

STEEL RAIL
6" x 3/8" x 4'-9"

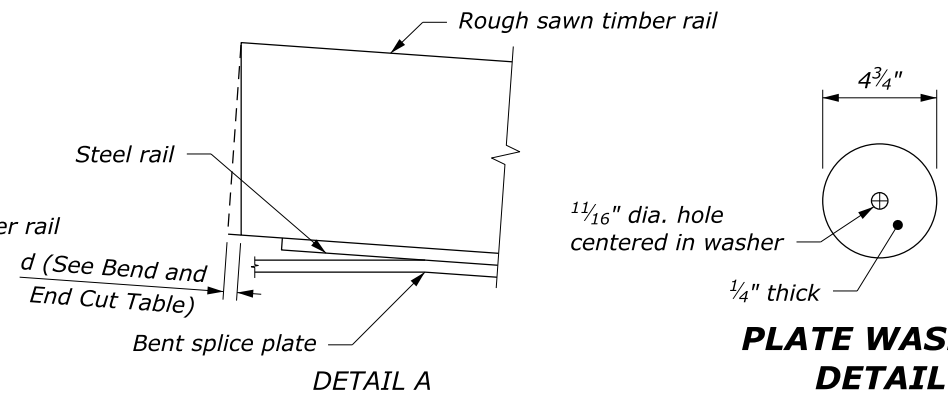
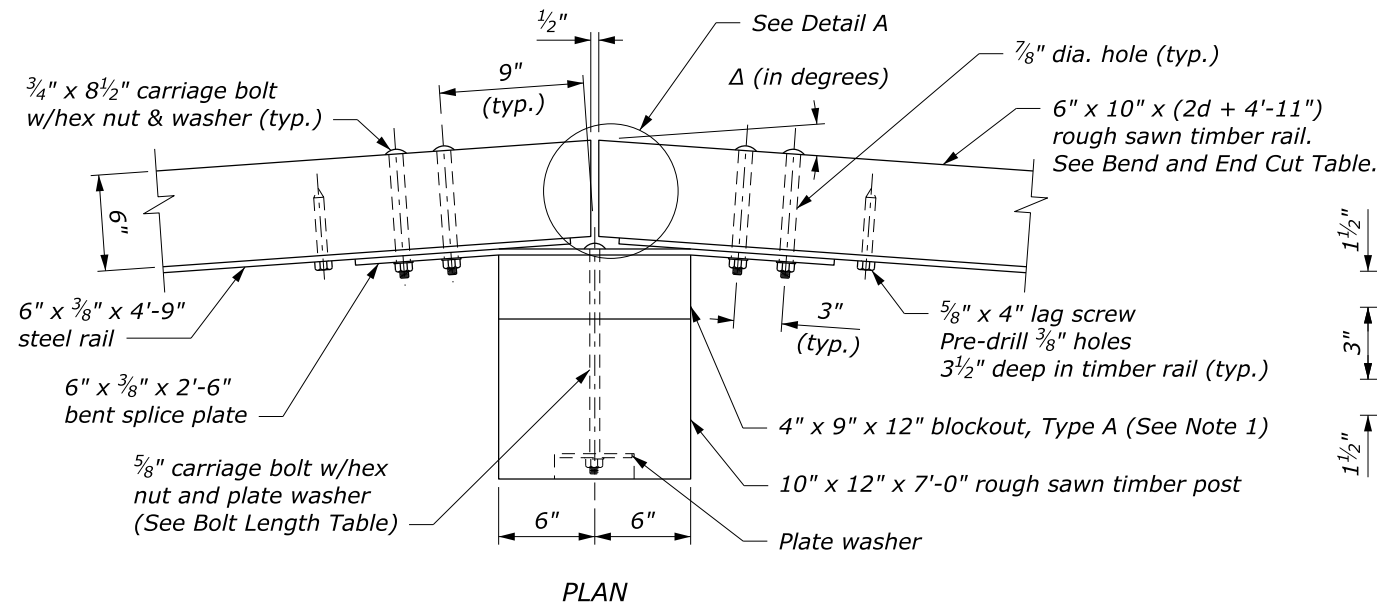


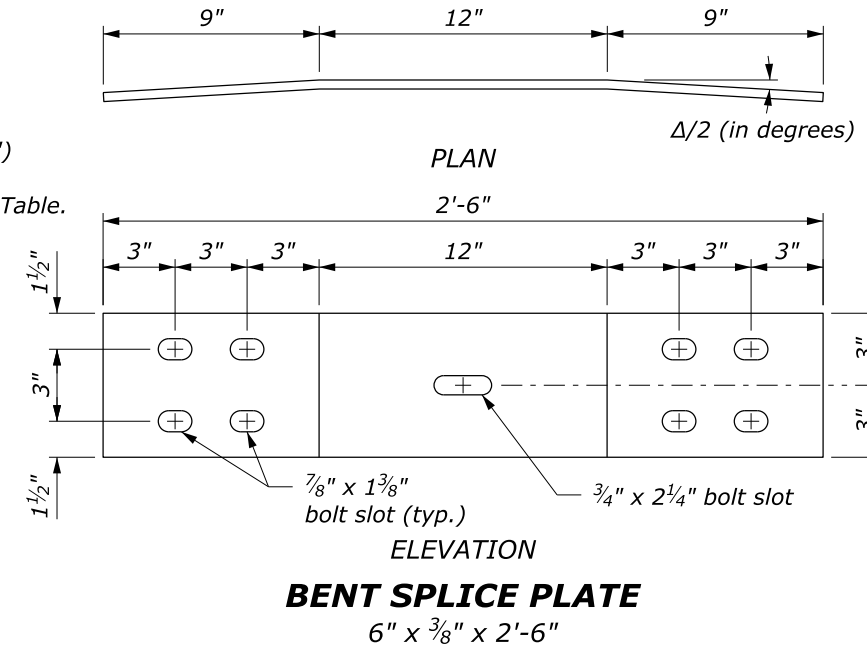
PLATE WASHER DETAIL

NOTE:

1. Use the Type A, blocked-out, system or the Type B, non-blocked-out, system as specified.
2. Use the weathering steel for all structural steel and fastener hardware.
3. Furnish shop bent splice plates. Use the minimum bend angle shown in the table below.
4. See Sheet 2 of 2 for Plan View Layout.



PLAN



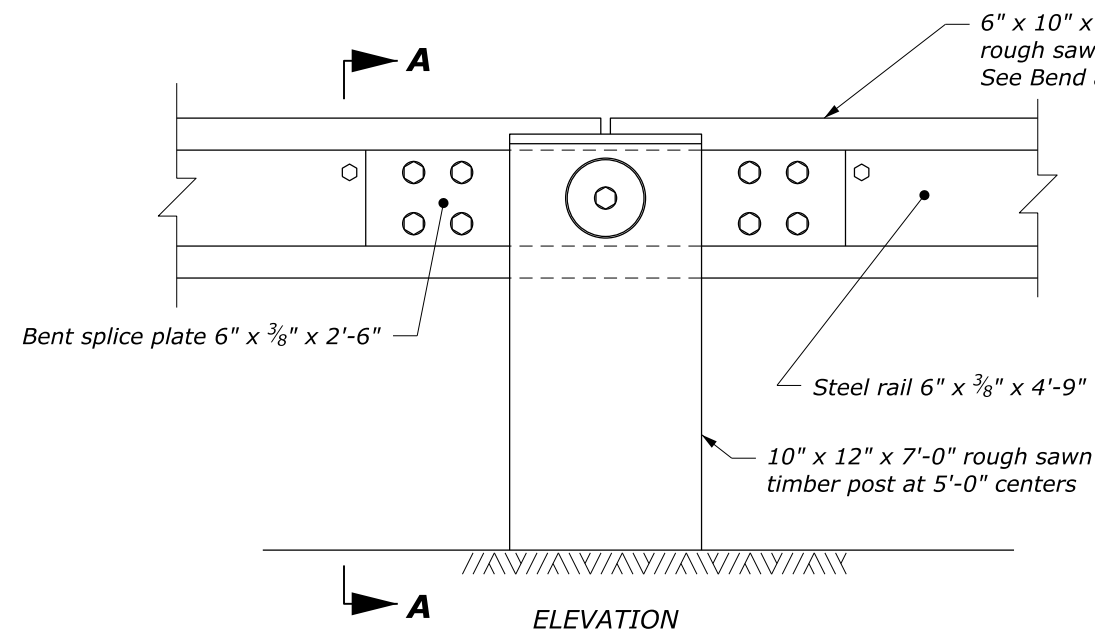
BENT SPLICE PLATE
6" x 3/8" x 2'-6"

BEND AND END CUT TABLE

Radius R feet	Δ/2 degrees	d inch
20	7.18	3/4
25	5.74	5/8
30	4.78	1/2
35	4.10	7/16
40	3.58	3/8
45	3.18	1/3
50	2.87	5/16
55	2.61	1/4
60	2.39	1/4
65	2.20	1/4
70	2.05	1/4
over 70	flat	0

BOLT LENGTH TABLE

Type A (Blockout)	Type B (No Blockout)
15"	11"



POST CONNECTION

SECTION A-A

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION, FHWA
OFFICE OF FEDERAL LANDS HIGHWAY

STEEL-BACKED TIMBER GUARDRAIL AROUND CIRCULAR CURVES 70 FOOT RADIUS AND BELOW

Sheet 1 of 2

FLH STANDARD 617-63

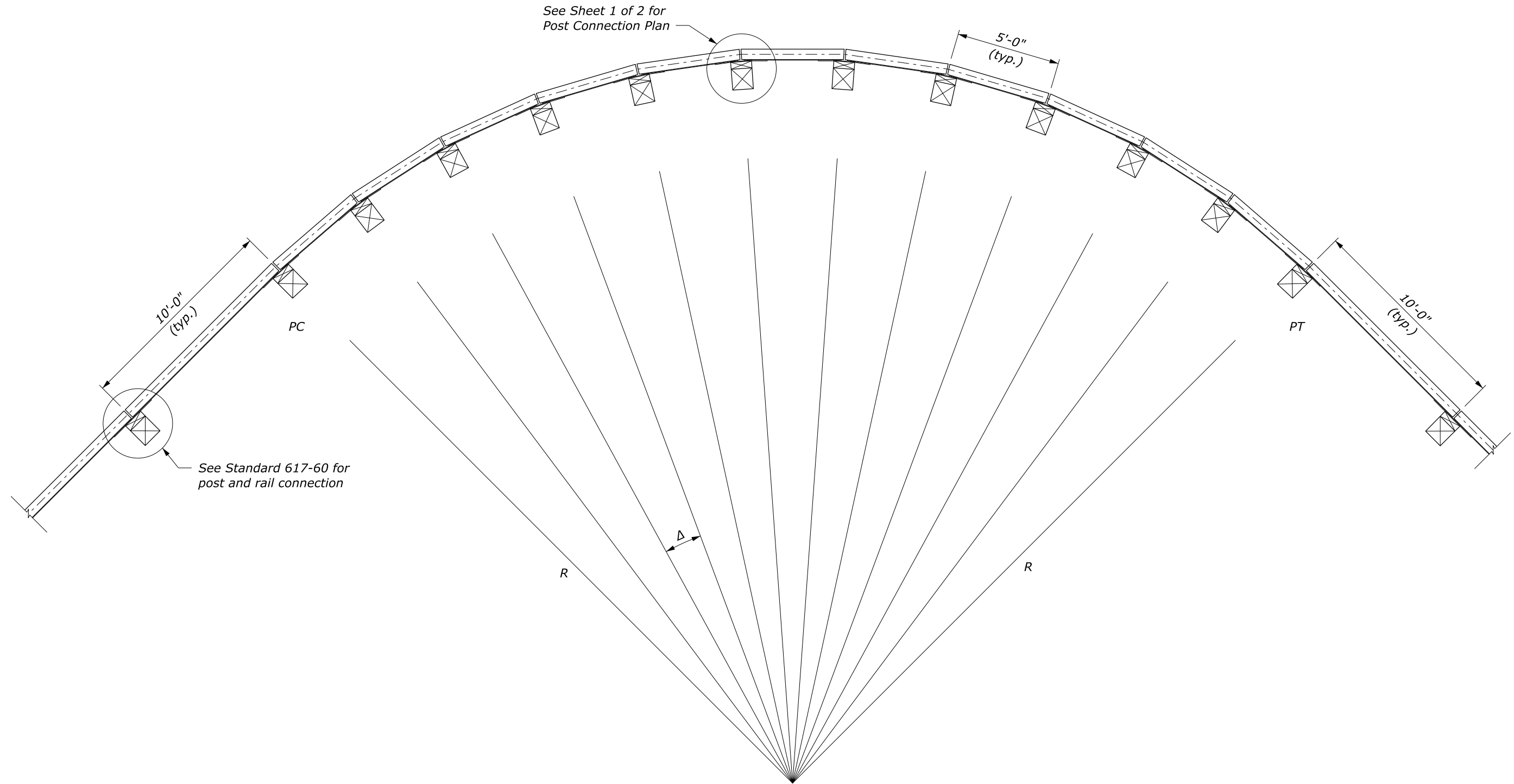
SPECIFICATION FP-24, FP-14

APPROVED FOR USE 2/2024

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NOTE:

1. Δ is the central angle which subtends a 5 foot chord.
2. R is measured from the center of the circle to the back surface of the rough sawn timber rail.

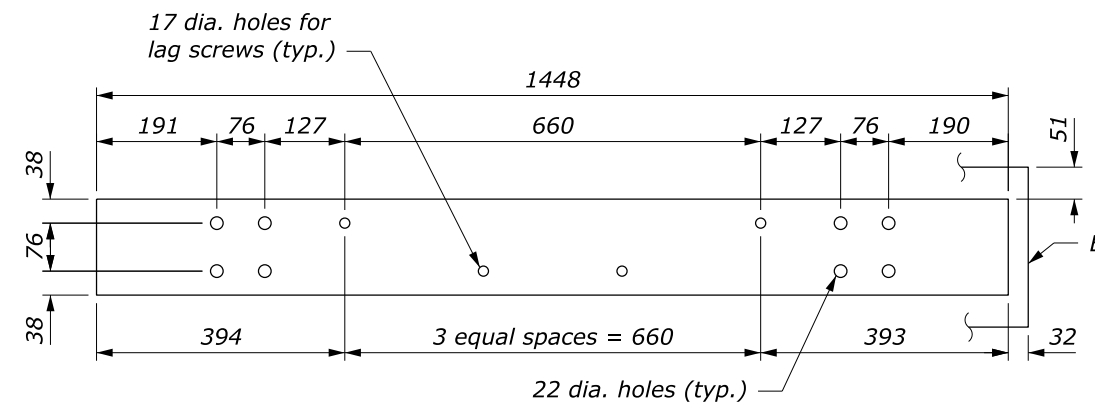


PLAN VIEW LAYOUT

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION, FHWA
 OFFICE OF FEDERAL LANDS HIGHWAY
**STEEL-BACKED TIMBER GUARDRAIL
 AROUND CIRCULAR CURVES
 70 FOOT RADIUS AND BELOW**
 Sheet 2 of 2

FLH STANDARD
617-63
 SPECIFICATION
 FP-24, FP-14
 APPROVED FOR USE
 2/2024



STEEL RAIL
152 x 10 x 1448

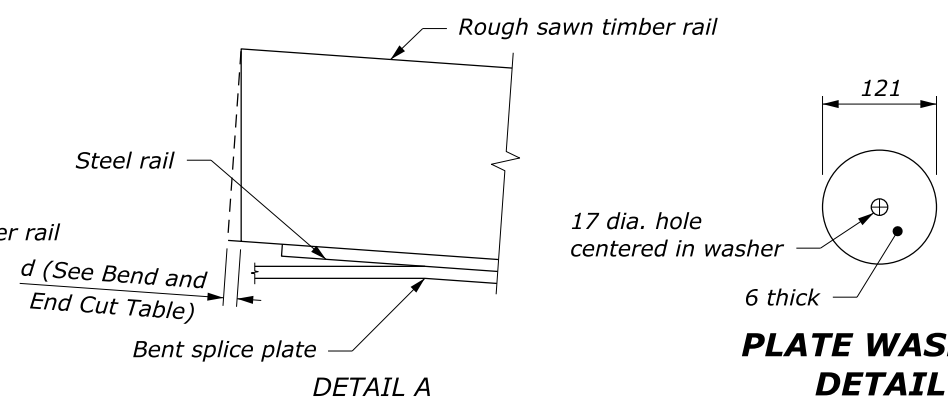
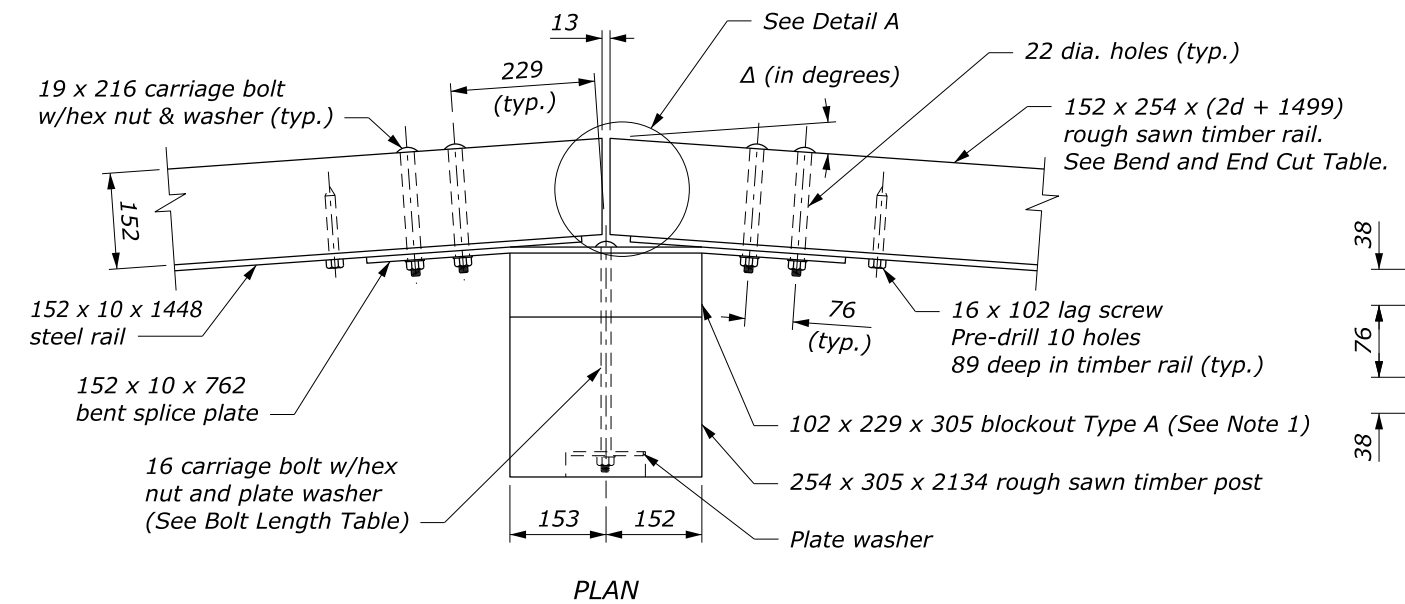
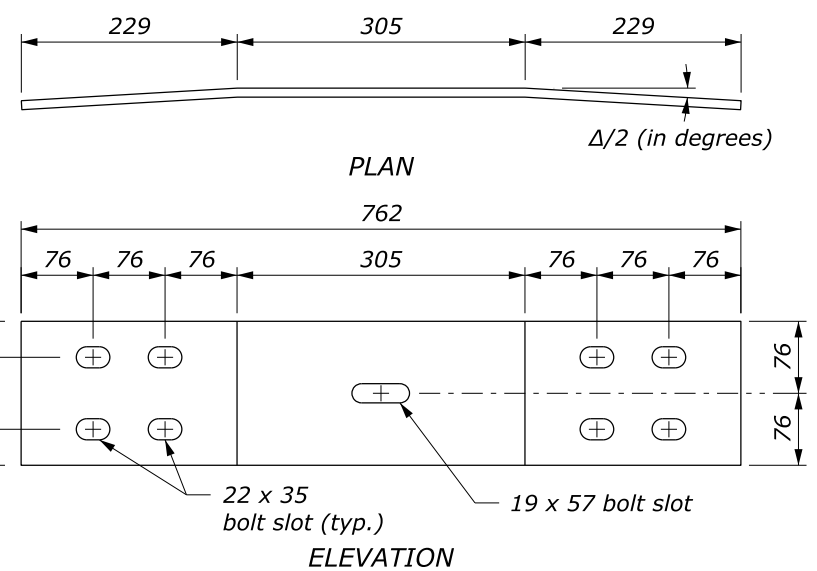


PLATE WASHER DETAIL

- NOTE:**
1. Use the Type A, blocked-out, system or the Type B, non-blocked-out, system as specified.
 2. Use the weathering steel for all structural steel and fastener hardware.
 3. Furnish shop bent splice plates. Use the minimum bend angle shown in the table below.
 4. See Sheet 2 of 2 for Plan View Layout.



BENT SPLICE PLATE
152 x 10 x 762

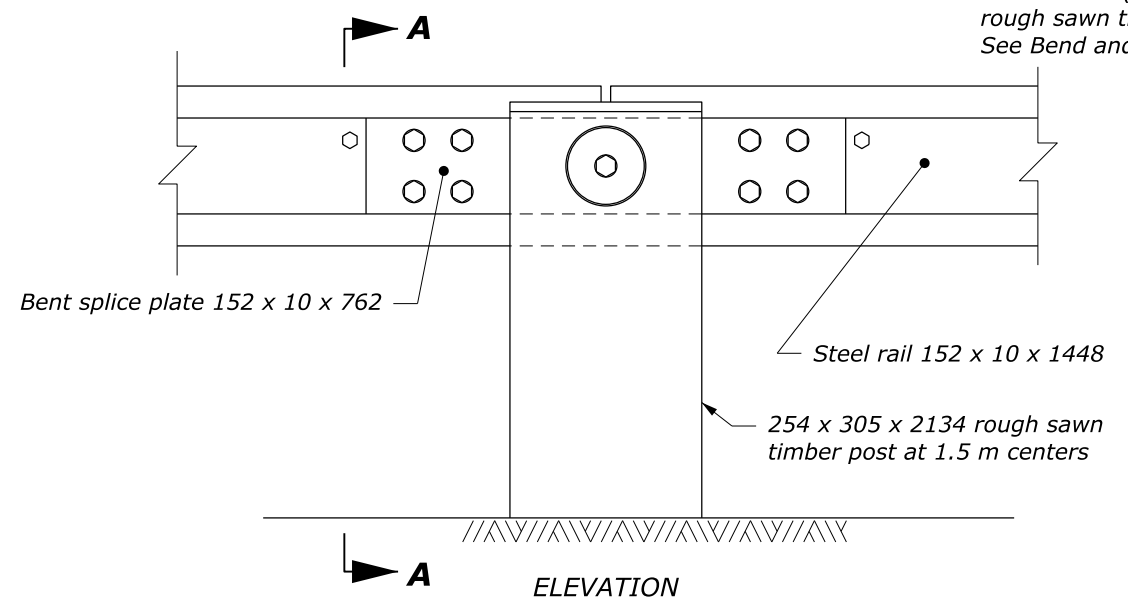


BEND AND END CUT TABLE

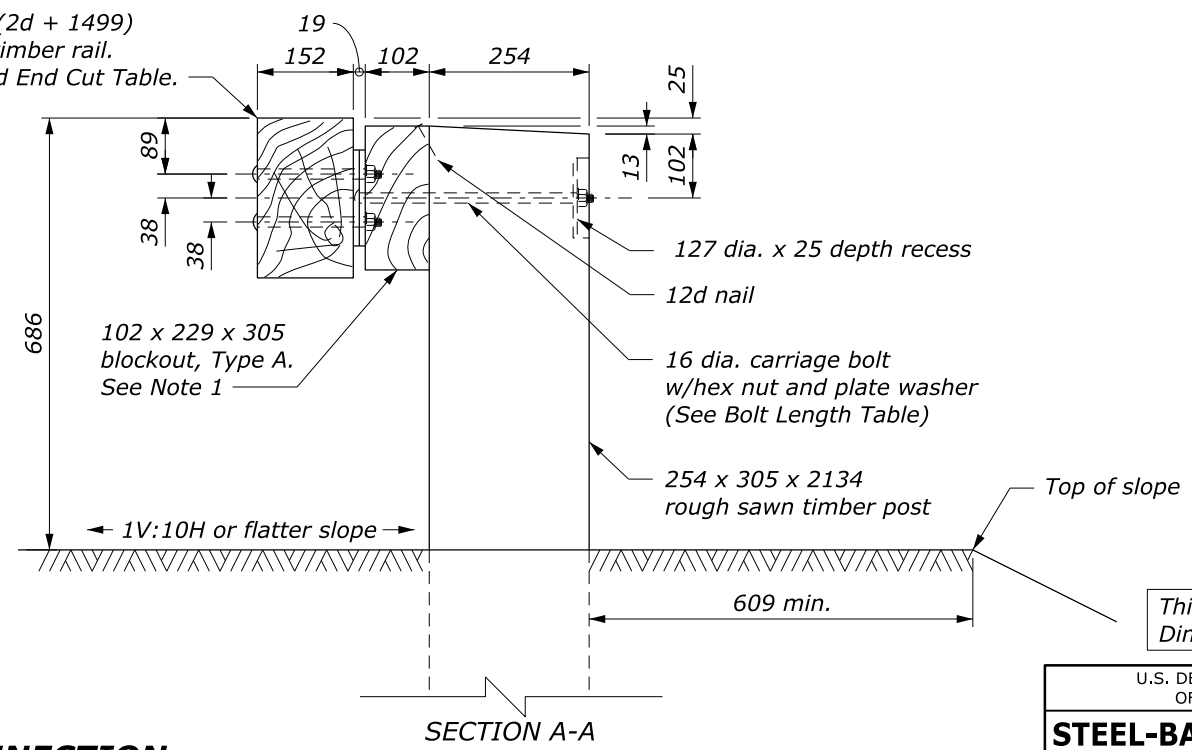
Radius R m	Δ/2 degrees	d mm
5	8.63	23
6	7.18	19
8	5.38	14
10	4.30	11
12	3.58	9
14	3.07	8
16	2.69	7
18	2.39	6
20	2.15	6
22	1.95	5
over 22	flat	0

BOLT LENGTH TABLE

Type A (Blockout)	Type B (No Blockout)
381	279



POST CONNECTION



SECTION A-A

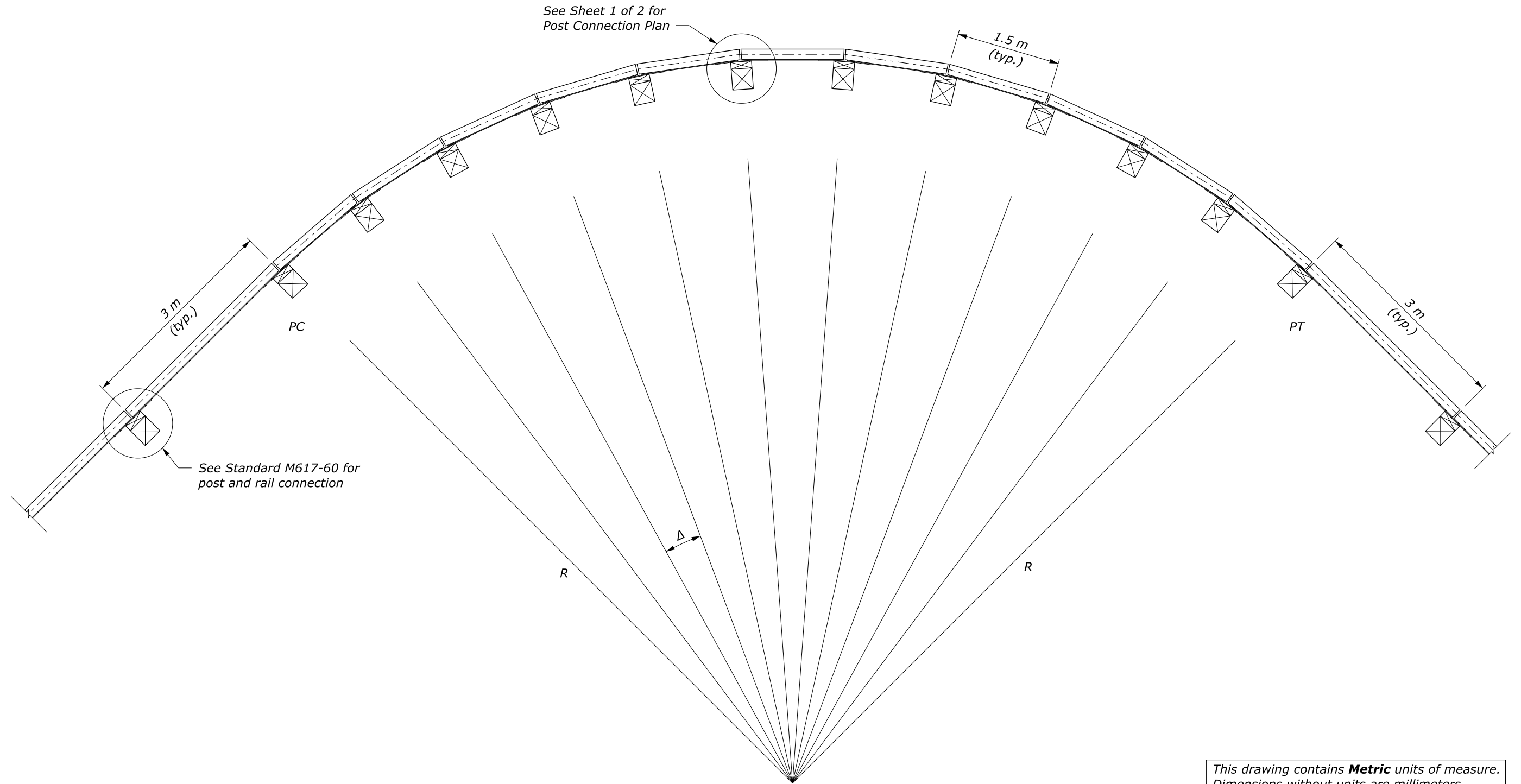
This drawing contains **Metric** units of measure. Dimensions without units are millimeters.

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION, FHWA OFFICE OF FEDERAL LANDS HIGHWAY	FLH STANDARD M617-63
STEEL-BACKED TIMBER GUARDRAIL AROUND CIRCULAR CURVES 22 m RADIUS AND BELOW	SPECIFICATION FP-24, FP-14
Sheet 1 of 2	APPROVED FOR USE 2/2024

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- NOTE:**
- Δ is the central angle which subtends a 1.5 m chord.
 - R is measured from the center of the circle to the back surface of the rough sawn timber rail.



PLAN VIEW LAYOUT

NO SCALE

This drawing contains **Metric** units of measure.
Dimensions without units are millimeters.

U.S. DEPARTMENT OF TRANSPORTATION, FHWA OFFICE OF FEDERAL LANDS HIGHWAY	FLH STANDARD M617-63
STEEL-BACKED TIMBER GUARDRAIL AROUND CIRCULAR CURVES 22 m RADIUS AND BELOW	SPECIFICATION FP-24, FP-14
Sheet 2 of 2	APPROVED FOR USE 2/2024