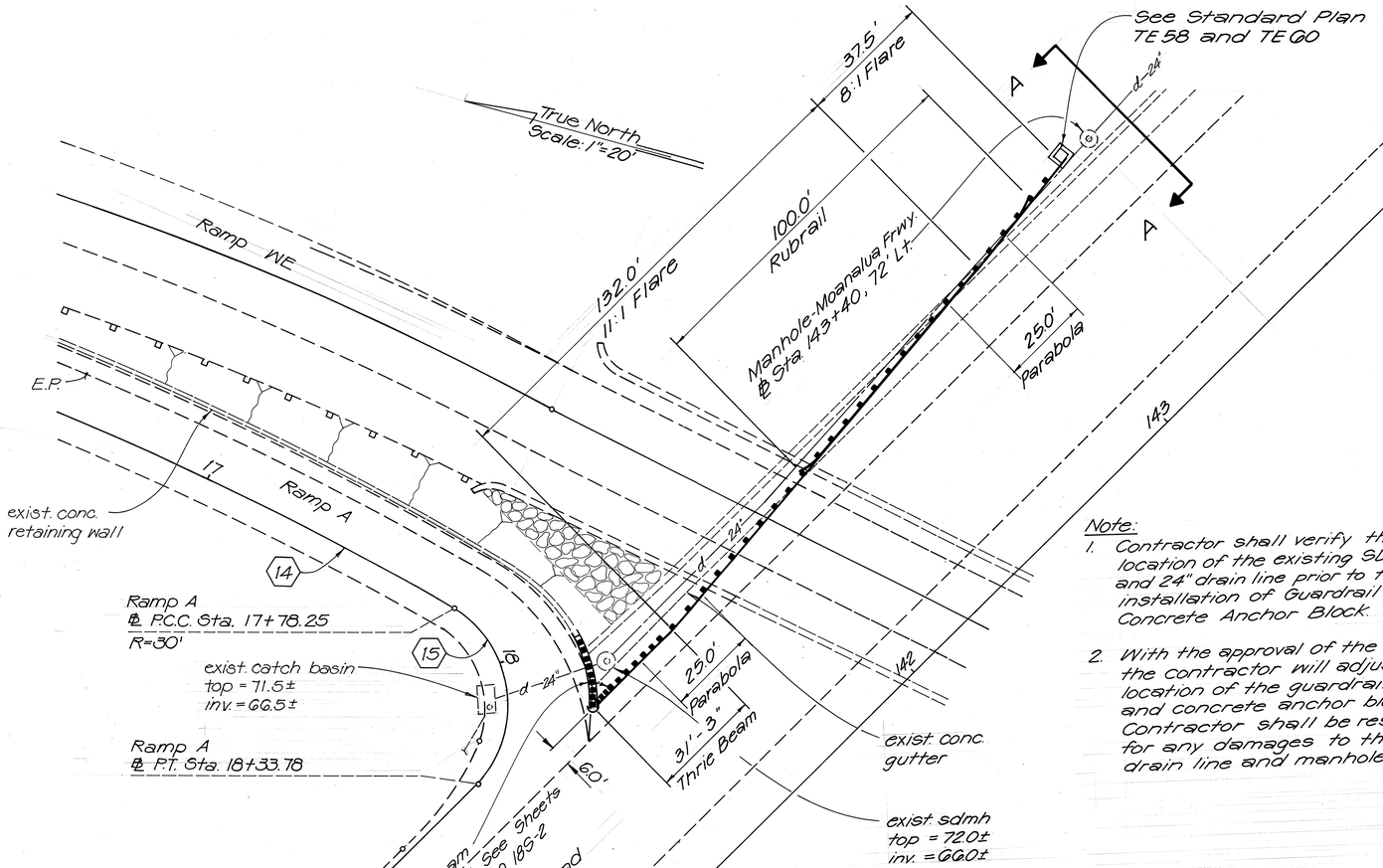
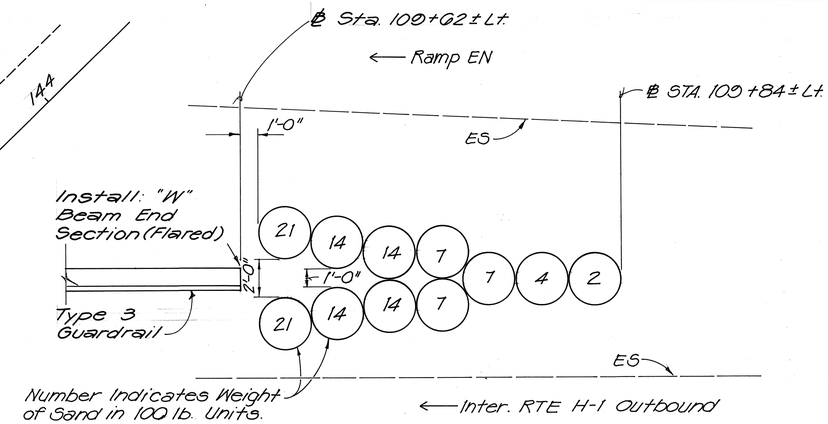
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(207)	1988	18	46



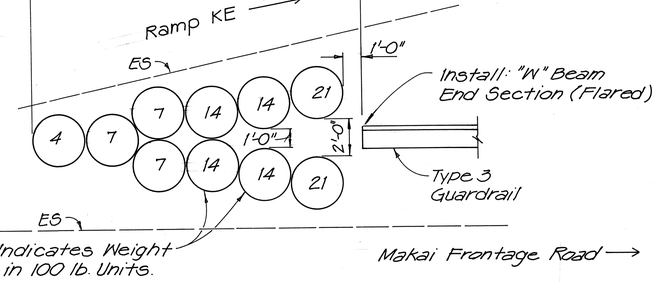


Note:

1. Contractor shall verify the location of the existing SDMH's and 24" drain line prior to the installation of Guardrail and Concrete Anchor Block.
2. With the approval of the engineer, the contractor will adjust the location of the guardrail post and concrete anchor block. Contractor shall be responsible for any damages to the 24" drain line and manholes.

℄ STA. 109+62± Lt. to ℄ STA. 109+84± Lt.

Not To Scale

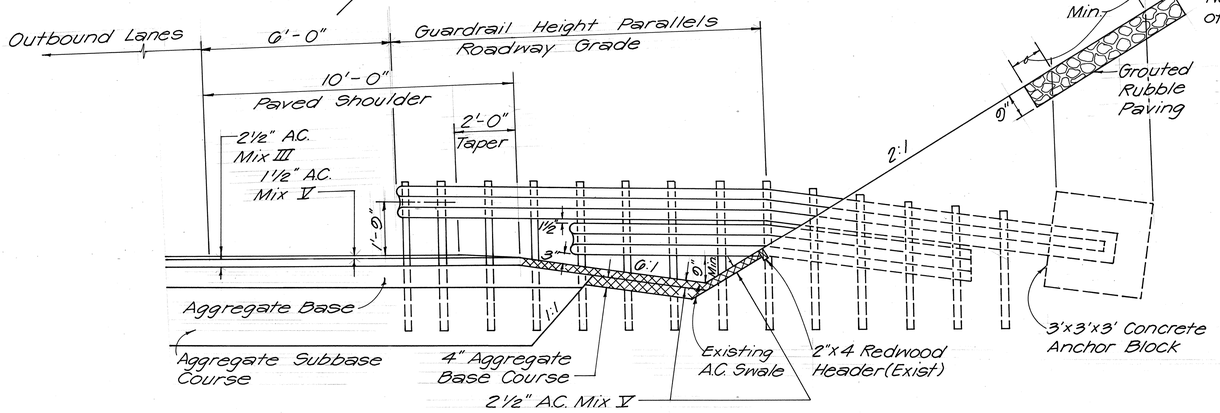


RAMP KE - ℄ STA. 1+81 ± Rt. to ℄ STA. 2+00 ± Rt.

Not To Scale

PLAN - RAMP "A"

Scale: 1"=20'



SECTION A-A

Not To Scale

DETAILS OF INERTIAL BARRIER SYSTEMS

DATE	REVISION
10/27/89	Revised Terminal Section on Ramp A. (Change Order)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN AND DETAILS

INTERSTATE ROUTE H-1
RESURFACING KAIMAKANI ST.
TO AIRPORT VIADUCT
F.A.I. PROJECT No. IR-HI-1(207)

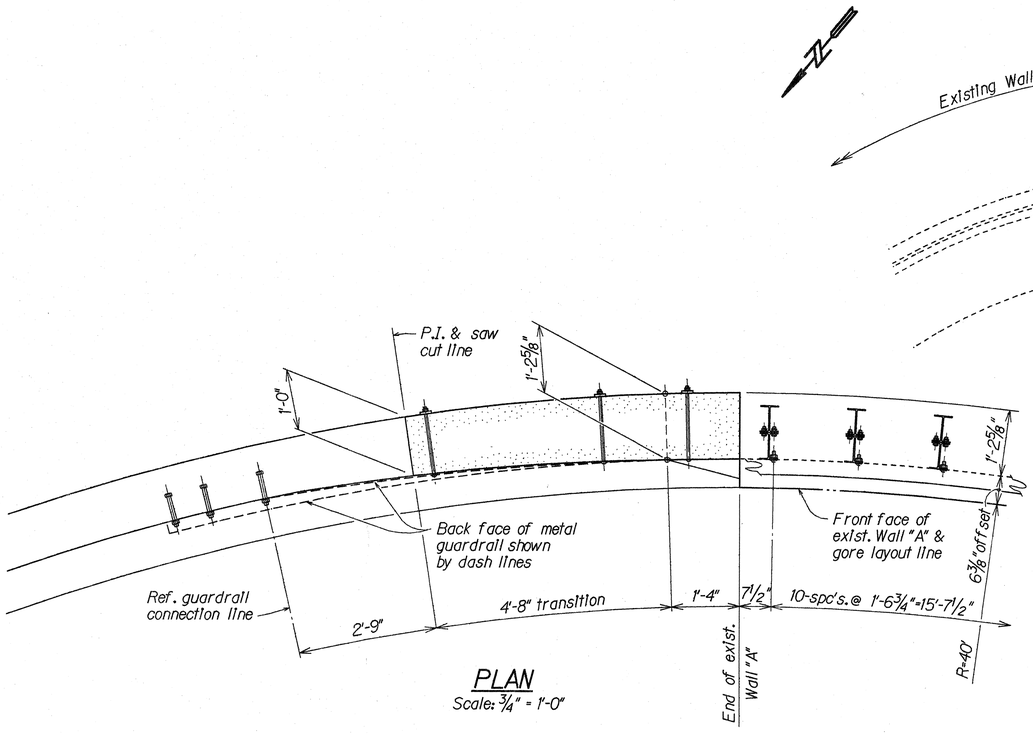
Scale: As Shown Date: June, 1988

SHEET No. 1 OF 1 SHEETS

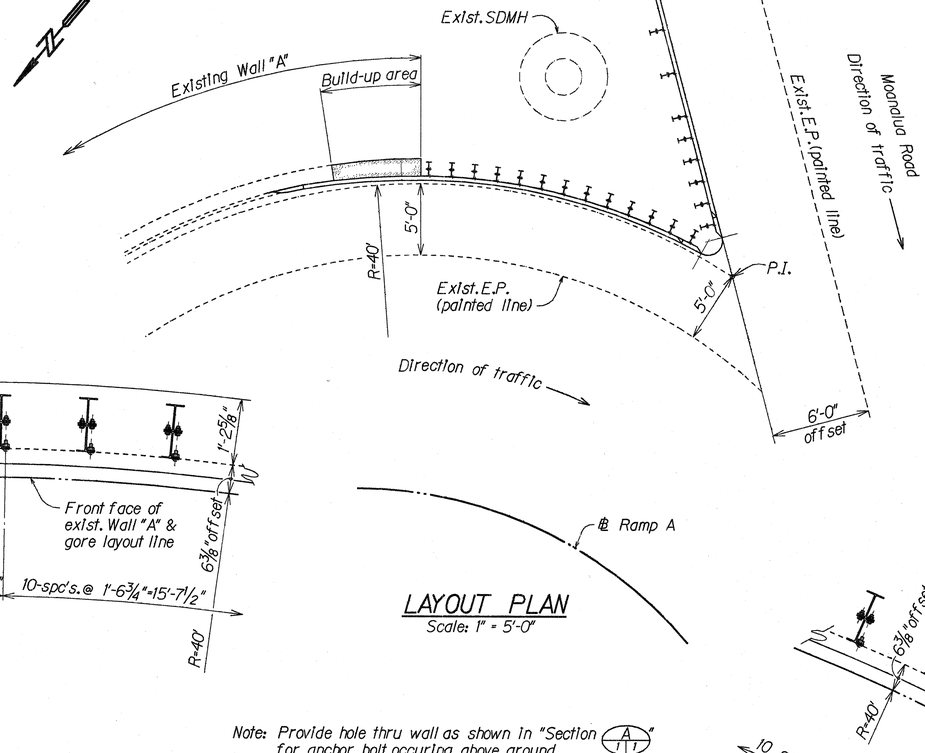
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
NOTE BOOK	TRACED BY	
	DESIGNED BY	
No.	QUANTITIES BY	
	CHECKED BY	

C.O. 18

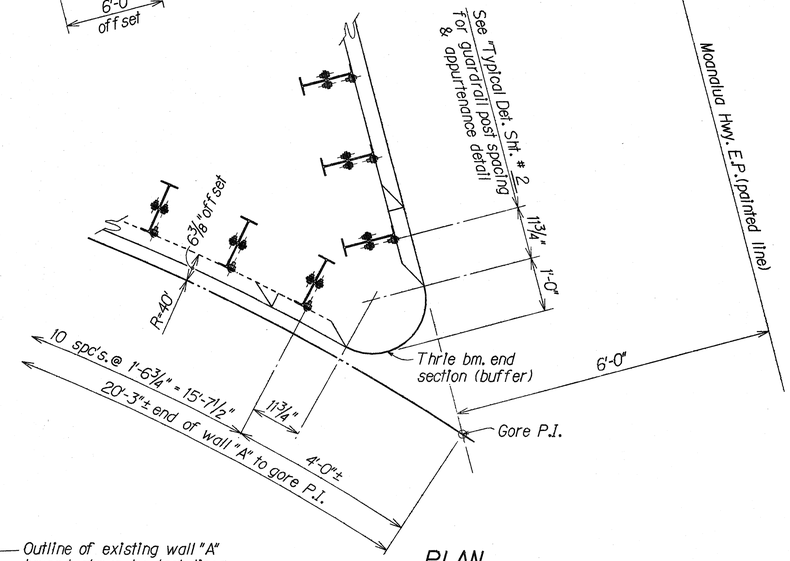
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(207)	1990	C.O.18 S-1	46



PLAN
Scale: ¾" = 1'-0"

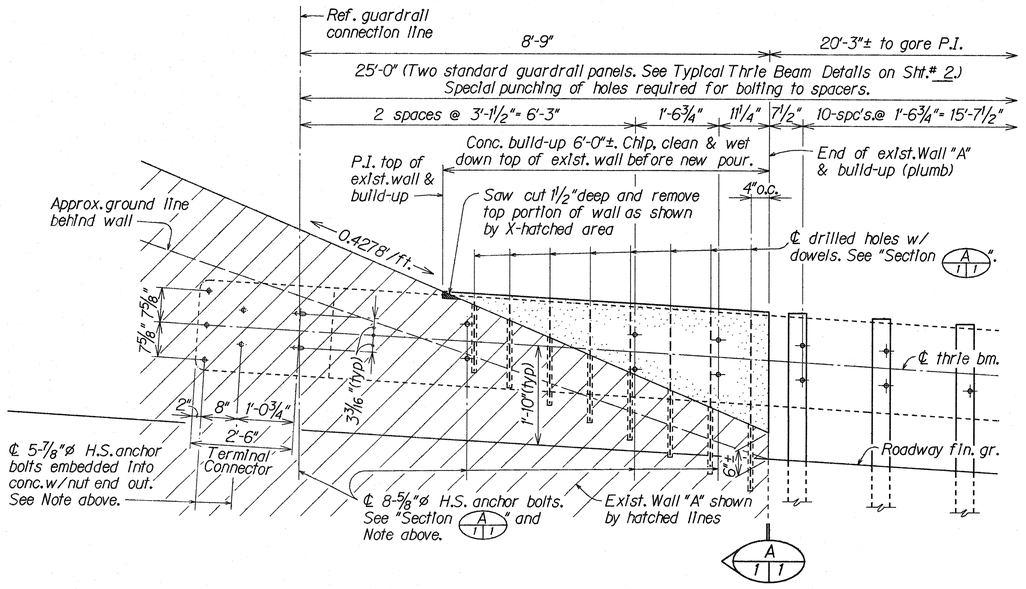


LAYOUT PLAN
Scale: 1" = 5'-0"

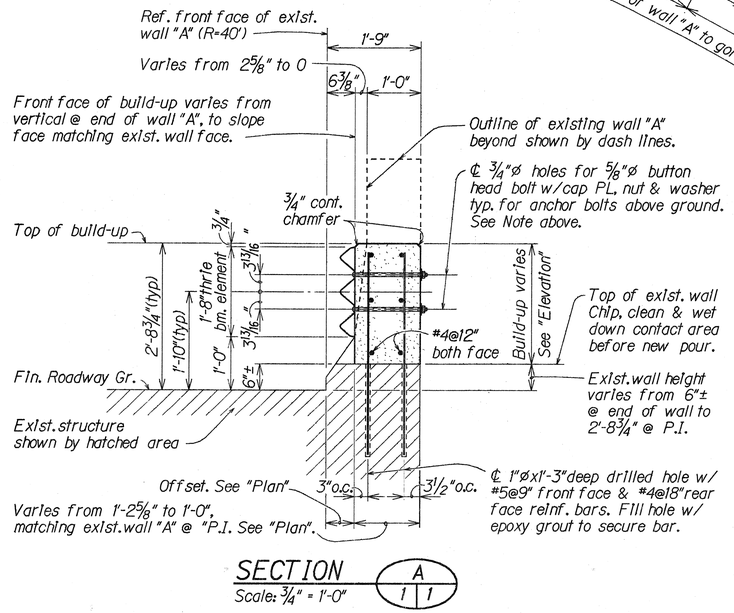


PLAN
Scale: ¾" = 1'-0"

Note: Provide hole thru wall as shown in "Section A 1 1" for anchor bolt occuring above ground behind wall. Others, drill and embed 6" min. into conc. w/nut end out. See Notes ② & ③ on Sht# 2. Embedded bolt shall be the adhesive type.



ELEVATION
Scale: ¾" = 1'-0"



SECTION A 1 1
Scale: ¾" = 1'-0"

ORIGINAL PLAN	SURVEY PLOTTED BY		DATE
	DRAWN BY	ASG	OCT. 1989
	TRACED BY		
	DESIGNED BY	TS & LTA	OCT. 1989
NOTE BOOK	QUANTITIES BY	TS	OCT. 1989
	CHECKED BY	LTA	OCT. 1989
No. RAMP H			

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EXISTING WALL "A" CONCRETE BUILD-UP AND GUARDRAIL CONNECTION DETAILS

INTERSTATE ROUTE H-1 RESURFACING
KAIMAKANI STREET TO AIRPORT VIADUCT
F.A.P. No. IR-HI-1 (207)

Scale: As Noted — Date: Oct 1989

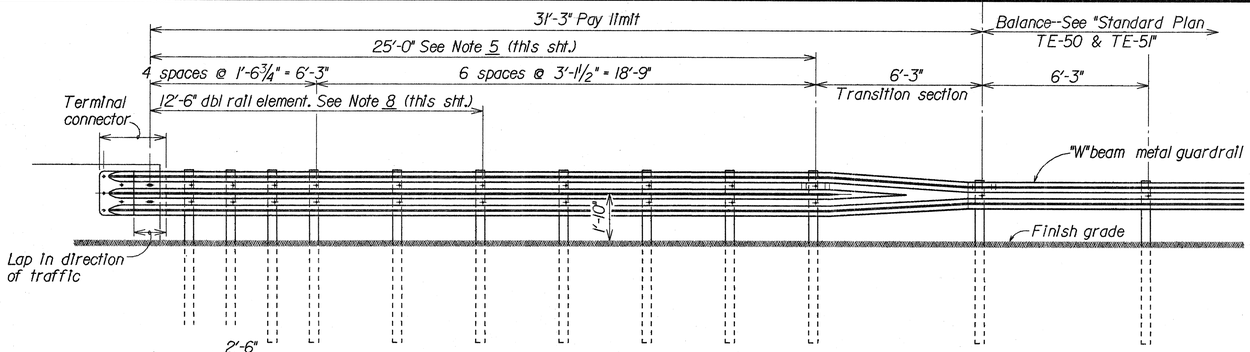
SHEET No. 1 OF 2 SHEETS

C.O.18S-1

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(207)	1990	CO.18 S-2	46

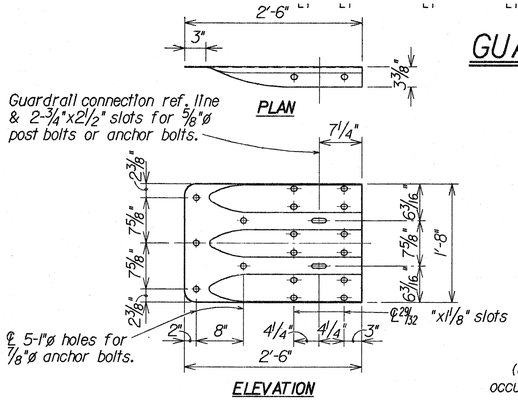
NOTES:

1. "Terminal Connector" shall be fabricated from 10 gauge steel conforming to the requirements of AASHTO M180.
2. All anchor bolts shall be high strength bolts conforming to the requirements of ASTM 325.
3. Anchor bolt length shall be such that a snug fit of the elements and full thread engagement plus 1/4"(max) is attained.
4. "Terminal Connector", tapered box and standard spacer; including all anchor bolts, cap PL, nuts and washers; shall be hot-dip galvanized after fabrication.
5. First 25'-0" of guardrail adjoining "Terminal Connector" shall be of galvanized steel and supports spaced as shown on the detail drawings.
6. Heads of through anchor bolts shall be placed on the traffic side of the end block; those at the thru spacer block excepted.
7. Where double (nested) beam occur, 12" "Backup Plate" not required.
8. Double (nest 1st panel) thrie beam elements at all end post connections, except on highways with one-way traffic pattern, use single thrie beam element at end post on trailing end only.



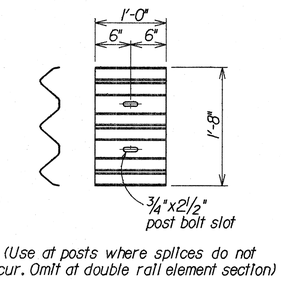
GUARDRAIL POST SPACING DETAIL

Scale: 3/8" = 1'-0"



TERMINAL CONNECTOR

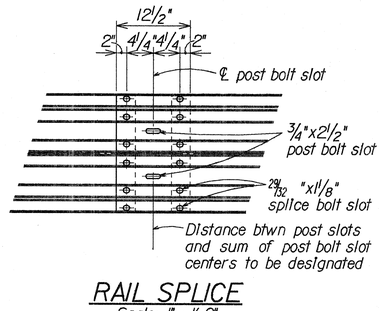
Scale: 1" = 1'-0"



(Use at posts where splices do not occur. Omit at double rail element section)

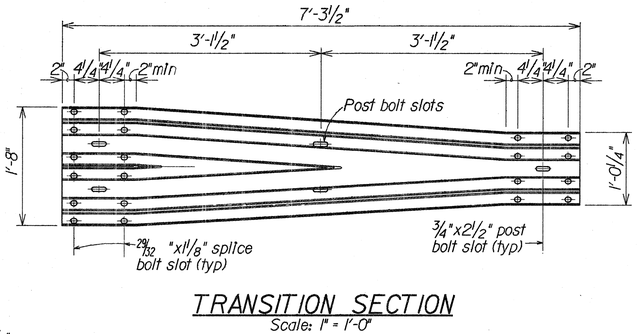
BACKUP PLATE

Scale: 1" = 1'-0"



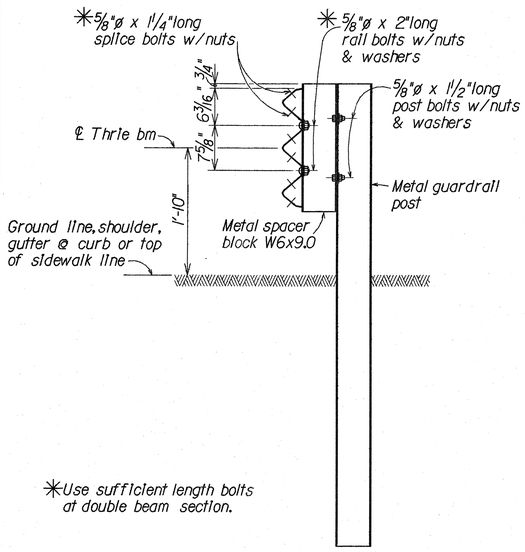
RAIL SPLICE

Scale: 1" = 1'-0"



TRANSITION SECTION

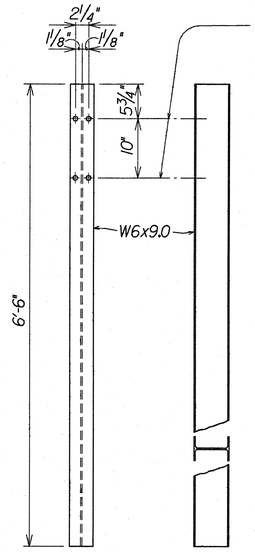
Scale: 1" = 1'-0"



TYPICAL SECTION

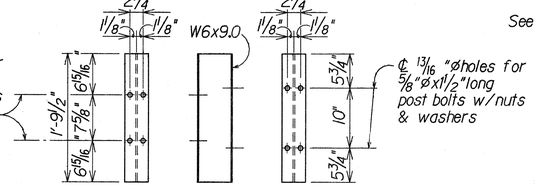
METAL GUARDRAIL ON METAL POST WITH METAL SPACER BLOCK

Scale: 1" = 1'-0"



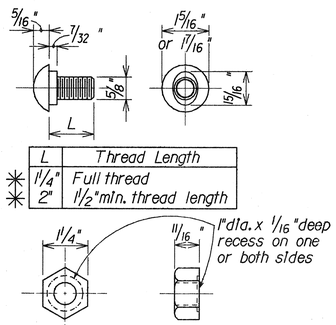
POST DETAILS

Scale: 1" = 1'-0"



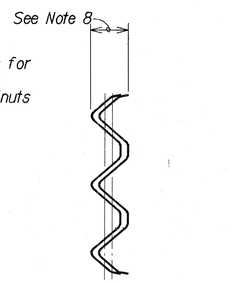
SPACER BLOCK DETAILS

Scale: 1" = 1'-0"



5/8"ø BUTTON HEAD BOLT & RECESS NUT

Scale: 6" = 1'-0"

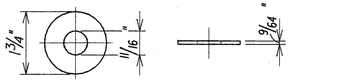


SECTION THRU RAIL ELEMENT

Scale: 1 1/2" = 1'-0"

SECTION THRU RAIL ELEMENT

Scale: 1 1/2" = 1'-0"



STEEL WASHER FOR 5/8"ø BOLT

Scale: 6" = 1'-0"

5/8"ø HEX BOLT & NUT

Scale: 6" = 1'-0"

TYPE 3 THRIE BEAM GUARDRAIL AND APPURTENANCES DETAILS

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	KSE OCT 1989
	DRAWN BY	" "
	TRACED BY	TS OCT 1989
	DESIGNED BY	TS OCT 1989
	QUANTITIES BY	TS OCT 1989
	CHECKED BY	LA OCT 1989
NOTE BOOK		
N. RAMP 42		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL TYPE 3 THRIE BEAM APPURTENANCES AND POST SPACING

INTERSTATE ROUTE H-1 RESURFACING
KAIMAKANI STREET TO AIRPORT VIADUCT
F.A.P. No. IR-HI-1(207)

Scale: As Noted — Date: Oct 1989

SHEET No. 2 OF 2 SHEETS

C.O.18S-2