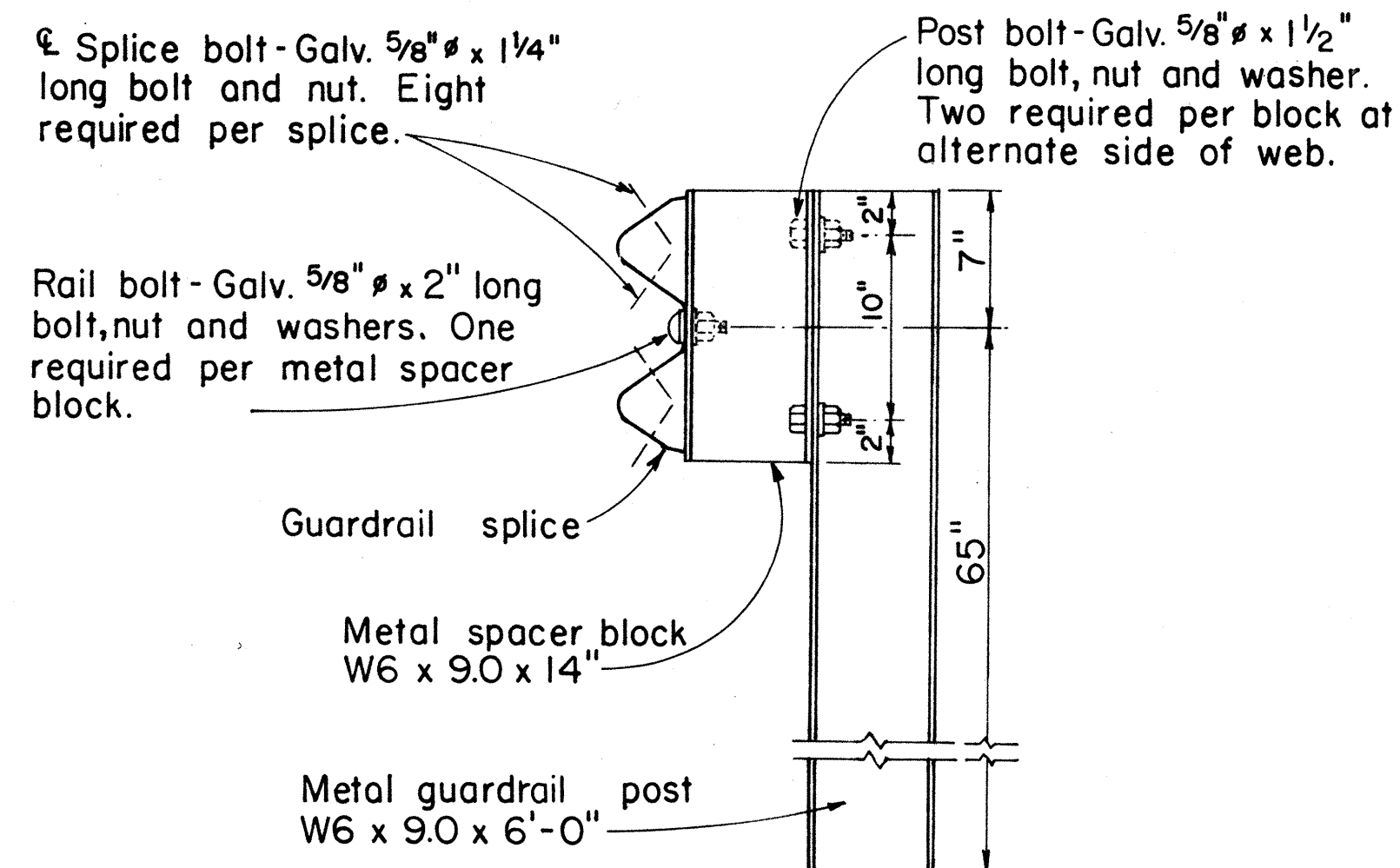


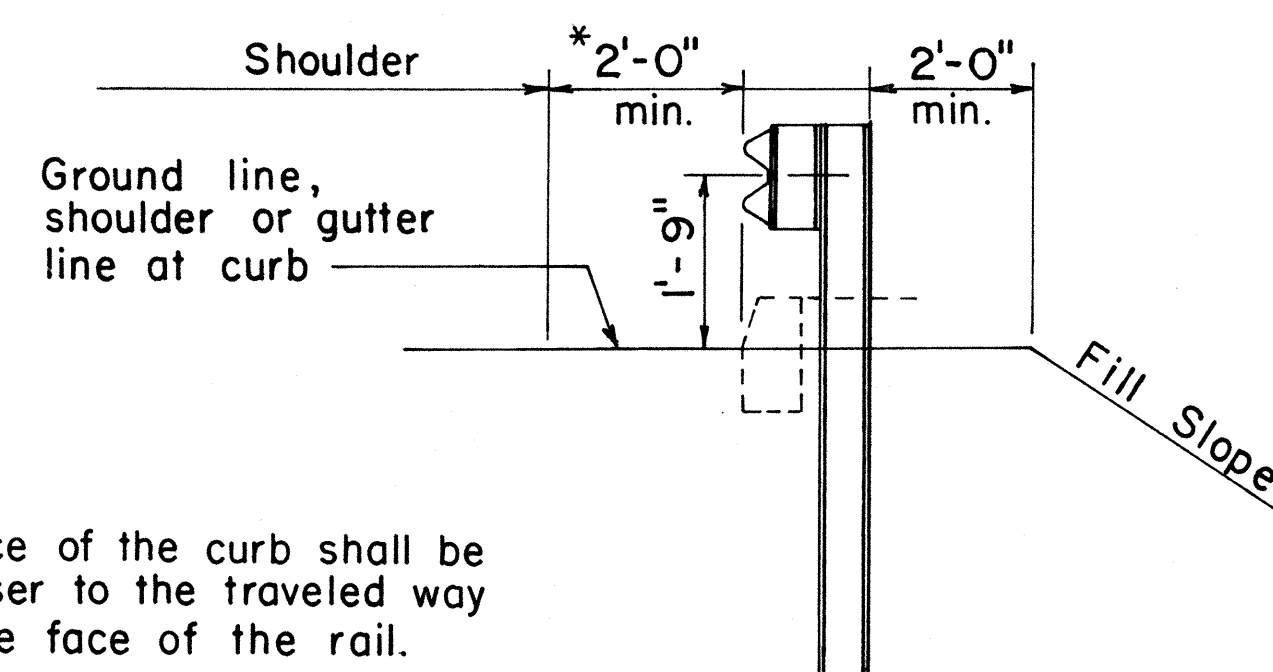
GENERAL NOTES

-
- Technical drawing of a guardrail cross-section. The drawing shows a vertical section of a guardrail assembly. Key components and dimensions are labeled:
- Guardrail**: The vertical structure on the left.
 - Metal spacer block, W6 x 9.0**: A horizontal block connecting the guardrail to the post.
 - Metal guardrail post, W6 x 9.0**: The vertical post on the right.
 - Dimensions**:
 - Vertical dimension: 7 7/8" (from the top of the spacer block to the top of the post).
 - Horizontal dimension: 5 7/8" (from the centerline of the guardrail to the centerline of the post).
 - Horizontal dimension: 5 7/8" (from the centerline of the post to the centerline of the spacer block).
 - Horizontal dimension: 4" (width of the post).
 - Arrow**: A vertical arrow pointing upwards, indicating the direction of the guardrail's movement or force.

PLAN

ELEVATION

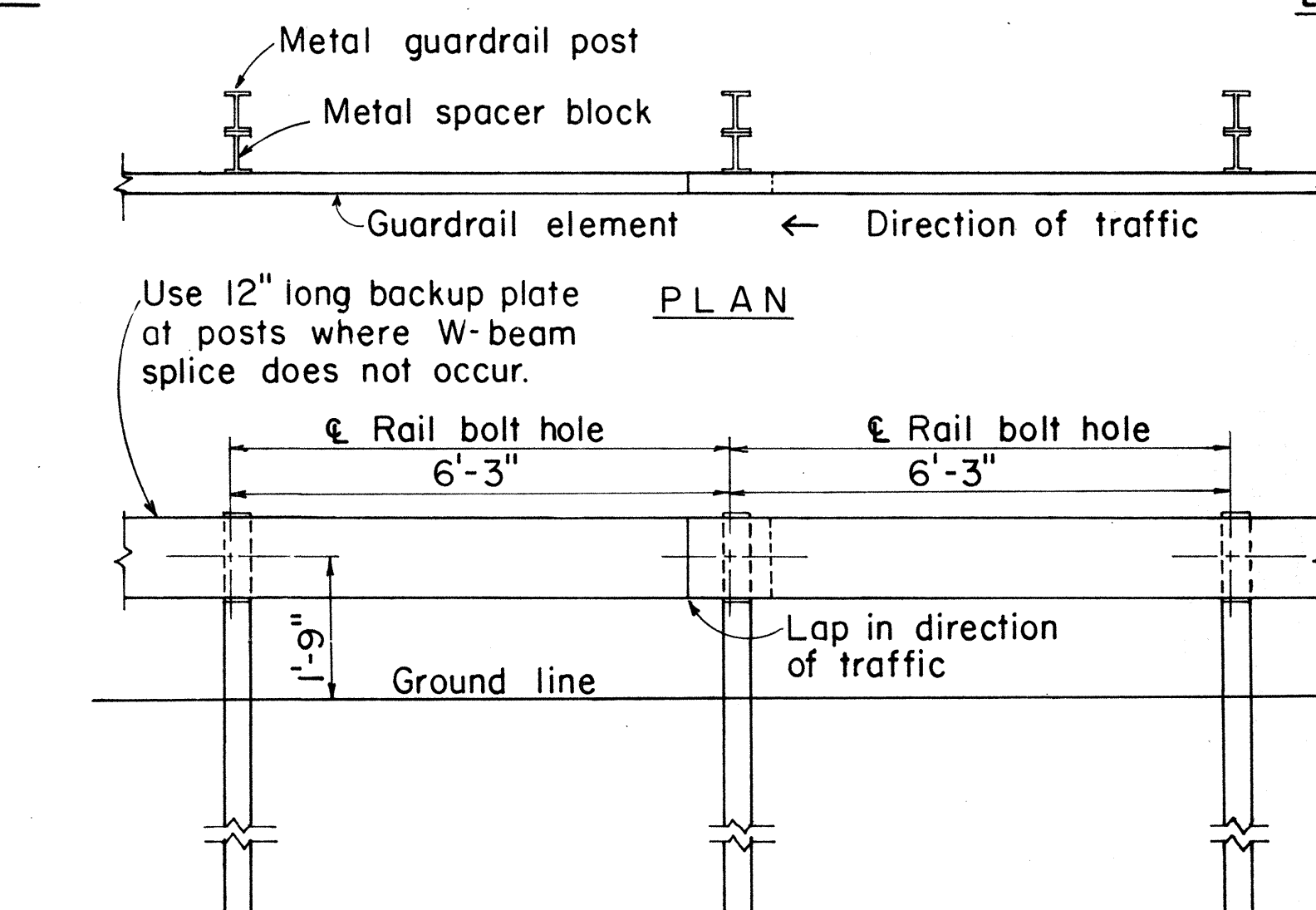
SCALE: $1\frac{1}{2}" = 1'-0"$



AT SHOULDER SECTION

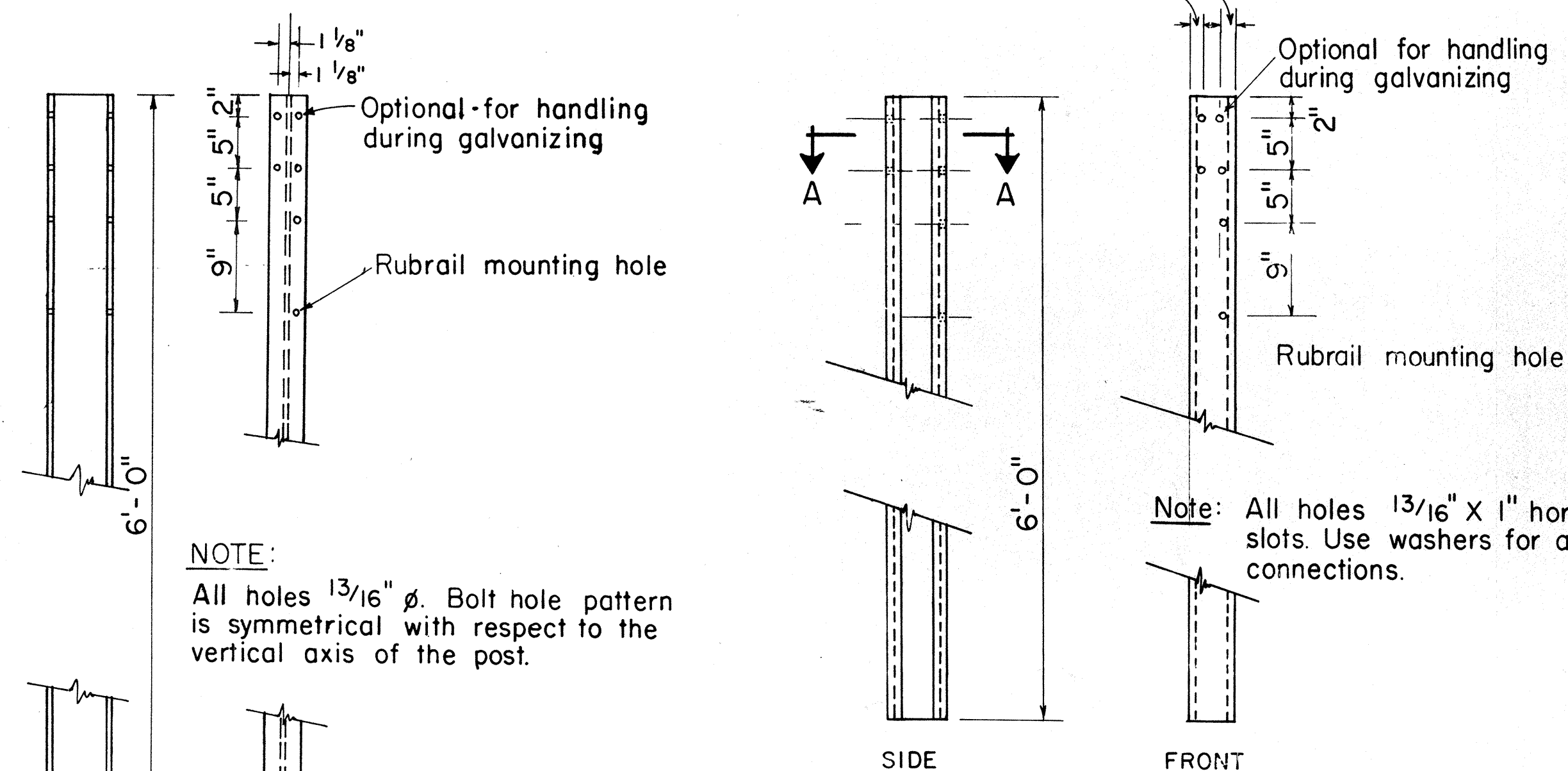
TYPICAL METAL GUARDRAIL DETAIL

SCALE: $1/2" = 1'-0"$

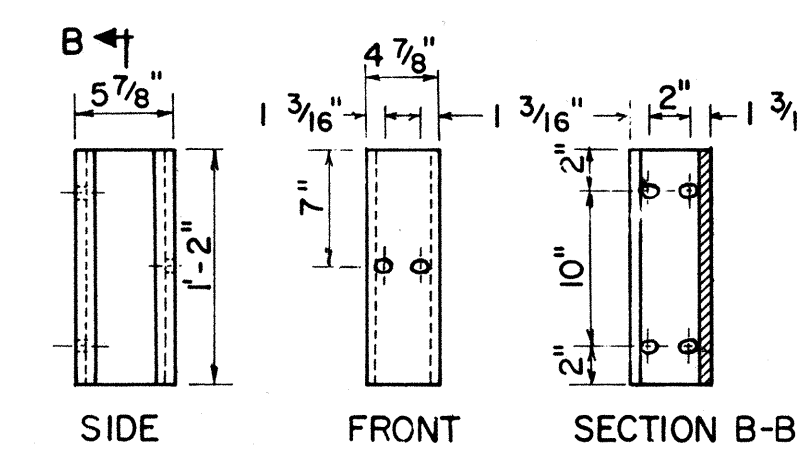
ELEVATION

METAL GUARDRAIL ON METAL POST WITH METAL SPACER BLOCK

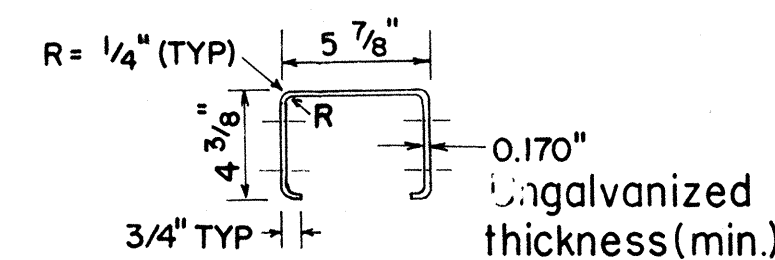
SCALE: 1/2" = 1'-0"



POST



BLOCK



SECTION A-A
N.T.S.

BENT PLATE POST AND BLOCK

SCALE: 1" = 1'-0"

NO.	REVISION	APPROVED BY	DATE
1	Supersedes sht. DT 500 approved 12/30/69.	H.F.	9/22/8

TRAFFIC ENGINEER

0/7/82
DATE

ASSISTANT CHIEF, ENGINEERING

122182
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

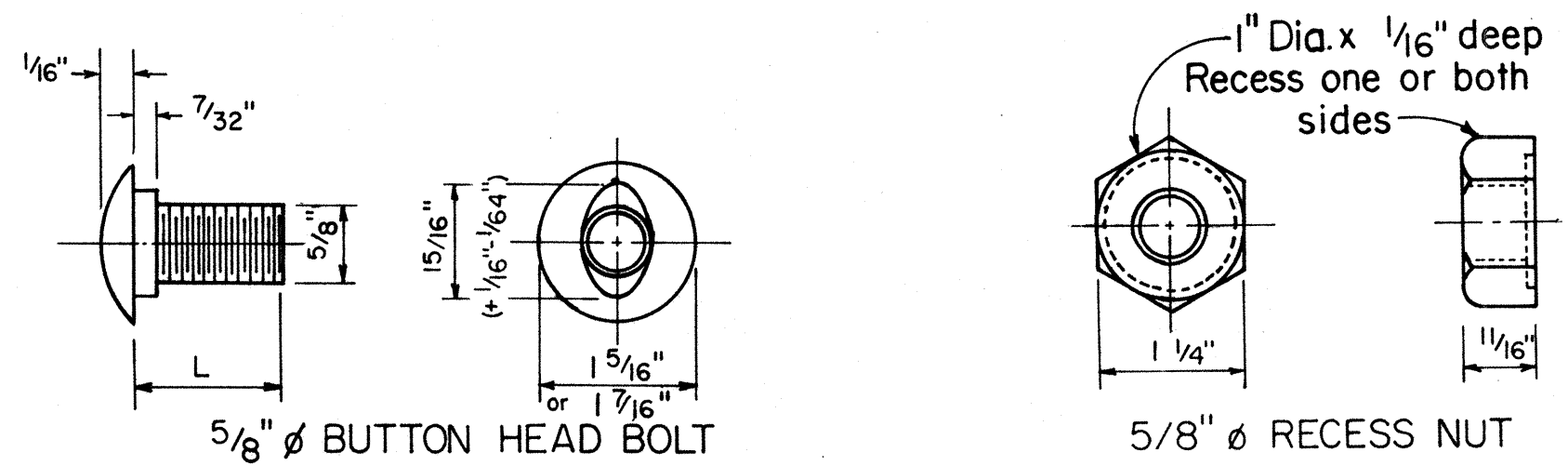
METAL GUARDRAIL

Scale: As Shown

July, 1982

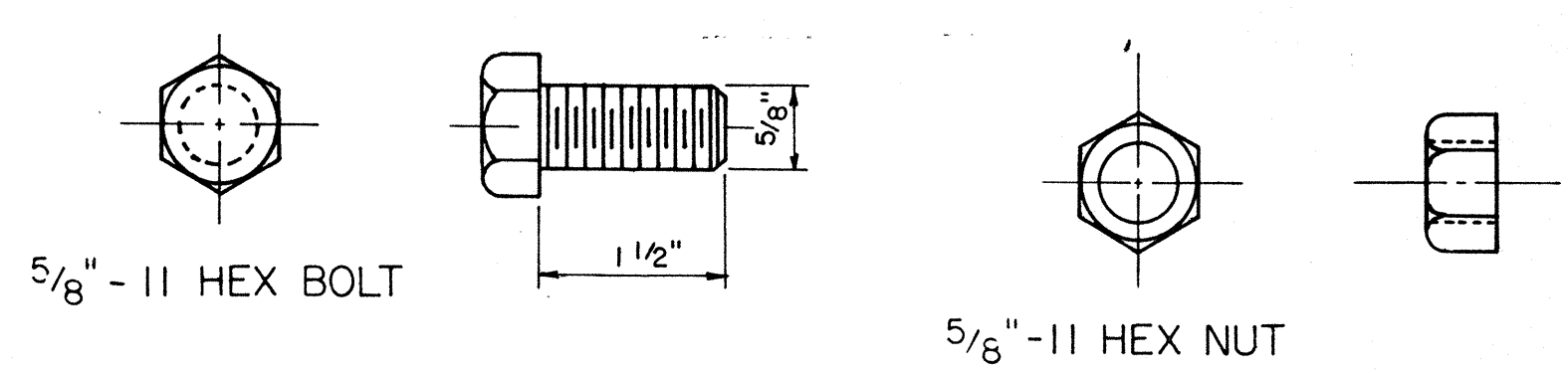
SHEET No. 1 OF 5 SHEETS DT 500

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-10(1)	1984	17	27

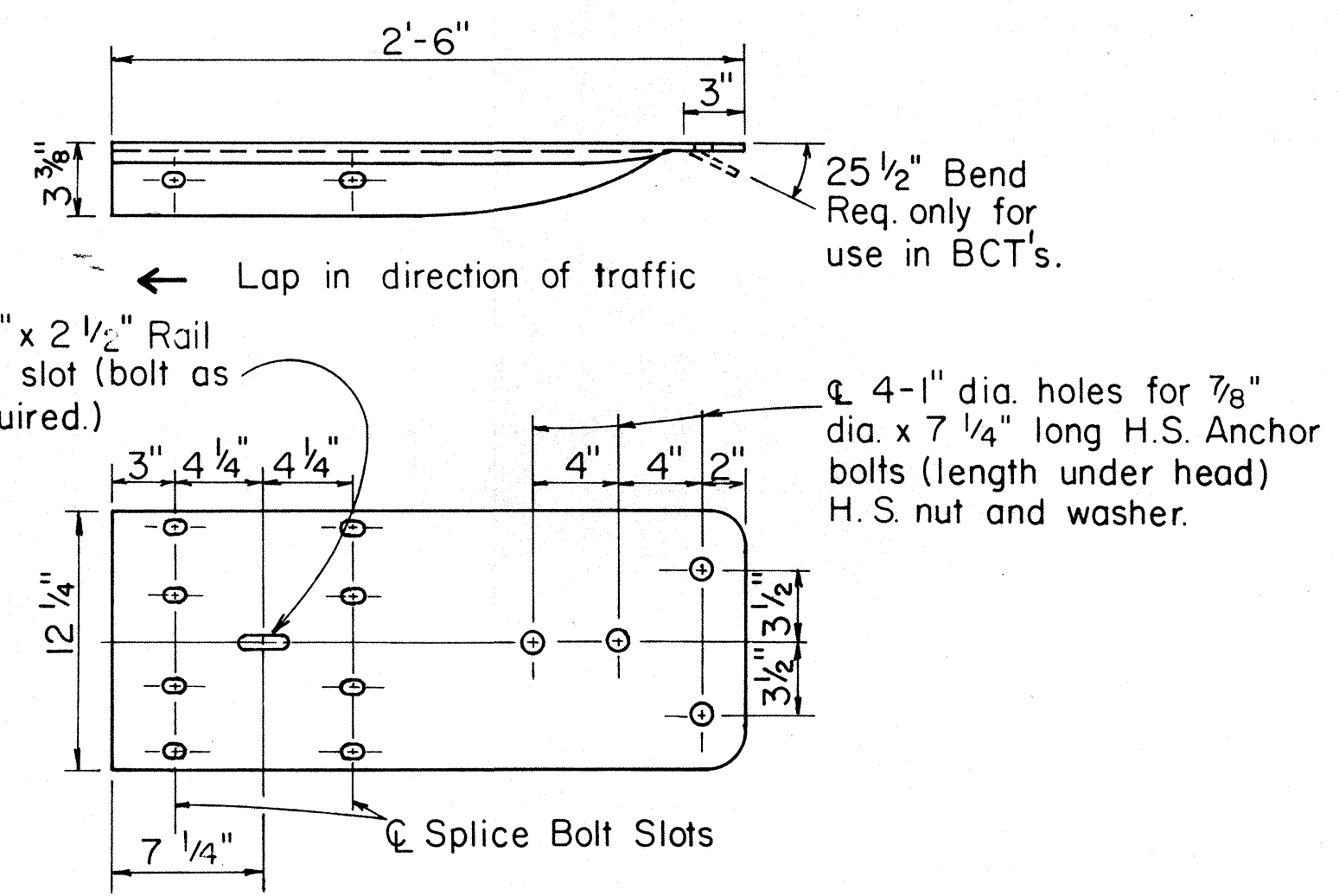


L	Thread Length	Intended Use
1 1/4"	Full length thread	Splice rail elements
2"	1 1/2" min. thread len.	Fasten rails to posts

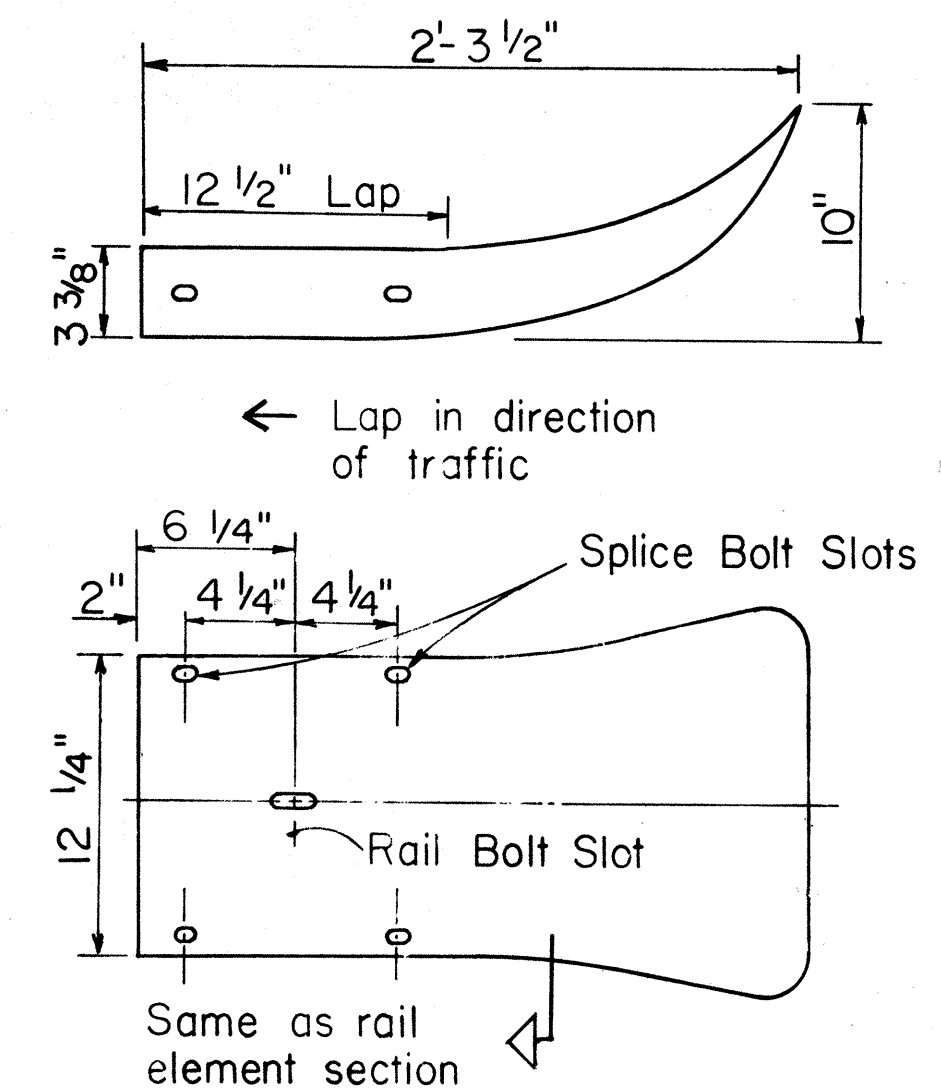
**5/8" BUTTON HEAD BOLT
AND RECESS NUT**
Scale: NTS



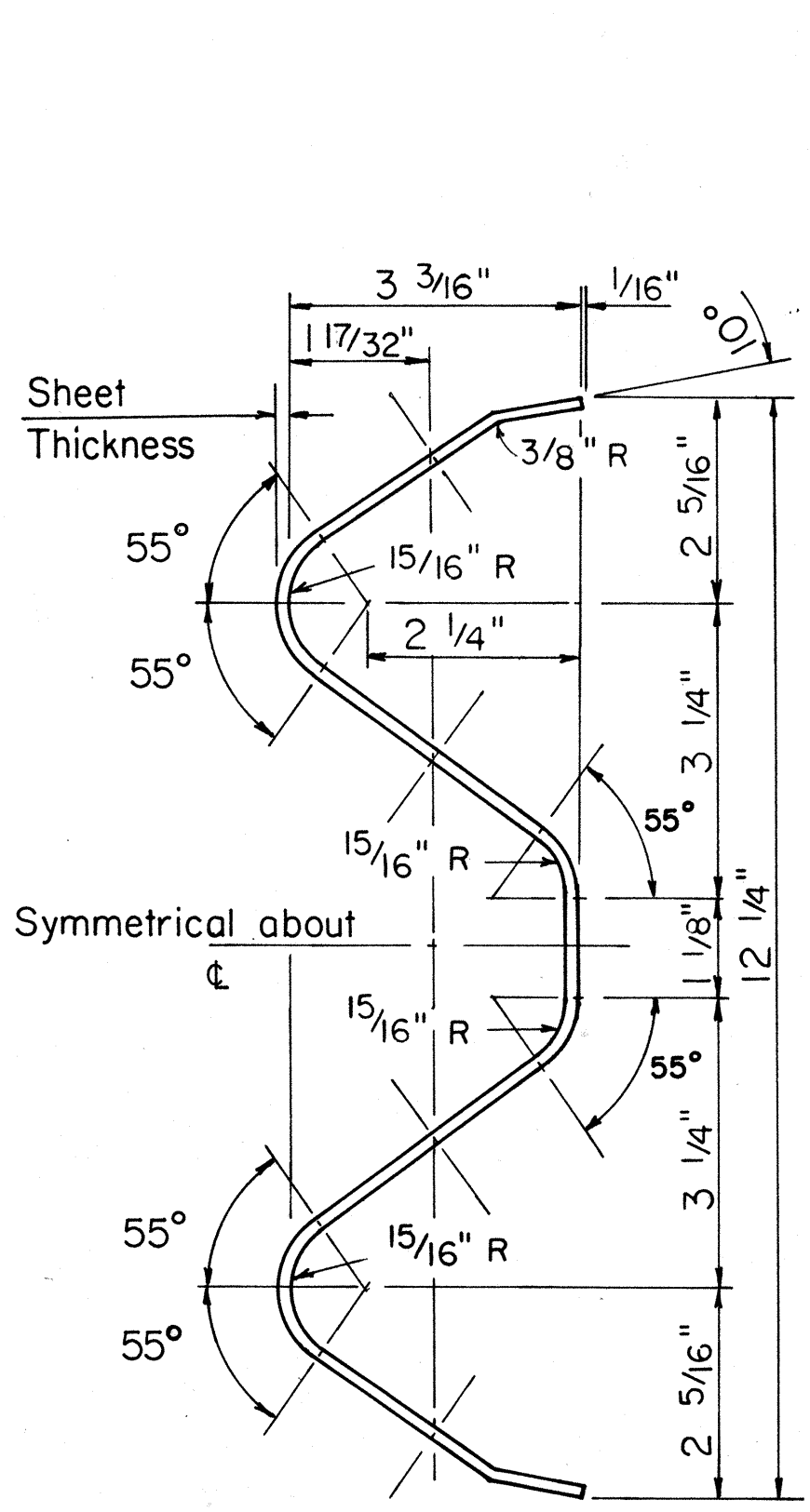
5/8" HEX POST BOLT AND NUT
Scale: N.T.S.



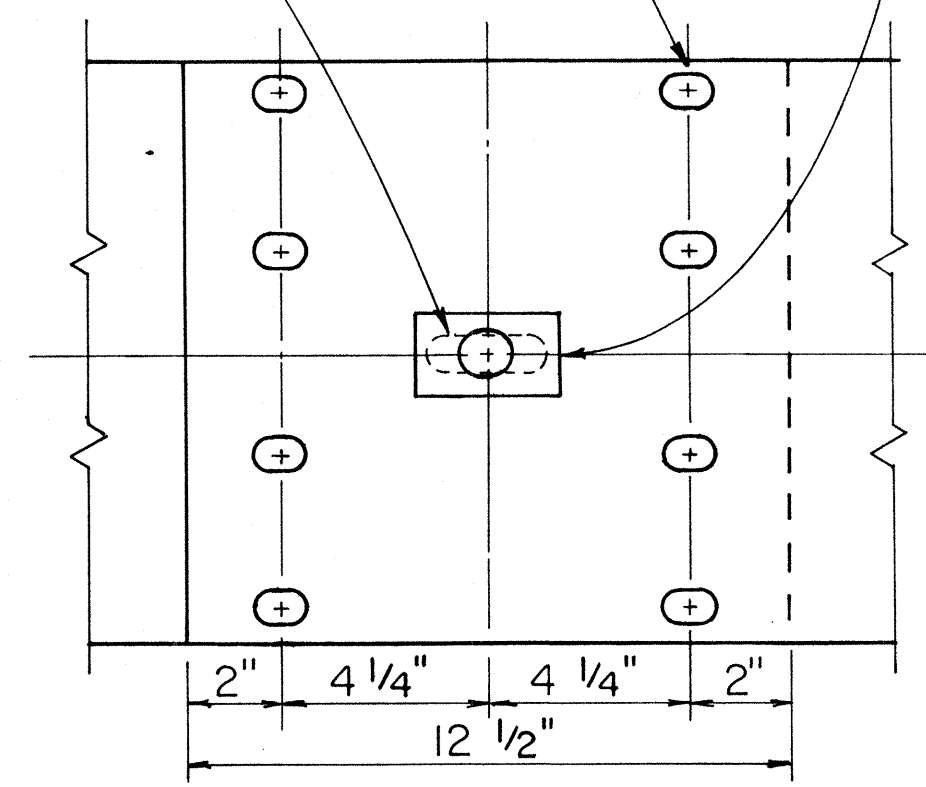
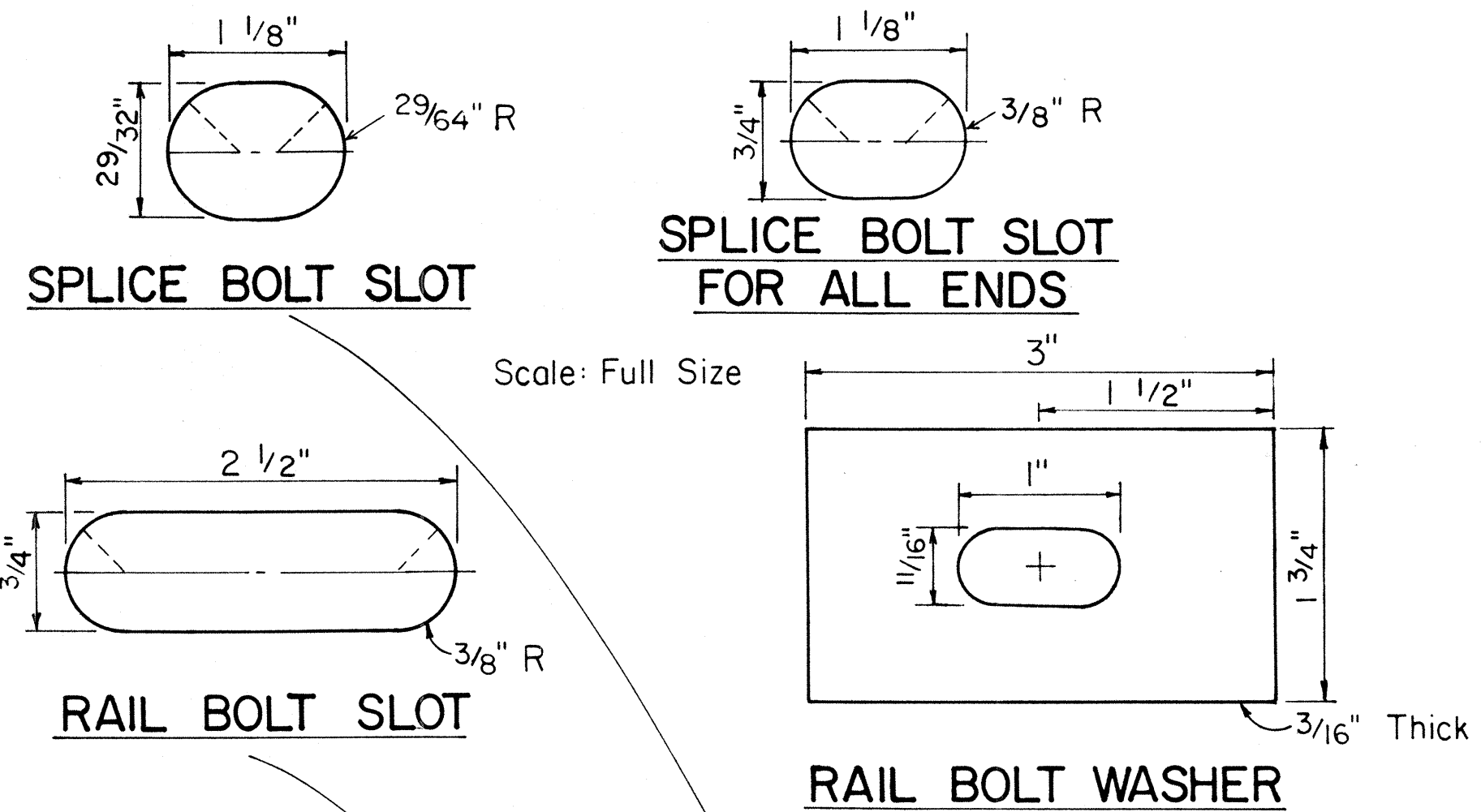
W BEAM TERMINAL CONNECTOR
Scale: 1 1/2" = 1'-0"
Lap in direction of traffic



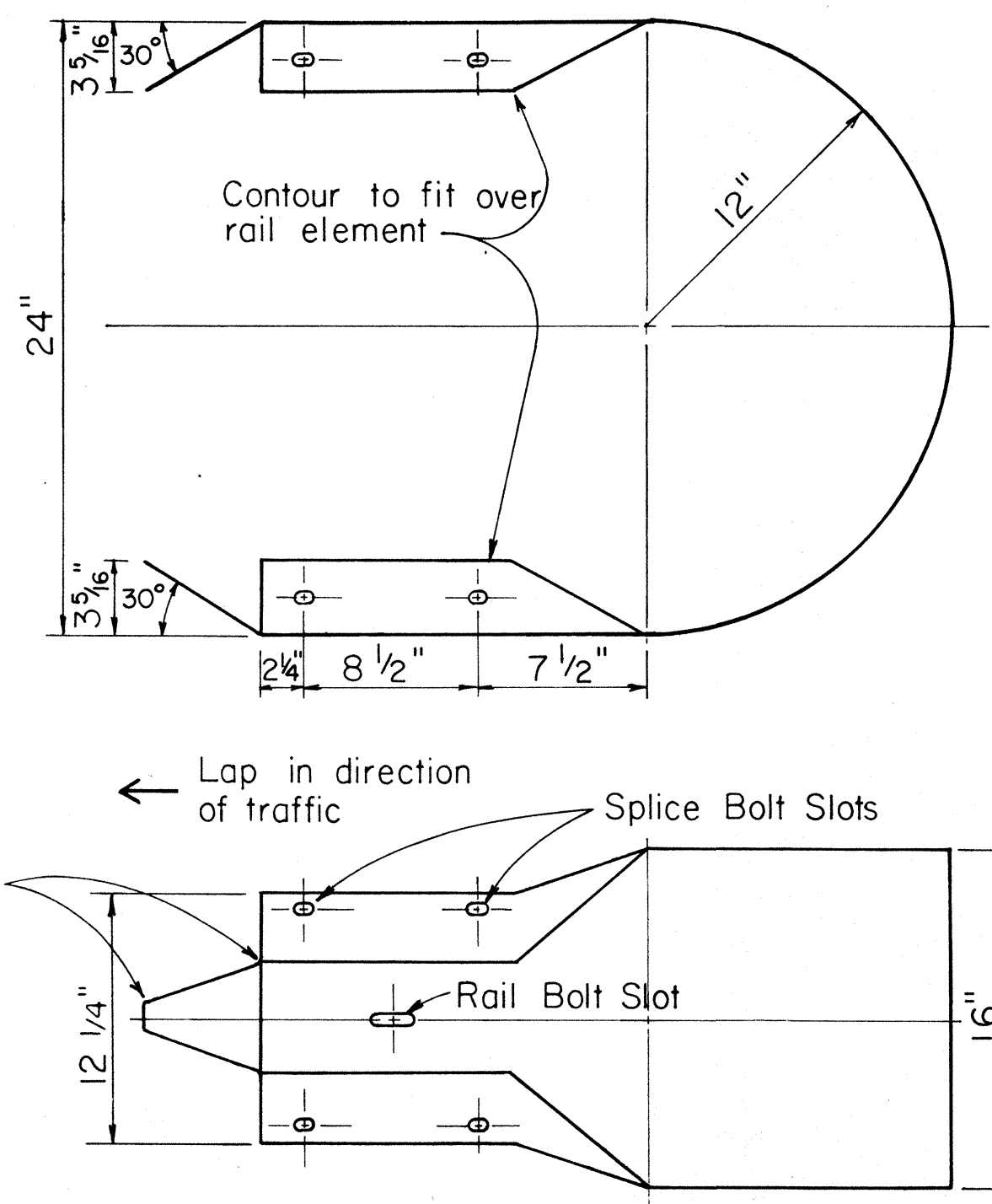
W BEAM END SECTION (FLARED)
Scale: 1 1/2" = 1'-0"



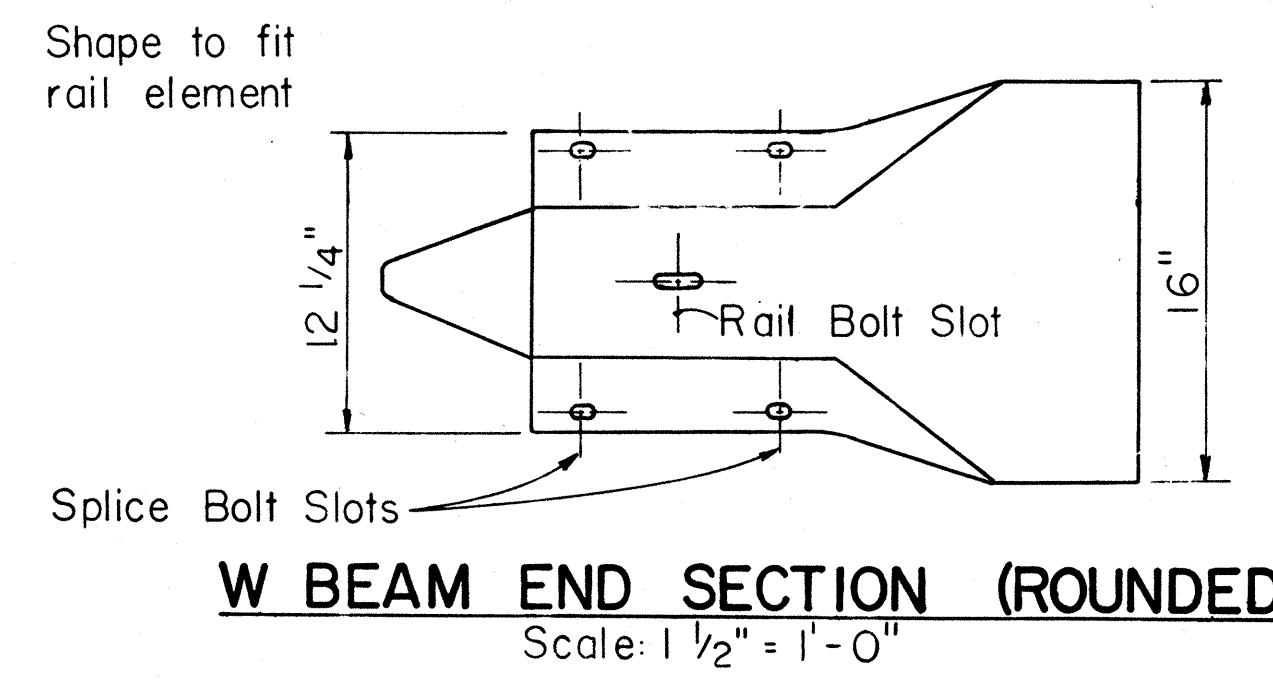
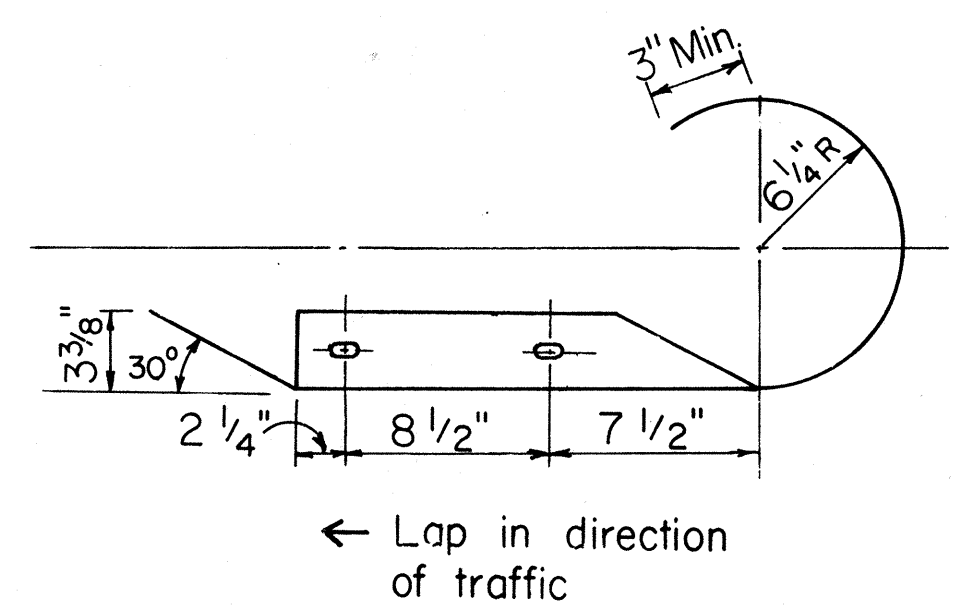
RAIL ELEMENT SECTION
Scale: 6" = 1'-0"



RAIL SPLICE
Scale: 3" = 1'-0"



W BEAM END SECTION (BUFFER)
Scale: 1 1/2" = 1'-0"



W BEAM END SECTION (ROUNDED)
Scale: 1 1/2" = 1'-0"

APPROVAL RECOMMENDED:
Eishi Tanaka
TRAFFIC ENGINEER
9/20/82
DATE

APPROVED:
Harold S. S. S.
ASSISTANT CHIEF, ENGINEERING
9/22/82
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes sht. DT 501 approved 12/30/69	H.T.	9/22/82

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
METAL GUARDRAIL

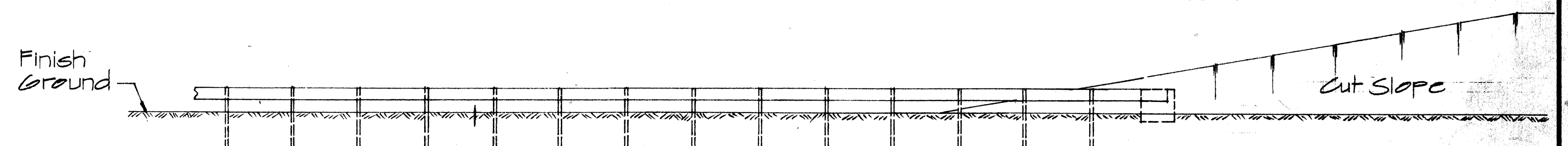
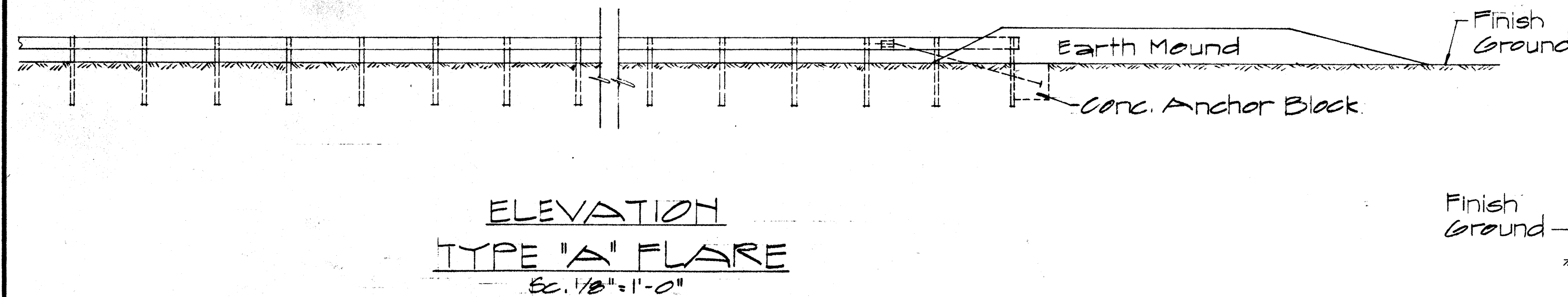
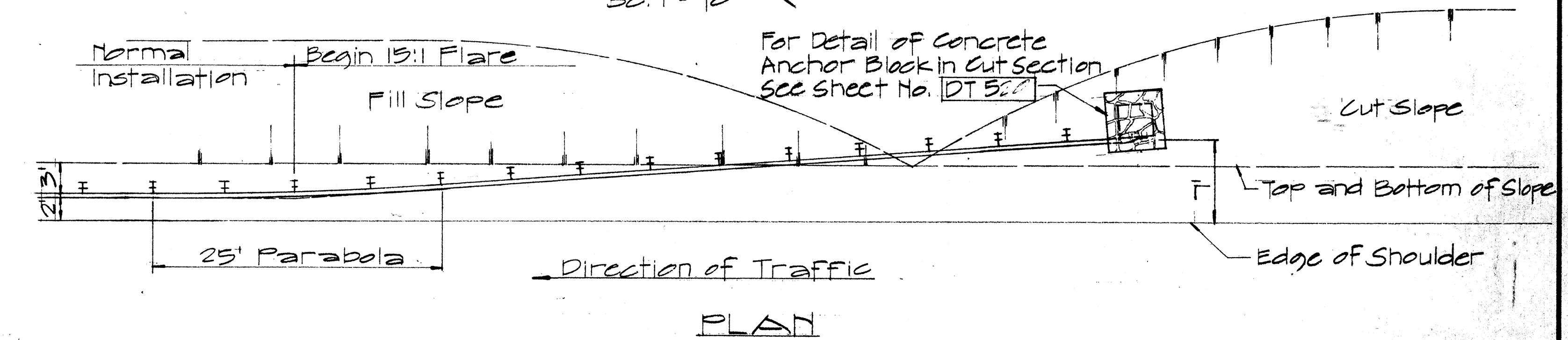
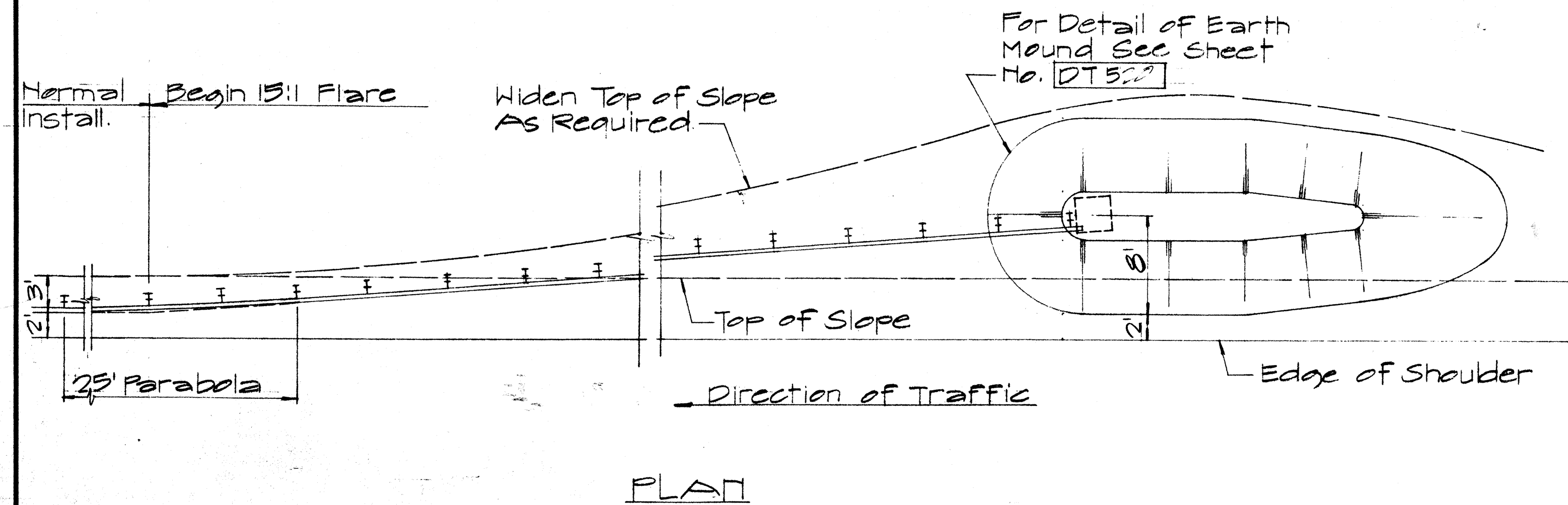
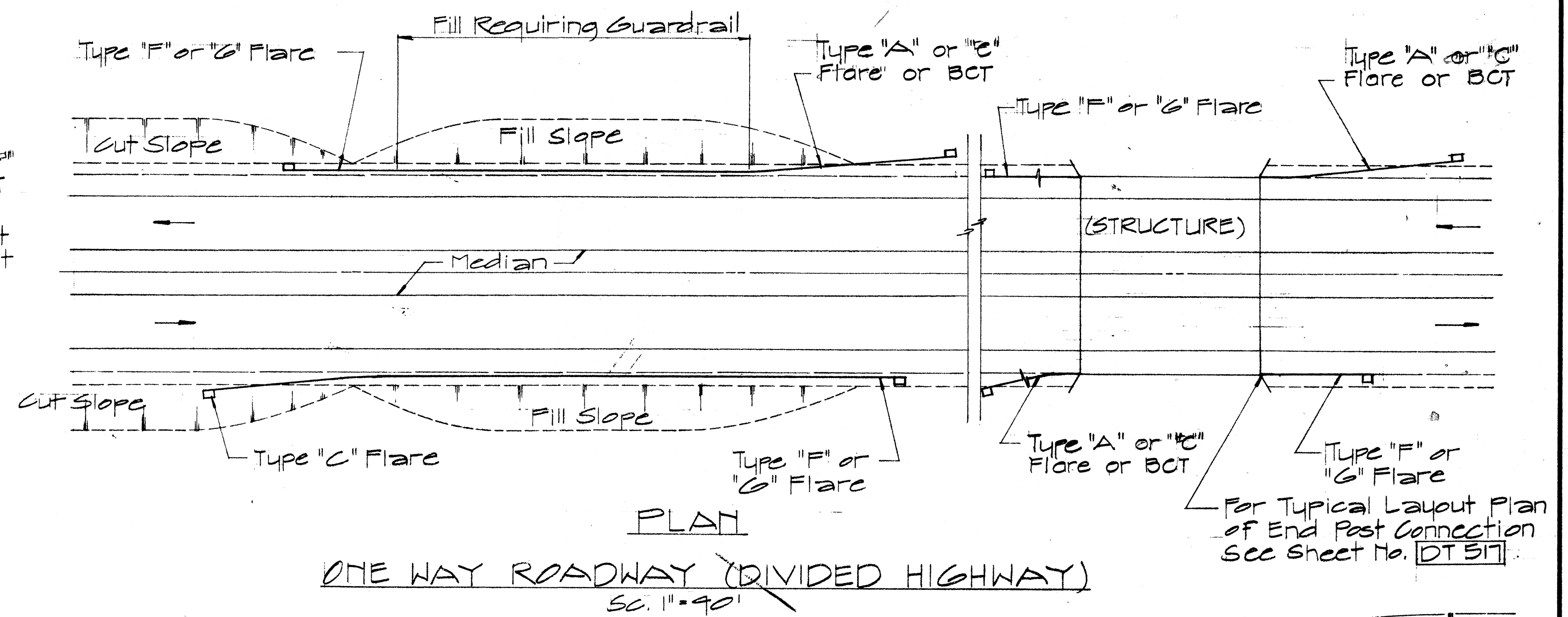
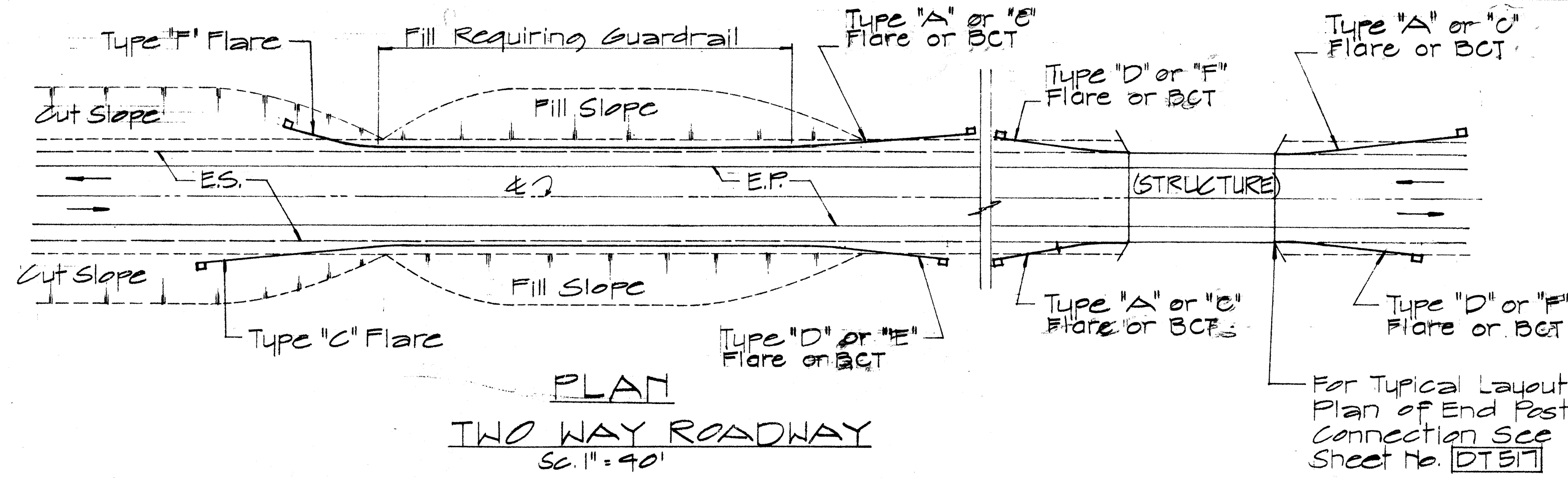
Scale: As Noted
July, 1982
SHEET No. 2 OF 5 SHEETS DT 501

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-10(1)	1984	18	27

NOTE:

1. Metal guard rail connection to structures requires End Post Connection. See structure plans.
2. For detail of Breakaway Cable Terminal (BCT) See Sheet No. DT 519



APPROVAL RECOMMENDED:
Eugene Tanaka
TRAFFIC ENGINEER
12/29/62
DATE

APPROVED:
Assistant Chief, Engineering
12-30-69
DATE

ELEVATION
TYPE "C" FLARE
Sc. 1/8" = 1'-0"

NO.	REVISION	APPROVED BY	DATE
1	Delete Type "B" Flare and Type "E" Flare	H.T.	6/15/84

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

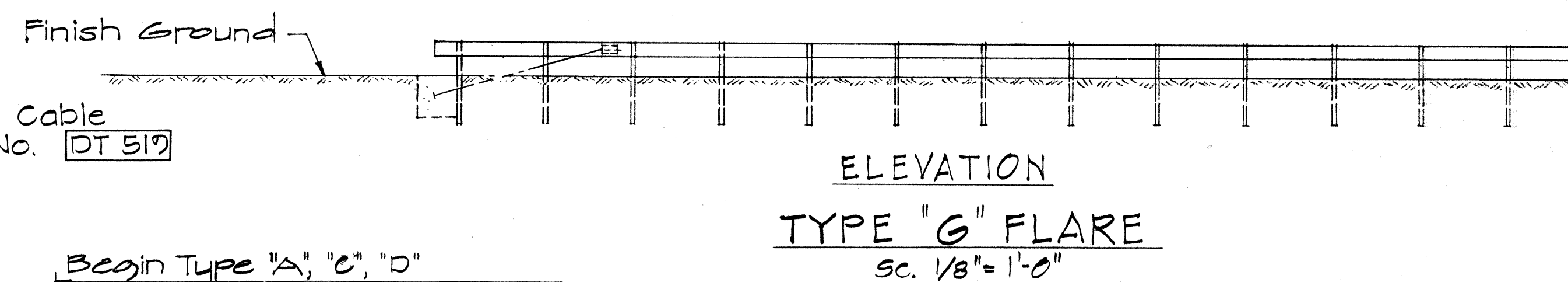
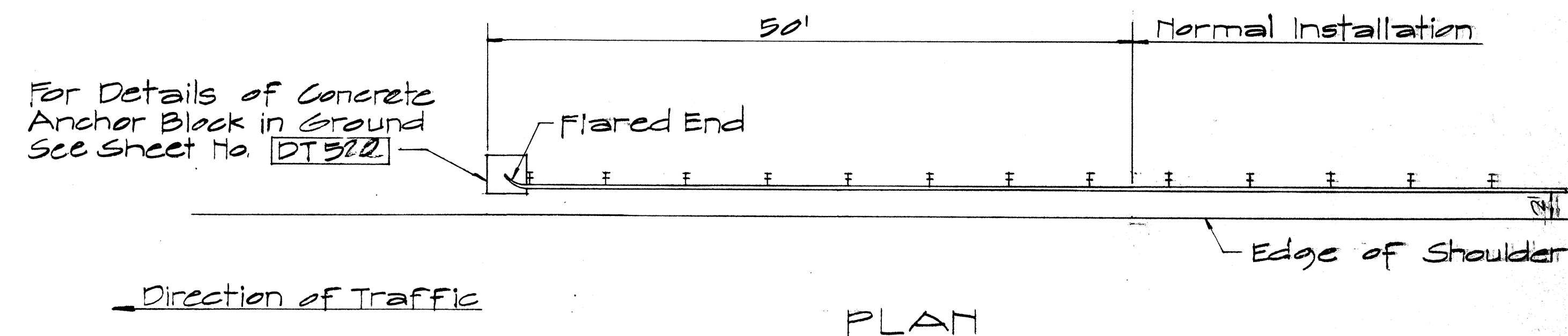
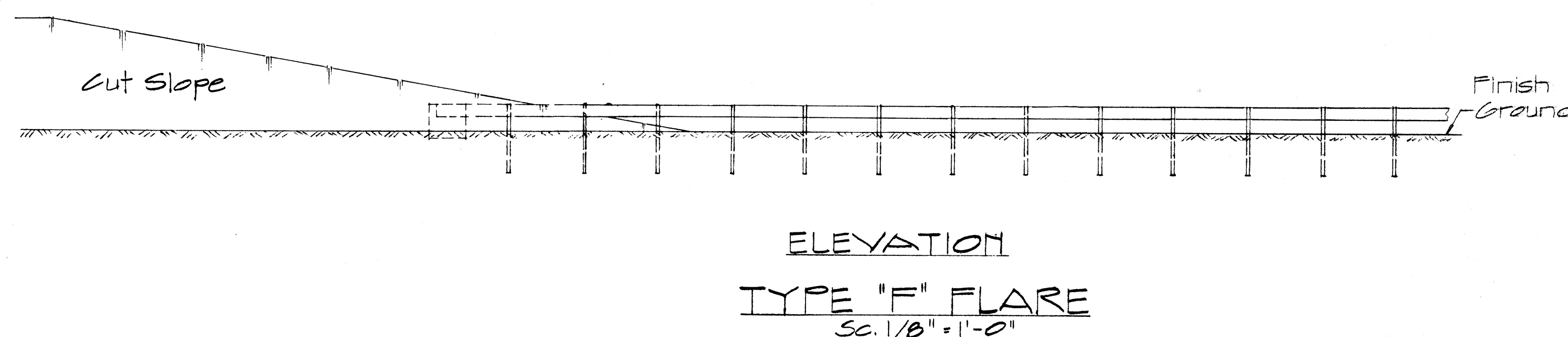
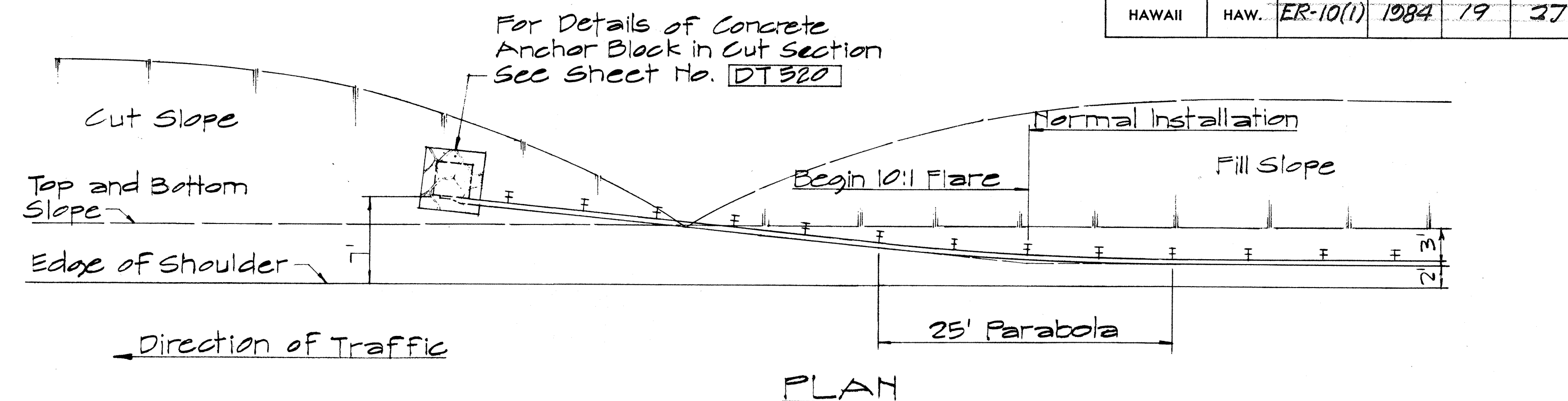
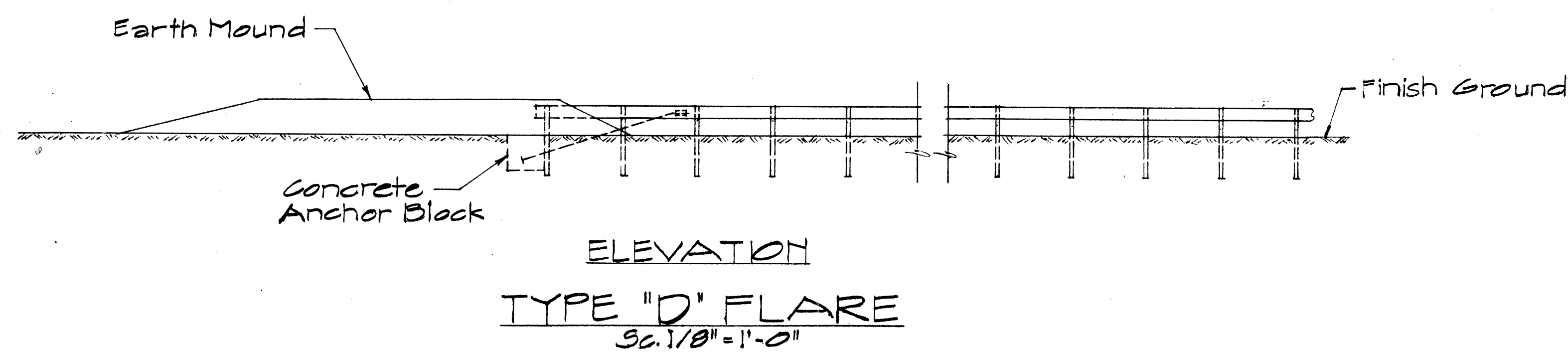
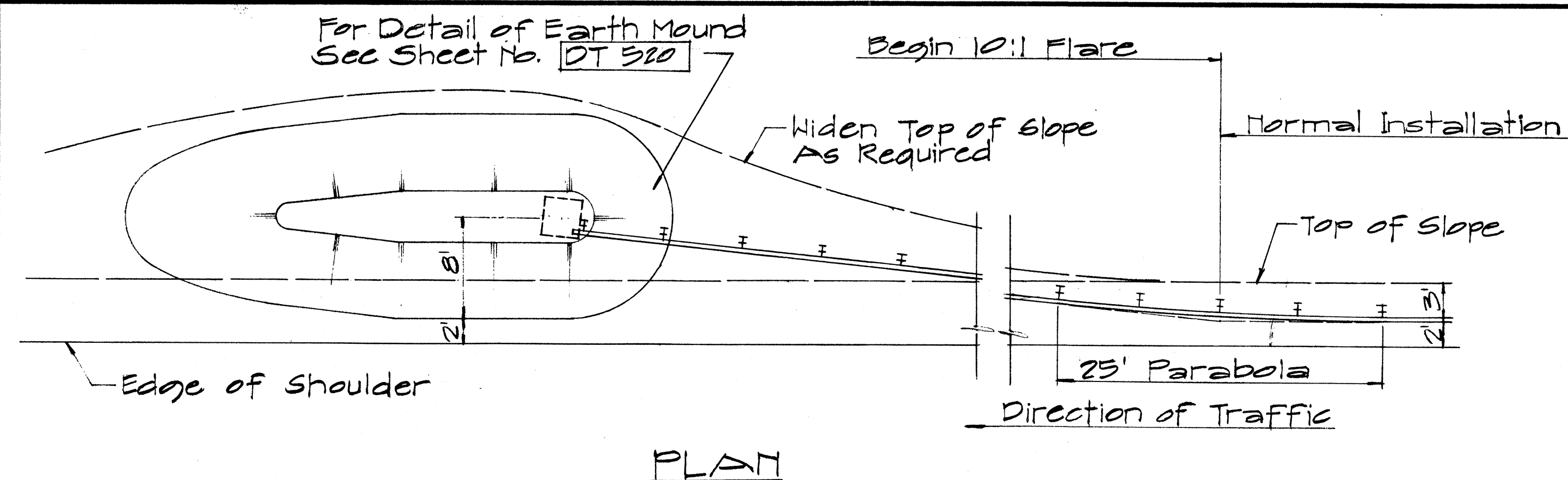
STANDARD DETAILS
OF APPROACH END
FLARE - ONE & TWO
WAY ROADWAY

Sc. As Noted April 1969

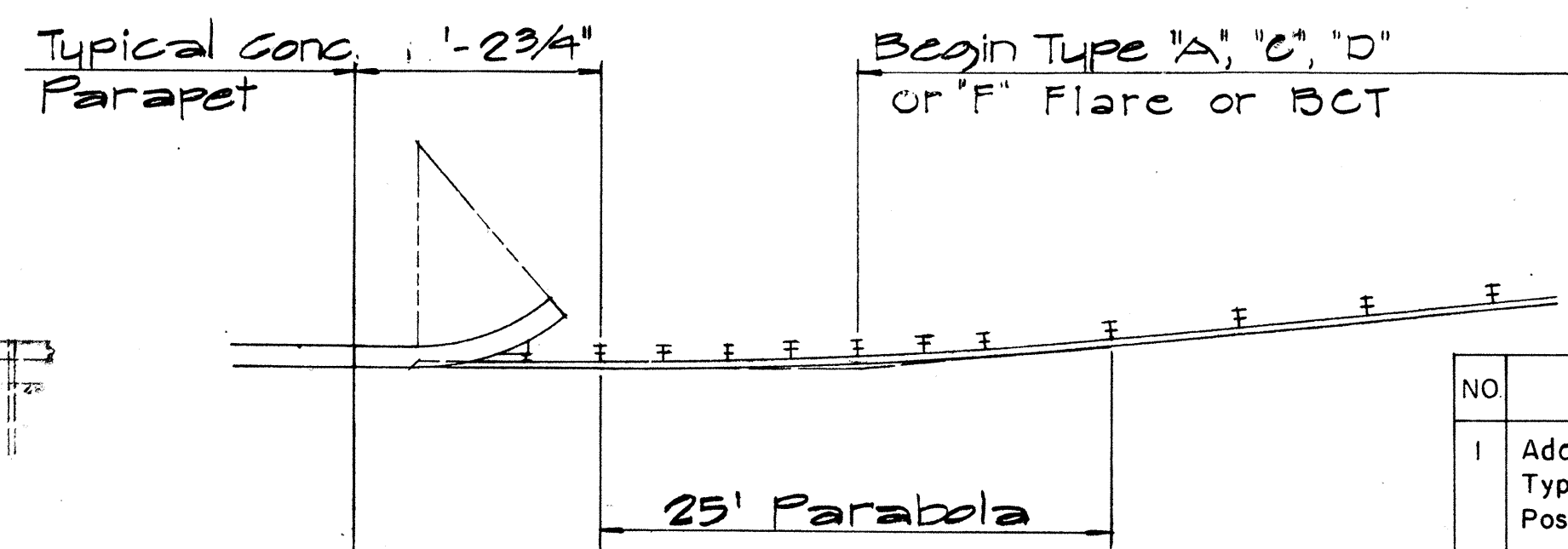
SHEET No. 3 OF 5 SHEETS DT 516

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
CHECKED BY	
NOTES BOOK	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-10(1)	1984	19	27



NOTE:
For detail of Breakaway Cable Terminal (BCT) See Sheet No. DT 519



TYPICAL LAYOUT PLAN OF
END POST CONNECTION

Sc. 1/8" = 1'-0"

NO	REVISION	APPROVED BY	DATE
1	Additional Posts Added to Typical Layout Plan Of End Post Connection	H.C.	4-12-72
2	Delete Type "B" Flare and Type "E" Flare	H.C.	6-15-78

APPROVAL RECOMMENDED:
Eishi Tanaka 12/29/69
TRAFFIC ENGINEER DATE

APPROVED:
W. S. Kal 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

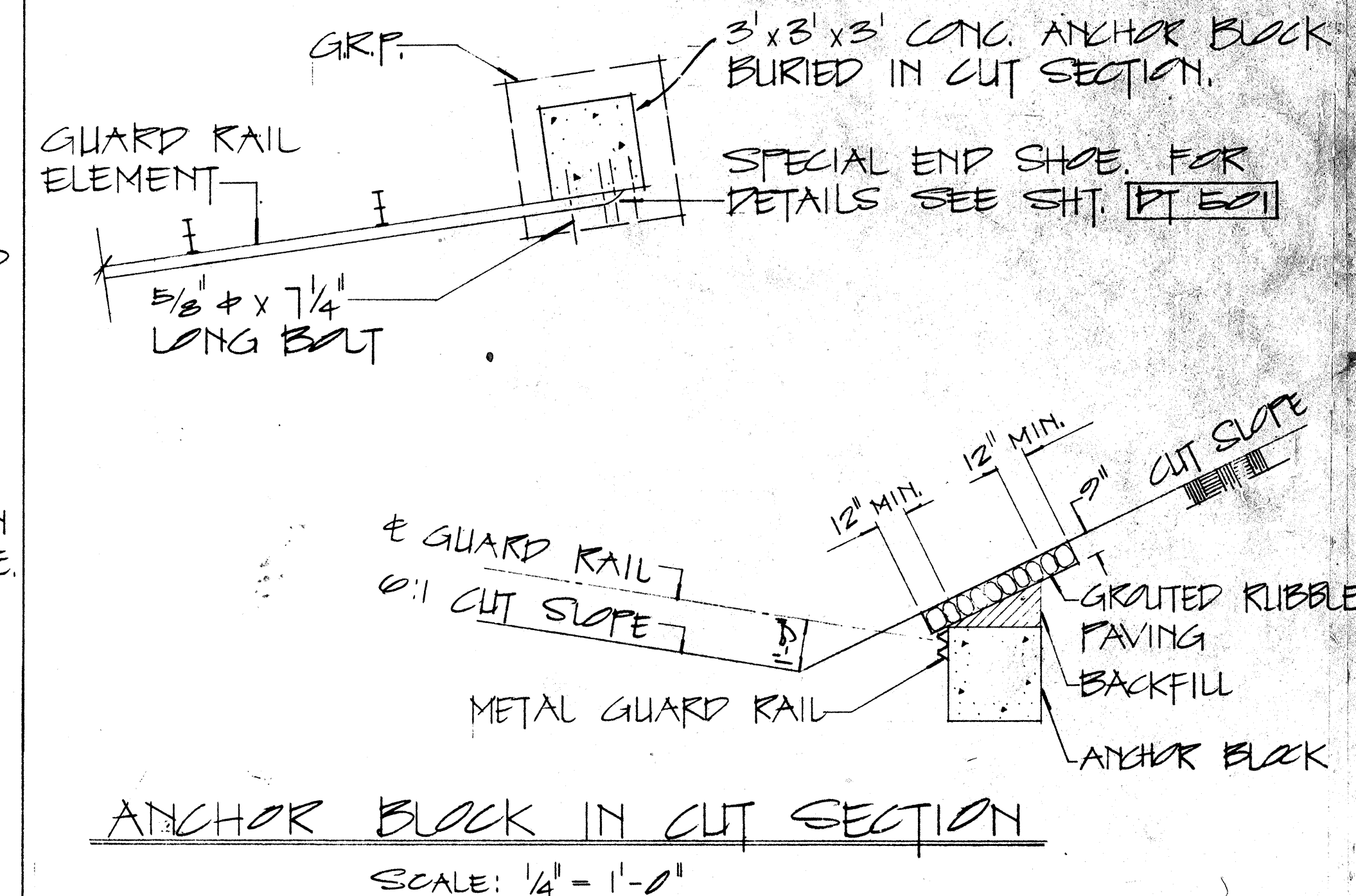
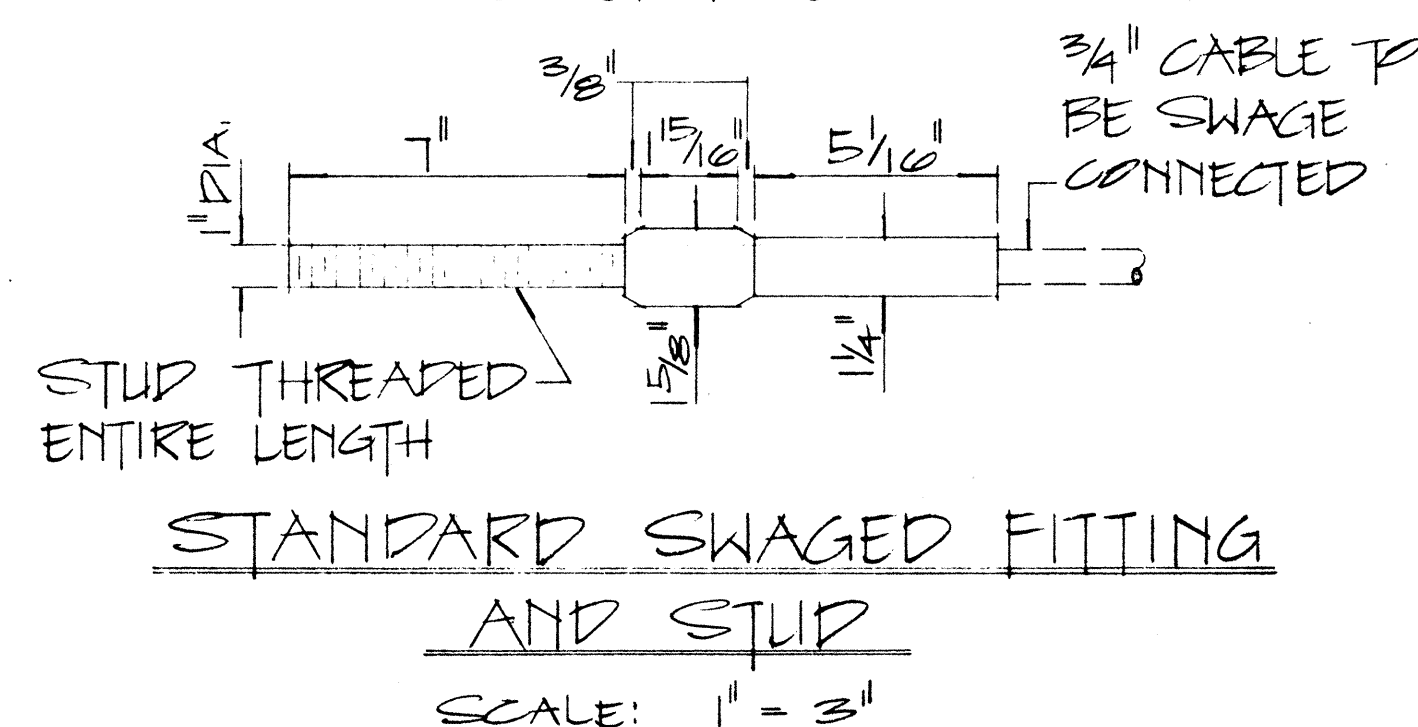
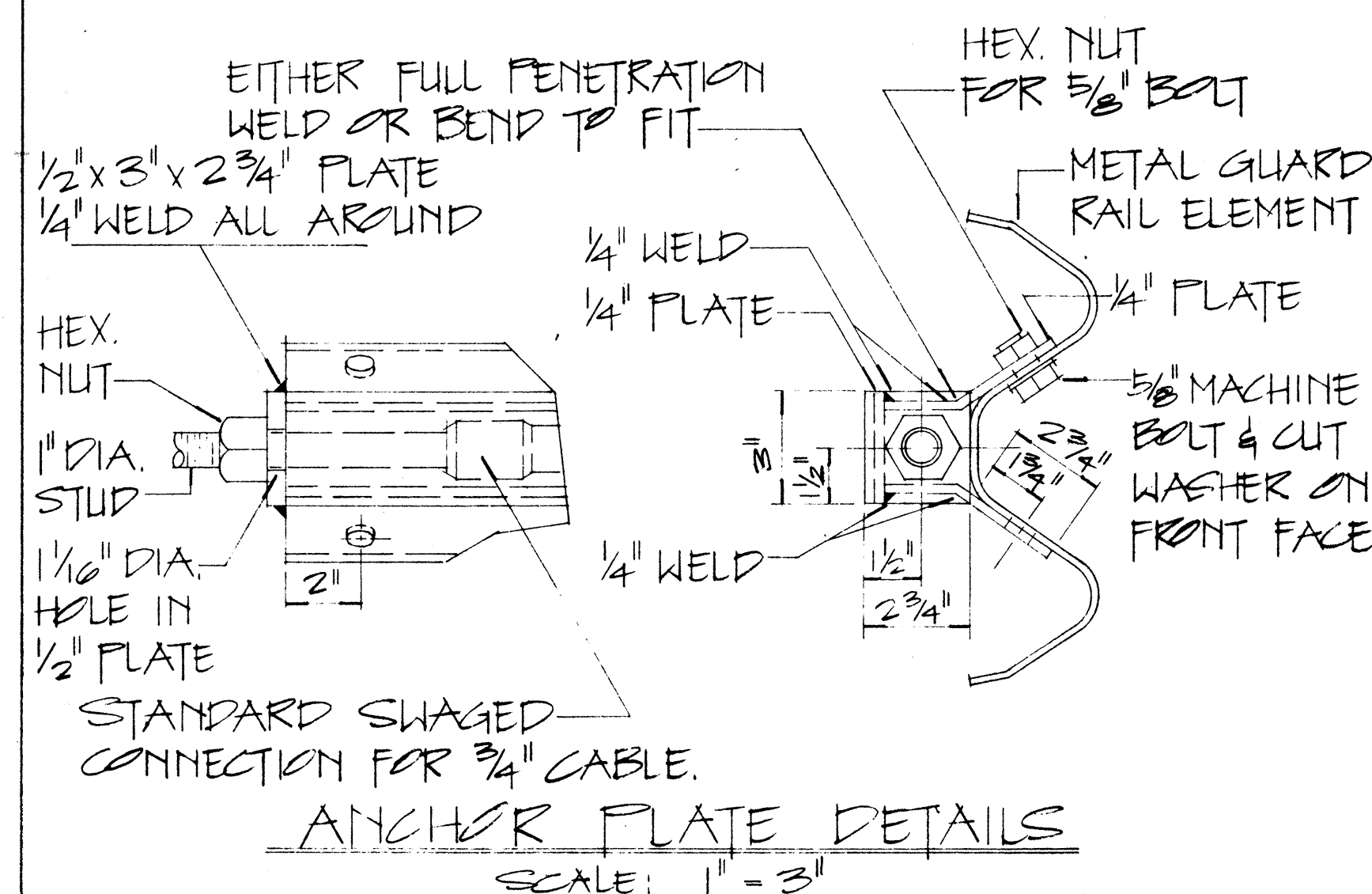
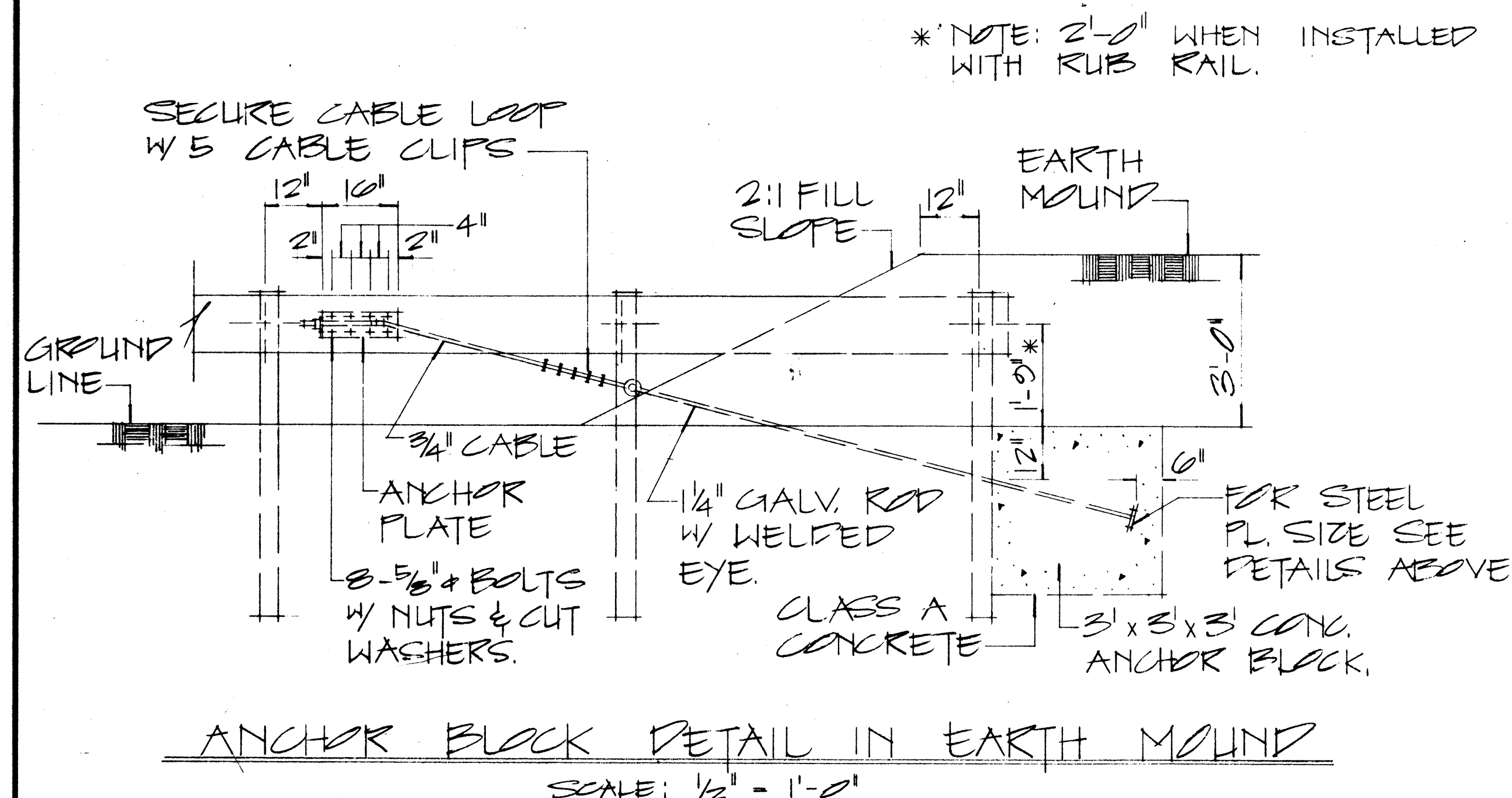
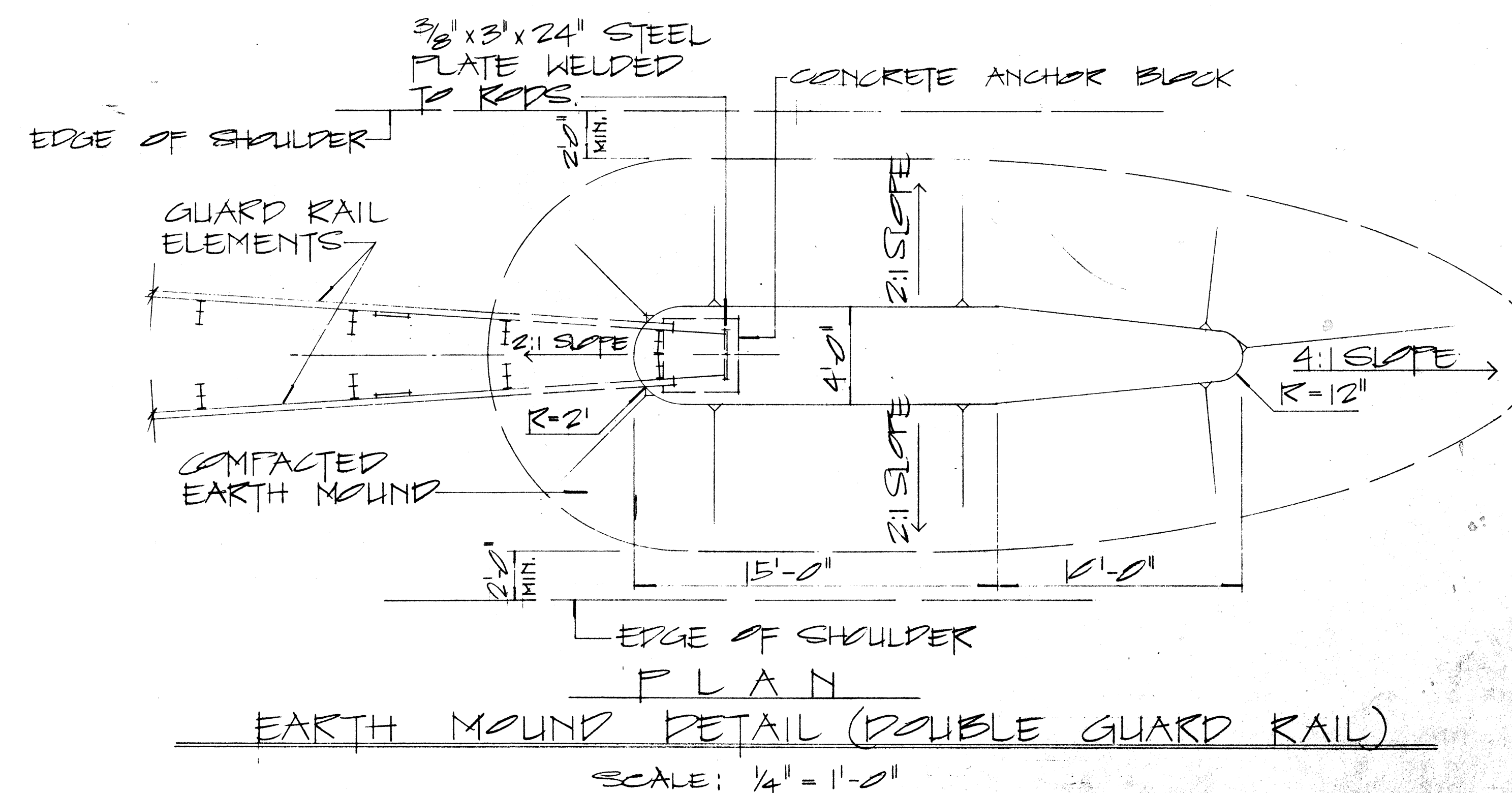
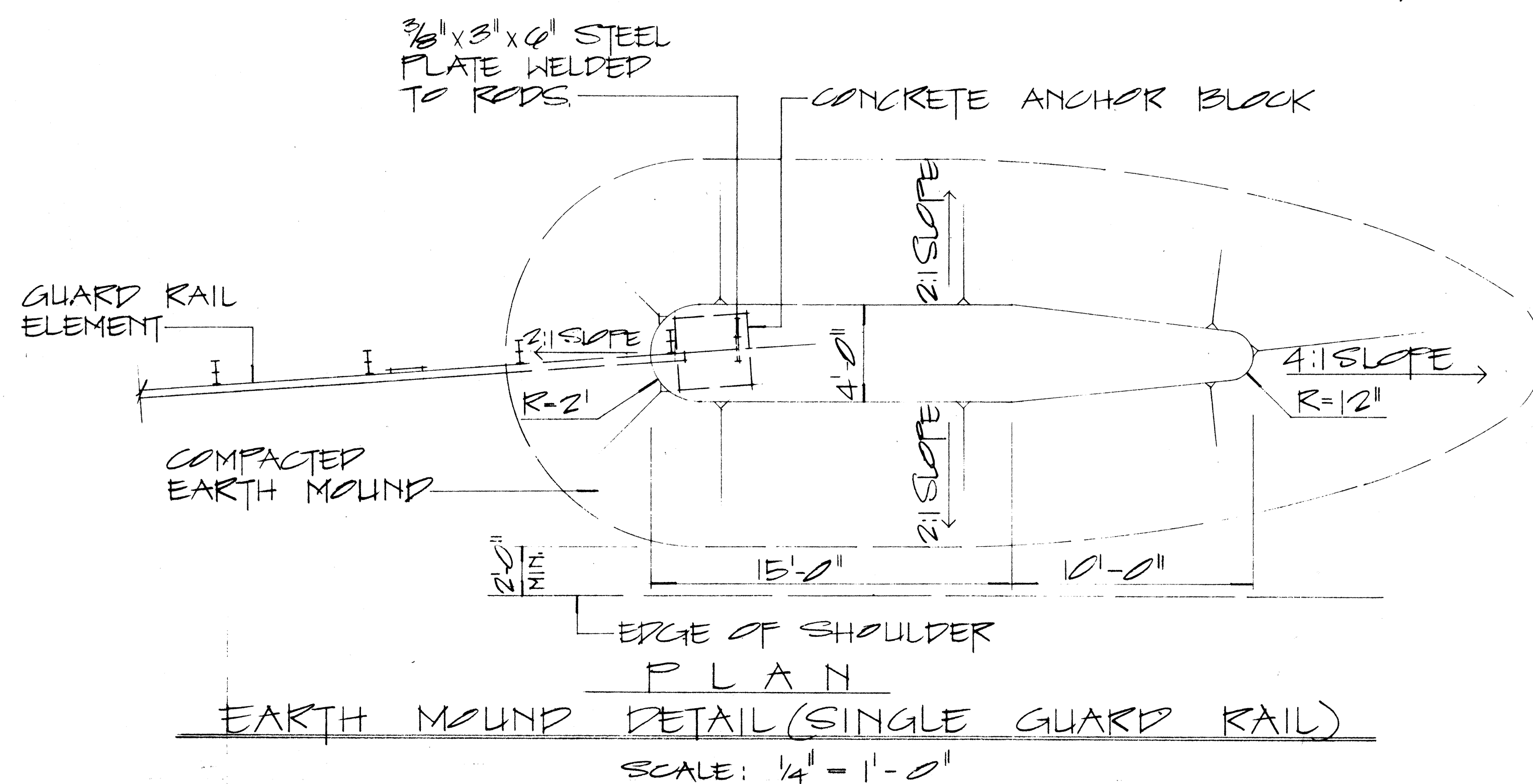
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
TRAILING END
FLARE - ONE & TWO
WAY ROADWAY

Scale: As Noted April 1969

SHEET No. 4 OF 5 SHEETS DT 511

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-10(1)	1984	20	27



APPROVAL RECOMMENDED: *Erich Tanaka* 12/29/62
TRAFFIC ENGINEER DATE

APPROVED: *W. J. J. J.* 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
EARTH MOUND AND ANCHOR BLOCK DETAILS

SCALE: AS SHOWN 01/10/69

SHEET No. 5 OF 5 SHEETS 01520

NOTE:

1. GALVANIZED ANCHOR ROD, METAL GUARD RAIL AND POST BURIED IN GROUND SHALL BE COVERED WITH A MIN. 20-MIL THICKNESS OF COAL TAR ENAMEL, CONFORMING TO AWWA STANDARD: C 203

2. CONCRETE, GRP, EXCAVATION, EARTH MOUND, ANCHOR RODS AND MISCELLANEOUS APPURTENANCES NECESSARY TO ANCHOR THE GUARD RAIL ENDS SHALL BE INCIDENTAL TO THE METAL GUARD RAIL.