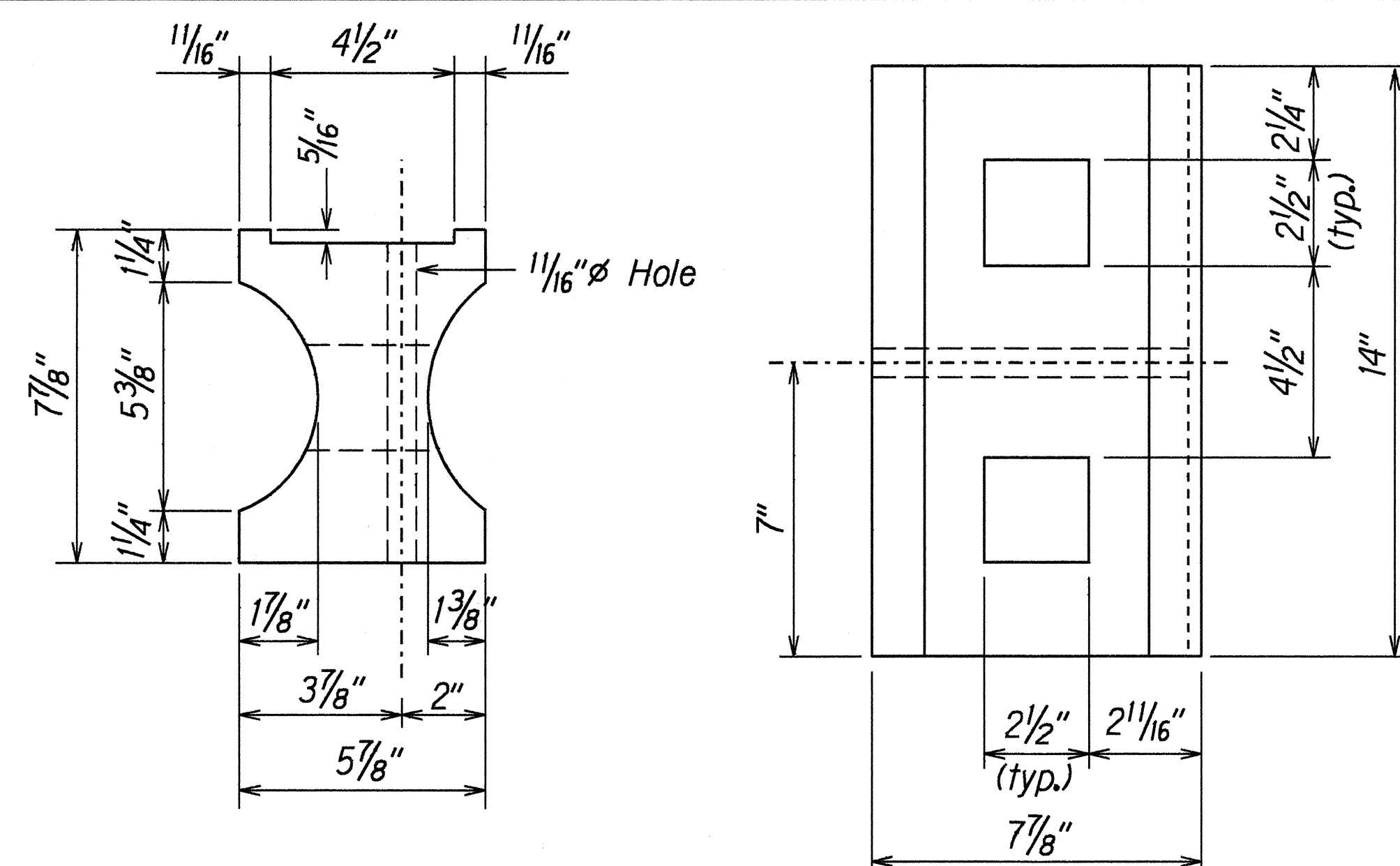


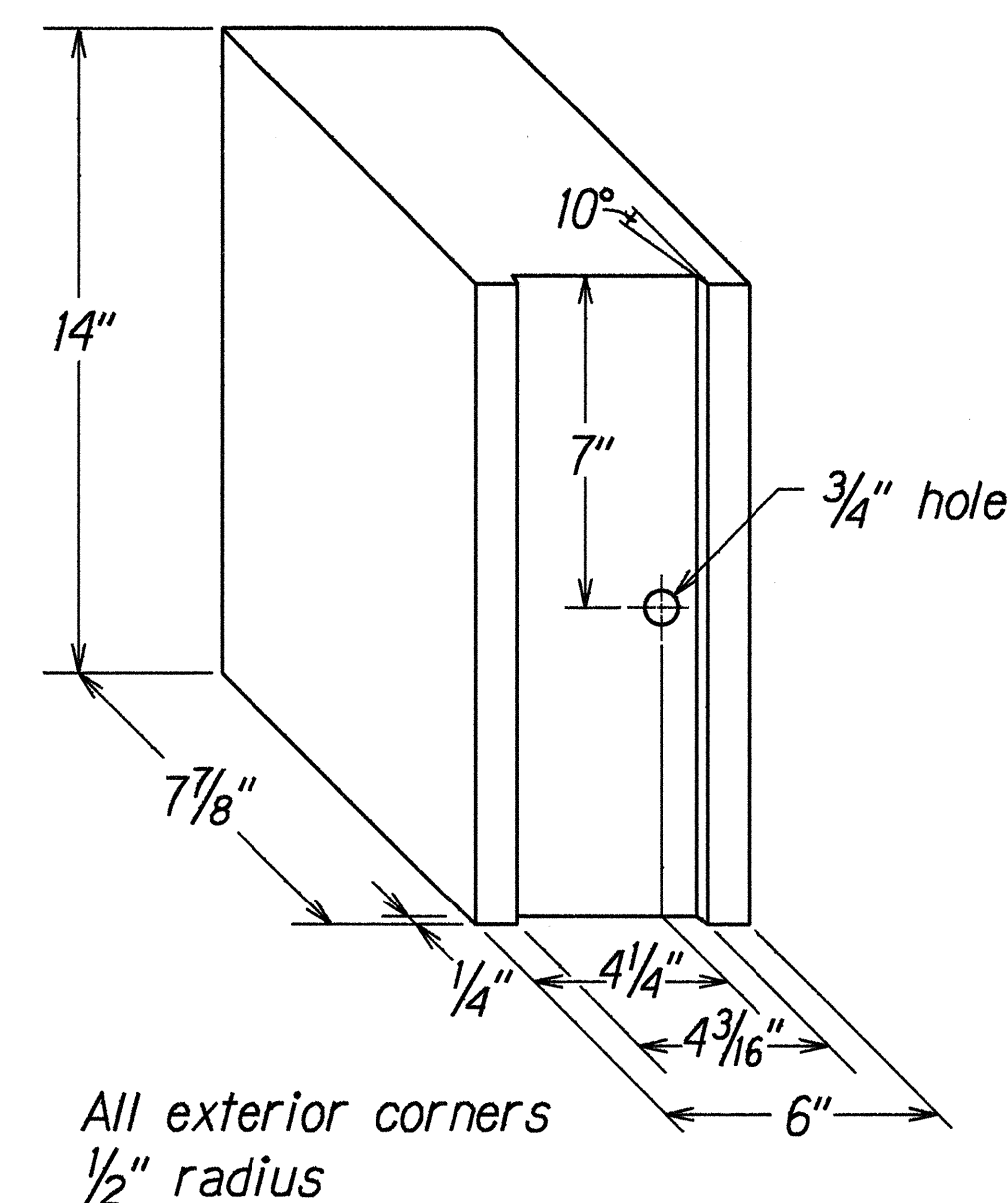
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-099-1(20)	1999	11	44

GENERAL NOTES

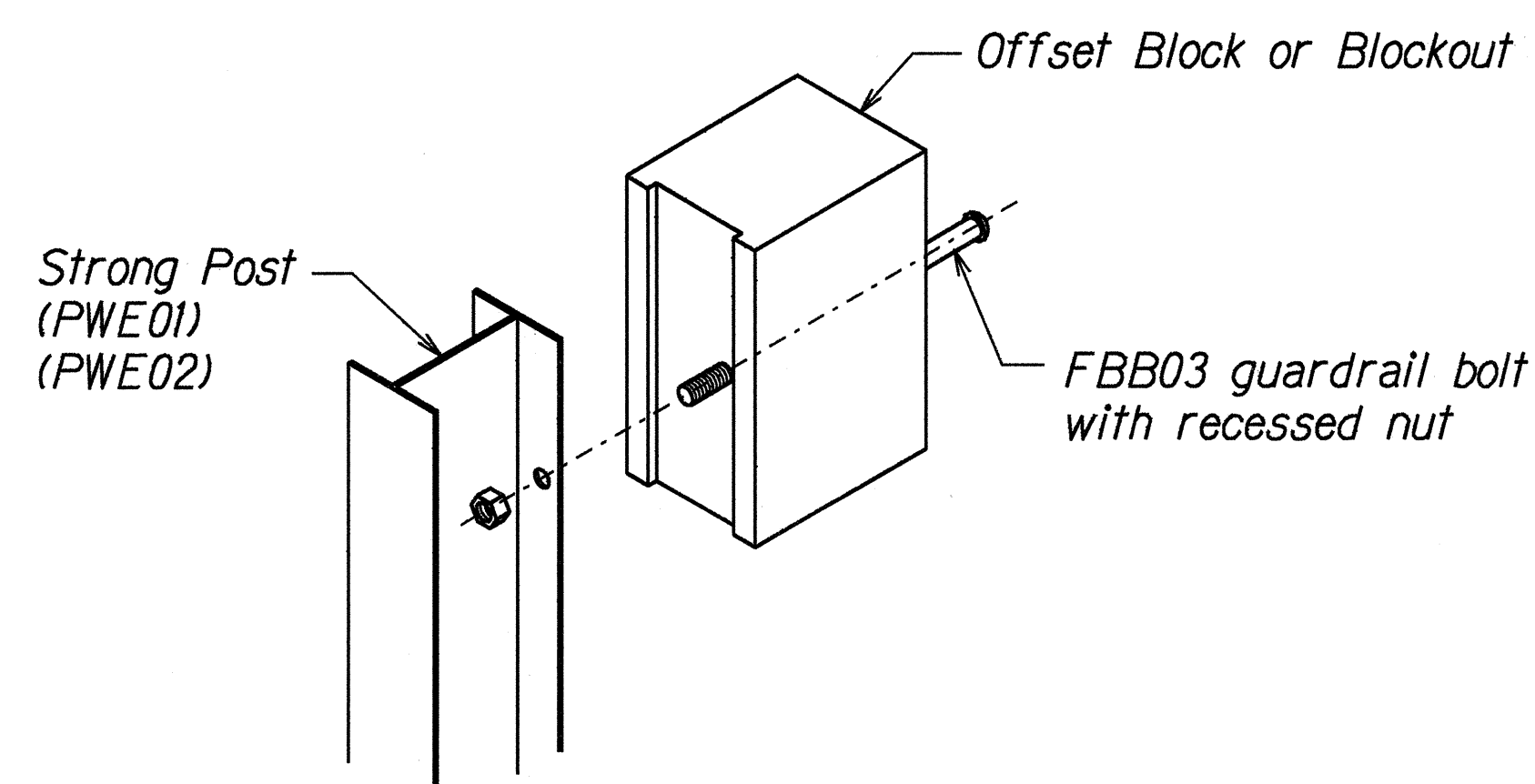
1. All hardware, posts and fasteners shall be hot-dip zinc coated galvanized after fabrication. No punching, drilling or cutting will be permitted after galvanizing.
2. Where conditions require, special post lengths in increments of 6 inches may be specified.
3. All fasteners, posts, and rail elements (i.e. FBB03, PWE01, RWM02b, etc.) 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-AGC-ARTBA Joint Cooperative Committee, Subcommittee On New Highway Materials, Task Force 13 Report. Dimensions of fastners, posts and rail elements have been converted from metric units into their present form.
4. The Recycled Plastic Block or Offset Block shall be approved by the State.
5. After the guardrail posts are installed in the paved area, the Contractor shall grout around the guardrail post and seal all cracks in the paved area that was caused during the guardrail post installation. If required by the inspector/engineer, the Contractor shall tamper the paved area around the guardrail post prior to grouting. The cost for this work shall not be paid for separately, but shall be considered incidental to the various guardrail items.
6. When standards for the fill slope area cannot be met, a site specific, engineer approved design may be used.



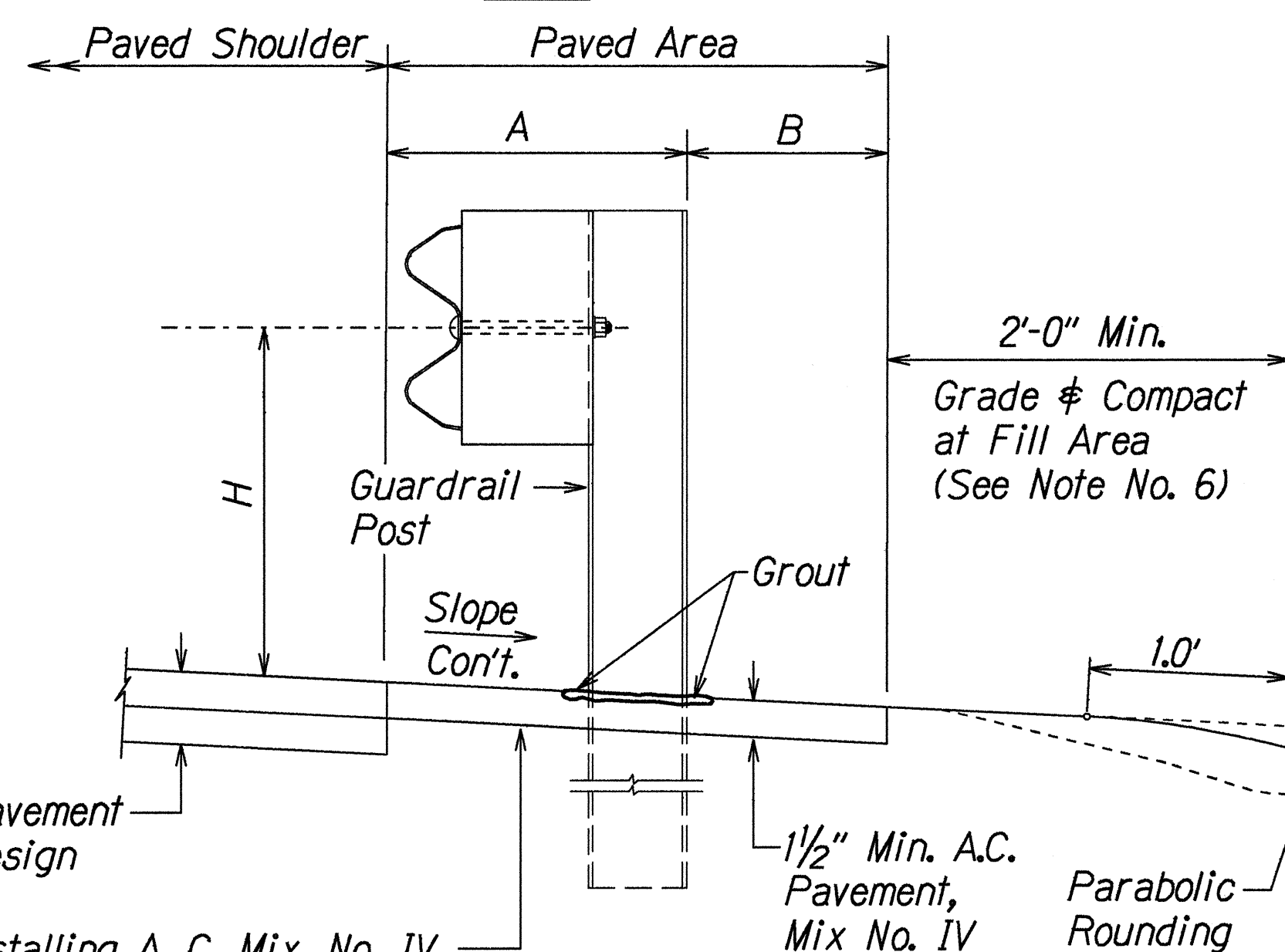
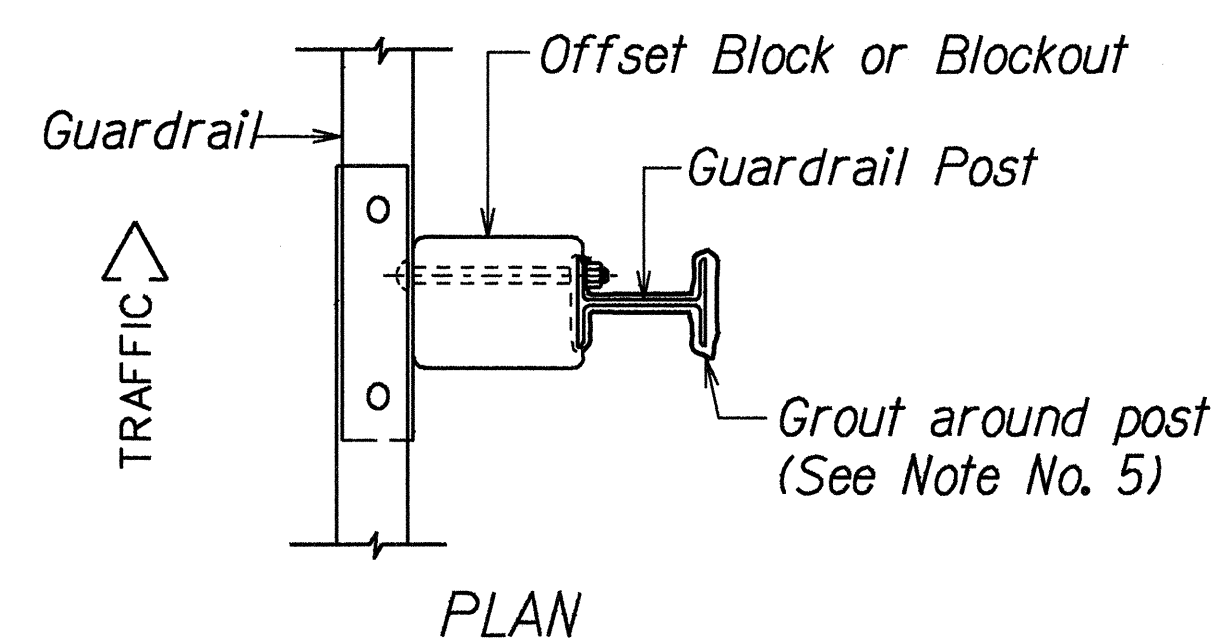
TOP
SIDE
RECYCLED PLASTIC BLOCKOUT (TYPE I)



RECYCLED POLYETHYLENE
OFFSET BLOCK (TYPE II)



Exploded View
(Rail and washer not shown)
STEEL POST AND BLOCK DETAIL



GUARDRAIL TYPE	DIMENSION		
	H	A	B
Strong Post w/W Beam	1'-9 5/8"	1'-6"	1'-0"
Rubrail	2'-0"	1'-6"	2'-0"
Modified Thrie Beam	2'-0"	2'-0"	1'-0"

Prior to installing A. C. Mix. No. IV, level & remove vegetation and compact existing ground to 95% compaction.

ELEVATION
TYPICAL GUARDRAIL INSTALLATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

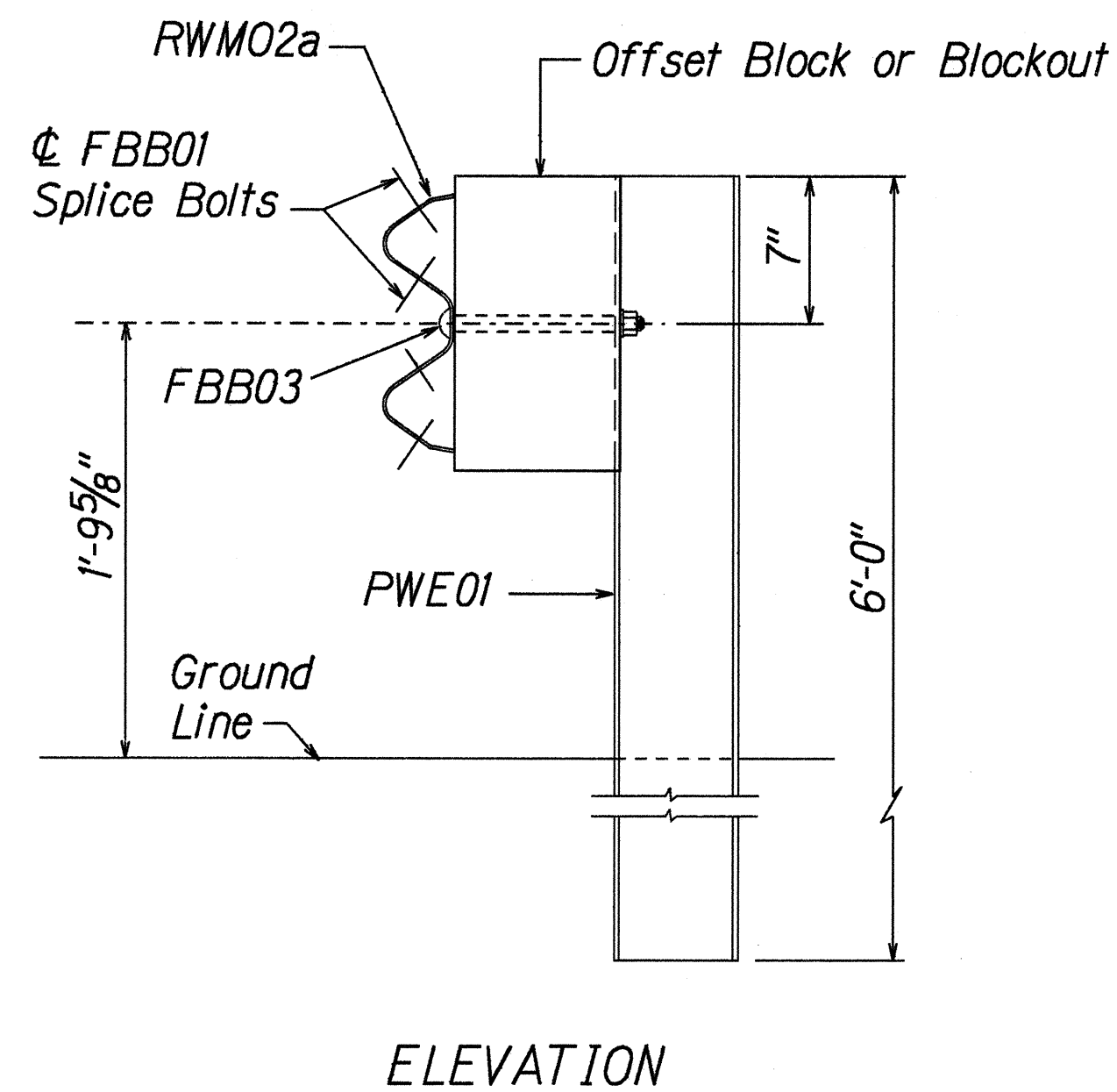
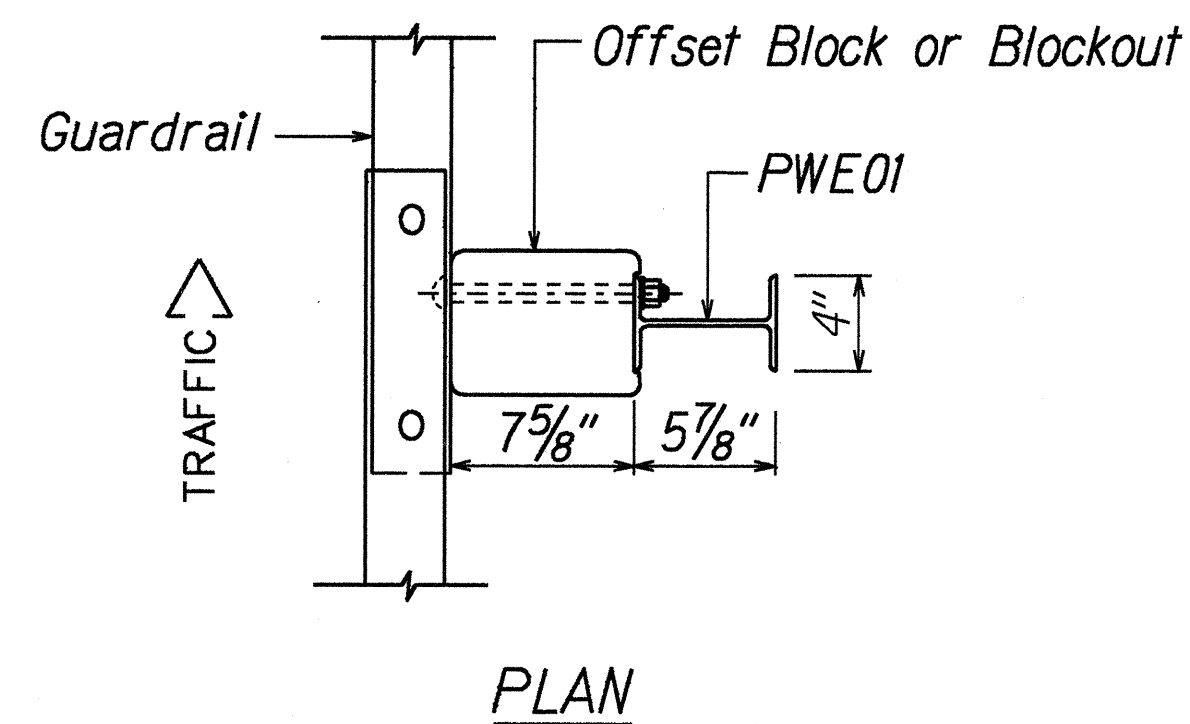
GUARDRAIL DETAILS & NOTES
KAMEHAMEHA HIGHWAY PEDESTRIAN
ACCESSIBLE ROUTE IMPROVEMENTS
Acacia Road to Honomanu Street
Fed. Aid Project No. STP-099-1(20)
Scale: NTS
Date: March 1999

SHEET No. 1 OF 4 SHEETS

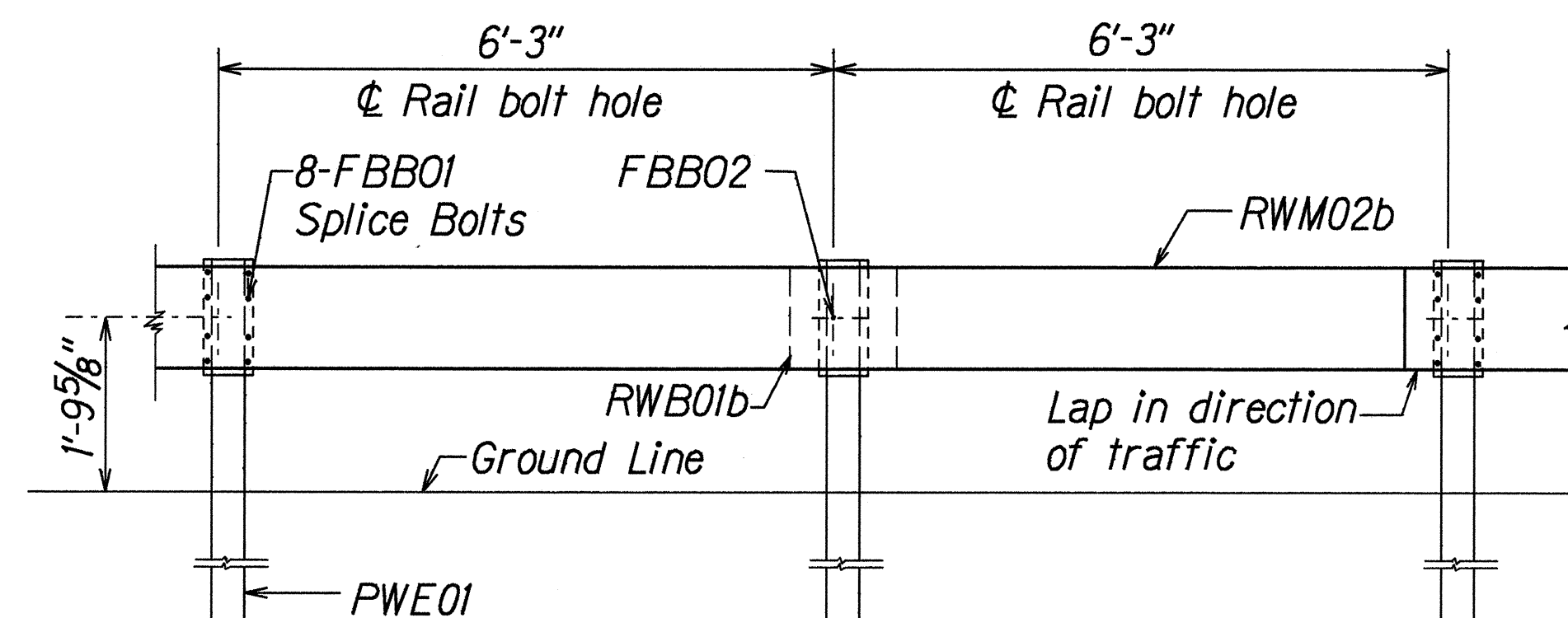
ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
REVISIONS	

13/01/99 141rudy/guardrail/tes09evdgn - standard plan TE-50 (03/06/87)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-099-1(20)	1999	12	44

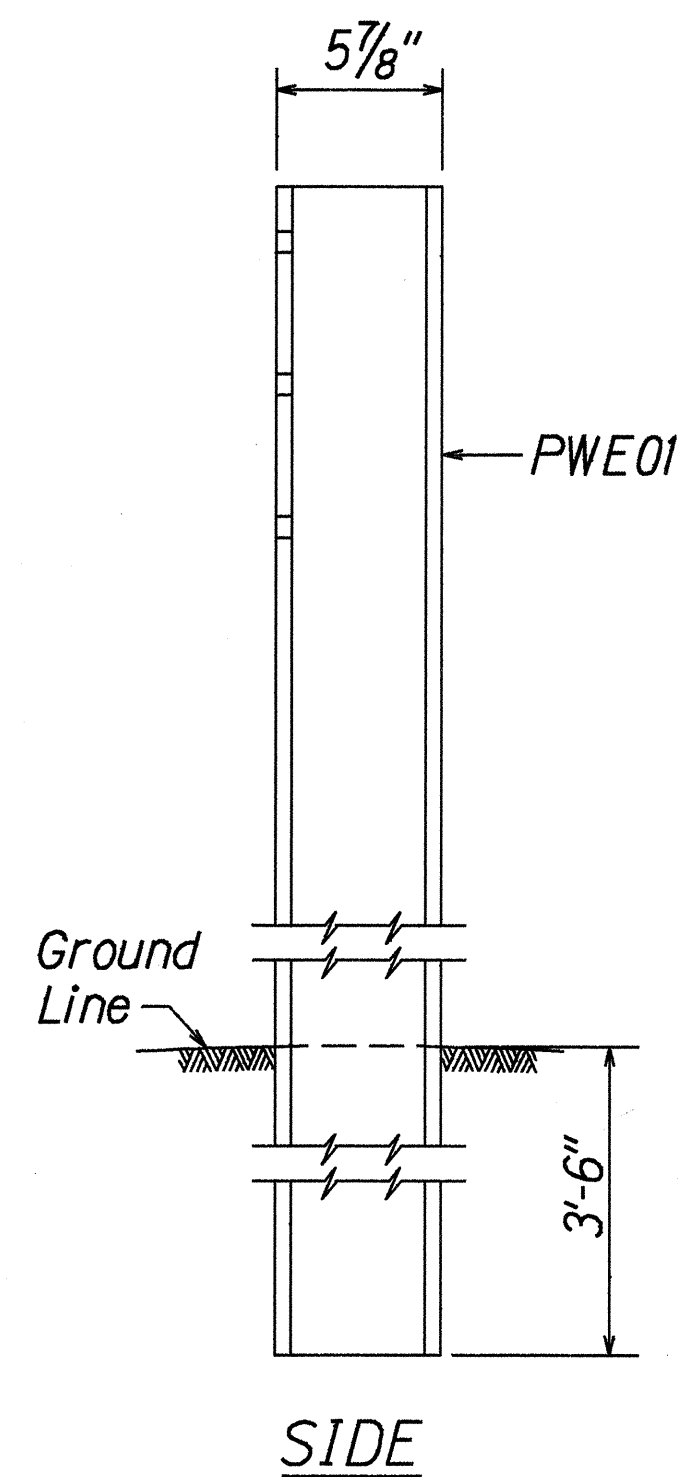


STRONG POST W-BEAM GUARDRAIL
(SGR04a)

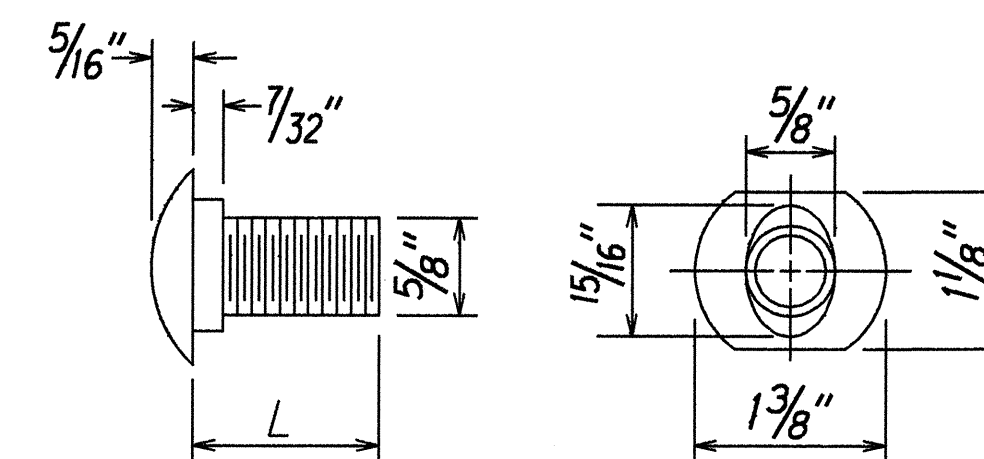
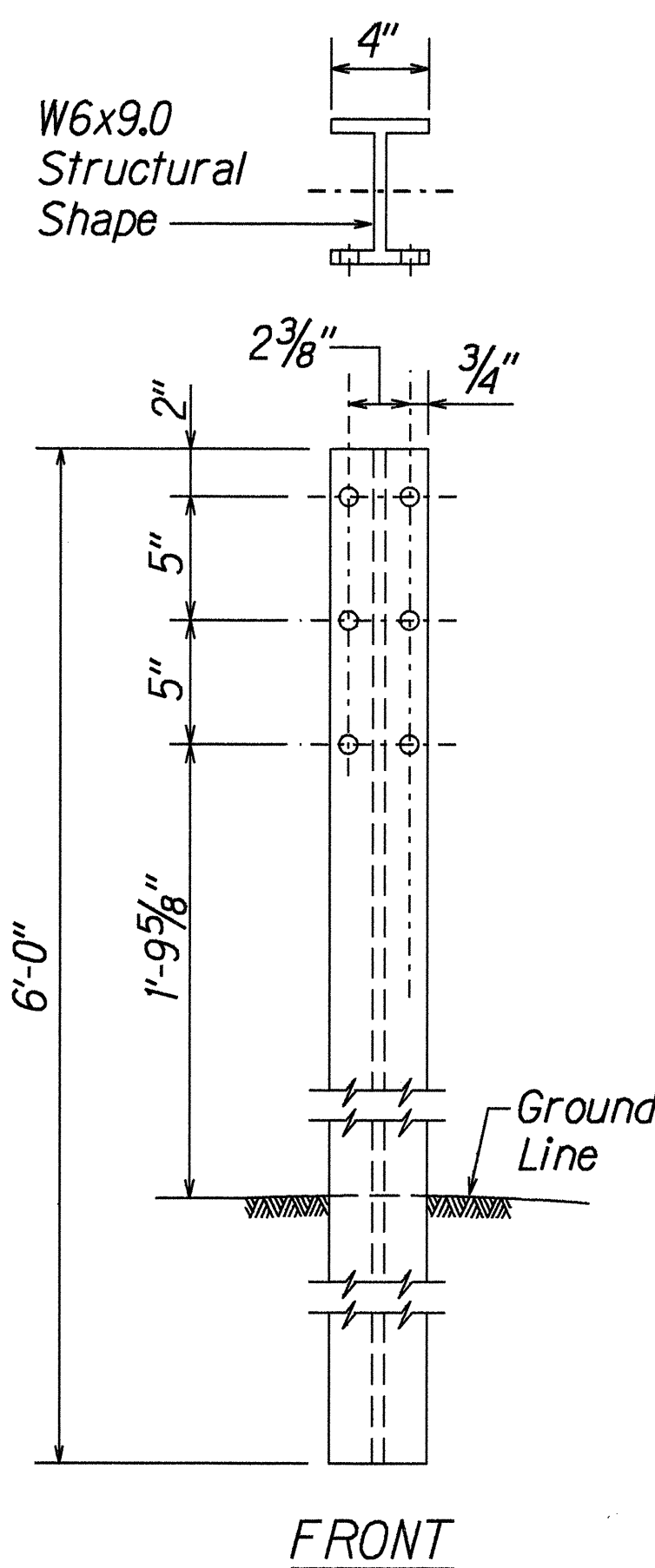


STRONG POST W-BEAM GUARDRAIL WITH
RECYCLED OFFSET BLOCK OR PLASTIC BLOCKOUT

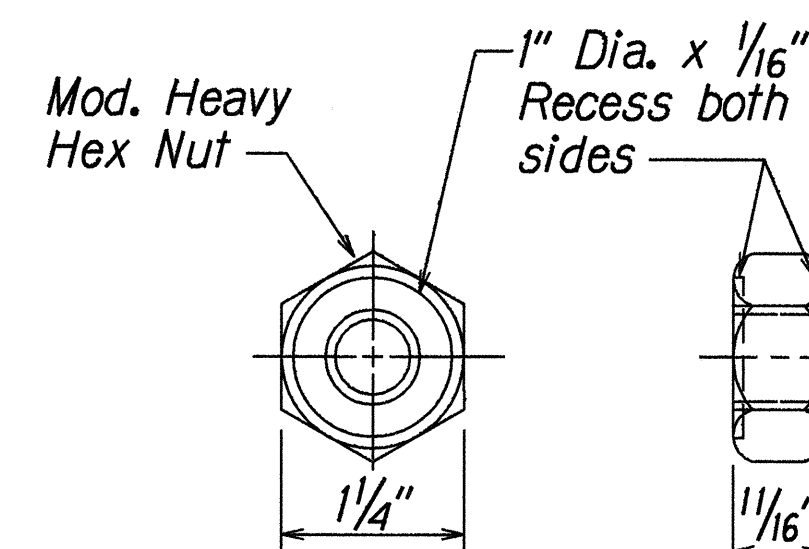
NOTE:
All Holes are
3/4" Dia.



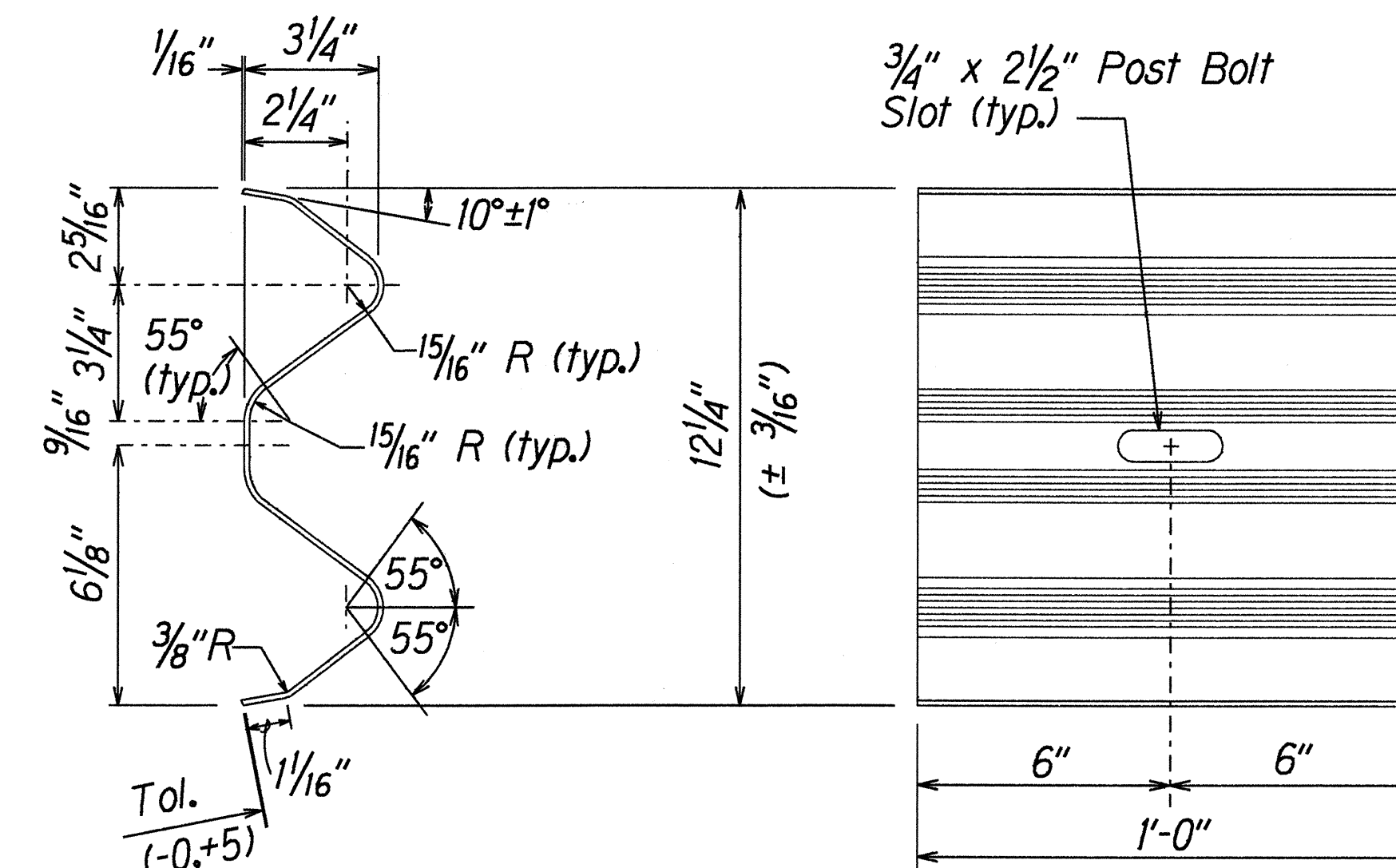
W-BEAM STRONG POST (PWE01)



DESIGNATOR	L
FBB01	1 3/8"
FBB02	2"
FBB03	10"

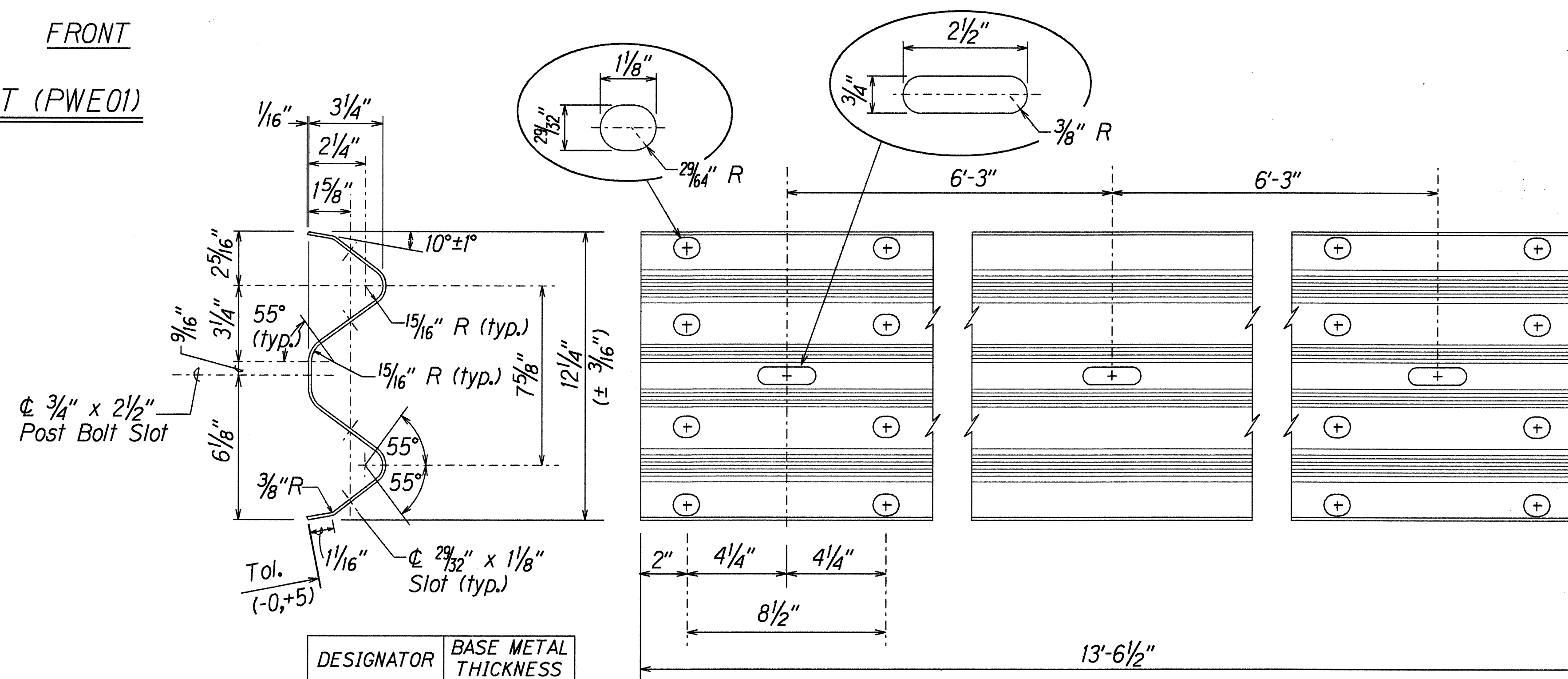


GUARDRAIL BOLTS AND
RECESSED NUT



DESIGNATOR	BASE METAL THICKNESS
RWB01b	17/128"

W-BEAM BACK-UP-PLATE (RWB01b)



DESIGNATOR	BASE METAL THICKNESS
RWM02b	17/128"

2 SPACE W-BEAM GUARDRAIL (RWM02b)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

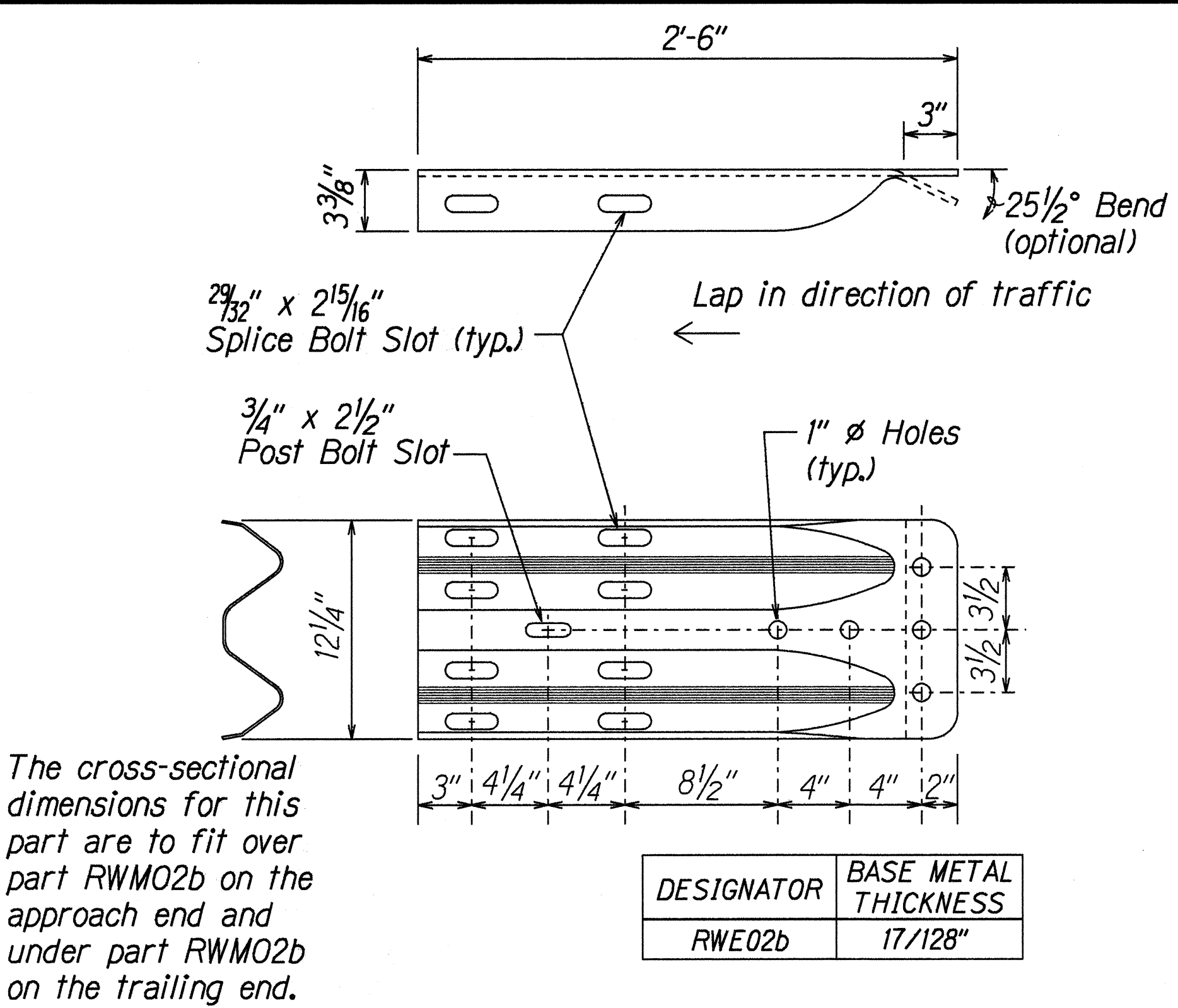
STRONG POST W-BEAM GUARDRAIL
KAMEHAMEHA HIGHWAY PEDESTRIAN
ACCESSIBLE ROUTE IMPROVEMENTS
Acacia Road to Honomanu Street
Fed. Aid Project No. STP-099-1(20)
Scale: NTS Date: March 1999

SHEET No. 2 OF 4 SHEETS

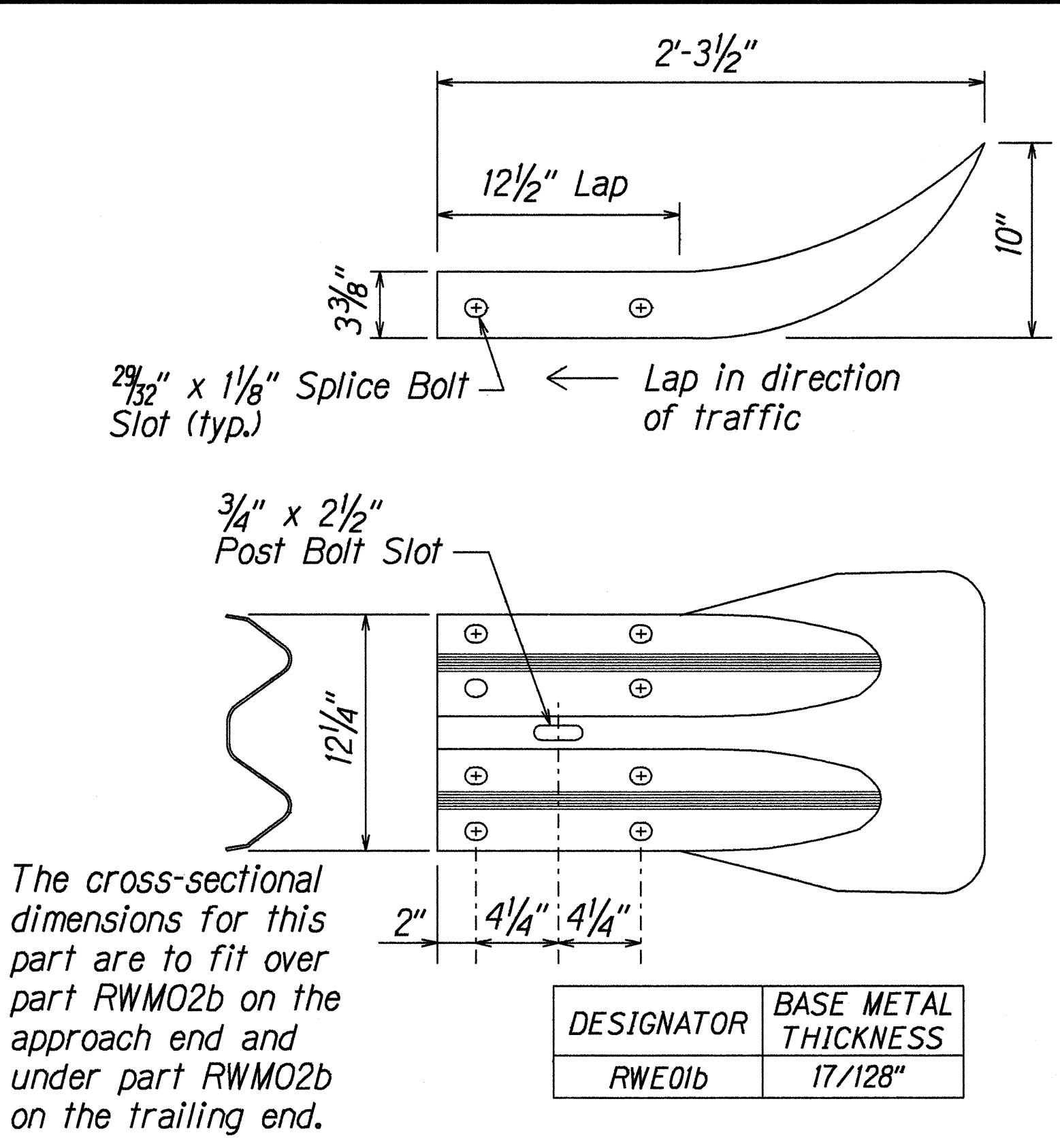
ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NOTED BY	
REVISIONS	
1. Test rev.	

3/01/99 tdruby/guardrail/wbeamsbdrn (standard plan TE-50 r03/06/87)

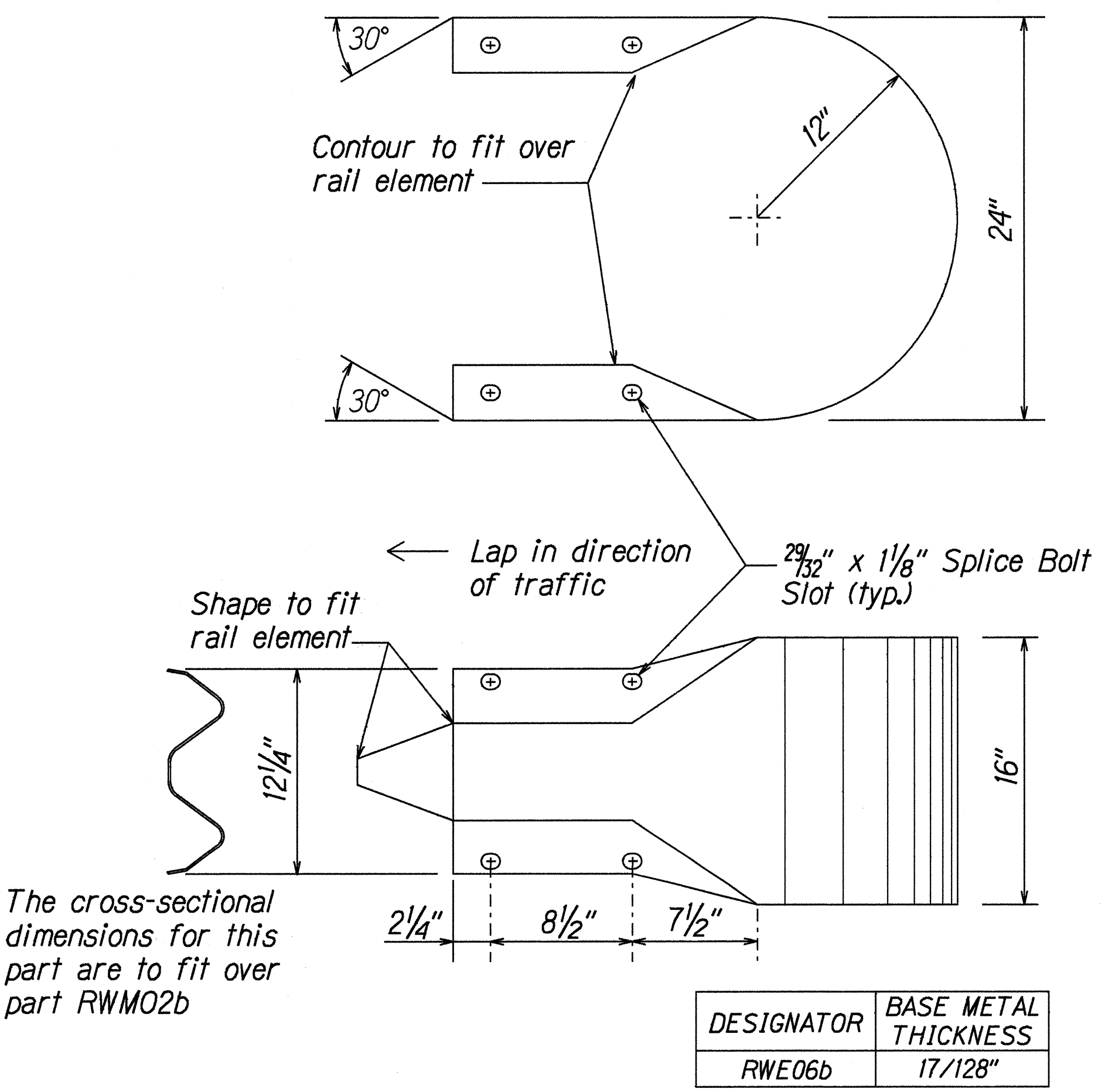
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-099-K(20)	1999	13	44



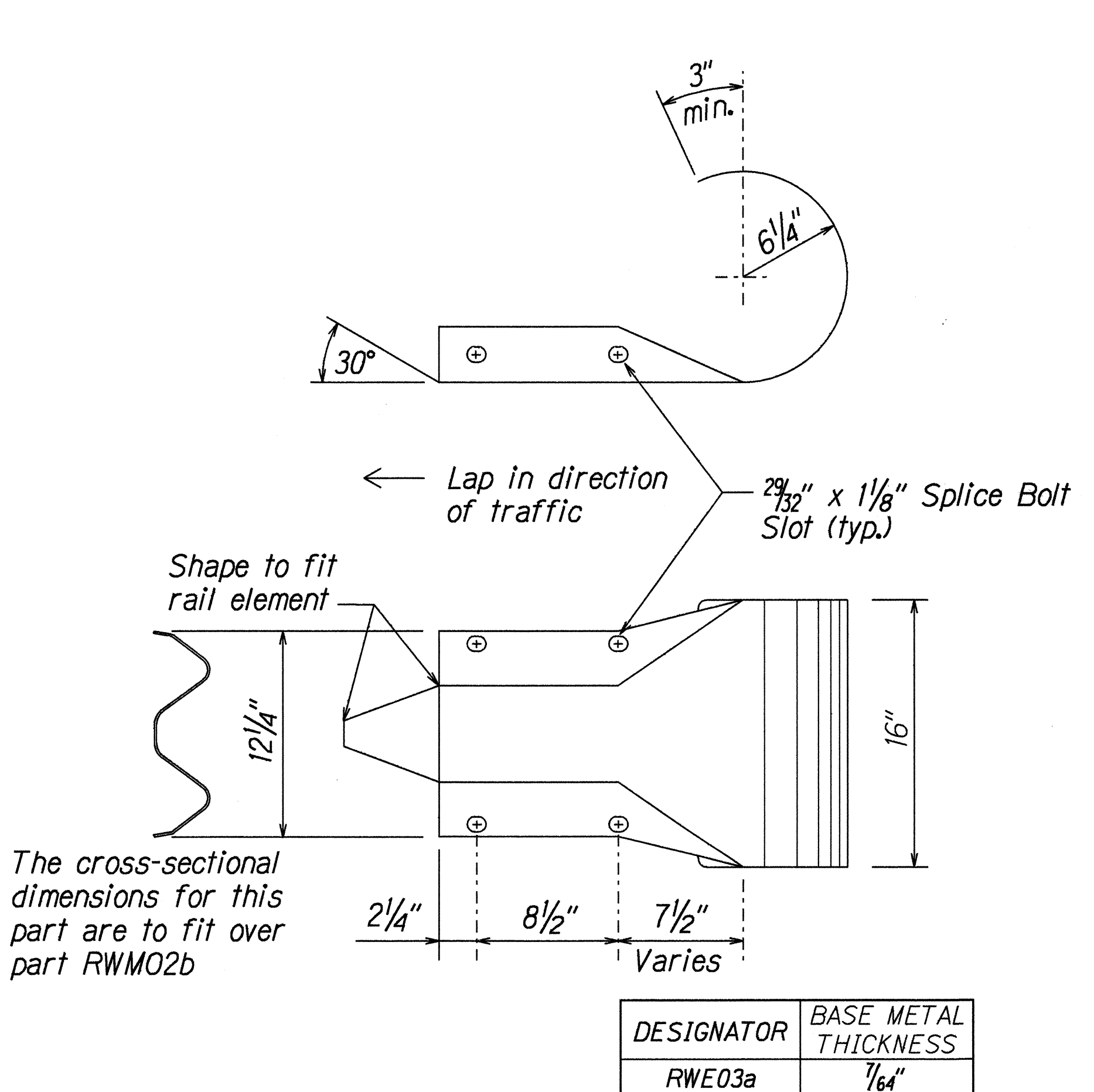
W-BEAM TERMINAL CONNECTOR (RWE02b)



W-BEAM END SECTION (FLARED RWE01b)



W-BEAM END SECTION (BUFFER RWE06b)



W-BEAM END SECTION (ROUNDED RWE03a)

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
DRAWN BY		
NOTES		
DESIGNED BY		
CHECKED BY		
DATE		

13/01/99 1dTruby/guardrail/tech/rev.dgn (standard plan TE-51 109/10/87)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRONG POST W-BEAM GUARDRAIL

KAMEHAMEHA HIGHWAY PEDESTRIAN ACCESSIBLE ROUTE IMPROVEMENTS

Acacia Road to Honomanu Street

Fed. Aid Project No. STP-099-K(20)

Scale: NTS

Date: March 1999

SHEET No. 3 OF 4 SHEETS

