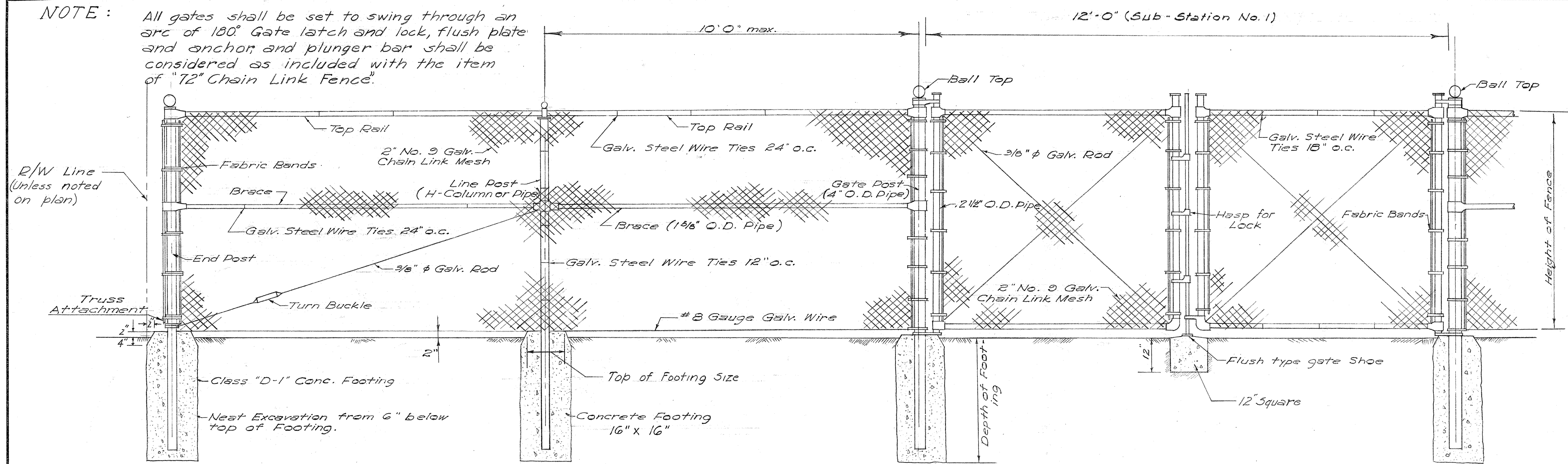
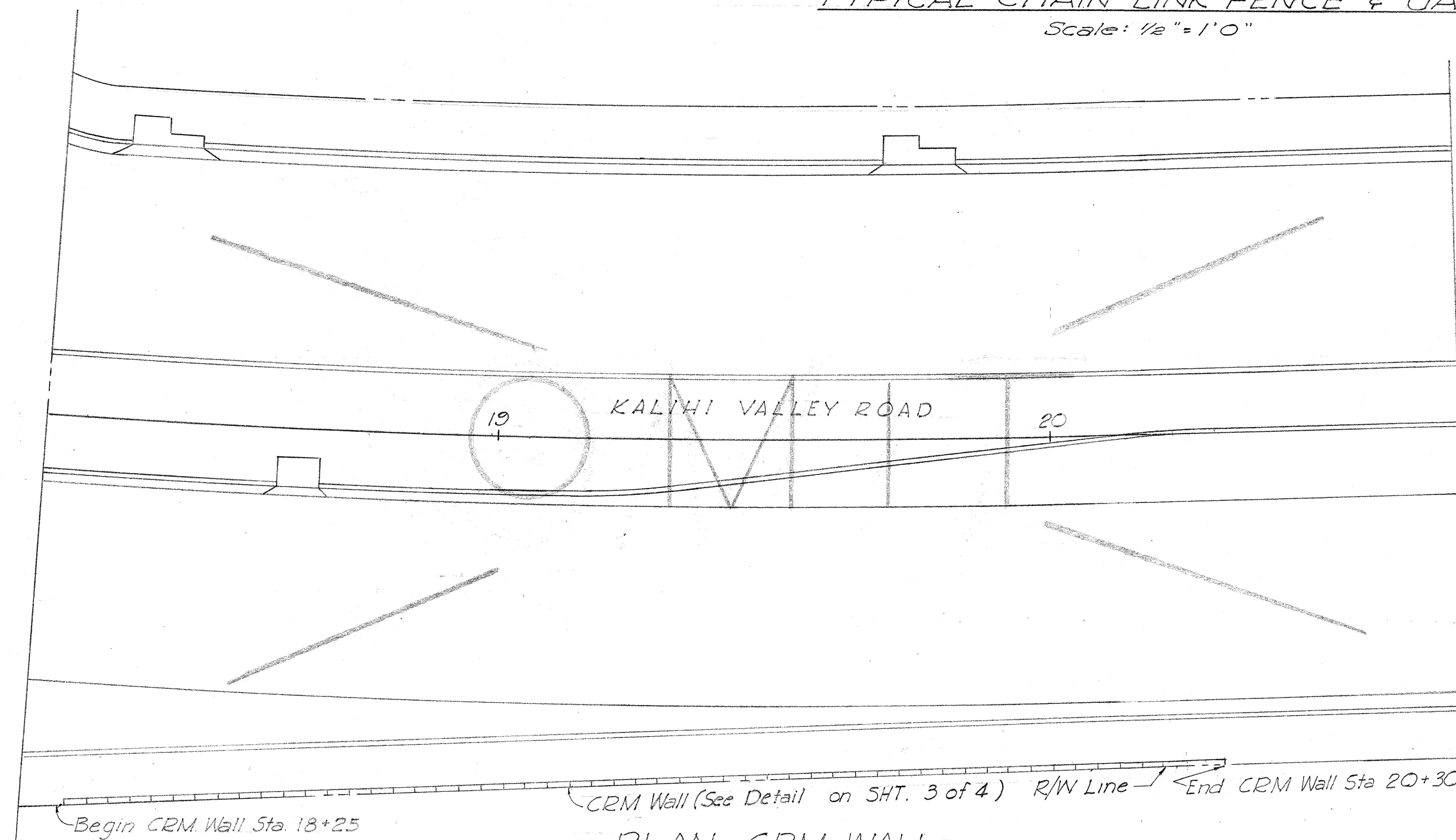


NOTE: All gates shall be set to swing through an arc of 100° Gate latch and lock, flush plate and anchor and plunger bar shall be considered as included with the item of "12" Chain Link Fence".



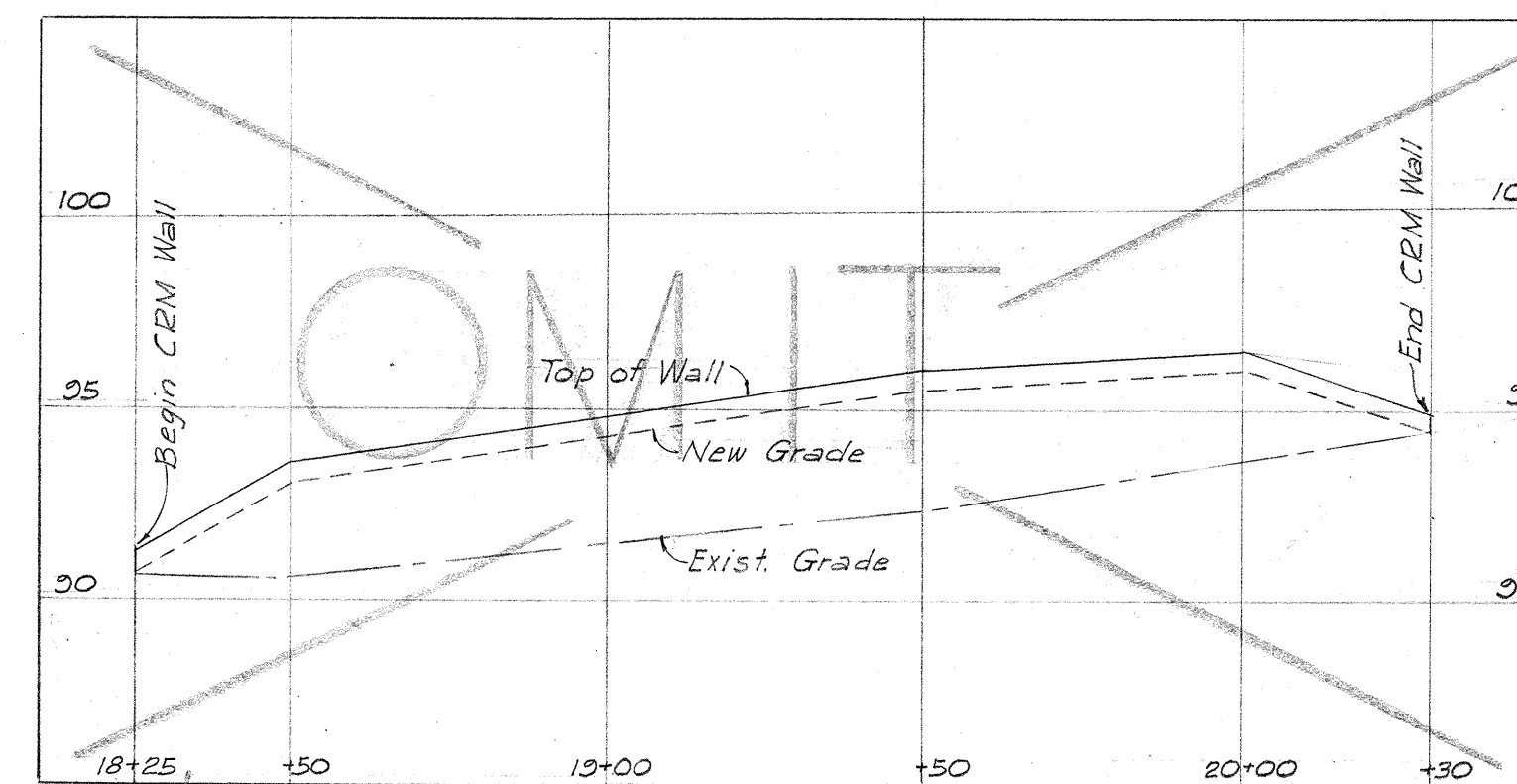
TYPICAL CHAIN LINK FENCE & GATE DETAIL

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



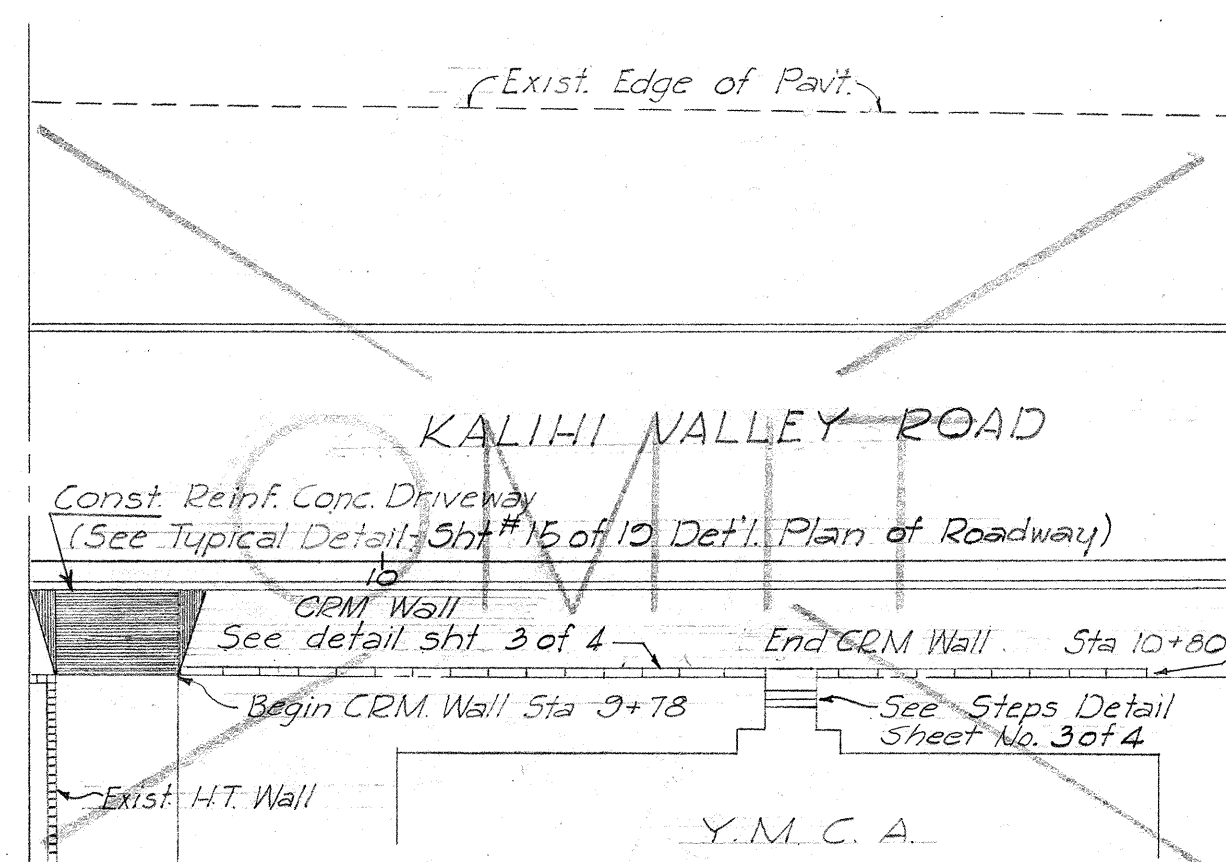
PLAN-CRM WALL

Scale: 1" = 20'



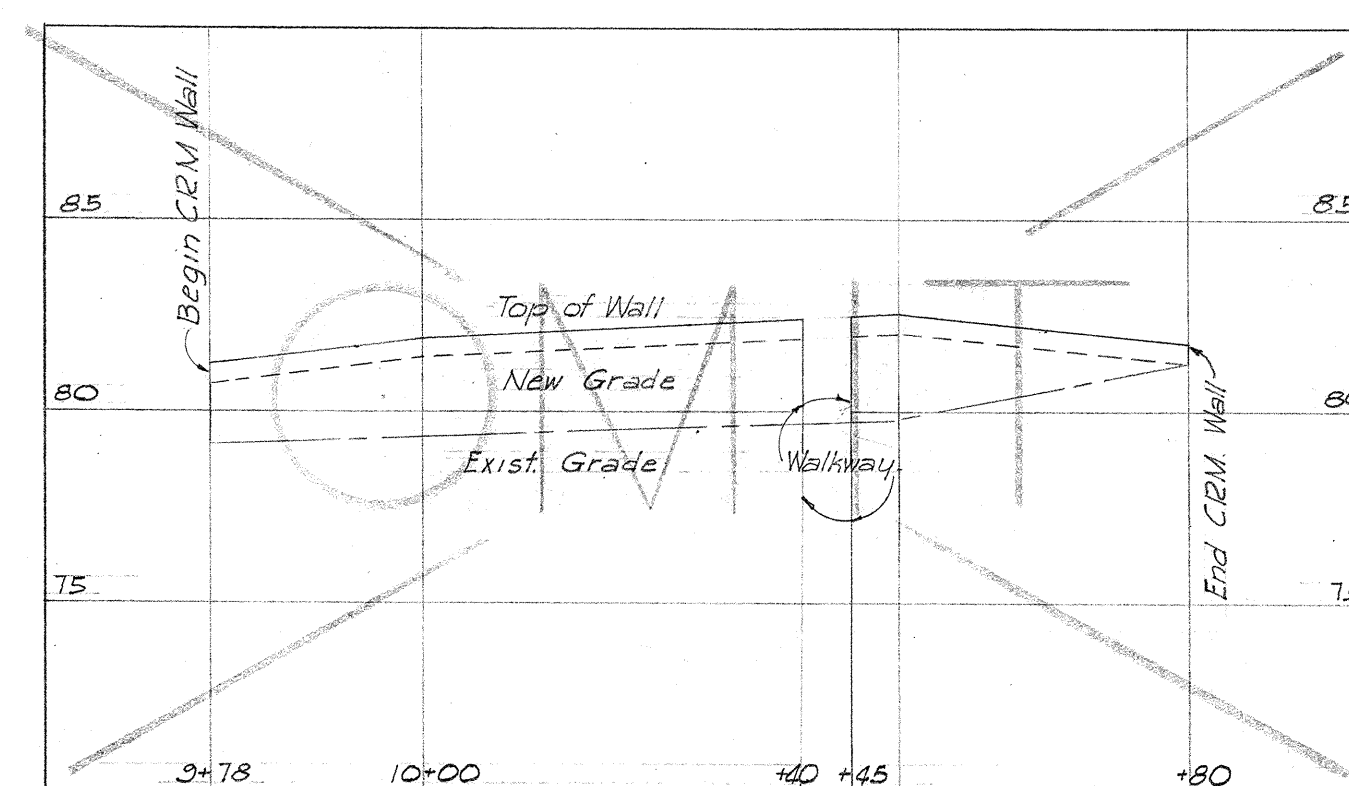
PROFILE-CRM WALL

Scale: Hor: 1" = 30'-0"
Vert: 1" = 5'-0"



PLAN-CRM WALL

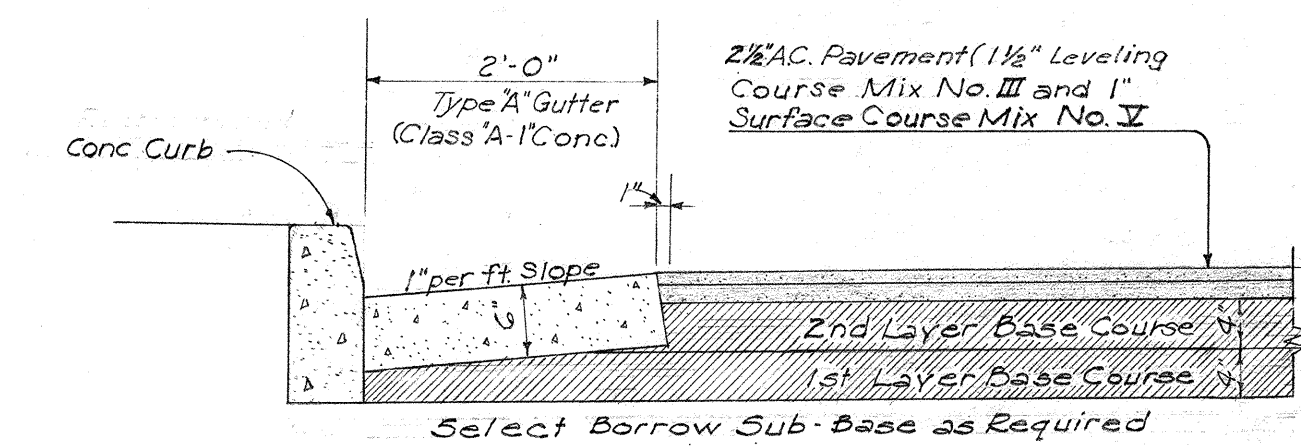
Scale: 1" = 20'



PROFILE-CRM WALL

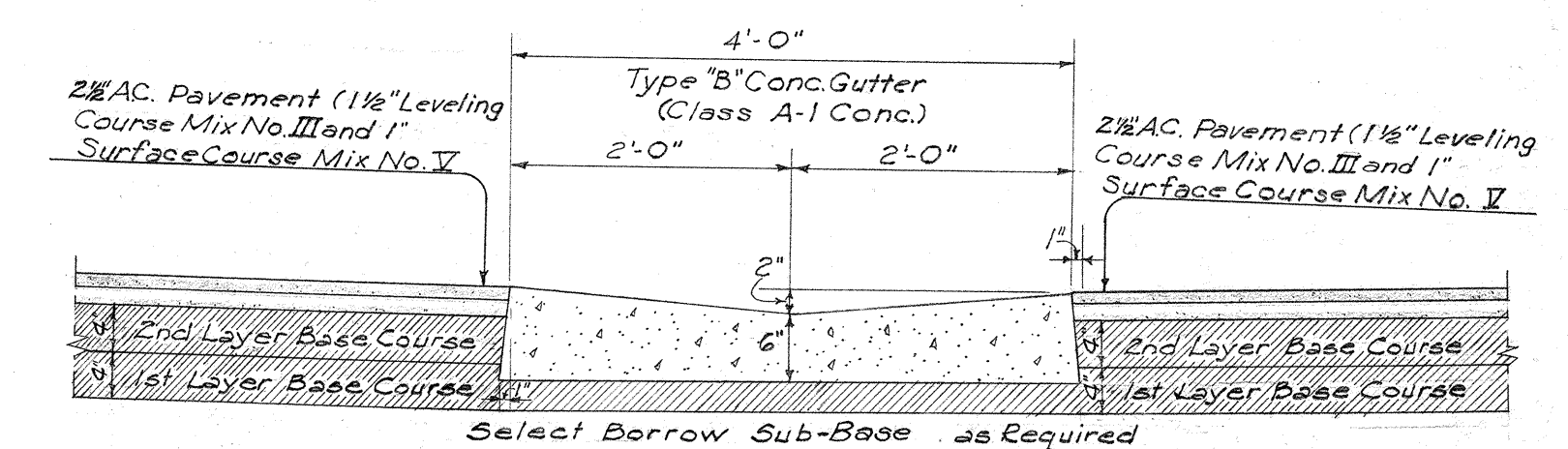
Scale: Hor: 1" = 20'-0"
Vert: 1" = 5'-0"

Schedule For Chain Link Fence						
Height of Fence	Line Post	End Post	Top Rail	Depth of Footing	Top of Footing Size	Length of Post
	H-Column	Pipe	Pipe	Pipe	End Line	End Line
6'	4 1/2" / ft.	2 1/2" O.D.	3" O.D.	1 7/8" O.D.	36" 36"	16" sq. 9'0" 9'0"



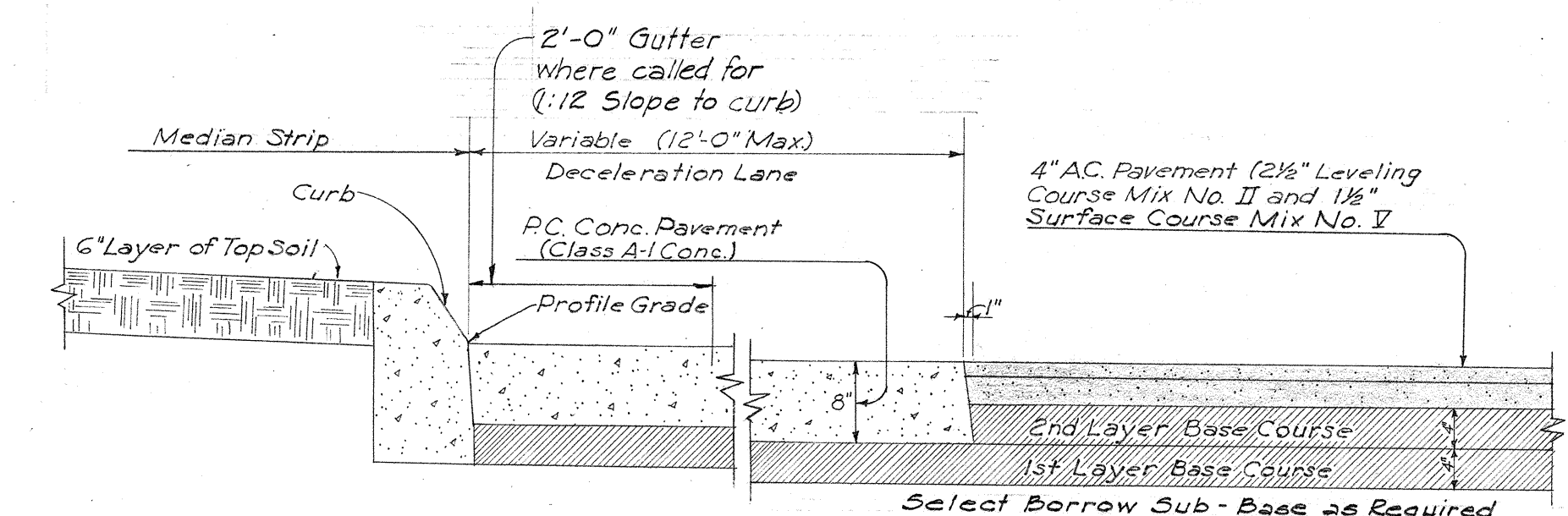
DETAIL OF TYPE 'A' CONC. GUTTER

Scale: 3/4" = 1'-0"



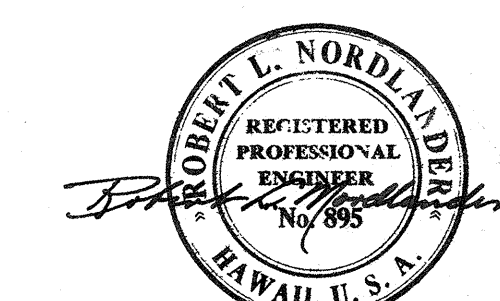
DETAIL OF TYPE 'B' CONC. GUTTER

Scale: 3/4" = 1'-0"



DETAIL OF P.C. CONC. PAVEMENT (DECELERATION LANE)

Scale: 3/4" = 1'-0"



BELT, COLLINS & ASSOC., LTD.
Civil and Structural Engineers

HAWAII STATE HIGHWAY DEPARTMENT STATE OF HAWAII MISCELLANEOUS DETAILS

MOANALUA ROAD US-5-0720(3) UNIT 3
LUNALILO FREEWAY BU-072-1(2) UNIT 4
MIDDLE STREET BU-065-1(1) UNIT 3

SHEET No. 1 OF 4 SHEETS

\$526.15

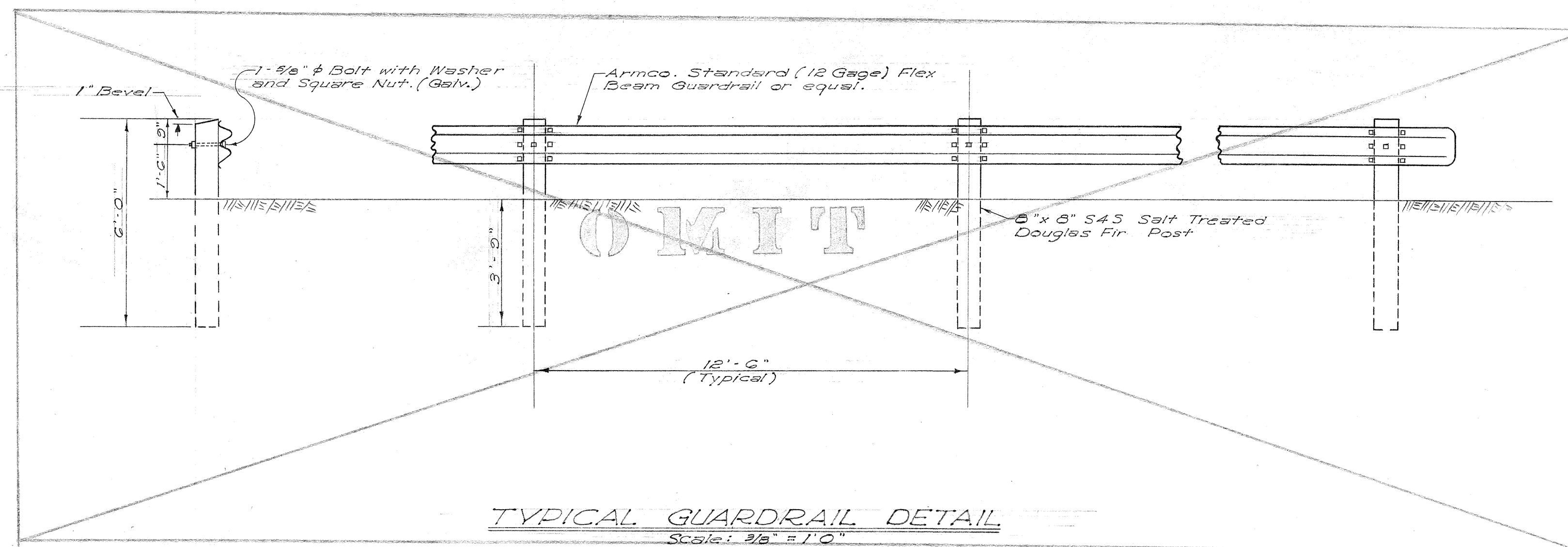
\$174.23

\$161.23

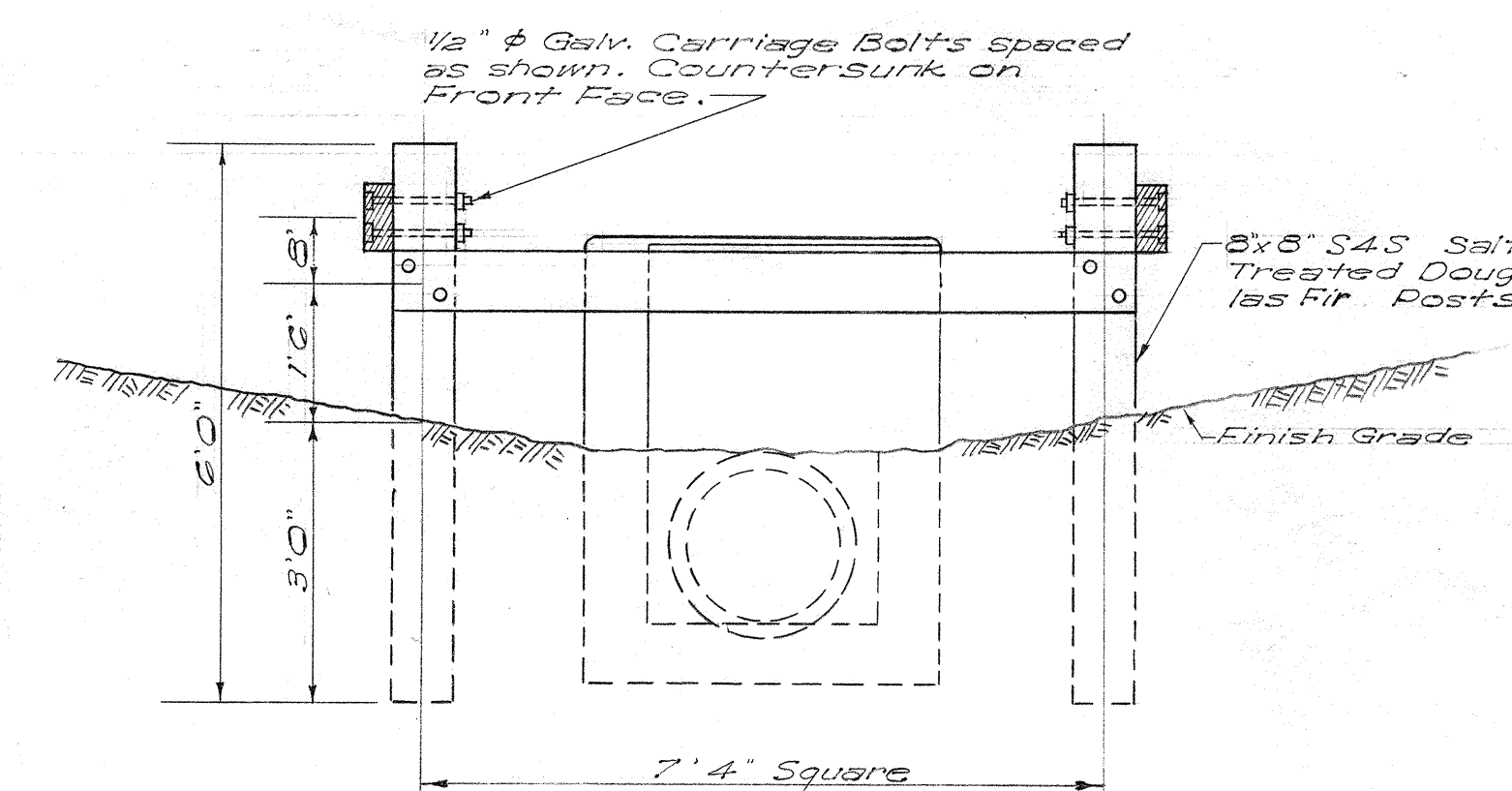
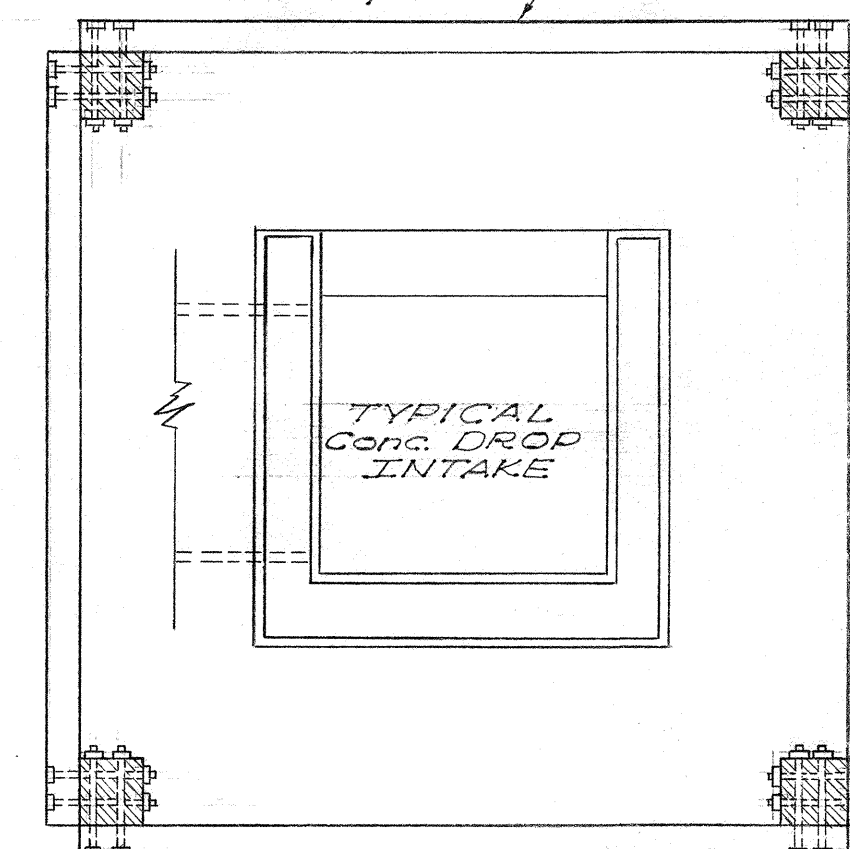
31

DESIGNED BY: DATE: 12-56
DRAWN BY: G. A. K. K. K.
CHECKED BY: K. K. K.
NOTE: SEE DETAIL SHT. 3 OF 4
ORIGINAL PLAN NO. 12-56

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW	BU-072-1(2)	1960	24	115
		UNIT 4			
		UNIT 3	1960	24	115



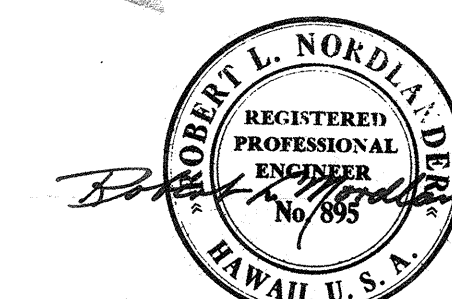
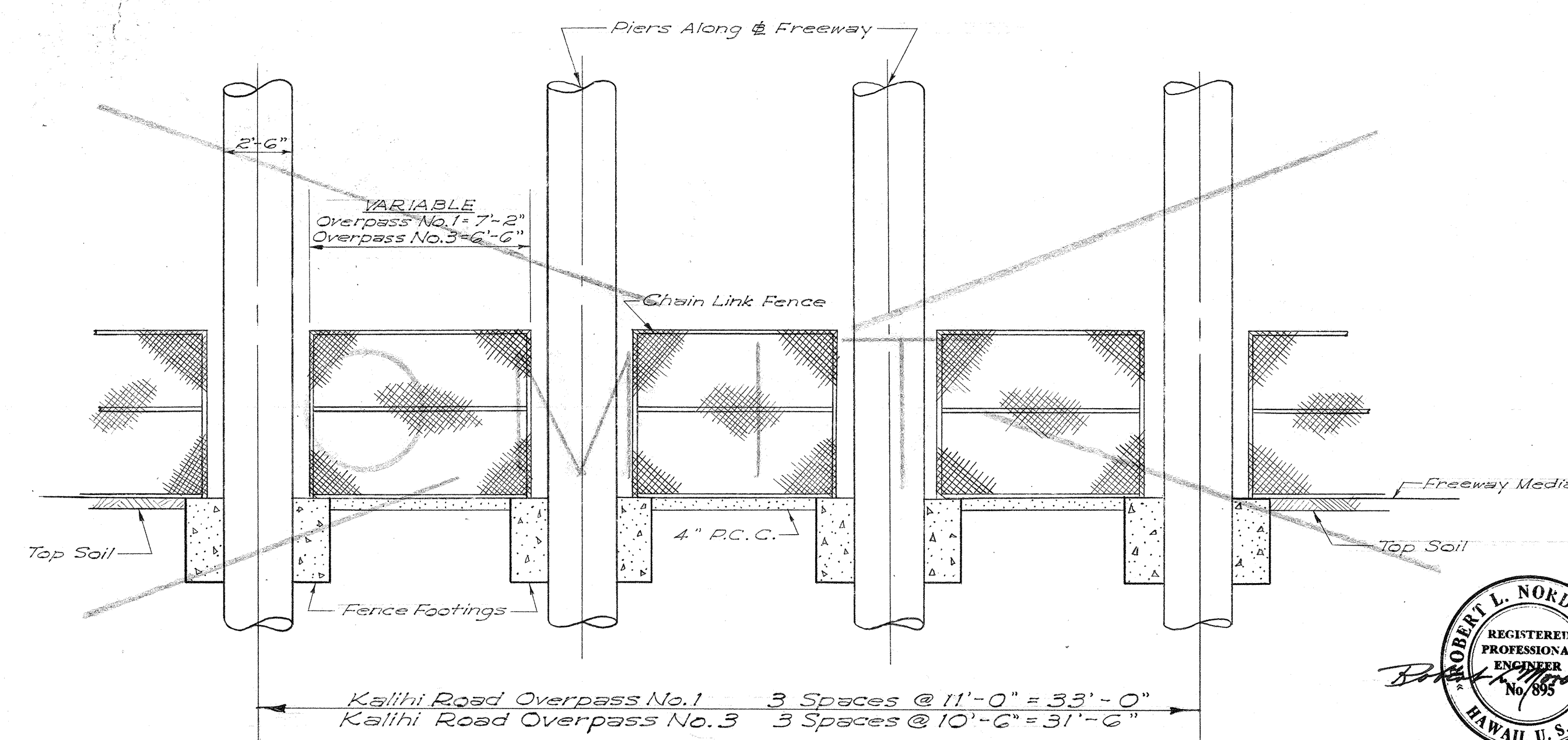
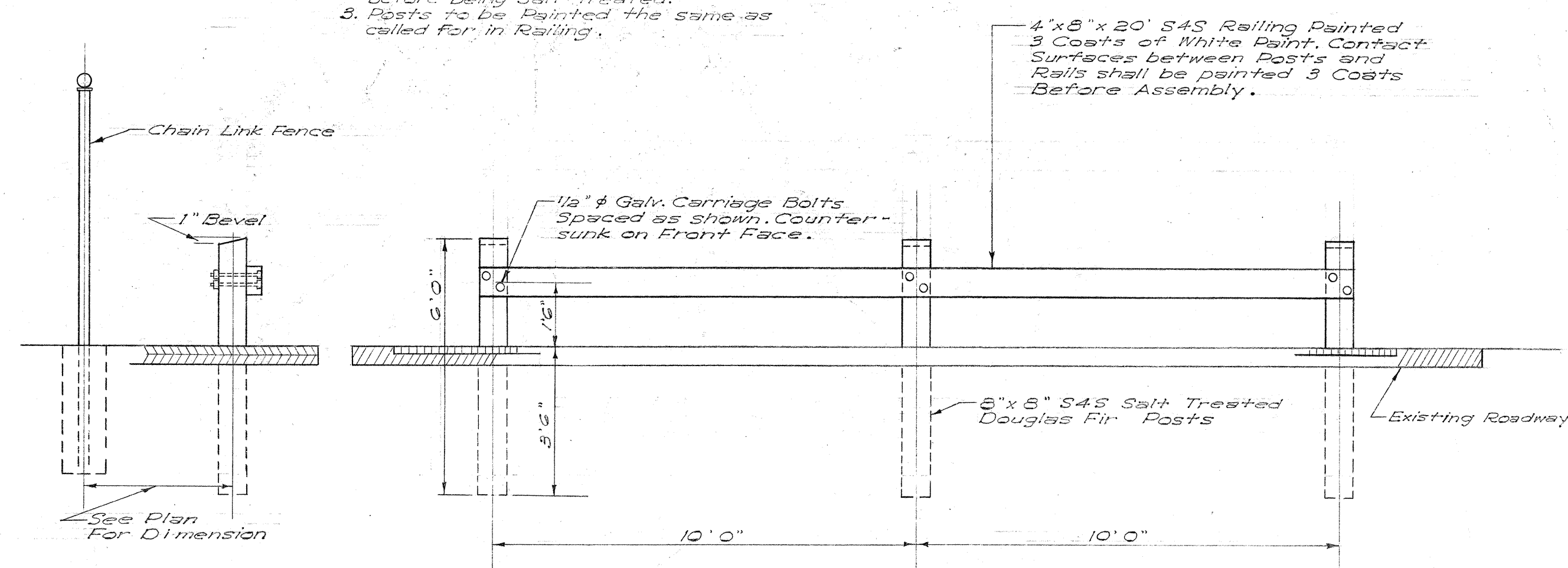
4x6"x6'0" S4S Railing Painted 3 Coats of White Paint. Contact Surfaces between Posts, Rails and all Butt Joints shall be painted 3 Coats before Assembly.



WOOD GUARD RAIL FOR CONCRETE DROP INTAKE No. 6, 7, 8.
Scale: 1/2" = 1'-0"

NOTE:

1. Wood Barriers to be Centered on Roadway.
2. All Bolt Holes in Post to be Drilled before being Salt Treated.
3. Posts to be Painted the same as called for in Railing.



BELT, COLLINS & ASSOC., LTD.
Civil and Structural Engineers

HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII

MISCELLANEOUS DETAILS

LUNALILO FREEWAY BU-072-1(2) UNIT 4
MIDDLE STREET BU-065-1(1) UNIT 3

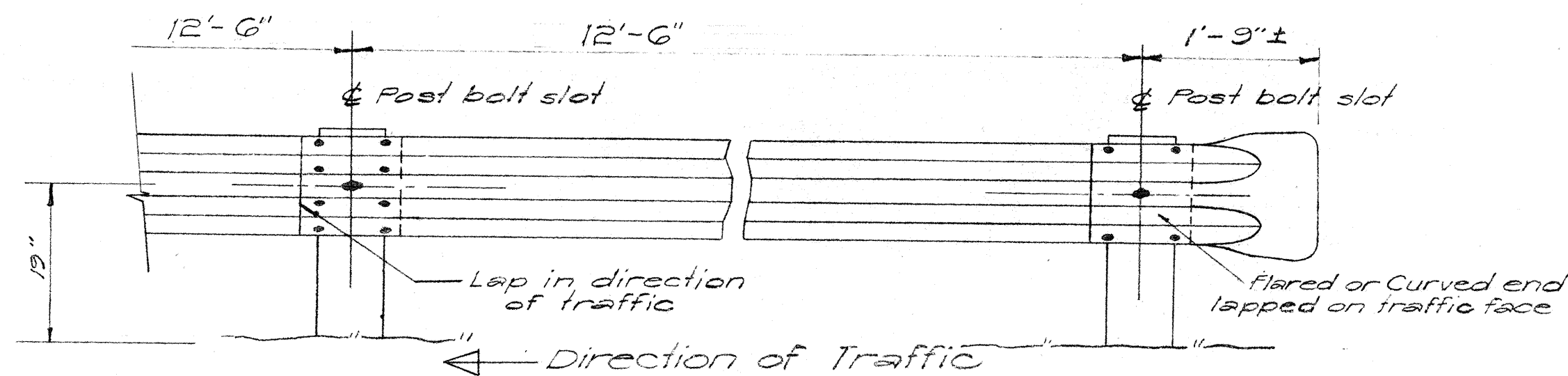
SHEET NO. 2 OF 4 SHEETS

\$174.24 \$161.24

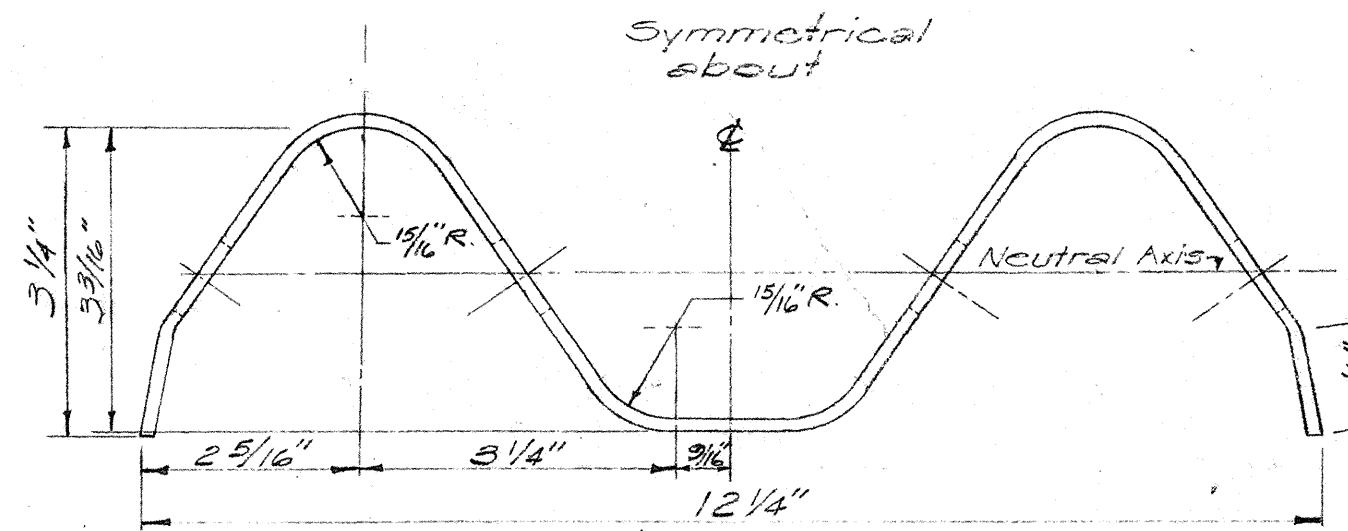
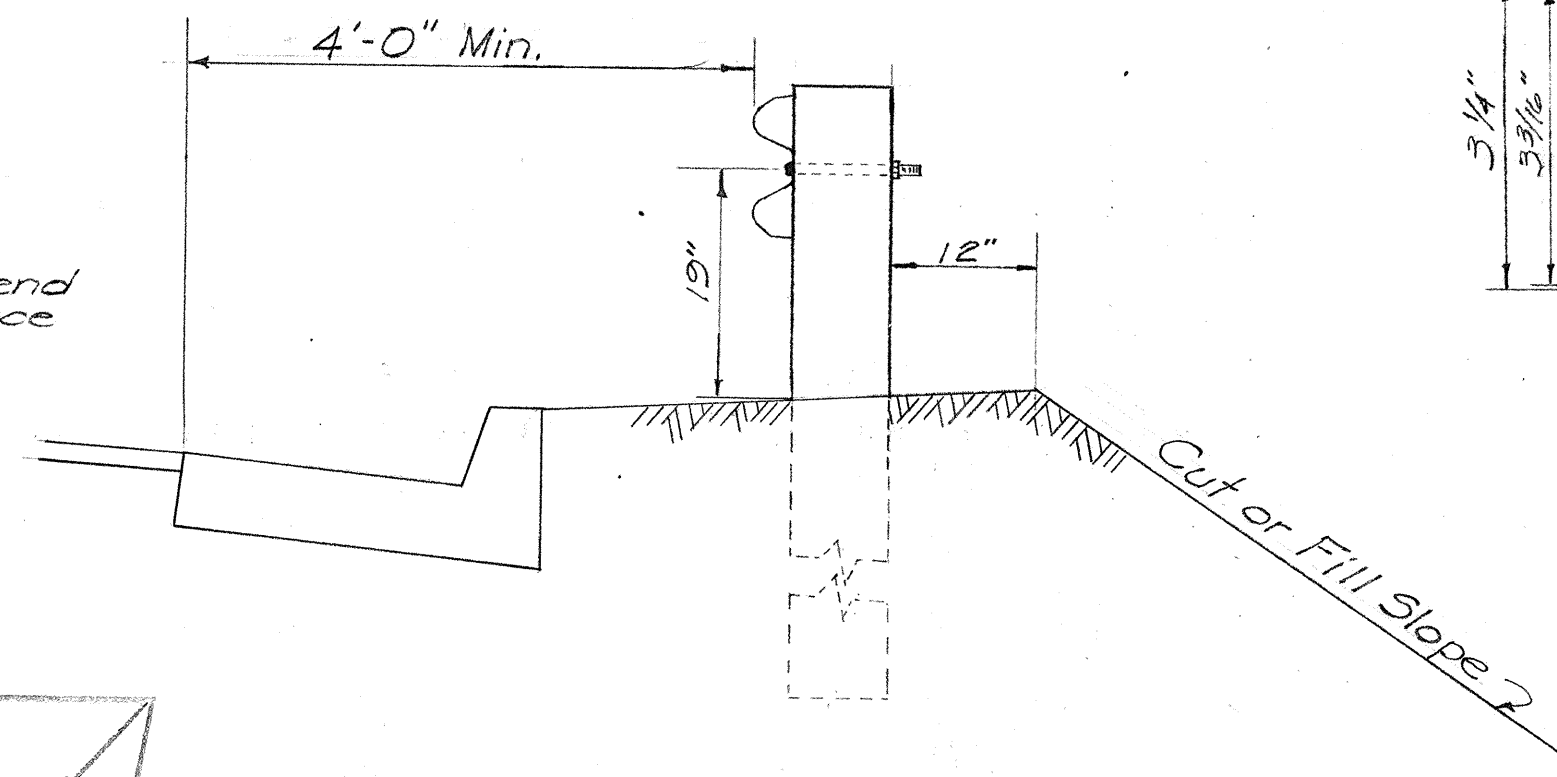
32

DESIGNED BY	DATE
DRAWN BY	10/1/60
CHECKED BY	10/1/60
NOTE BOOK	
CHECKED BY	

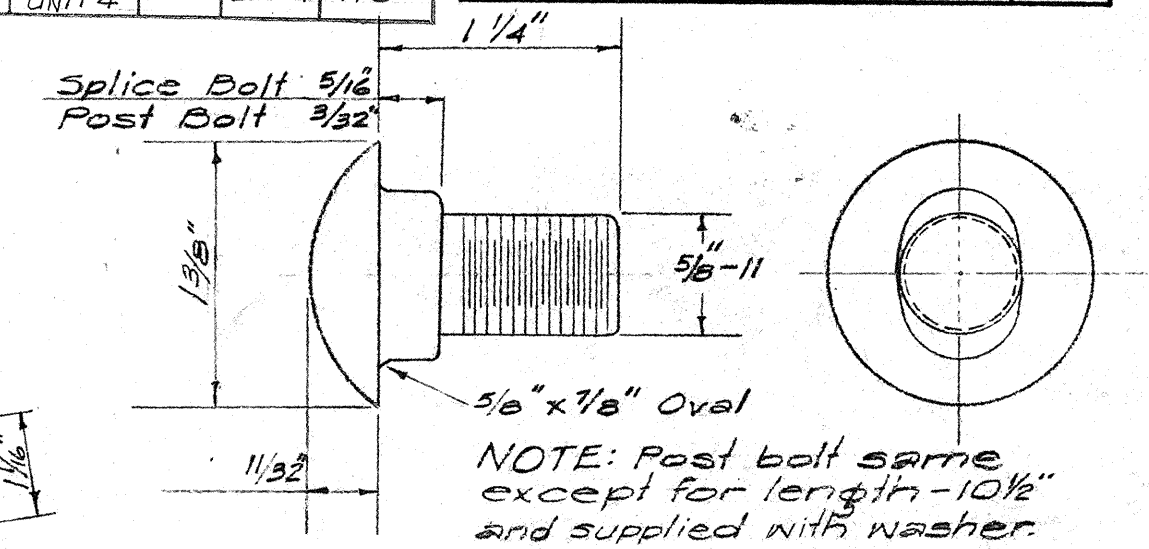
FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS	FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	15-07220	1960	15A	79	HAWAII	HAW.	BU-072-1(2)	1960	25A	118
		UNIT 3						UNIT 4			



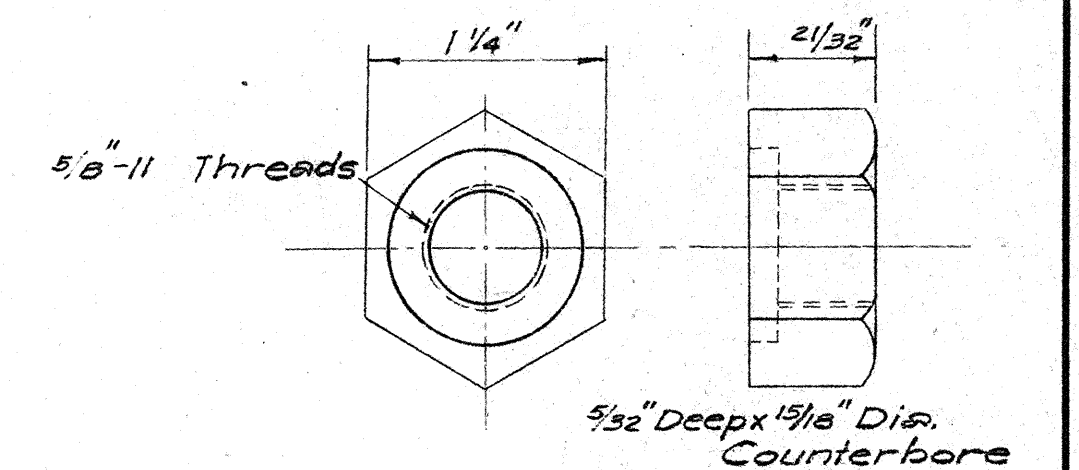
METAL GUARDRAIL
Scale: 3/4"=1'-0"



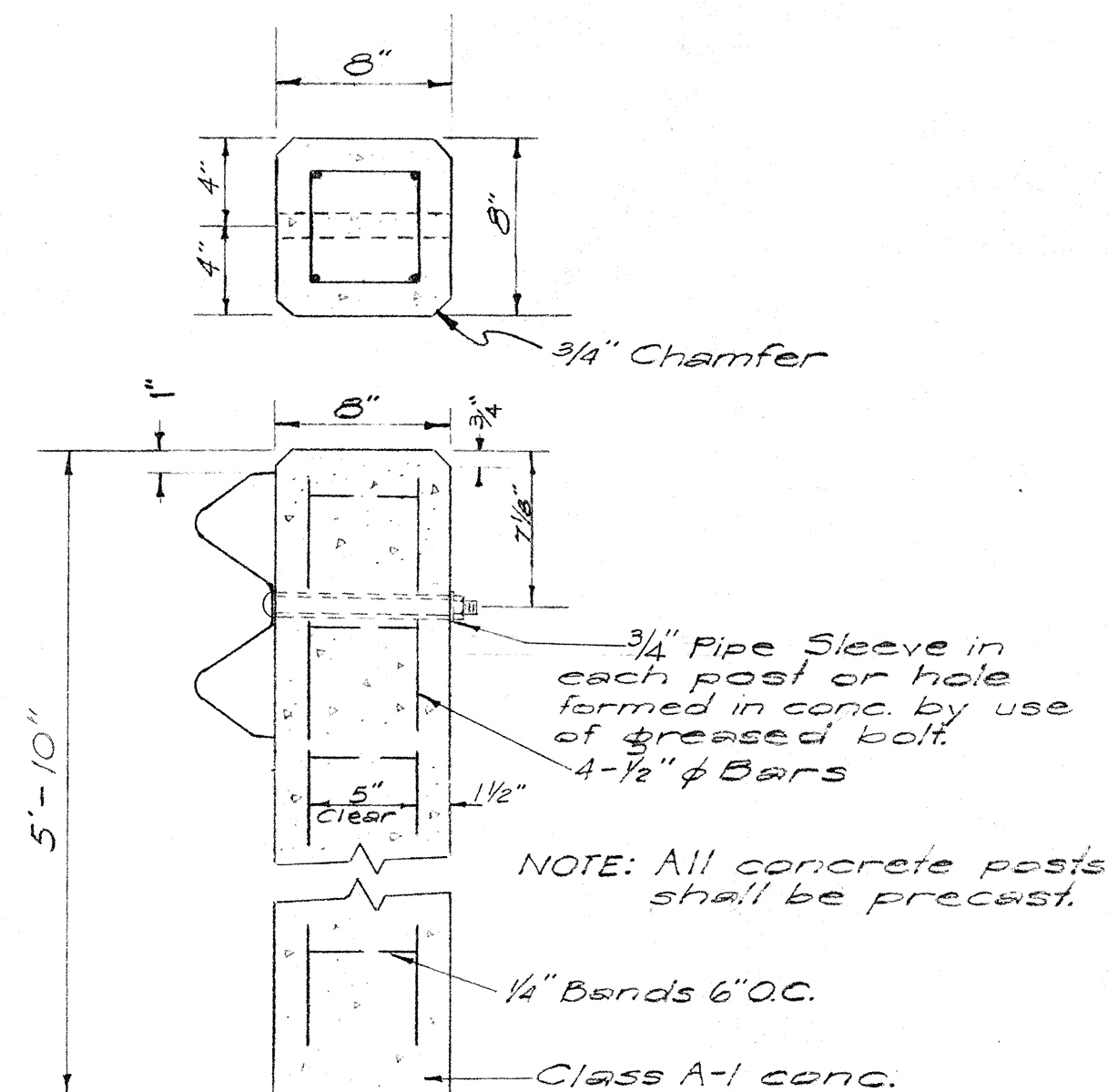
RAIL ELEMENT SECTION
Scale: 1/2"=1"



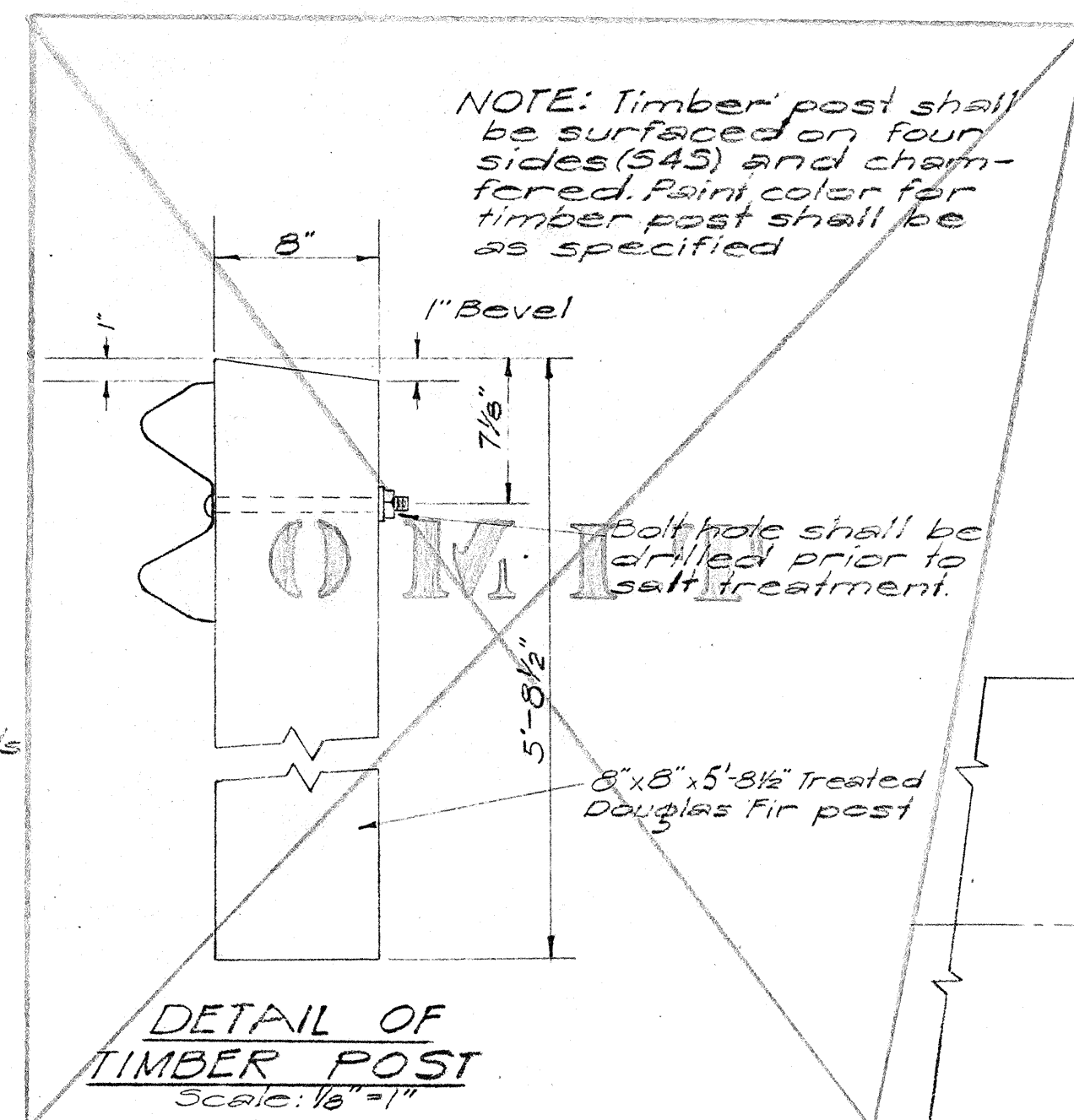
SPICE BOLT POST BOLT
Scale: 1"=1"



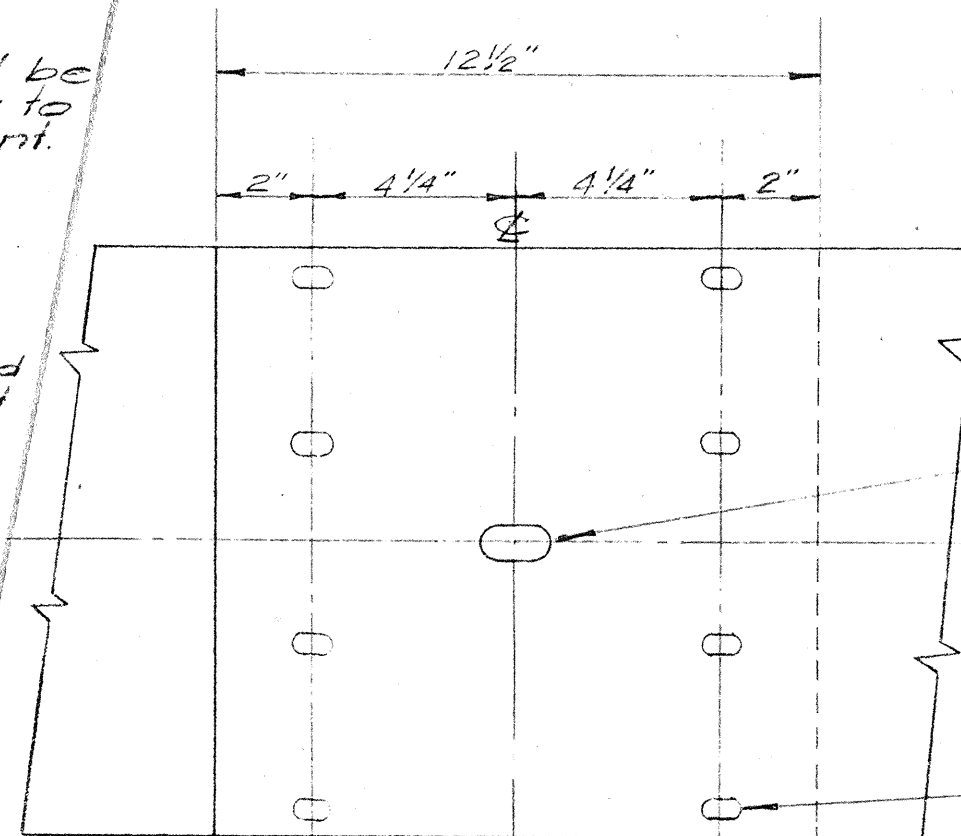
HEXAGON NUT
Scale: 1"=1"



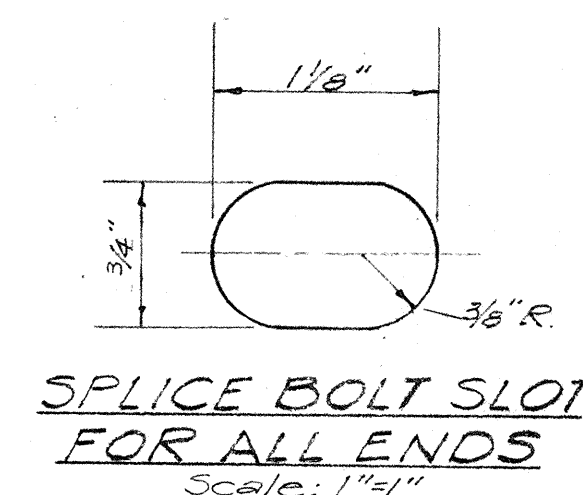
DETAIL OF CONC. POST
Scale: 1/8"=1"



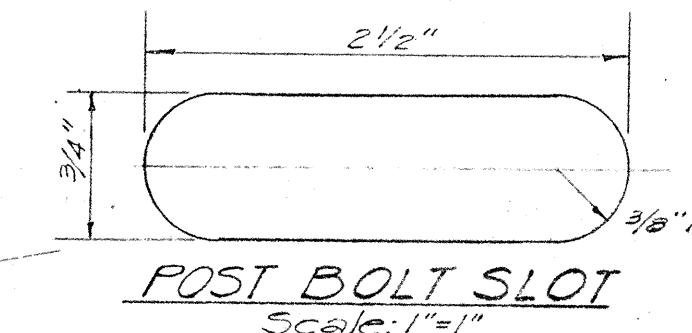
DETAIL OF TIMBER POST
Scale: 1/8"=1"



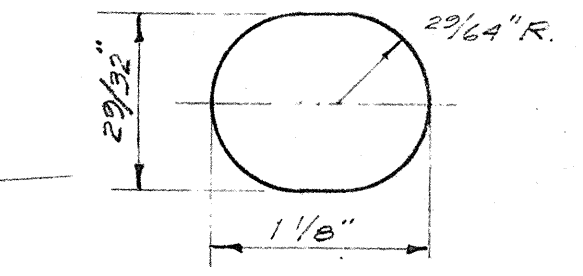
RAIL SPLICE
Scale: 1/4"=1"



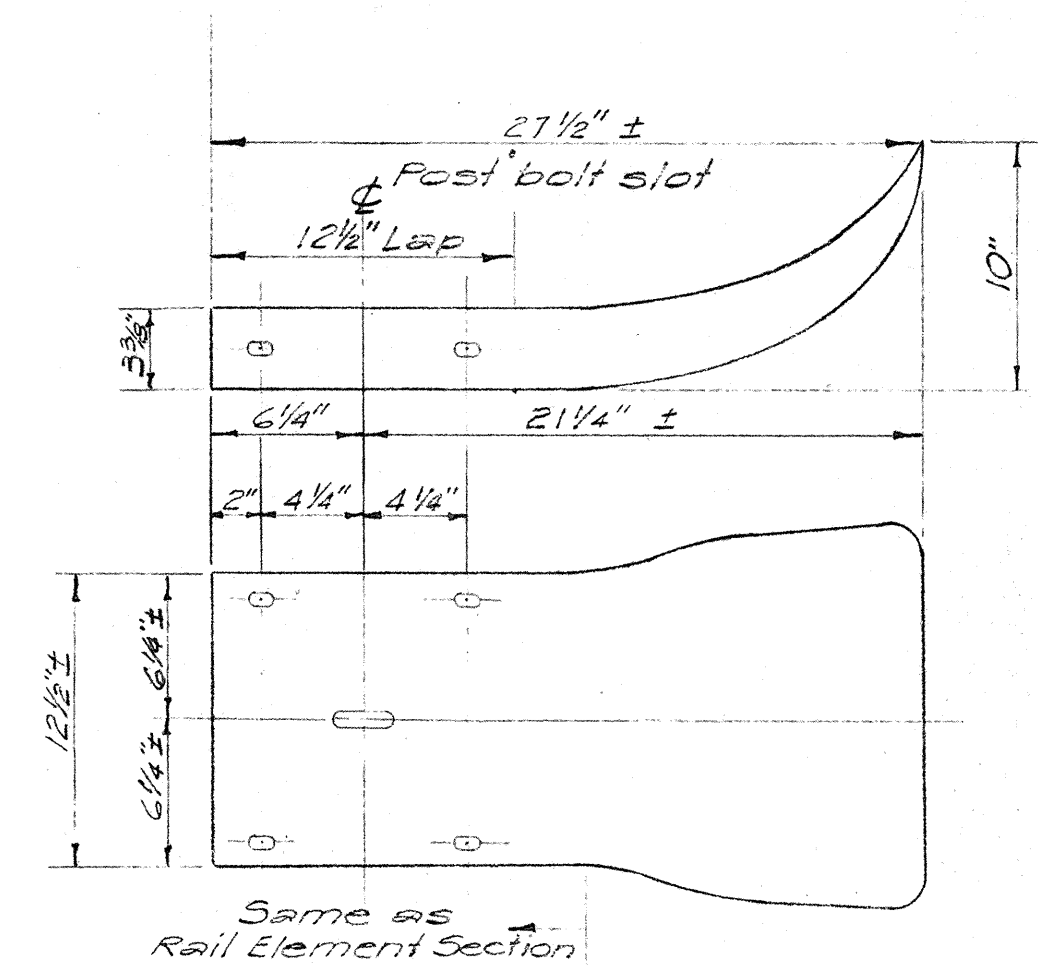
SPICE BOLT SLOT FOR ALL ENDS
Scale: 1 1/4"=1"



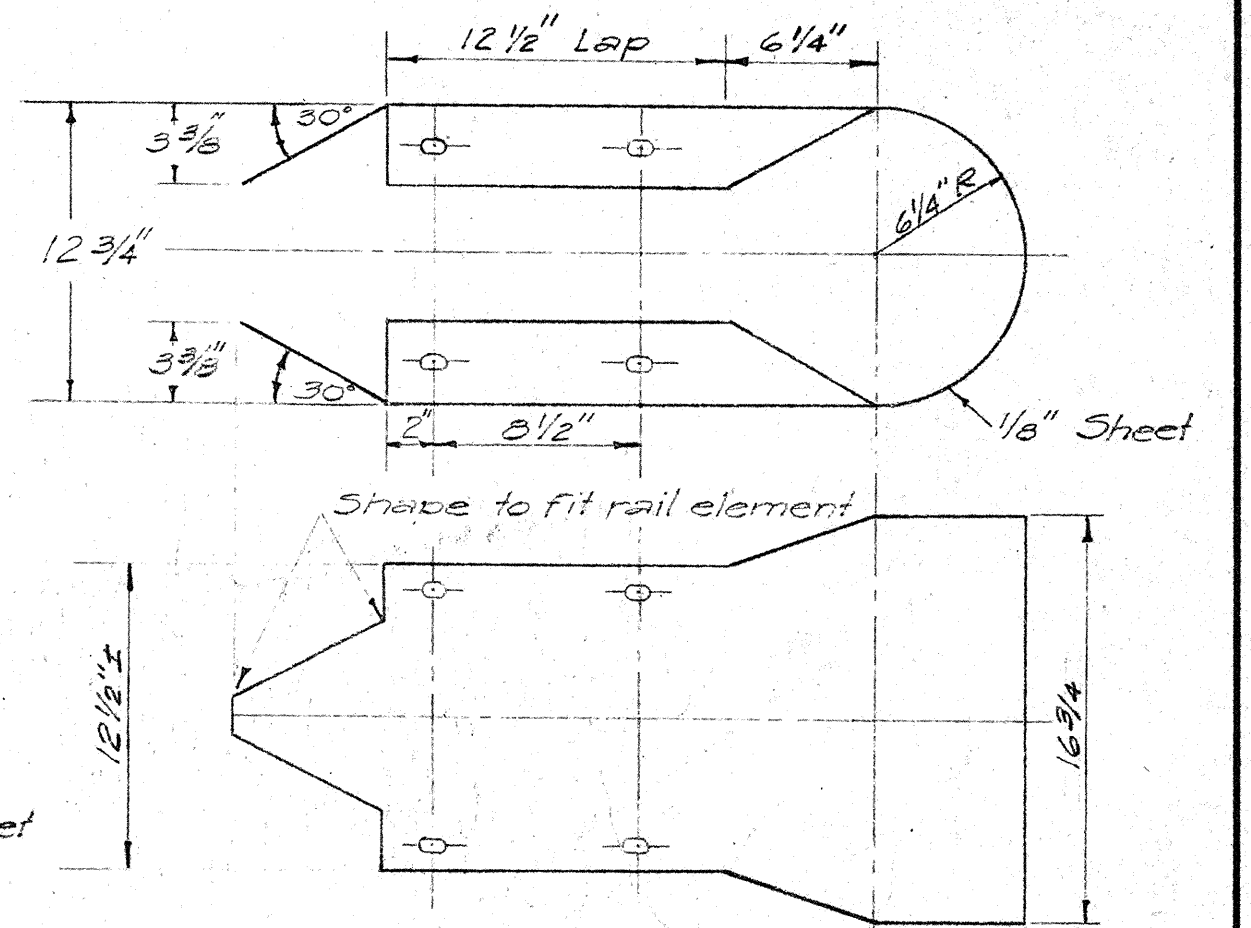
POST BOLT SLOT
Scale: 1"=1"



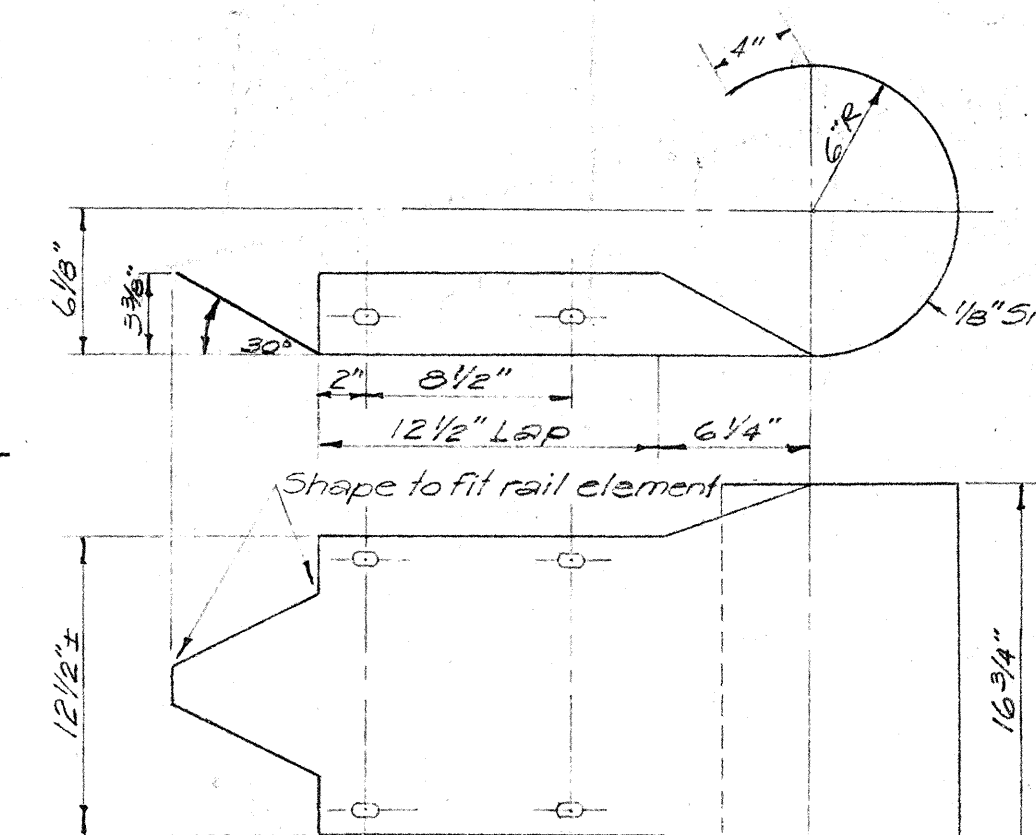
SPICE BOLT SLOT
Scale: 1"=1"



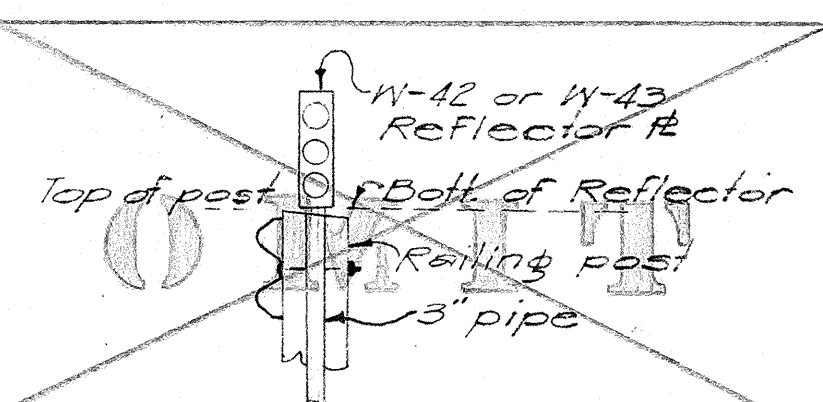
FLARED END
Scale: 1/8"=1"



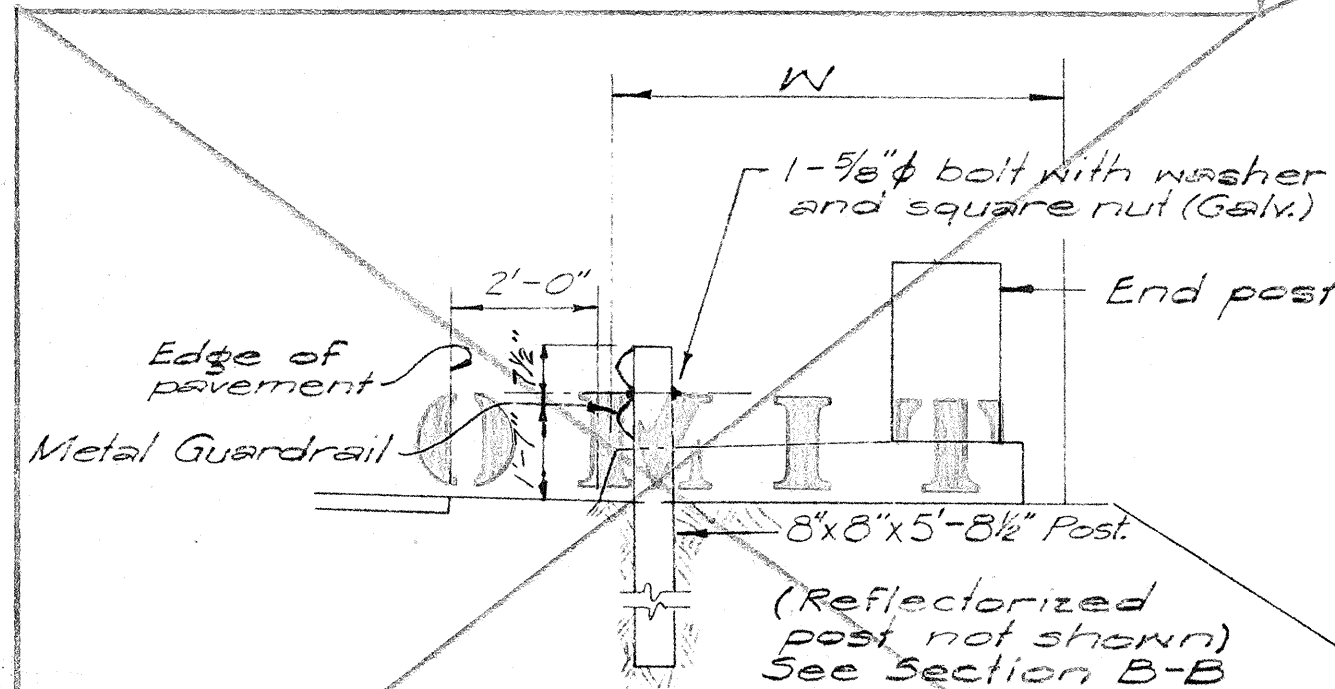
MEDIAN END
Scale: 1/8"=1"



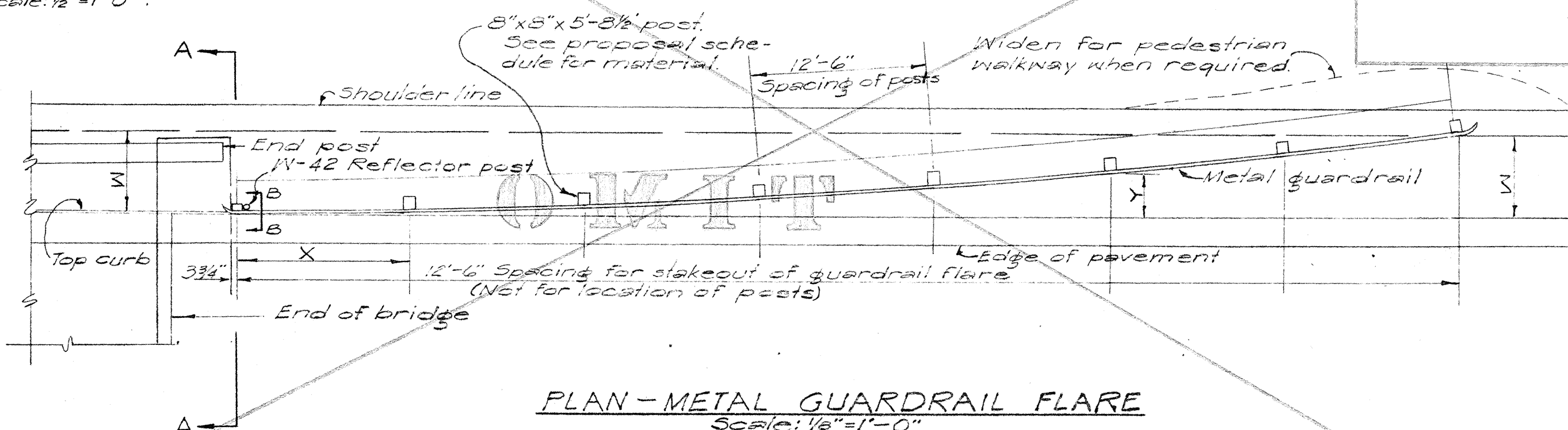
CURVED END
Scale: 1/8"=1"



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



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



PLAN-METAL GUARDRAIL FLARE
Scale: 1/8"=1'-0"

GUARDRAIL OFFSET

X	N=3	N=4	N=5	N=6	N=7	N=8
12.5	0.19	0.16	0.14	0.12	0.09	0.05
25.0	0.75	0.64	0.55	0.49	0.35	0.32
37.5	1.69	1.44	1.25	1.10	0.78	0.72
50.0	3.00	2.56	2.25	1.96	1.38	1.28
62.5		4.00	3.47	3.06	2.12	2.00
75.0			5.00	4.41	3.11	2.88
87.5				6.00	4.23	3.92
100.0					5.53	5.12
112.5						6.48
125.0						8.00

N = Guardrail Flare.
X = Distance from post at bridge to offset points.
Y = Guardrail flare offset.

HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
MISCELLANEOUS DETAILS
(METAL GUARD RAIL)

MOANALUA ROAD US-9-0720(3) UNIT 3
LUNALILO FREEWAY BU-072-1(2) UNIT 4
MIDDLE STREET BU-065-1(1) UNIT 3

SHEET No. 4 OF 4 SHEETS

8526.15A

8174.25A

8161.24A

33A