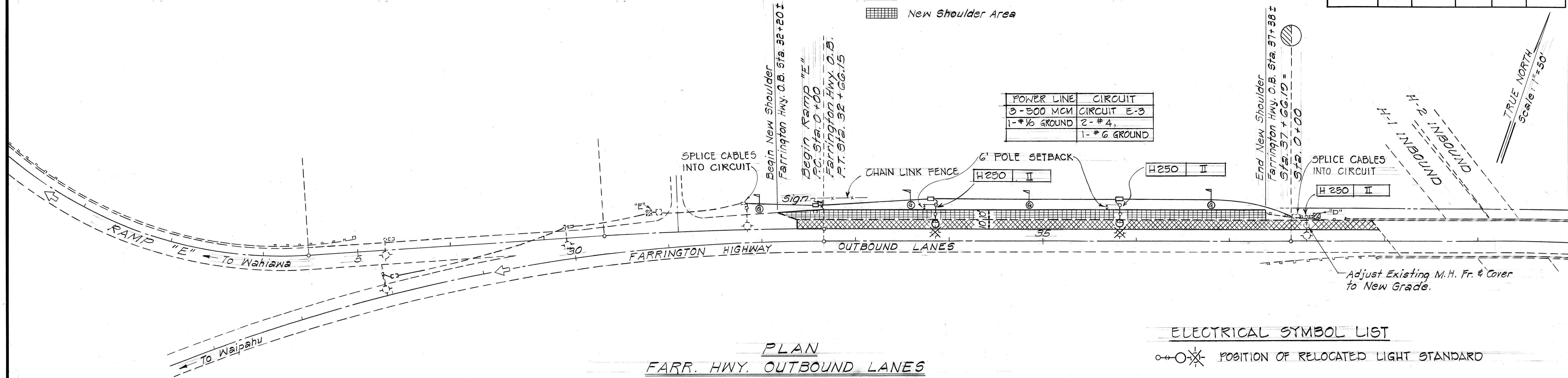


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	20A-01-77M	1978	C.O. 85-1	17

LEGEND

- Area To Be Reconstructed
- New Shoulder Area

POWER LINE	CIRCUIT
3-300 MCM	CIRCUIT E-3
1-#6 GROUND	2-#4,
	1-#6 GROUND



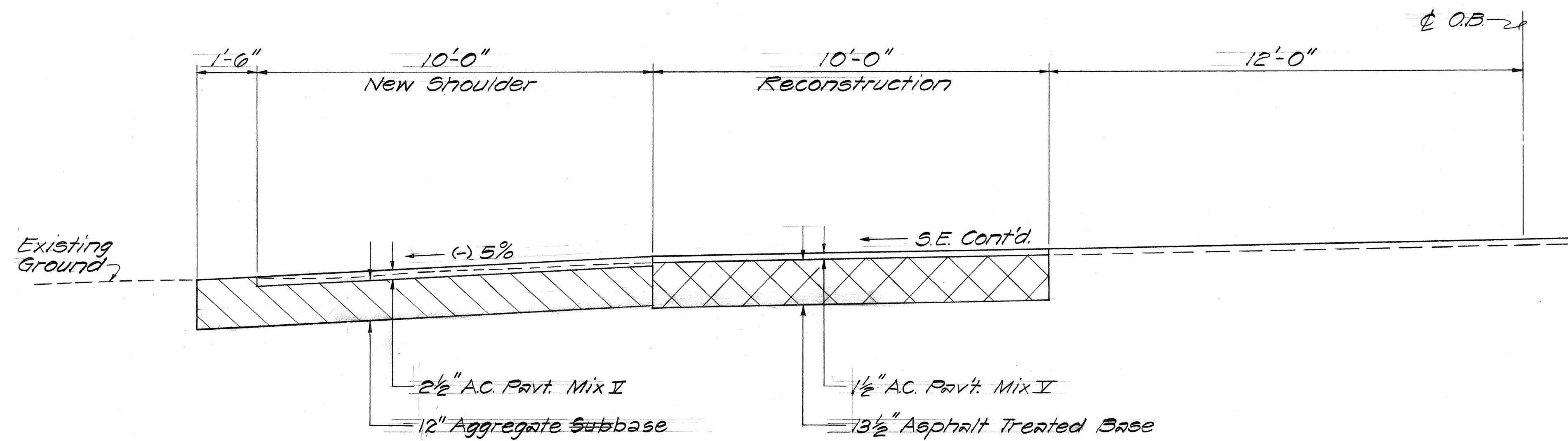
PLAN
FARR. HWY. OUTBOUND LANES
 Scale: 1" = 50'

ELECTRICAL SYMBOL LIST

POSITION OF RELOCATED LIGHT STANDARD

LAMP DATA → H250 II ← ASA-1EG DISTRIBUTION

- EXISTING PULLBOX
- NEW TYPE C PULLBOX
- DUCTLINE INDICATOR
- LIGHTING DISTRIBUTION CENTER "D" & "E"



TYPICAL SECTION
FARR. HWY. O.B. STA. 32+20 TO STA. 37+38±
 Scale: 1/2" = 1'-0"

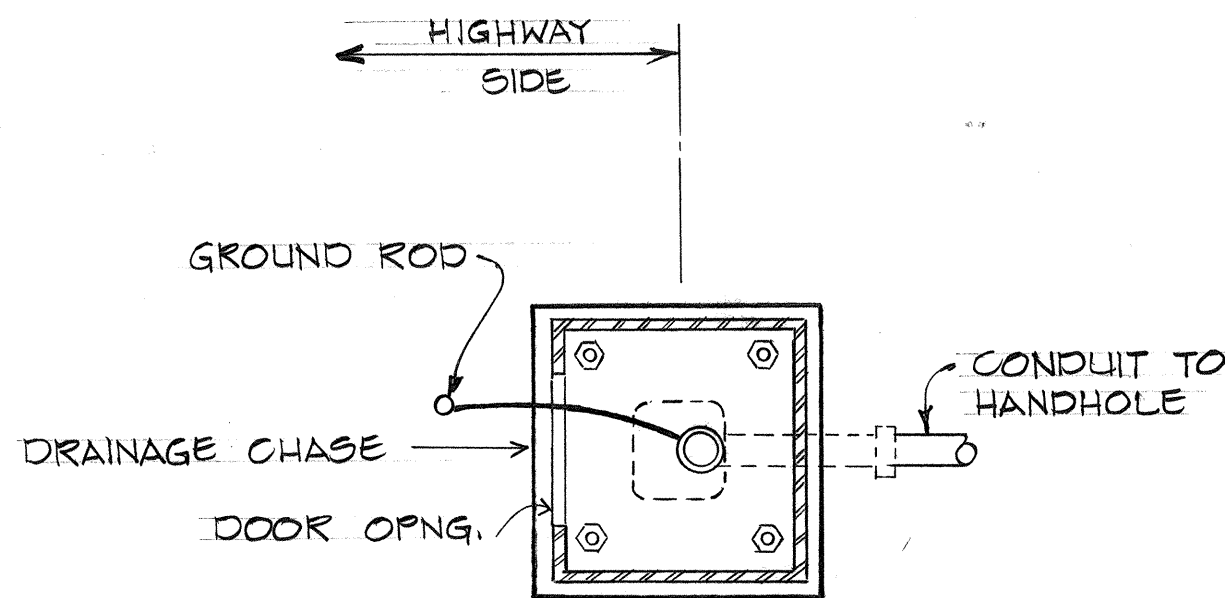
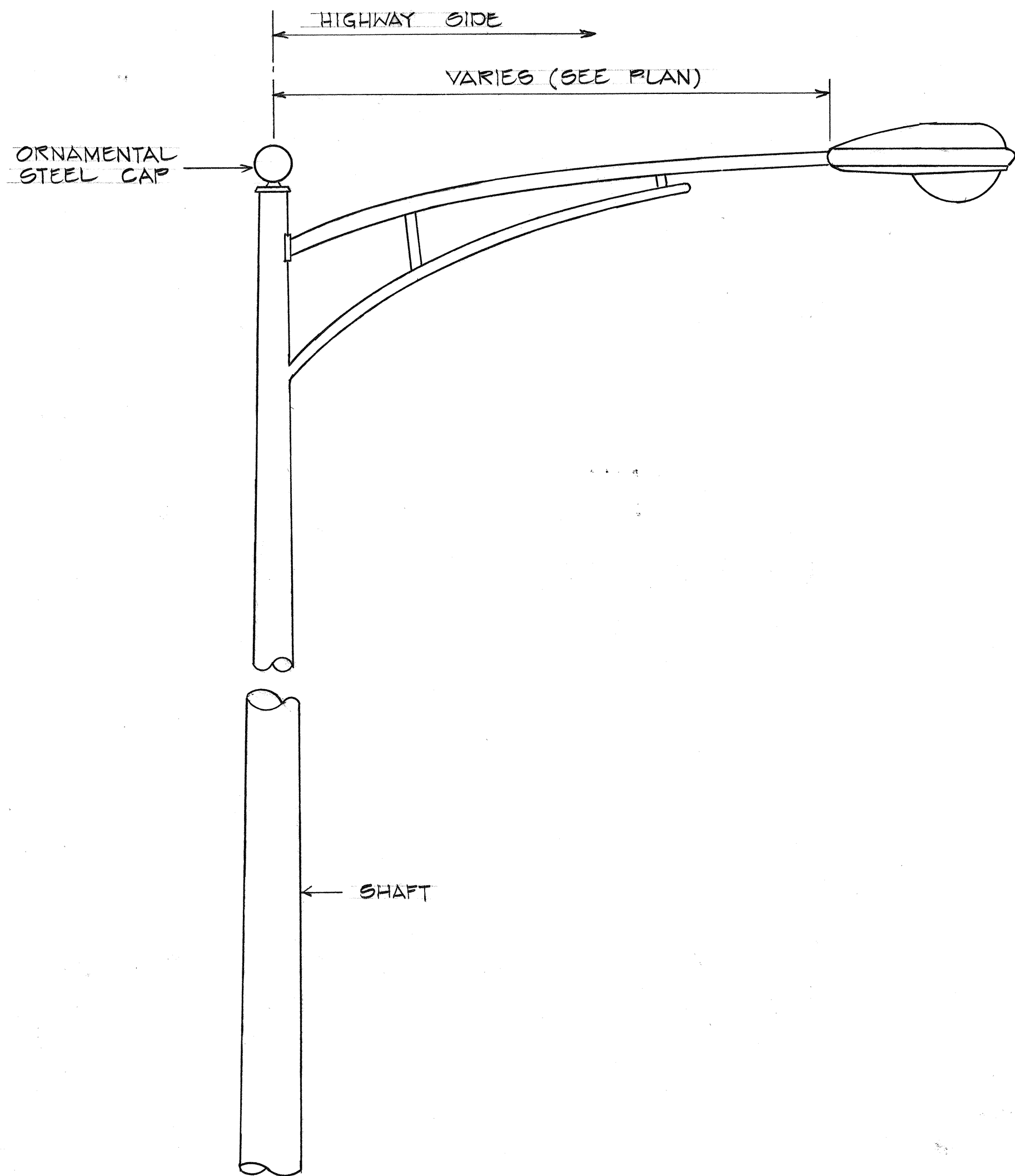
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
**MISC. ROADWAY AND
 HIGHWAY LIGHTING**
 FARRINGTON HWY. RESURFACING
 PROJ. NO. 90-01-77M
 Scale: 1" = 50' Date: July 1977
 SHEET NO. 5A OF 5 SHEETS

C.O. 85-1

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	30A-01-77M	1978	C.O. 85-2	17

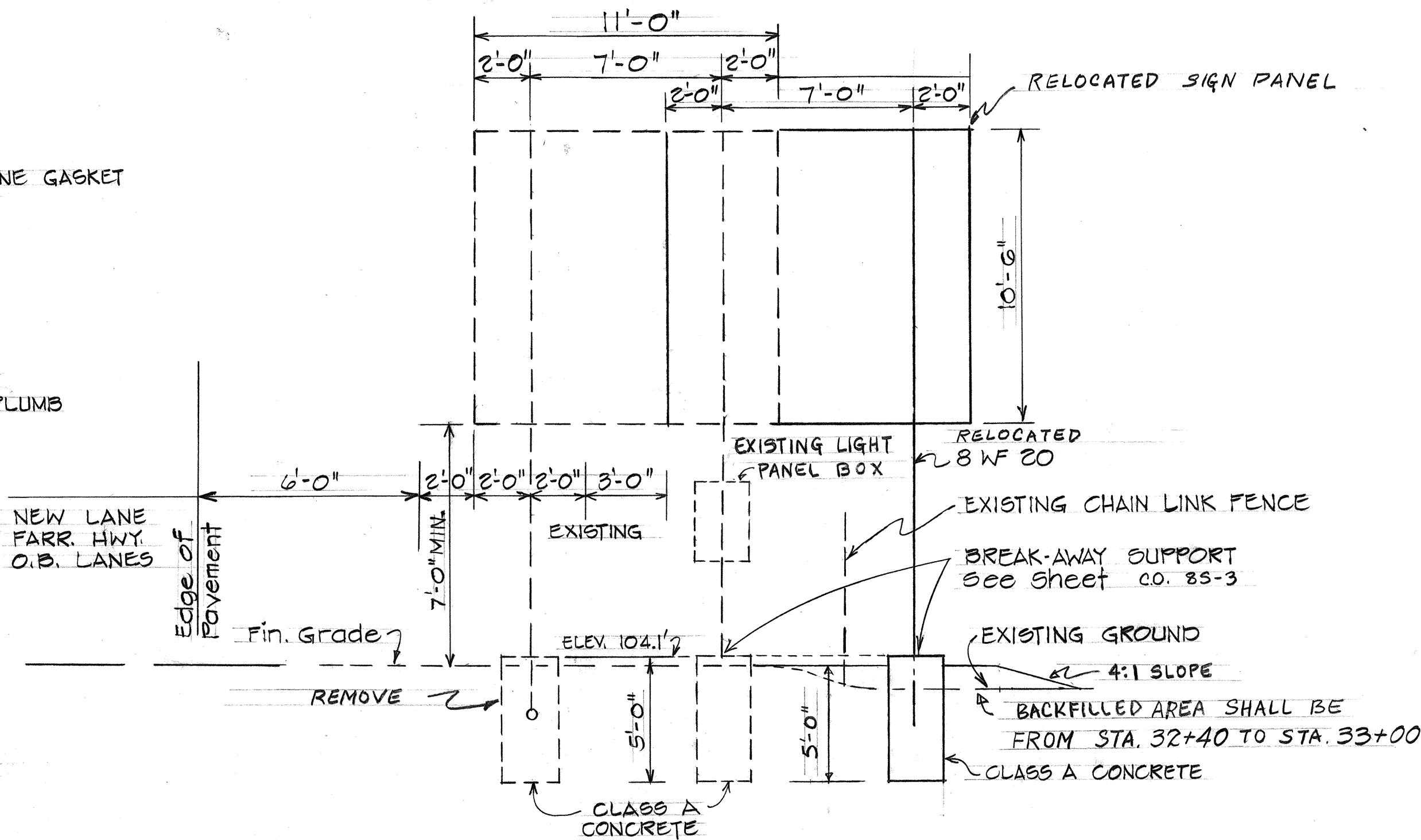
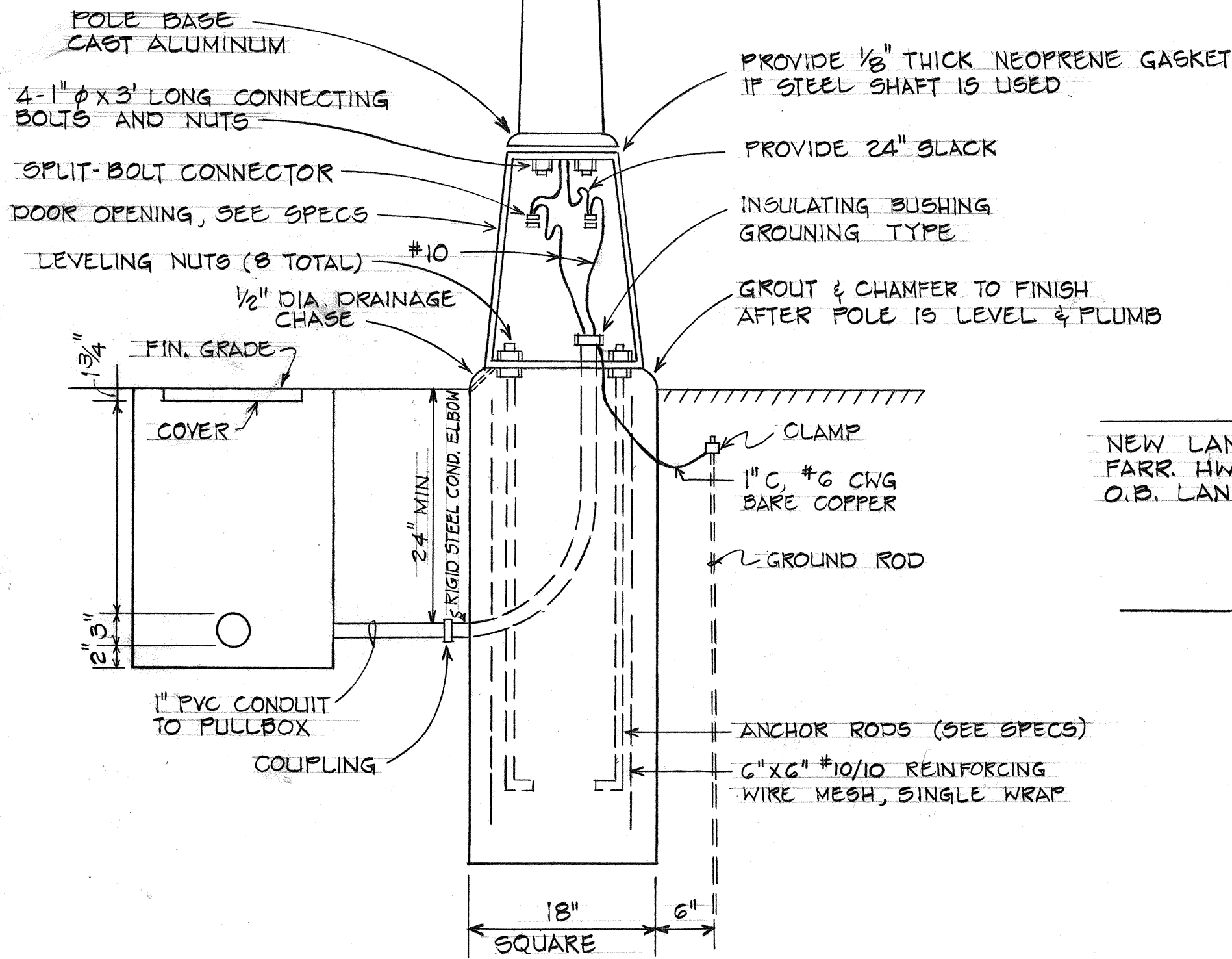
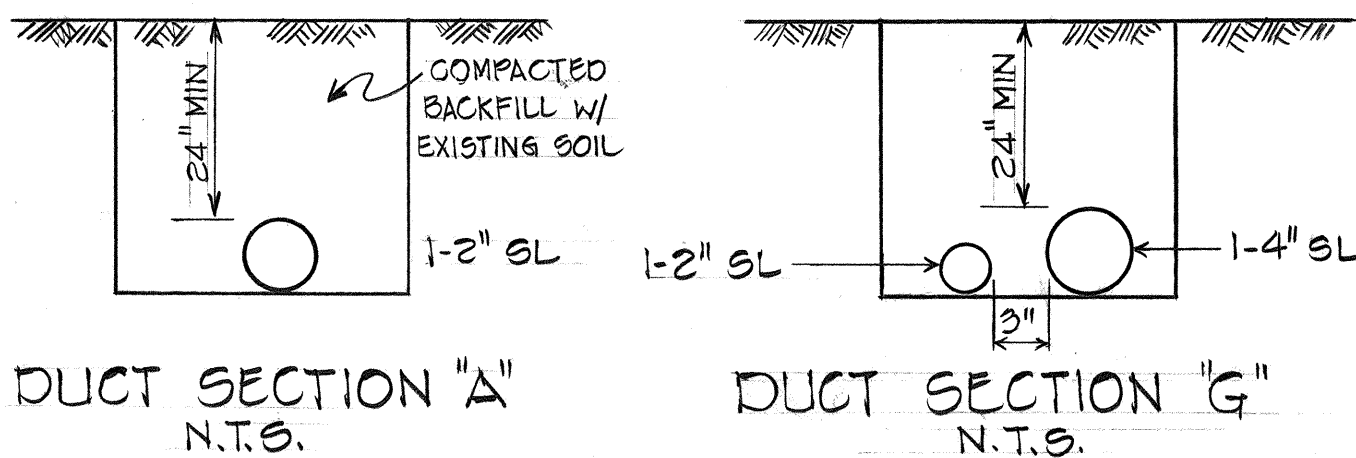
GENERAL NOTES

1. Location of existing underground structures, such as culverts, pipelines, conduits, cables, etc., as shown on the plans are approximate only. Other existing utilities may not be shown. The Contractor shall check and verify the location of same.
2. Conduits shall be galvanized steel or pvc.
3. 48 hour prior notice shall be given to the State Maintenance Engineer at 727 Kaka'i St., Phone 548-2576, Hon., Hawaii to coordinate work to be done.
4. To minimize downtime, the new conduits, cables, and footings shall be installed prior to relocation of existing light standard.



PLAN

PLAN SECTION OF POST STANDARD



SUPPORT FOR RELOCATED SIGN

TYPICAL POST LIGHT STANDARD DETAIL

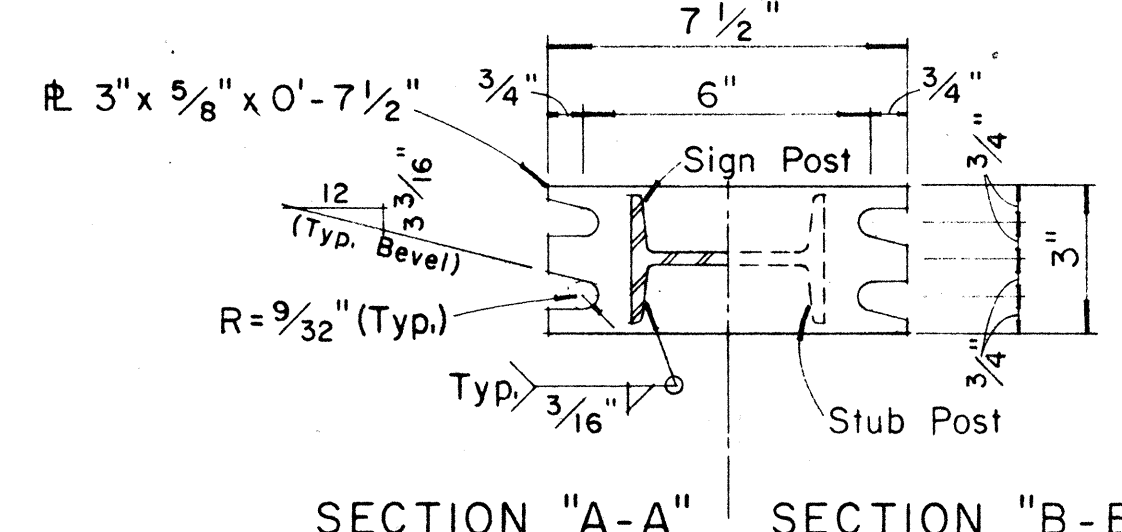
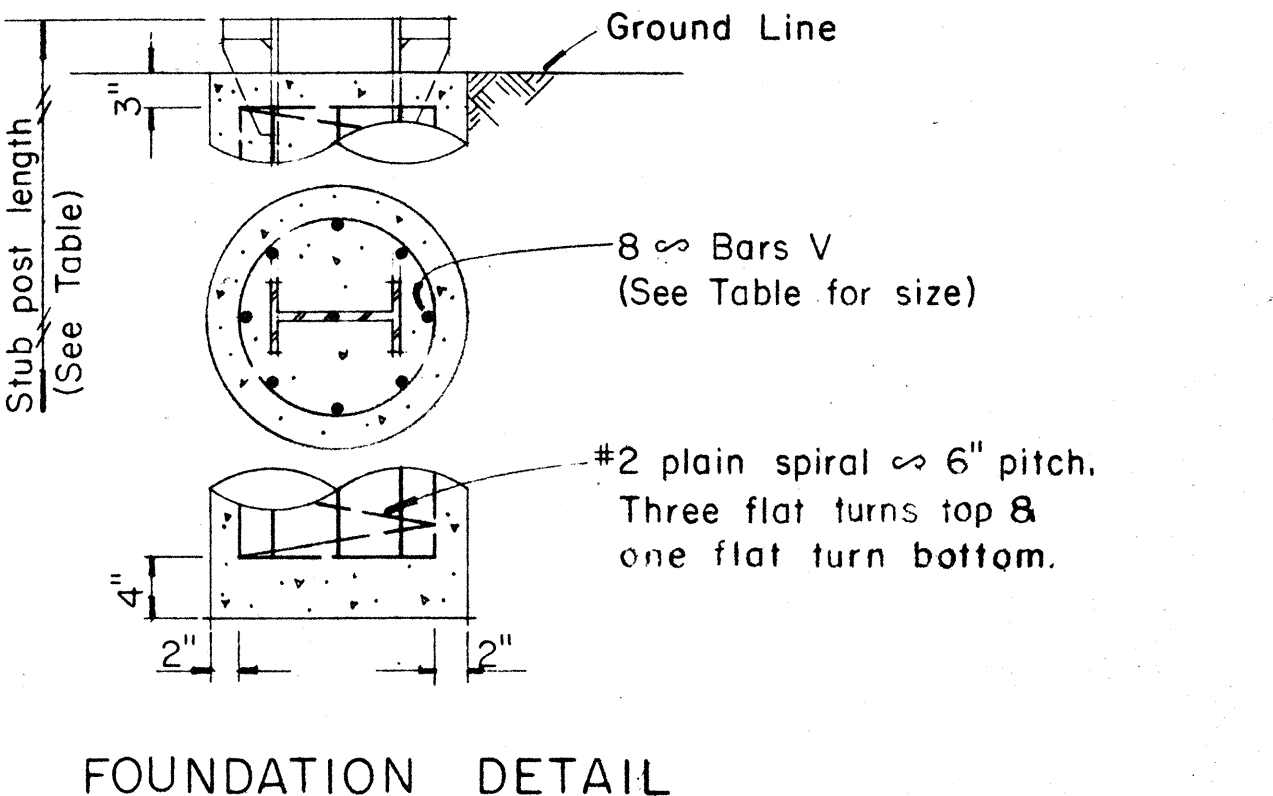
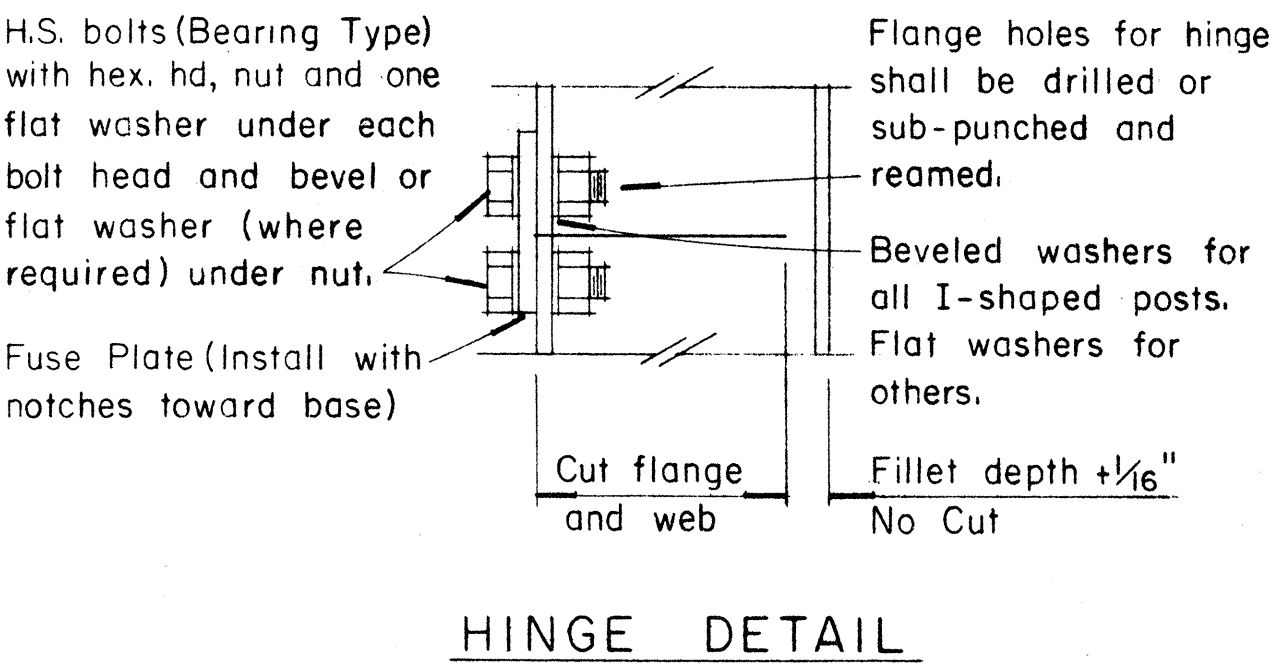
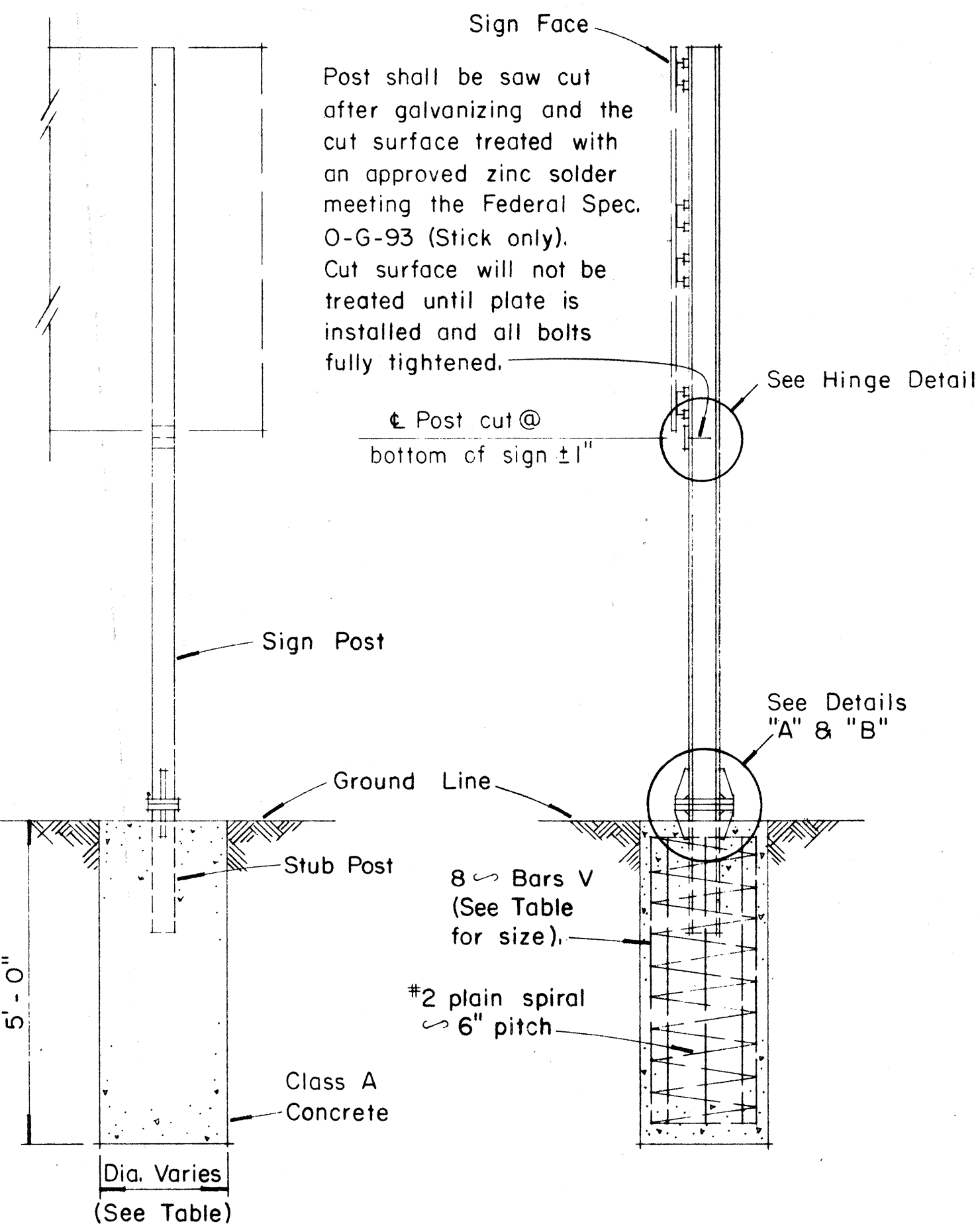
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAY LIGHTING
FARRINGTON HWY. RESURFACING
PROJ. NO. 30-01-77M
Scale: 1"=50' Date: July 1977
SHEET NO. 5B OF 5 SHEETS

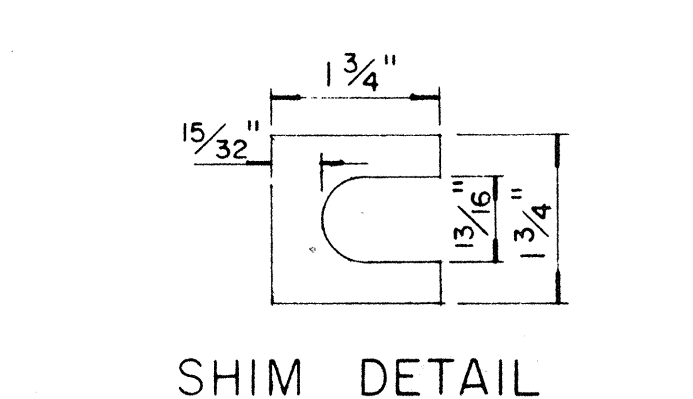
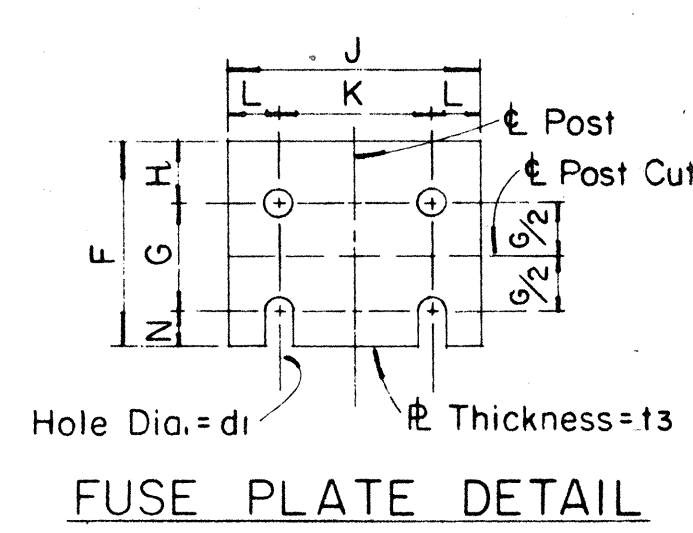
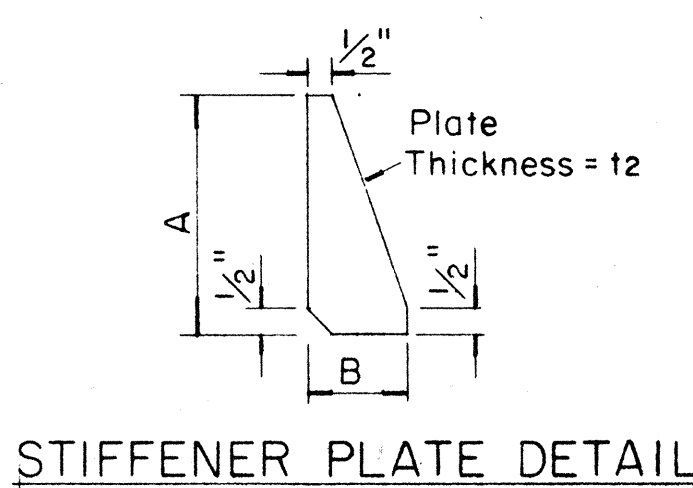
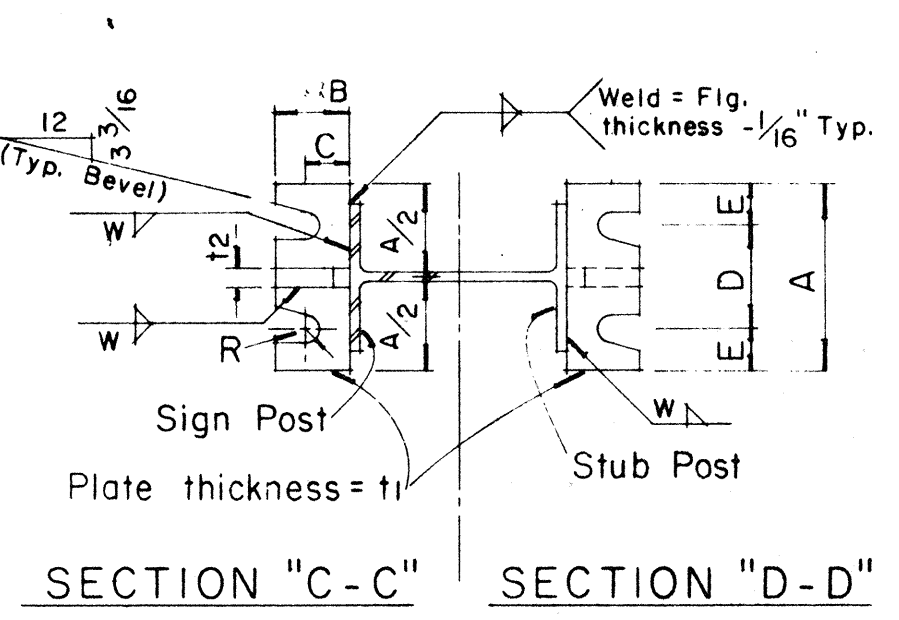
DESIGNED BY	DATE
CHECKED BY	
NOTED BY	
QUANTITIES BY	
NO. BOOK	
ORIGINAL PLAN	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	96A-01-777	1978	C.O.85-3	17

	BASE CONNECTION DATA TABLE										FUSE PLATE DATA TABLE										FOUNDATION DATA				
Post Size	Bolt Size & Torque	A	B	C	D	E	t ₁	t ₂	W	R	F	G	H	J	K	L	N	d ₁	t ₃	Bolt Dia.	Wt. of each Fuse Pl.	Stub Length	Stub Projection	Footing Diameter	Bars V Size
6 B 8.5	5/8" ϕ x 2 3/4" Torque = 450#*	5"	2"	1 1/4"	2 3/4"	1 1/8"	3/4"	1/2"	1/4"	11/32"	3 5/8"	2"	1 1/8"	4"	2 1/4"	7/8"	1/2"	9/16"	1/4"	1/2" ϕ	1.09#	2'-0"	3"	2'-0"	#5
6 B 12											3 3/4"	2"	1 1/8"	4"	2 1/4"	7/8"	5/8"	11/16"	3/8"	5/8" ϕ	1.60#	2'-0"	3"	2'-0"	#5
6 B 15.5											4 1/2"	2 1/2"	1 1/4"	6"	3 1/2"	1 1/4"	3/4"	13/16"	1/2"	3/4" ϕ	3.75#	2'-6"	3"	2'-0"	#6
8 WF 17											4 1/2"	2 1/2"	1 1/4"	5 1/4"	2 3/4"	1 1/4"	3/4"	13/16"	1/2"	3/4" ϕ	3.27#	2'-6"	3"	2'-0"	#7
8 WF 20	3/4" ϕ x 3 1/2" Torque = 750#*	6"	2 1/4"	1 3/8"	3 1/2"	1 1/4"	1"	3/4"	5/16"	13/32"	4 7/8"	2 1/2"	1 1/2"	5 1/4"	2 3/4"	1 1/4"	7/8"	15/16"	9/16"	7/8" ϕ	3.93#	3'-0"	2 1/2"	2'-0"	#8
10 WF 21											5 3/8"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	15/16"	9/16"	7/8" ϕ	4.75#	3'-0"	2 1/2"	2'-0"	#9
10 WF 25											5 3/8"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	15/16"	9/16"	7/8" ϕ	4.79#	3'-0"	2 1/2"	2'-0"	#10
12 WF 27											5 3/8"	3"	1 1/2"	6 1/2"	3 1/2"	1 1/2"	7/8"	15/16"	9/16"	7/8" ϕ	5.42#	3'-0"	2 1/2"	2'-0"	#11
3 I 5.7	1/2" ϕ x 2 1/2" Torque = 200#*	SEE DETAIL "A"									3 1/8"	1 1/2"	1 1/8"	2 5/8"	1 1/2"	9/16"	1/2"	9/16"	1/4"	1/2" ϕ	0.64#	1'-6"	3 1/2"	1'-6"	#5
4 I 7.7											3 1/8"	1 1/2"	1 1/8"	2 5/8"	1 1/2"	9/16"	1/2"	9/16"	1/4"	1/2" ϕ	0.64#	1'-6"	3 1/2"	1'-6"	#5



NOTE:
Sections shown are for installations on right shoulder and in gore. Reverse plate slot bevels for installations on left shoulder.



Furnish 2 $\times$.012" $\pm$ thick and 2 $\times$.032" $\pm$ thick shims per post. Shims shall be fabricated from brass shim stock or strip conforming to A.S.T.M. - B 36.

GENERAL NOTES

- Design conforms with AASHTO Specifications for the design and Construction of Structural Supports for Highway Signs.
- Materials and Fabrication shall conform to the requirements of the Standard Specifications and Special Provisions.
- All holes shall be drilled. All plate cuts shall preferably be saw cuts, however; flame cutting will be permitted provided all edges are ground. Metal projecting beyond the plane of the plate face will not be tolerated.
- Tighten the high strength bolts in the base connection only to the torque shown, do not overtighten. All bolts other than high strength bolts shall conform to ASTM A 307, Class A.
- All structural steel, bolts, nuts and washers shall be galvanized as per the Standard Specifications and Special Provisions. Structural steel to be galvanized after fabrication except as noted.
- Structural steel shall conform with with the requirements of ASTM A 441
- Galvanizing of all posts shall be projection above concrete plus 6" minimum.
- All friction fuse bolts shall be tightened in the shop following a method approved by the Engineer. Tightening shall be to such a degree as to obtain the following minimum residual tension in each bolt:

Bolt Size	Min. Tension	Bolt Size	Min. Tension
1/2" ϕ	12050 Lbs.	3/4" ϕ	28400 Lbs.
5/8" ϕ	19200 Lbs.	7/8" ϕ	36050 Lbs.

APPROVAL RECOMMENDED:
Erich Tanaka
TRAFFIC ENGINEER
12/23/69
DATE

APPROVED:
John J. [Signature]
ASSISTANT CHIEF, ENGINEERING
12-30-69
DATE

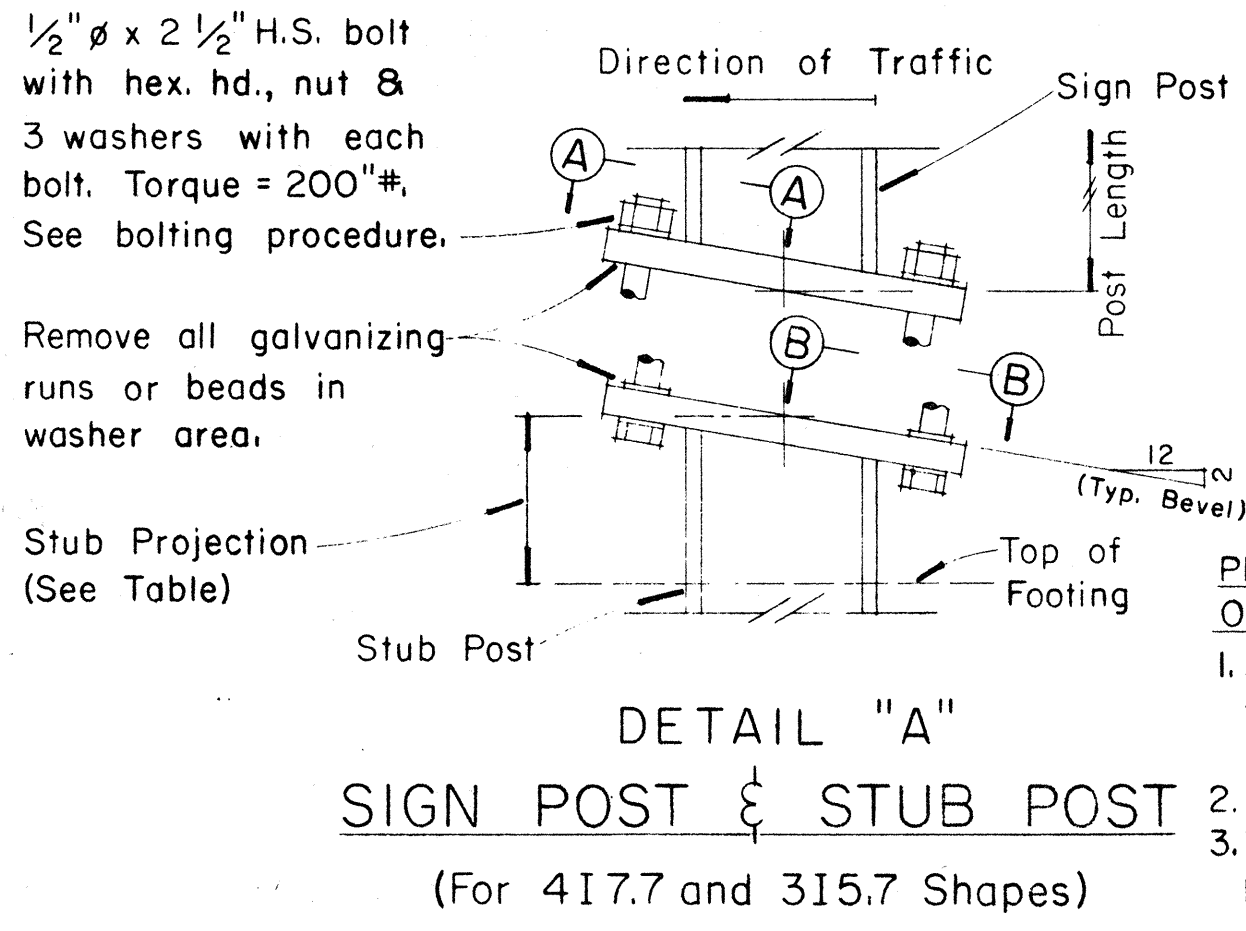
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
BREAK-AWAY SIGN SUPPORTS
FOR
GROUND MOUNTED GUIDE SIGNS
Not to Scale

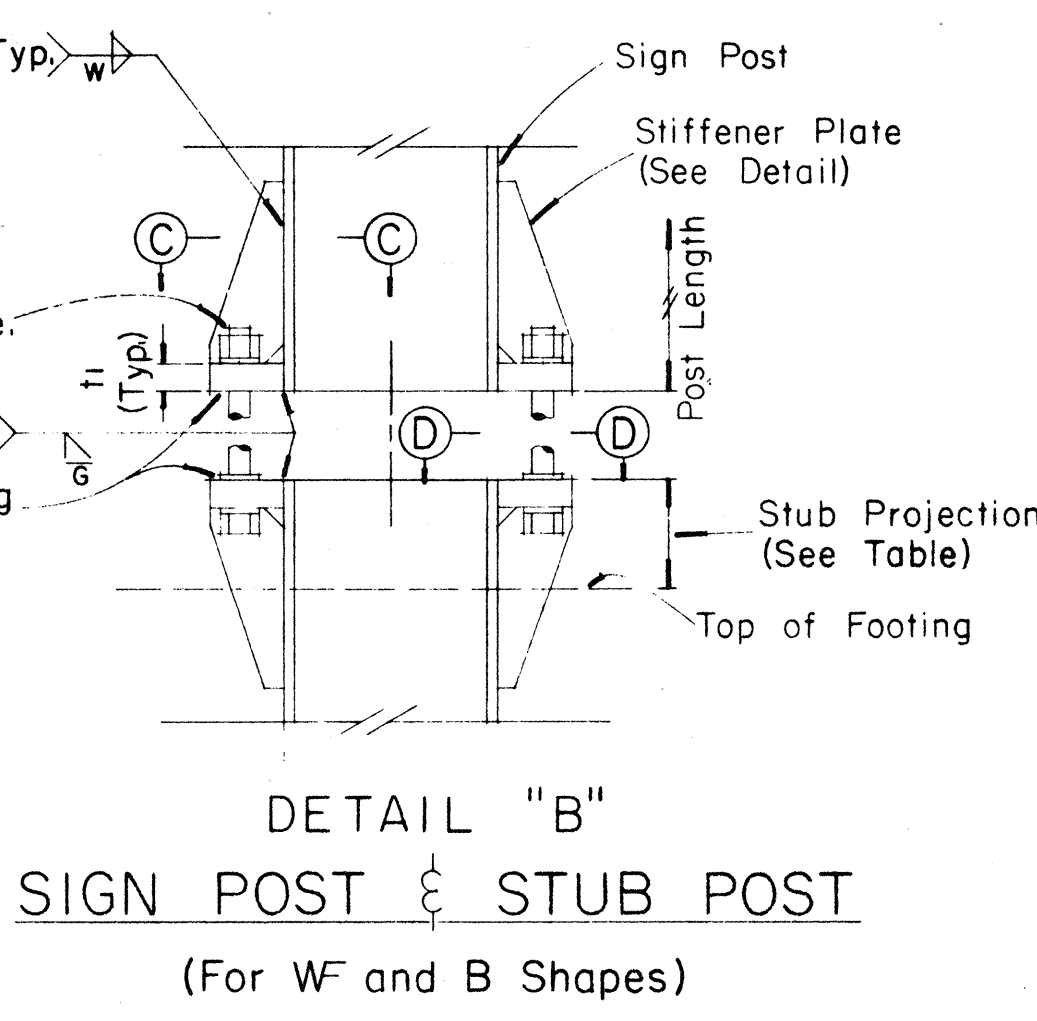
SHEET No. 5C OF 5 SHEETS DT204

C.O. 85-3

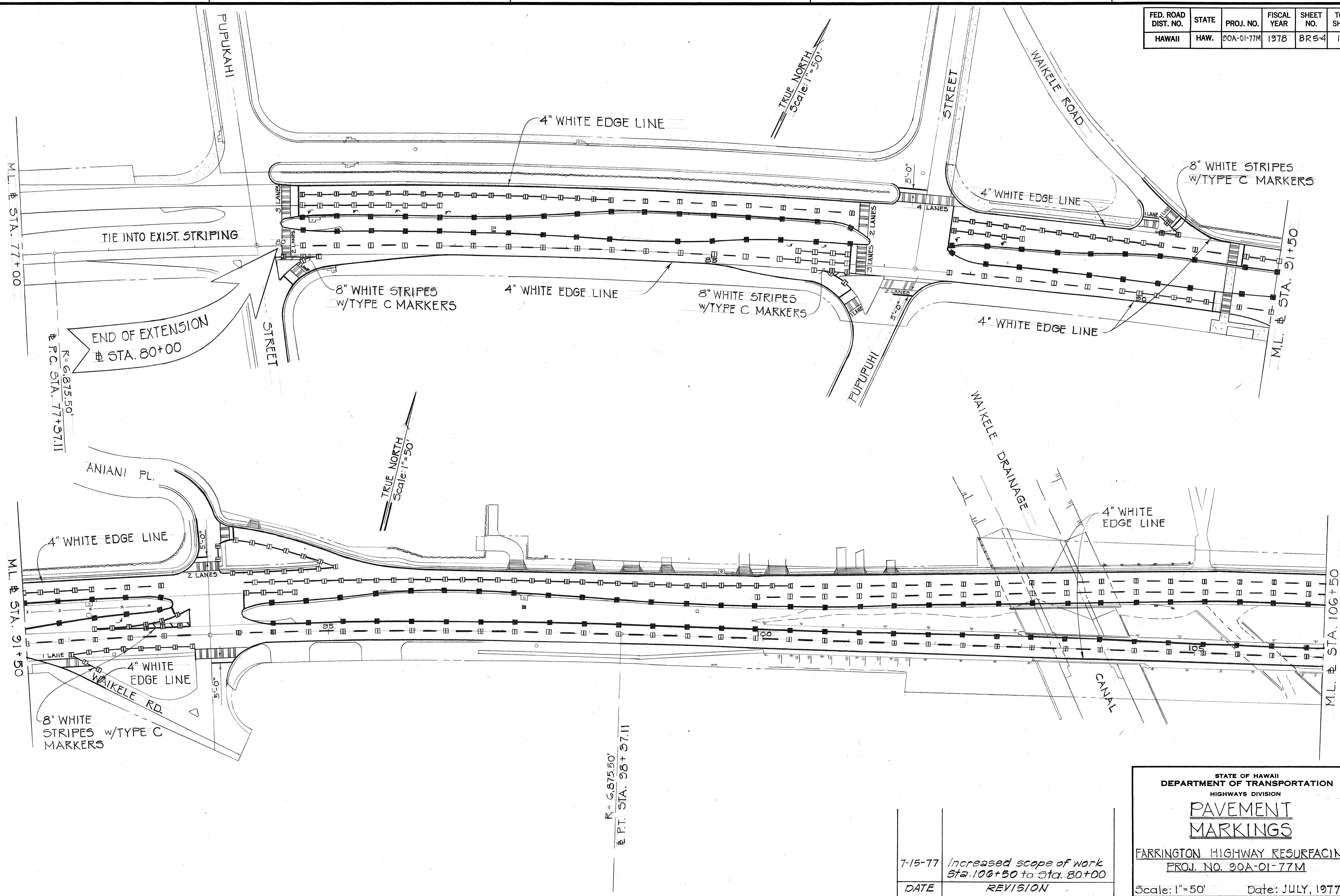
SURVEY PLATTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	



PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:
1. Assemble post to stub with bolts and with one flat washer on each bolt between plates.
2. Shim as required to plumb post.
3. Tighten all bolts the max. possible with 12" to 15" wrench to bed washers & shims and to clean bolt threads then loosen each bolt in turn & retighten bolts in systematic order to prescribed torque. (See Table)
4. Burr threads at junction with nut using a center punch to prevent nut loosening.



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	90A-01-77M	1978	8RS-4	17



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

7-15-77	Increased scope of work Sta. 106+50 to Sta. 80+00
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

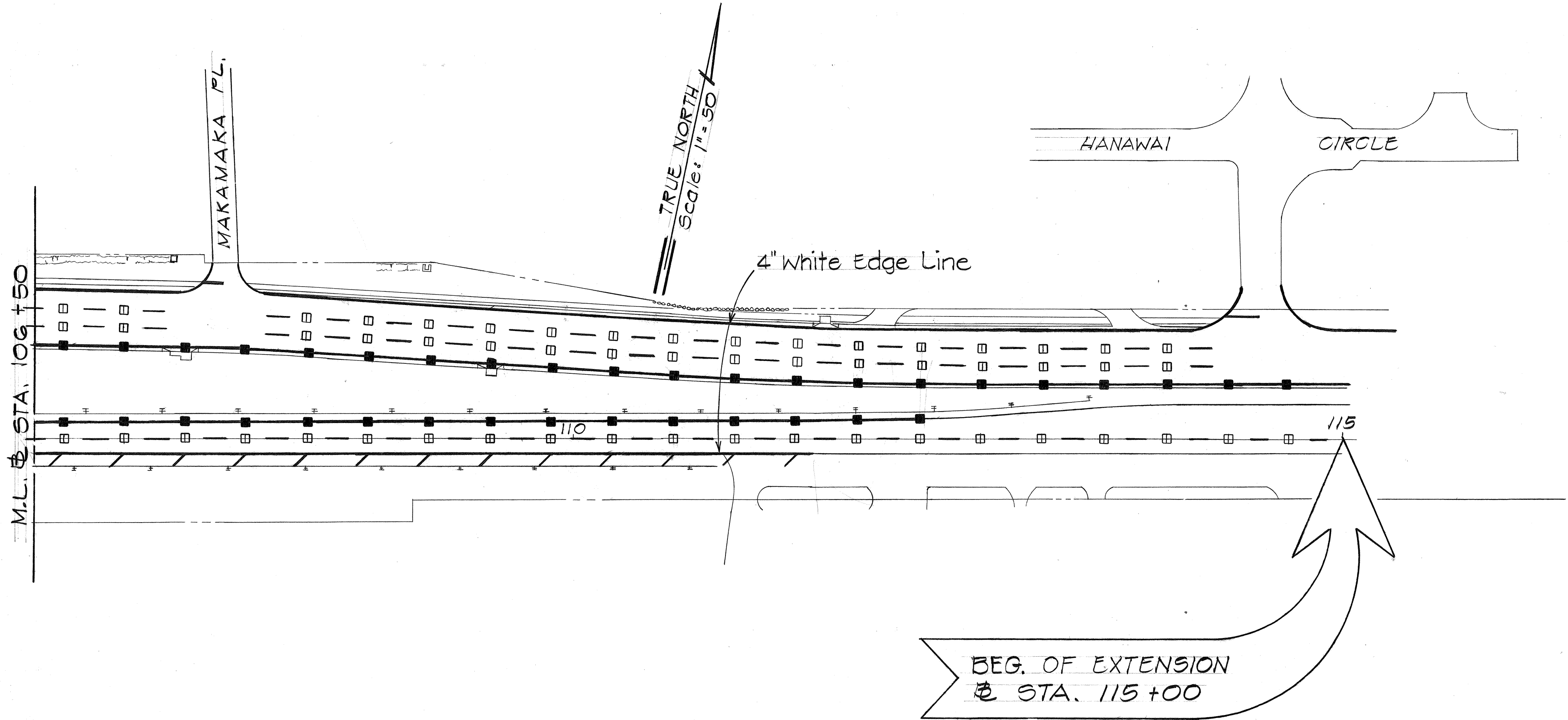
PAVEMENT
MARKINGS

FARRINGTON HIGHWAY RESURFACING
PROJ. NO. 90A-01-77M

Scale: 1"=50'
Date: JULY, 1977

SHEET NO. 1 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	90A-01-77M	1978	8R 5-5	17



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

7-15-77	Increased scope of work Sta 115+00 to Sta. 106+50
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

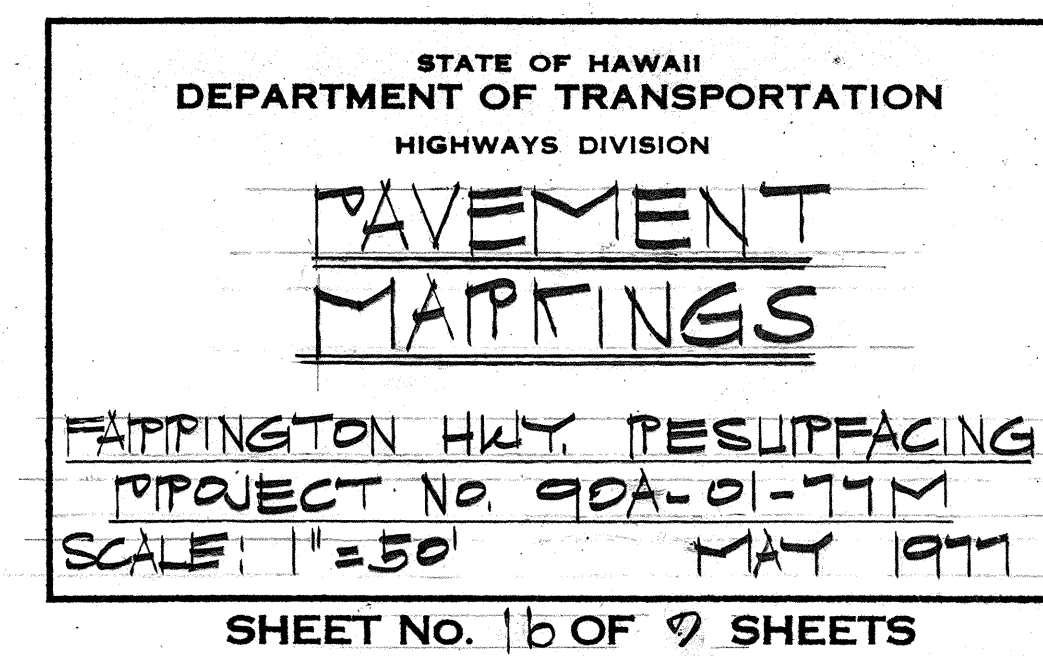
PAVEMENT
MARKINGS

FARRINGTON HIGHWAY RESURFACING
PROJ. NO. 90A-01-77M

SCALE: 1"=50' DATE: JULY, 1977

SHEET No. 1a OF 9 SHEETS

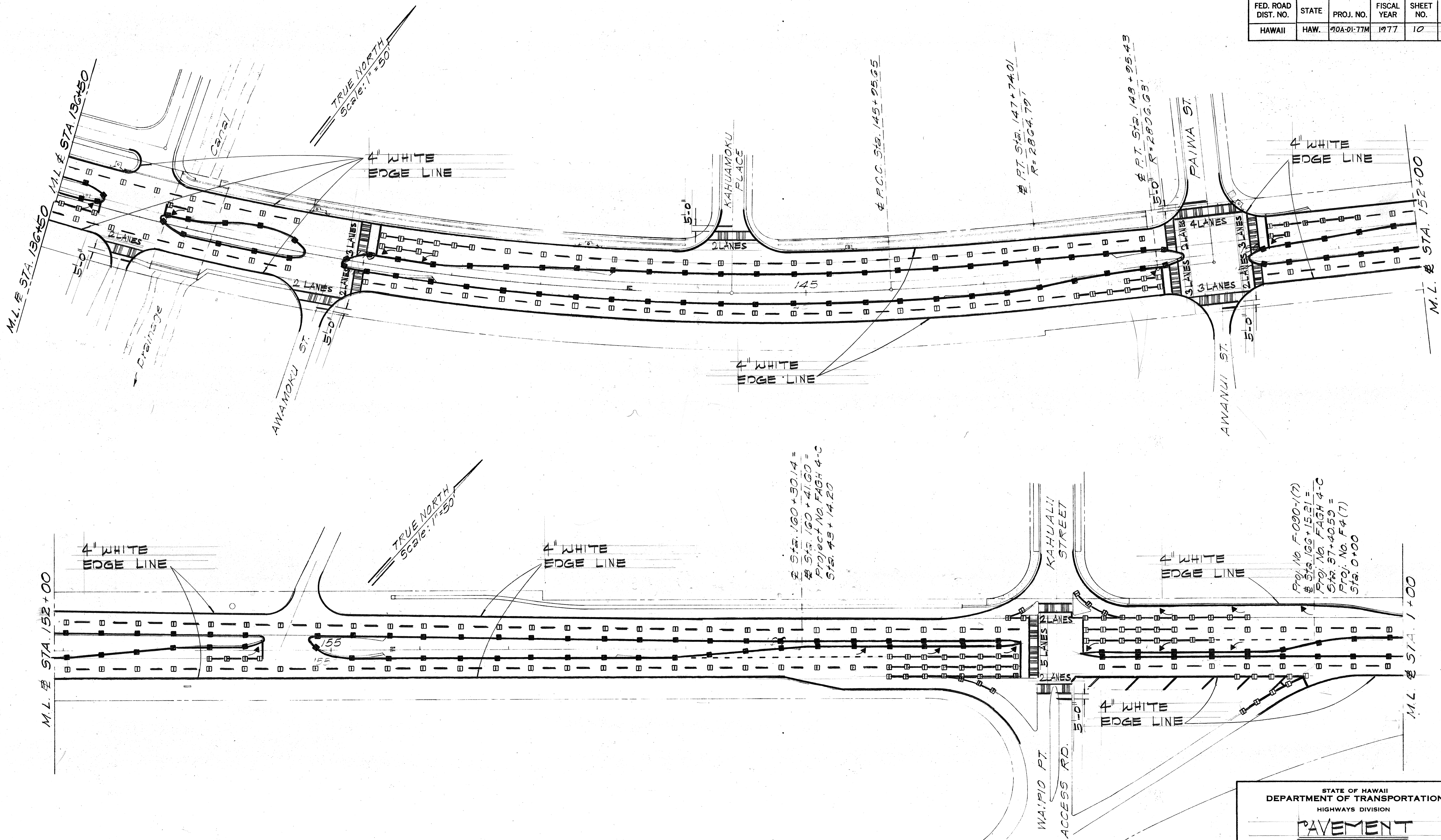
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PLAN	DRAWN BY	
	TRACED BY	
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
No.	CHECKED BY	



B-7-7

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	90A-01-77M	1977	10	17



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

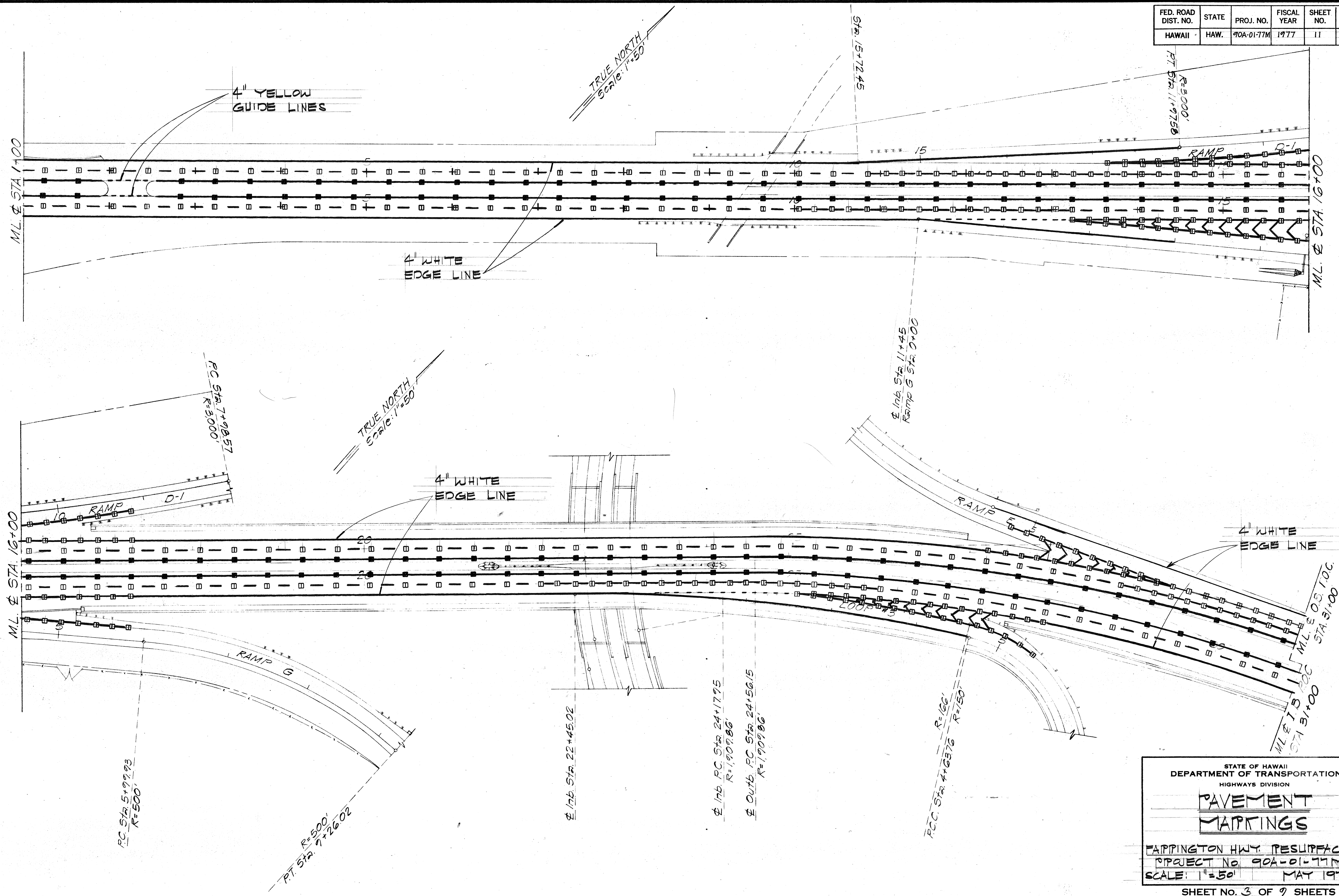
**PAVEMENT
MAPPINGS**

FARRINGTON HWY. RESURFACING
PROJECT No. 90A-01-77M
SCALE: 1"=50' MAY 1977

SHEET No. 2 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	90A-01-77M	1977	11	17

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

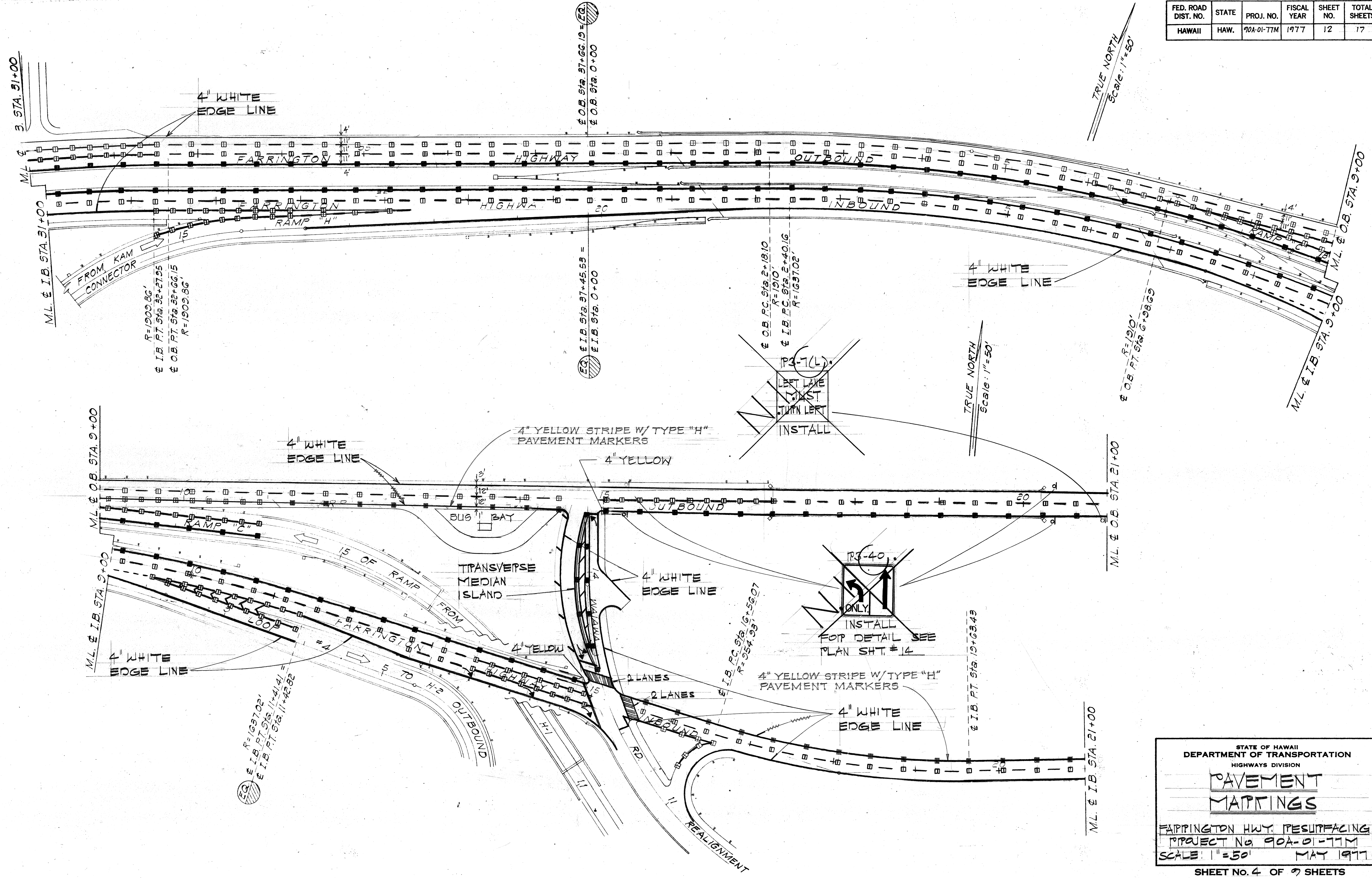
PAVEMENT
MAPPINGS

HAPPINGTON HWY. RESURFACING
PROJECT No. 90A-01-77M
SCALE: 1"=50' MAY 1977

SHEET No. 3 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	90A-01-77M	1977	12	17

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
TRACED BY		
DESIGNED BY		
CHECKED BY		
NO.		



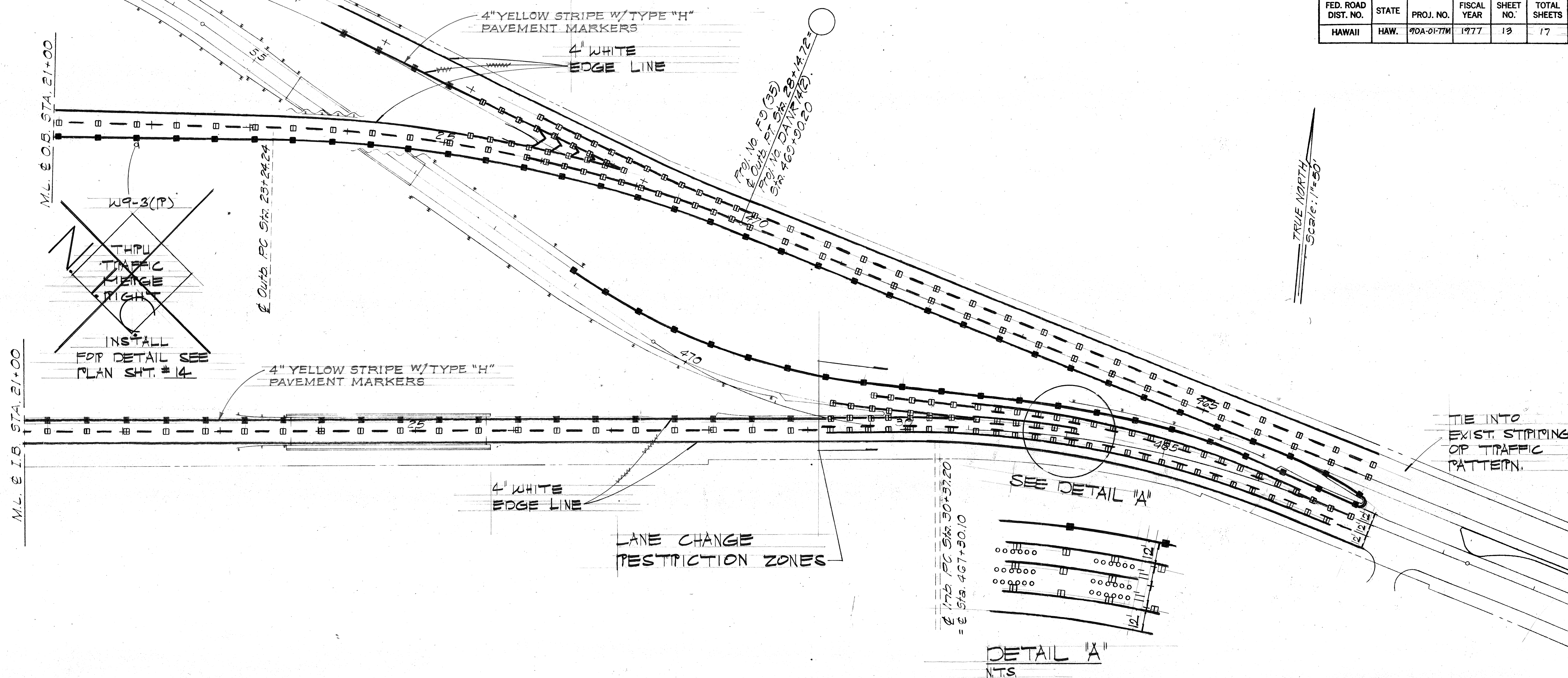
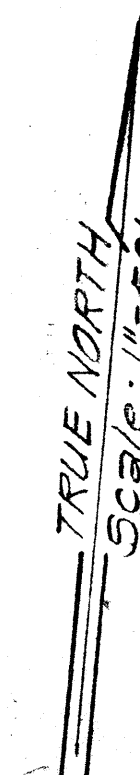
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MAPPINGS

FARRINGTON HWY. RESURFACING
PROJECT NO. 90A-01-77M
SCALE: 1"=50' MAY 1977

SHEET NO. 4 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	90A-01-TTM	1977	13	17



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

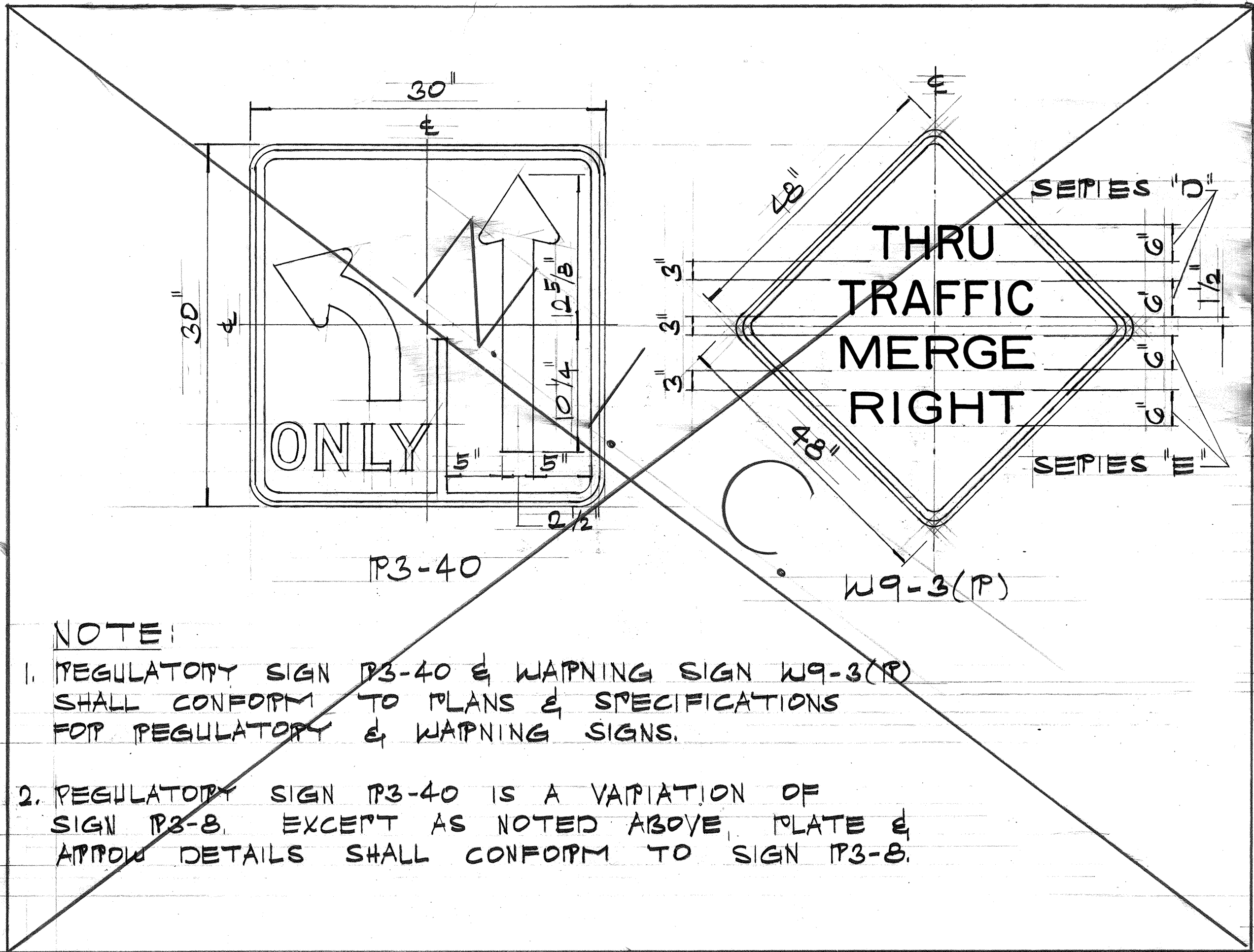
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT
MARKINGS

FARRINGTON HWY. RESURFACING
PROJECT No. 90A-01-77M
SCALE: 1"=50' MAY 1977

SHEET NO. 5 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	10A-01-77M	1977	14	17



NOTE:

1. REGULATORY SIGN P3-40 & WARNING SIGN W9-3(P) SHALL CONFORM TO PLANS & SPECIFICATIONS FOR REGULATORY & WARNING SIGNS.
2. REGULATORY SIGN P3-40 IS A VARIATION OF SIGN P3-8. EXCEPT AS NOTED ABOVE, PLATE & ARROW DETAILS SHALL CONFORM TO SIGN P3-8.

PAVEMENT STRIPING SUMMARY

PLAN SHEET NO.	QUANTITY			
	YELLOW LIN. FT.	WHITE LIN. FT.	CROSSWALKS NO. LANES	PAVEMENT ARROWS
9	4,300	6,050	26	11
10	5,600	8,850	33	16
11	6,060	10,290	—	—
12	5,250	9,660	4	5
13	2,285	6,530	—	—
8RS-4	5,150	10,165	28	9
8RS-5	1,425	1,700	—	—
TOTALS	30,070	53,245	91	41

PAVEMENT MARKER SUMMARY

PLAN SHEET NO.	QUANTITY		
	TYPE "A"	TYPE "C"	TYPE "H"
9	392	158	101
10	496	225	144
11	484	319	146
12	640	281	123
13	372	181	58
8RS-4	396	250	124
8RS-5	240	55	36
TOTALS	3,020	1,469	738

TRAFFIC SIGN SUMMARY

SIGN NO.	DESCRIPTION	QUANTITY	
		W/ POST	W/O POST
P3-40	ONLY	4	
P3-7(L)	LEFT LANE MUST TURN LEFT	1	
W9-3(P)	THRU TRAFFIC MERGE RIGHT	1	

LEGEND

- 4 EA. TYPE "A" PAISED PAVEMENT MARKERS
- TYPE "C" PAISED PAVEMENT MARKER
- 4" WHITE STRIPE W/ TYPE "C" PAISED PAVEMENT MARKERS 20'-0" O.C. (8" WHITE WHEN INDICATED).
- 4" YELLOW STRIPE W/ TYPE "H" PAISED PAVEMENT MARKERS 40'-0" O.C.
- 4" WHITE GUIDE LINE (YELLOW WHEN INDICATED).
- 3 LANES NEW CROSSWALK (3 LANES SHOWN) & STOP LINE. EXCEPT WHERE INDICATED ALL STOP LINES SHALL BE 10'-0" FROM CROSSWALKS.
- PAVEMENT ARROW
- TRANSVERSE SHOULDER MARKING
- LANE CHANGE RESTRICTION ZONE

NOTE:

1. FOR ADDITIONAL PAVEMENT MARKING DETAILS SEE PLAN SHTS. #C015, C016 & C017
2. TOTALS INCLUDE ORIGINAL QUANTITIES PLUS EXTENSION OF PROJECT.

1-21-77	REVISED TYPE "A" MKR. QUANTITIES DUE TO CHANGES IN STD. DETAIL SHT. DT 300.
1-15-77	REVISED QUANTITIES DUE TO INCREASED SCOPE OF WORK, STA. 115+00 TO STA. 80+00.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

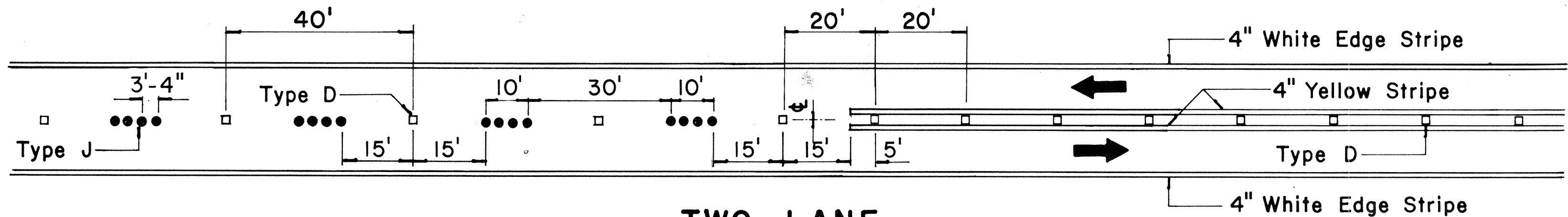
**MISCELLANEOUS
DETAILS**

HAPPINGTON HWY. RESURFACING
PROJECT NO. 90A-01-77M
NOT TO SCALE MAY 1977

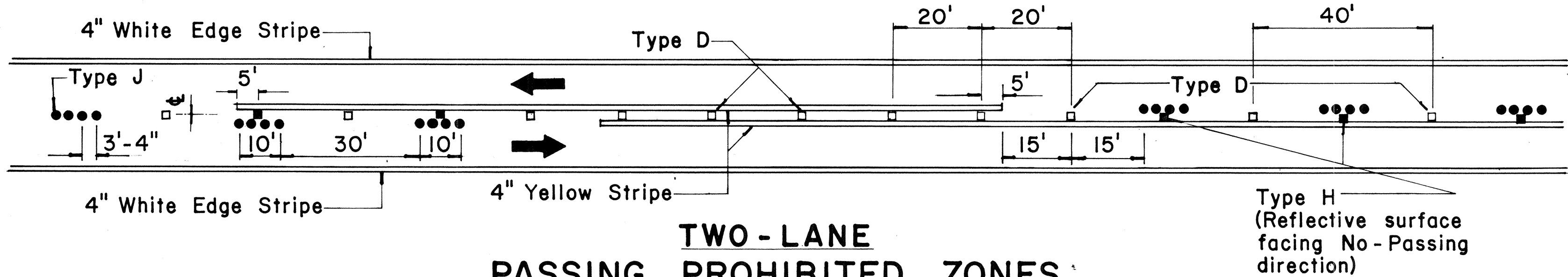
SHEET NO. 6 OF 7 SHEETS

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

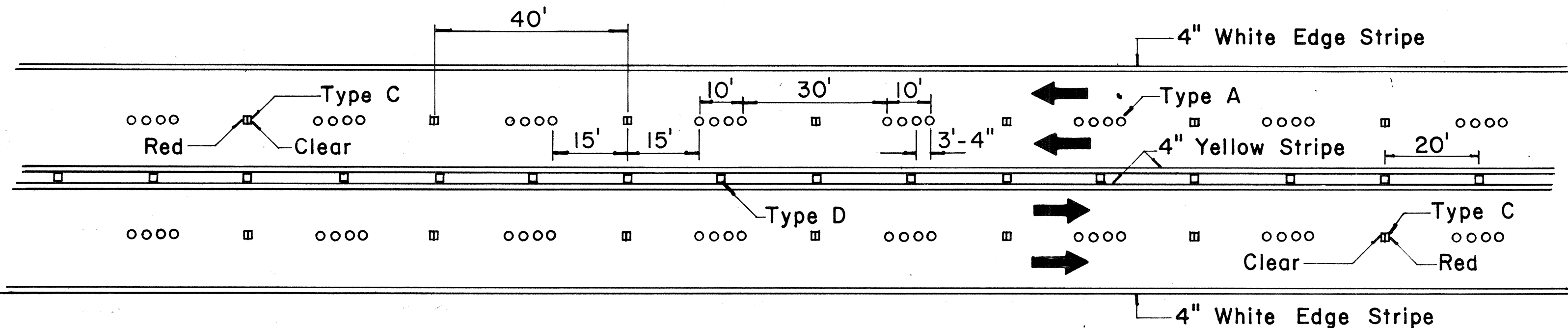
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	90A-0111M	1978	15	17



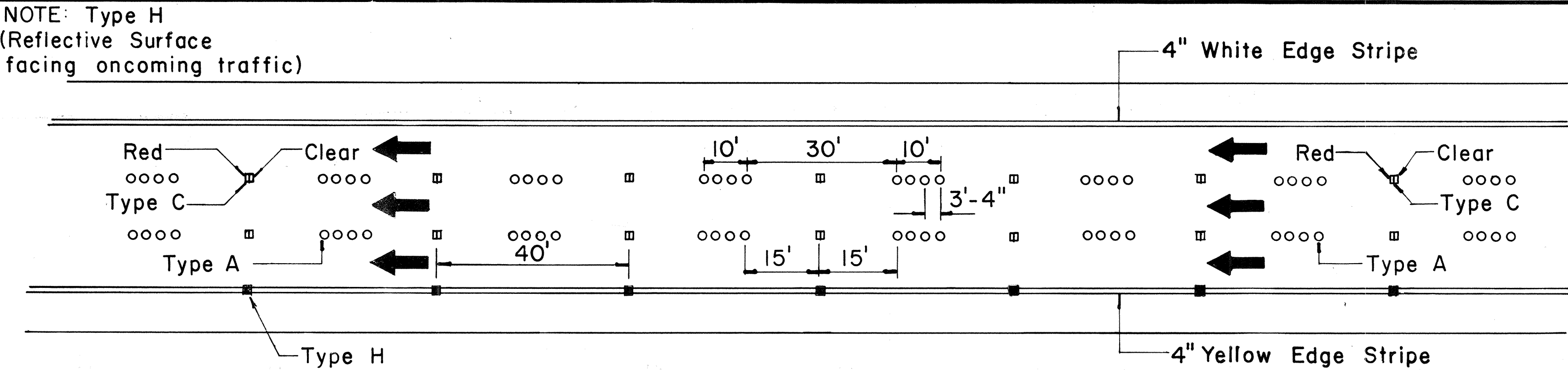
**TWO - LANE
PASSING PERMITTED AND PASSING PROHIBITED**



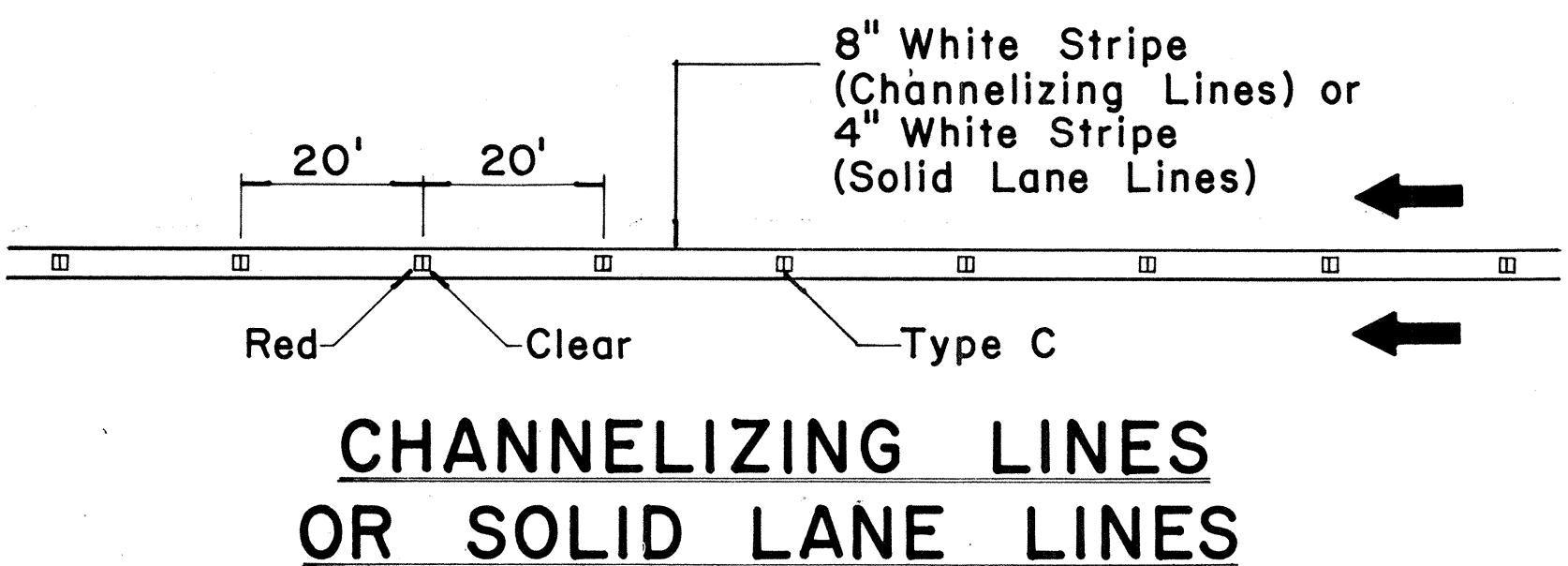
**TWO - LANE
PASSING PROHIBITED ZONES**



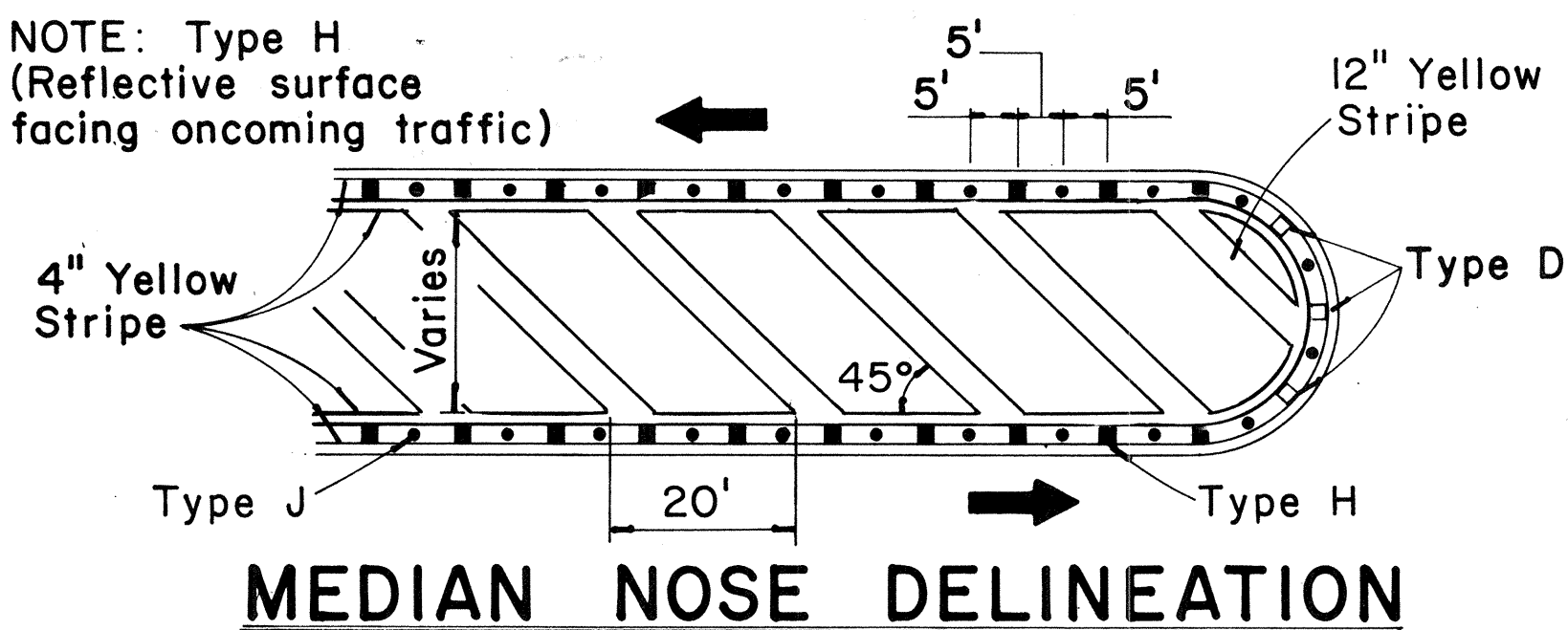
**MULTI - LANE
LANE LINES AND CENTER LINE**



**DIVIDED HIGHWAY
AND
FREEWAY**



**CHANNELIZING LINES
OR SOLID LANE LINES**

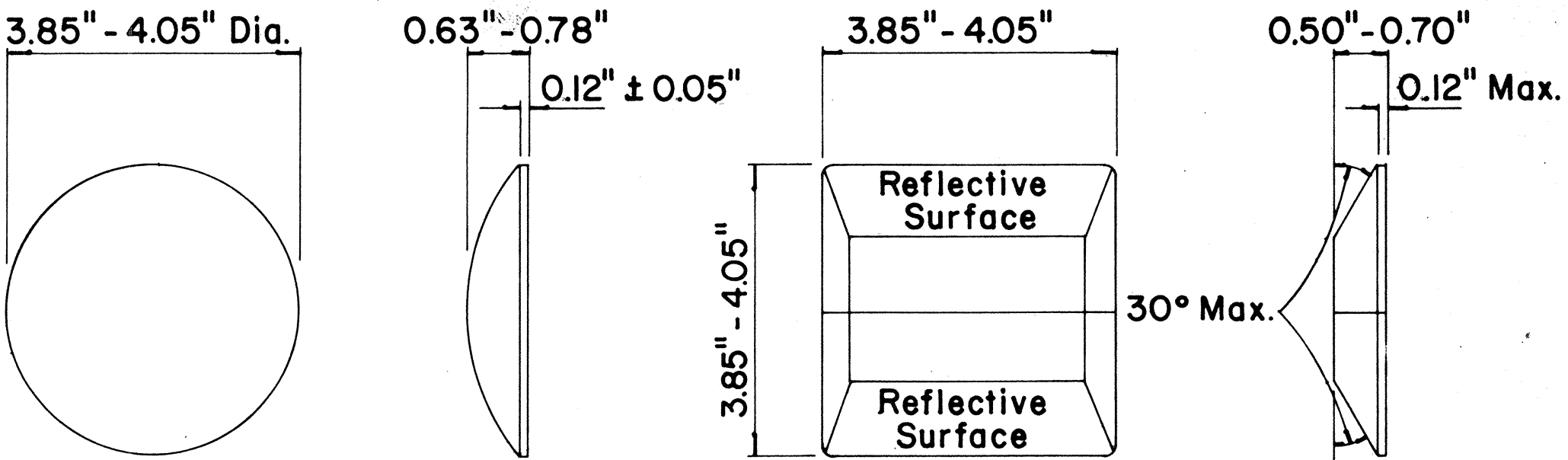


MEDIAN NOSE DELINEATION

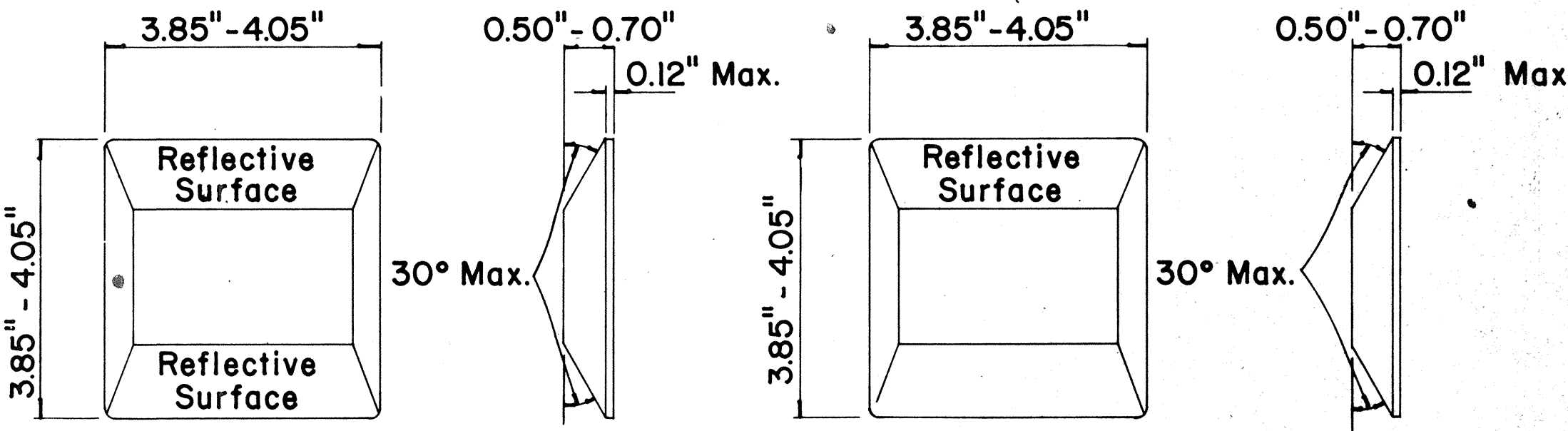
MISCELLANEOUS

TWO - LANE

MULTI - LANE



**TYPE A
NON-REFLECTIVE WHITE MARKER**
**TYPE C
RED-CLEAR REFLECTIVE MARKER**
**TYPE J
NON-REFLECTIVE YELLOW MARKER**



**TYPE D
TWO-WAY YELLOW REFLECTIVE MARKER**
**TYPE H
ONE-WAY YELLOW REFLECTIVE MARKER**

GENERAL NOTES

- Pavement marking and striping shall conform to the latest "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
- Layout and installation of pavement marking and striping shall be done by the Contractor. The Contractor shall check the layouts with the Engineer prior to performing work.

LEGEND

- Type A
- Type C
- Type D
- Type H
- Type J

APPROVAL RECOMMENDED:
E. I. Tanaka 11/10/71
TRAFFIC ENGINEER DATE

APPROVED:
Blair E. E. E. 11/18/71
ASSISTANT CHIEF, ENGINEERING DATE

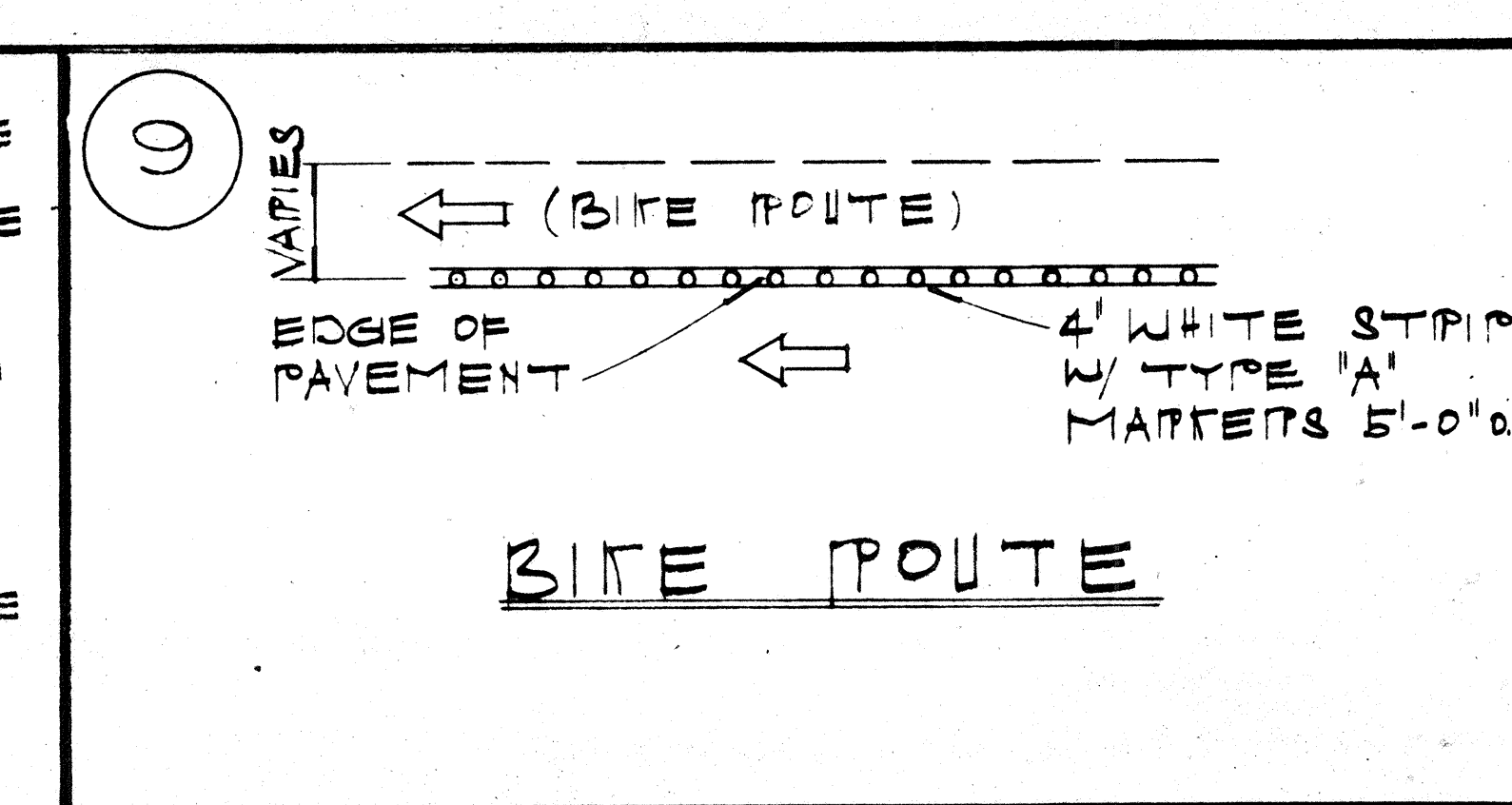
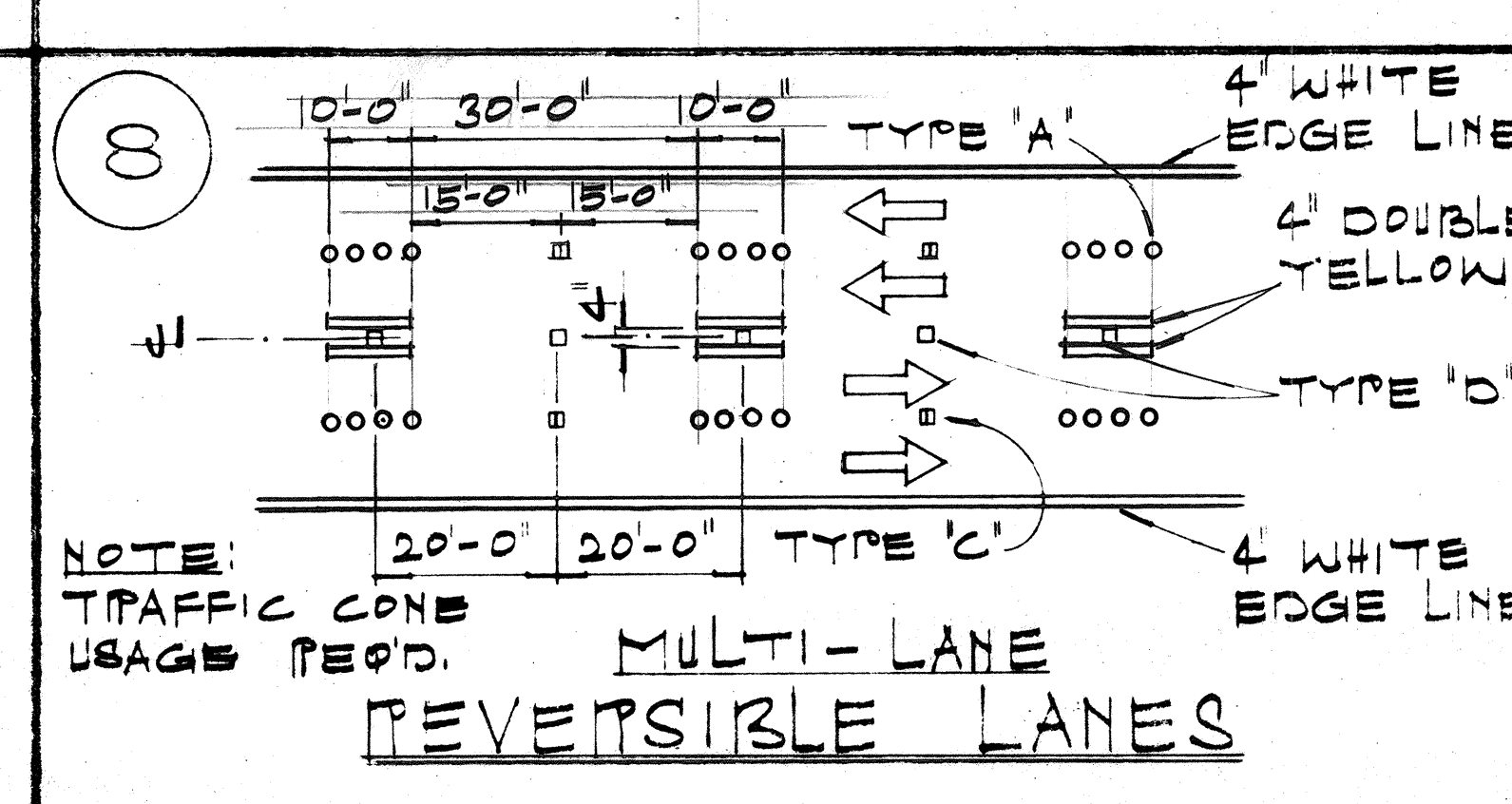
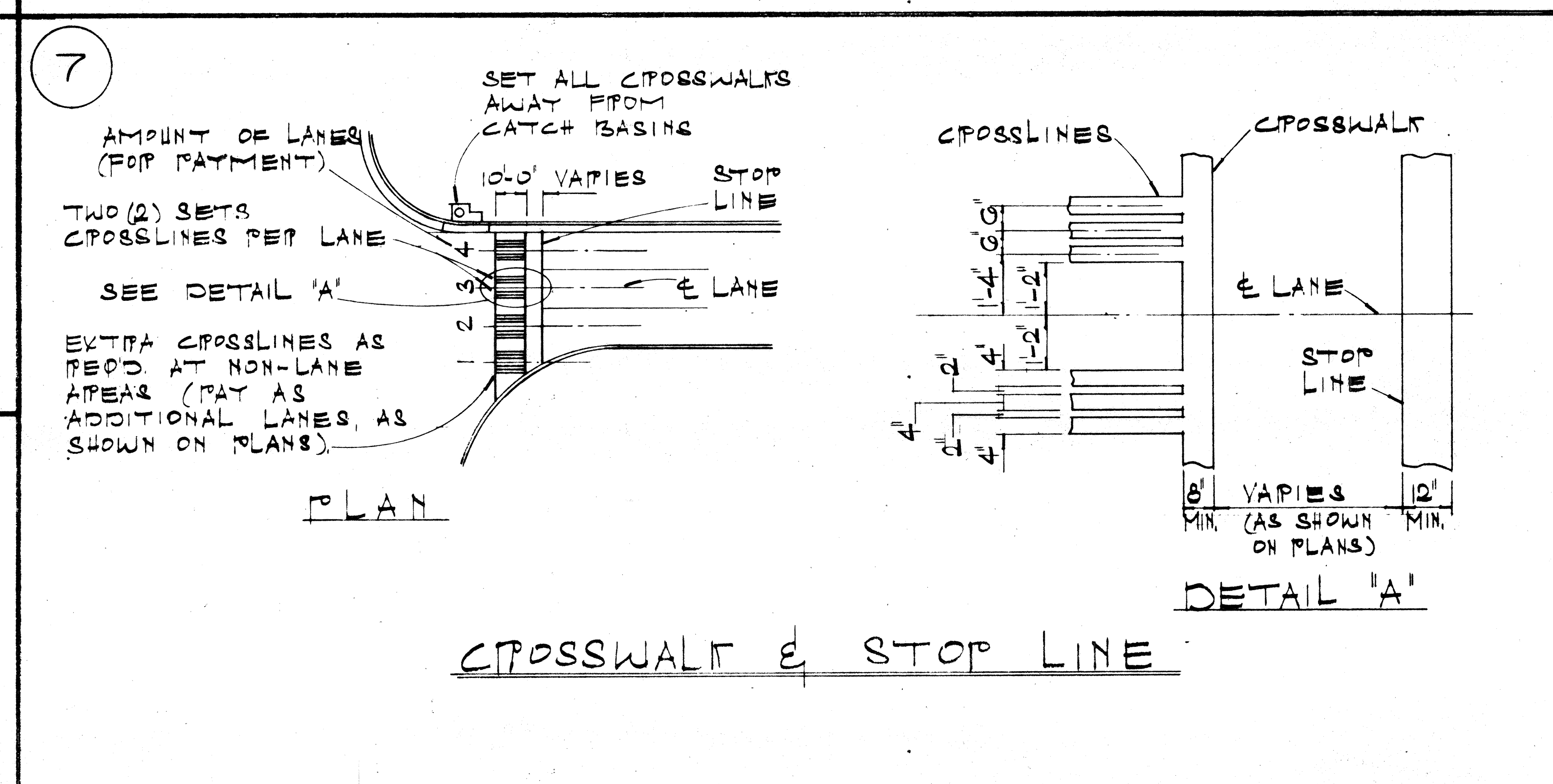
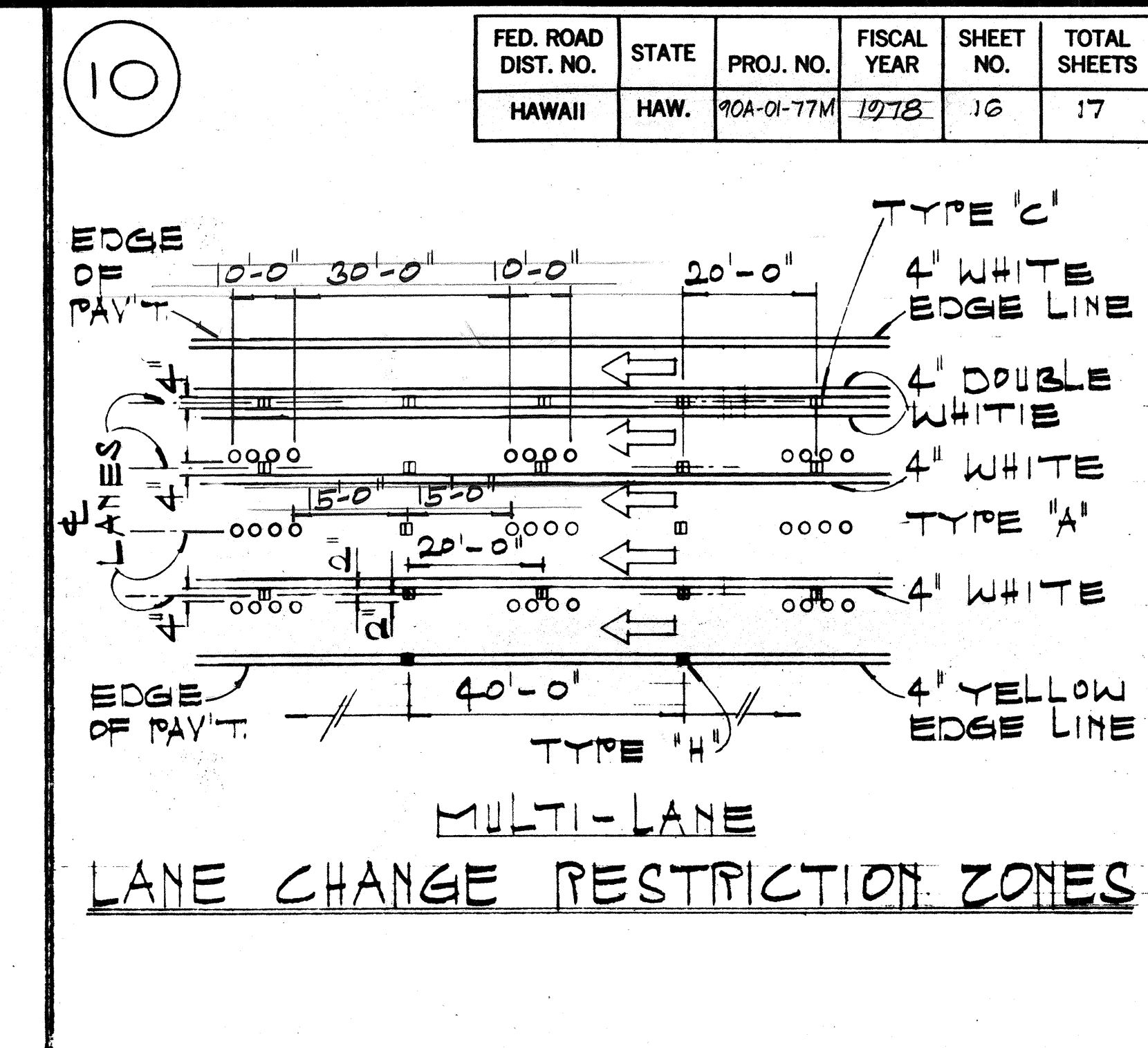
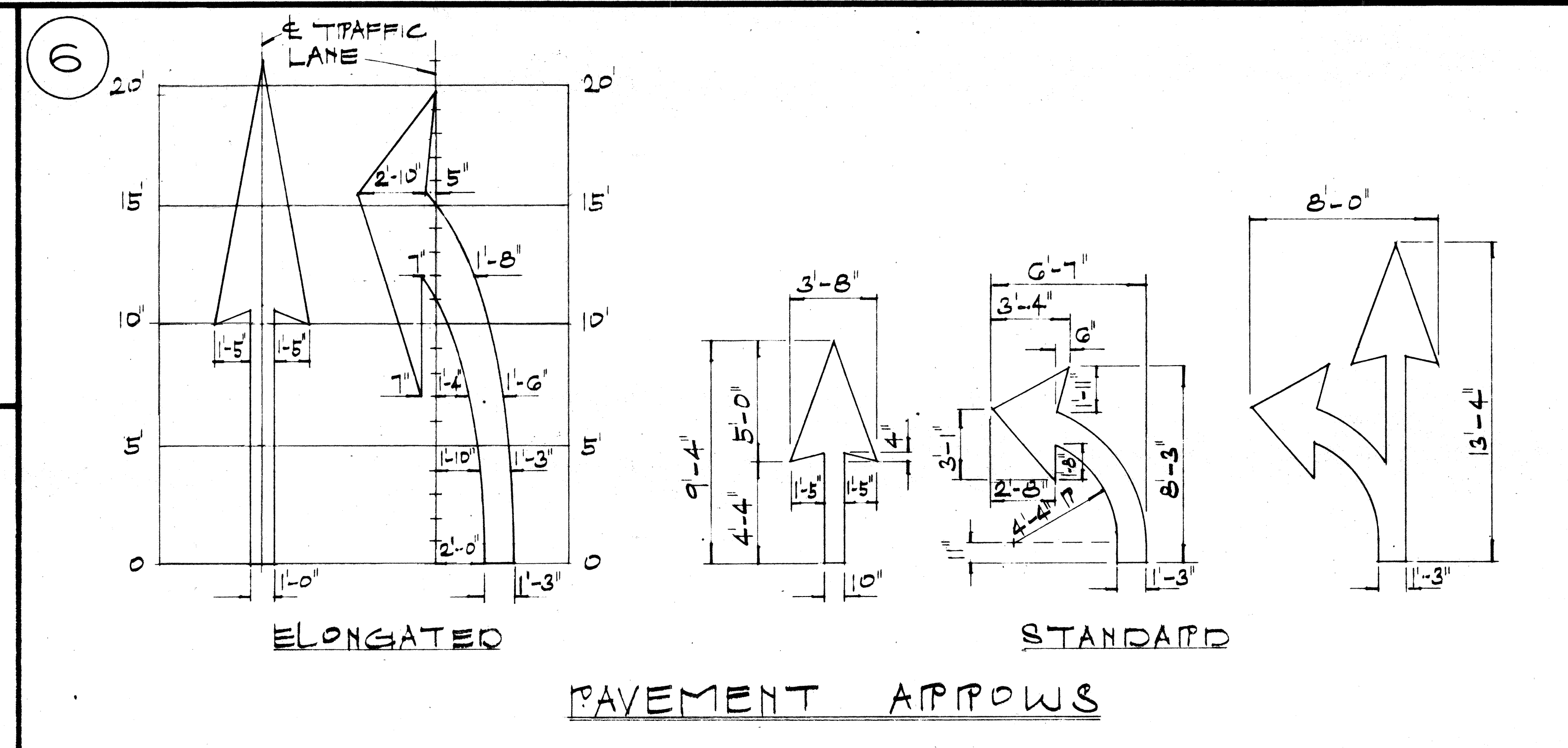
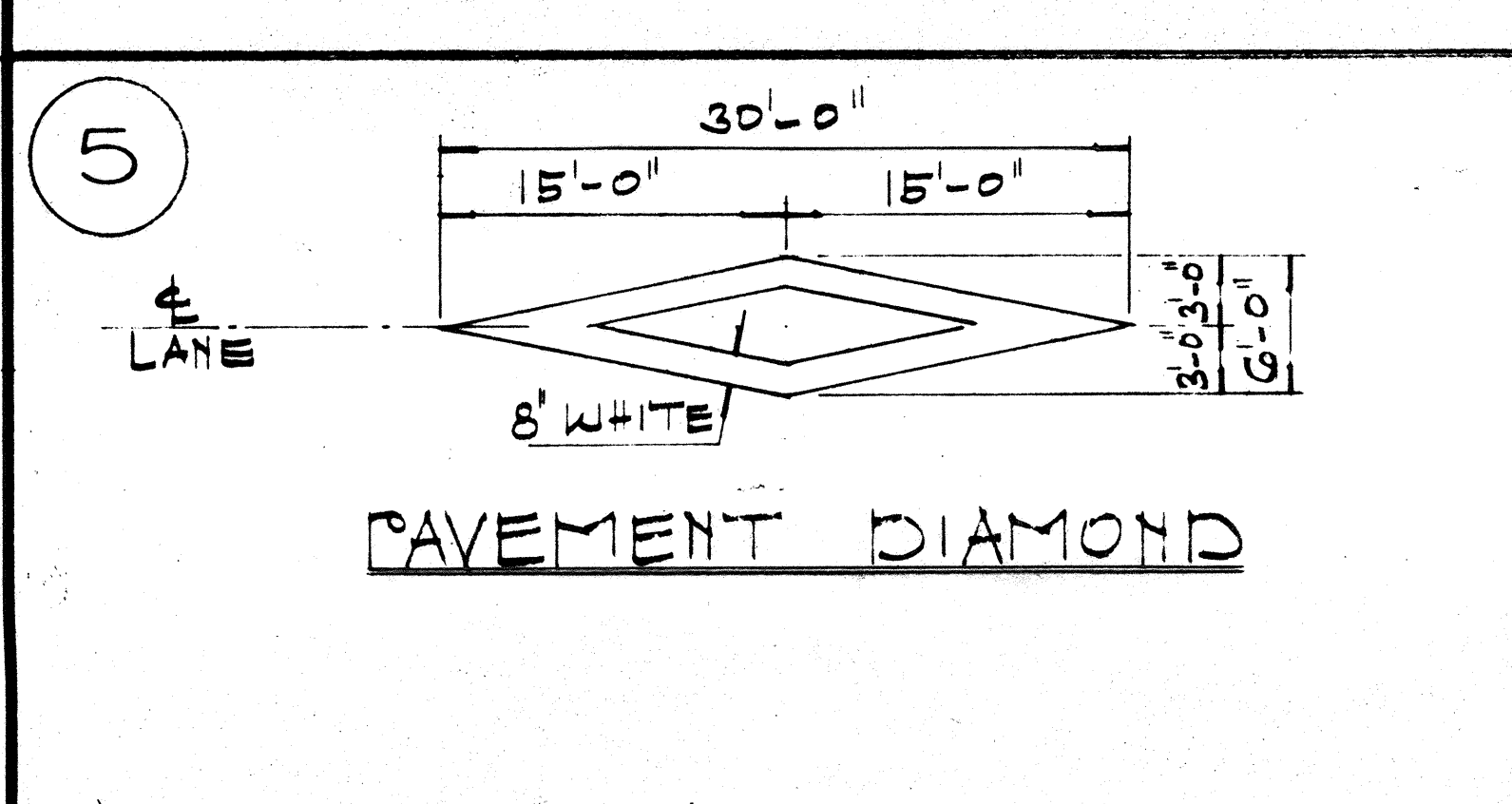
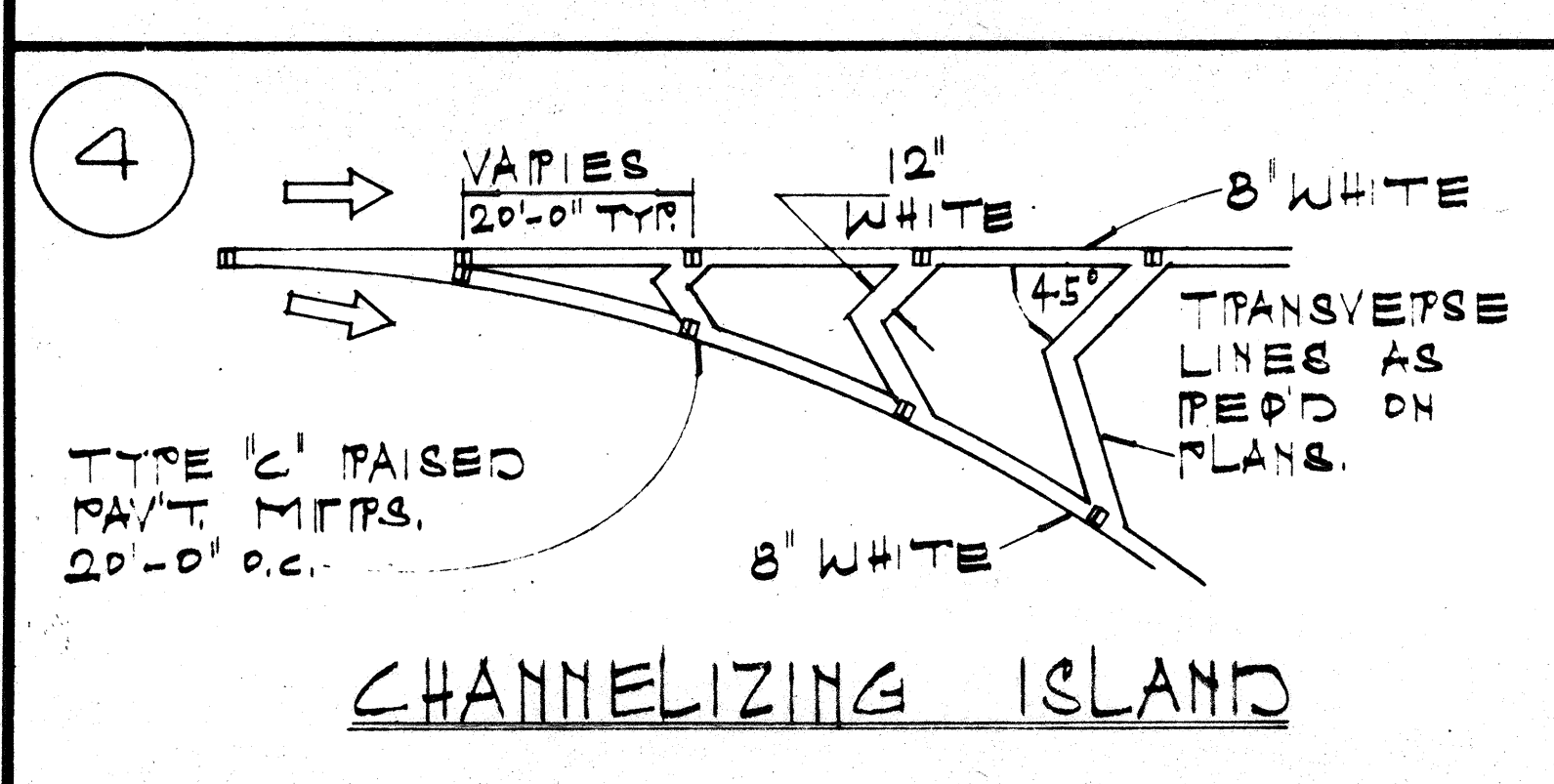
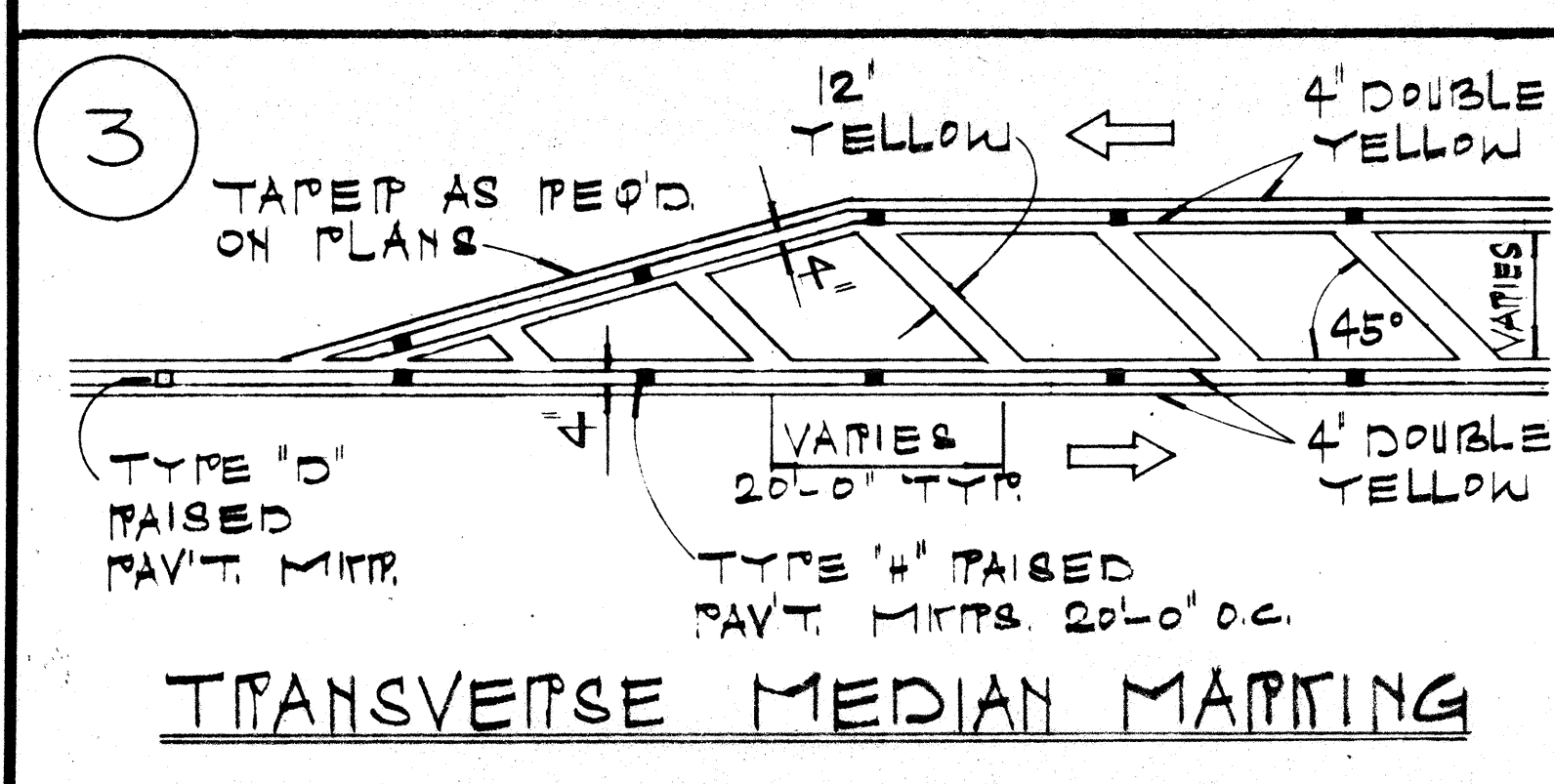
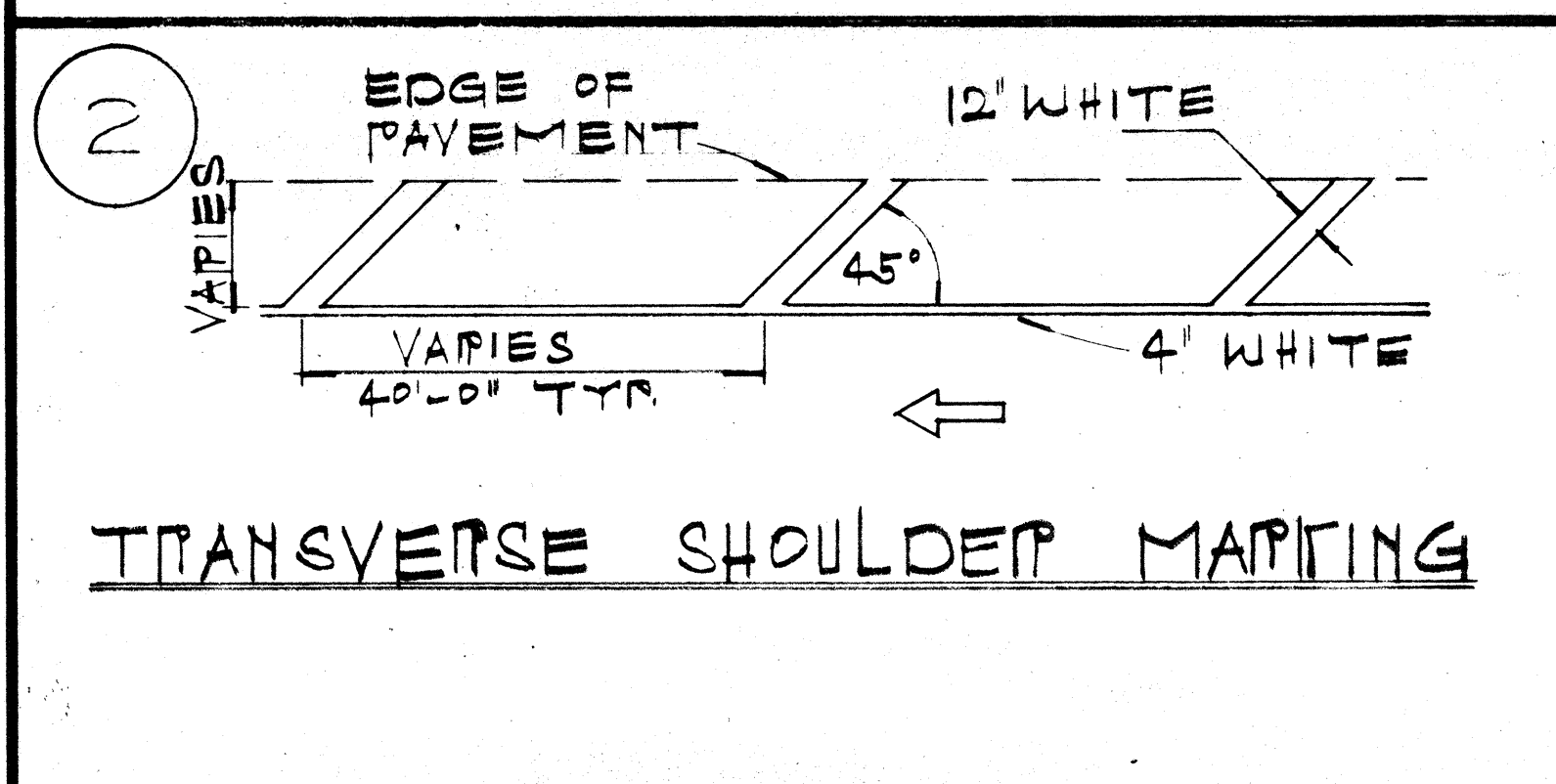
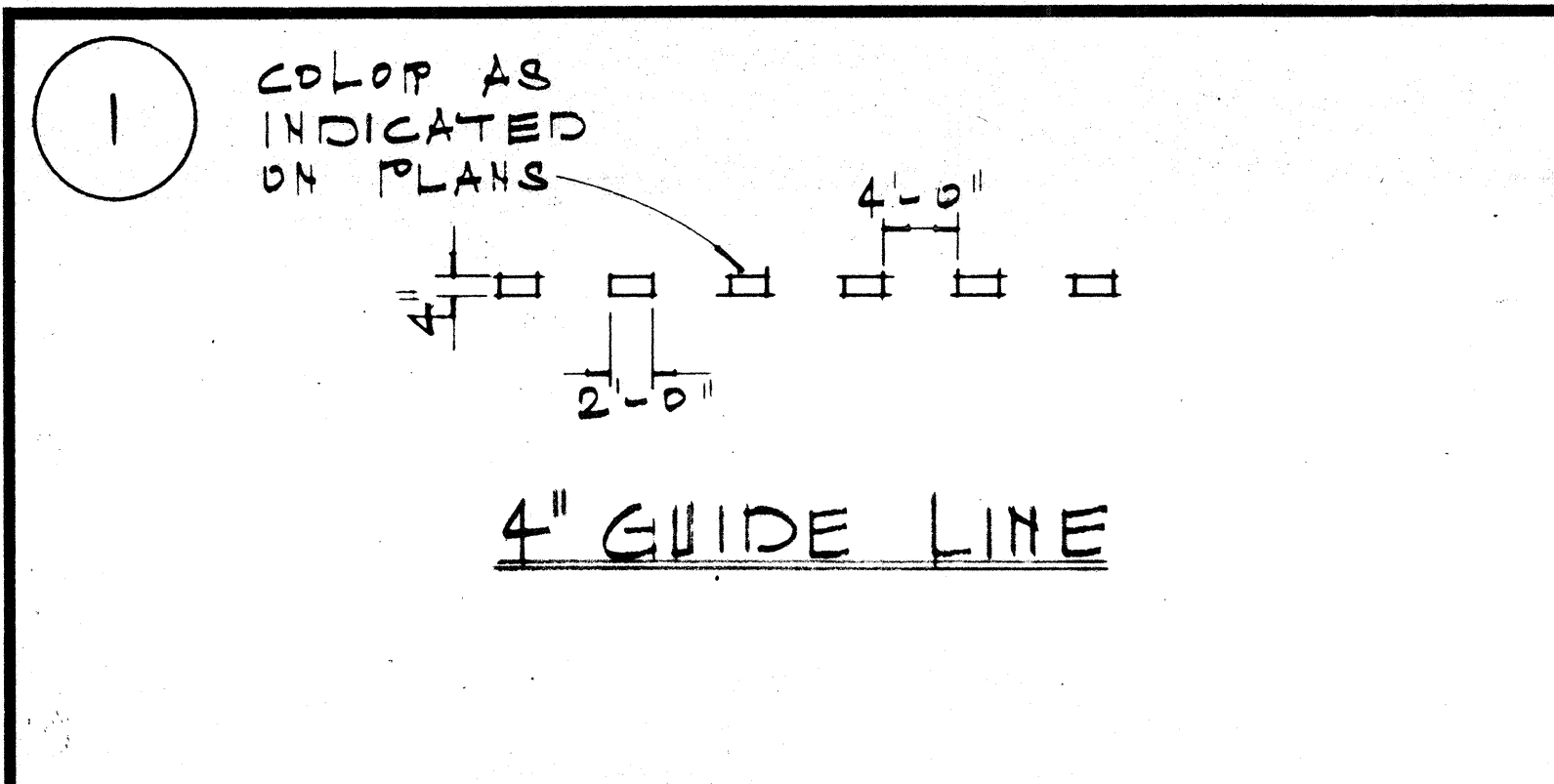
No.	REVISION	APPROVED BY	DATE
1	Add reflector marker in each line gap.	H.C.	10-21-72
2	Revised General Notes.	H.C.	10-21-72
3	Change 4" white edge stripe to 4" solid yellow edge stripe to left edge of a travel path and Add Type H Reflector Marker.	H.C.	5-22-74
4	Revised details, General Notes & Title Box.	H.C.	7-13-77

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

**STANDARD DETAILS
RAISED PAVEMENT MARKERS
AND STRIPING**

Not to Scale October 1971
SHEET No. 7 OF 9 SHEETS DT 300

ORIGINAL PLAN	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	
No.	



GENERAL NOTES:

1. PAVEMENT MARKINGS SHALL CONFORM TO THE 'MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS & HIGHWAYS', 1971, (MUTCD), SUBSEQUENT REVISIONS TO THE MUTCD & AS SHOWN ON THE PLANS.
2. LAYOUT OF PAVEMENT MARKINGS & STRIPING SHALL BE DONE BY THE CONTRACTOR. THE CONTRACTOR SHALL CHECK LAYOUT OF MARKERS & STRIPING WITH THE ENGINEER PRIOR TO PERFORMING WORK.
3. FOR ADDITIONAL PAVEMENT MARKING DETAILS SEE PLAN SHT. #C015 & C017

1-27-77	REVISE "A" & "J" MARKER SPACING
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**TYPICAL DETAILS
MISCELLANEOUS
PAVEMENT MARKINGS**

NOT TO SCALE

SHEET NO. 8 OF 9 SHEETS

DATE: _____

SURVEY PLOTTED BY: _____

DRAWN BY: _____

TRACED BY: _____

NOTED BY: _____

QUANTITIES BY: _____

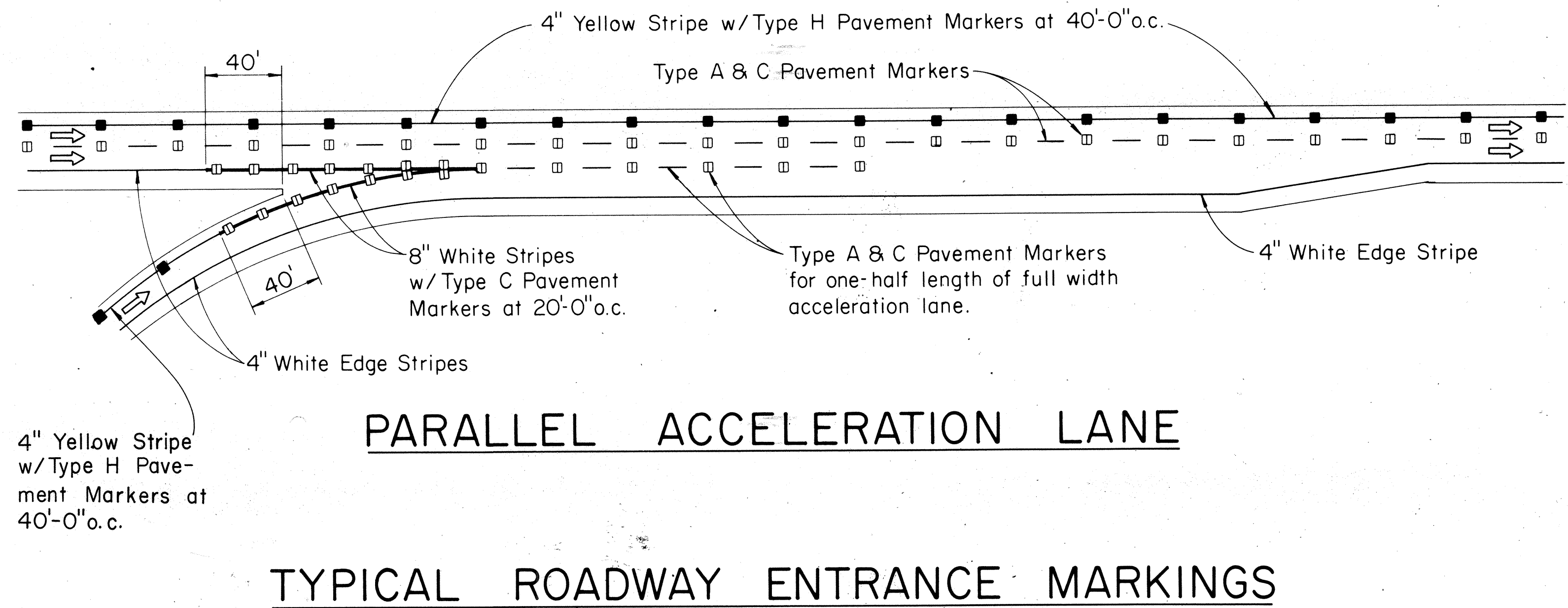
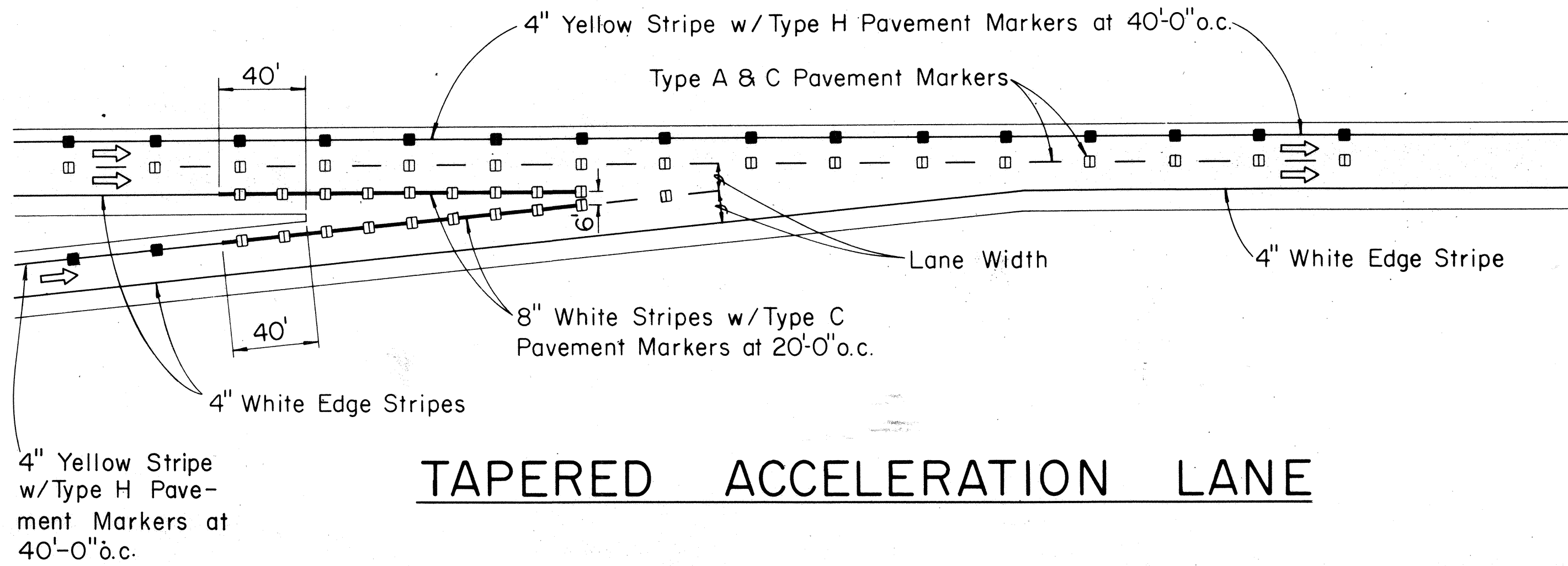
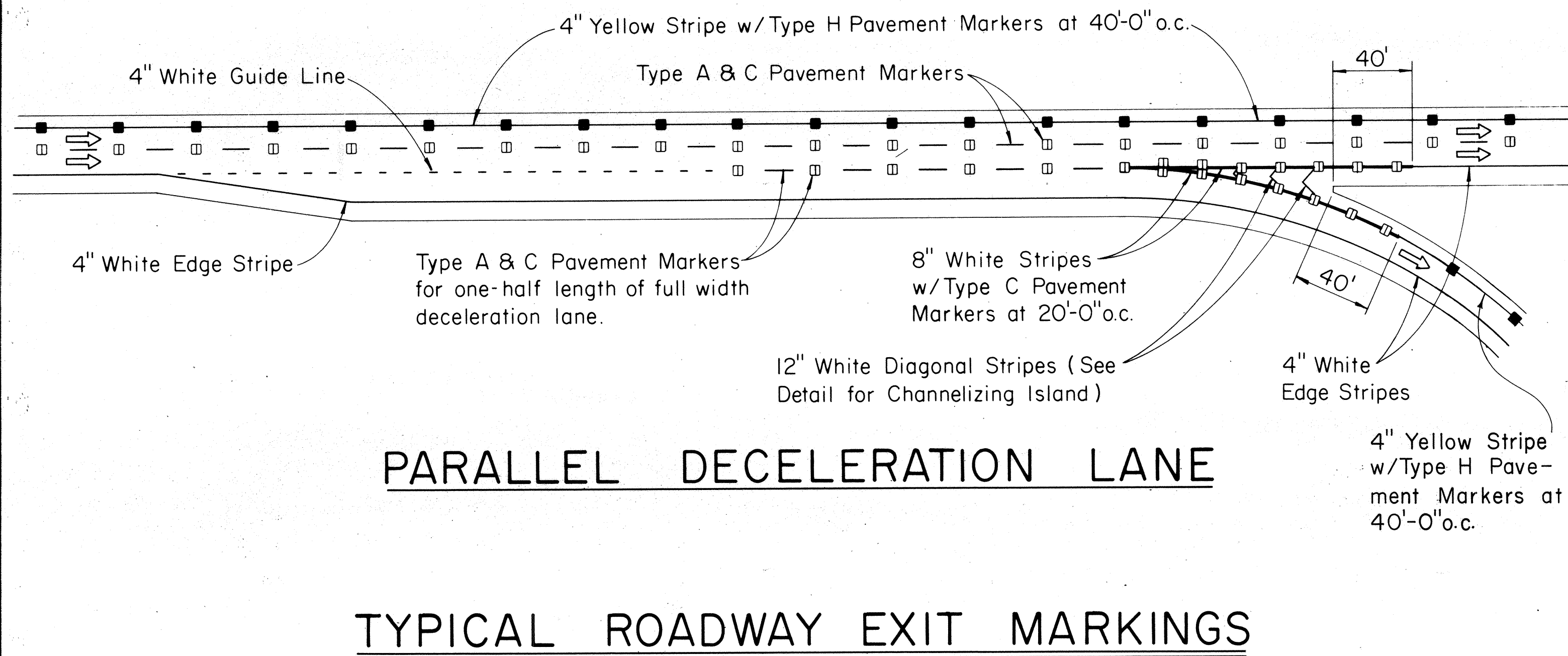
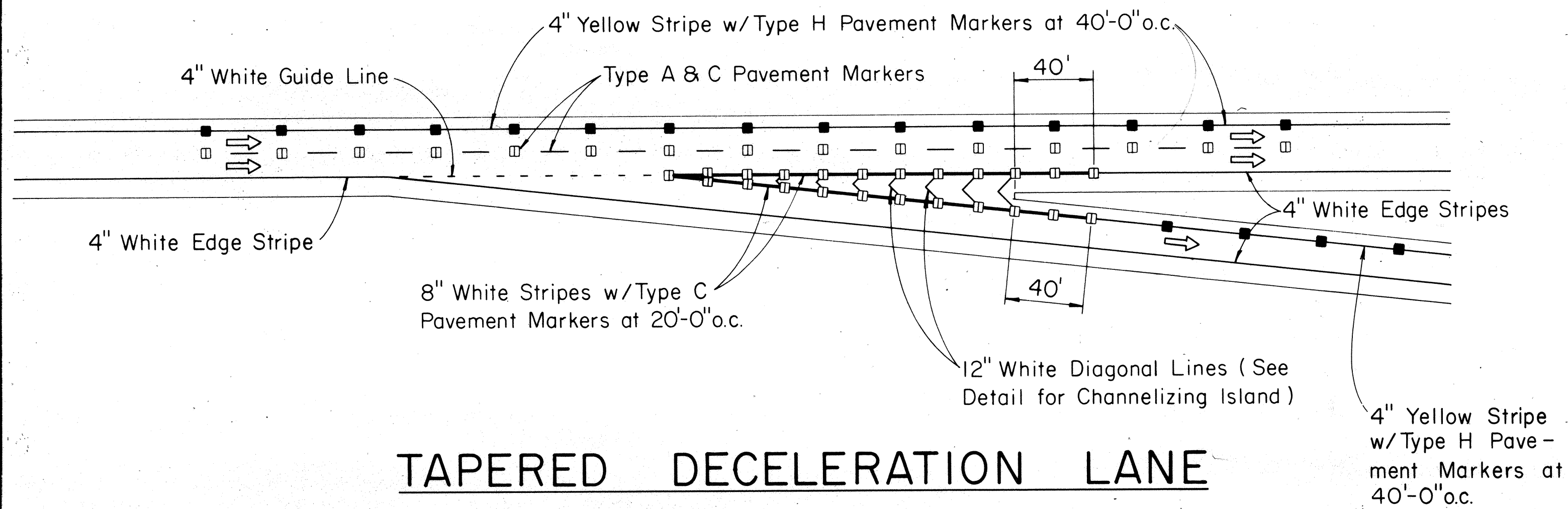
CHECKED BY: _____

ORIGINAL PLAN: _____

NOTE BOOK: _____

NO. _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	90A-0-11M	1978	17	17



NOTES:

- For additional details, see sheets DT 300 & C.O. 16

DATE	*****
DESIGNED BY	*****
CHECKED BY	*****
NO.	*****

7-21-77	ADD 4" YELLOW STRIPE w/TYPE "H" MKRS. LEFT EDGE RAMP.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

TYPICAL DETAILS

MISCELLANEOUS
PAVEMENT MARKINGS

Not to Scale DATE: JULY, 1977
SHEET No. 7 OF 7 SHEETS

C.O. 17