# SSQ200 MECHANICAL SEAM INSTALLATION GUIDE

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# 2" MECHANICAL SEAM WITH TRIM, FLASHINGS AND DETAILS

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# Special Design Considerations

This guide presents industry-proven details that serve as both design aids and installation guidelines. However, it is important to note that the details provided may not cover every situation encountered in various projects. Any necessary modifications should be responsibly undertaken by the designer, owner, or installer. When using this guide, careful consideration must be given to factors such as the intended purpose of the building, its use, prevailing climate conditions (including temperature, snow, wind, and moisture), relevant building codes, and maintenance requirements. For optimal long-term performance and durability, it is highly advisable to use trims and flashings made from the same material as the panels (metal, gauge, finish). Additionally, whenever feasible, the edges of the flashings should be hemmed to reinforce them and protect the cut edges from exposure.

#### **Underlayment:**

In today's market, numerous underlayments are available, each designed with a specific purpose depending on the type of metal and profile being used. Since different types of metal, like A606-4 (Corten), may necessitate distinct underlayment options, it is essential to consider the specific requirements of your project. For this reason, consulting your design engineer for personalized recommendations is highly advisable.

While not all conditions demand the use of underlayment, it's crucial to acknowledge that metal siding is susceptible to condensation. To safeguard the structure during installation, it is recommended to employ an appropriate underlayment on all wood substrates. For added protection against rain and snow, the use of rubberized ice and water shield is also highly recommended. By choosing the appropriate underlayment, you can ensure the longevity and performance of your metal siding system.

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#### Acceptance:

The use of this manual is entirely optional. The provided details are meant to serve as a guide and should be used as such. It is important to note that these details may not be universally applicable to all situations. While this guide offers one standard detail, EP FABTECH acknowledges that other installation details may be necessary or already in existence.

EP FABTECH does not guarantee the weather tightness of the system or the accuracy of the details presented in this guide. The information contained in this manual is believed to be correct and accurate at the time of printing. However, EP FABTECH retains the right to modify details, discontinue products, or alter designs at any time without incurring any obligations.

For personalized recommendations, it is advisable to consult your design engineer.

#### **Snow Design:**

To ensure structural integrity and performance in regions prone to high snow, rain, ice, and slope conditions, it is crucial to carefully consider the design and dimensions. Whenever possible, it is advisable to minimize splices and penetrations in areas where snow and ice accumulations are common. It's important to note that certain details

### provided in this manual may not be applicable in such high snow and ice accumulation regions.

#### Safety and Maintenance:

Working with metals requires utmost caution at all times. Prioritizing safety is essential, and it is crucial to use OSHA-approved fall protection and equipment. Severe weather can impact any structure, and no building is entirely maintenance-free. To maintain the optimal performance of your siding as intended, it is highly recommended to implement a regular inspection and comprehensive maintenance program. References:

For alternative installation techniques and additional details, The Sheet Metal and Air Conditioning Contractors National Association Inc. (SMACNA) and NRCA manuals serve as valuable resources for working with sheet metal.

#### **Technical Assistance:**

For any further information or assistance, please get in touch with your dedicated EP FABTECH sales or technical representative. To ensure you have access to the most up-to-date information, feel free to inquire or visit our website at www.epfabtechmetals.com. We are committed to providing you with the support you need for a successful project.

#### Panel Coverage and Fastening:

The standard panel width for SSQ200 2" Mechanical Seam panels typically ranges from 12", 16", to 18" in coverage. However, depending on the chosen finish and required coil feed, other sizes might be available as well. For comprehensive information and fastening recommendations tailored to your specific project, we recommend consulting with your dedicated EP FABTECH representative. They will provide you with the necessary details and guidance for a successful installation.

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Notes to Designers and Installers: The details provided in this guide have been established as industry-proven standards, serving as both design aids and installation guidelines. However, it is crucial to recognize that these details may not encompass every possible situation that could arise in various projects. As such, any necessary modifications should be the responsibility of the designer, owner, or installer.

When utilizing this guide, thoughtful consideration must be given to the purpose of the project, the building's intended use, and the prevailing climate conditions, including temperature, snow, wind, and moisture. Additionally, adherence to governing building codes and the implementation of proper maintenance practices are paramount. For enhanced long-term performance and durability, we strongly recommend using trims and flashings made from the same material as the panels (metal, gauge, finish). Moreover, whenever feasible, reinforcing the flashing edges through hemming will provide added strength and protect the cut edges from exposure. By taking these considerations into account, you can ensure the success and longevity of your installation.

Framing and Substrates:

SSQ200 Mechanical Seam panels offer exceptional versatility, making them suitable for various substrates, including steel framing, open purlins, spaced sheathing, and wood surfaces like plywood. Throughout this guide, you will find that most details depict panels attached to open framing.

This adaptability allows for a wide range of applications, empowering you to choose the most suitable substrate for your specific project requirements. Whether you opt for steel framing, open purlins, spaced sheathing, or wood surfaces, these panels deliver superior performance and reliability. It is essential to follow the recommended installation guidelines, ensuring a successful and aesthetically pleasing outcome for your project.

#### Oil Canning:

Oil canning is a common condition that may occur with flat metal surfaces. This waviness is attributed to various factors, including steel mill tolerances, forming processes, variations in the surface structures, and the hardness of the steel. To mitigate the effects of oil canning, specific measures are taken during the rollforming process, such as carefully designing the profile, selecting the appropriate steel gauge, and implementing corrective leveling techniques. While efforts are made to minimize oil canning, it is important to acknowledge that it is an inherent characteristic of steel and cannot be entirely eliminated. Despite this, it is essential to understand that oil canningdoes not warrant the rejection of the panels. Instead, it is a natural aspect of steel panels that should be considered within acceptable industry standards. By following proper installation practices and recognizing the nature of oil canning, you can ensure a successful and aesthetically pleasing result for your metal panels.

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#### Job Site Storage:

During the period between delivery and installation at the job site, it is essential to store panels, trim crates, and flat sheets with proper consideration for moisture runoff. To achieve this, ensure that the storage area is sloped, allowing moisture to run off appropriately. Elevating one end of the stored items prevents water ponding on the metal surface, safeguarding against potential damage.

When utilizing tarps for protection, it is crucial to provide adequate ventilation to prevent condensation buildup. Moisture or trapped condensation within a bundle can lead to the development of white rust on the sheeting. To avoid any issues during storage, please adhere to these guidelines, as EP FABTECH cannot assume responsibility or liability for damage to our products resulting from improper handling and storage. Furthermore, if trim or panel protective plastic film is applied, it should be removed within 90 days to avoid potential issues. Failure to follow these instructions may result in the voiding of the warranty. Ensuring proper storage practices will help maintain the integrity and performance of the materials, providing you with the best possible results for your project.

#### **Slope Requirements:**

For optimal installation, the panels in this guide are recommended to be used on slopes of 1:12 or greater, along with the application of mastic. Following these slope requirements ensures a secure and effective installation, providing long-lasting performance and protection for your project.

Condensation, Insulation, & Ventilation: The responsibility of determining the necessity and components of condensation control, such as insulation and vapor retarders, as well as ventilation requirements, lies with the designer. Due to the susceptibility of metal roofing to condensation, careful consideration must be given to its control. By addressing these factors thoughtfully, you can ensure a well-designed and properly regulated roofing system that performs optimally and withstands the challenges of condensation.

#### **Pinning Requirements:**

To withstand the drag load resulting from the weight of the panels, live load, and snow loads, the SSQ200 panel should be securely "pinned" at one end only. The magnitude of the drag load is influenced by factors such as the slope, the specific loads involved, and the characteristics of the panels. For precise pinning requirements tailored to your project, it is advisable to seek guidance from a design engineer. Their expertise will ensure the appropriate pinning strategy, ensuring the structural integrity and stability of your installation.

#### **Expansion & Contraction:**

Accounting for expansion and contraction is vital for both the panels and flashing, particularly when dealing with long lengths. Ensuring adequate allowances for thermal movement becomes crucial, especially when using 30ft+ sheets. One area where this may be necessary is the overlap between the hidden cleat and the turned-under end of the panel at the eave. By increasing this overlap, you can accommodate thermal movement effectively, preserving the structural integrity and appearance of the installation. Careful consideration and appropriate adjustments will help prevent any issues related to expansion and contraction, providing a successful and long-lasting roofing system.

#### Valleys:

To account for roof slope, snow, ice, and rain conditions, it is crucial to ensure that valley dimensions are appropriately sized. However, it's essential to note that certain details provided in this guide may not be applicable in regions experiencing high snow and ice accumulations. When planning and constructing valleys, careful consideration of the specific conditions in your area will help ensure proper performance and longevity of the roofing system. Consulting with experts or design engineers can aid in tailoring the valley dimensions to suit your project's unique requirements.

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# **Fastener Selection**

# Notes to Installers:

The selection of fasteners will depend on the type and thickness of the substrate. It is imperative to have design calculations for clip spacing completed by the design engineer.

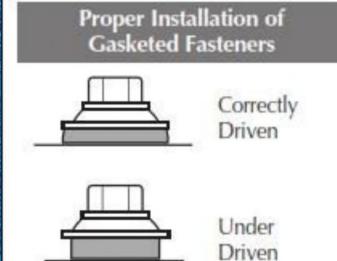
For a weather-tight installation, we strongly recommend using Butyl tape mastic, Butyl sealants, and Curing Sealants.

Ensure that panels and flashings are never installed in contact with dissimilar metals. Only use flashings and accessories specifically designed for use with this panel.

For panel clip attachment screws, make sure they are long enough to fully penetrate through the roof deck substrate or at least one inch into solid lumber. Exposed trim fasteners should have sealing washers and be coated to provide protection against corrosion.

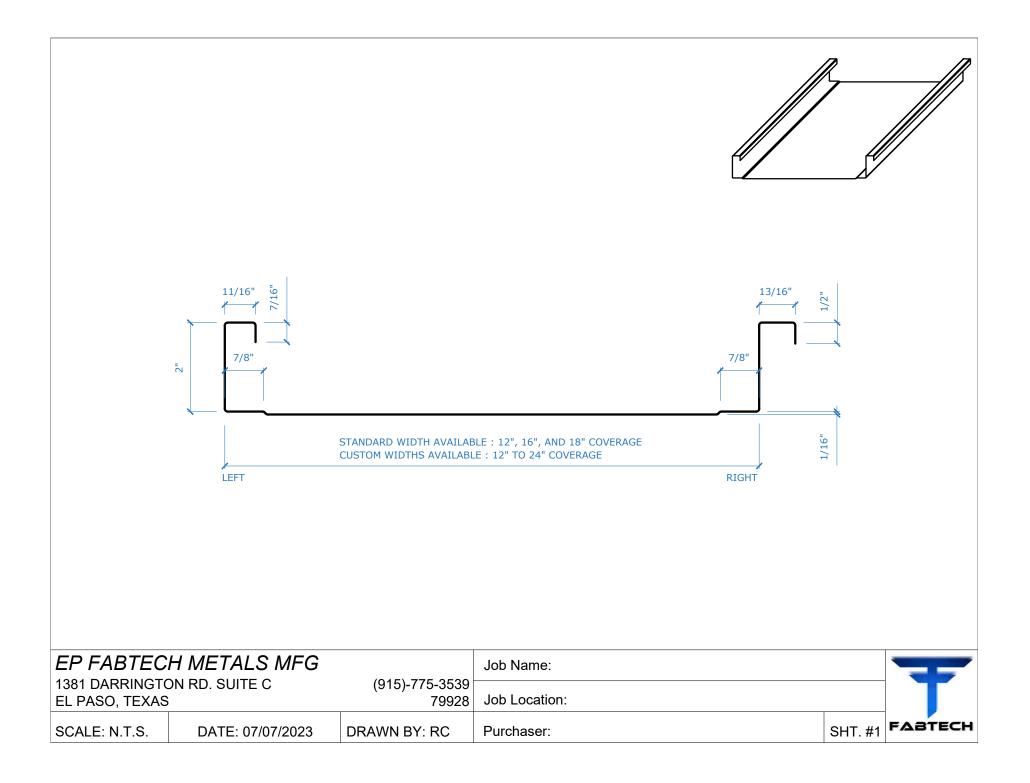
To ensure proper holding strength and sealing, screws must be correctly driven (see diagram). The recommended drill speed is 2000rpm, as improper settings can lead to the snapping of screw heads. In the case of heavy gauge metals, pre-drilling of screw holes may be necessary. By following these guidelines, you can ensure a secure and durable installation, with proper consideration for weather resistance and structural integrity.

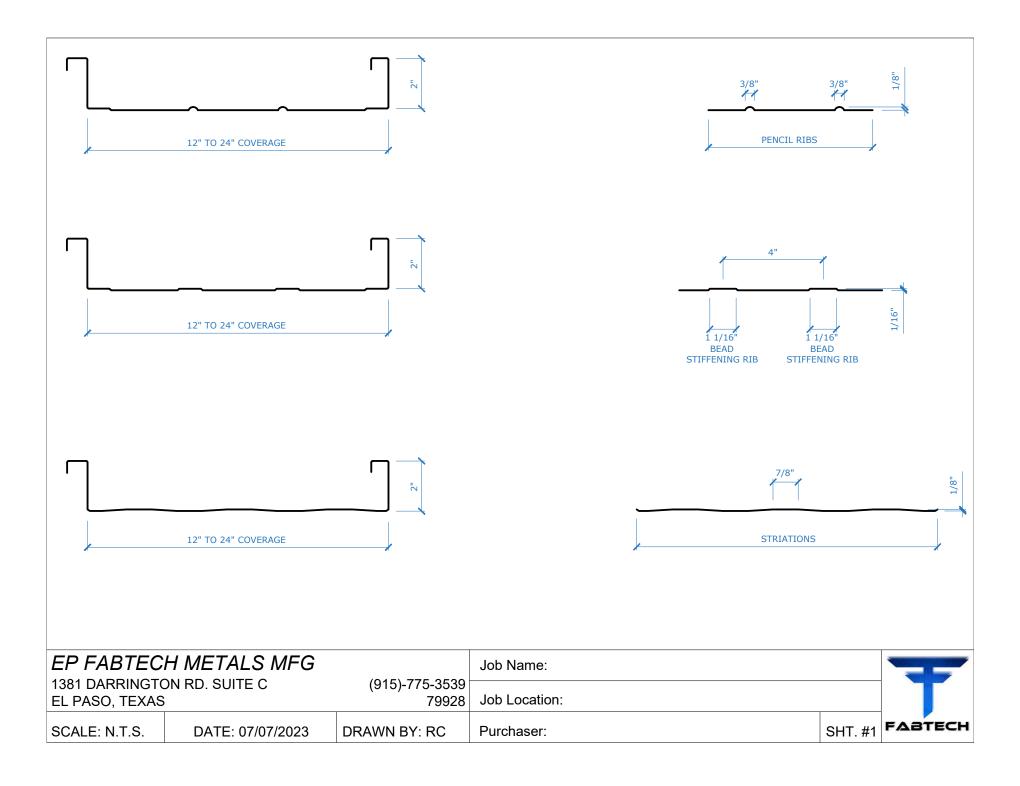
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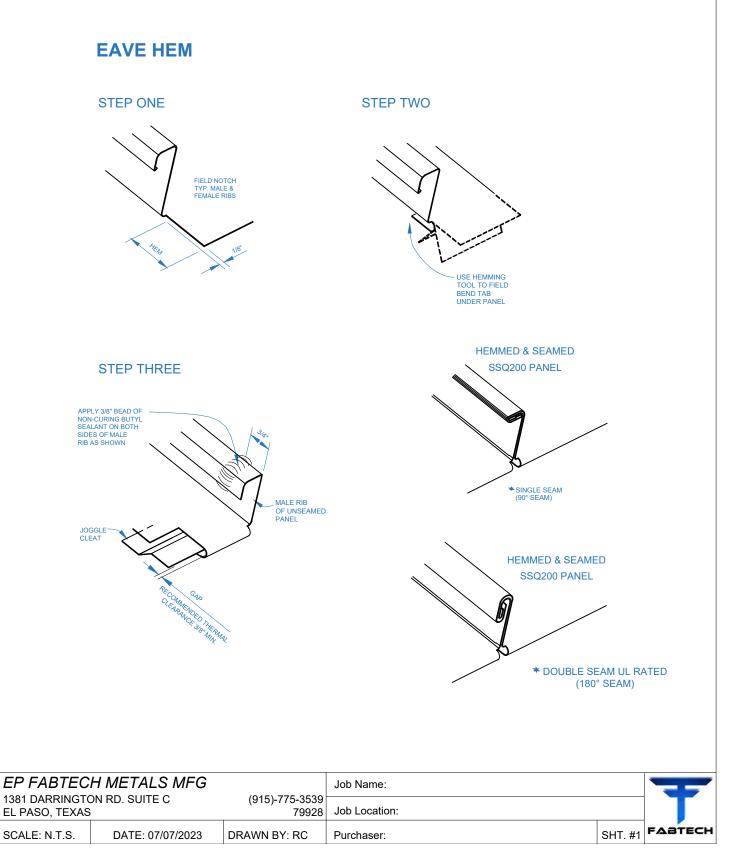
Fastener Selection Description		Application				
14 x 7/8" Lap Self tap #10-12 x1" Pancake head Wood #10-12 x 1" SD PH Self Driller Steel		Used to a	ttach trims.	<b>I</b>		
		Used to se	ttach Panel clips. ecure trims to substrates.			
	*Double Seam UL Rate	d				
1/8" Stai	nless Rivets		Trim to Trim nt or trim to wall		Ð	
#9 x 1" Woodgrip #9 x 1.5 " Woodgrip #9 x 2" Woodgrip		Used for p	oanel attachment			
#12-14 x 1" Self Driller #12-14 x 2" Self Driller			Metal to Metal Metal to Metal	° C	K	
18 ga. Floating Clip			lip allows for novement.		>	
18 ga. Fixed Clip		Fixed Clip				
	CH will not be responsible ngineer for load and design		election. This guide is just a	reference tool to be used. P	lease cons	ult a
	H METALS MFG		Job Name:			
ARRINGTC 30, TEXAS	ON RD. SUITE C	(915)-775-3539 79928	Job Location:			
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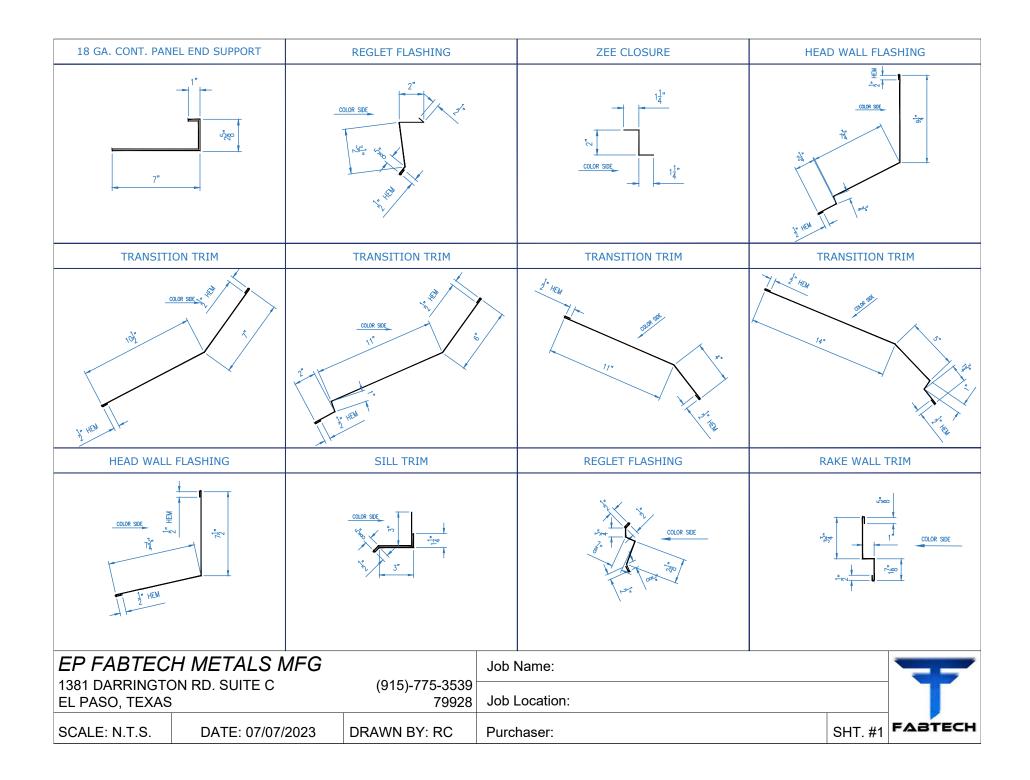


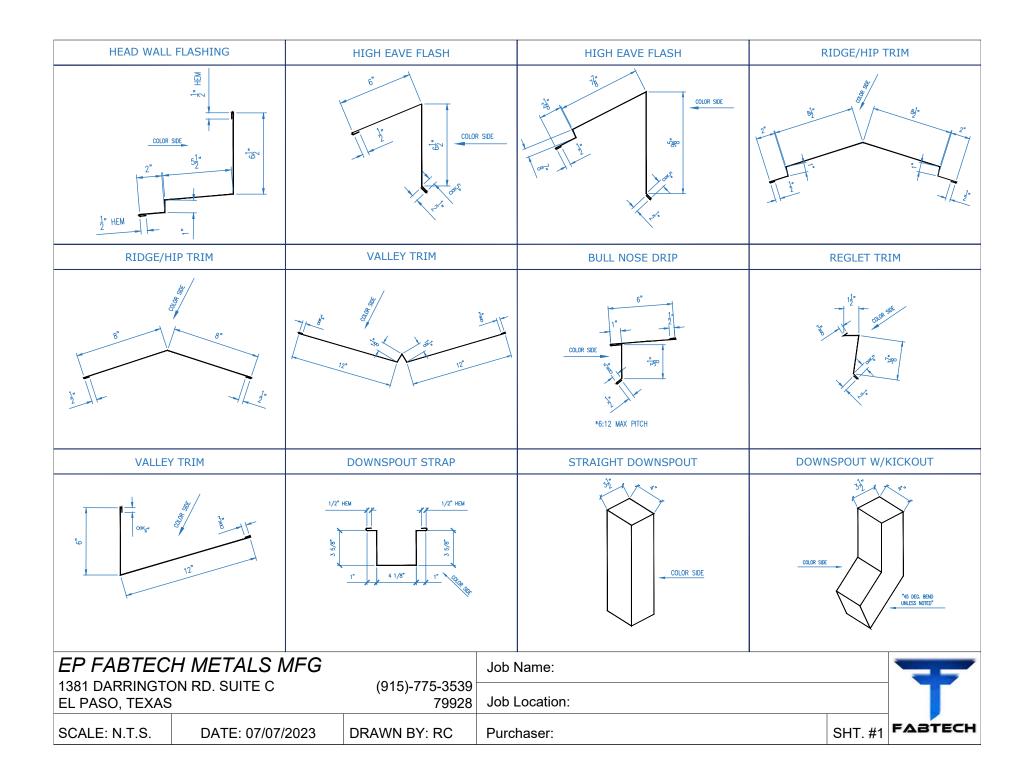
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Installation, Flashings & Shop Drawing Detail Guide



GUTTER END CA	AP	16 GA. BACKUP PLATE		EAVE FLASHING		PANEL CLEAT	
		11 <sup>3</sup> / <sub>4</sub>		COLOR SIDE -55 -55 -55 -55 -55 -55 -55 -5	1900 - 100 -		
GUTTER SPLICE		JOGGLE CLEAT		GUTTER	OPTIONAL EAVE		
COLOR SIDE	5 15/16" 1/2" " " " " " " " " " " " " " " " " " "	$166^{\circ}$		7/8" 1/2" HEM 1/2" HEM 50 50 50 50 6 1/16"		OR SIDE	
OPTIONAL EAVE FLASH		GUTTER STRAP		18 GA. PANEL RECEIVER	ANGLE TRIM		
COLOR SIDE 152		1" HEM 558 55		1" HEM			
EP FABTECH METALS MFG1381 DARRINGTON RD. SUITE C(915)-775-353951 DAGO JEXAO70000							
		79928 DRAWN BY: RC		haser:		SHT. #1	



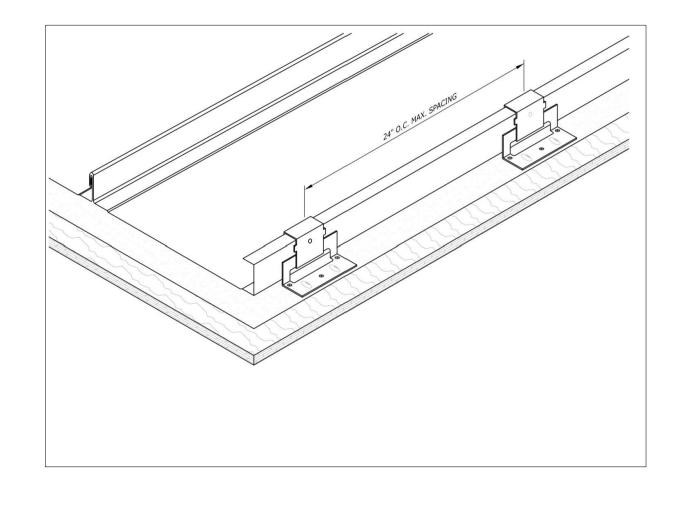


DOWNSPOUT ELBOW	DOWNSPOUT OUTLET	GABLE TRIM	VALLEY TRIM		
3.5/8 COLOR SIDE "45 DEG. BEND UNLESS NOTED"	3 5/8 3 200 	× 00 <sup>10</sup> s	7		
1381 DARRINGTON RD. SUITE C (915)-775-3539		Job Name: Job Location:			
SCALE: N.T.S. DATE: 07/07	/2023 DRAWN BY: RC	Purchaser:	SHT. #1 FABTECH		

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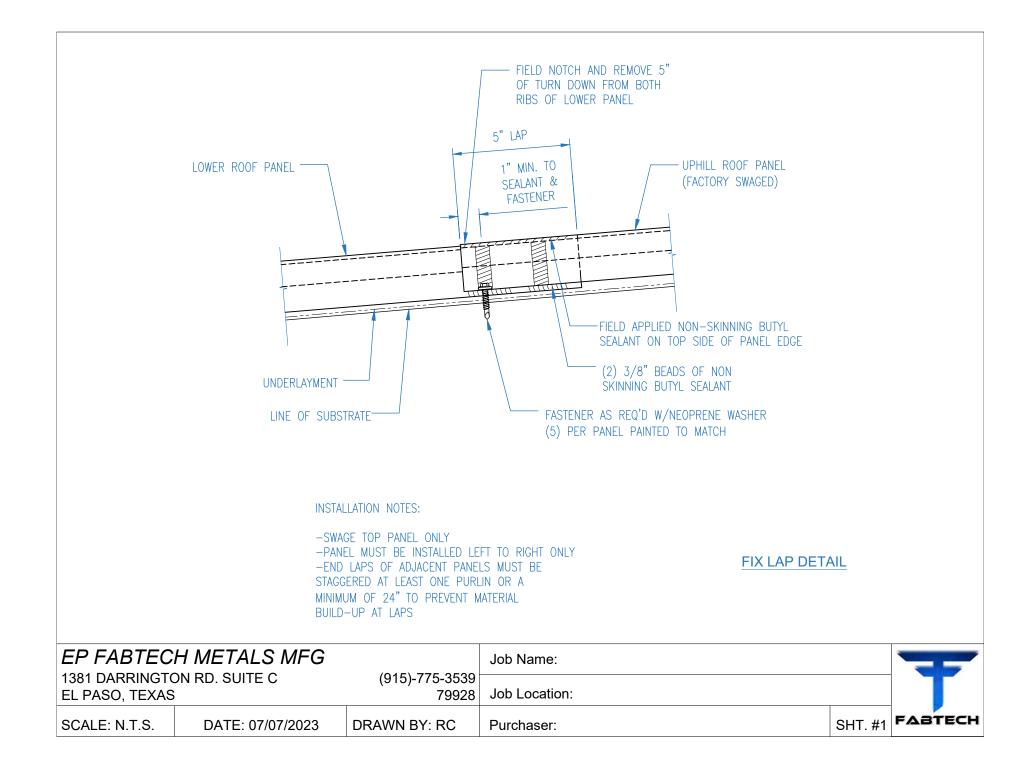
Installation, Flashings & Shop Drawing Detail Guide

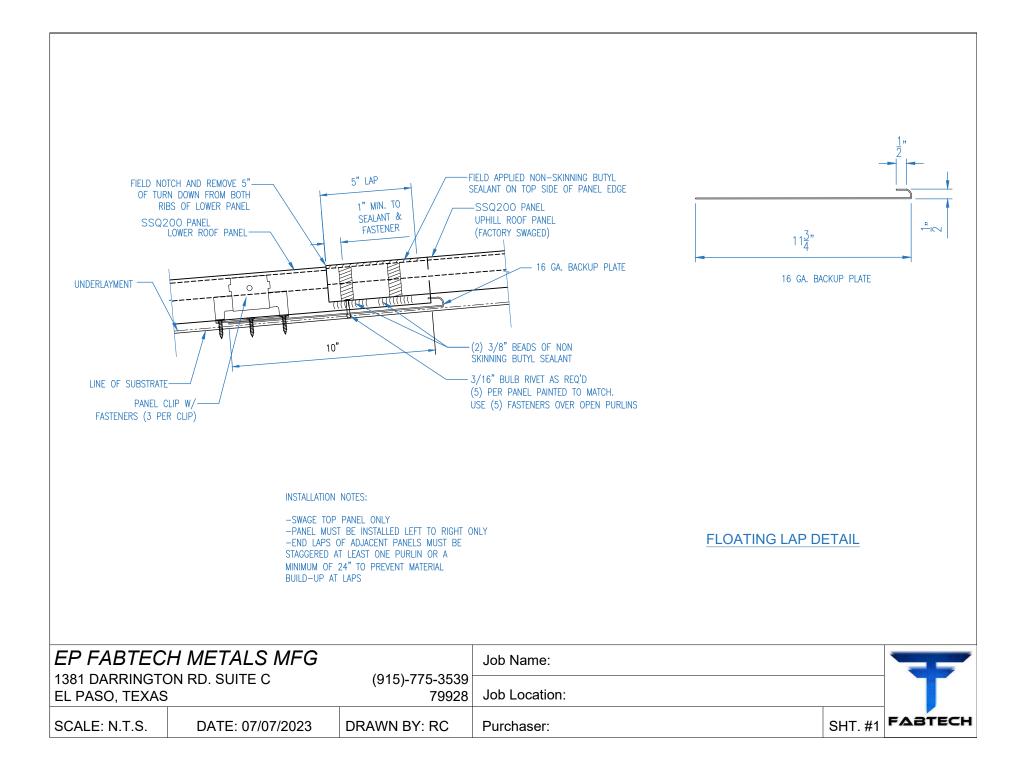
For maximum holding power, it is recommended that the minimum wood penetration be 1 inch. Using pancake head screw fasteners that are designed to be used with fastening clips to the metal roofing panels.

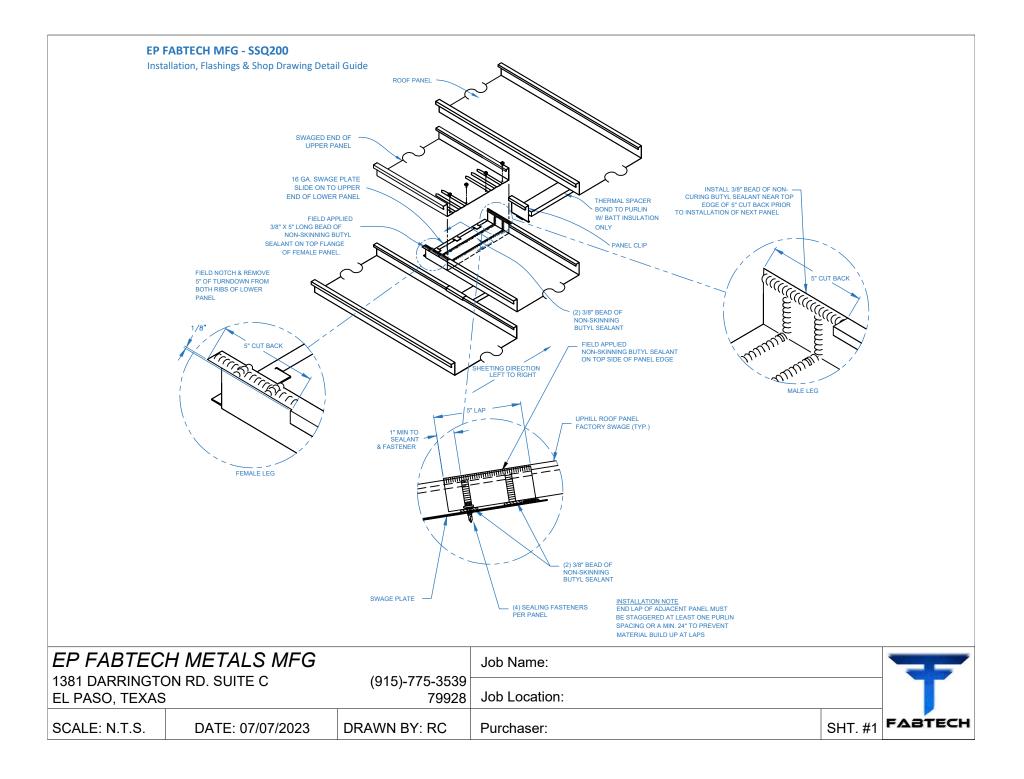


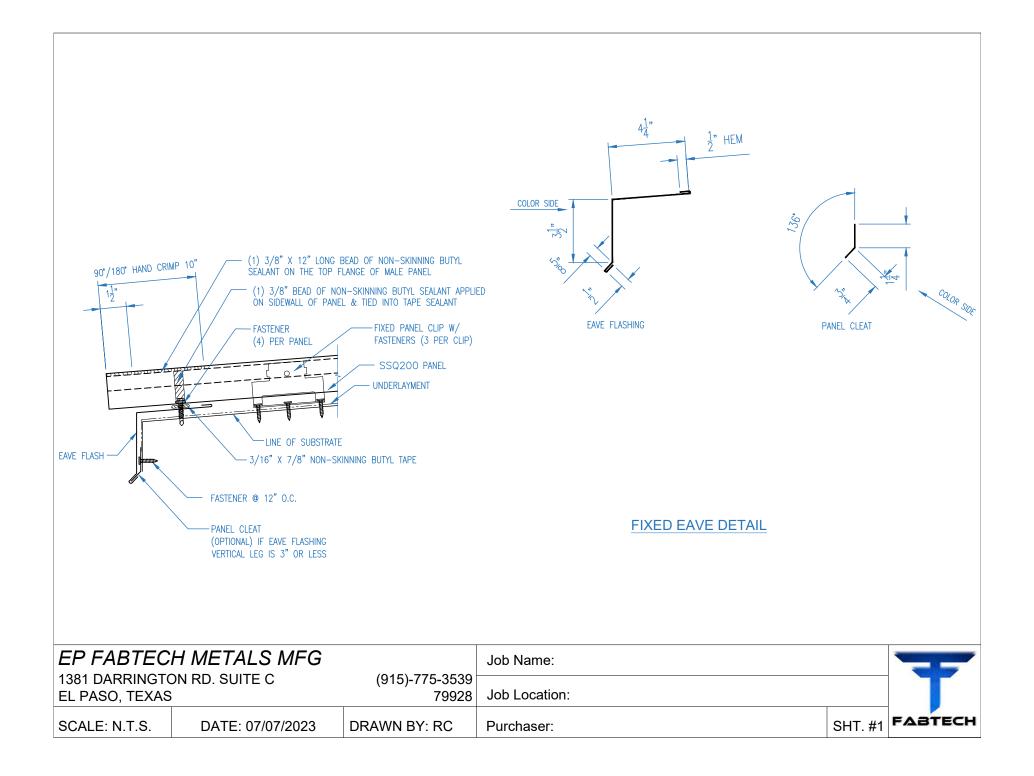
EP FABTECH will not be responsible for final screw/clip selection. This guide is just a reference tool to be used. Please consult a design engineer for load and design calculations.

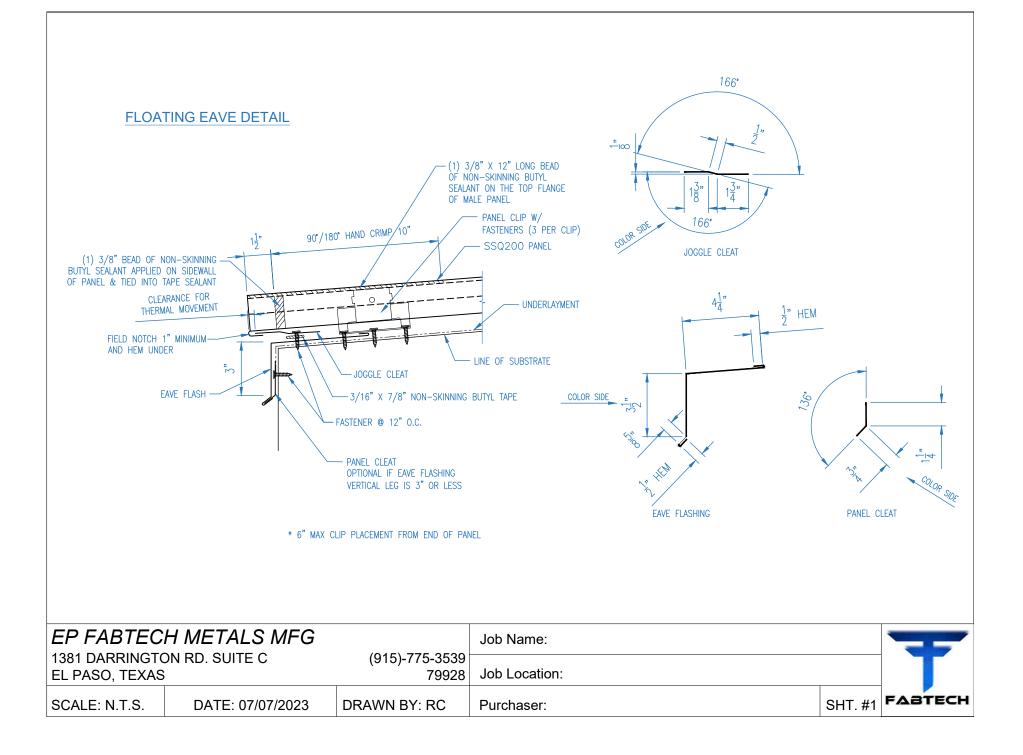
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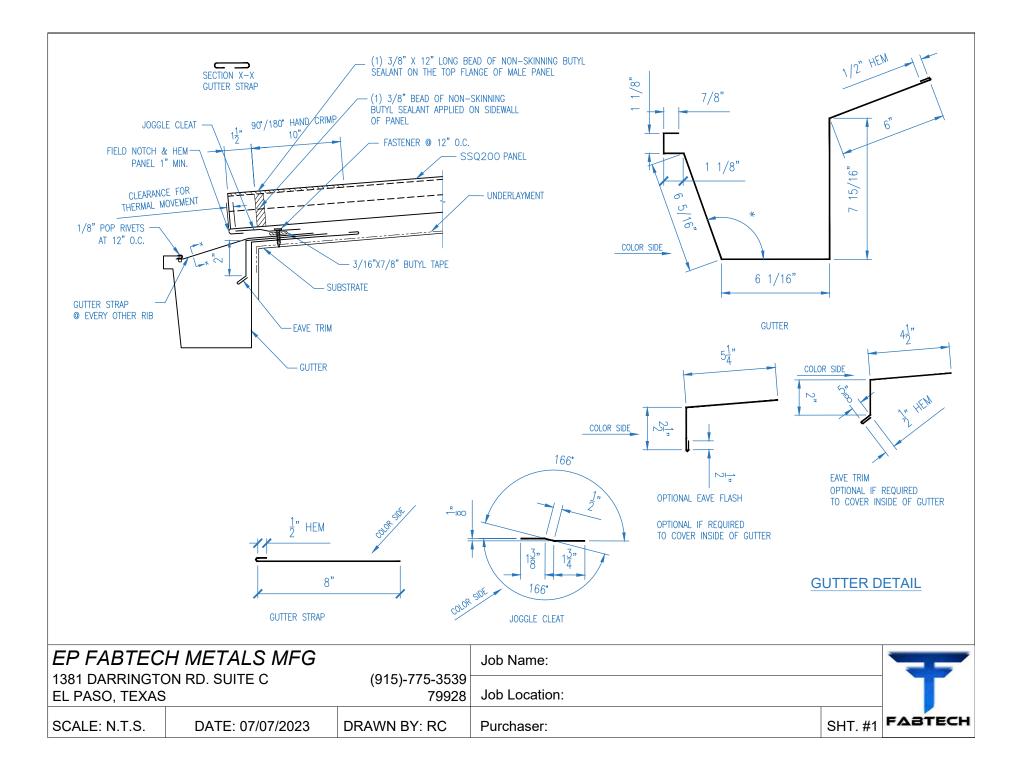


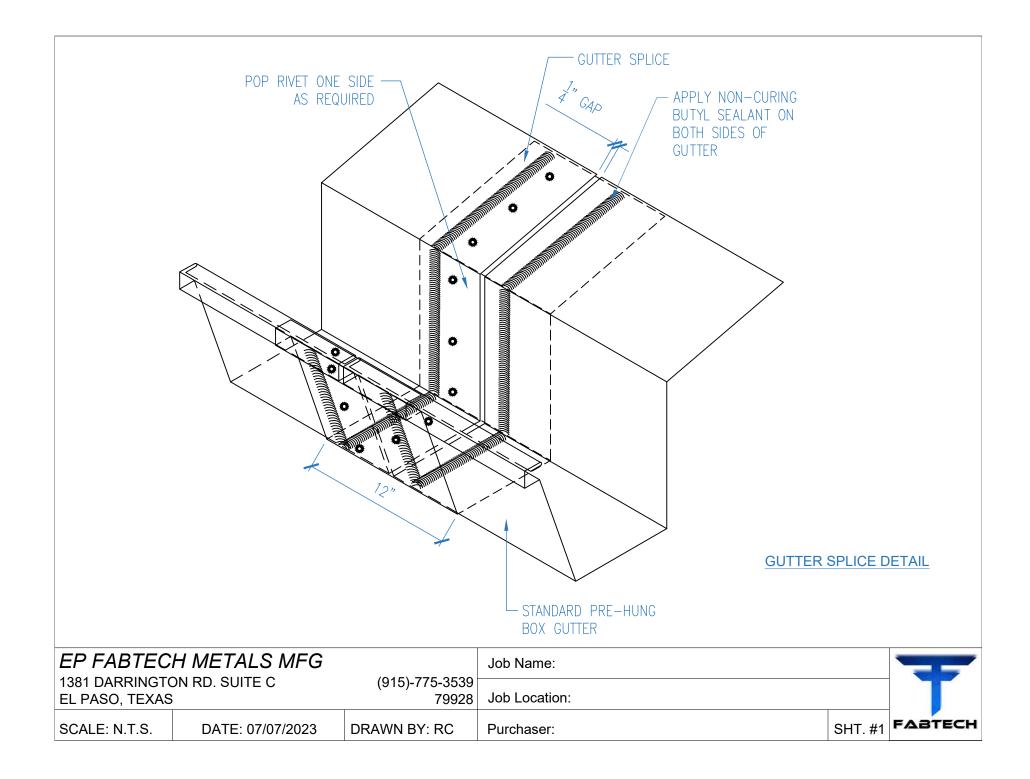


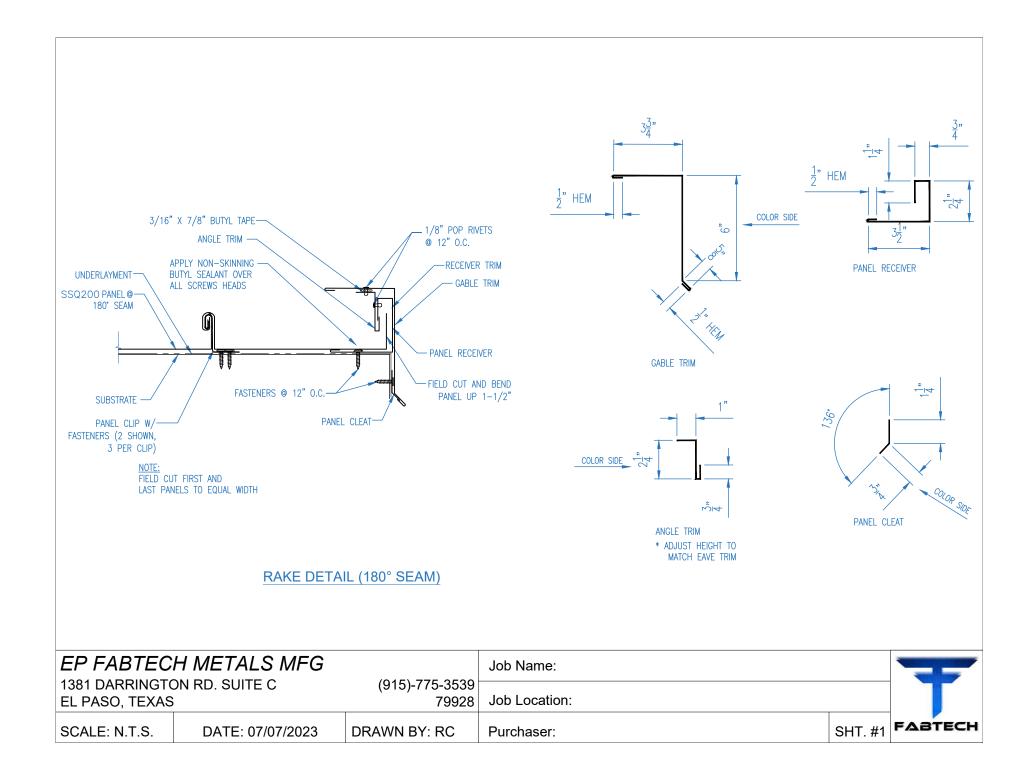


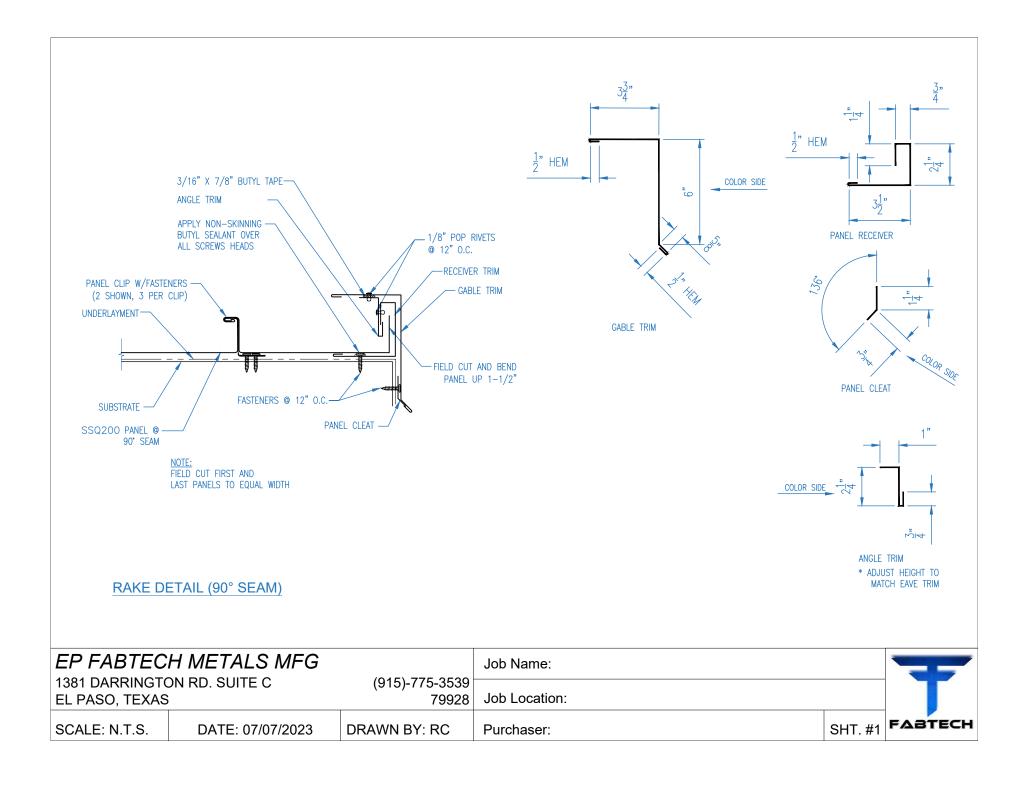


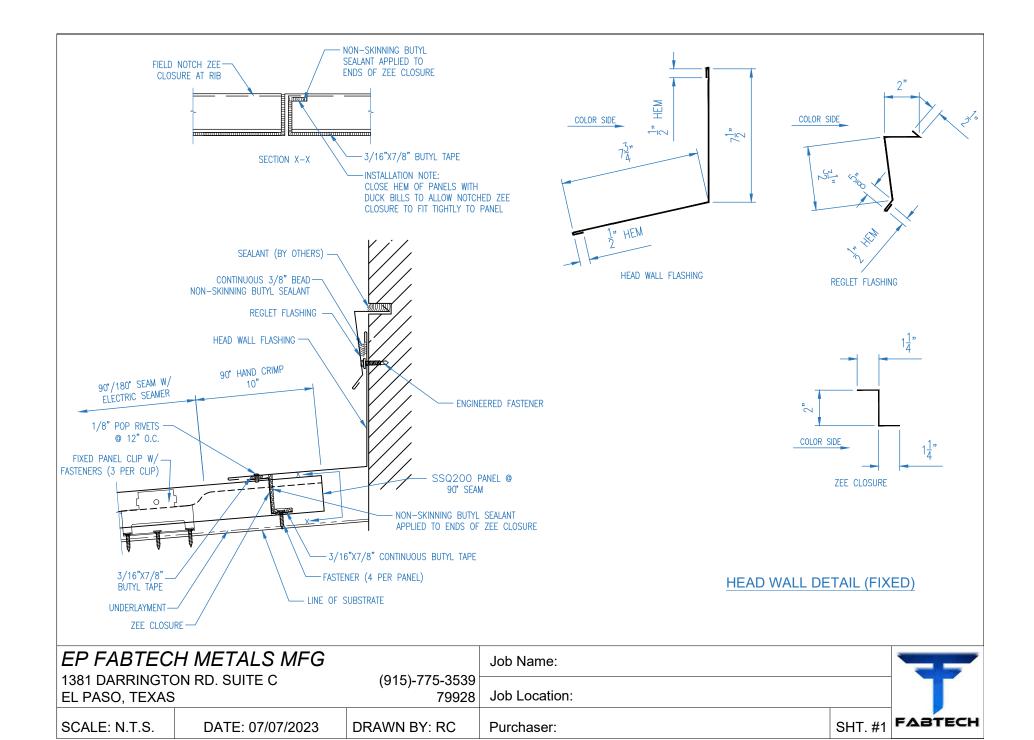


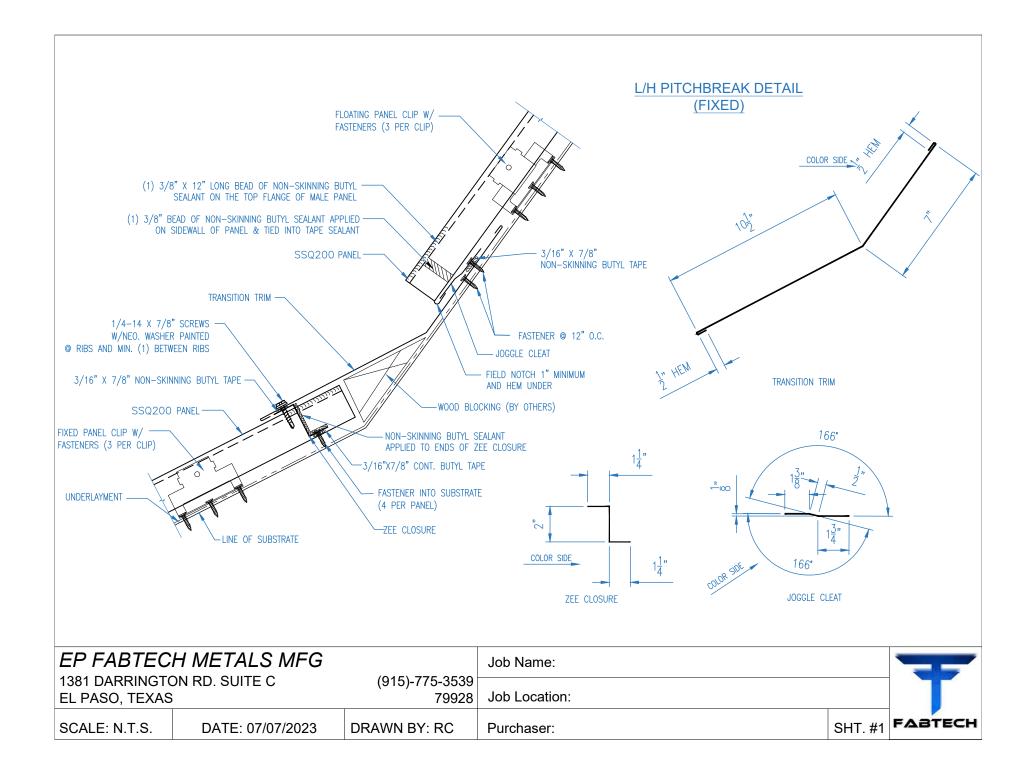


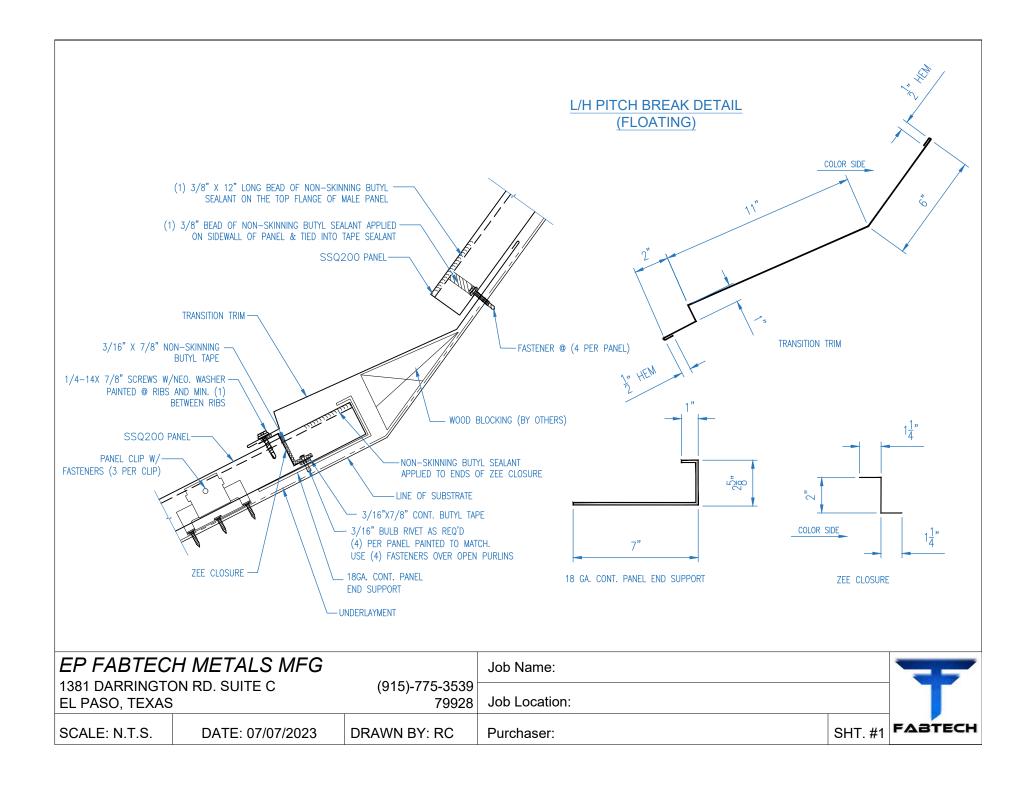


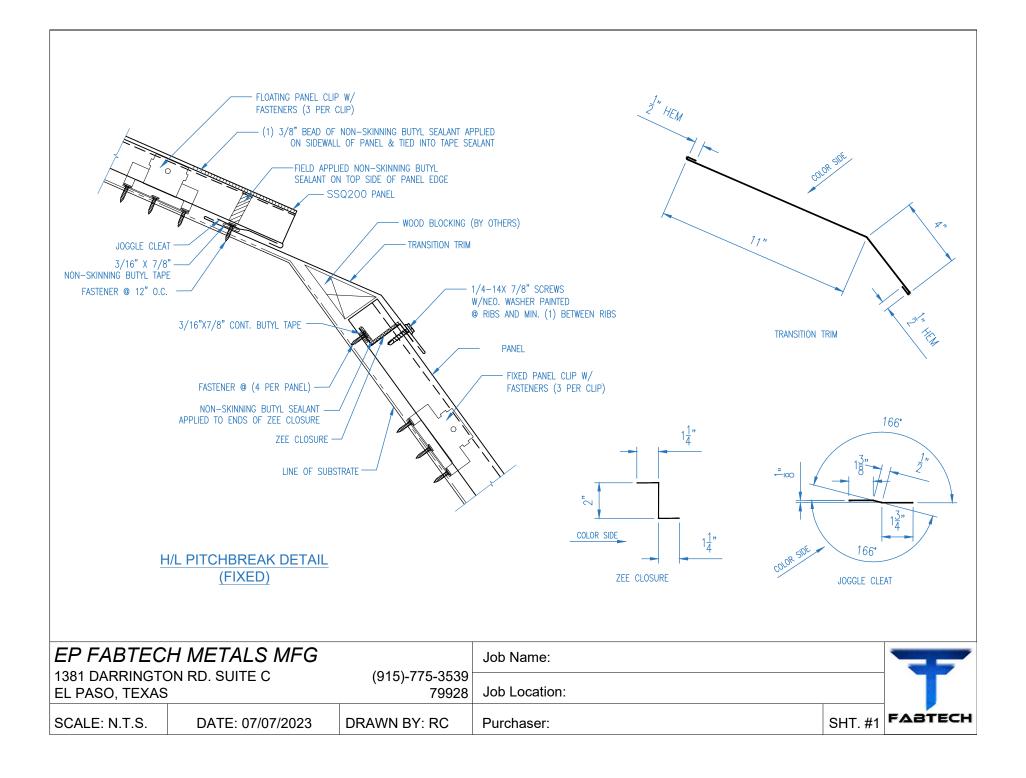


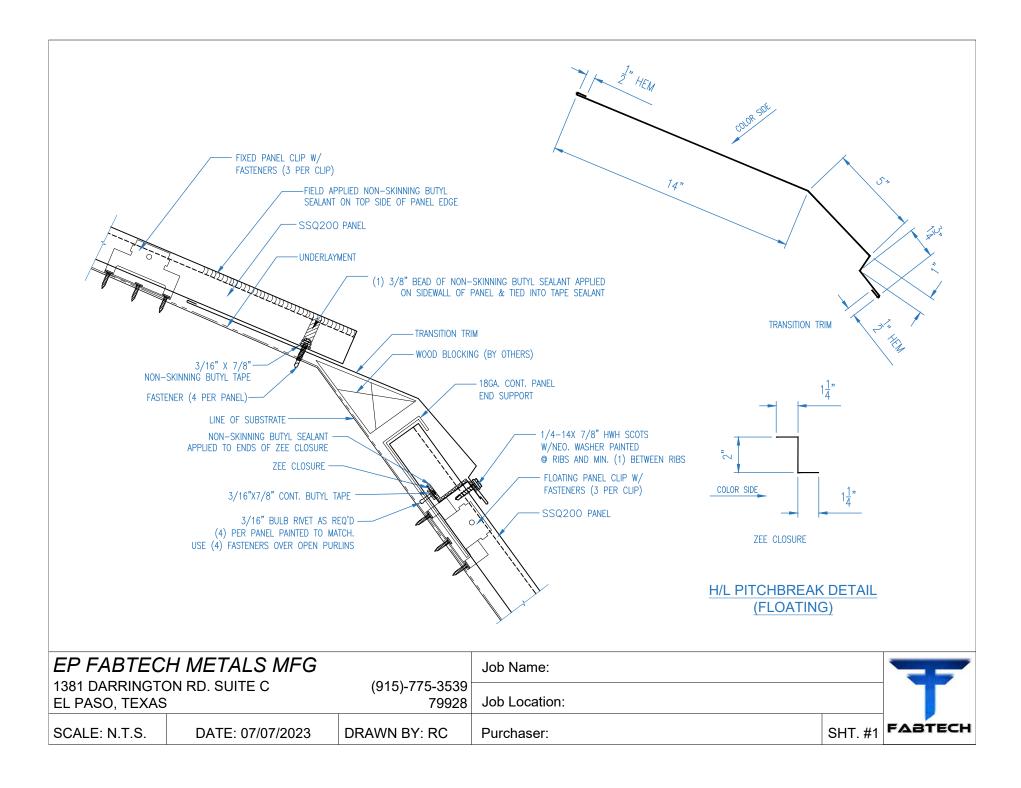


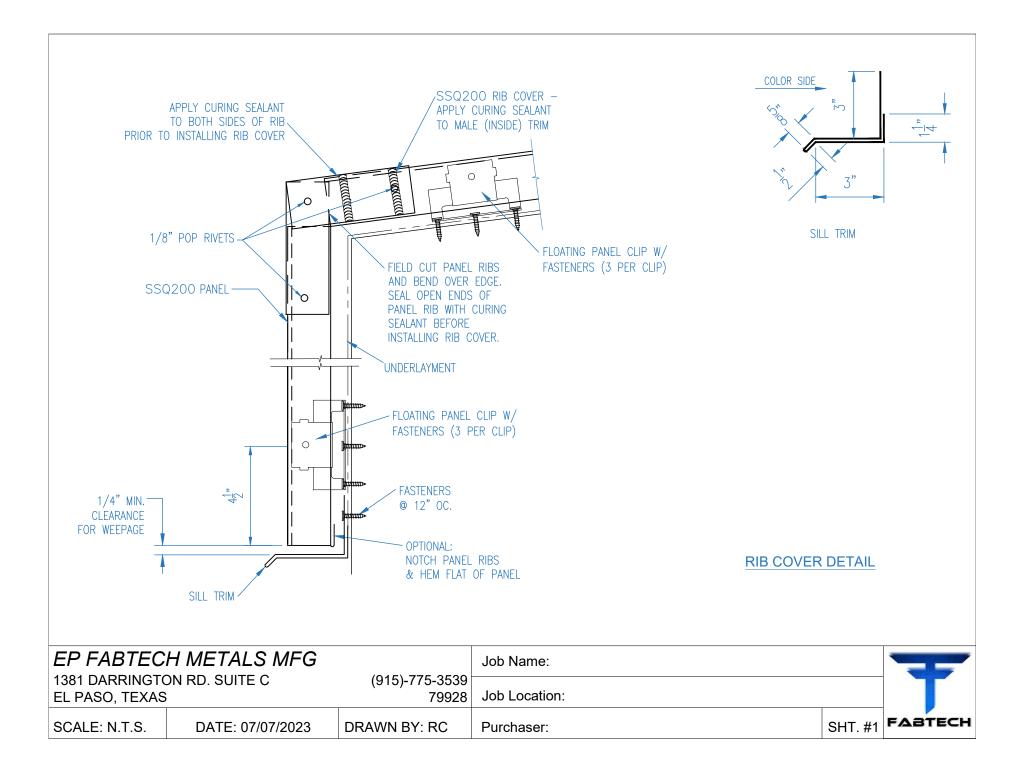






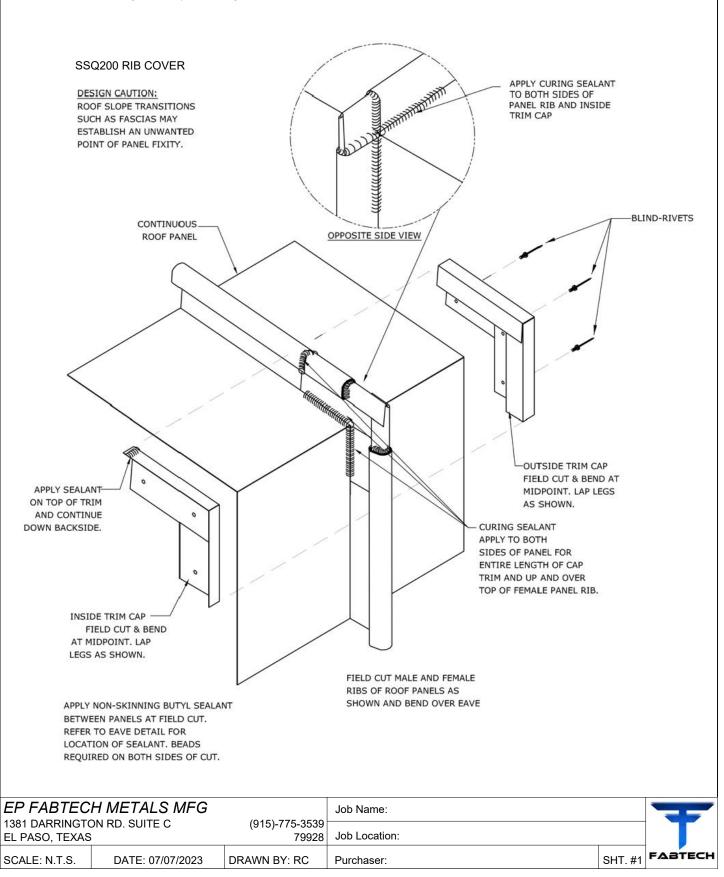


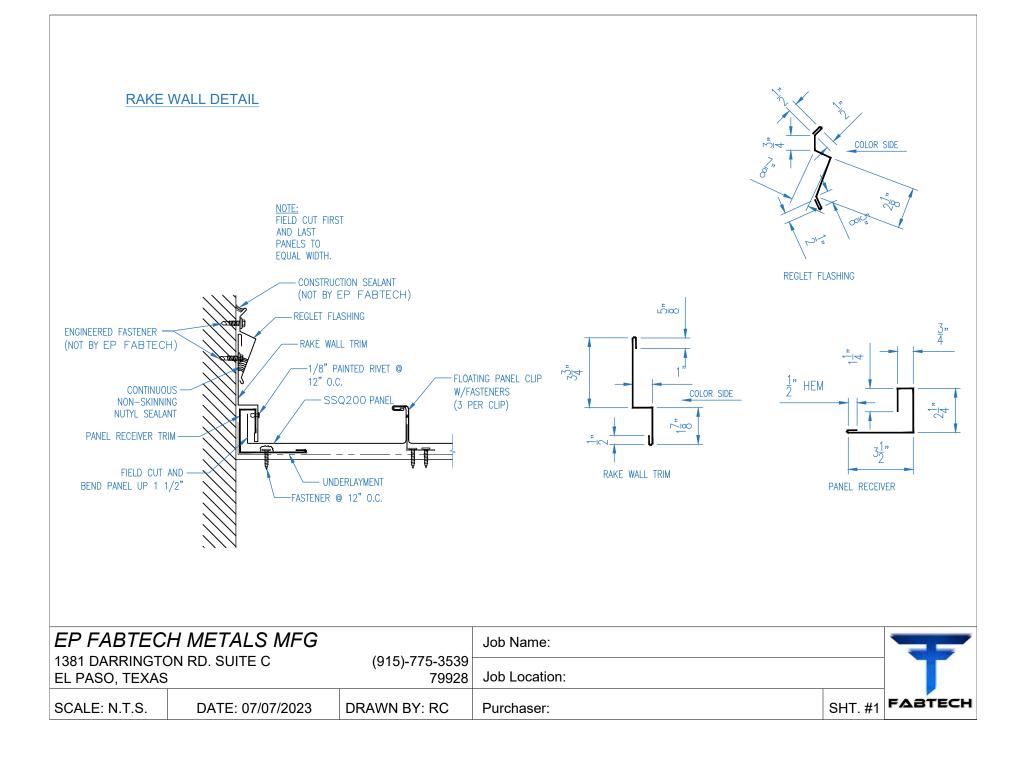


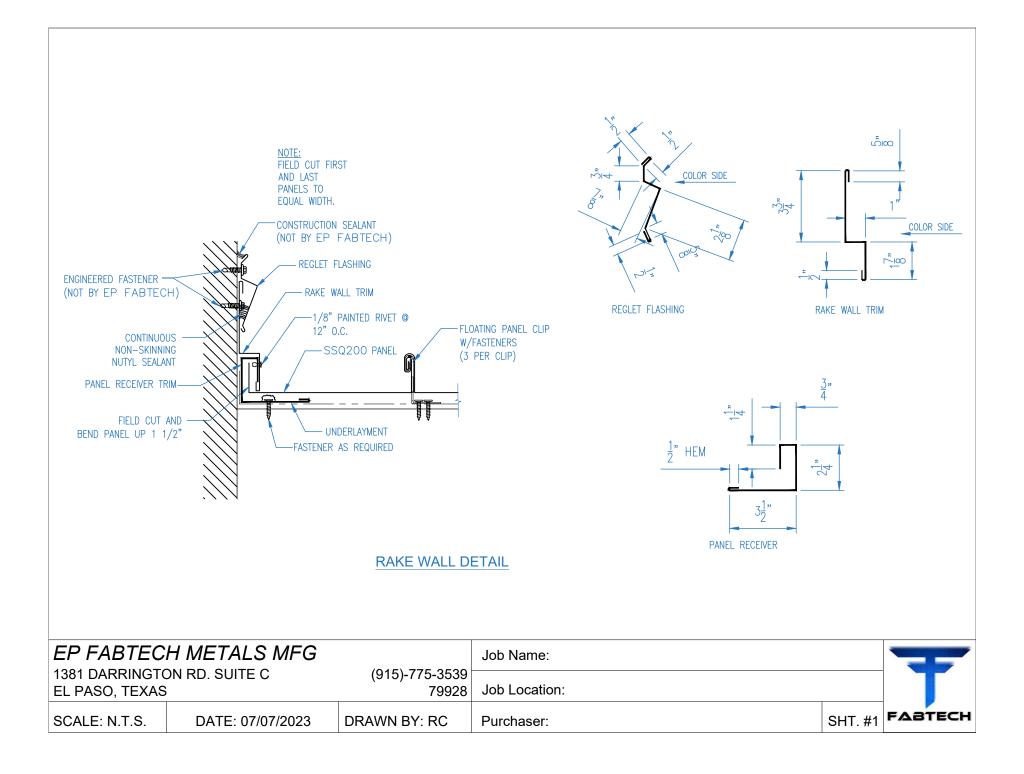


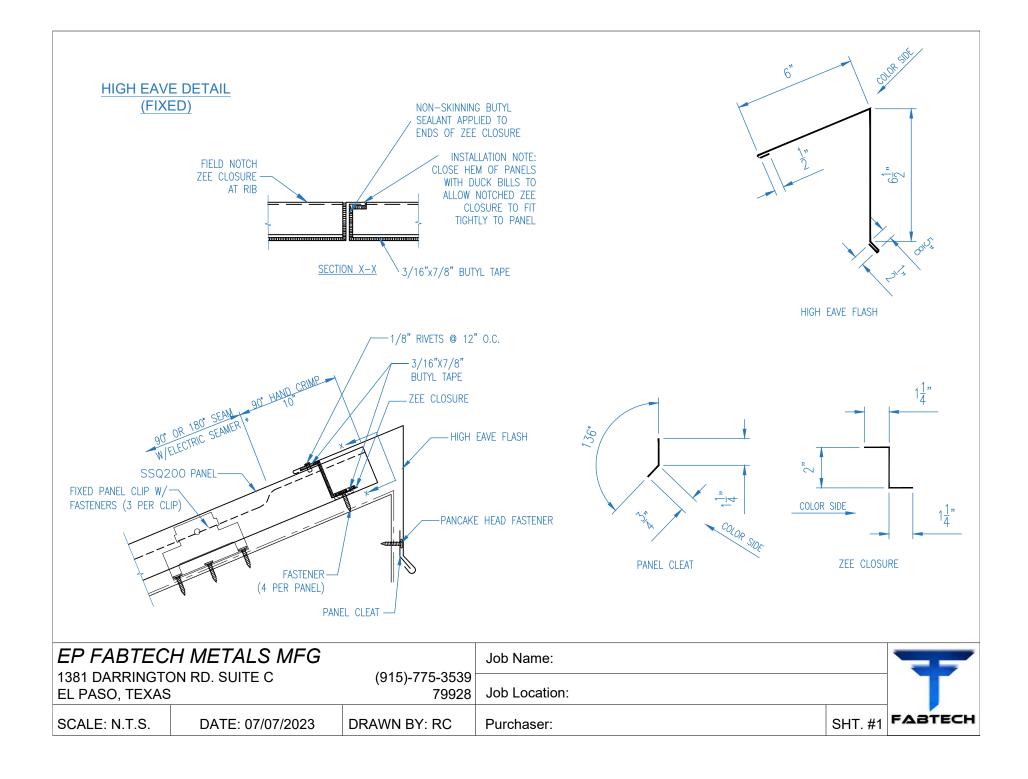
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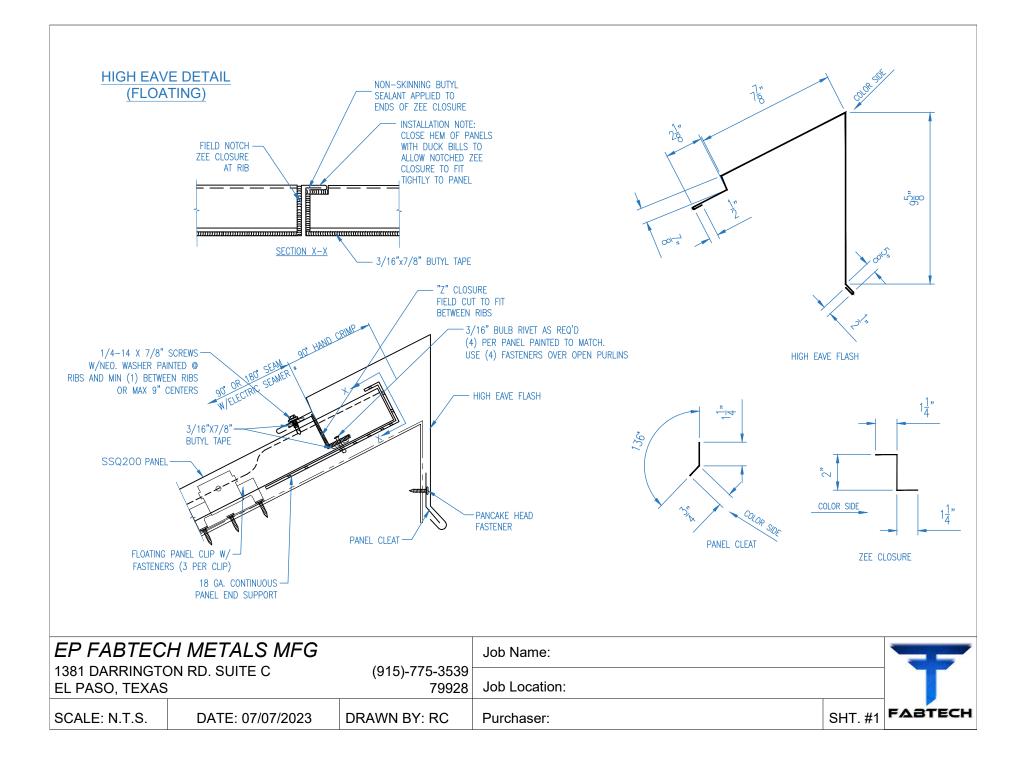
Installation, Flashings & Shop Drawing Detail Guide

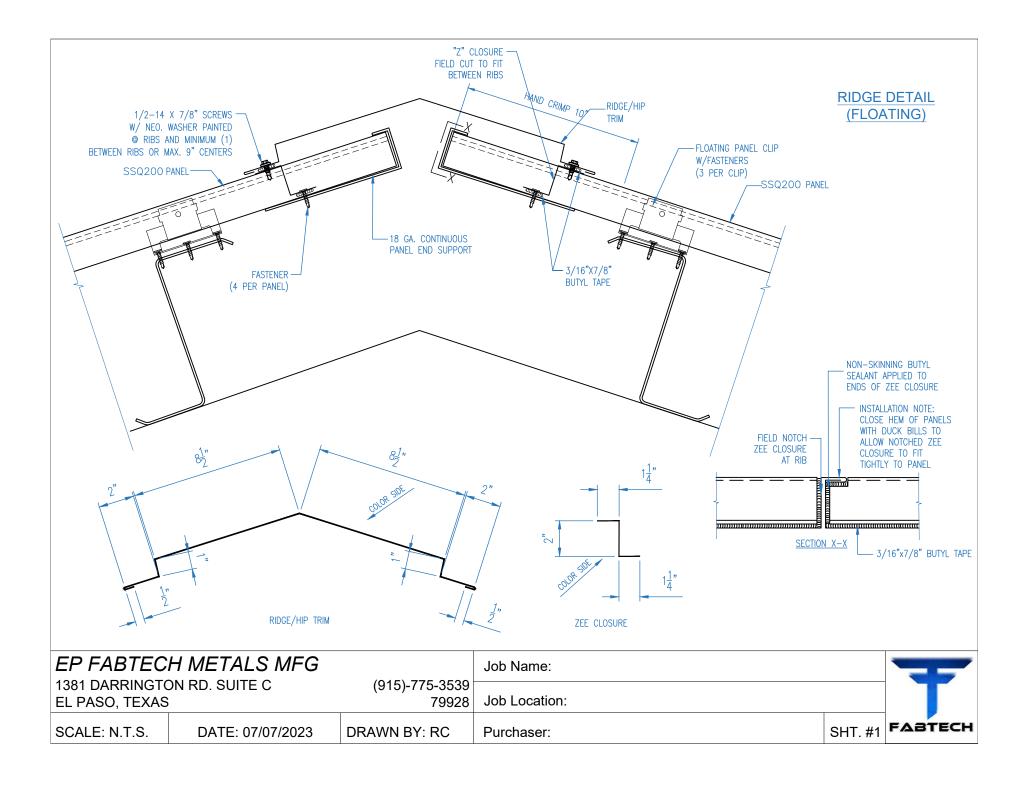


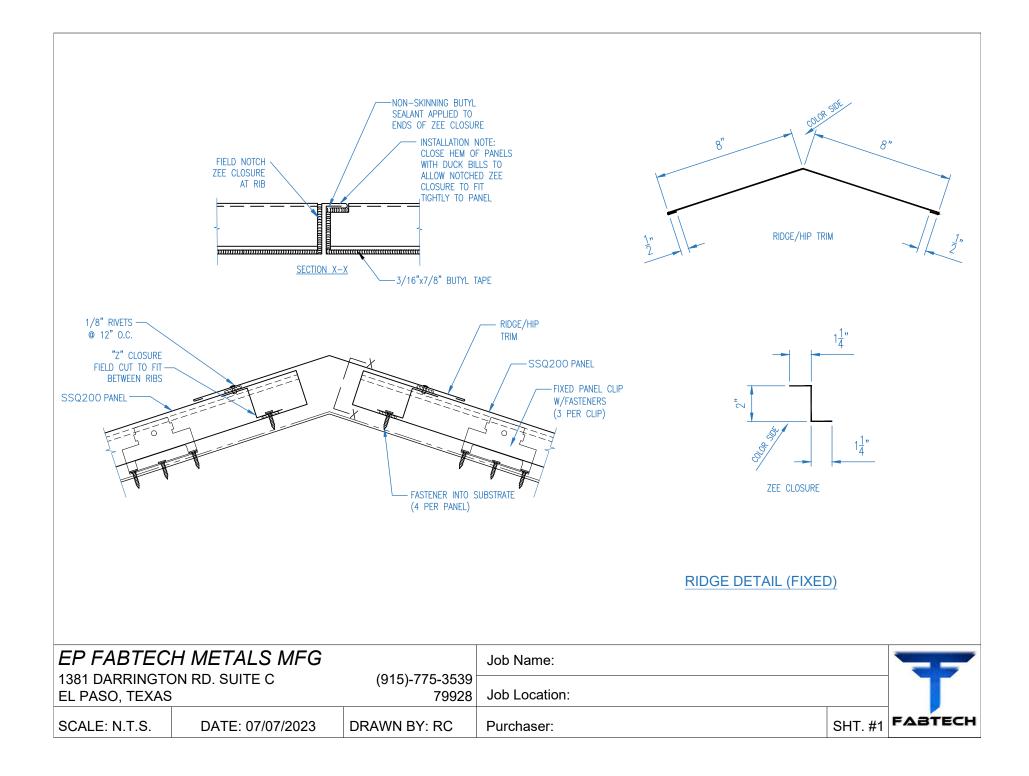


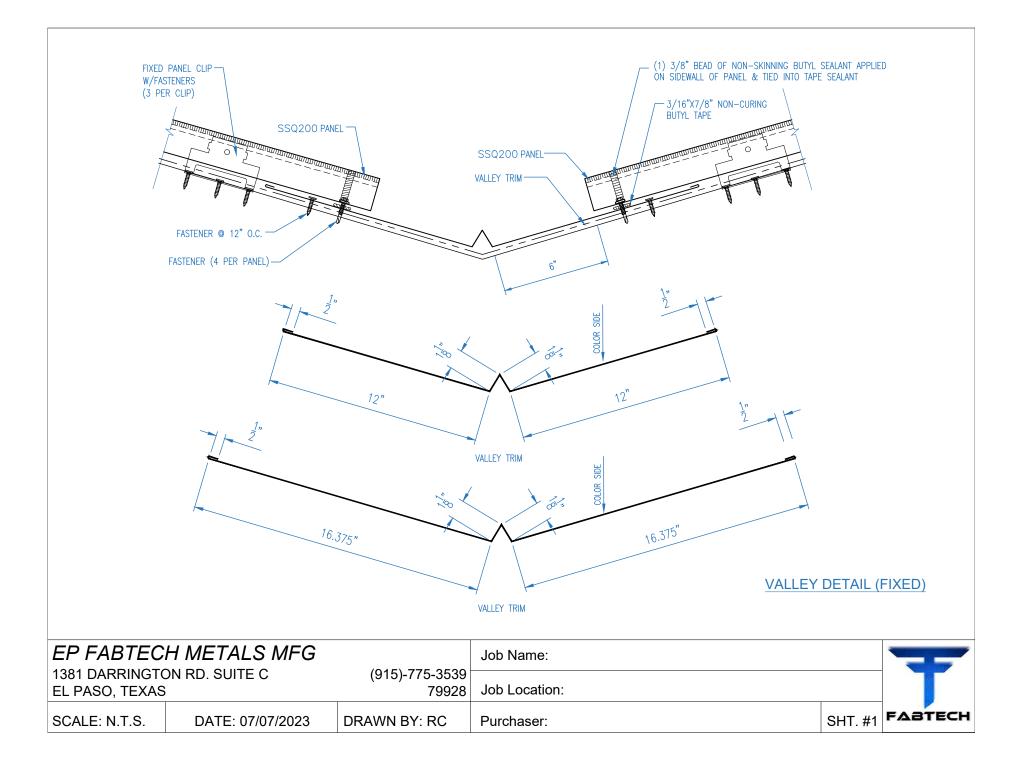


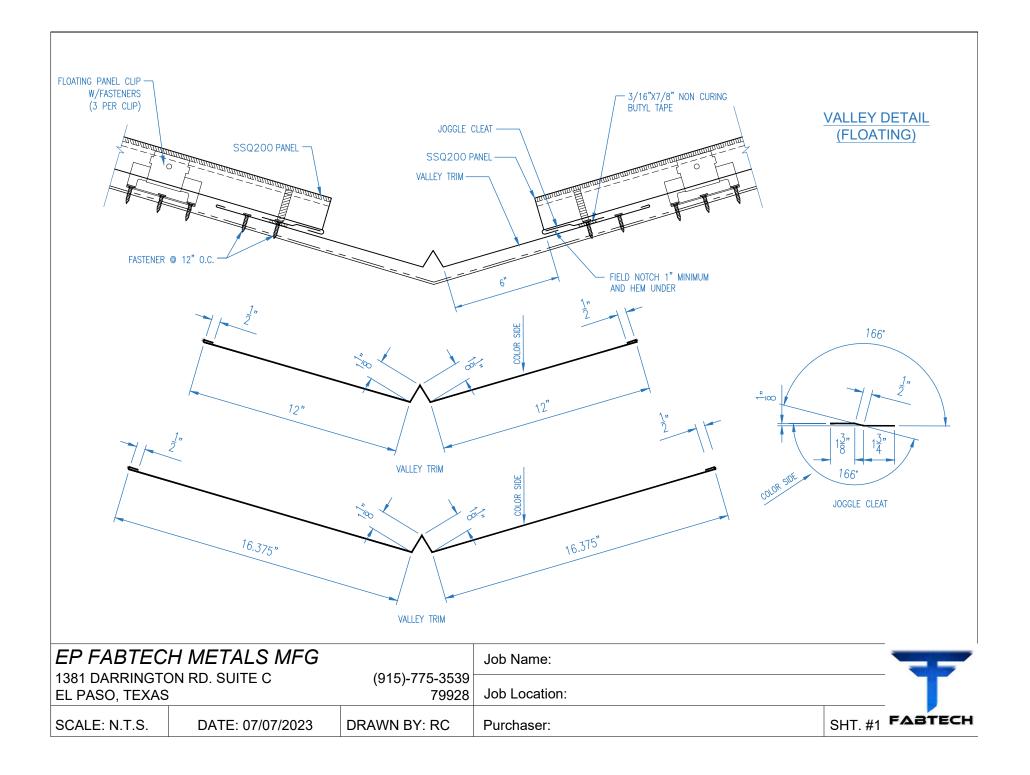




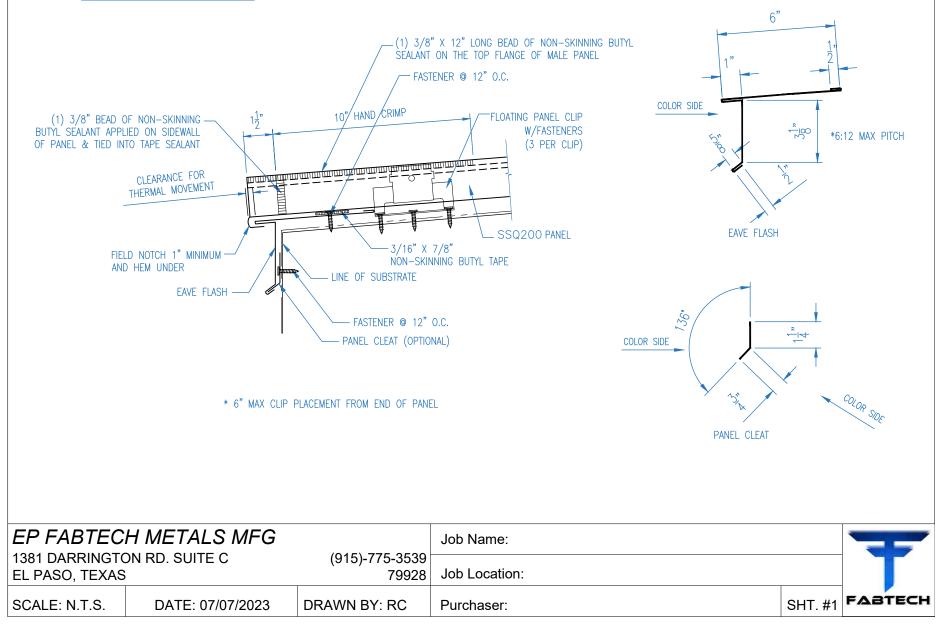


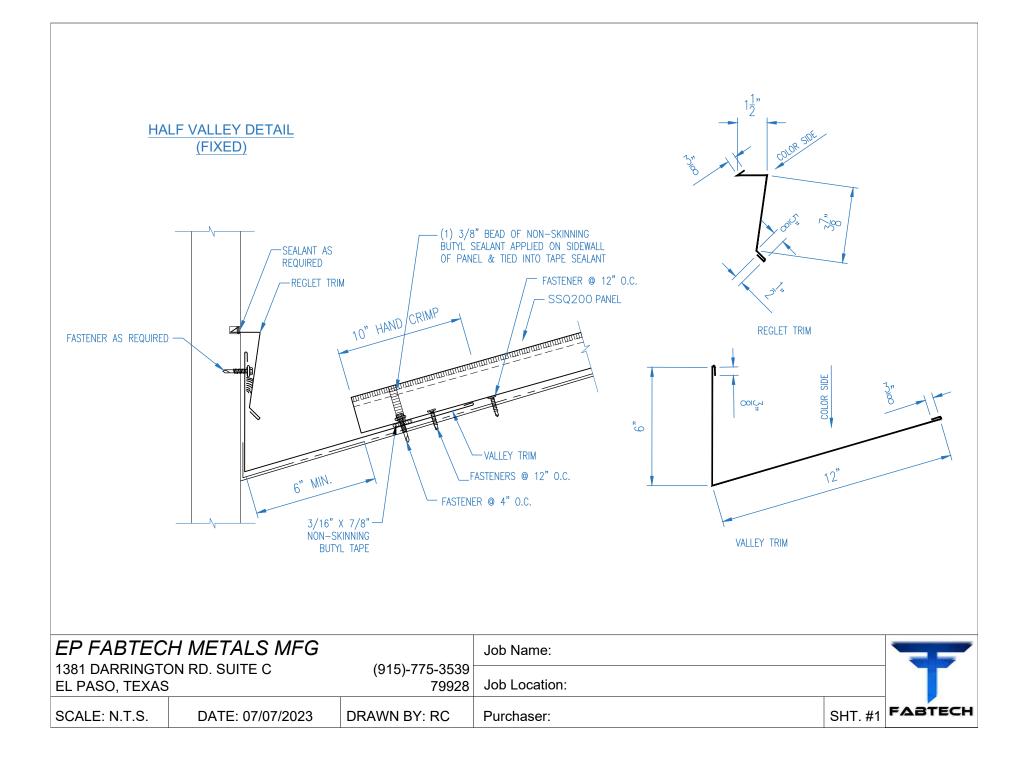


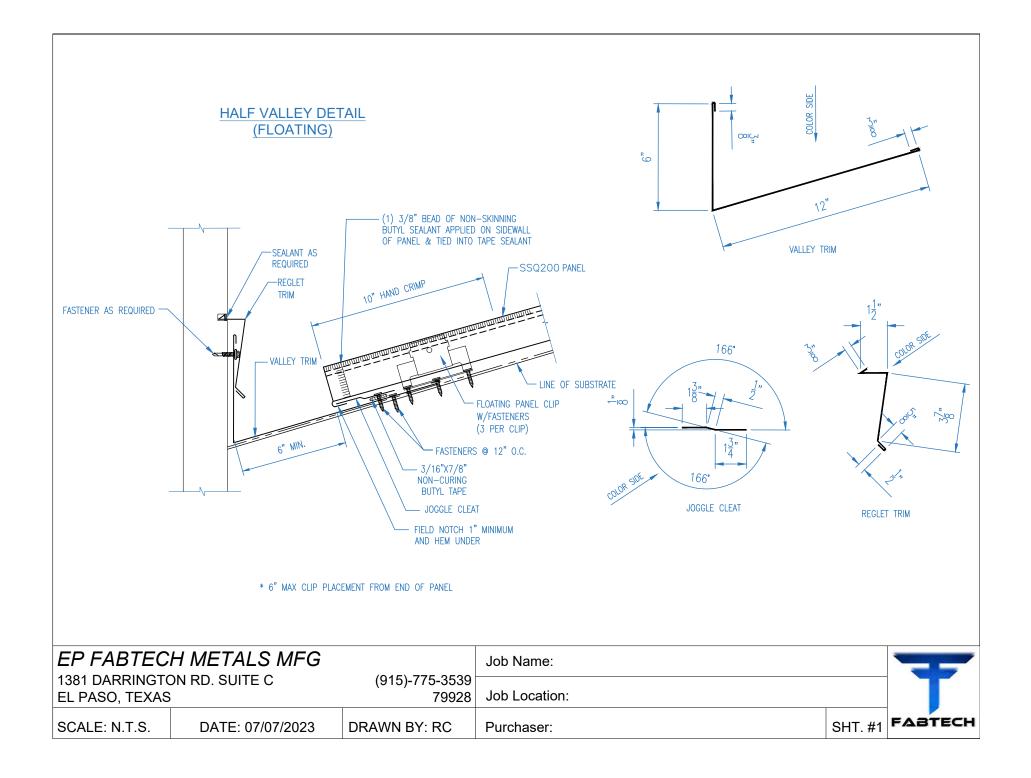


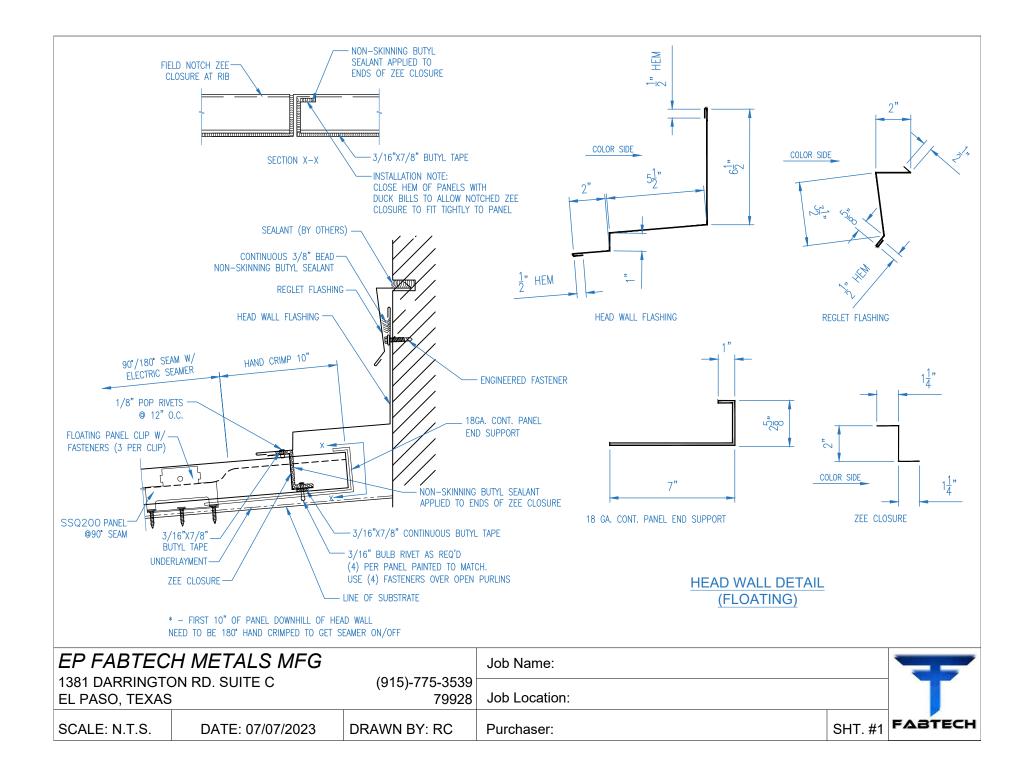


#### **BULL NOSE EAVE DETAIL**









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