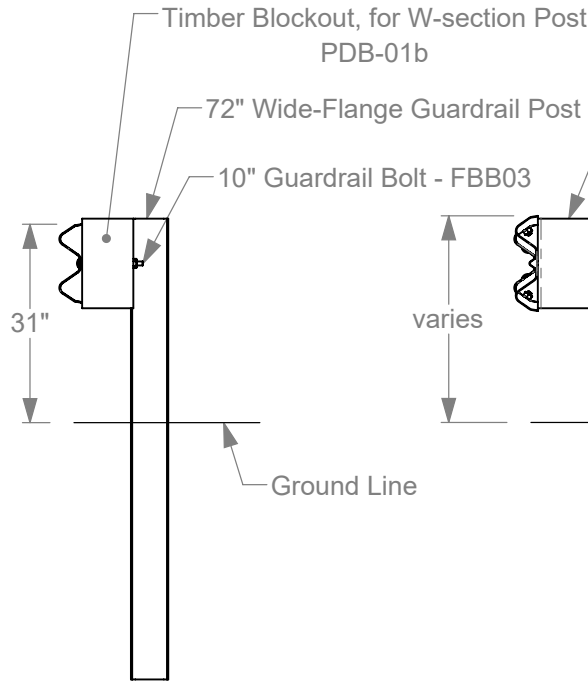
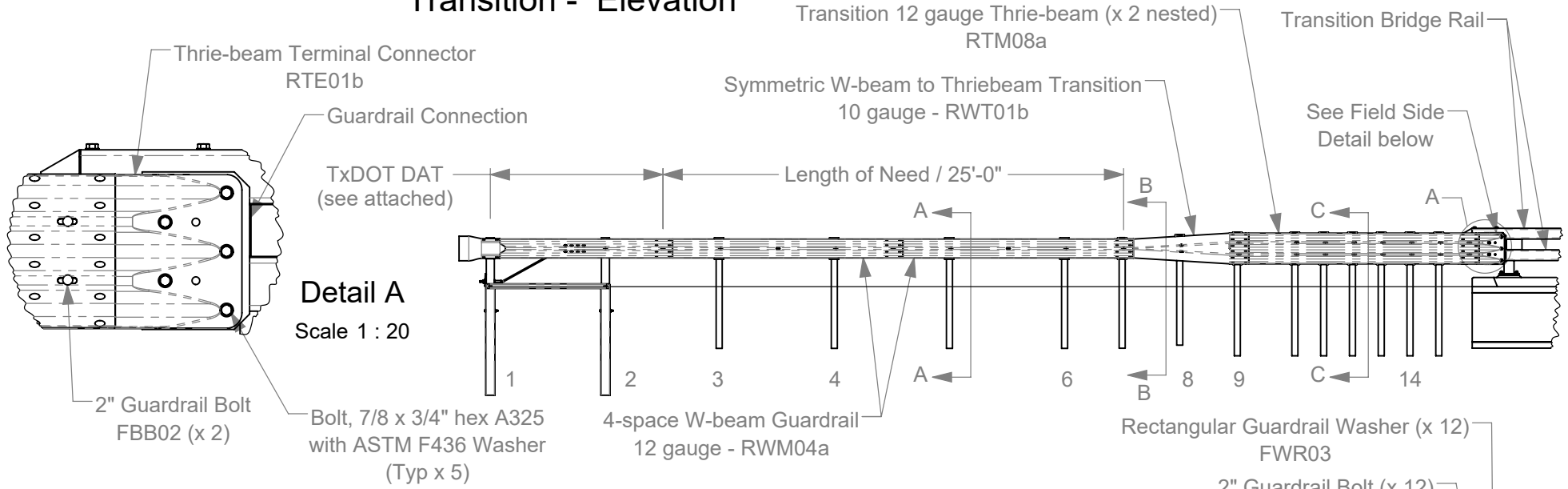
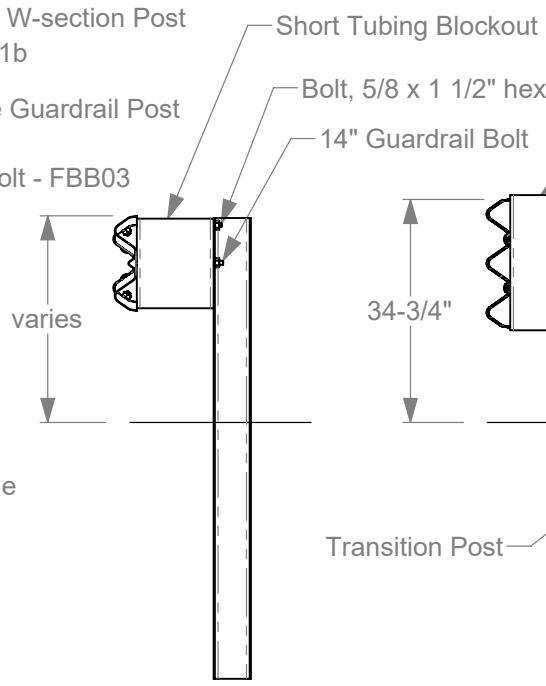


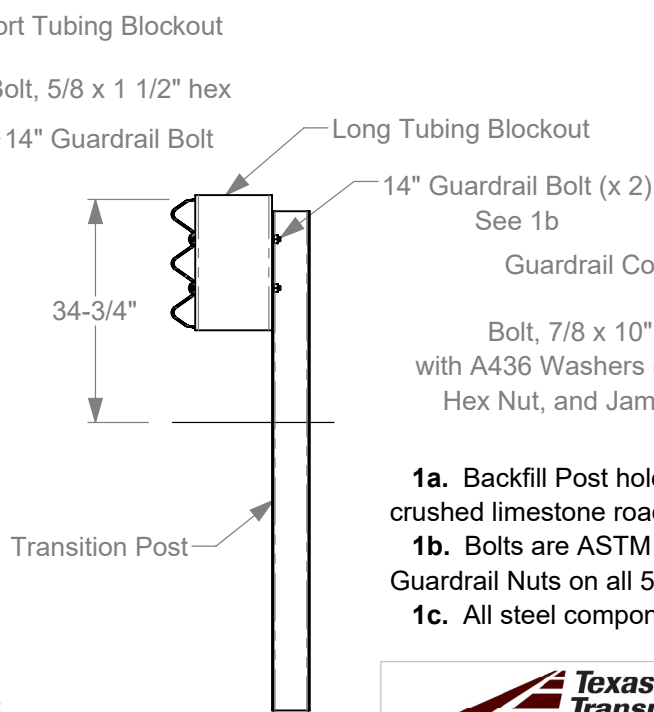
# Transition - Elevation



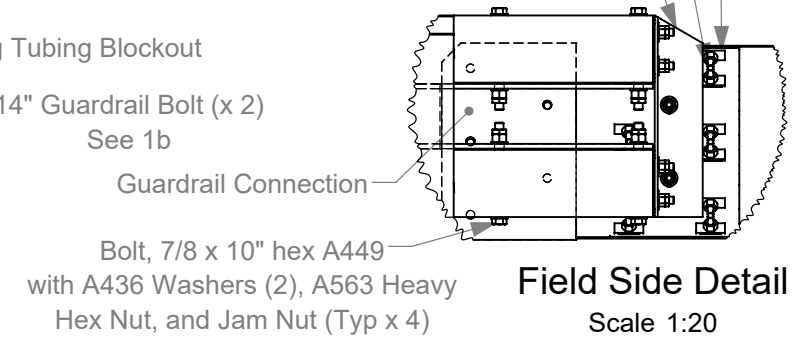
**Section A-A**  
Scale 1 : 30  
Typical @ Posts 3 - 6



**Section B-B**  
Scale 1 : 30  
Typ @ Posts 7 and 8



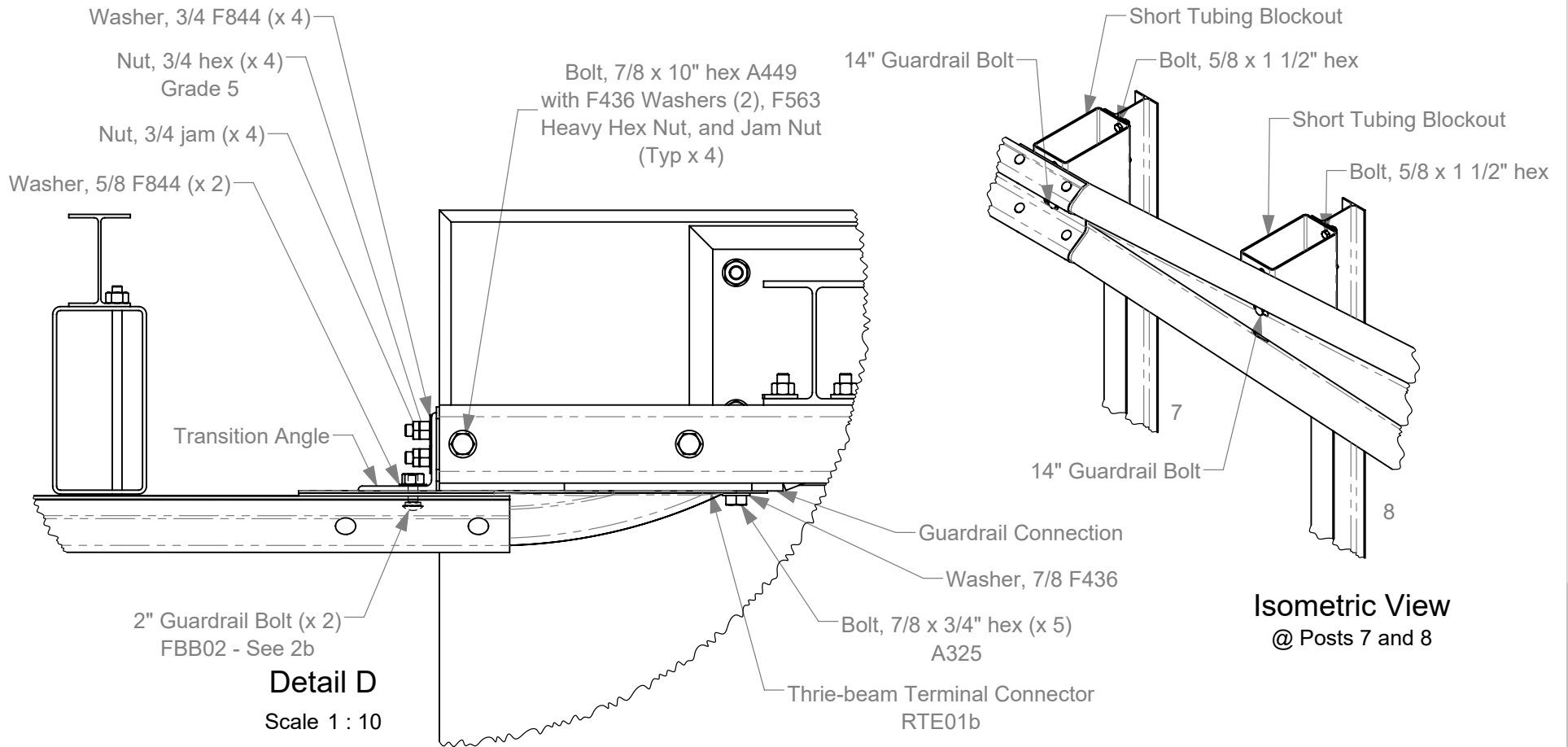
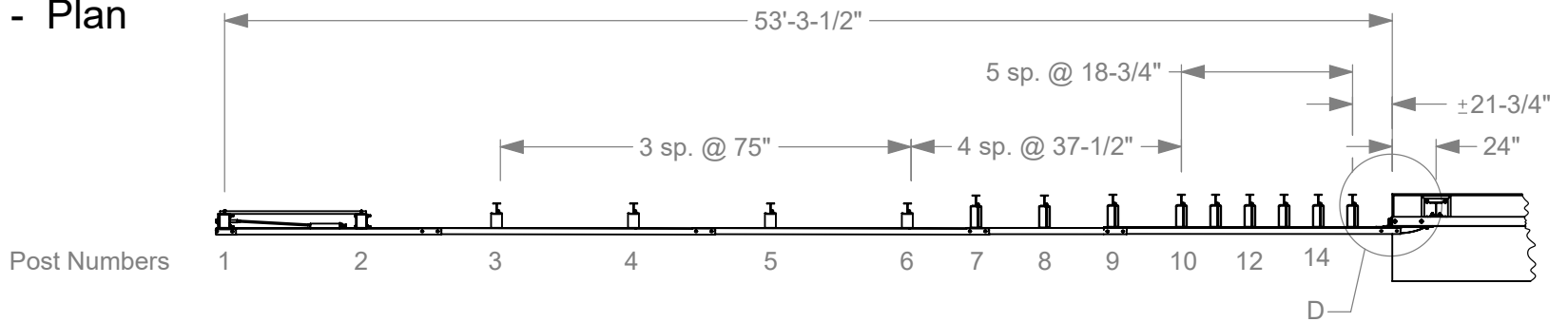
**Section C-C**  
Scale 1 : 30  
Typ @ Posts 9 - 15



- 1a.** Backfill Post holes with AASHTO M147-65(2004), grade B crushed limestone road base, compacted to MASH standard.
- 1b.** Bolts are ASTM A307 unless otherwise indicated. Recessed Guardrail Nuts on all 5/8" Bolts unless otherwise indicated.
- 1c.** All steel components, including hardware, shall be galvanized.

		Roadside Safety and Physical Security Division - Proving Ground	
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Drawn by GES	Scale 1:100	Sheet 1 of 13 Transition - Elevation	

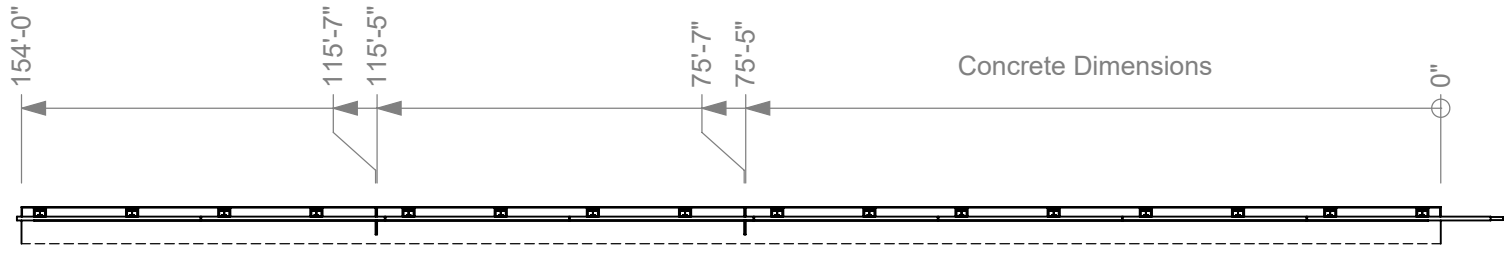
# Transition - Plan



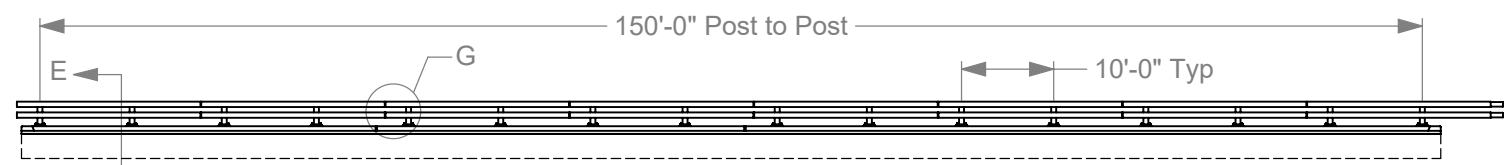
- 2a. Backfill Post holes with AASHTO M147-65(2004), grade B crushed limestone road base, compacted to MASH standard.
- 2b. Recessed Guardrail Nuts on all 5/8" Bolts unless otherwise indicated.
- 2c. All steel components, including hardware, shall be galvanized.

	Roadside Safety and Physical Security Division - Proving Ground	
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Drawn by GES	Scale 1:100	Sheet 2 of 13 Transition - Plan

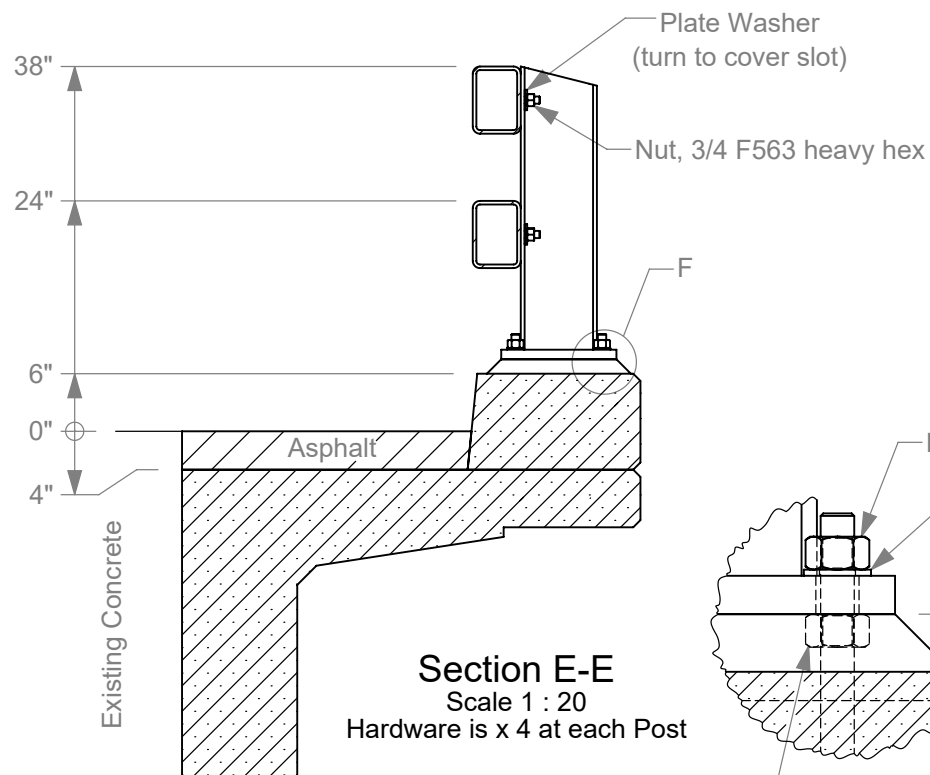
# Bridge Rail Details



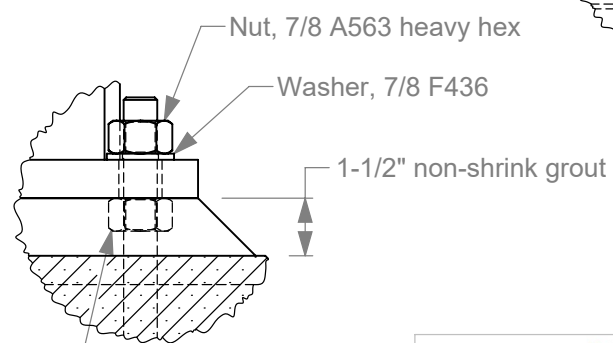
Plan View



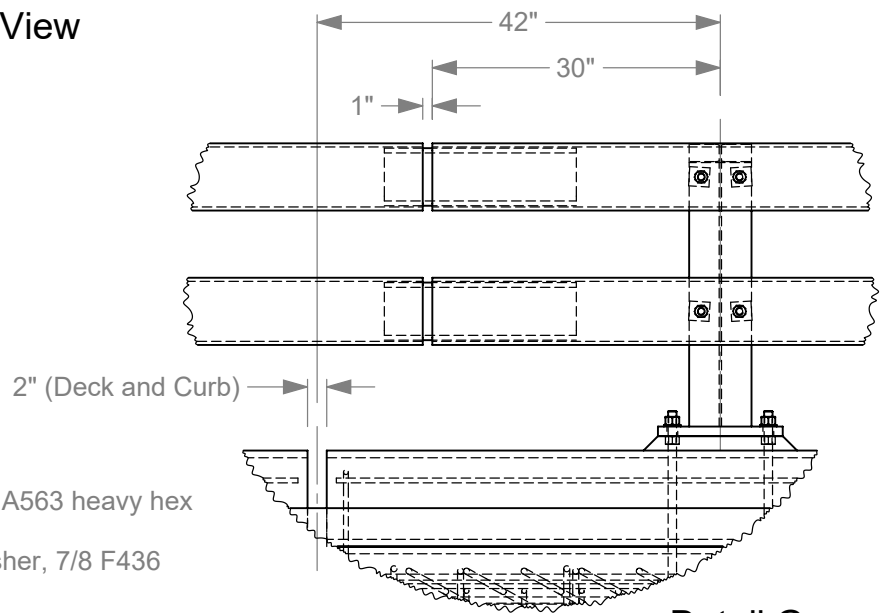
Elevation View




**Section E-E**  
Scale 1 : 20  
Hardware is x 4 at each Post



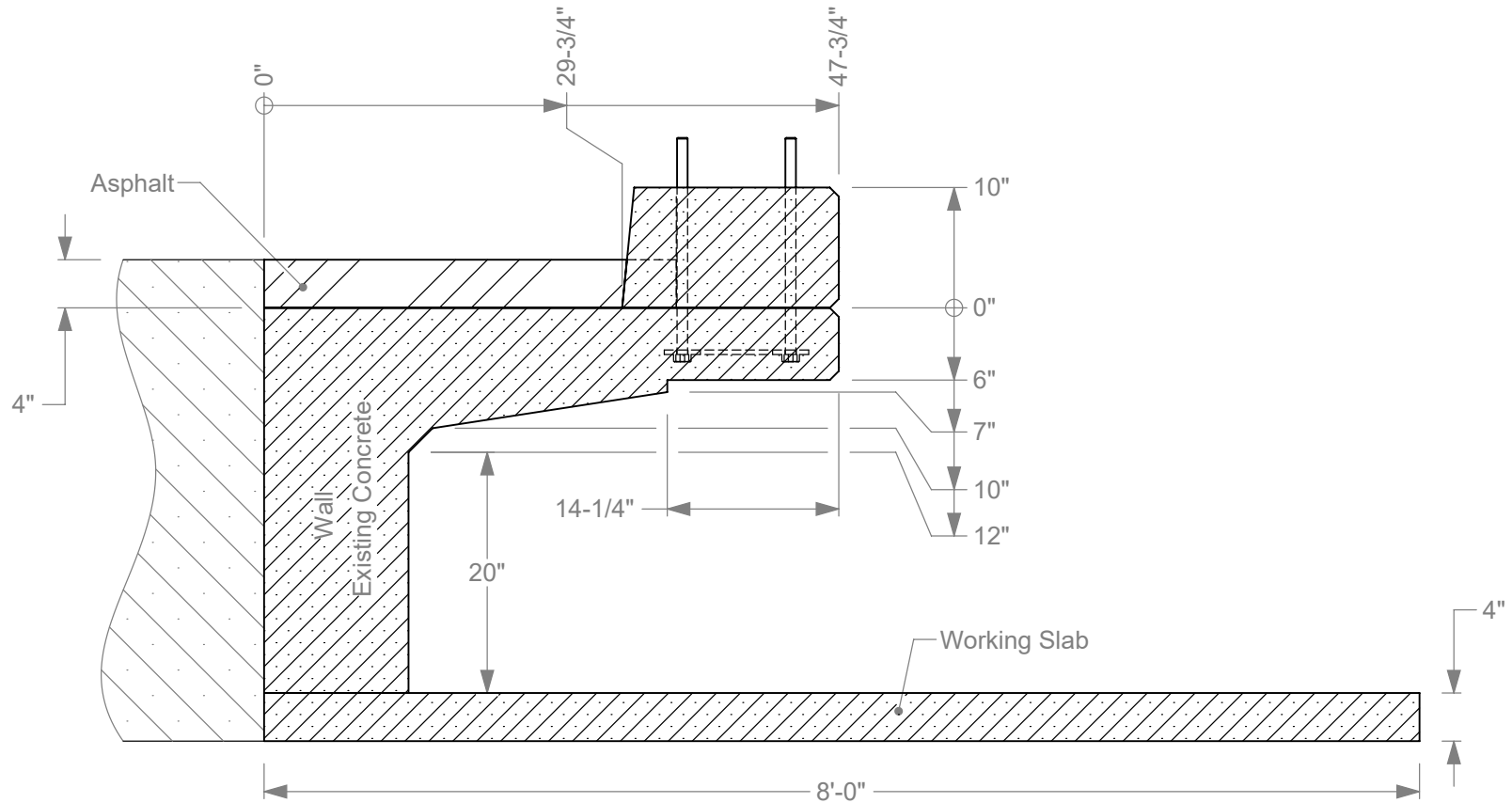
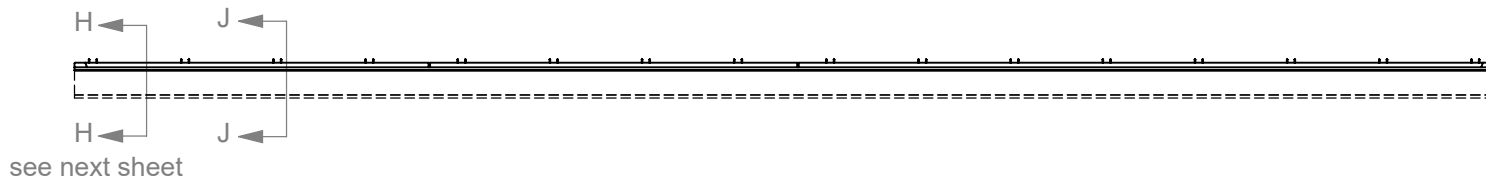
Nut, 7/8 A563 heavy hex  
ASTM A563  
**Detail F**  
Scale 1 : 5



**Detail G**  
Scale 1 : 20  
Typ each Rail joint (7)  
and Deck and Curb joint (2)

	Roadside Safety and Physical Security Division - Proving Ground	
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Drawn by GES	Scale 1:250	Sheet 3 of 13 Bridge Rail Details

# Concrete Details, Elevation



**Section J-J**  
Scale 1 : 15

- 4a.** Concrete Strength is 5000psi for the Wall and Deck, 3000 psi for the Working Slab, and 4000 psi for the Curb.
- 4b.** Chamfer Field Side edges of Deck, and field side and top edges at end of Curb 3/4" each way as shown.



Roadside Safety and  
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Proving Ground

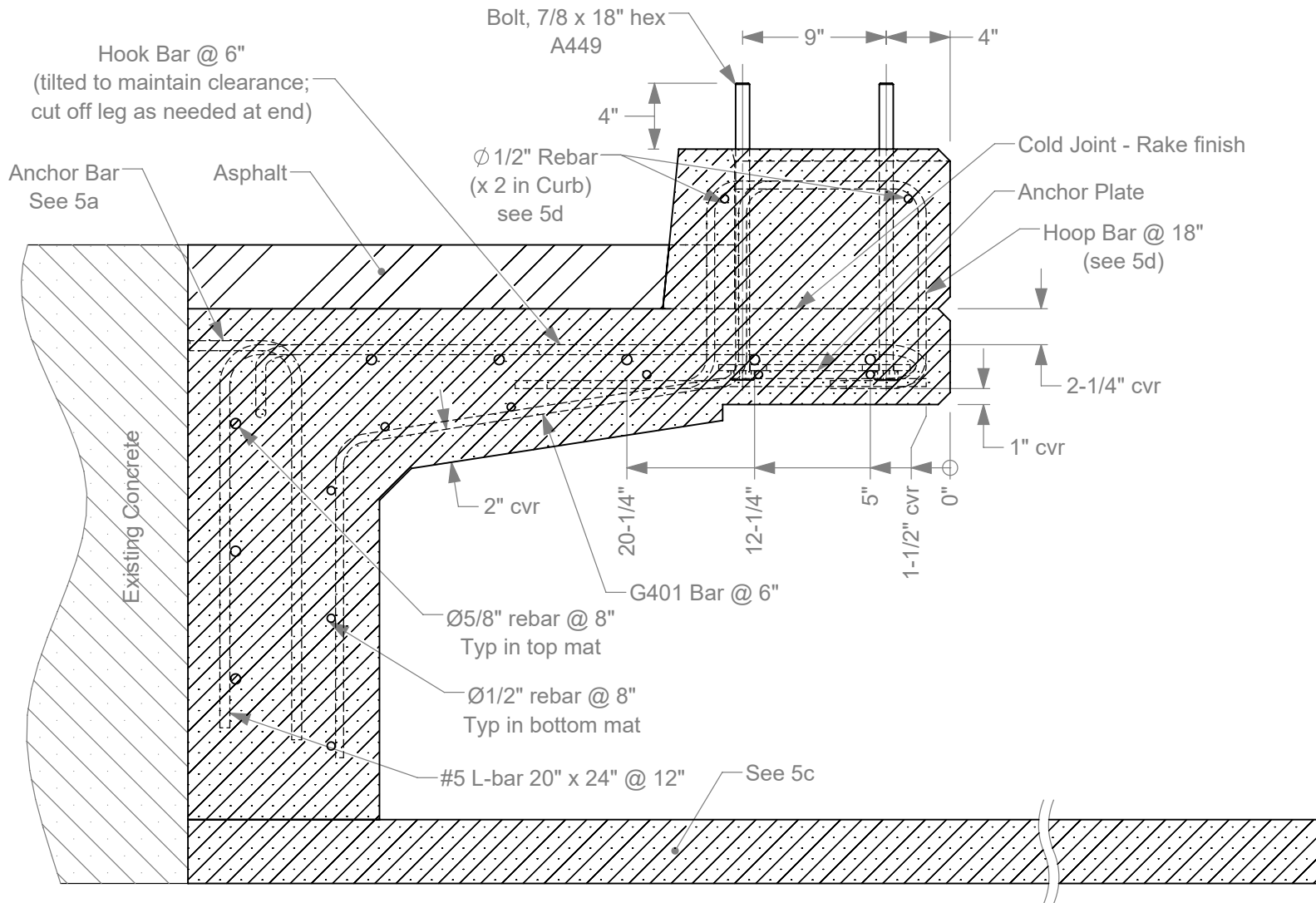
Project #608331 4-6 Alaska Bridge Transition

2019-07-03

Drawn by GES

Scale 1:250

Sheet 4 of 13 Concrete Details, Elevation



### Section H-H

Scale 1 : 10

**5a.** Place the Anchor Bars @ maximum 18" spacing and secure to existing rebar protruding from the runway with minimum 3" weld. (Existing rebar not shown here.)

**5b.** Minimum rebar lap is 24" for #4 bars and 30" for #5 bars.

**5c.** Place one mat of Ø1/2" (#4) bars in Working Slab @ 12" each way with ≈1-1/2" cover at top. These bars are not shown here.

**5d.** Field bend traffic side longitudinal bar and turn Hoop Bars at ends of Curb to maintain cover.

**5e.** The Anchor Bars will be bare steel, and the bars in the Working Slab may be bare steel. All other bars shall be epoxy coated, and all bars are grade 60.



Roadside Safety and  
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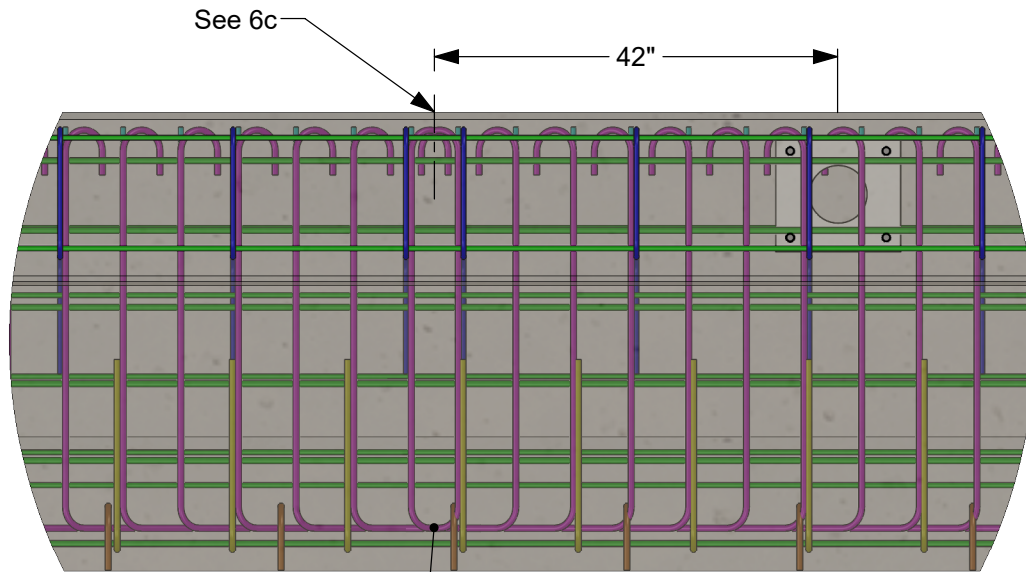
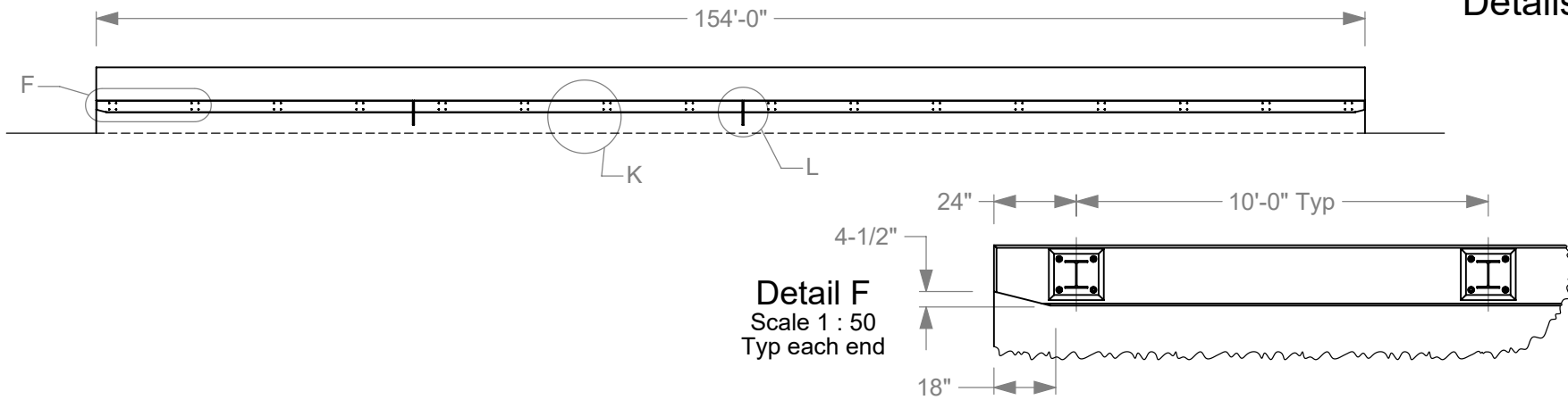
2019-07-03

Drawn by GES

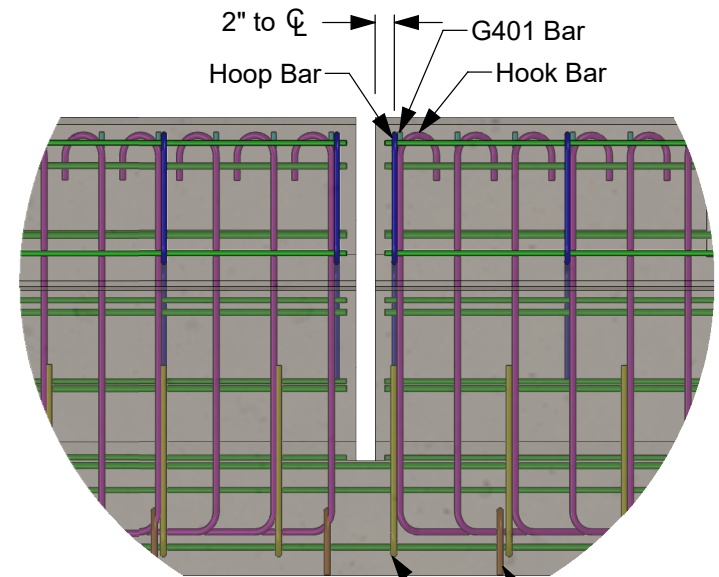
Scale 1:10

Sheet 5 of 13 Rebar Details

# Details, Plan



**Detail K**  
Scale 1 : 20



**Detail L**  
Scale 1 : 20  
Typ each Joint

- 6a.** Concrete Strength is 5000psi for the Wall and Deck, 3000 psi for the Working Slab, and 4000 psi for the Curb.
- 6b.** Chamfer Field Side edges of Deck, and field side and top edges at end of Curb 3/4" each way as shown.
- 6c.** Rebar placement shown in Detail View at joint is typical each joint. Adjust spacing and Hook Bar direction as needed at location shown.



Roadside Safety and Physical Security Division - Proving Ground

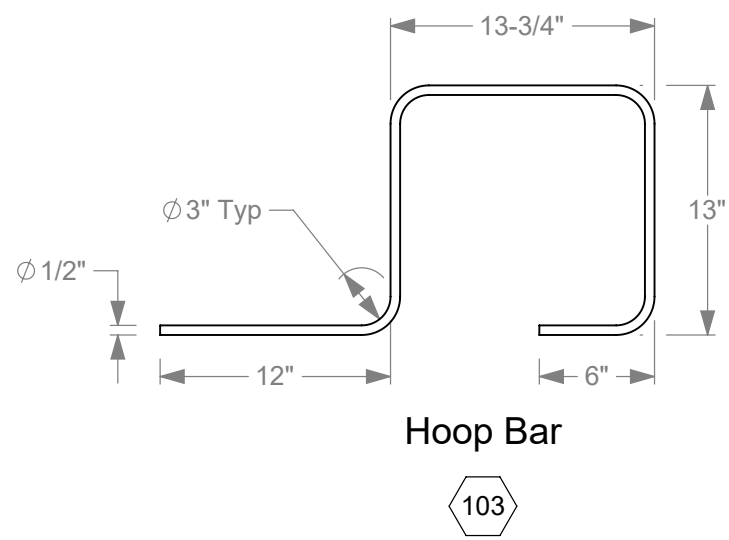
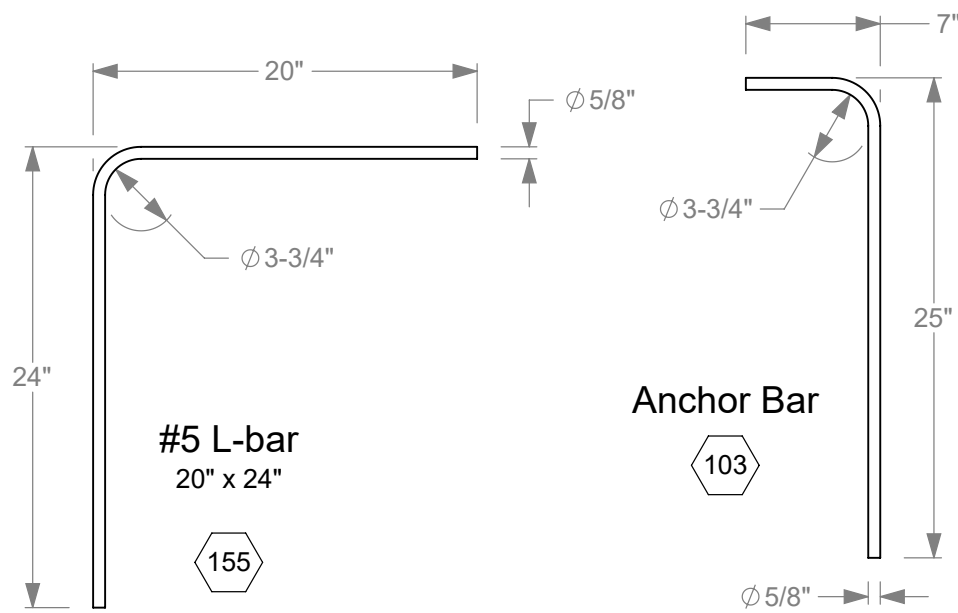
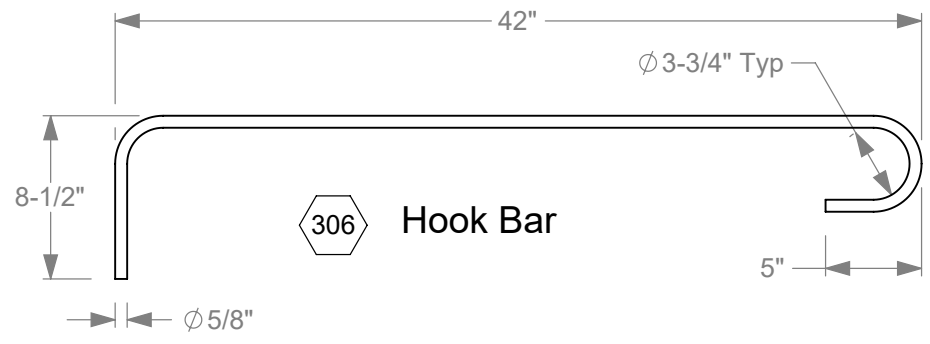
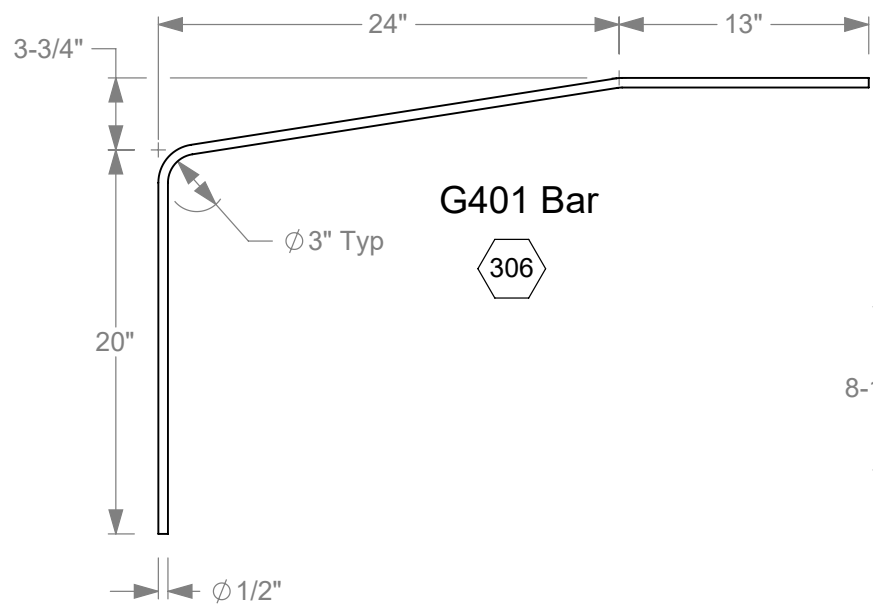
Project #608331 4-6 Alaska Bridge Transition

2019-07-03

Drawn by GES

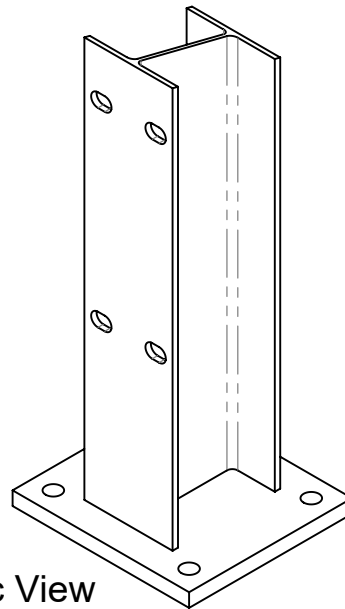
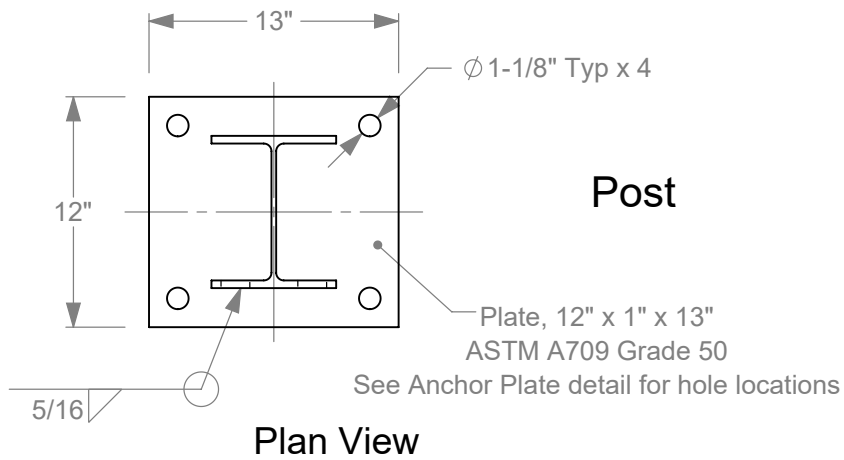
Scale 1:250

Sheet 6 of 13 Details, Plan

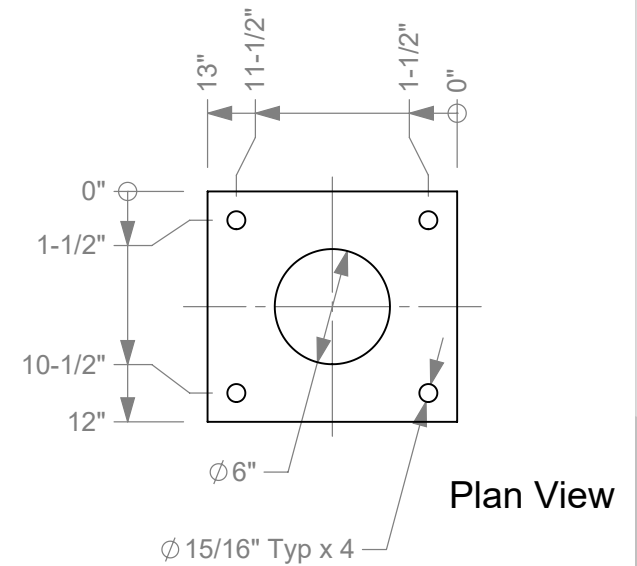
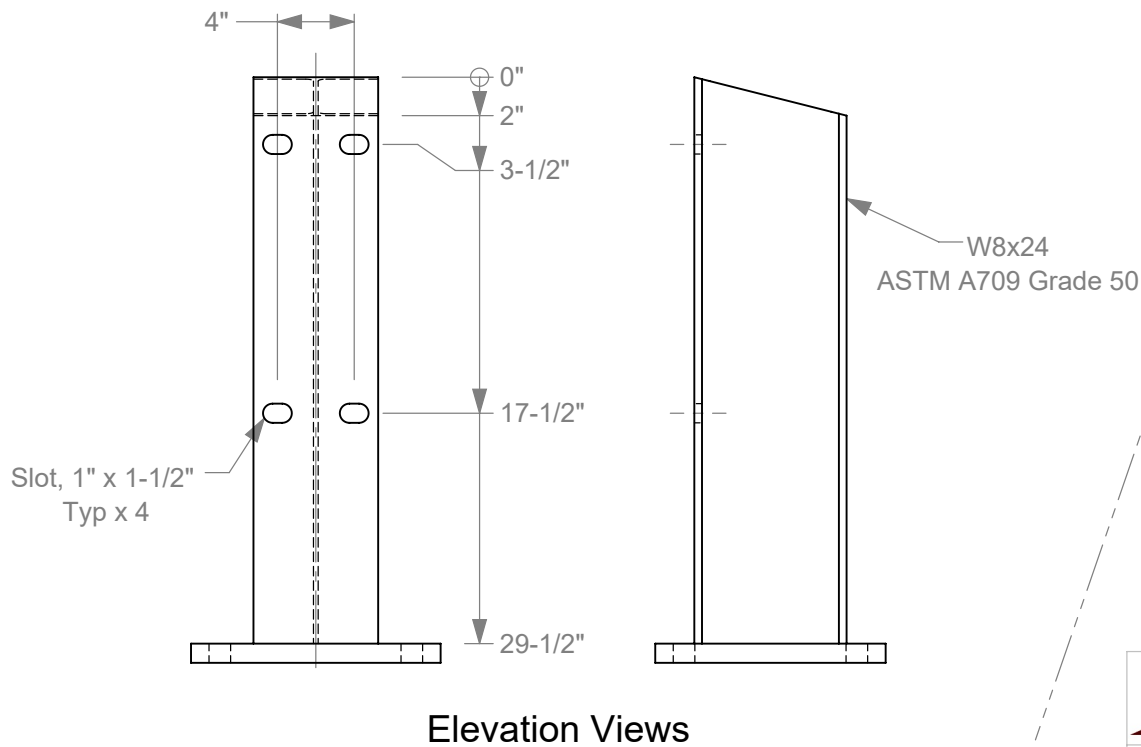
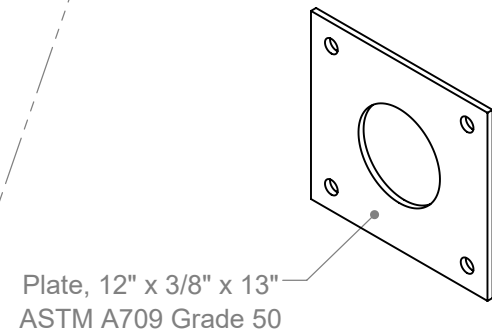


**7a.** All bent bars, and all longitudinal bars in the Curb, Deck and Wall shall be epoxy coated. All bars are grade 60..

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Drawn by GES	Scale 1:10	Sheet 7 of 13 Rebar



Anchor Plate



Roadside Safety and  
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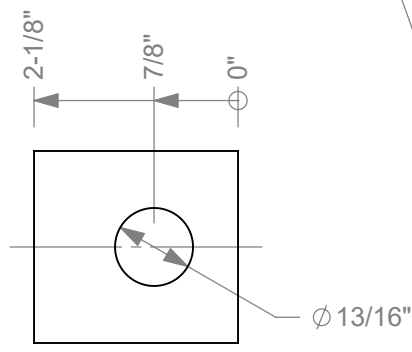
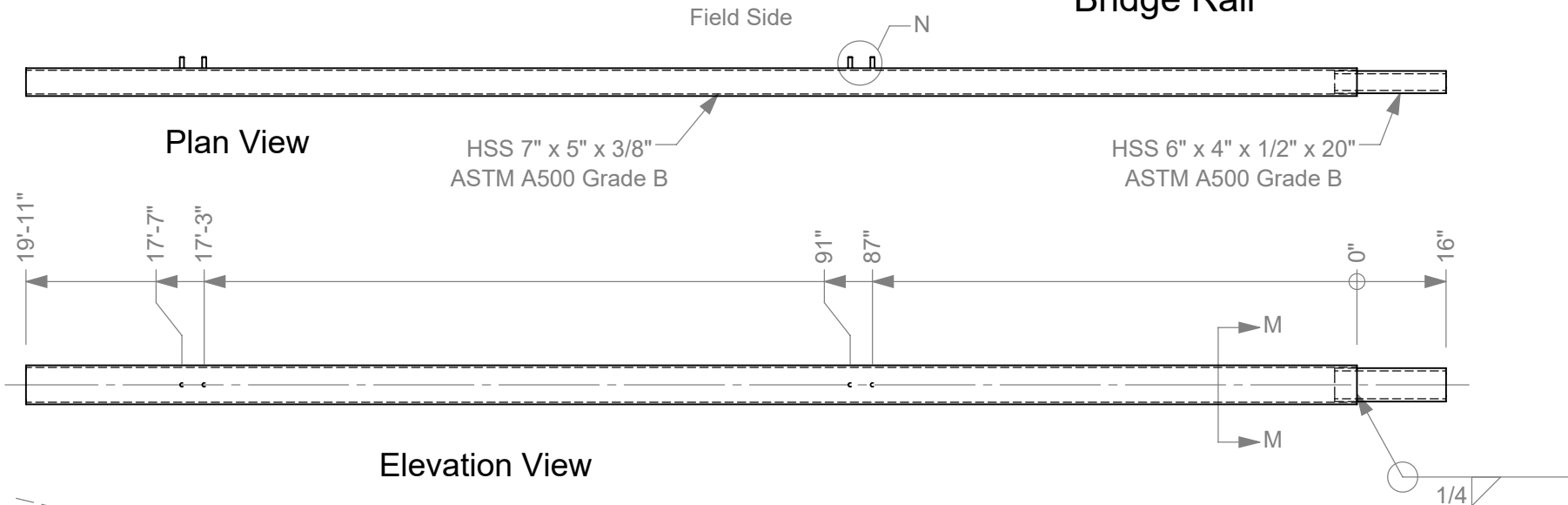
Drawn by GES

Scale 1:10

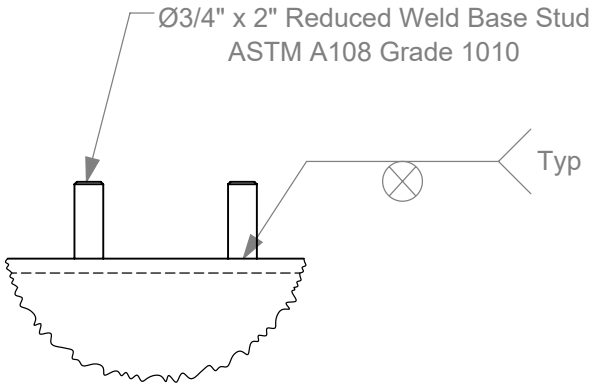
Sheet 8 of 13 Post and Anchor Plate



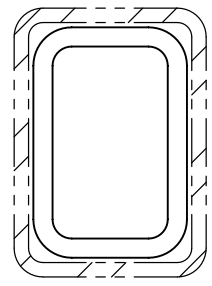
# Bridge Rail



**Plate Washer**  
Plate, 2" x 1/4" x 2 1/8"  
ASTM A709 Grade 36



**Detail N**  
Scale 1 : 5



**Section M-M**  
Scale 1 : 5

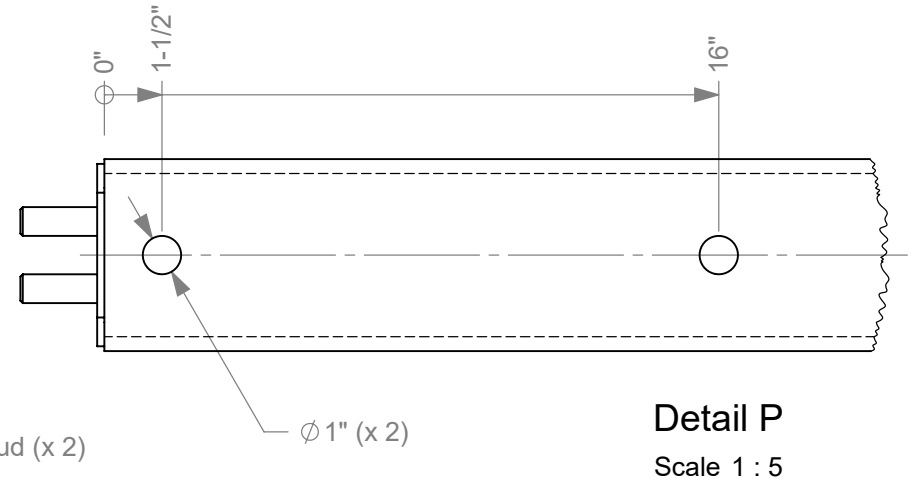
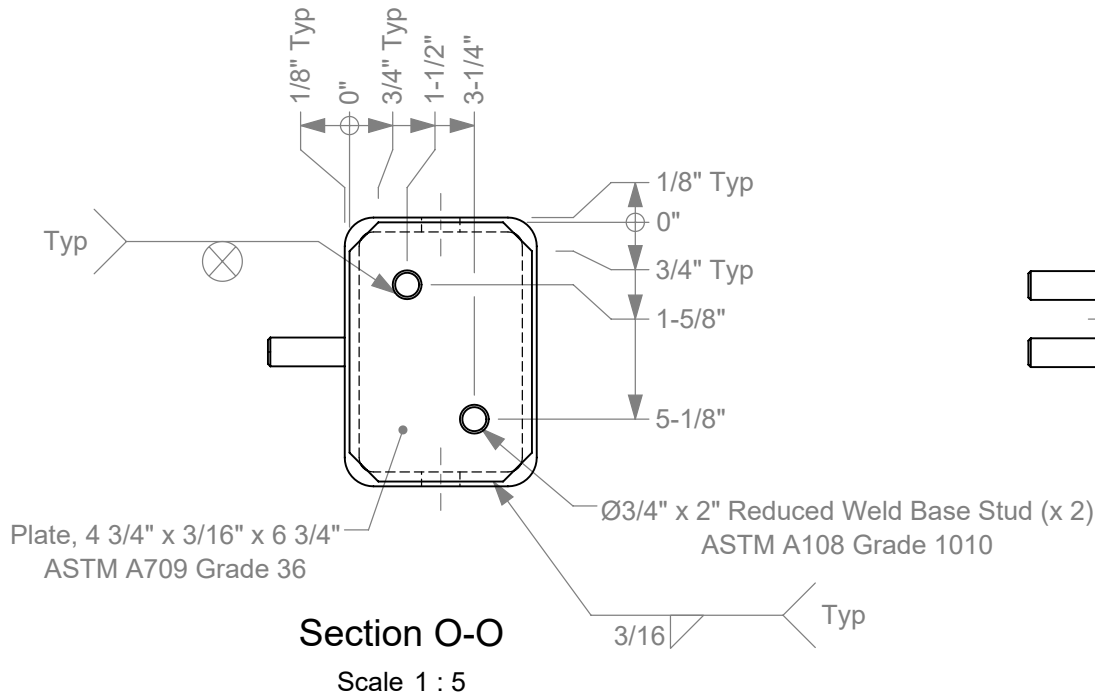
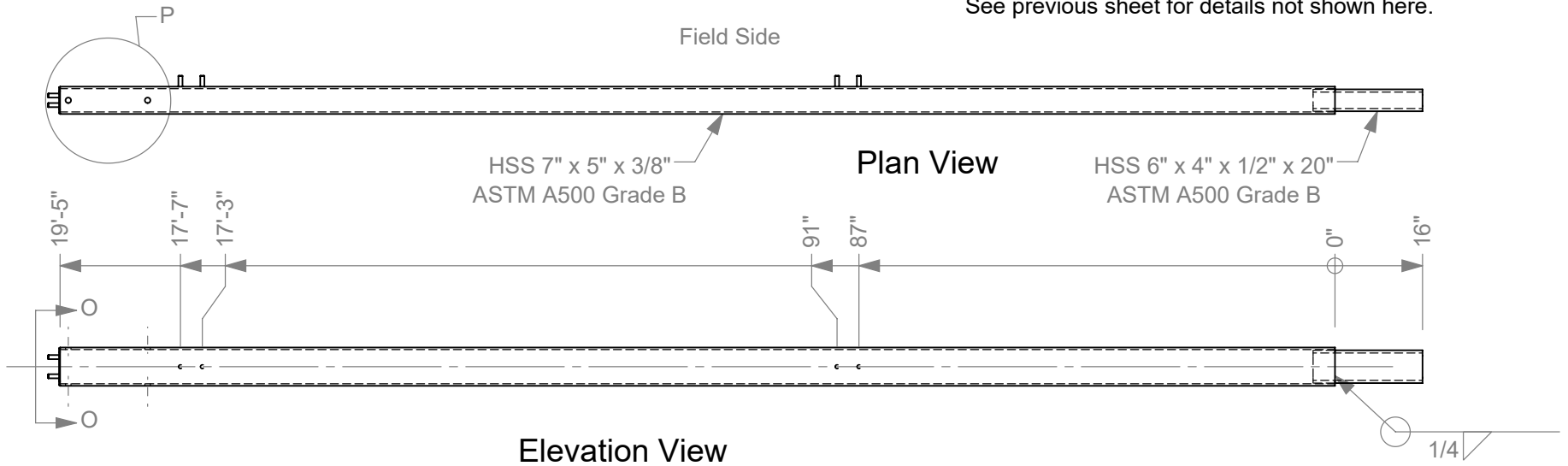


Roadside Safety and  
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Drawn by GES	Scale 1:30	Sheet 9 of 13 Rail and Plate Washer

# Transition Rail

See previous sheet for details not shown here.



Roadside Safety and Physical Security Division - Proving Ground

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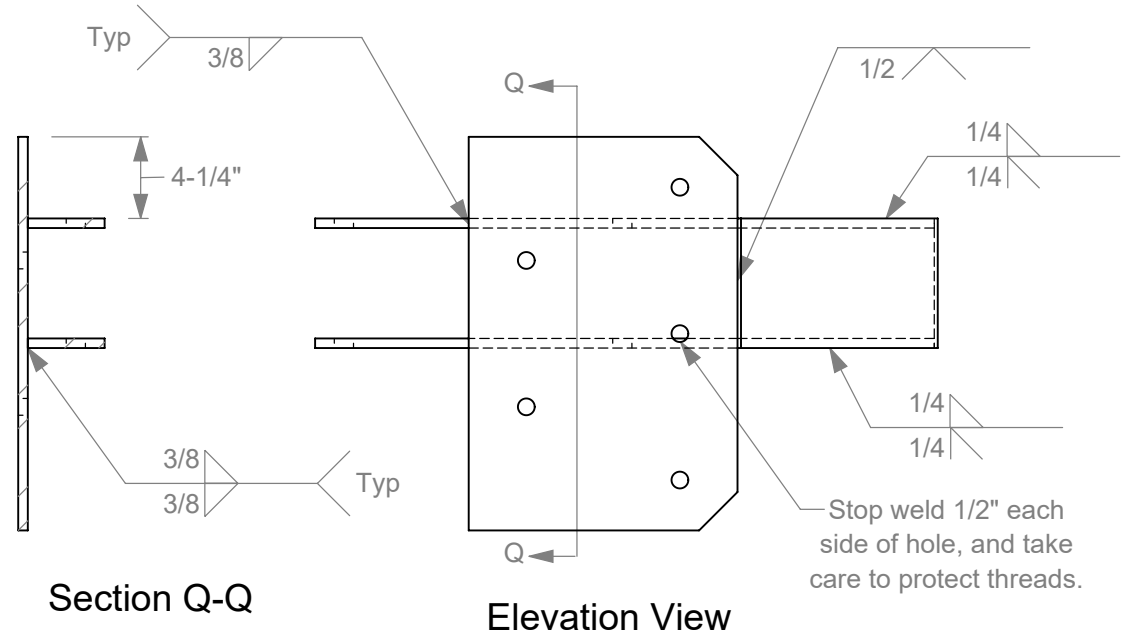
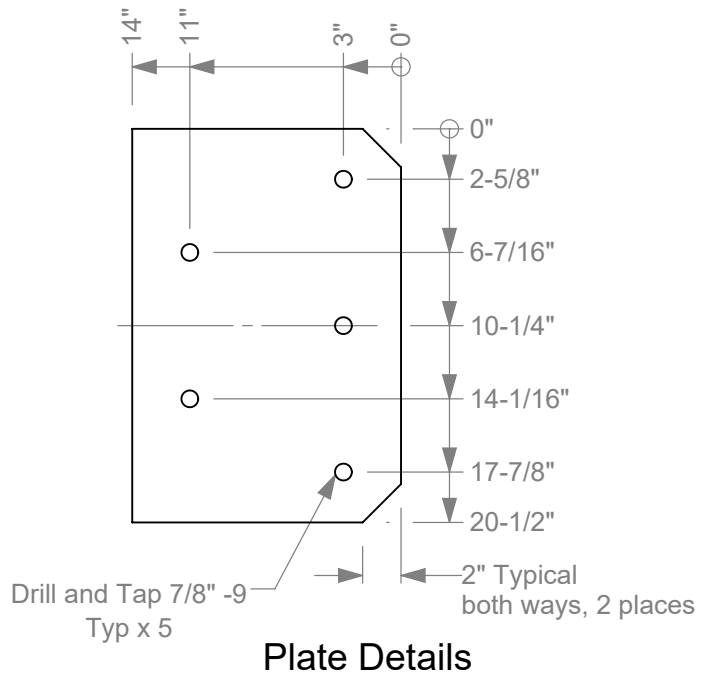
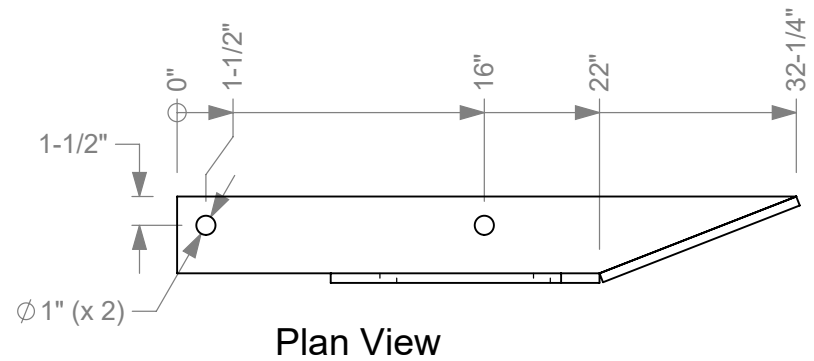
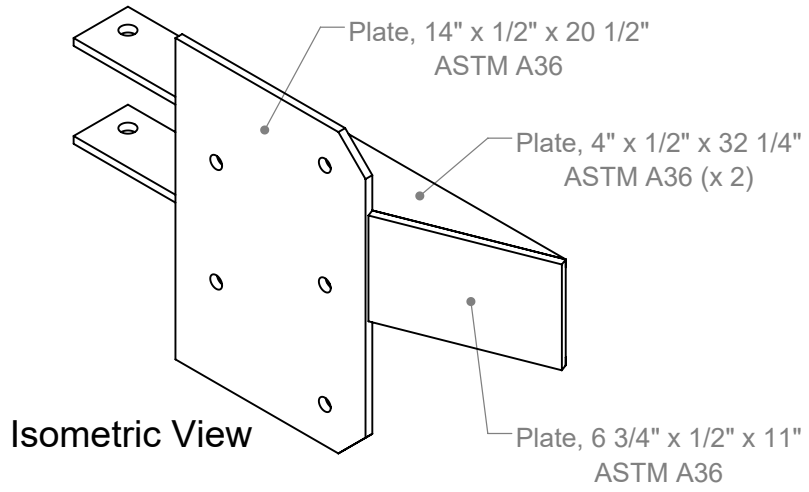
2019-07-03

Drawn by GES

Scale 1:30

Sheet 10 of 13 Transition Rail

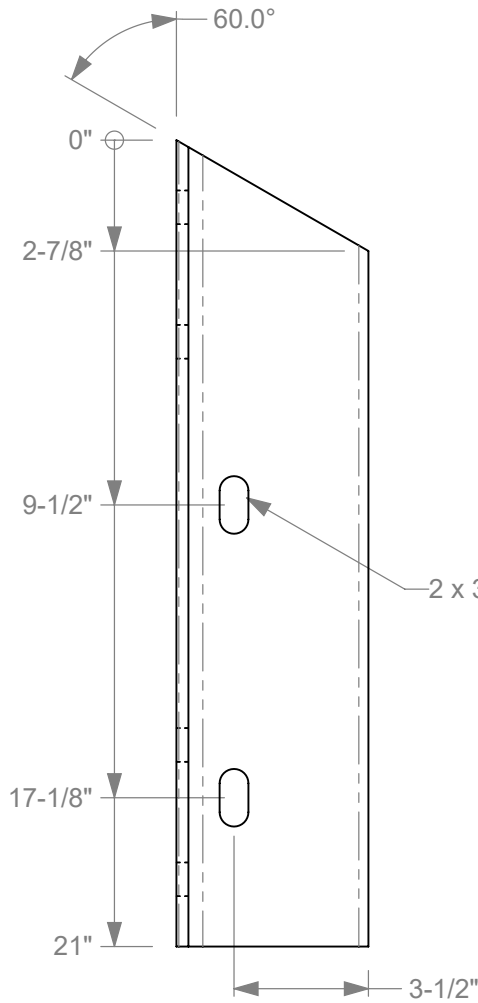
# Guardrail Connection



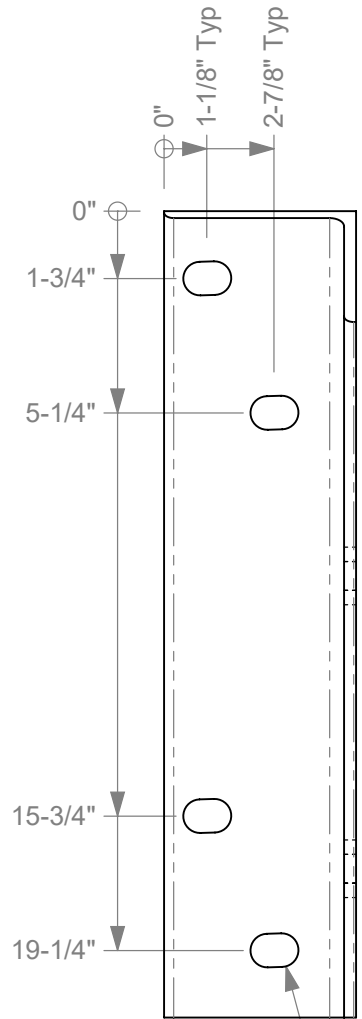
- 11a. All welding must be performed by certified welders using industry standard practices.
- 11b. Galvanize all components after fabrication is complete.

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Drawn by GES	Scale 1:10	Sheet 11 of 13 Guardrail Connection

# Transition Angle



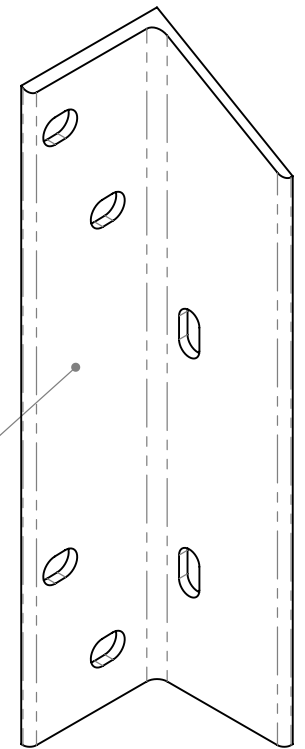
2 x 3/4" X 1-1/2" THRU ALL



Elevation Views

4 x 7/8" X 1-1/4" THRU ALL

L 5" x 5" x 5/16" x 21"  
ASTM A36



Isometric View

12a. Galvanize after fabrication is complete.



Roadside Safety and  
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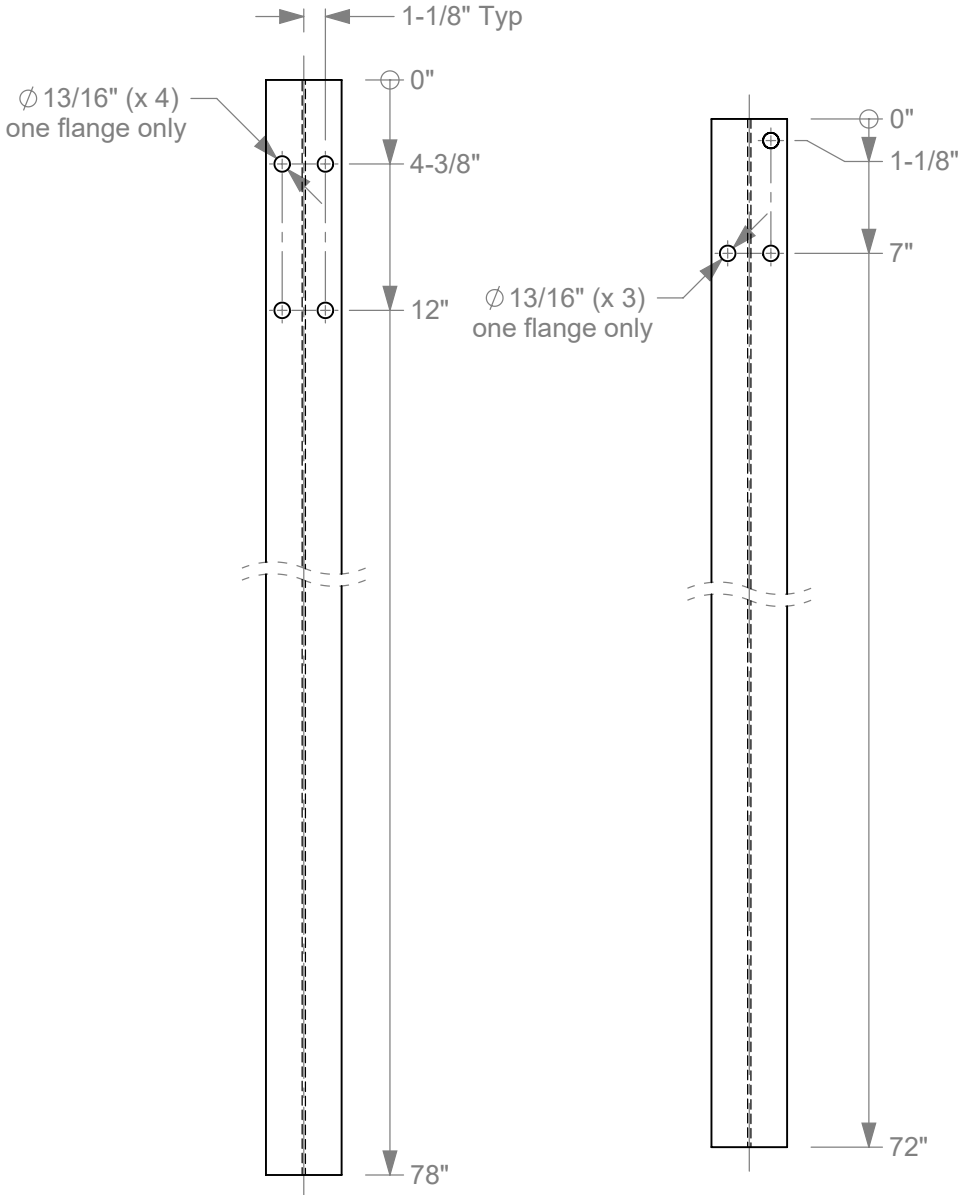
2019-07-03

Drawn by GES

Scale 1:5

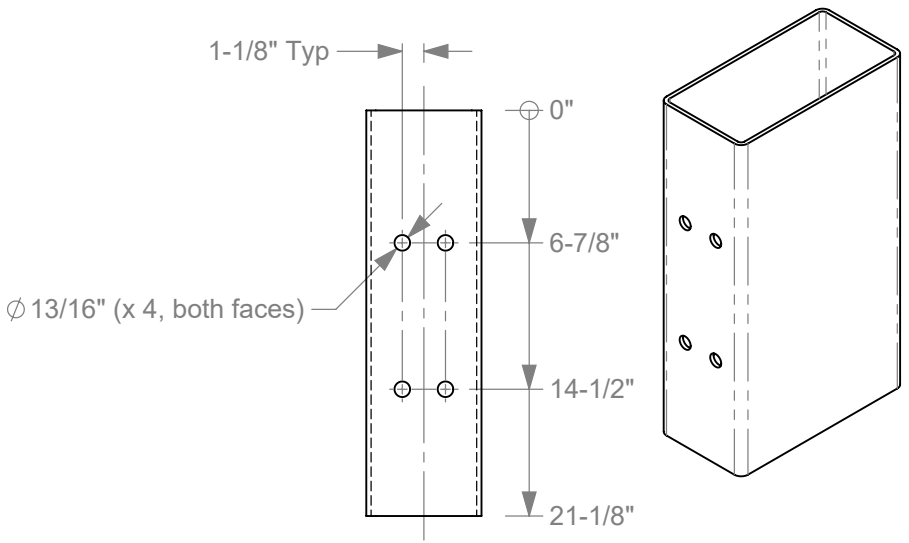
Sheet 12 of 13 Transition Angle

# Posts and Blockouts

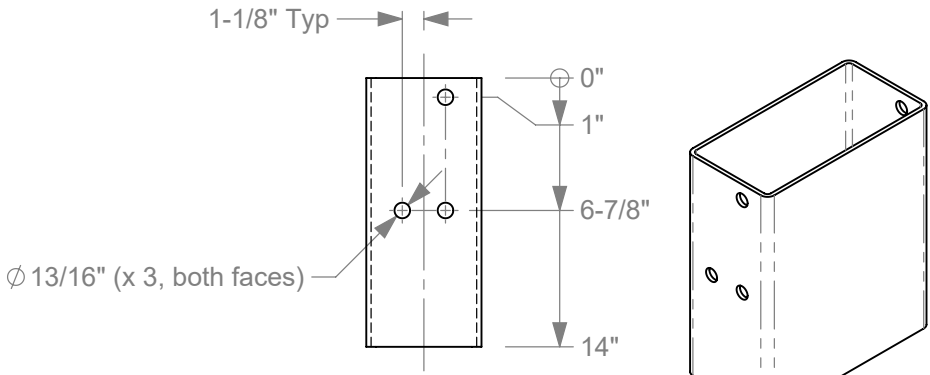


**Transition Post**  
 W6x8.5 x 78"  
 ASTM A992 Steel  
 (at 9 - 15)

**Posts 7 and 8**  
 W6x8.5 x 72"  
 ASTM A992



**Long Tubing Blockout**  
 HSS 12" x 6" x 1/4"  
 ASTM A500 Grade B



**Short Tubing Blockout**  
 HSS 12" x 6" x 1/4"  
 ASTM A500 Grade B



Roadside Safety and  
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Drawn by GES	Scale 1:10	Sheet 13 of 13 Posts and Blockouts