

Guardrail

Metal spacer block, W6 x 9.0

Metal guardrail post, W6 x 9.0

7/8"

5 7/8"

5 7/8"

4"

↑

1. Both of the alternate type posts may be used on any one project however, only one type of post shall be used in any single run of guardrail.
2. All hardware, posts and blocks shall be galvanized. No punching, drilling or cutting will be permitted after galvanizing.
3. Connection details for bent plate post and block shall be similar to the details shown for structural shape post, and block.
4. Where conditions require, special post lengths in increments of 6 inches may be specified.
5. For details of rail elements, bolts and nuts, see sheet DT 501.



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



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

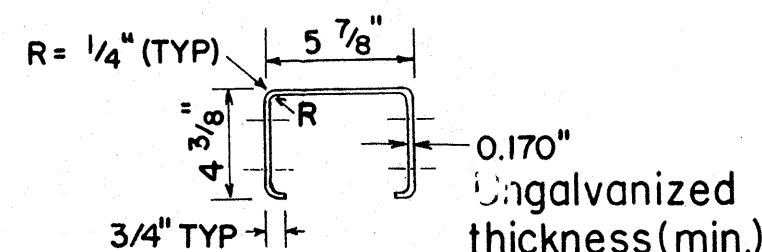
NOTE:
All holes $13/16"$ ϕ . Bolt hole pattern is symmetrical with respect to the vertical axis of the post.



SCALE: 1" = 1'-0"



FRONT



BENT PLATE POST AND BLOCK

SCALE: 1" = 1'-0"



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

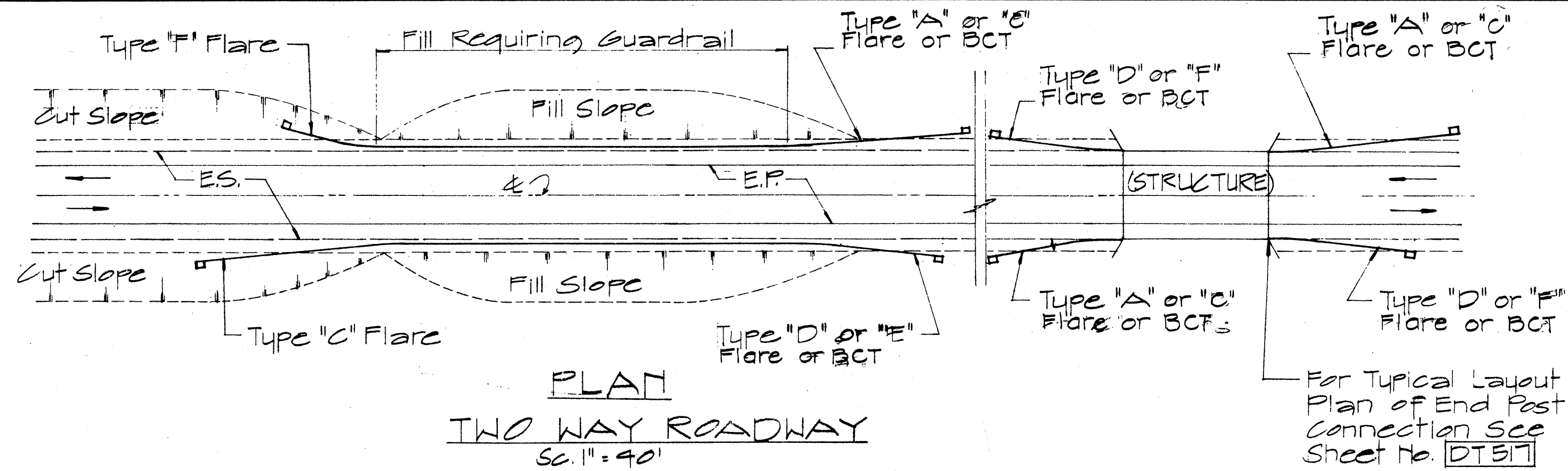
APPROVAL RECOMMENDED: Eiichi Tanaka 9/7/82
TRAFFIC ENGINEER DATE

APPROVED: Herbert Zalski 9/22/82
ASSISTANT CHIEF, ENGINEERING DATE

STANDARD DETAILS

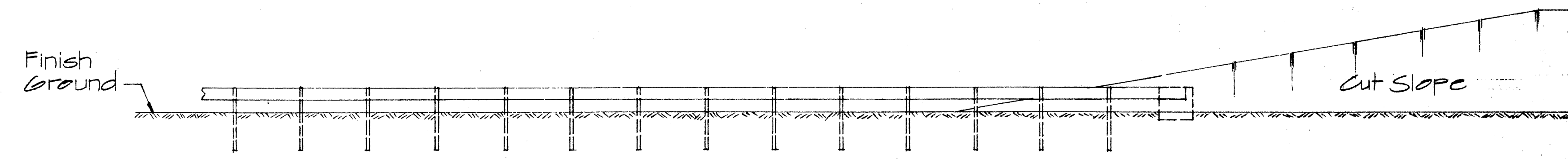
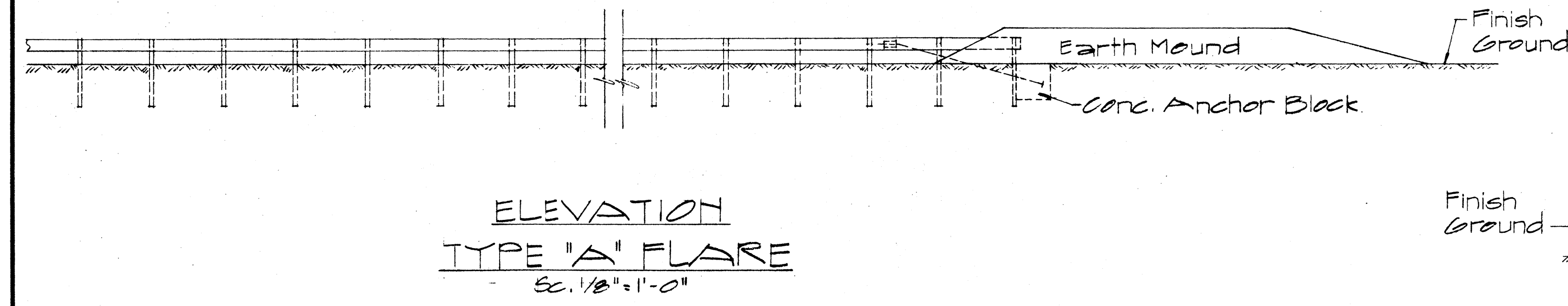
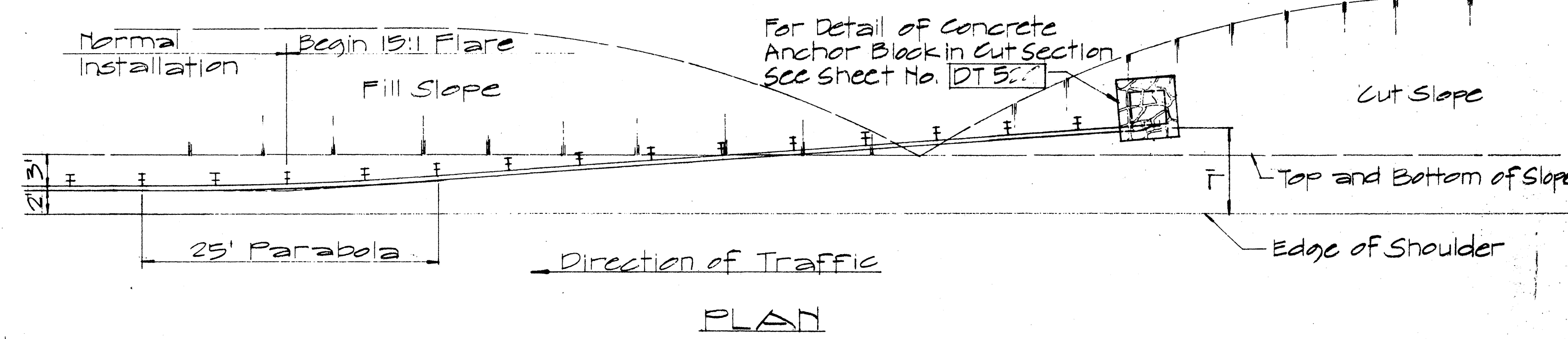
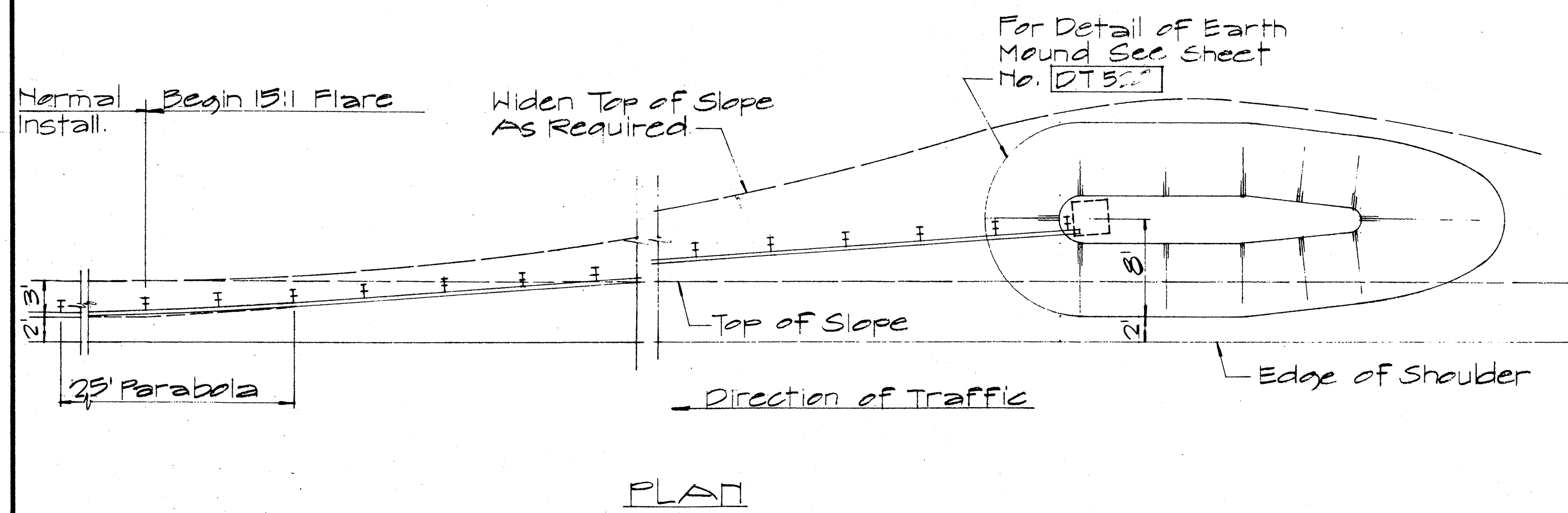
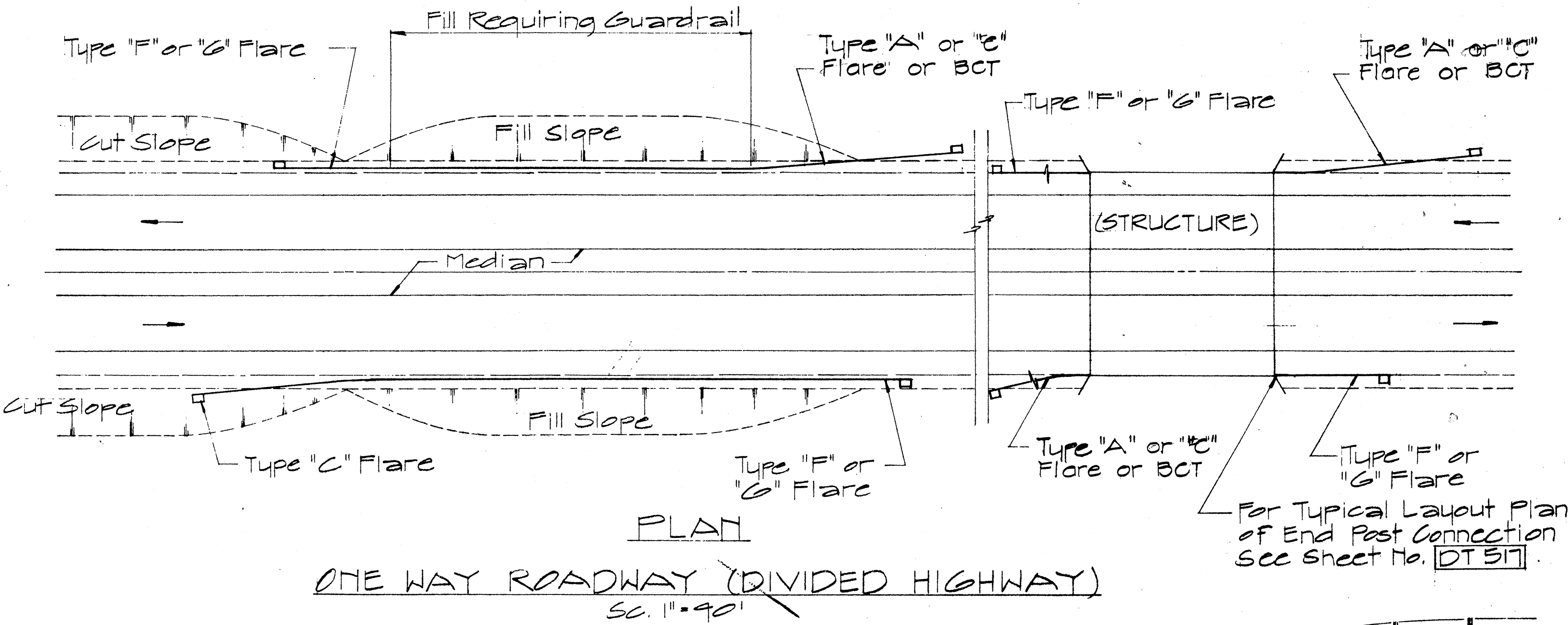
METAL GUARDRAIL

Scale: As Shown July, 1982
SHEET NO. 1 OF 7 SHEETS DT 500



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]

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	SR-075016	1983	9	27



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

APPROVED:
W. B. [Signature]
ASSISTANT CHIEF, ENGINEERING
12-30-69
DATE

NO.	REVISION	APPROVED BY	DATE
1	Delete Type "B" Flare and Type "E" Flare	H.S.	6/15/68

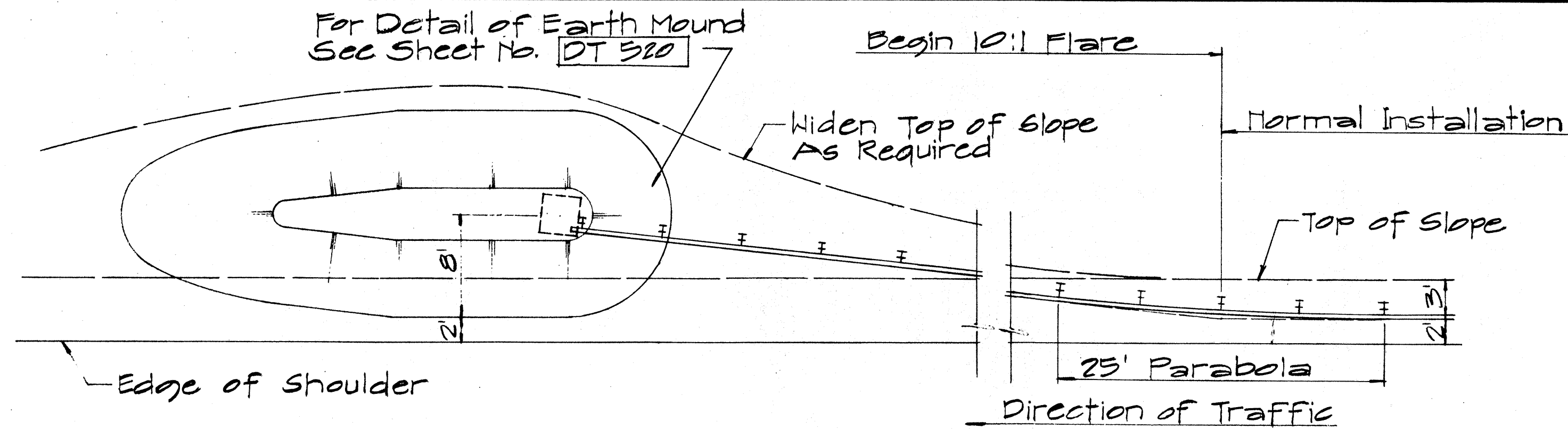
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

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

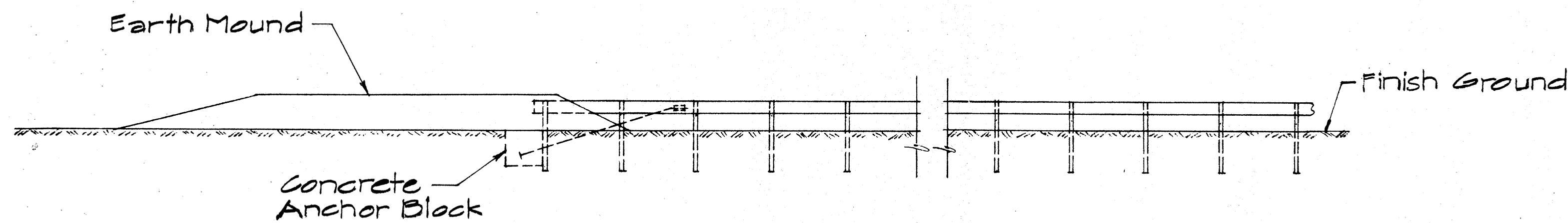
SC. As Noted April 1969
SHEET No. 3 OF 7 SHEETS [DT 516]

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	

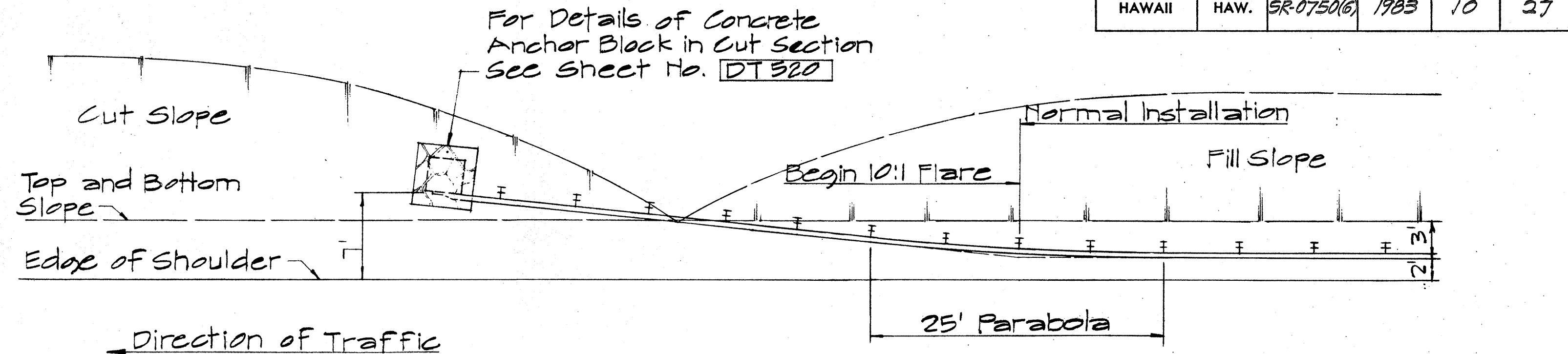
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	SR-0750(6)	1983	10	27



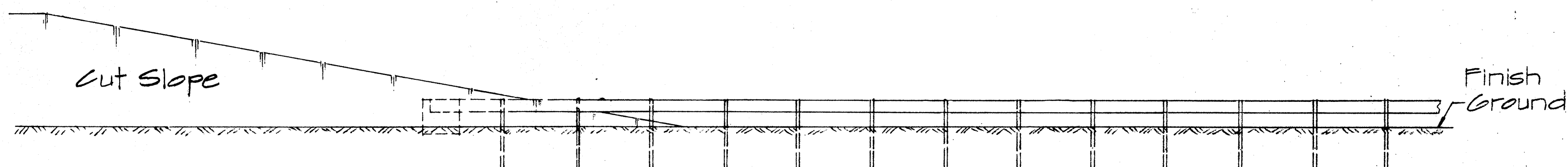
PLAN



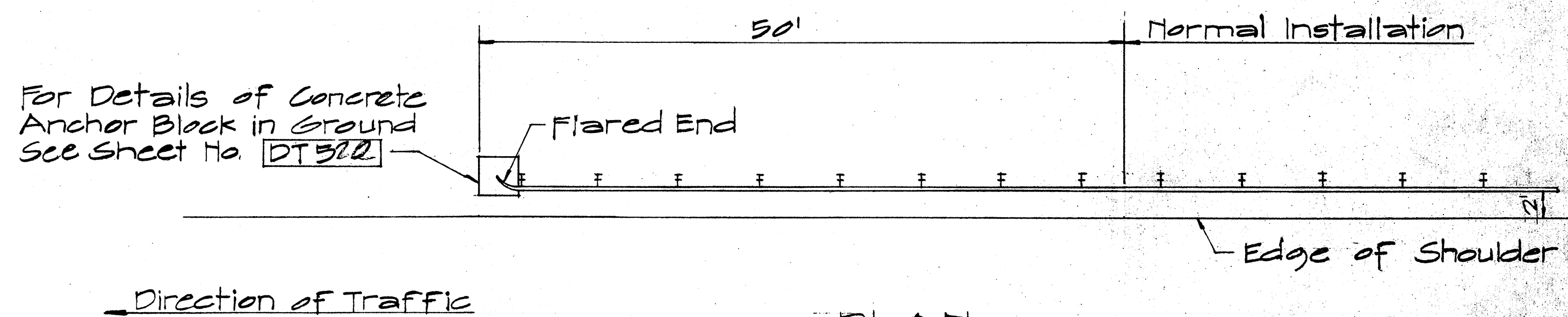
ELEVATION
TYPE "D" FLARE
Sc. 1/8" = 1'-0"



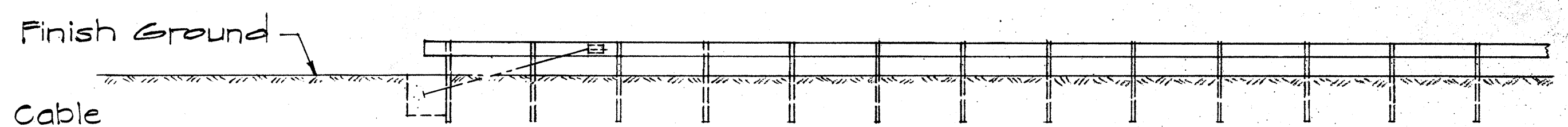
PLAN



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

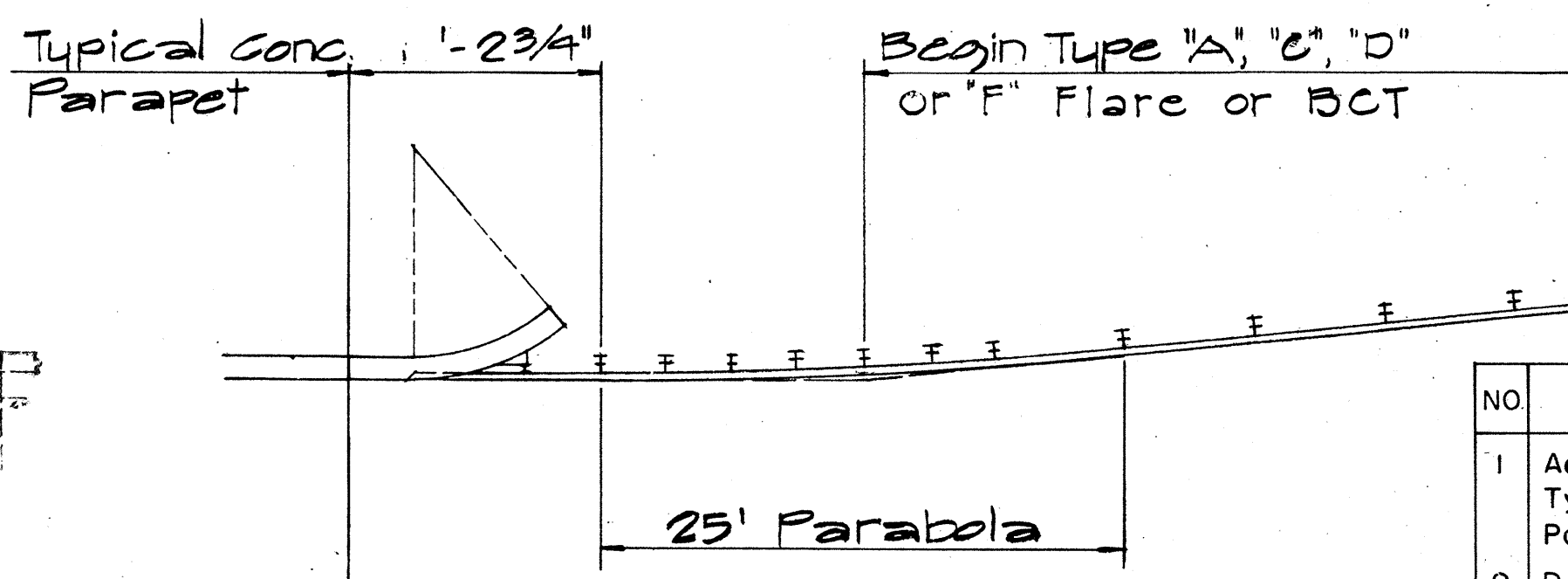


PLAN



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

NOTE:
For detail of Breakaway Cable Terminal (BCT) See Sheet No. DT 512



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:
Eugene Tanaka 12/23/69
TRAFFIC ENGINEER DATE

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

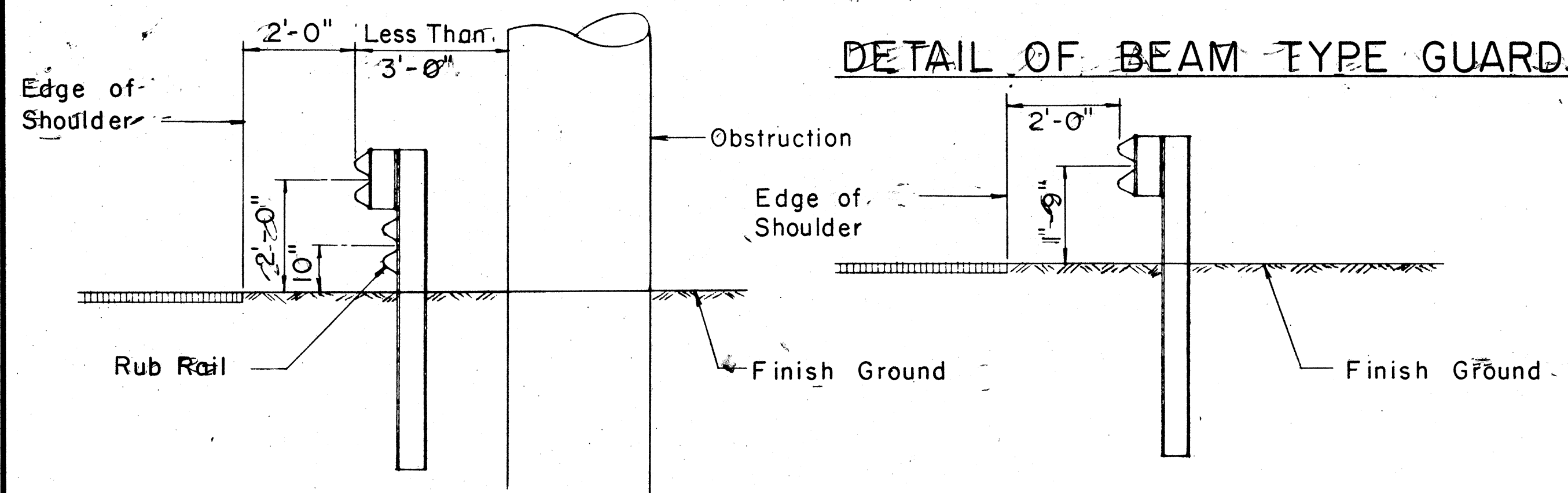
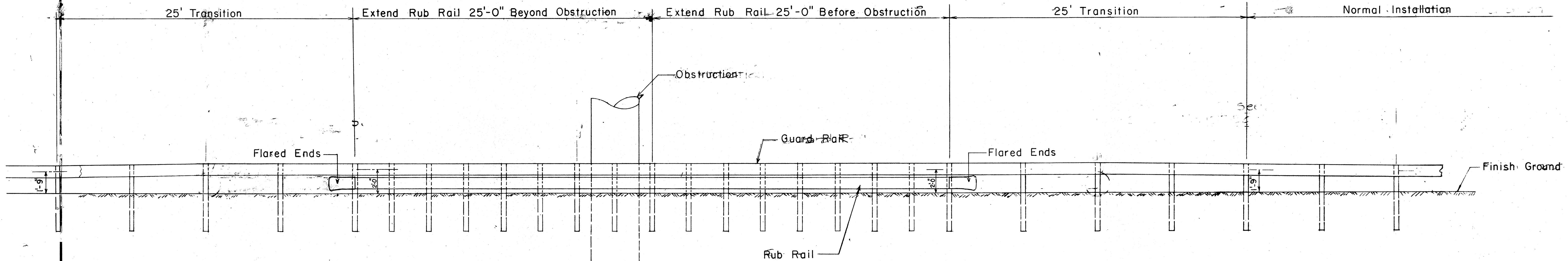
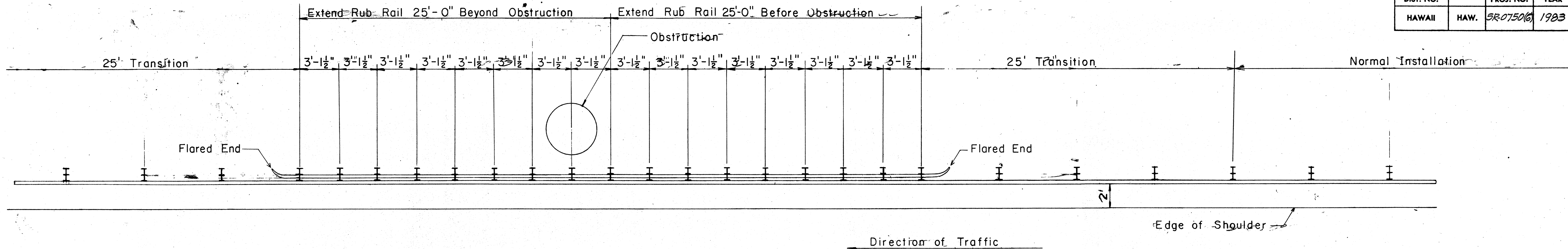
STANDARD DETAILS
TRAILING END
FLARE - ONE & TWO
WAY ROADWAY

Scale: As Noted April 1969

SHEET No. 4 OF 7 SHEETS DT 517

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5R07506	1963	11	27



TYP. SEC. AT OBSTRUCTION

TYP. SEC. AT NORMAL INSTALLATION

TYP. GUARD RAIL SECTIONS

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

APPROVAL RECOMMENDED:
E.ichi Tanaka
 TRAFFIC ENGINEER 12/29/69
 DATE

APPROVED:
Shirley S. Sakai
 ASSISTANT CHIEF, ENGINEERING 12-30-69
 DATE

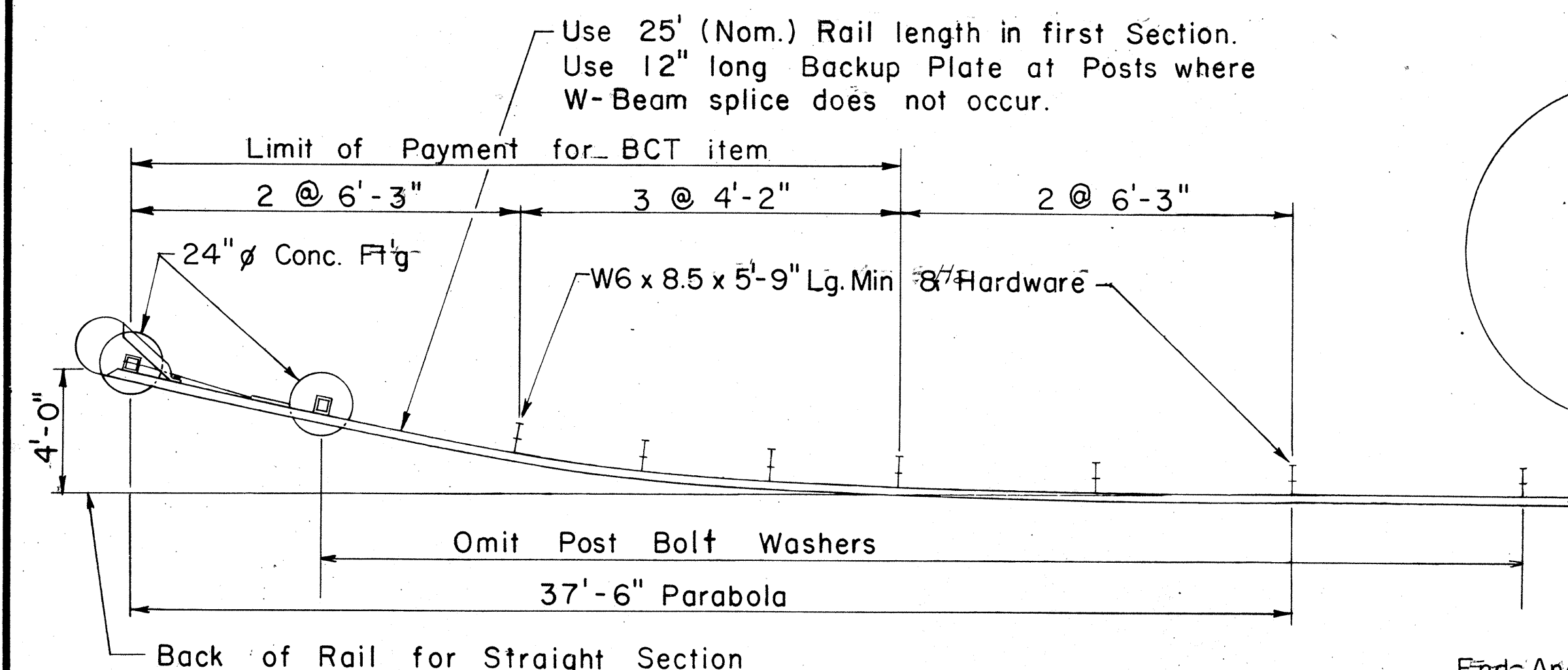
NO.	REVISION	APPROVED BY	DATE
1	Added Additional Guard Rail Posts and Installed Flared Ends at end of Rub Rail	H.T.	5/16/80

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAIL
 BEAM TYPE GUARD RAIL WITH
 RUB RAIL AT OBSTRUCTION
 SHOULDER INSTALLATION
 SCALE: AS SHOWN DATE: JUNE, 1969
SHEET No. 5 OF 7 SHEETS DT 518

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	SR-0750(6)	1983	12	27

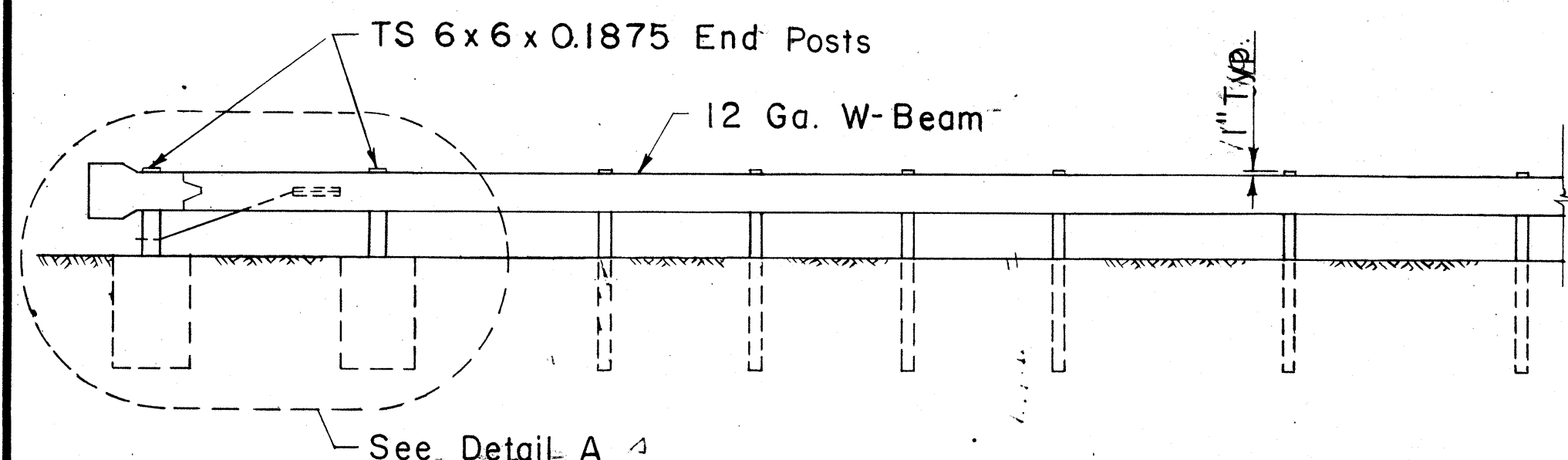
NOTES:

1. Anchor Plate and Anchor Cable Assembly (Standard Swaged Fitting and Stud). See Standard Detail Sheet No. DT 520.
2. Other Anchor Cable Assemblies may be used. Minimum breaking strength of assembly should be 40,000 lbs.
3. Second Terminal Post does not require holes to accommodate Anchor Cable.
4. Slip Base Load shall be controlled with a Calibrated Torque Wrench - Torque 155 - 170 ft. lbs.
5. Concrete shall be Class A.
6. B.C.T. Hardware has been superseded by "A Guide Standardized Highway Barrier Rail Hardware," A report prepared and approved by the AASHTO-AGC-ARTBA joint cooperation committee. All hardware shall conform to above mentioned publication and as revised from time to time.



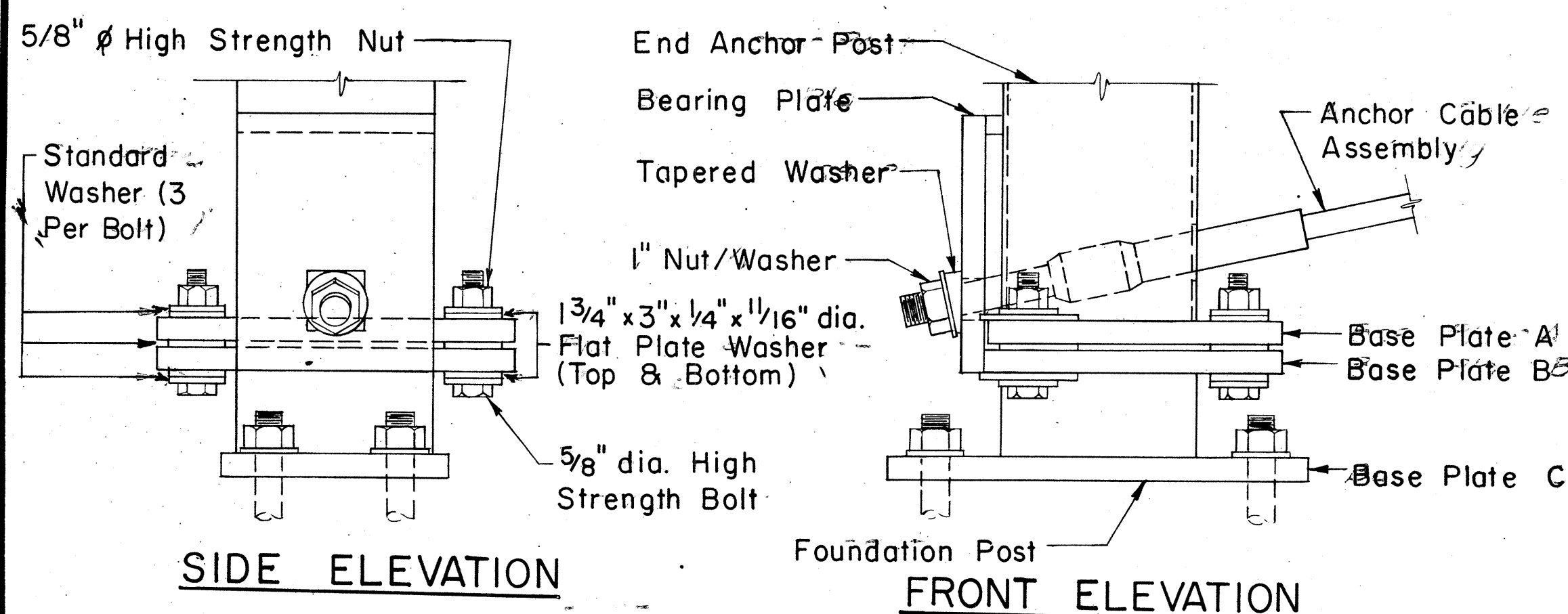
PLAN

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



ELEVATION

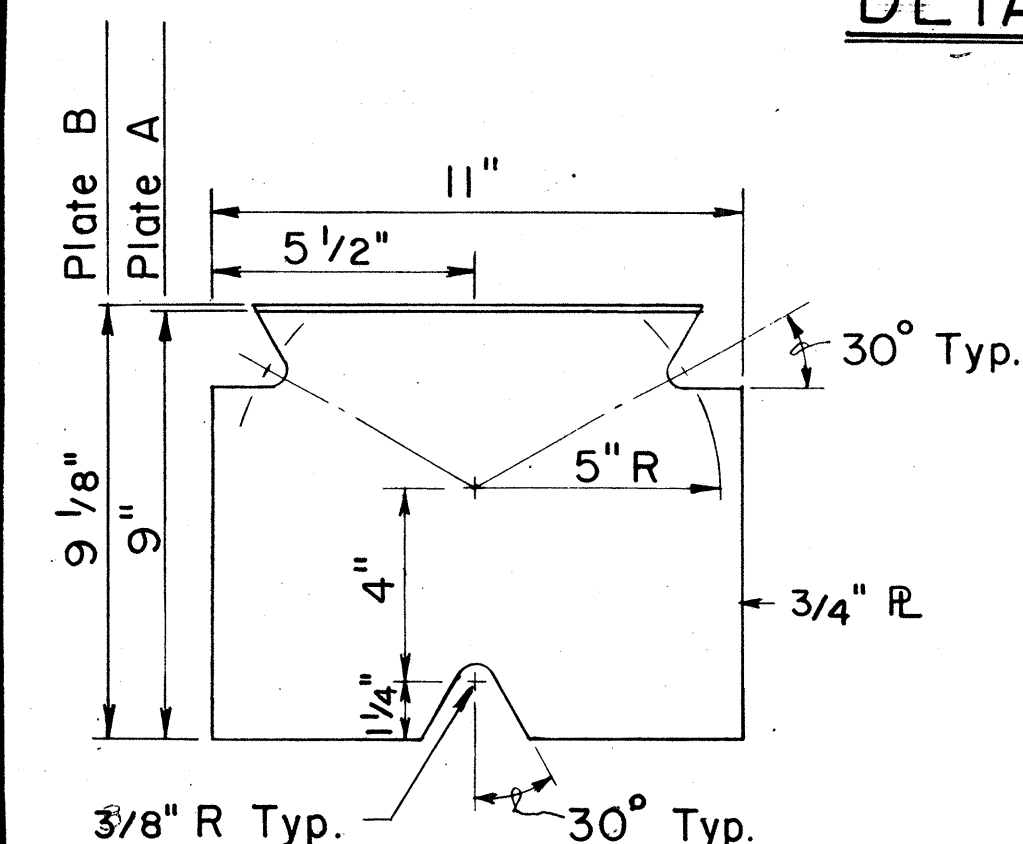
Scale: 1/4" = 1'-0"



SIDE ELEVATION

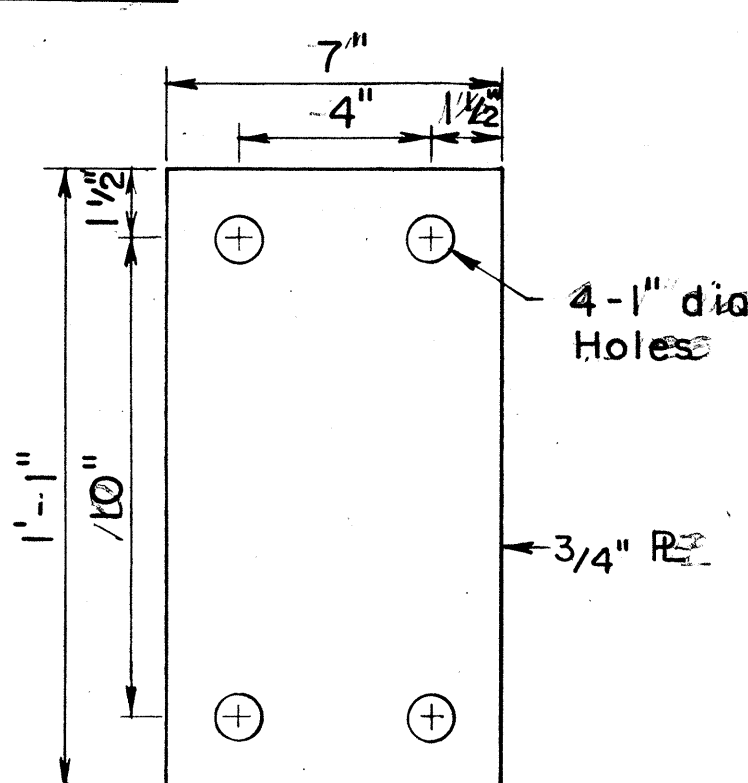
FRONT ELEVATION

DETAIL B



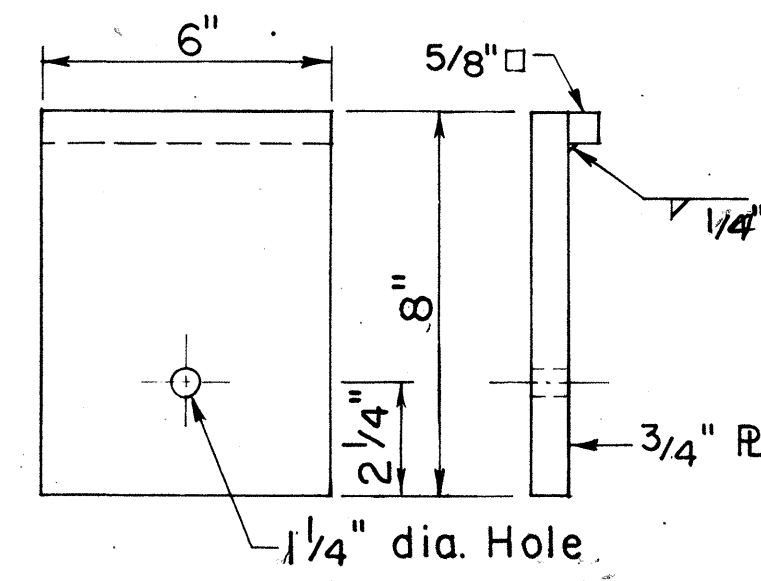
BASE PLATES A & B

Scale: 3" = 1'-0"



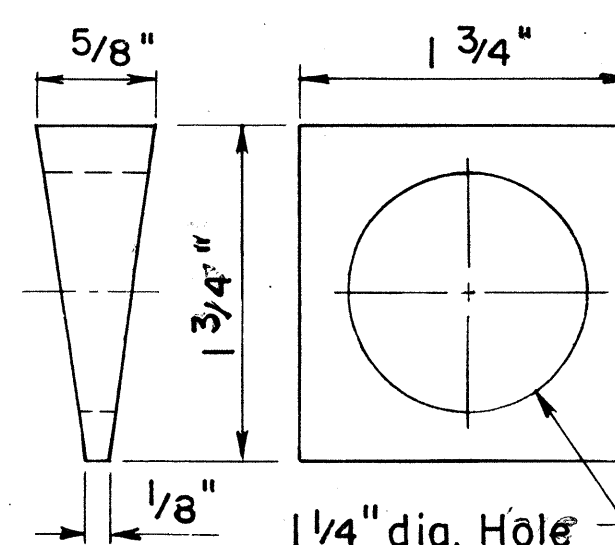
BASE PLATE C

Scale: 3" = 1'-0"



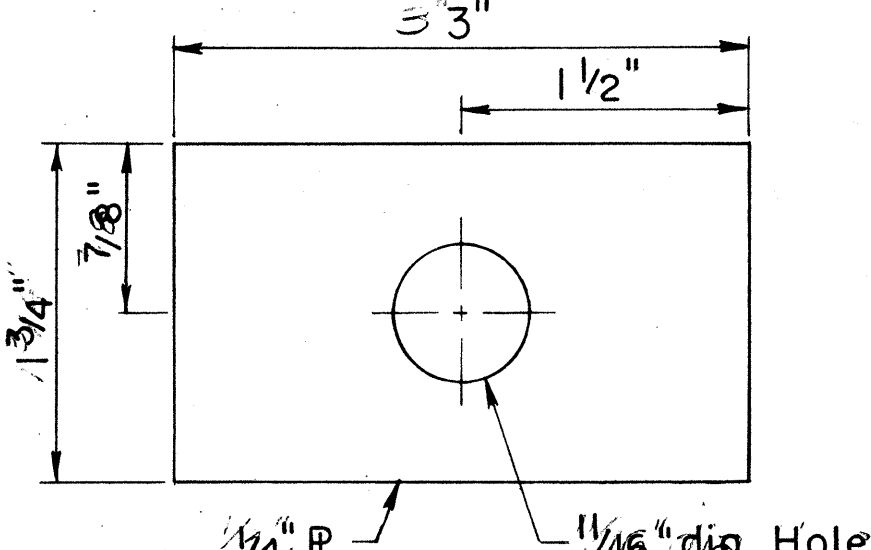
BEARING PLATE

Scale: 3" = 1'-0"



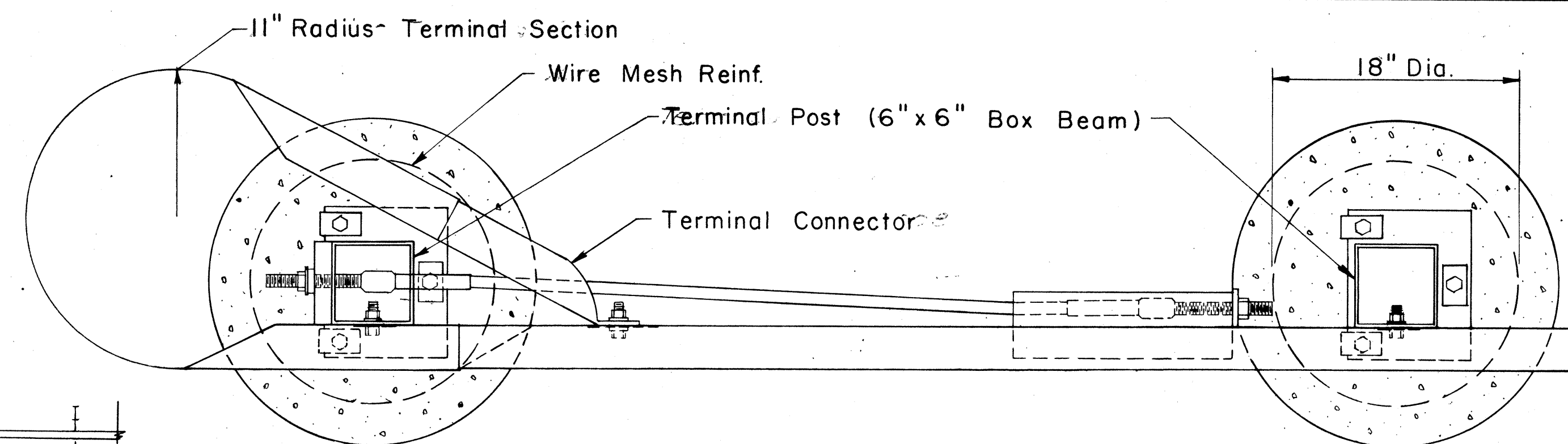
TAPERED WASHER

Scale: Full Size

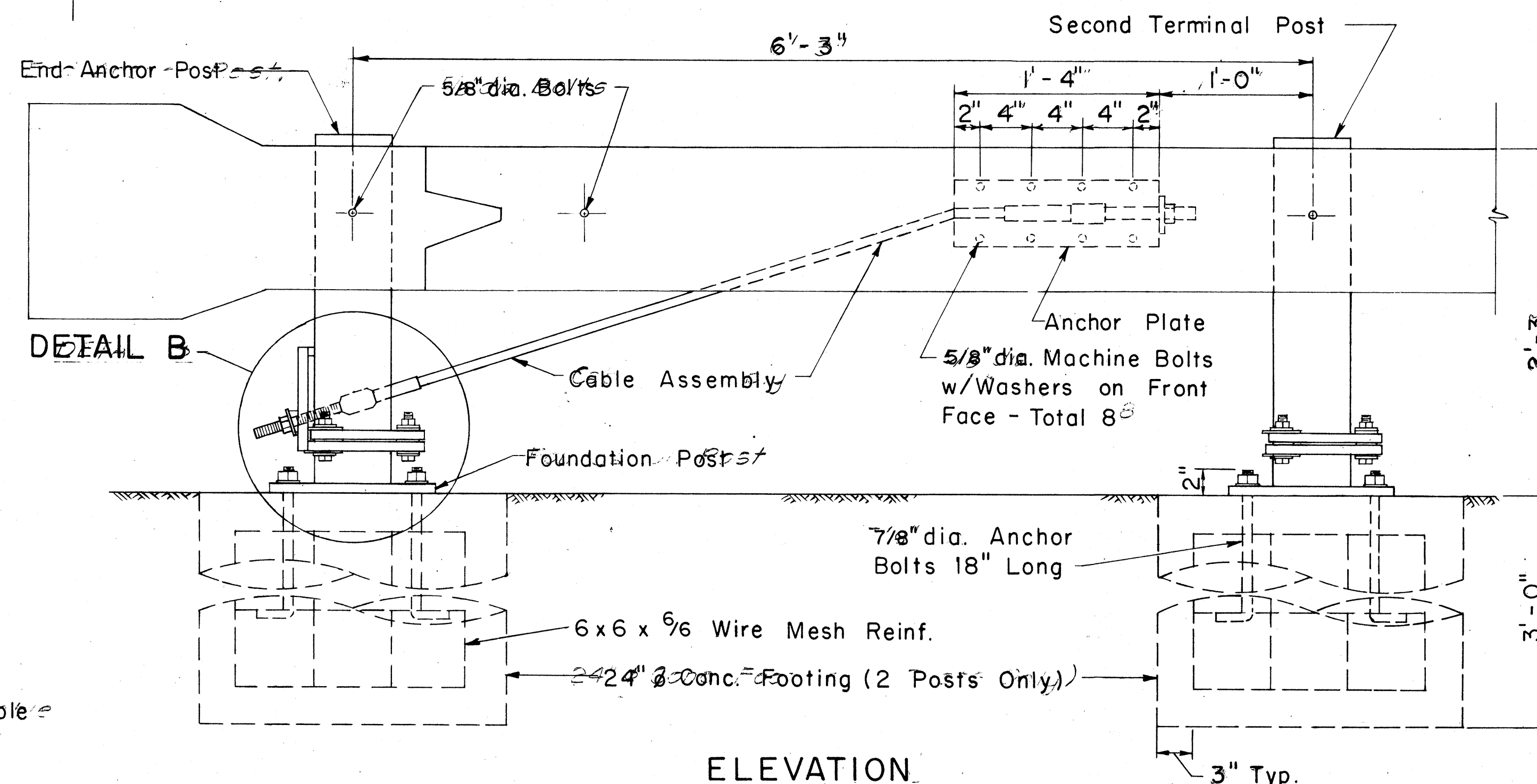


FLAT PLATE WASHER

Scale: Full Size



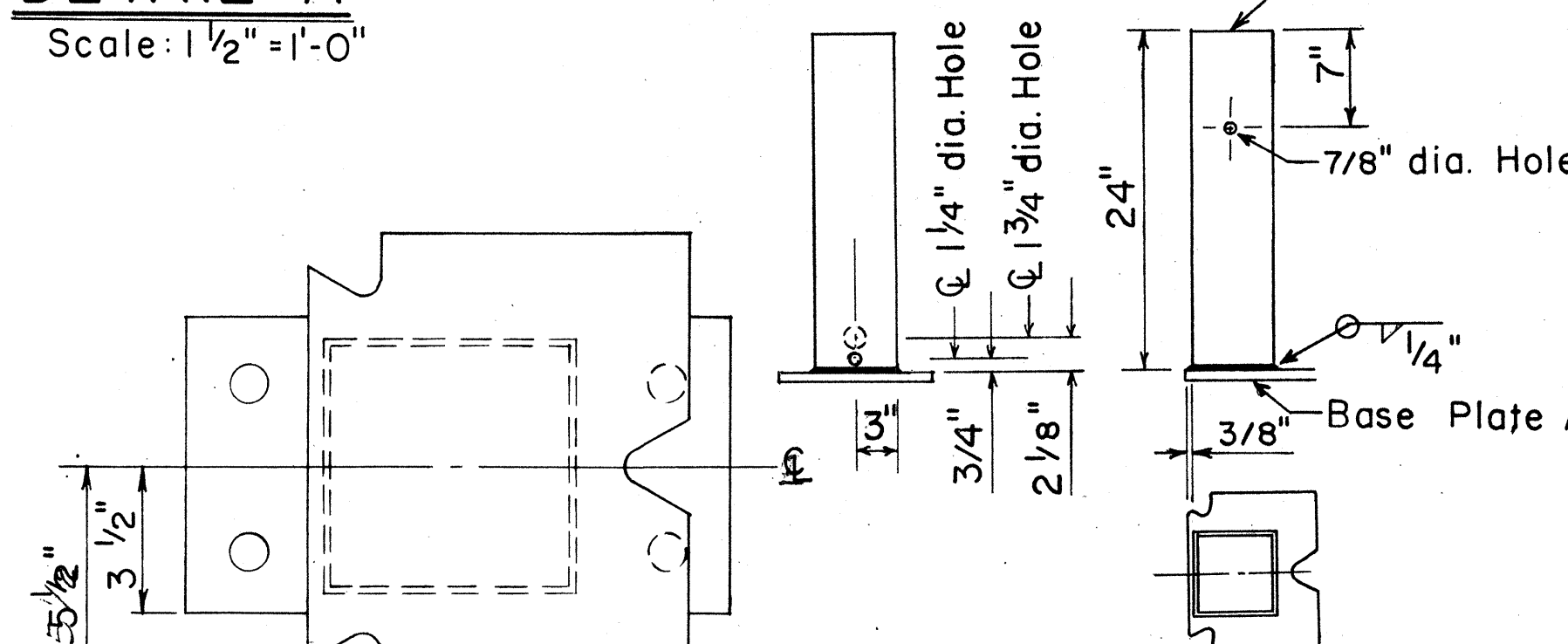
PLAN



ELEVATION

DETAIL A

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



TERMINAL POST

Scale: 1" = 1'-0"

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 519 Approved 12/30/69	H.T.	6/15/78
2	Added Note 6	H.T.	12/1/80

APPROVAL RECOMMENDED:

Erich Tanaka
TRAFFIC ENGINEER 6/14/78
DATE

APPROVED:

Harold Zaleski
ASSISTANT CHIEF, ENGINEERING 6/15/78
DATE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
STANDARD DETAIL	
BREAKAWAY CABLE TERMINAL (BCT)	
Scale: As Shown	Date: June 1978
SHEET No. 6 OF 7 SHEETS DT 519	

