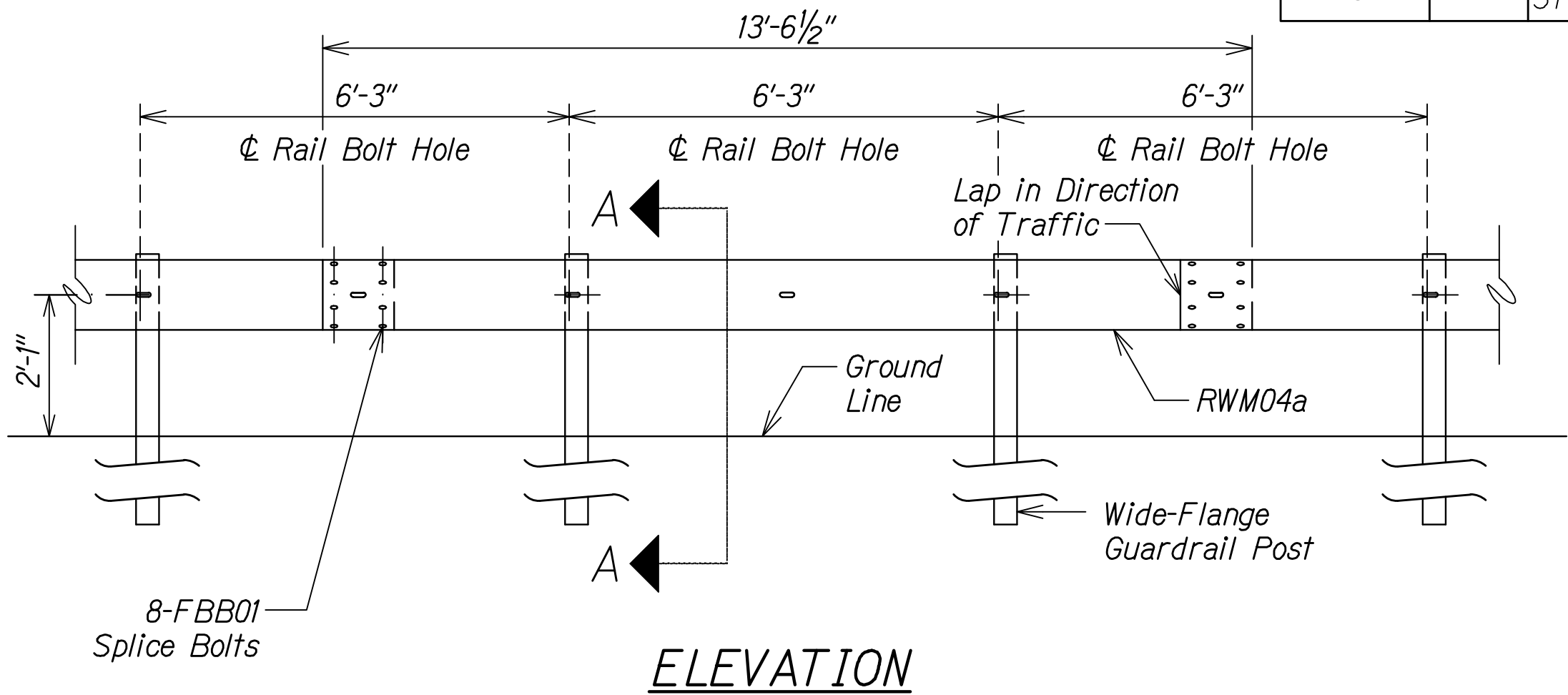
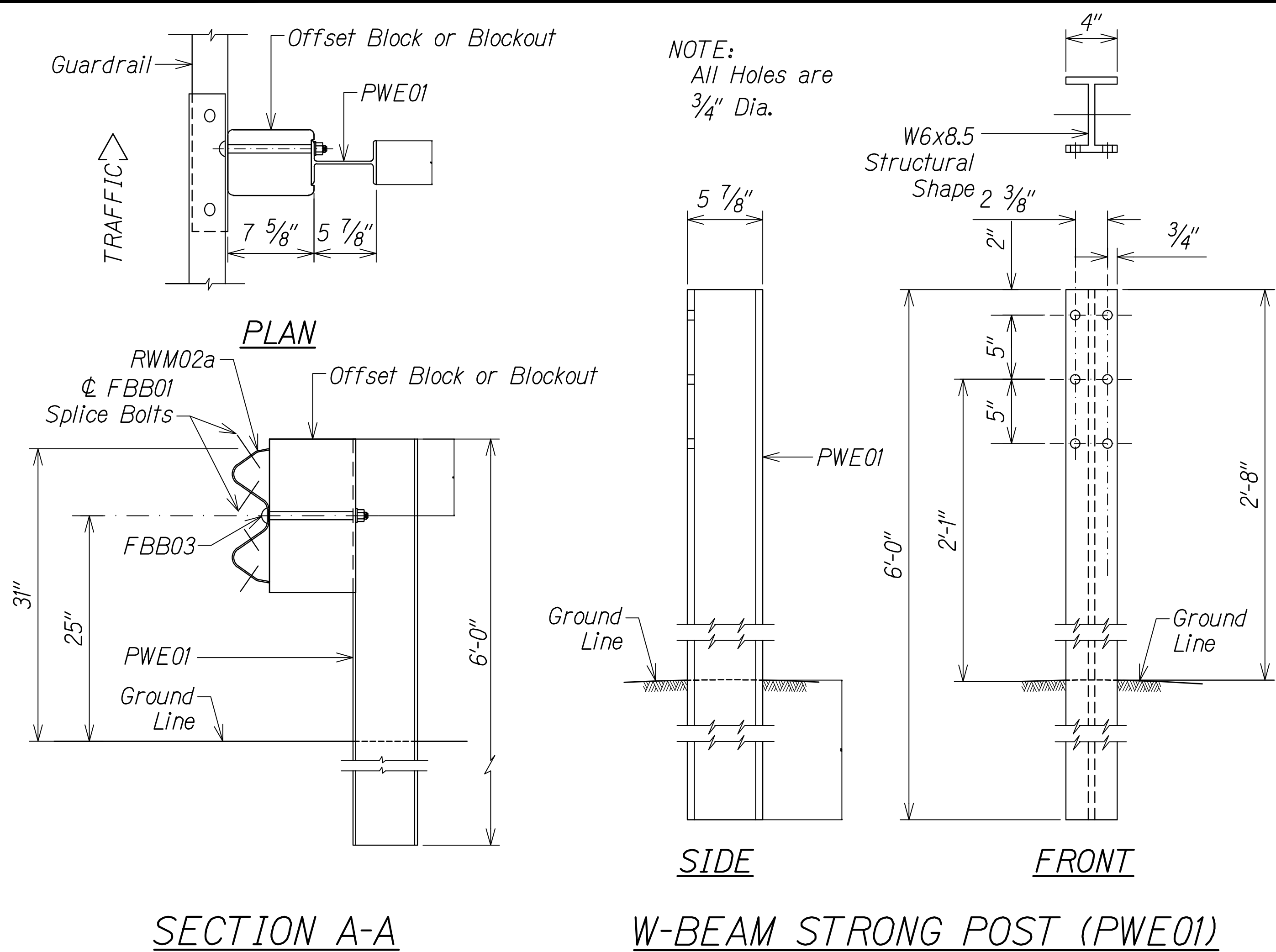
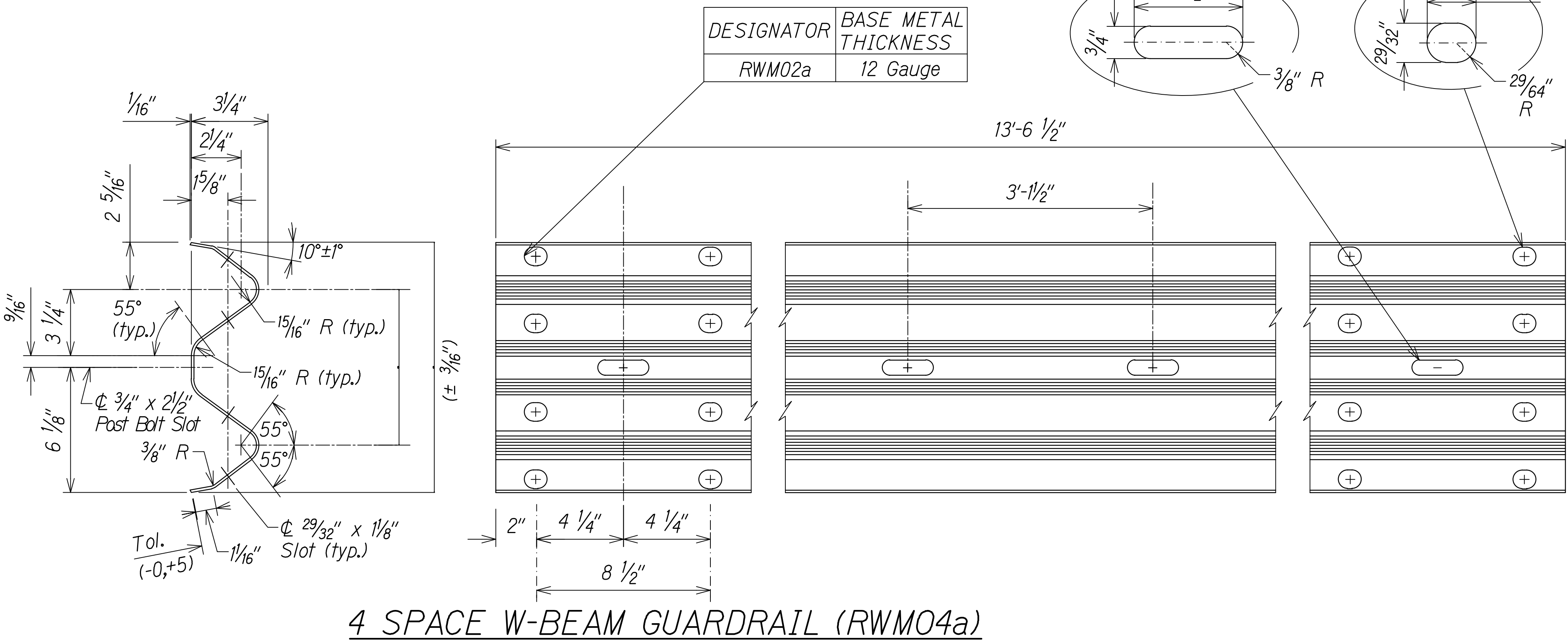
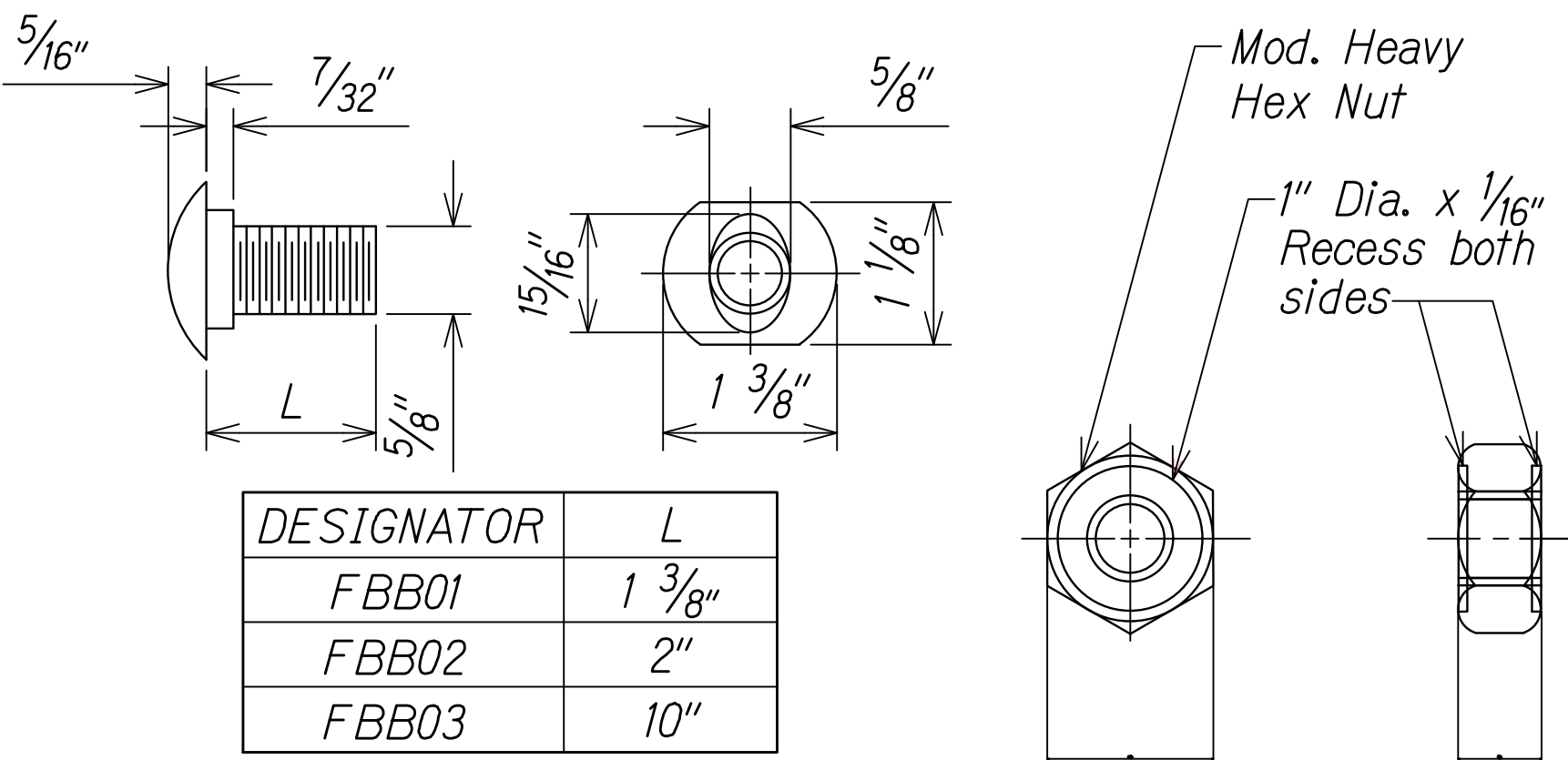


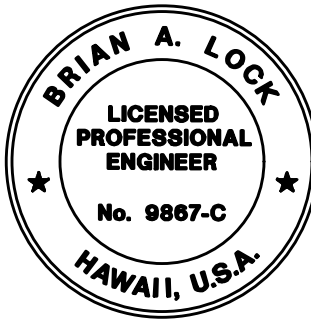
DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUAI	HAW.	STP-0550(006)	2024	198	325



MIDWEST GUARDRAIL SYSTEM WITH STANDARD 8" OFFSET BLOCK (SGR47)



ORIGINAL PLAN	DATE
NOTED BY	DESIGNED BY
QUANTITIES BY	CHECKED BY
No.	



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Brian A. Lock

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APRIL 30, 2026
LIC. EXP. DATE

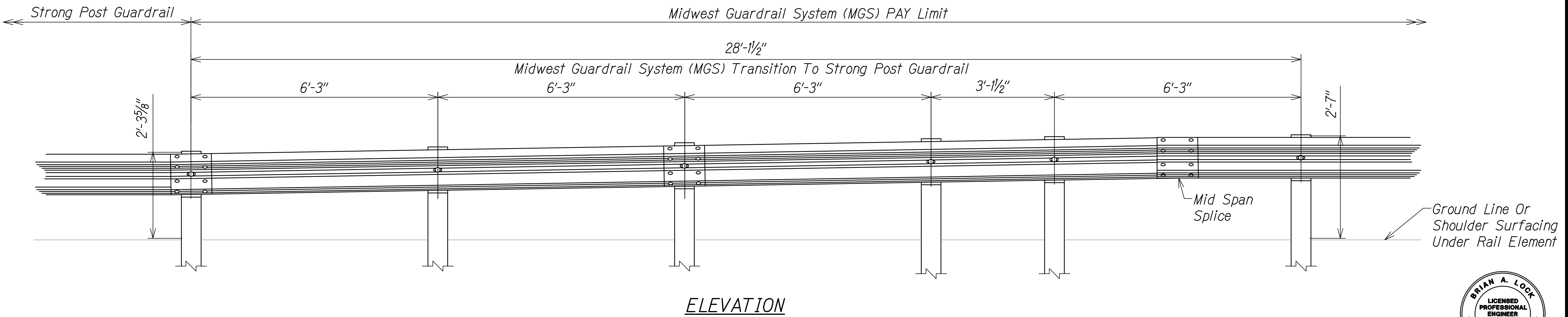
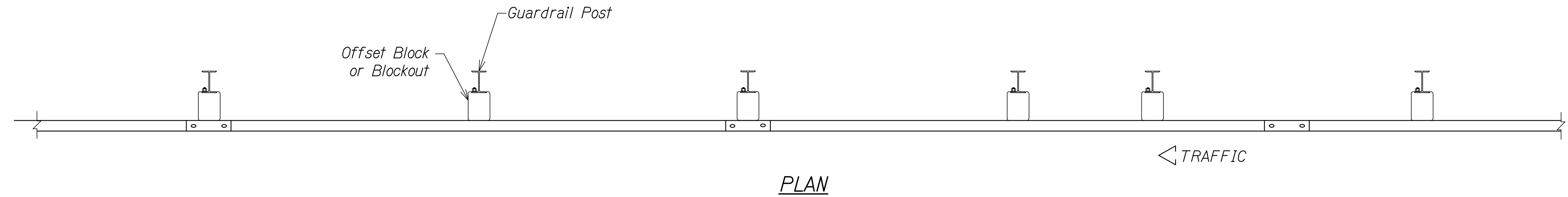
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

31" W-BEAM GUARDRAIL WITH STANDARD 8" OFFSET BLOCK

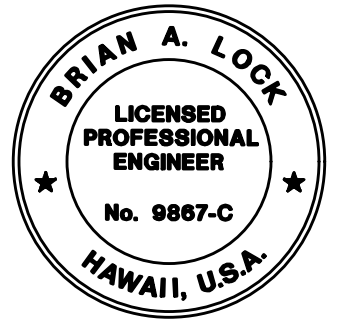
WAIMEA CANYON DRIVE /
KOEKEE ROAD IMPROVEMENTS, PHASE 2B
MILE POST 4.6 TO MILE POST 11.5
Federal-Aid Project No. STP-0550(006)
Scale: None Date: July 2024

SHEET No. GRD2 OF 7 SHEETS

DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUA'I	HAW.	STP-0550(006)	2024	199	325



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
No.	QUANTITIES BY	
	CHECKED BY	

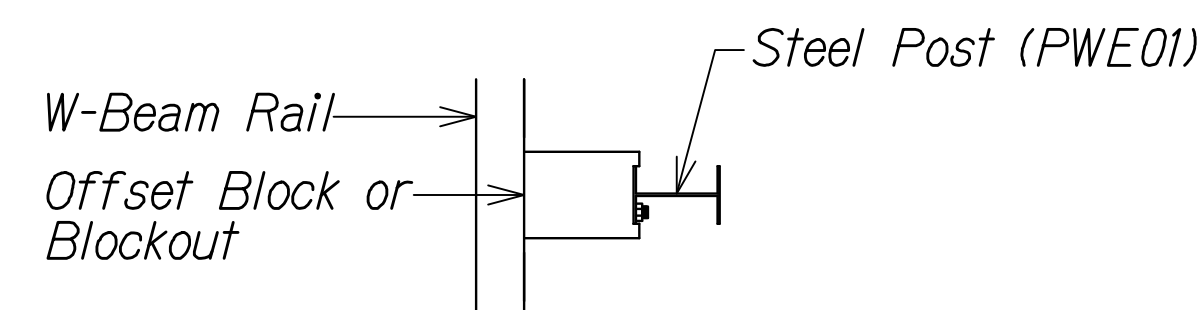


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APRIL 30, 2026
LIC. EXP. DATE

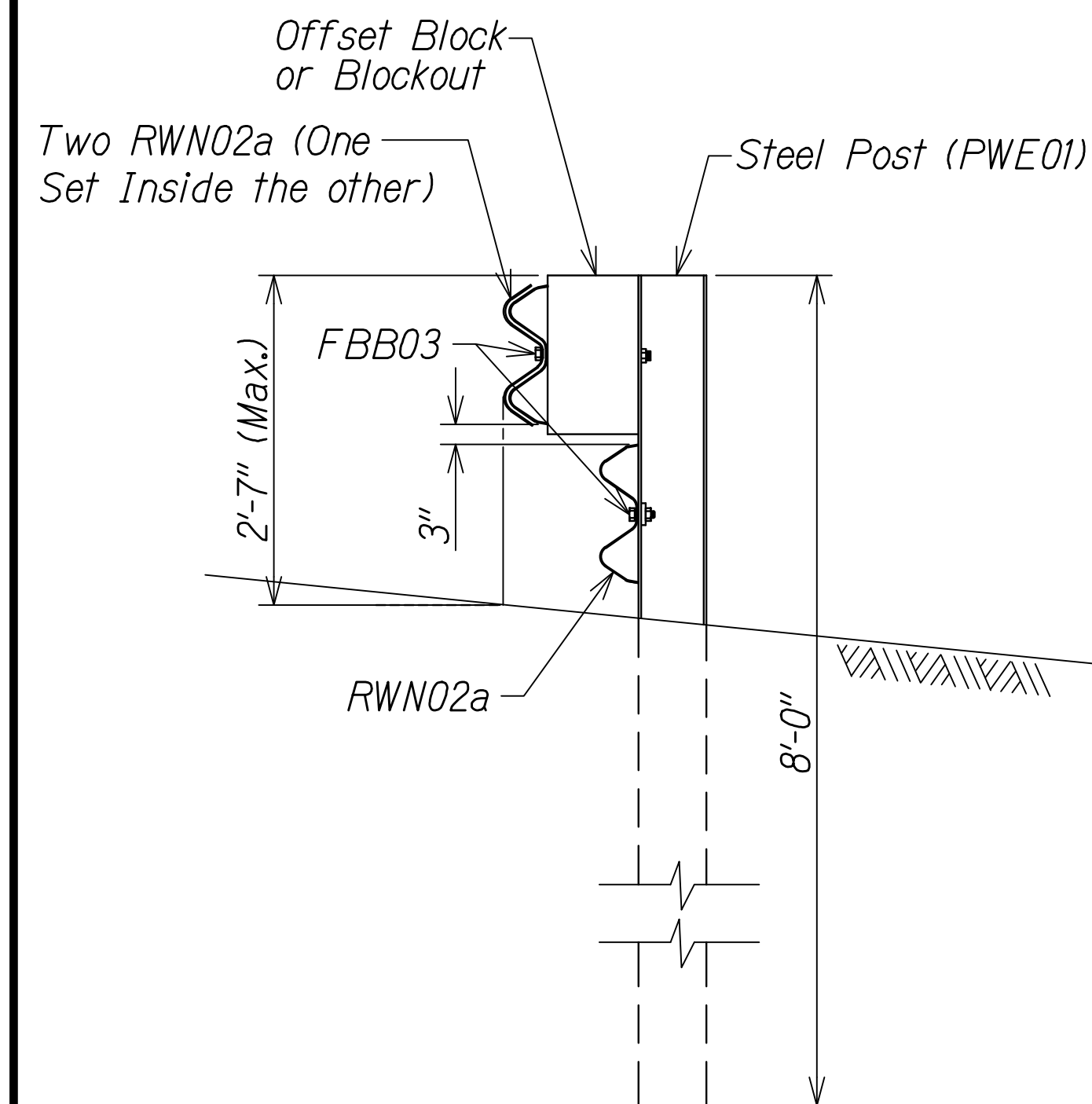
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**MGS TRANSITION TO
STRONG POST GUARDRAIL**
WAIMEA CANYON DRIVE /
KOEKE ROAD IMPROVEMENTS, PHASE 2B
MILE POST 4.6 TO MILE POST 11.5
Federal-Aid Project No. STP-0550(006)
Scale: None Date: July 2024

SHEET No. GRD3 OF 7 SHEETS

DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUAI	HAW.	STP-0550(006)	2024	200	325

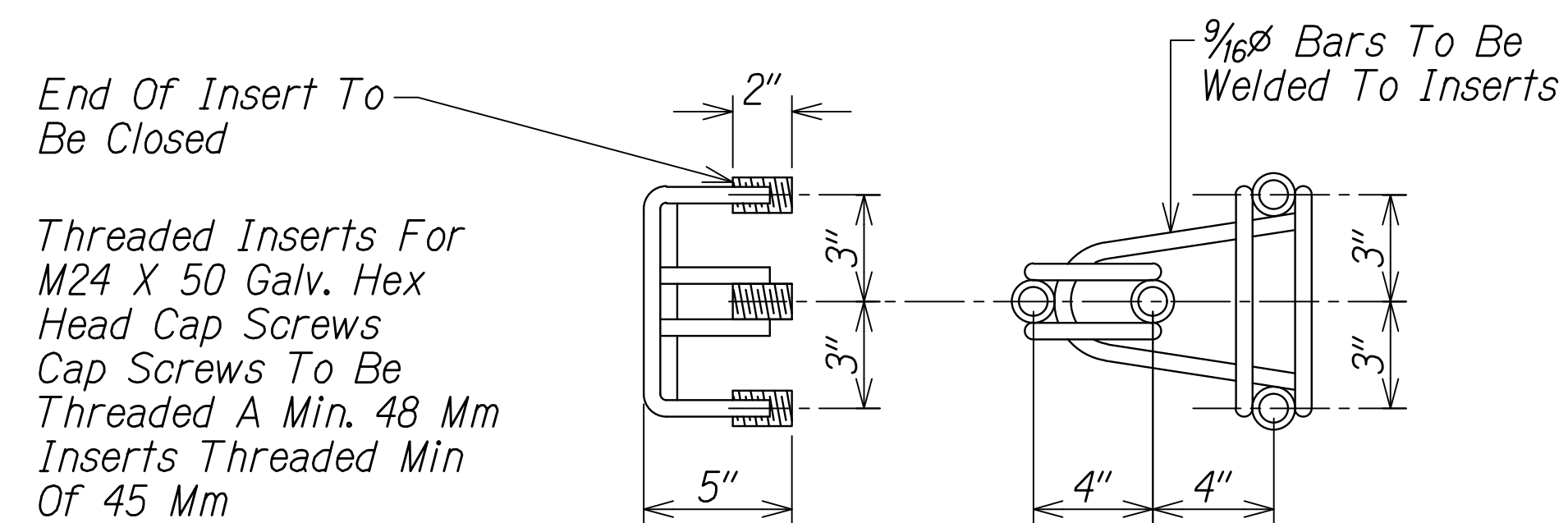


Plan

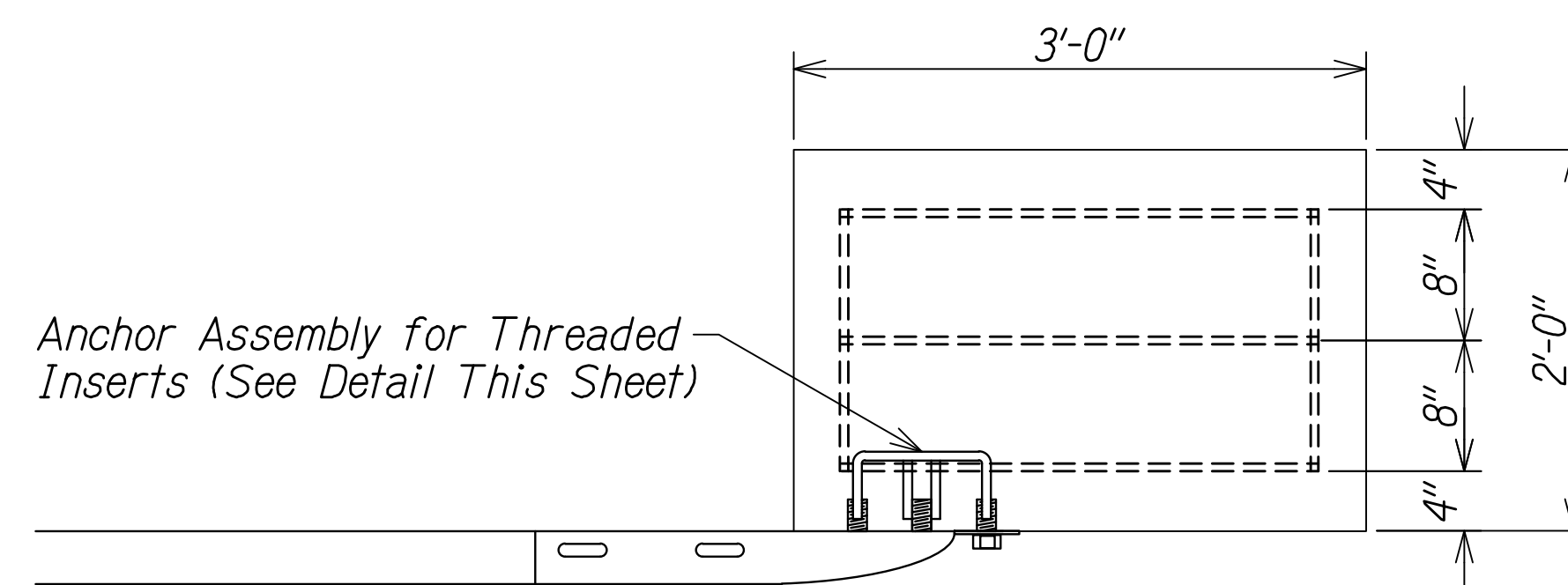


Elevation

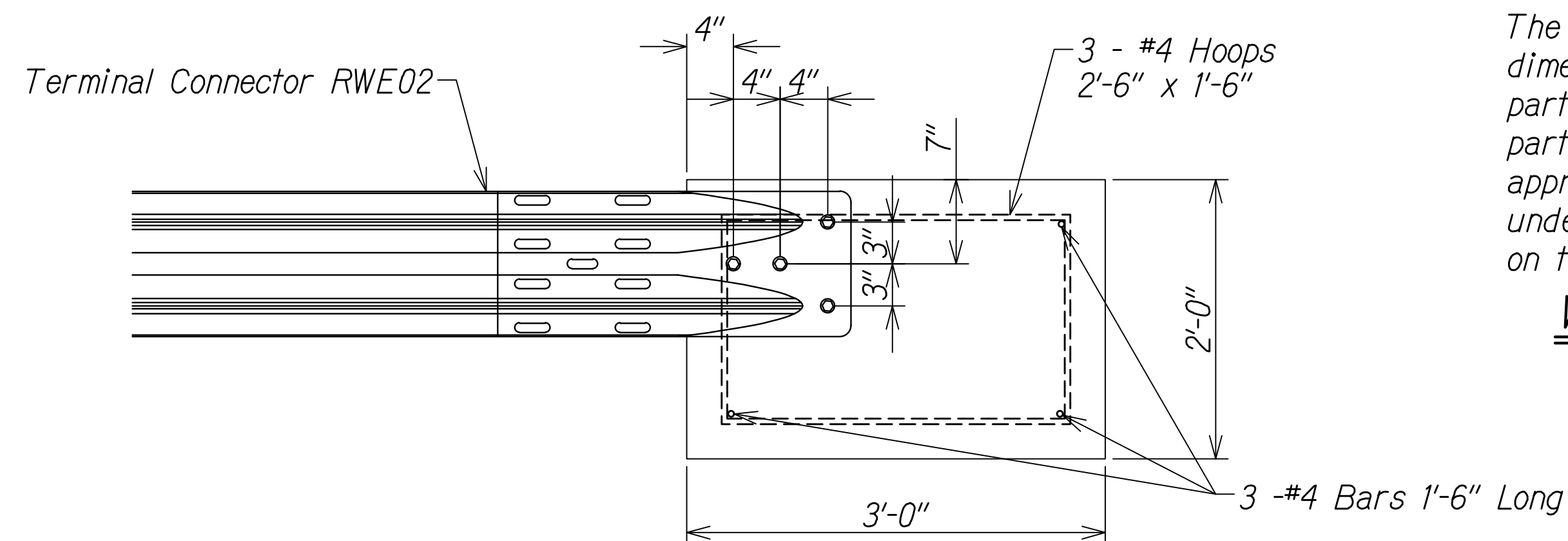
DOUBLE NESTED
STEEL POST GUARDRAIL
WITH RUBRAIL



ANCHOR ASSEMBLY
CONCRETE BLOCK ANCHOR



Plan



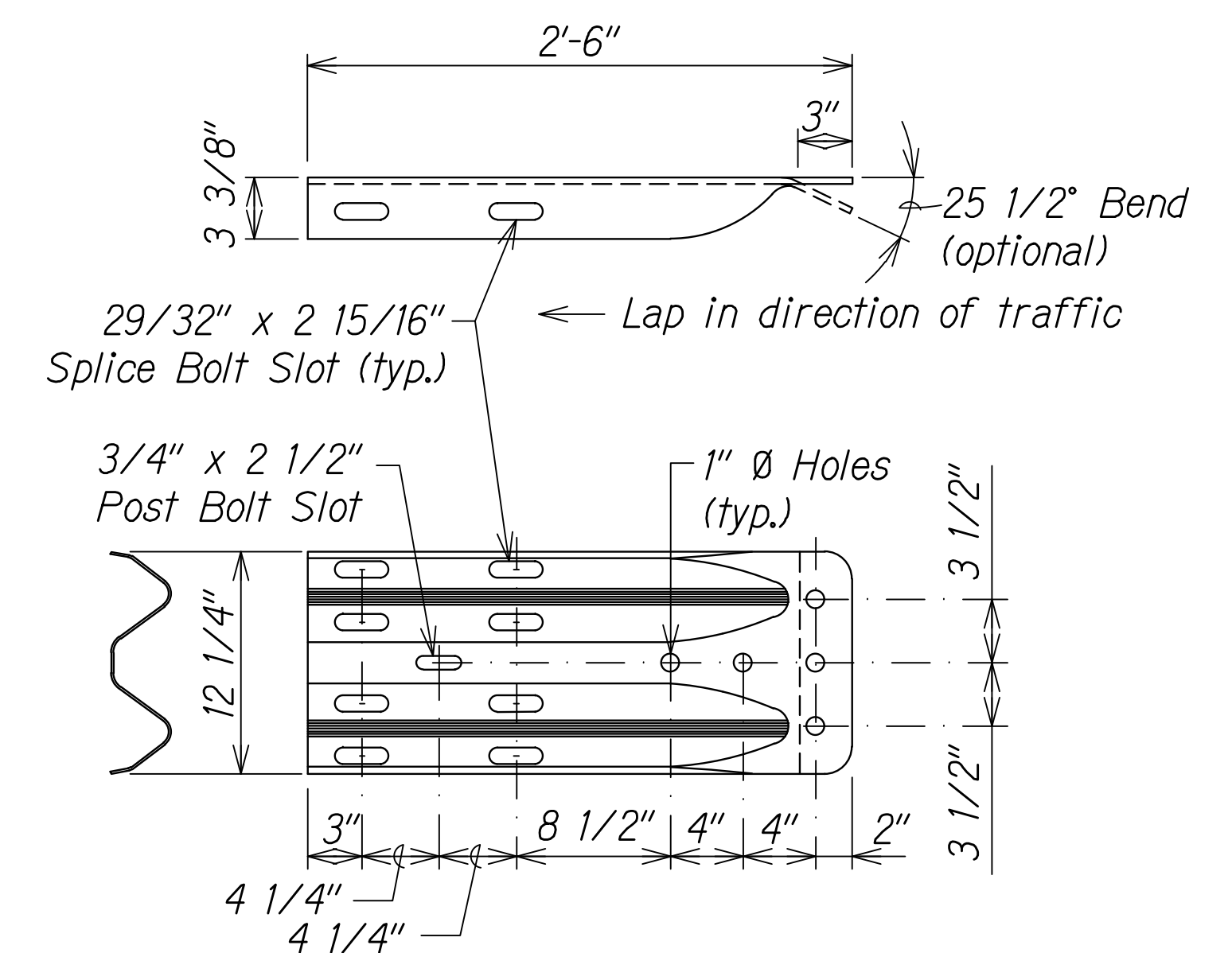
Elevation

CONCRETE BLOCK ANCHOR
(2' X 2' X 3')

BACKSLOPE ANCHOR TERMINAL END ANCHORAGE DETAILS
(TYPE "A" FLARE)

Note:

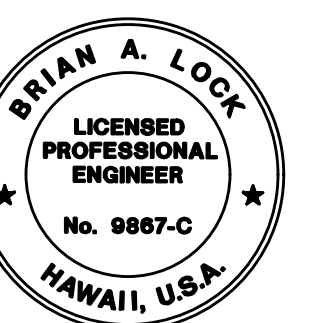
All fasteners, posts, blocks and rail elements shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware," a report prepared and approved by the AASHTO-AGCARTBA Joint Cooperative Committee.



The cross-sectional dimensions for this part are to fit over part RWM02a on the approach end and under part RWM02a on the trailing end.

DESIGNATOR	BASE METAL THICKNESS
RWE02b	10 Gauge

W-BEAM TERMINAL CONNECTOR (RWE02b)



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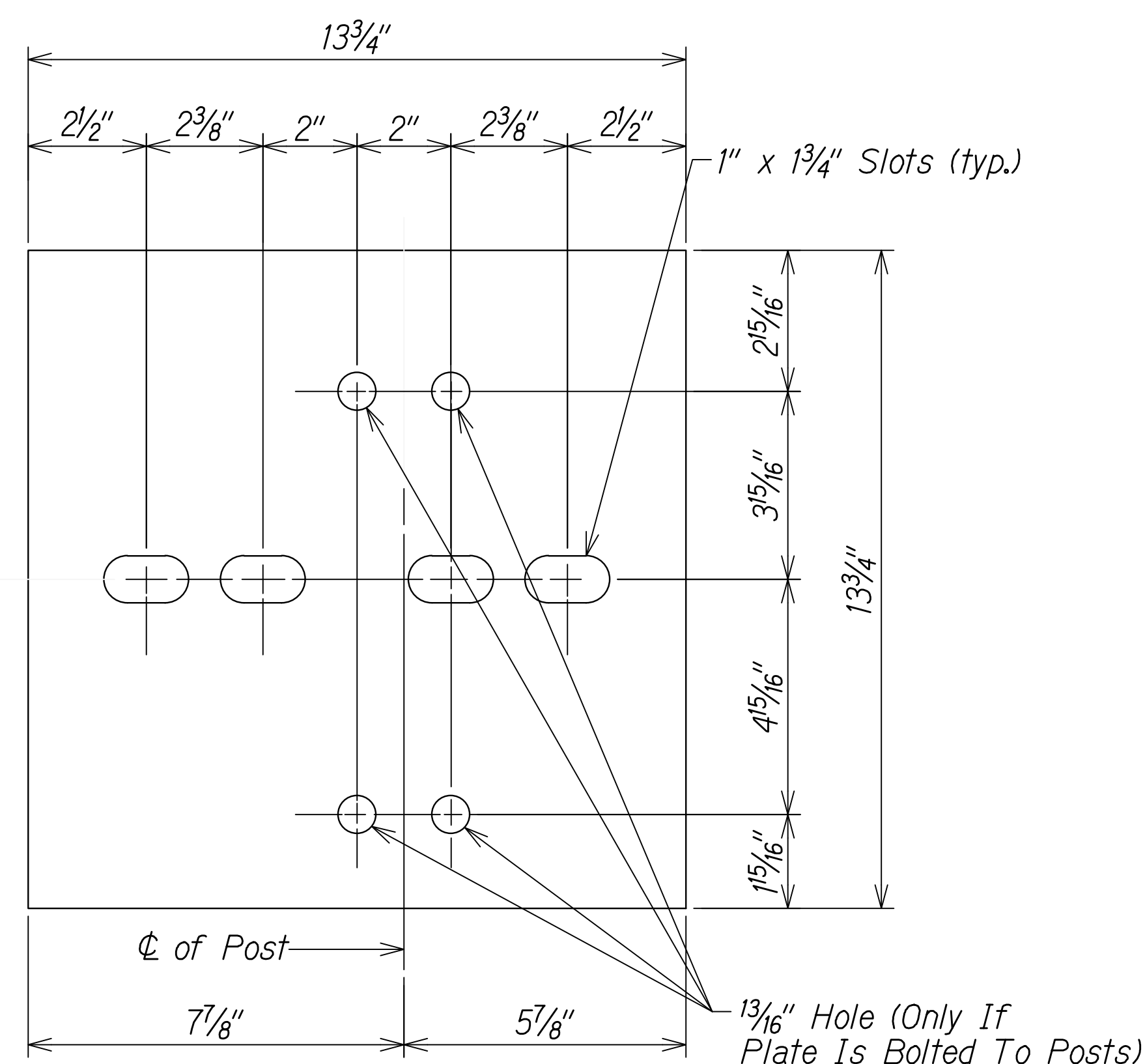
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL DETAILS

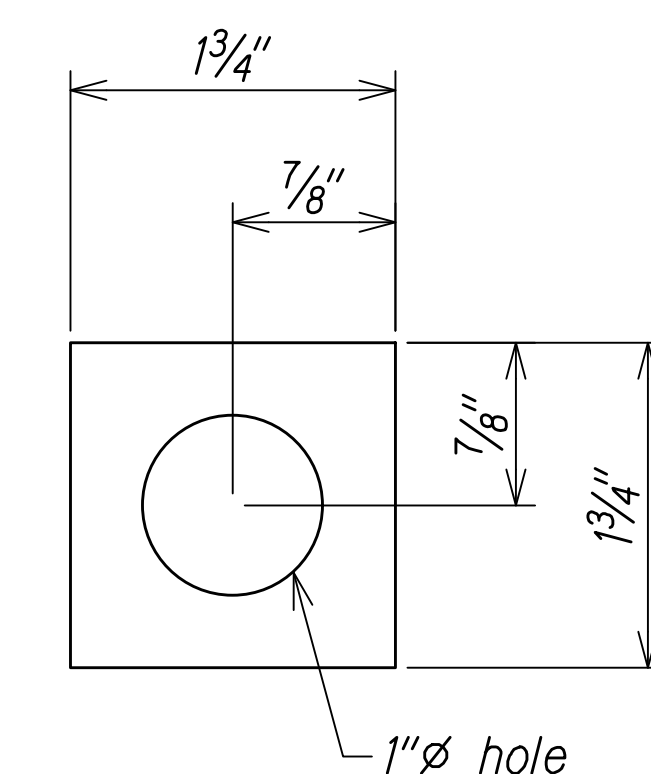
WAIMEA CANYON DRIVE /
KOEKE ROAD IMPROVEMENTS, PHASE 2B
MILE POST 4.6 TO MILE POST 11.5
Federal-Aid Project No. STP-0550(006)
Scale: None Date: July 2024

SHEET No. GRD4 OF 7 SHEETS

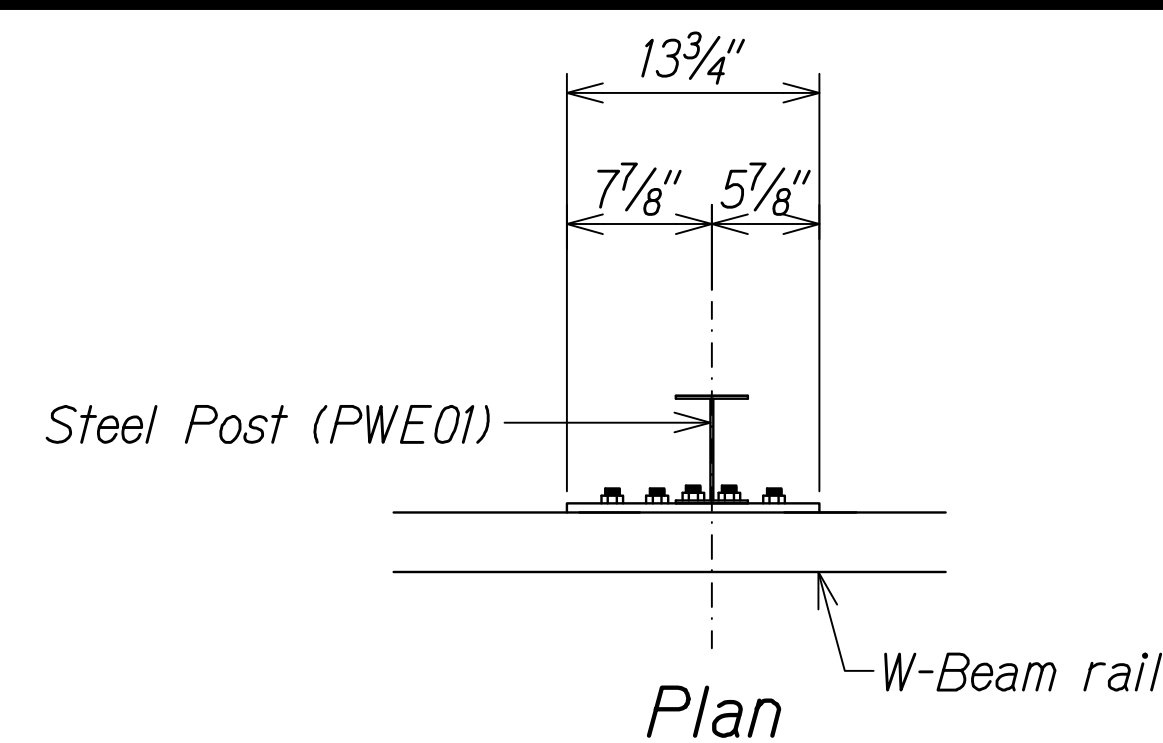
DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUA'I	HAW.	STP-0550(006)	2024	201	325



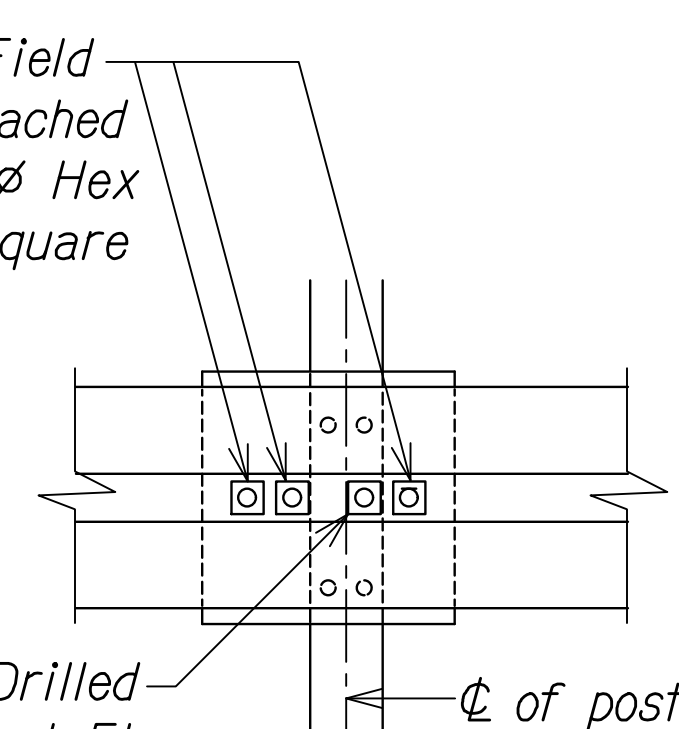
Steel Plate - 1/2"
(Hot-dip Zinc Coated Galvanized
Welded or Bolted to Post)



Square Washer
($\frac{3}{16}$ " Thick - Hot-dip
Zinc Coated Galvanized)



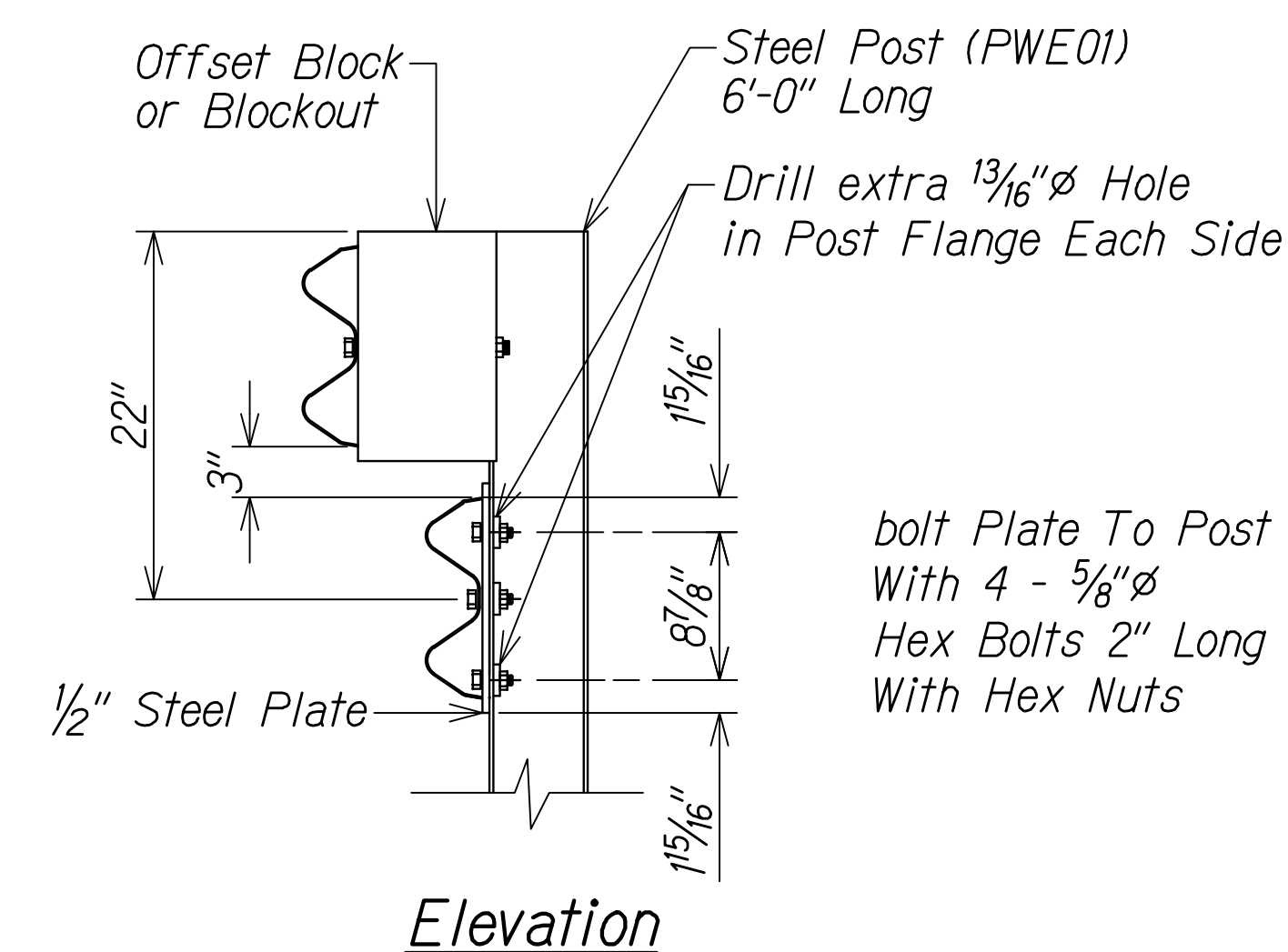
3 - 7/8"Ø Holes To Be Field—
Drilled In Rail And Attached
To Steel Plate With 7/8"Ø Hex
Bolts 1 5/16" Long With Square
Washer



1"Ø Holes To Be Field Drilled
In Rail And Through Post Flange.
Attach To Steel Plate With
7/8"Ø Hex Bolts 2" Long
With Square Washer

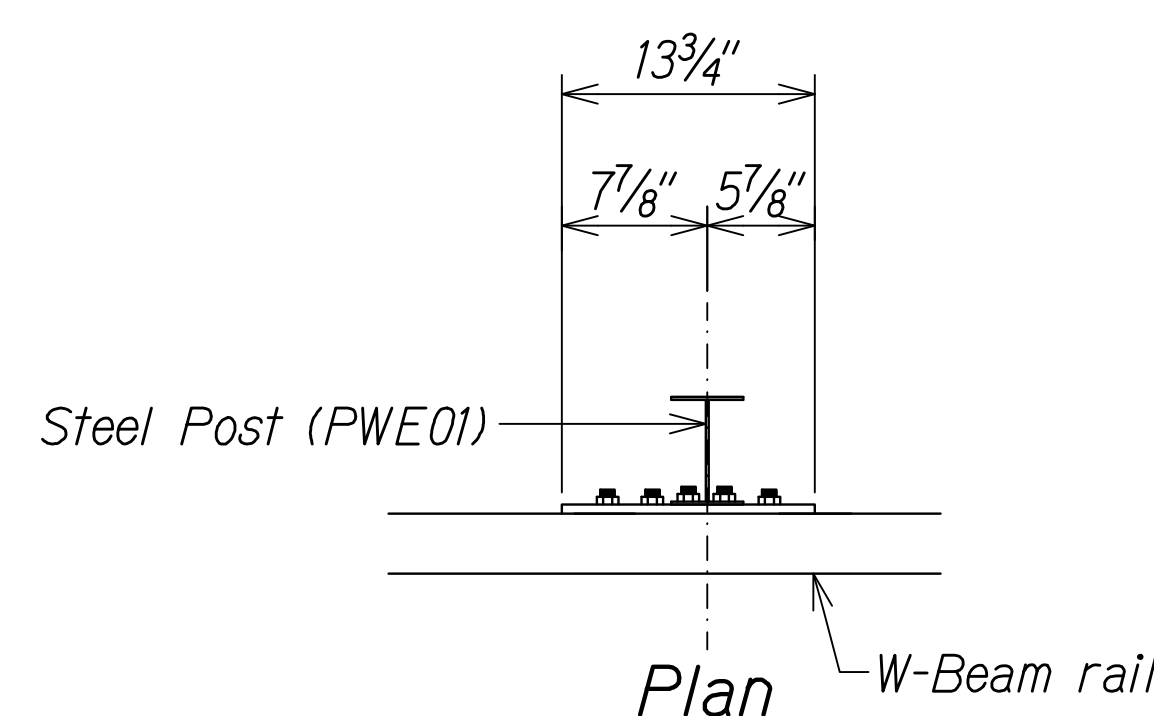
Front View

Front View

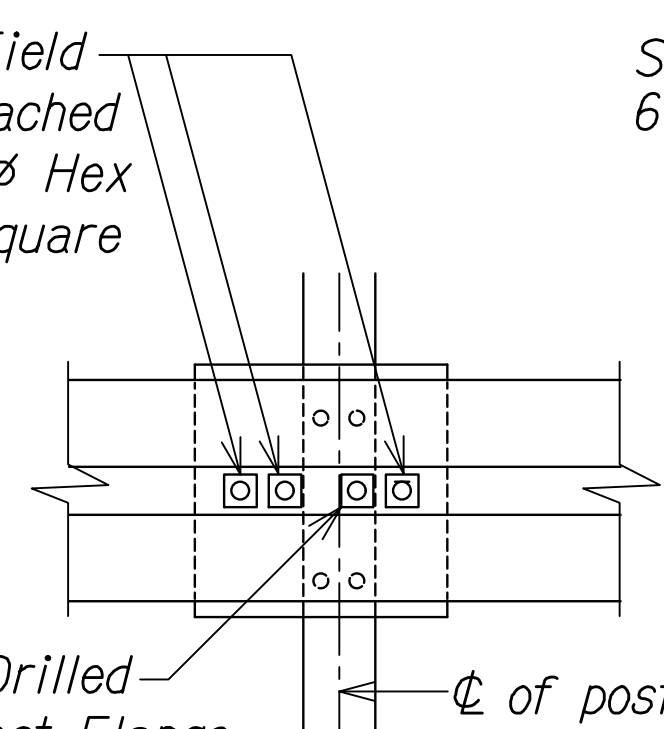


*bolt Plate To Post
With 4 - 5/8"Ø
Hex Bolts 2" Long
With Hex Nuts*

RUBRAIL ANCHOR DETAILS



3 - $\frac{7}{8}$ " \varnothing Holes To Be Field
Drilled In Rail And Attached
To Steel Plate With $\frac{7}{8}$ " \varnothing Hex
Bolts $1\frac{5}{16}$ " Long With Square
Washer



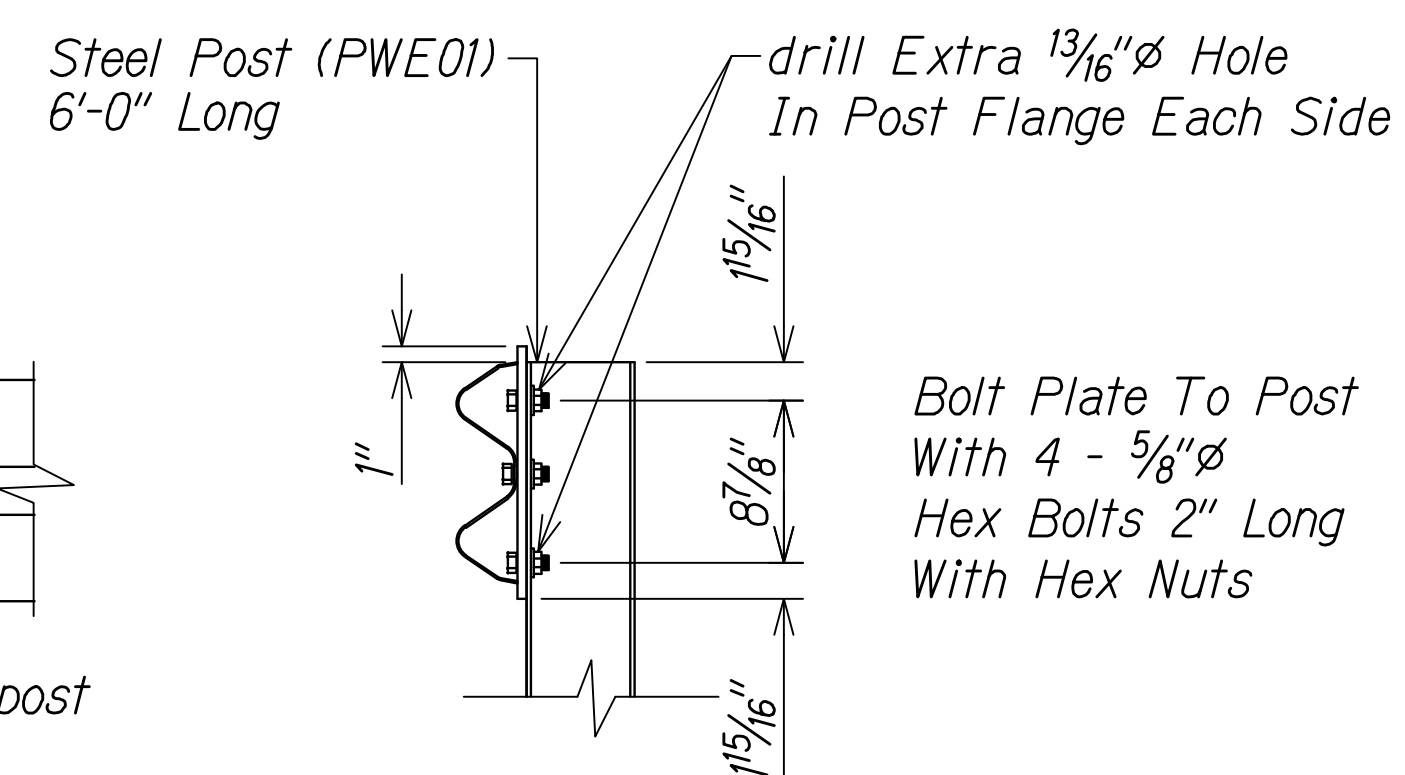
1"Ø Holes To Be Field Drilled
In Rail And Through Post Flange.
Attach To Steel Plate With
7/8"Ø Hex Bolts 2" Long
With Square Washer



Front View

The diagram shows a cross-section of the rail and post assembly. A vertical line represents the rail, and a horizontal line represents the post. The post has a flange at the top. A square washer is shown between the rail and the post flange. A line points to the washer with the text '1"Ø Holes To Be Field Drilled In Rail And Through Post Flange.' Another line points to the post with the text 'Ø of post'. The text 'Front View' is written below the diagram.

Front View



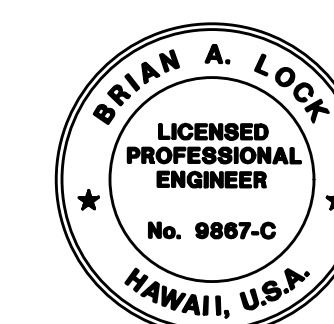
Bolt Plate To Post
With 4 - 5/8"Ø
Hex Bolts 2" Long
With Hex Nuts

POST ANCHOR DETAILS

BACKSLOPE ANCHOR TERMINAL END ANCHORAGE DETAILS
TYPE "A" FLARE)

Note:

All fasteners, posts, blocks and rail elements shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware," a report prepared and approved by the AASHTO-AGCARTBA Joint Cooperative Committee.



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APRIL 30, 2026
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL DETAILS

WAIMEA CANYON DRIVE /
KOKEE ROAD IMPROVEMENTS, PHASE 2B
MILE POST 4.6 TO MILE POST 11.5
Federal-Aid Project No. STP-0550(006)
Scale: None Date: July 2024

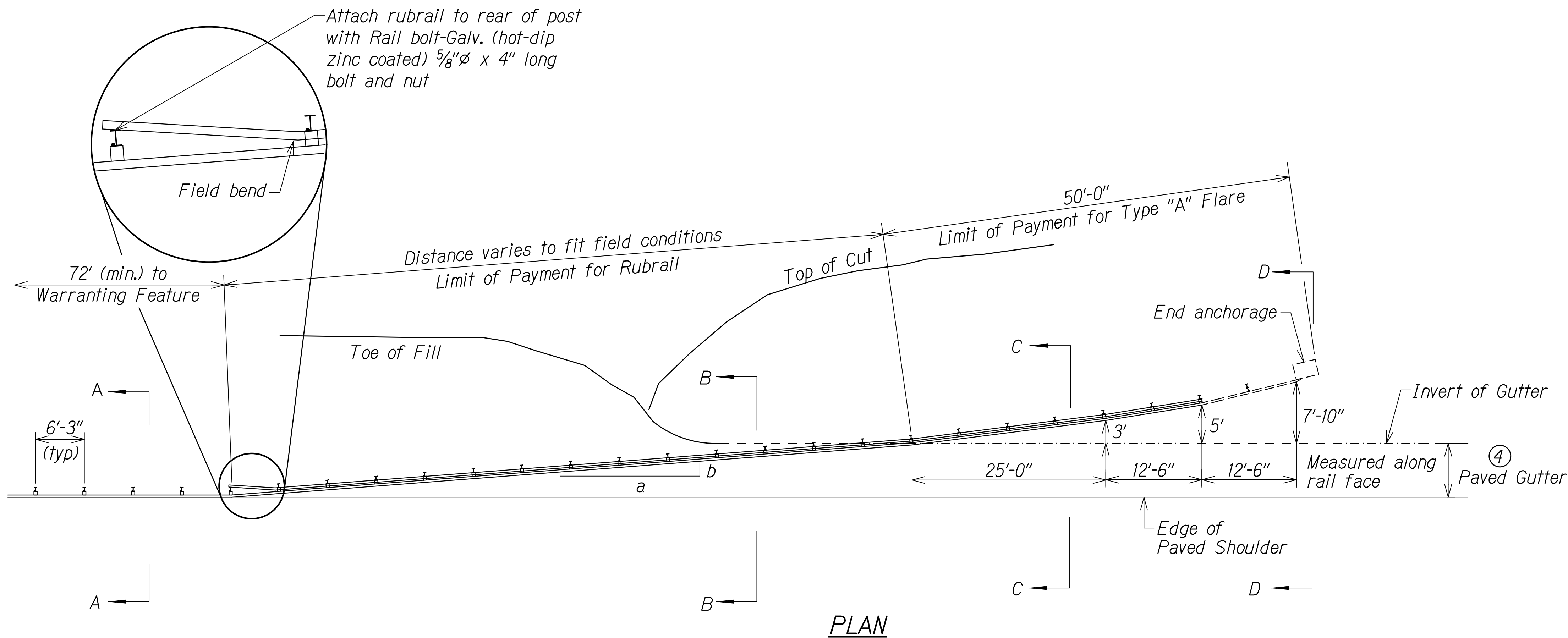
SHEET No. *GRD5* OF *7* SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY _____ DATE _____	
	DRAWN BY _____	
	TRACED BY _____	
	DESIGNED BY _____	
	QUANTITIES BY _____	
No. _____	CHECKED BY _____	

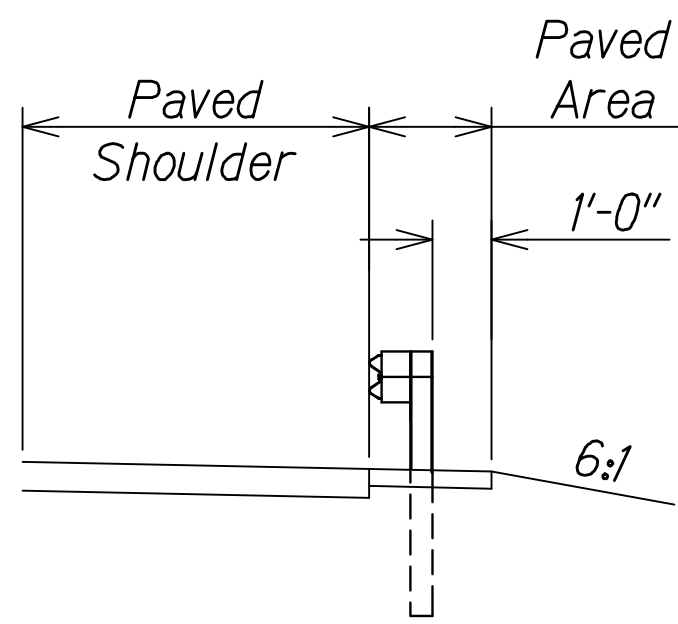
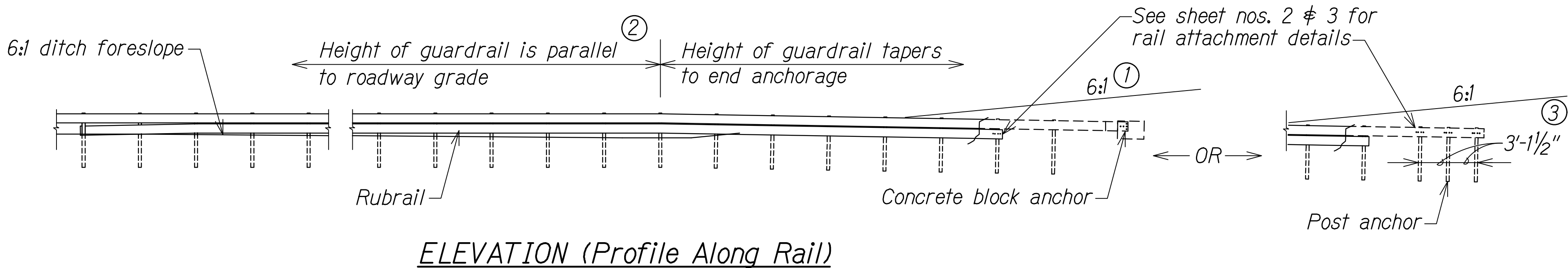
DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUAI	HAW.	STP-0550(006)	2024	202	325

General Notes

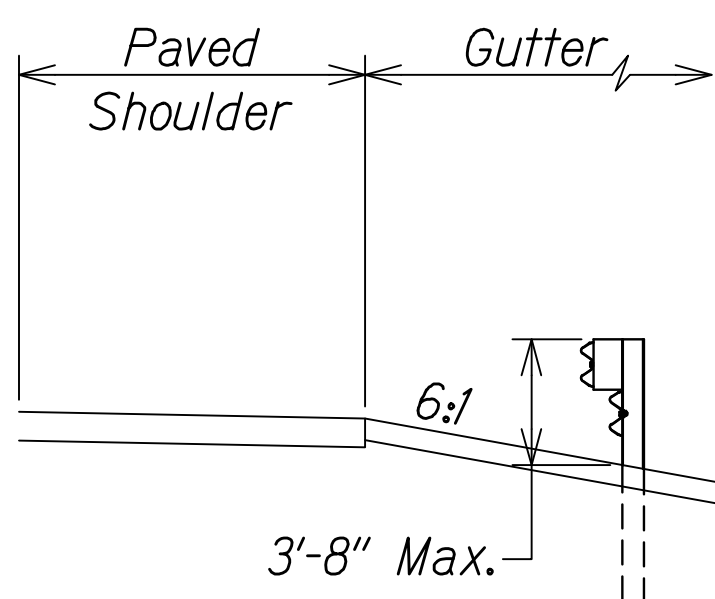
1. A 6:1 or flatter slope is desirable. However, a steeper or flatter existing slope may be used.
2. Height of guardrail may be tapered down in elevation to maintain 3'-8" maximum height.
3. All posts are 8'-0" in length from where the guardrail flares away from the shoulder back to the post anchor. Posts for the post anchor are 6'-0" long.
4. Variable Paved Gutter offsets may be used to fit field conditions.
5. The Guardrail Posts shall be located away from the gutter/swale invert.
6. All fasteners, posts, blocks and rail elements shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware," a report prepared and approved by the AASHTO-AGCARTBA Joint Cooperative Committee.



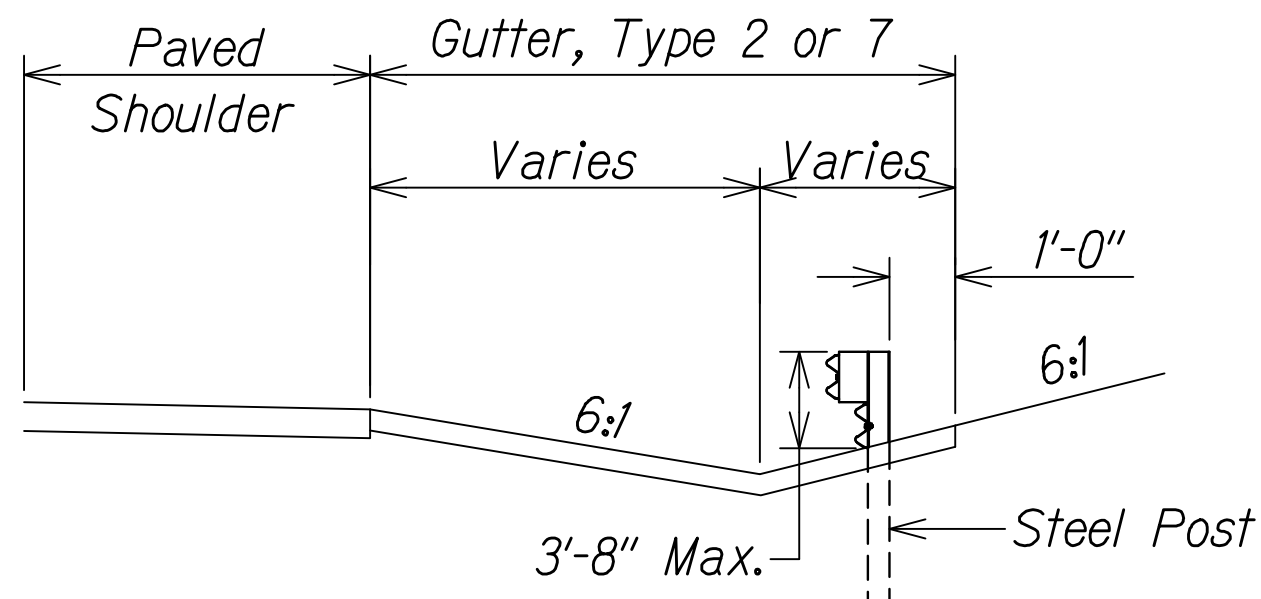
Design speed mph	a:b
68	15:1
62	13:1
56	12:1
50	11:1
43	10:1
37	9:1
31	7:1



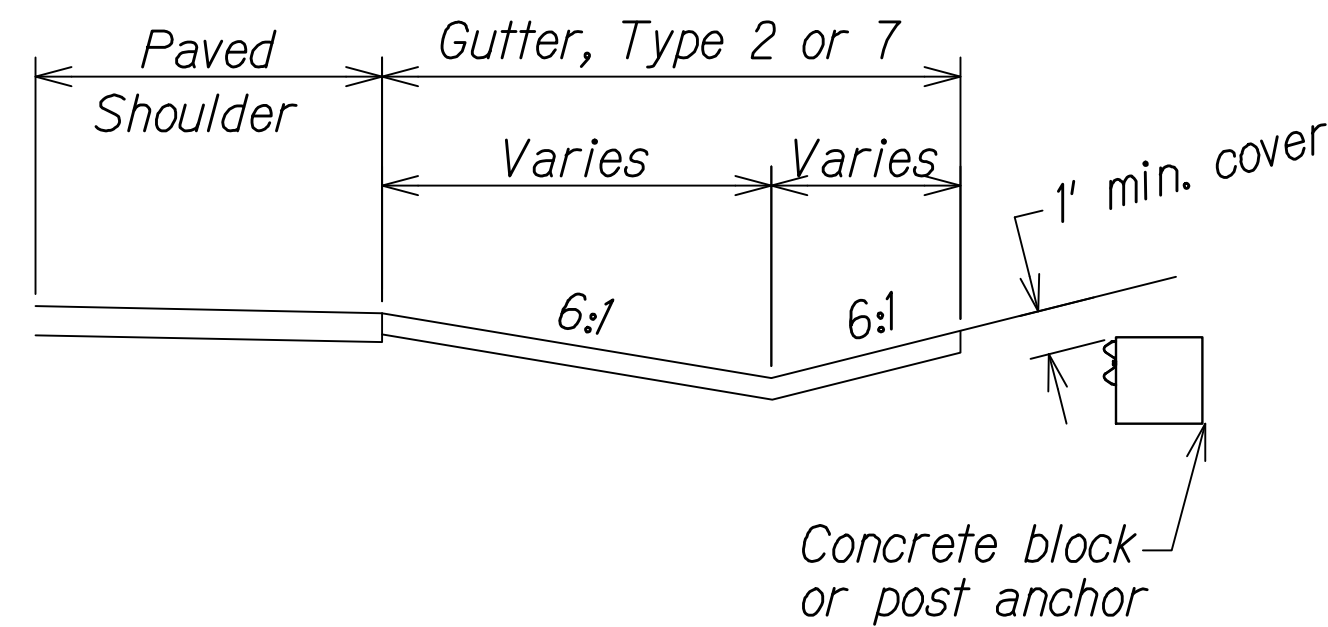
Section A-A



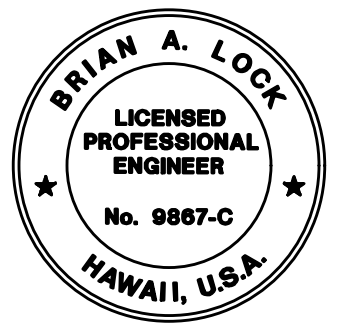
Section B-B
(With Rubrail)



Section C-C
(With Rubrail)



BACKSLOPE ANCHOR TERMINAL (WITH 6:1 PAVED GUTTER AND TYPE "A" FLARE)



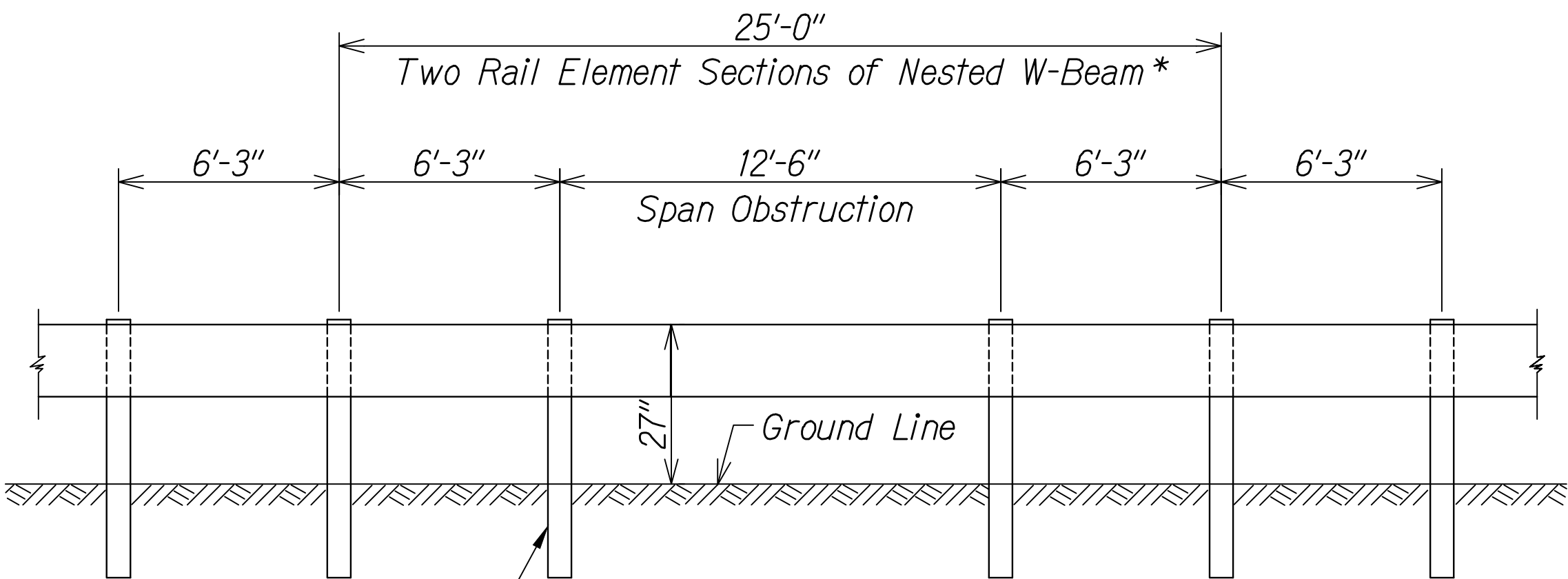
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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
GUARDRAIL DETAILS
WAIMEA CANYON DRIVE /
KOEKEE ROAD IMPROVEMENTS, PHASE 2B
MILE POST 4.6 TO MILE POST 11.5
Federal-Aid Project No. STP-0550(006)
Scale: None Date: July 2024

SHEET No. GRD6 OF 7 SHEETS

DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUA'I	HAW.	STP-0550(006)	2024	203	325

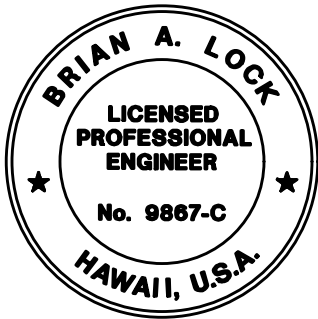
*Note: All nested W-Beam splices points shall be staggered.



See Double Nested Steel Post
Guardrail with Rubrail detail
on ADD. 76, Typ.

(SPLICE IN CENTER OF 12'-6" SPACING)
DOUBLE NESTED LONG SPAN STRONG POST
W-BEAM GUARDRAIL OVER 12'-6" SPAN
(MAXIMUM DYNAMIC DEFLECTION OF 3.1 FT.)

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
No.	QUANTITIES BY	
	CHECKED BY	



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HIGHWAYS DIVISION

GUARDRAIL DETAILS

WAIMEA CANYON DRIVE /
KOKEE ROAD IMPROVEMENTS, PHASE 2B
MILE POST 4.6 TO MILE POST 11.5
Federal-Aid Project No. STP-0550(006)
Scale: None Date: July 2024

SHEET No. GRD7 OF 7 SHEETS