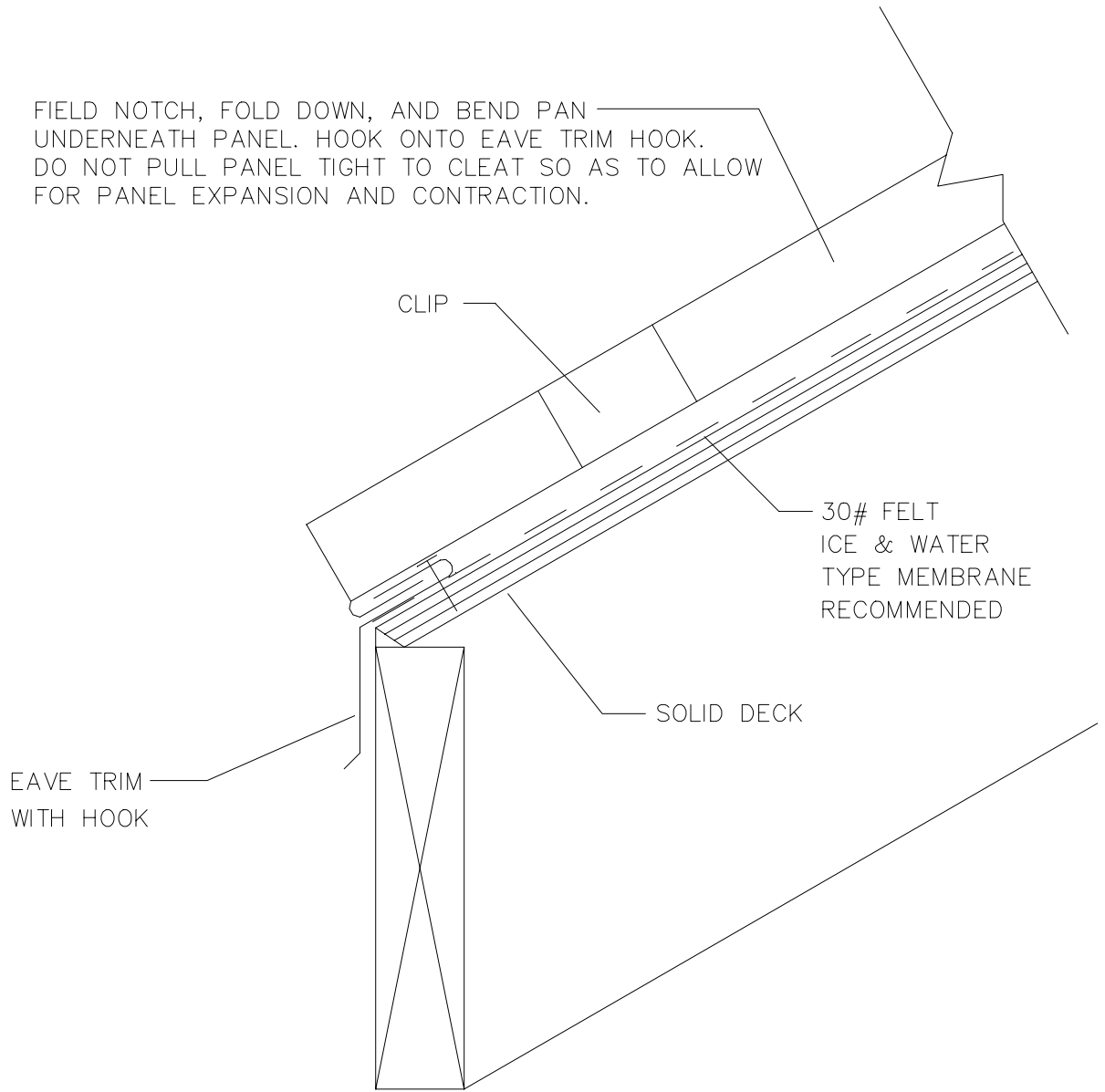


#45H HEMMED 3" EAVE TRIM
WITH HOOK
(SPECIFY ROOF SLOPE)

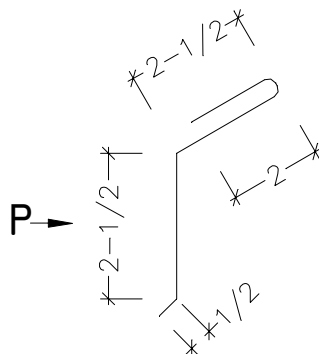


#46H HEMMED 4" EAVE TRIM
WITH HOOK
(SPECIFY ROOF SLOPE)

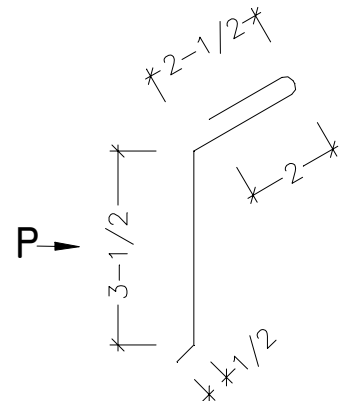
FIELD NOTCH, FOLD DOWN, AND BEND PAN
UNDERNEATH PANEL. HOOK ONTO EAVE TRIM HOOK.
DO NOT PULL PANEL TIGHT TO CLEAT SO AS TO ALLOW
FOR PANEL EXPANSION AND CONTRACTION.



#44 2" EAVE TRIM W/ HOOK
(SPECIFY ROOF SLOPE)

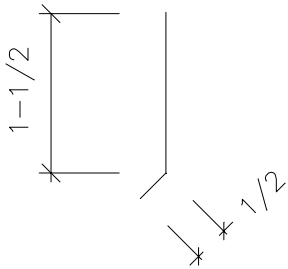
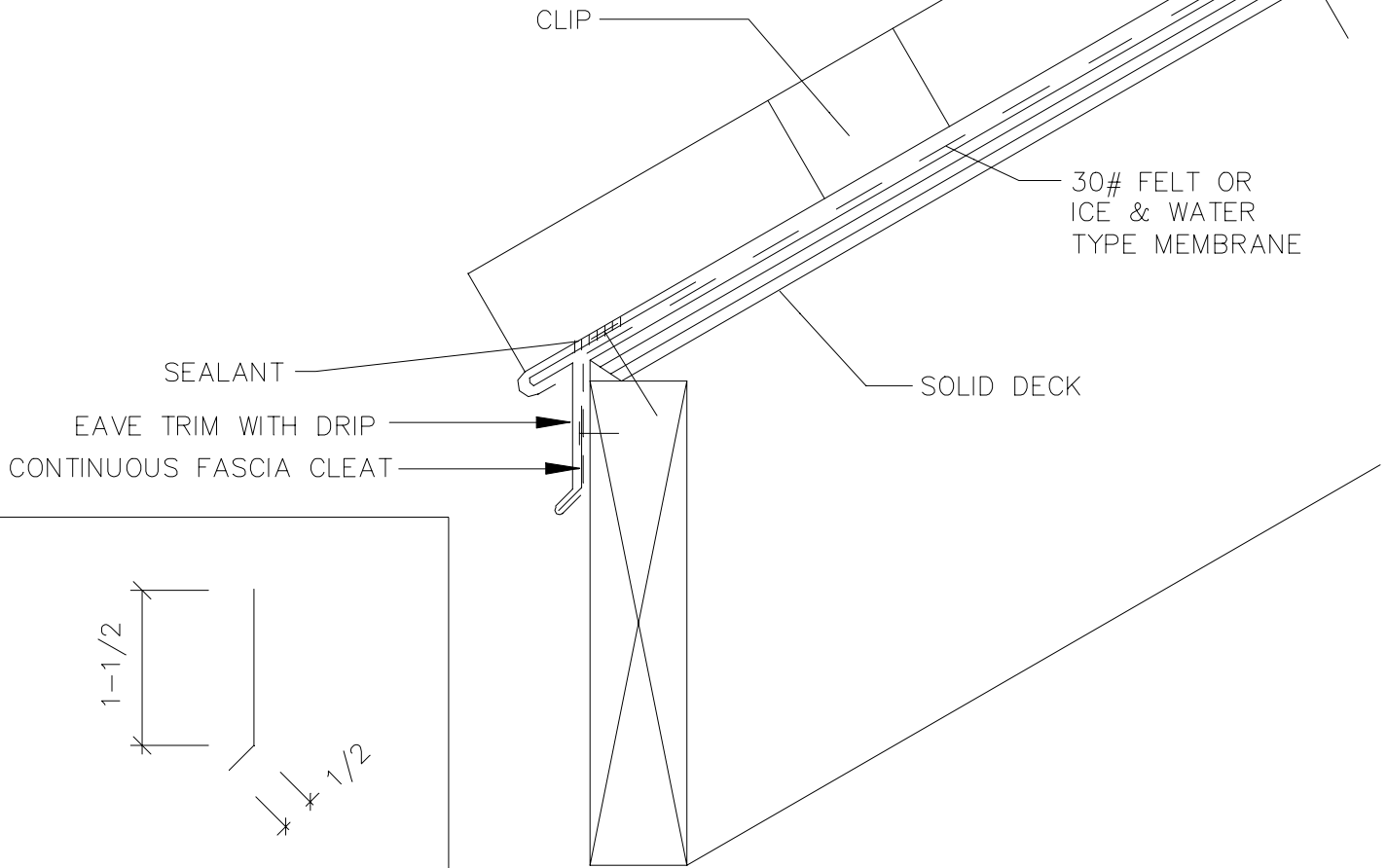


#45 3" EAVE TRIM W/ HOOK
(SPECIFY ROOF SLOPE)

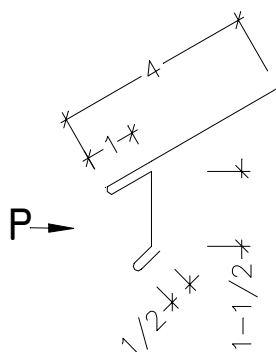


#46 4" EAVE TRIM W/ HOOK
(SPECIFY ROOF SLOPE)

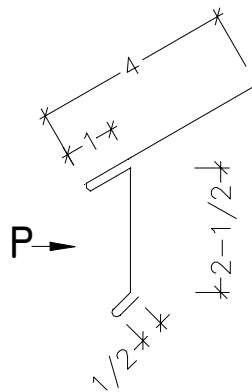
FIELD NOTCH, FOLD DOWN, AND BEND PAN
UNDERNEATH PANEL. HOOK ONTO EAVE TRIM HOOK.
DO NOT PULL PANEL TIGHT TO CLEAT SO AS TO ALLOW
FOR PANEL EXPANSION AND CONTRACTION.



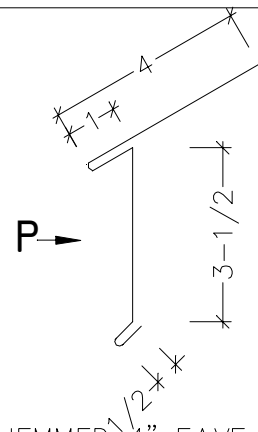
#917 FASCIA CLEAT



#47H HEMMED 2" EAVE W/ DRIP
(SPECIFY MAX. 4/12 SLOPE)

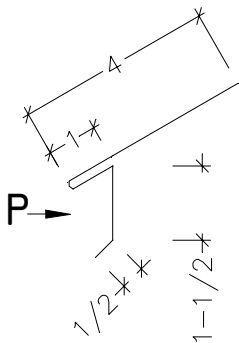
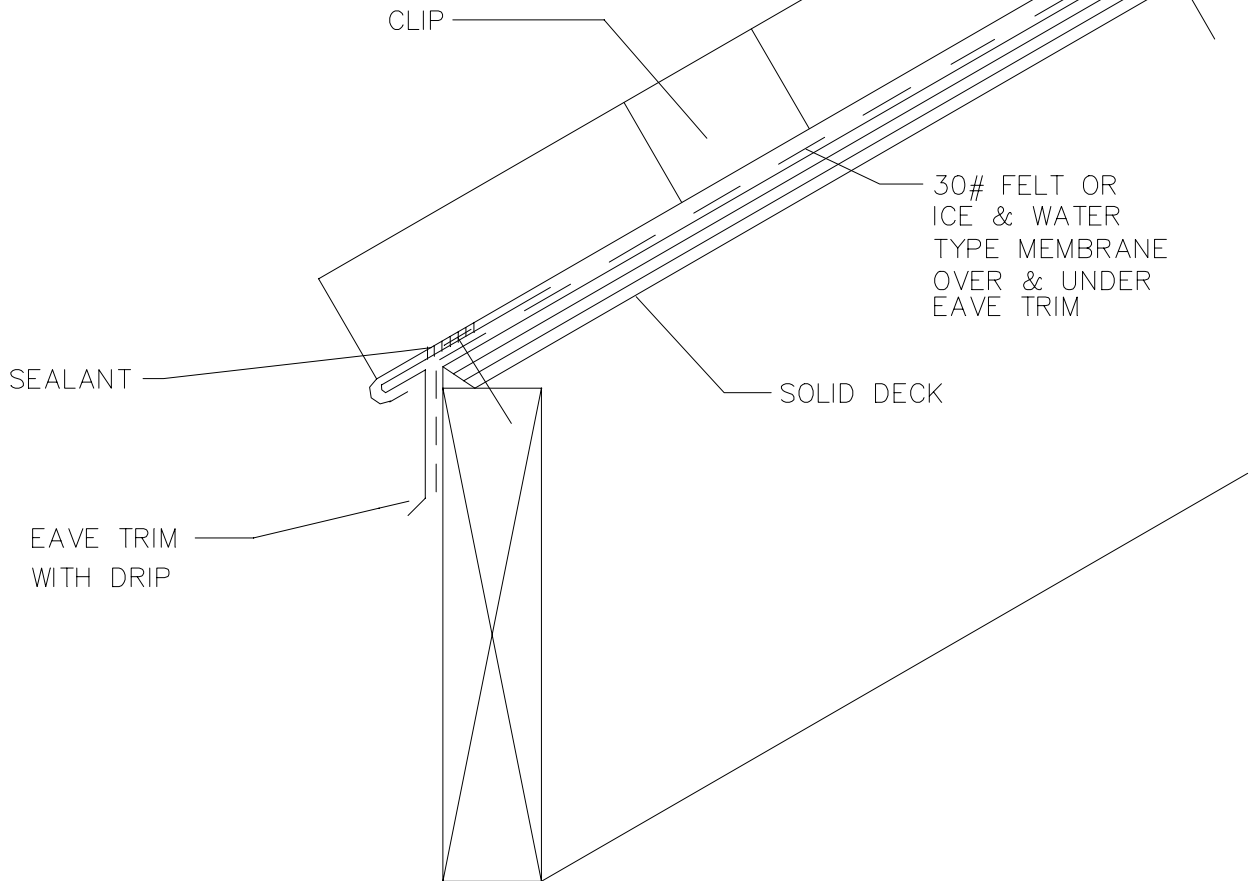


#48H HEMMED 3" EAVE W/ DRIP
(SPECIFY MAX. 4/12 SLOPE)

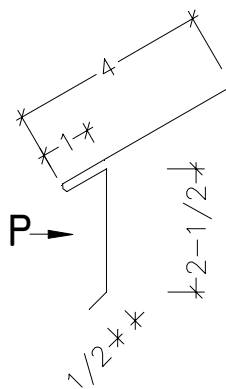


#49H HEMMED 4" EAVE W/ DRIP
(SPECIFY MAX. 4/12 SLOPE)

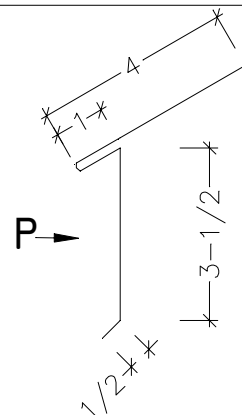
FIELD NOTCH, FOLD DOWN, AND BEND PAN
UNDERNEATH PANEL. HOOK ONTO EAVE TRIM HOOK.
DO NOT PULL PANEL TIGHT TO CLEAT SO AS TO ALLOW
FOR PANEL EXPANSION AND CONTRACTION.



#47 2" EAVE TRIM W/ DRIP
(SPECIFY MAX. 4/12 SLOPE)



#48 3" EAVE TRIM W/ DRIP
(SPECIFY MAX. 4/12 SLOPE)



#49 4" EAVE TRIM W/ DRIP
(SPECIFY MAX. 4/12 SLOPE)

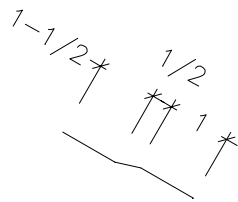
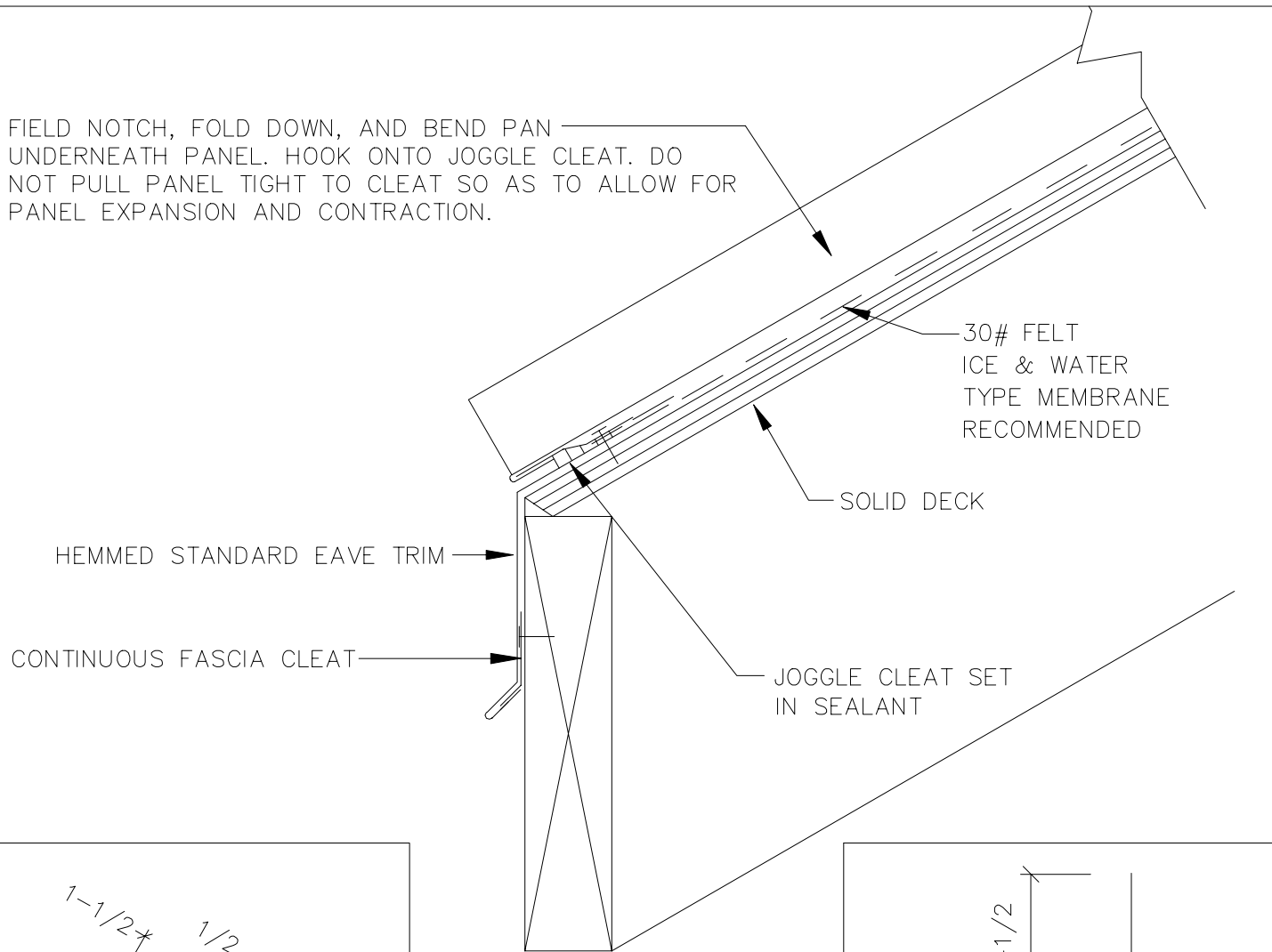
**SUMMIT PACIFIC
METAL SALES**

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TAHOE CITY, CA 96145-6928
530/583-8888 800/338-6763

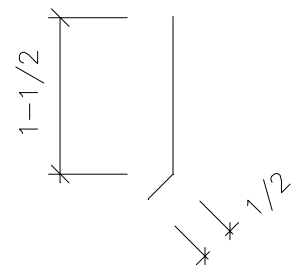
**SNAP-LOCK EAVE W/ JOGGLE
WITH FASCIA CLEAT**

SL-SHEET 14

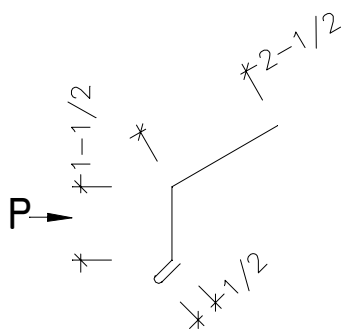
FIELD NOTCH, FOLD DOWN, AND BEND PAN UNDERNEATH PANEL. HOOK ONTO JOGGLE CLEAT. DO NOT PULL PANEL TIGHT TO CLEAT SO AS TO ALLOW FOR PANEL EXPANSION AND CONTRACTION.



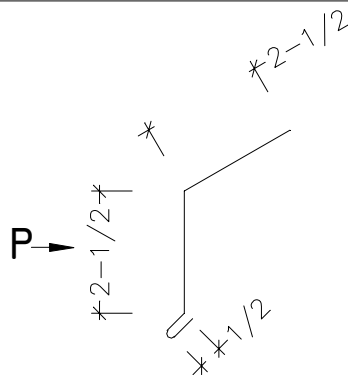
#919 JOGGLE CLEAT



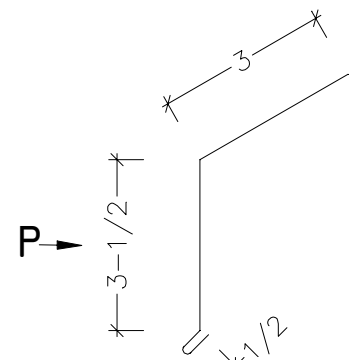
#917 FASCIA CLEAT



#40H HEMMED STD 2" EAVE TRIM (SPECIFY ROOF SLOPE)

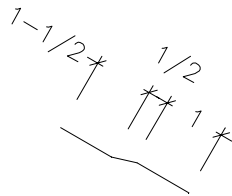
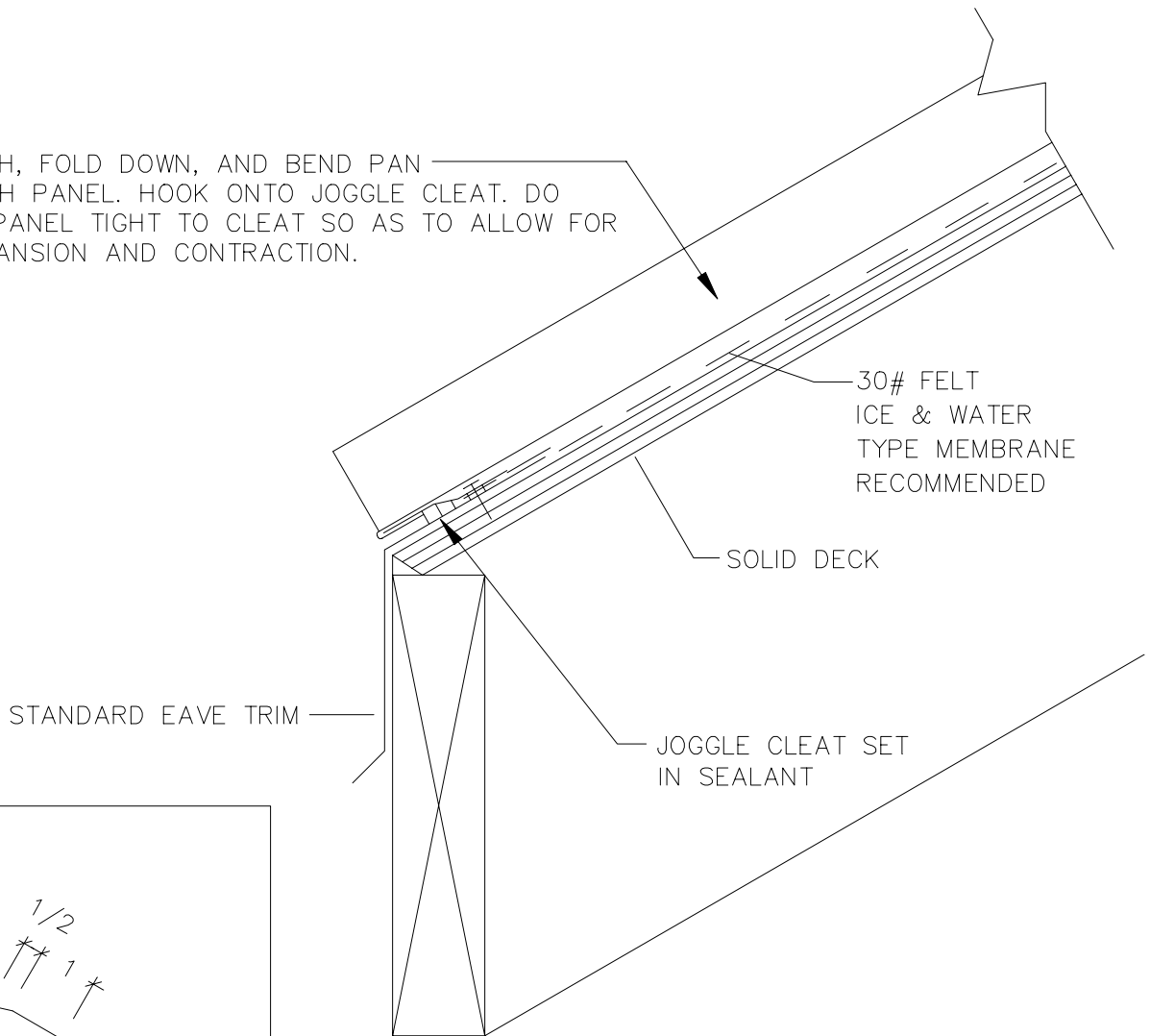


#41H HEMMED STD 3" EAVE TRIM (SPECIFY ROOF SLOPE)

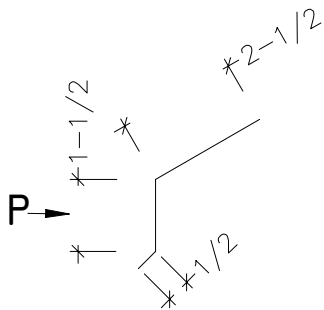


#42H HEMMED STD 4" EAVE TRIM (SPECIFY ROOF SLOPE)

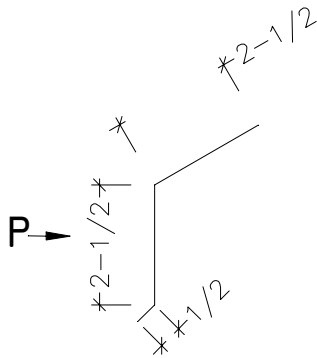
FIELD NOTCH, FOLD DOWN, AND BEND PAN
UNDERNEATH PANEL. HOOK ONTO JOGGLE CLEAT. DO
NOT PULL PANEL TIGHT TO CLEAT SO AS TO ALLOW FOR
PANEL EXPANSION AND CONTRACTION.



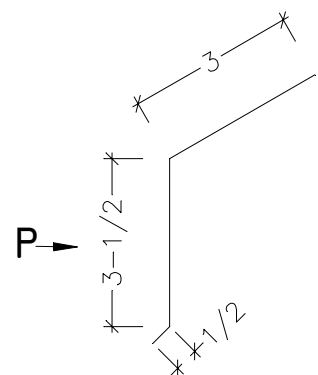
#919 JOGGLE CLEAT



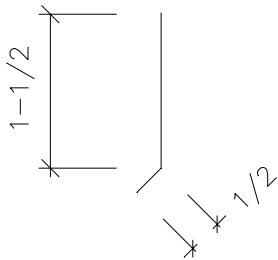
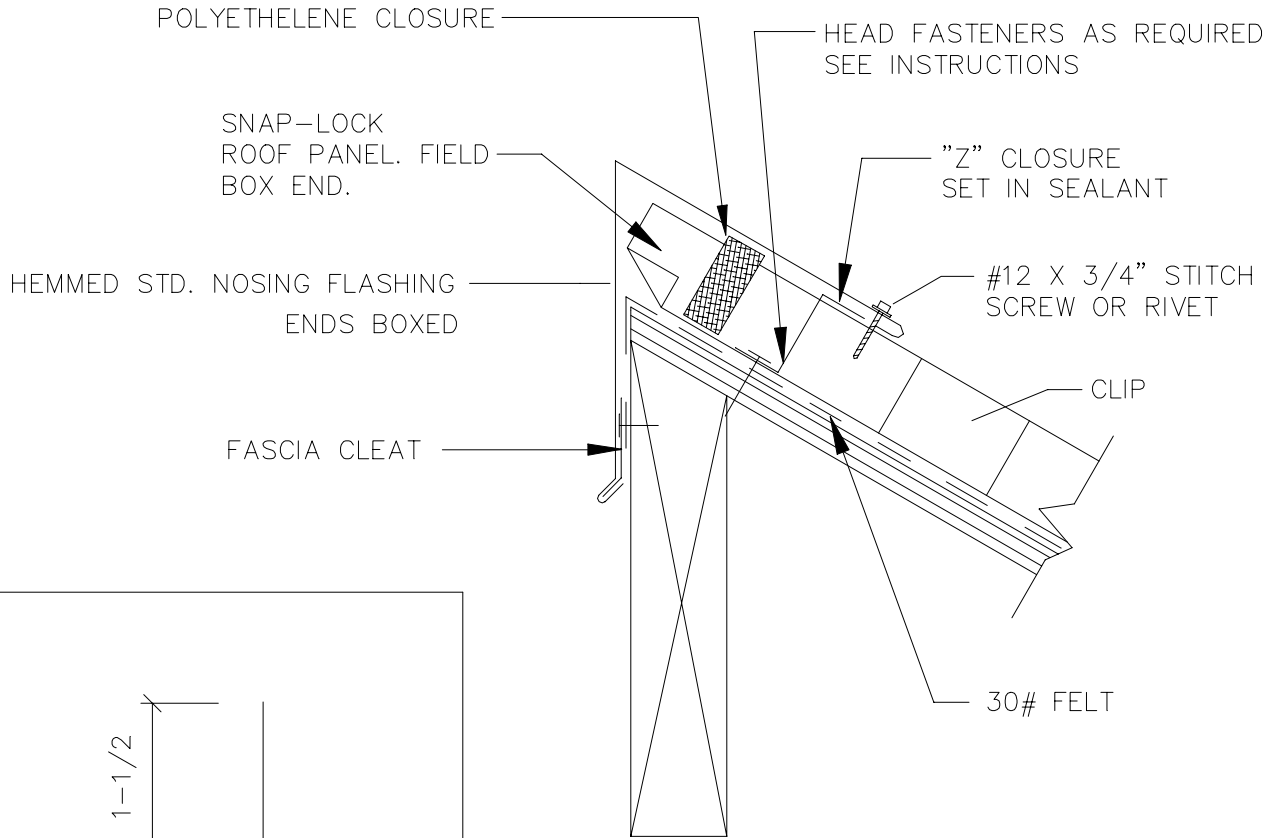
#40 STANDARD 2" EAVE TRIM
(SPECIFY ROOF SLOPE)



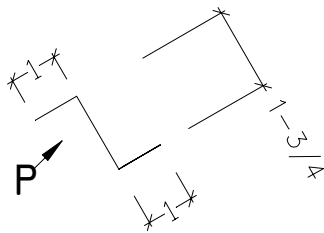
#41 STANDARD 3" EAVE TRIM
(SPECIFY ROOF SLOPE)



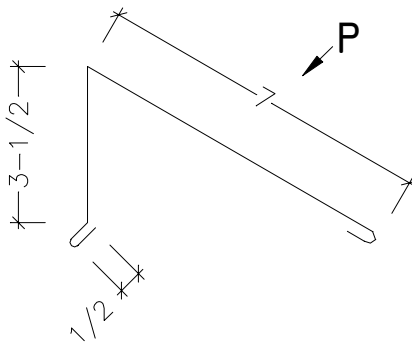
#42 STANDARD 4" EAVE TRIM
(SPECIFY ROOF SLOPE)



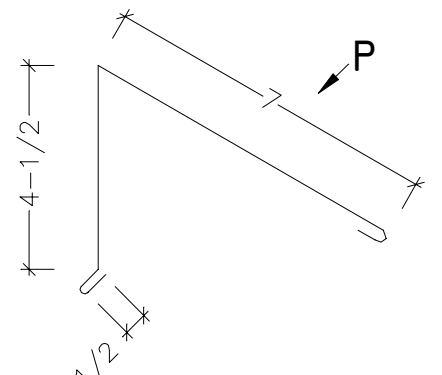
#917 FASCIA CLEAT



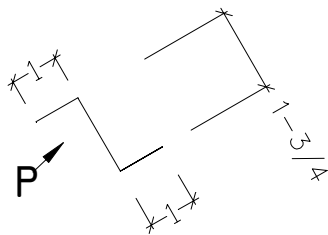
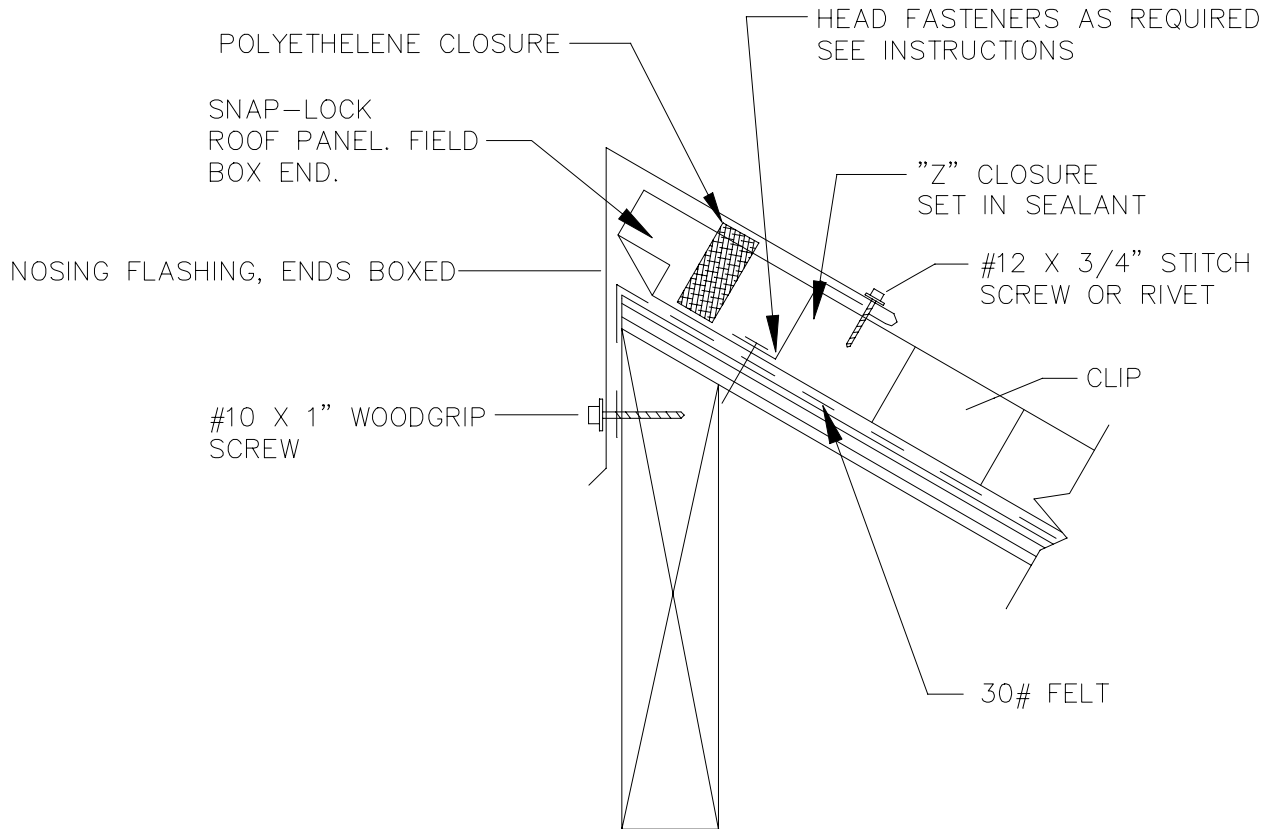
#21 "Z" CLOSURE



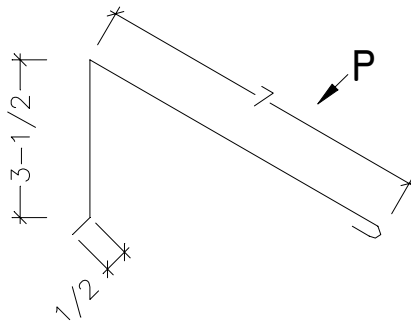
#84H HEMMED 4" NOSING, STD.
(SPECIFY ROOF SLOPE)



#85H HEMMED 5" NOSING, STD.
(SPECIFY ROOF SLOPE)



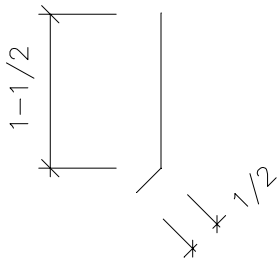
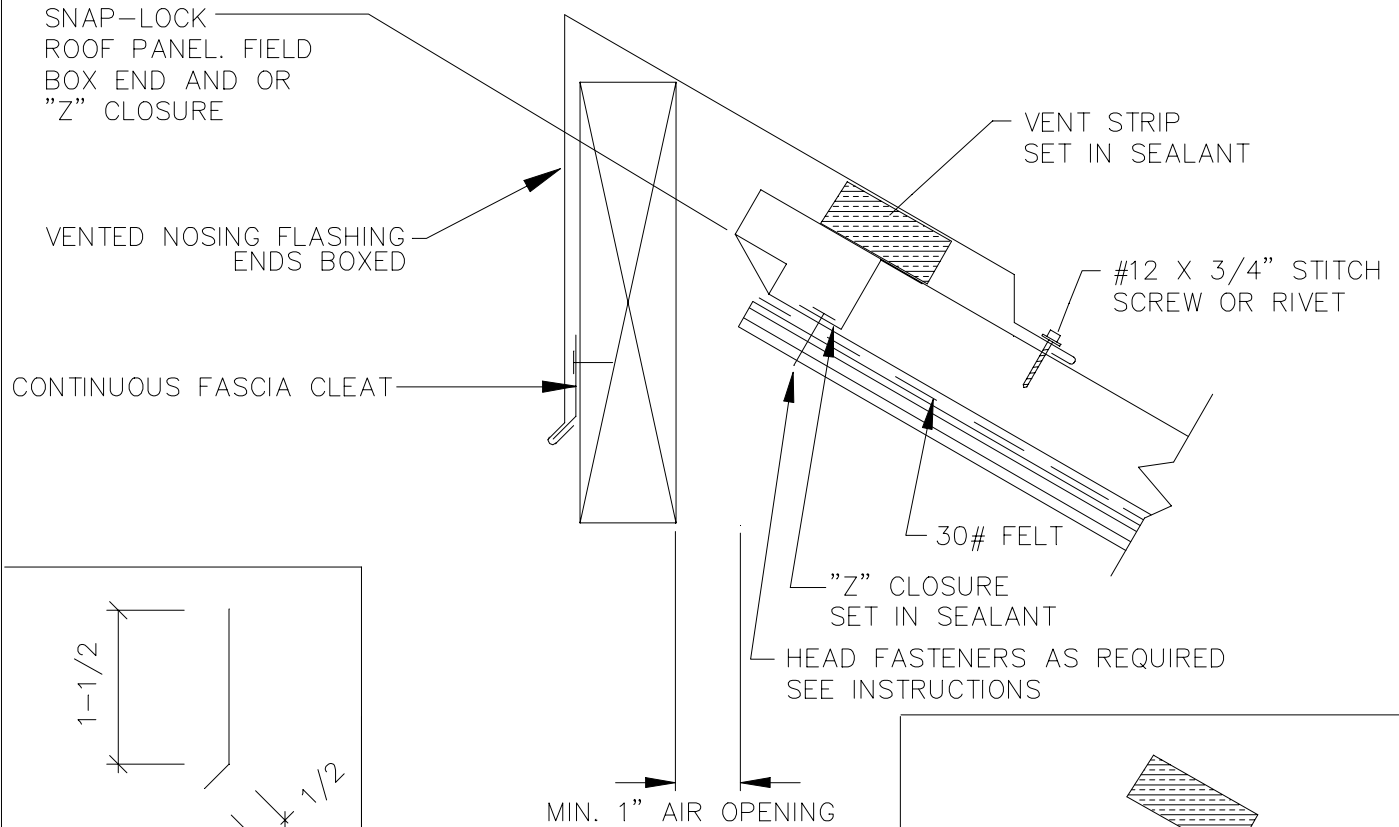
#21 "Z" CLOSURE



#84 4" NOSING, STANDARD
(SPECIFY ROOF SLOPE)

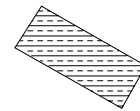


#85 5" NOSING, STANDARD
(SPECIFY ROOF SLOPE)

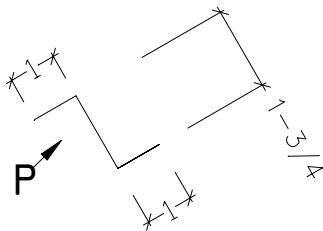


#917 FASCIA CLEAT

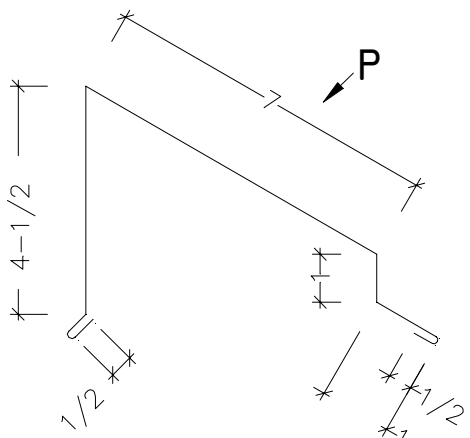
SEE ARCHITECT/DESIGNER AND VENT MANUFACTURER FOR APPROVAL OF ANY VENTILATION SYSTEM



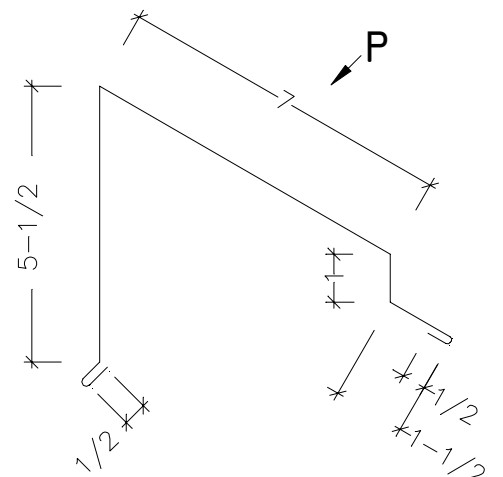
#918 VENT STRIP



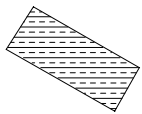
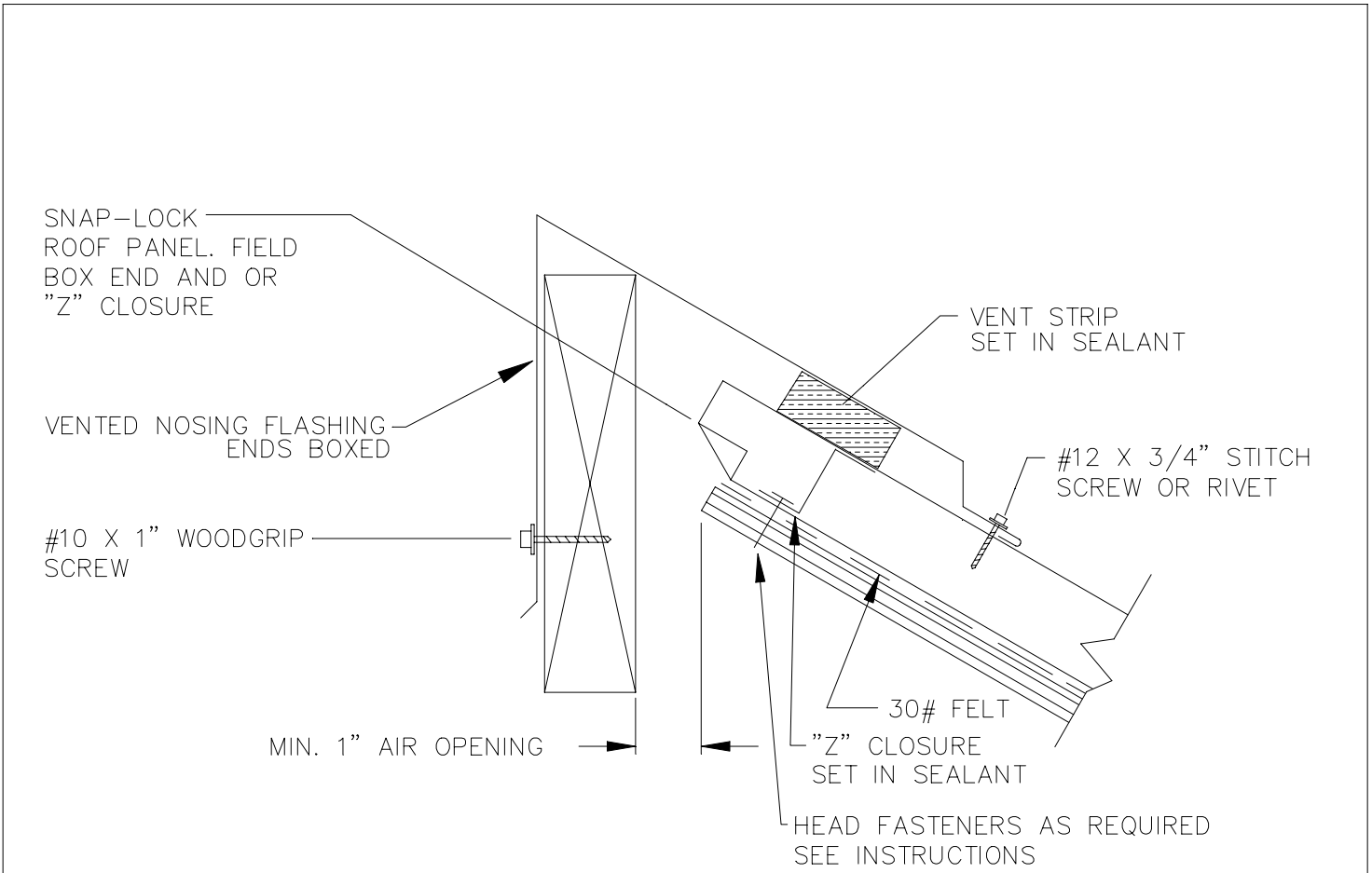
#21 "Z" CLOSURE



#86H HEMMED 5" VENTED NOSING (SPECIFY ROOF SLOPE)

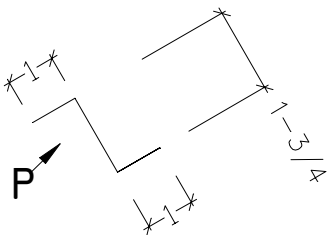


#87H HEMMED 6" VENTED NOSING (SPECIFY ROOF SLOPE)

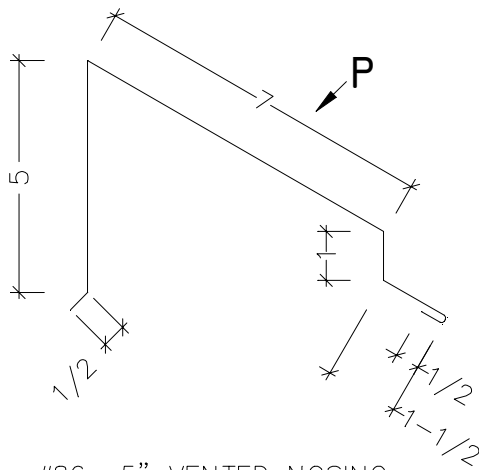


#918 VENT STRIP

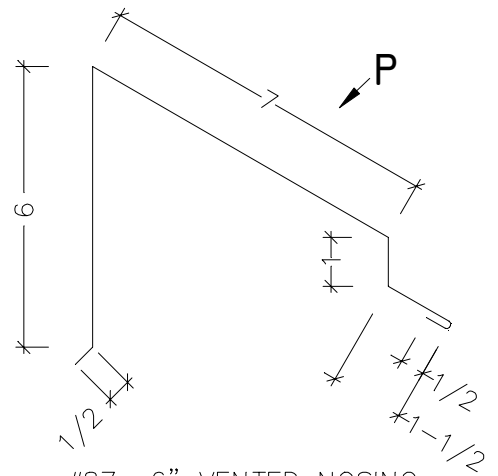
SEE ARCHITECT/DESIGNER AND VENT MANUFACTURER FOR APPROVAL OF ANY VENTILATION SYSTEM.



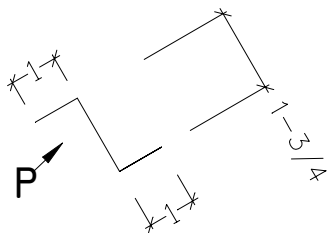
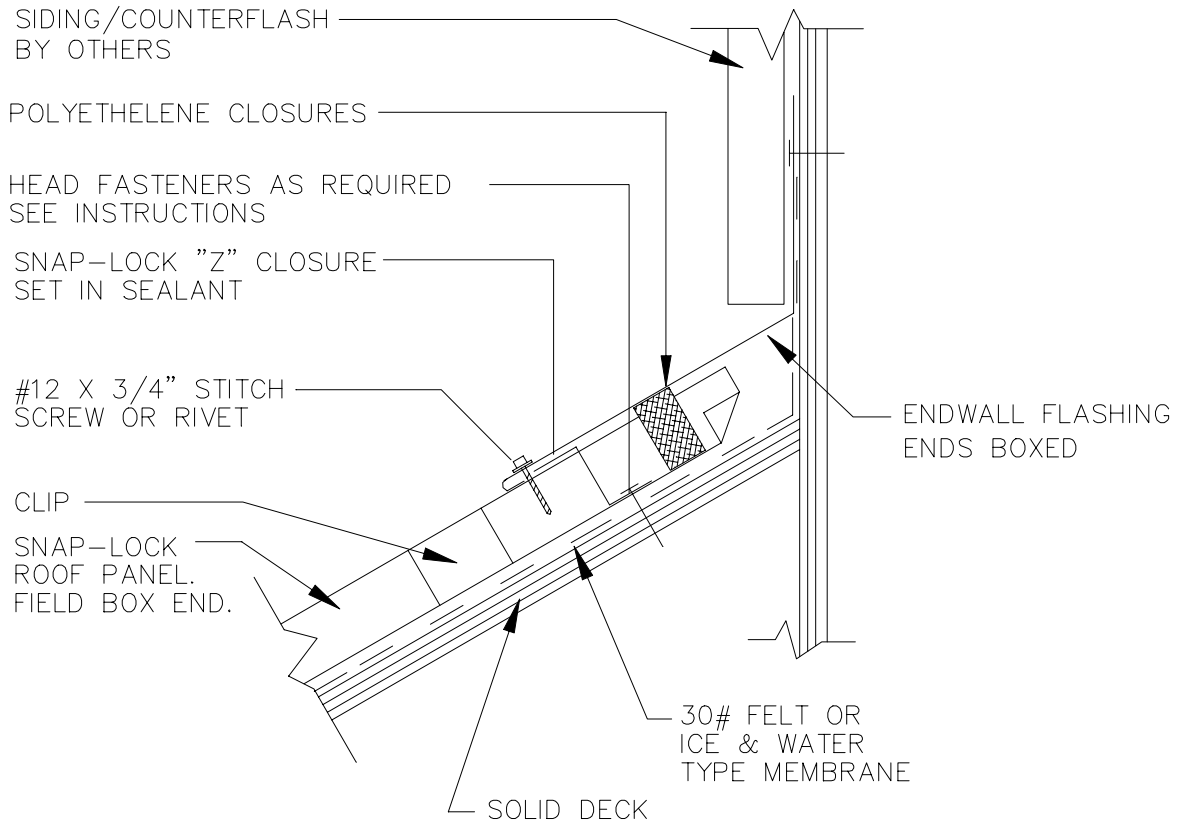
#21 "Z" CLOSURE



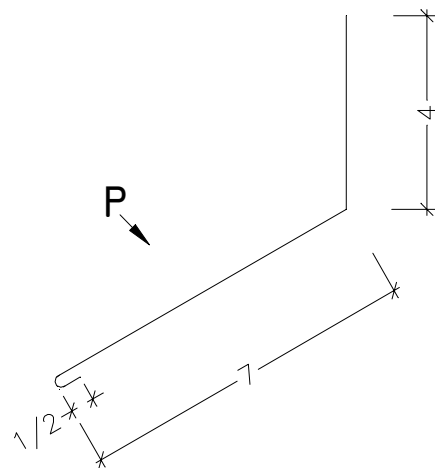
#86 5" VENTED NOSING
(SPECIFY ROOF SLOPE)



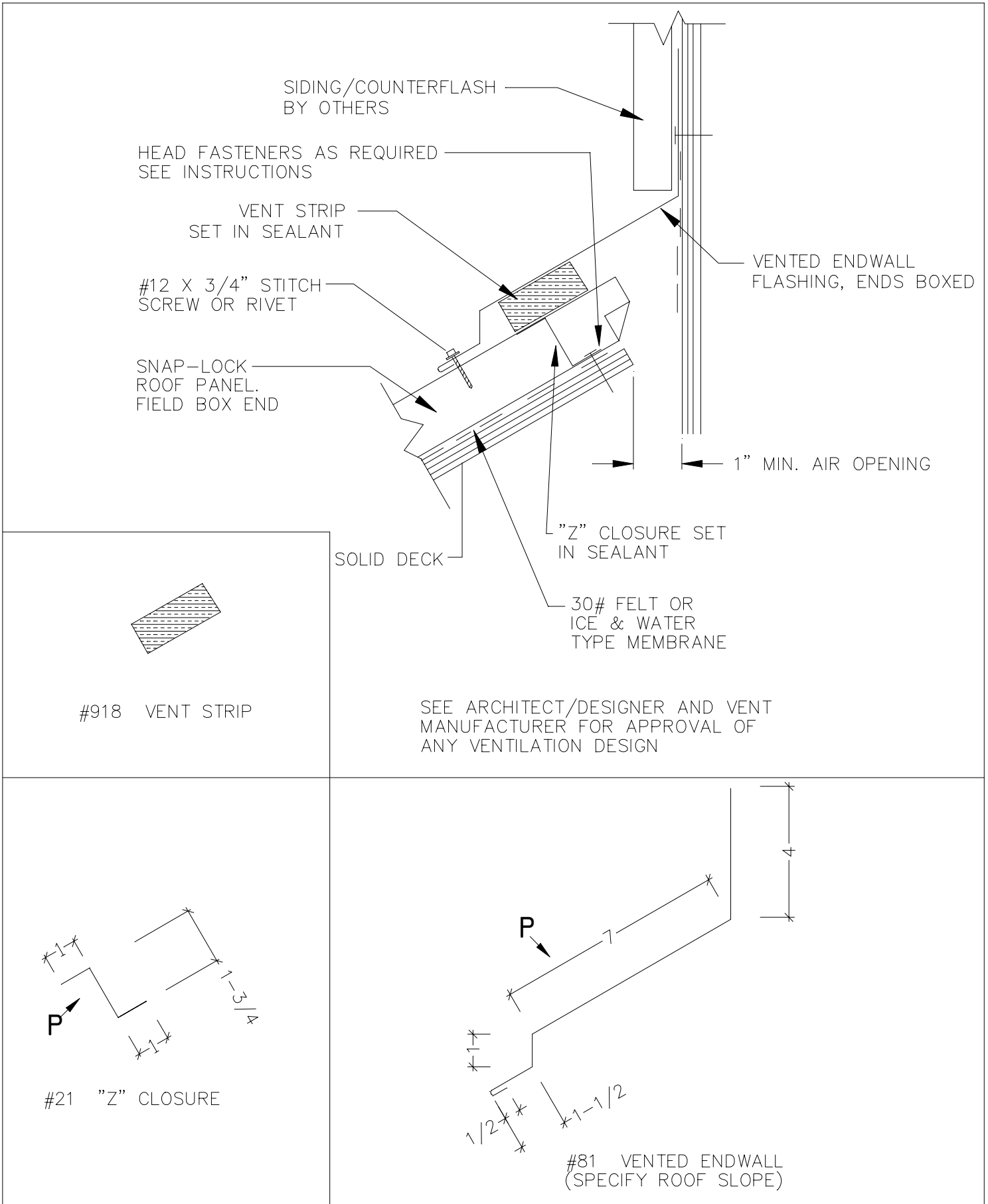
#87 6" VENTED NOSING
(SPECIFY ROOF SLOPE)



#21 "Z" CLOSURE



#80 ENDWALL, STANDARD
(SPECIFY ROOF SLOPE)

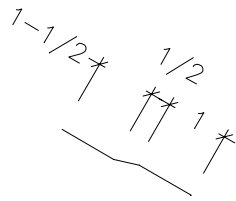
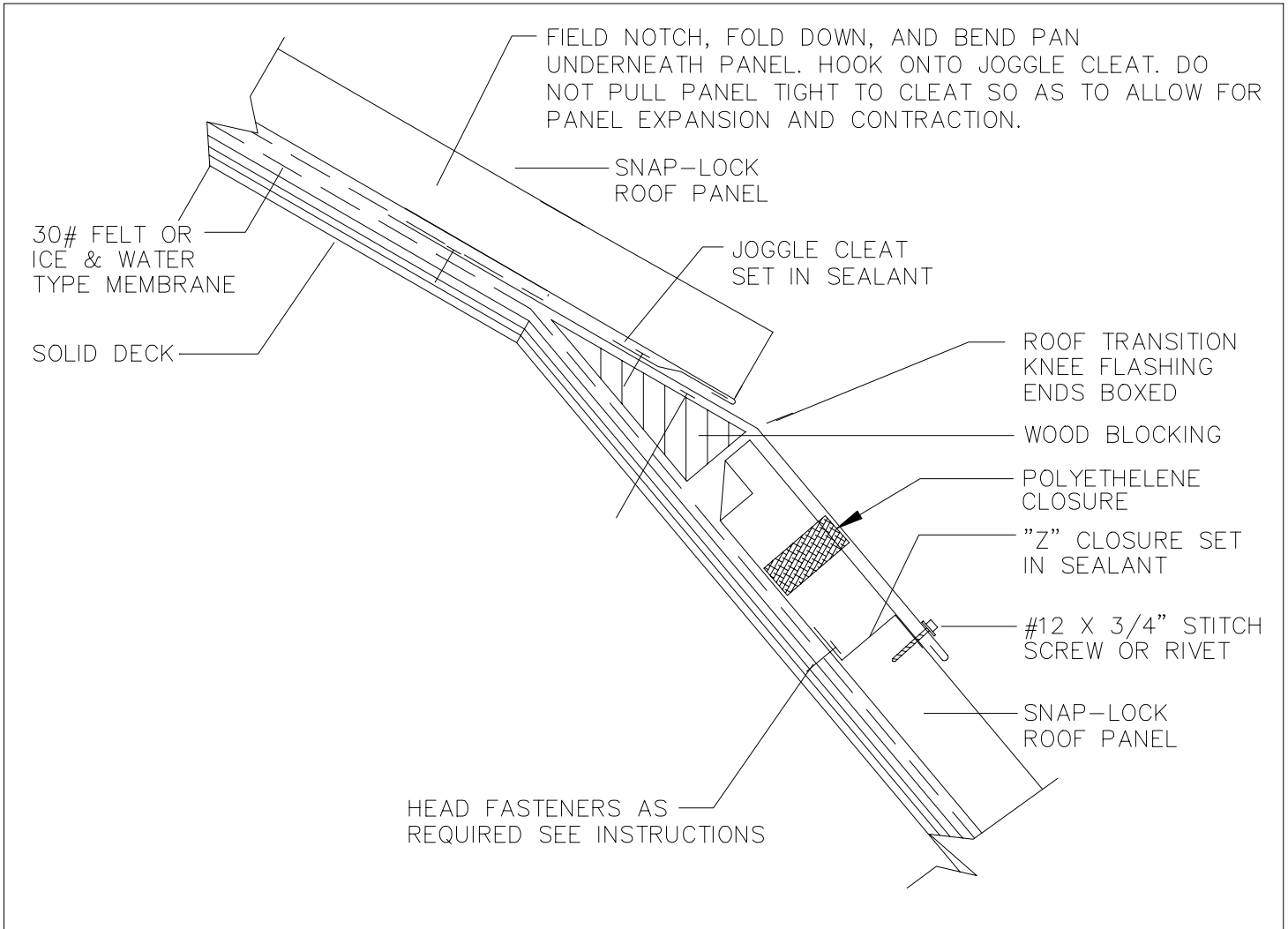


**SUMMIT PACIFIC
METAL SALES**

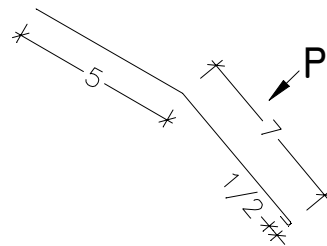
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TAHOE CITY, CA 96145-6928
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**SNAP-LOCK ROOF TRANSITION
KNEE FLASHING**

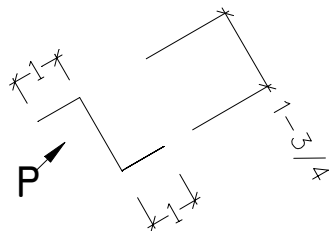
SL-SHEET 22



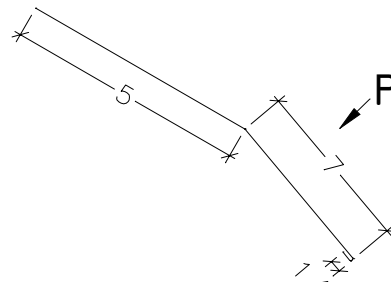
#919 JOGGLE CLEAT



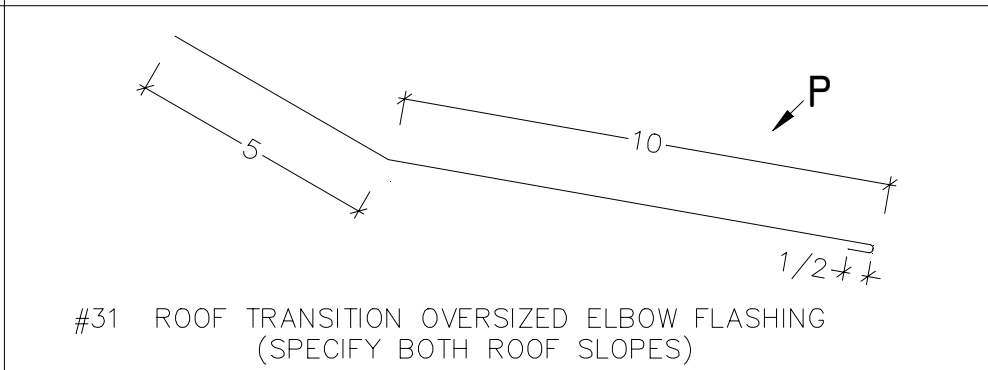
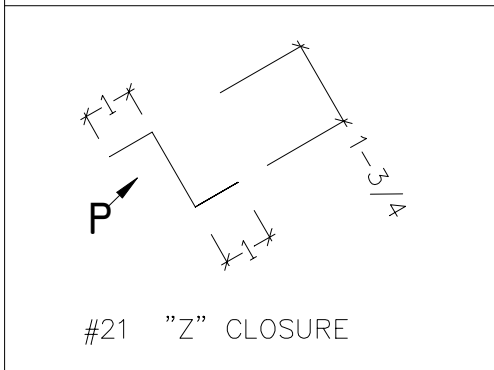
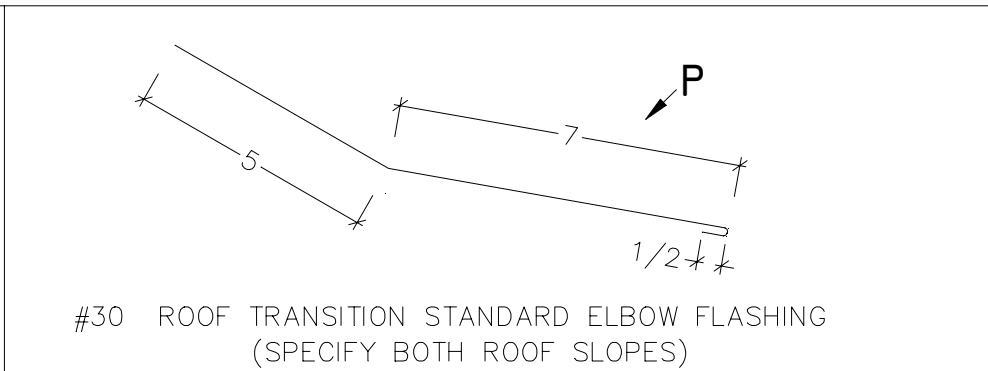
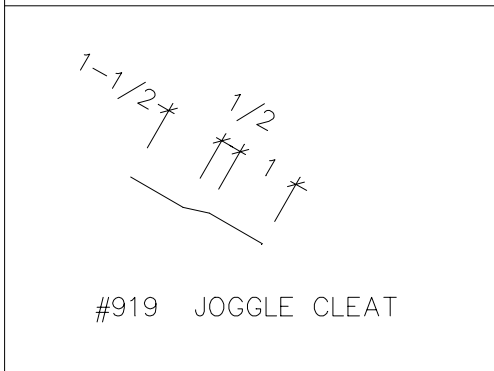
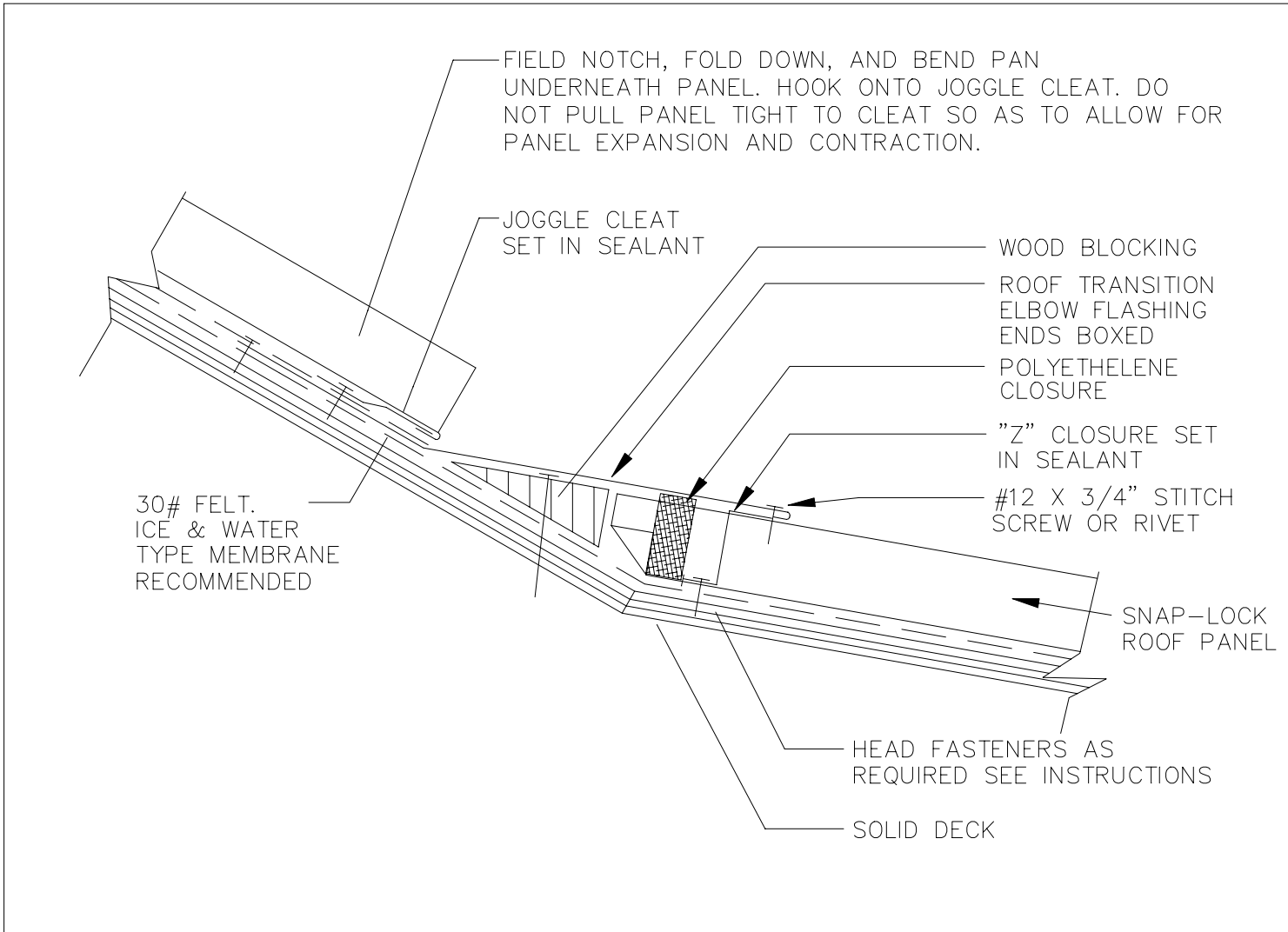
#32 ROOF TRANSITION STANDARD KNEE FLASHING
(SPECIFY BOTH ROOF SLOPES)



#21 "Z" CLOSURE



#33 ROOF TRANSITION OVERSIZED KNEE FLASHING
(SPECIFY ROOF SLOPES)

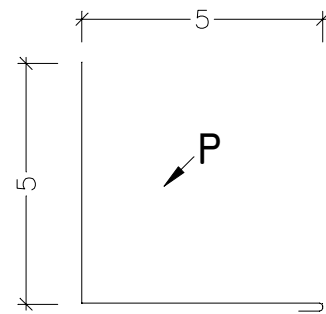
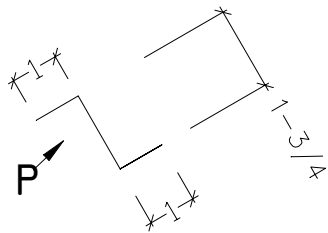
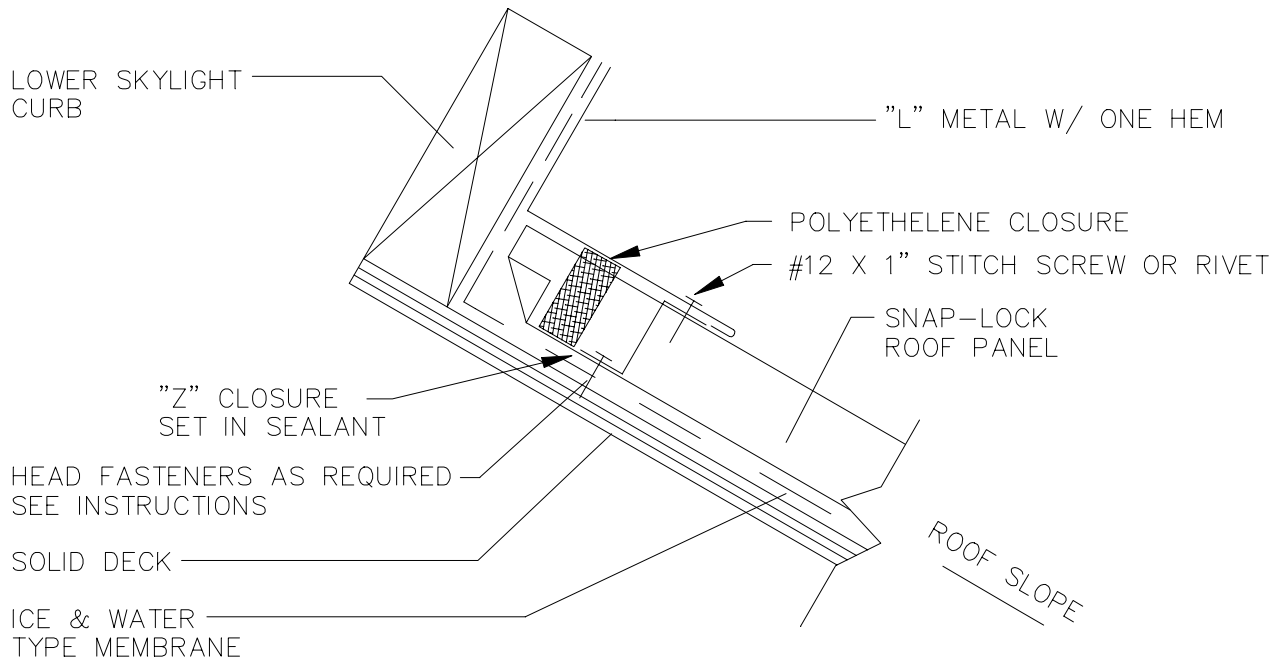


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**SNAP-LOCK SKYLIGHT FLASHING
DOWNHILL SADDLE**

SL-SHEET 24

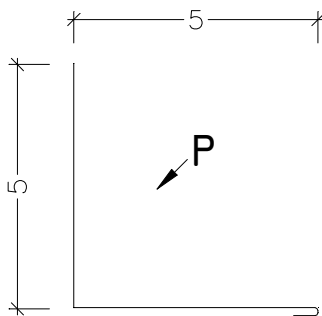
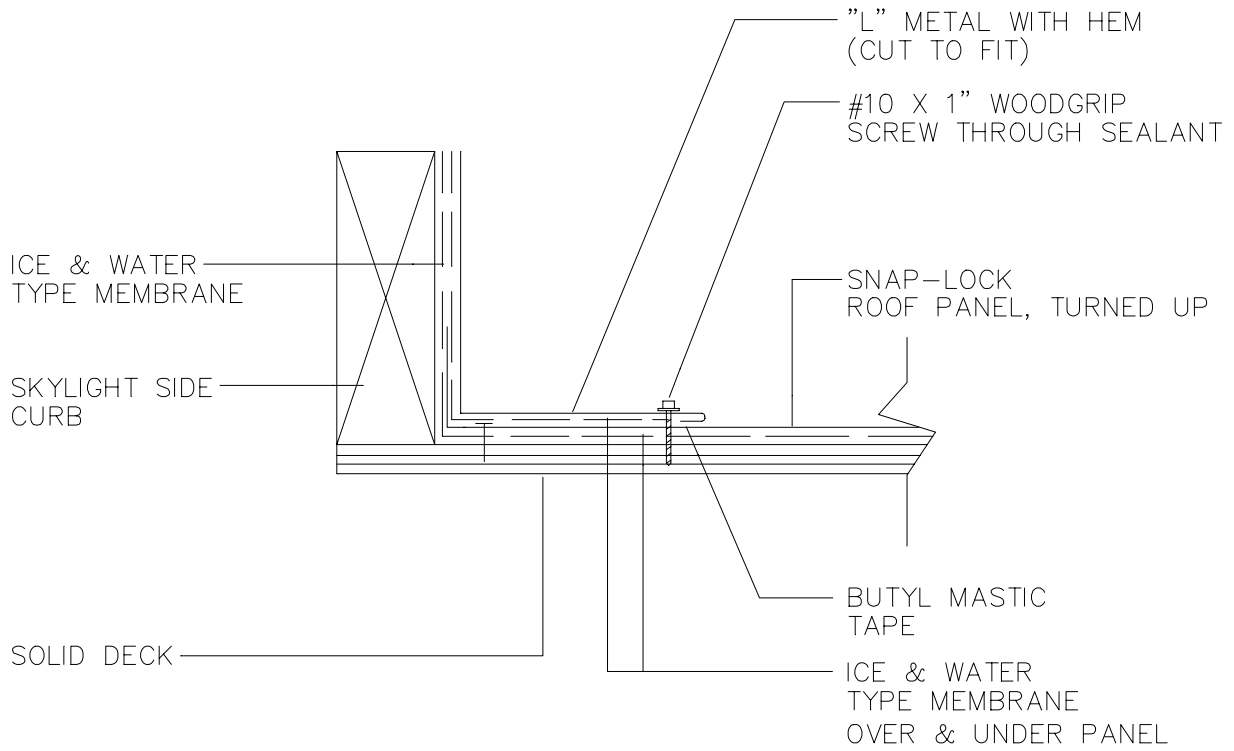


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METAL SALES

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SNAP-LOCK SKYLIGHT
SIDE CURB

SL-SHEET 25



#76 "L" METAL W/ ONE HEM

**SUMMIT PACIFIC
METAL SALES**

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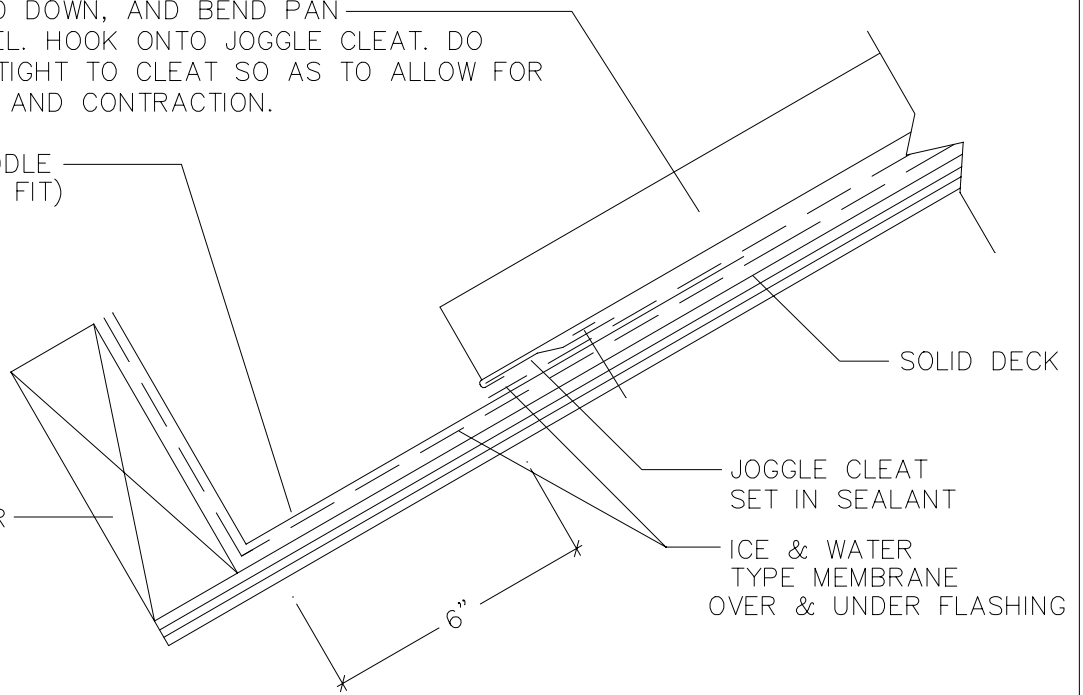
**SNAP-LOCK SKYLIGHT
TOP SADDLE FLASHING**

SL-SHEET 26

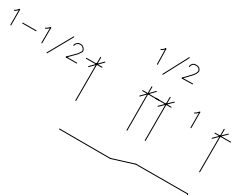
FIELD NOTCH, FOLD DOWN, AND BEND PAN
UNDERNEATH PANEL. HOOK ONTO JOGGLE CLEAT. DO
NOT PULL PANEL TIGHT TO CLEAT SO AS TO ALLOW FOR
PANEL EXPANSION AND CONTRACTION.

SKYLIGHT TOP SADDLE
FLASHING (CUT TO FIT)

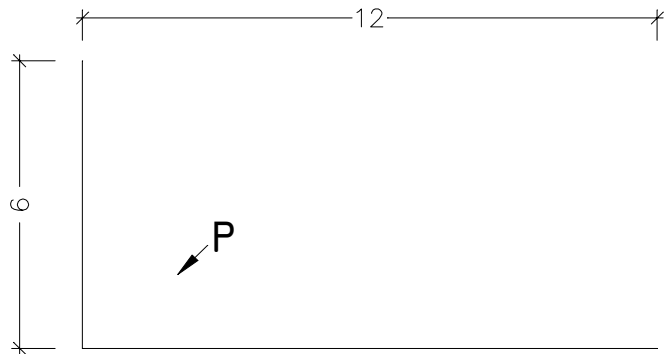
SKYLIGHT UPPER
CURB



NOTE: A CRICKET MAY BE REQUIRED AT CHIMNEY

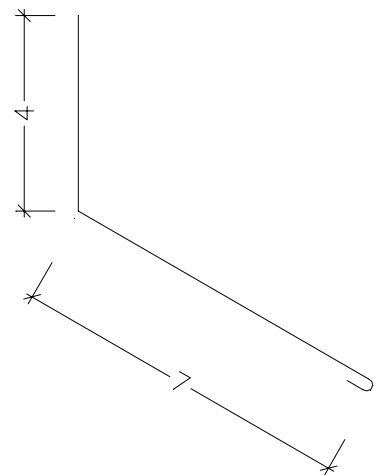
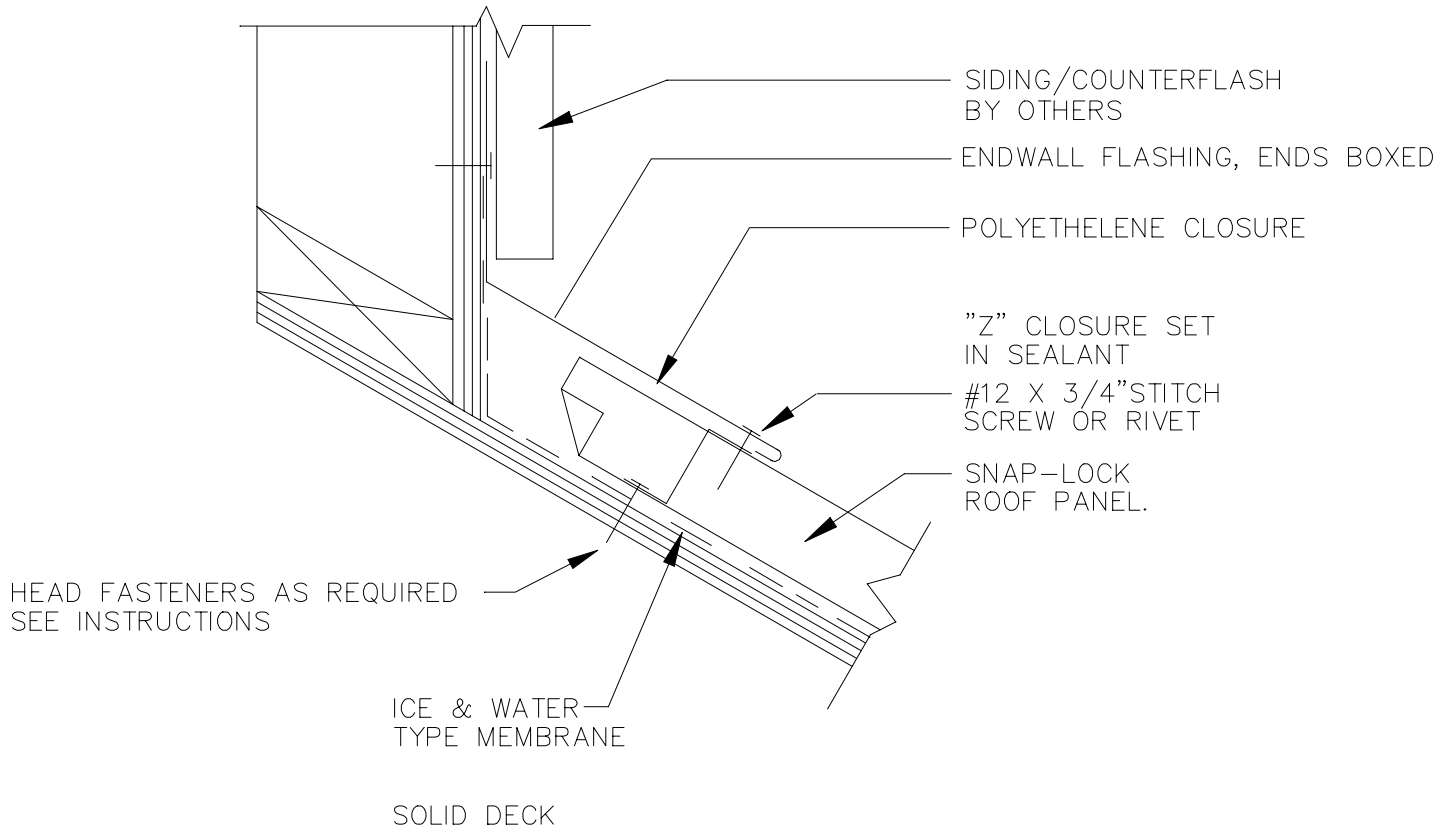


#919 JOGGLE CLEAT



#36 SKYLIGHT TOP SADDLE FLASHING

SNAP-LOCK CHIMNEY FLASHING SL-SHEET 27



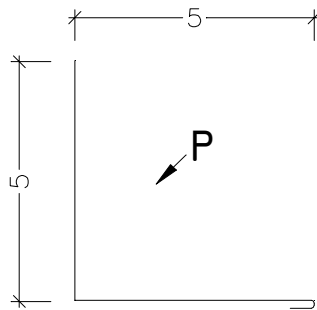
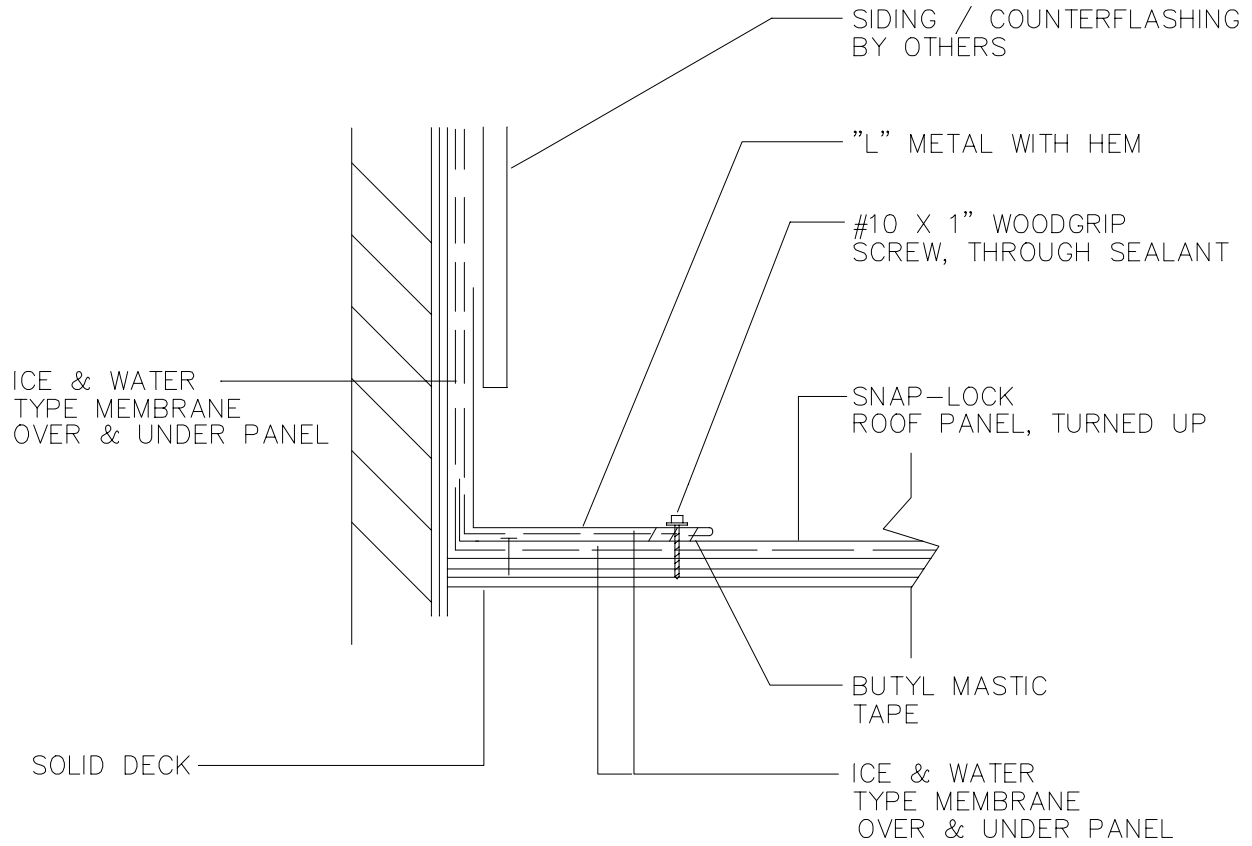
#80 STANDARD ENDWALL (SPECIFY ROOF SLOPE)

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**SNAP-LOCK CHIMNEY
SIDE FLASHING**

SL-SHEET 28



#76 "L" METAL W/ ONE HEM

**SUMMIT PACIFIC
METAL SALES**

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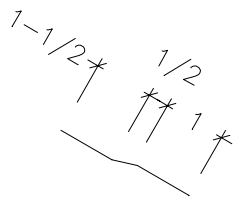
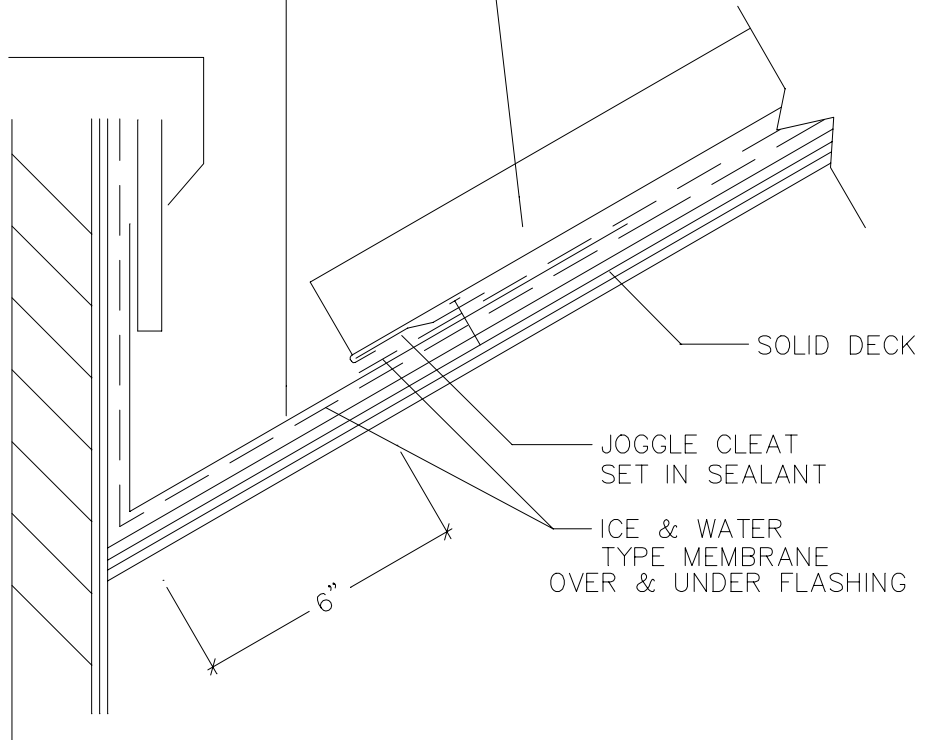
**SNAP-LOCK CHIMNEY
TOP SADDLE FLASHING**

SL-SHEET 29

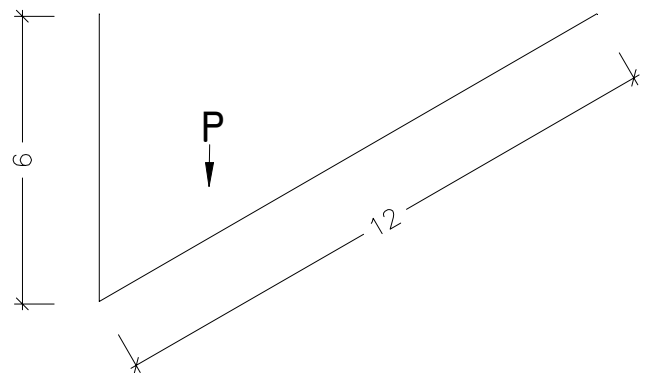
FIELD NOTCH, FOLD DOWN, AND BEND PAN
UNDERNEATH PANEL. HOOK ONTO JOGGLE CLEAT. DO
NOT PULL PANEL TIGHT TO CLEAT SO AS TO ALLOW FOR
PANEL EXPANSION AND CONTRACTION.

CHIMNEY TOP SADDLE
FLASHING

SIDING / COUNTERFLASHING
BY OTHERS



#919 JOGGLE CLEAT



#37 CHIMNEY TOP SADDLE FLASHING
(SPECIFY ROOF SLOPE)