

NOTES:

- GROUND ALL STEEL POLES BY BONDING W/ #10 TW (GREEN) & CONNECTING TO SYSTEM NEUTRAL IN ADDITION TO GRD ROD IN PULLBOXES FOR ALL POLES.
- HWY. LIGHTING CONDUIT TO BE PVC SCHD. 40 EXCEPT AT CONCRETE STRUCTURE TO BE RIGID GALV. STEEL CONDUIT.
- HWY. LIGHTING STANDARDS BEHIND GUARDRAILS MAY BE MOUNTED ON ANCHOR BASES IN LIEU OF SLIP BASES.

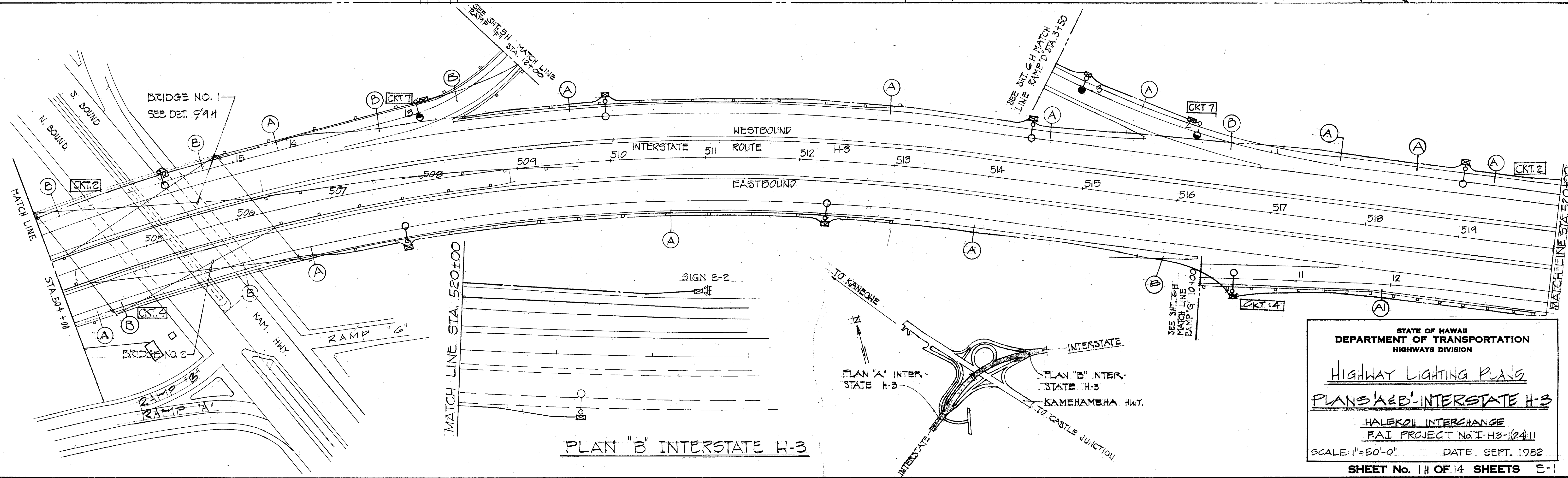
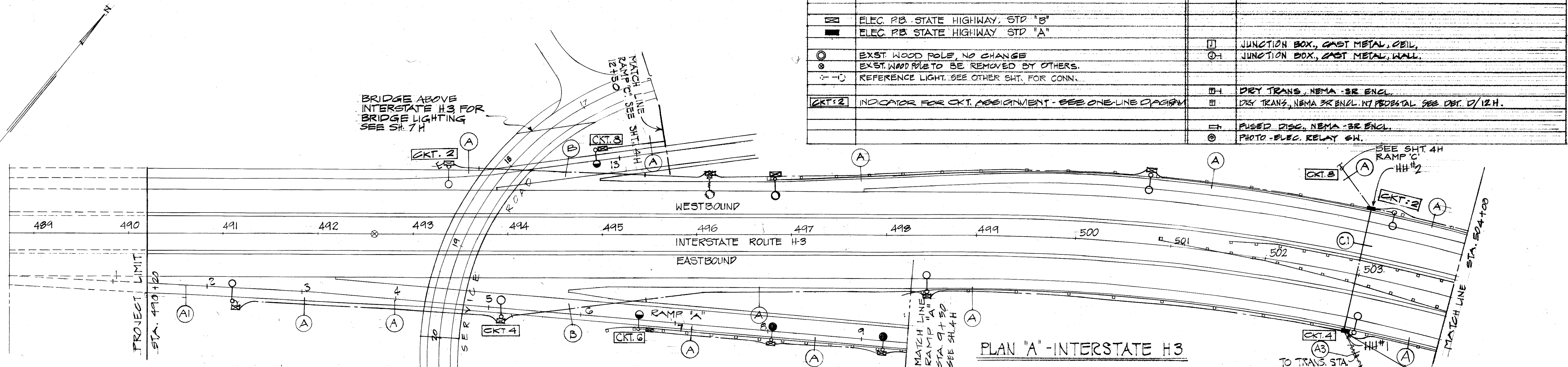
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-104-11	1983	155	328

ELECTRICAL

○	LIGHT, 400 W HIGH PRESS. SODIUM 1/2 METAL POLE & BRACKET
○	LIGHT, 250W HIGH PRESS. SODIUM 1/2 METAL POLE & BRACKET
○	LIGHT, 150W HIGH PRESS. SODIUM 1/2 METAL POLE & BRACKET
—	LIGHT, SIGN 250W MERCURY VAPOR
●	LIGHT, 100W HIGH PRESS. SODIUM UNDERPASS WALL MTD.
—	ELEC. PB. STATE HIGHWAY, STD "B"
—	ELEC. PB. STATE HIGHWAY, STD "A"
○	EXST. WOOD POLE, NO CHANGE
○	EXST. WOOD POLE TO BE REMOVED BY OTHERS.
—	REFERENCE LIGHT, SEE OTHER SHT. FOR CONN.
[CKT. 2]	INDICATOR FOR CKT. ASSIGNMENT - SEE ONE-LINE DIAGRAM

SCHEDULE

—	CONDUIT, RIGID STEEL
—	CONDUIT, 18" DEEP
—	CONDUIT, STD. 5'-0" & PLUG
—	CONDUIT, 18" 1/2 3" CONC. JACKET OR CONC. EMBEDDED
—	HECO HH STD. 10841
—	JUNCTION BOX, CAST METAL, OIL
—	JUNCTION BOX, CAST METAL, WALL
—	DRY TRANS, NEMA -3R ENCL.
—	DRY TRANS, NEMA 3R ENCL. NOT PROTECTAL SEE DET. D/12 H.
—	FUSED DISC, NEMA -3R ENCL.
—	PHOTO-ELEC. RELAY GW.



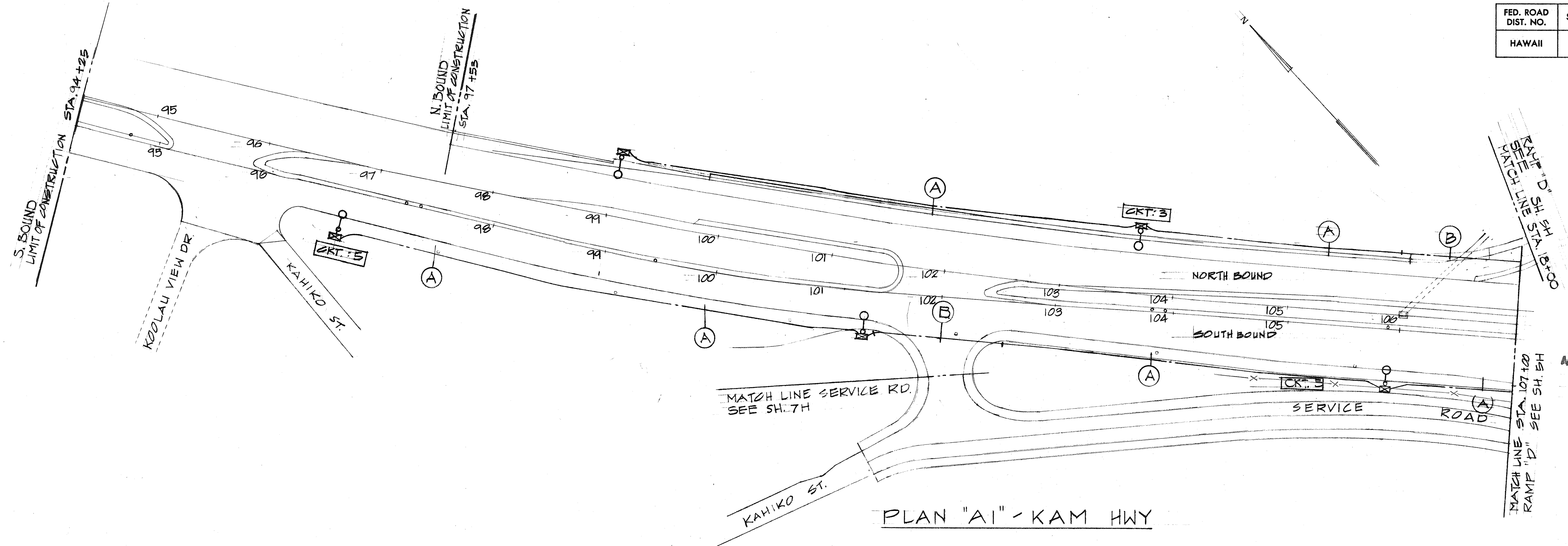
DATE	BY
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
ORIGINAL PLAN	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Highway Lighting Plans
PLANS 'A' & 'B' - INTERSTATE H-3

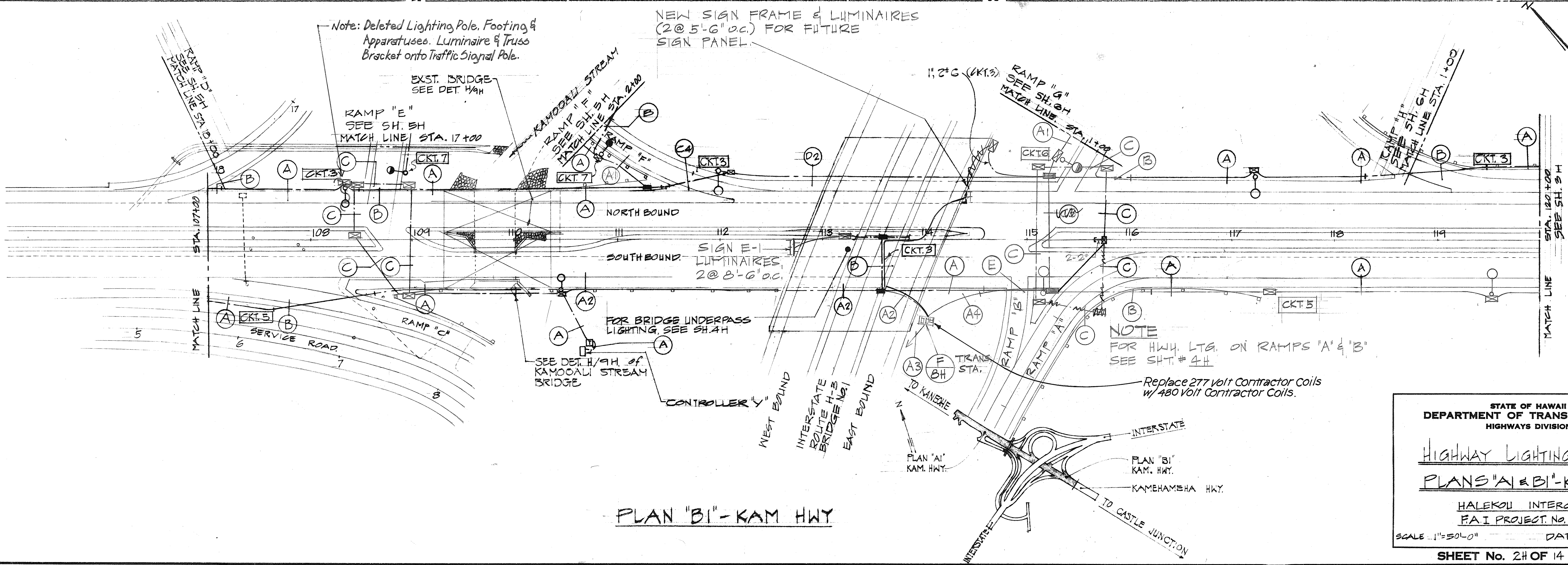
HALEKOU INTERCHANGE
FAJ PROJECT No. I-H3-104-11
SCALE: 1"=50'-0" DATE: SEPT. 1982
SHEET No. 14 OF 14 SHEETS E-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(24):11	1983	156	328



Note: See Plan Sheets 1683-1 Through 1683-6 REF CCO# 22

PLAN "A1" - KAM HWY



PLAN "B1" - KAM HWY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

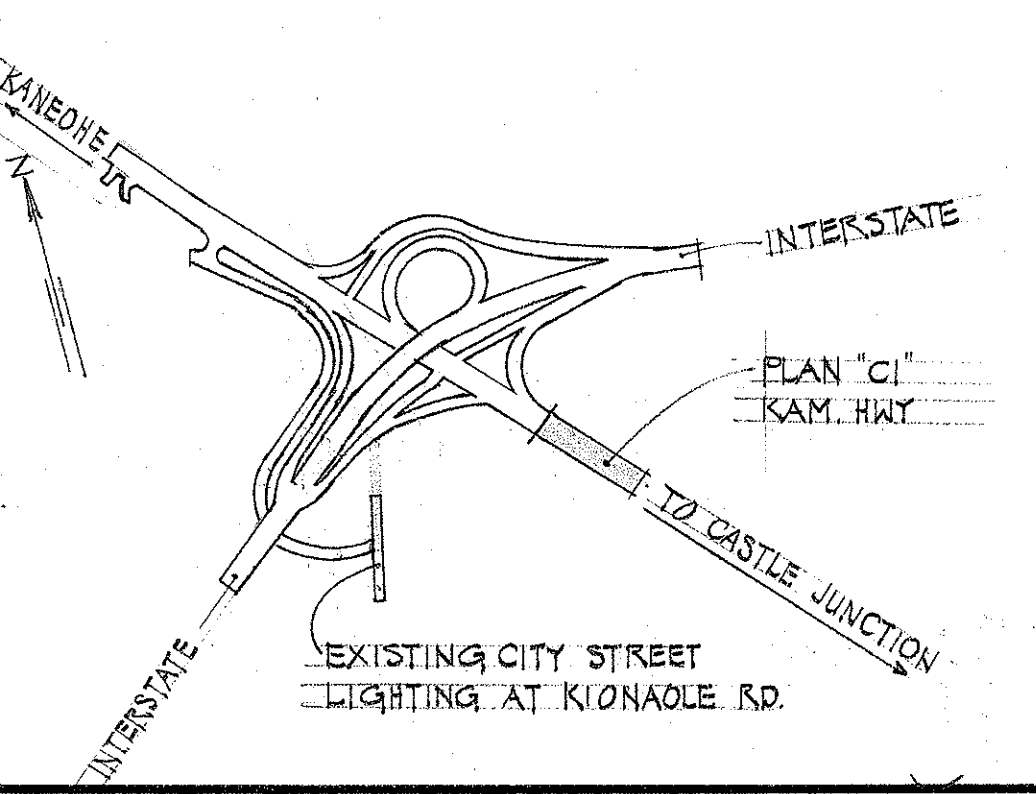
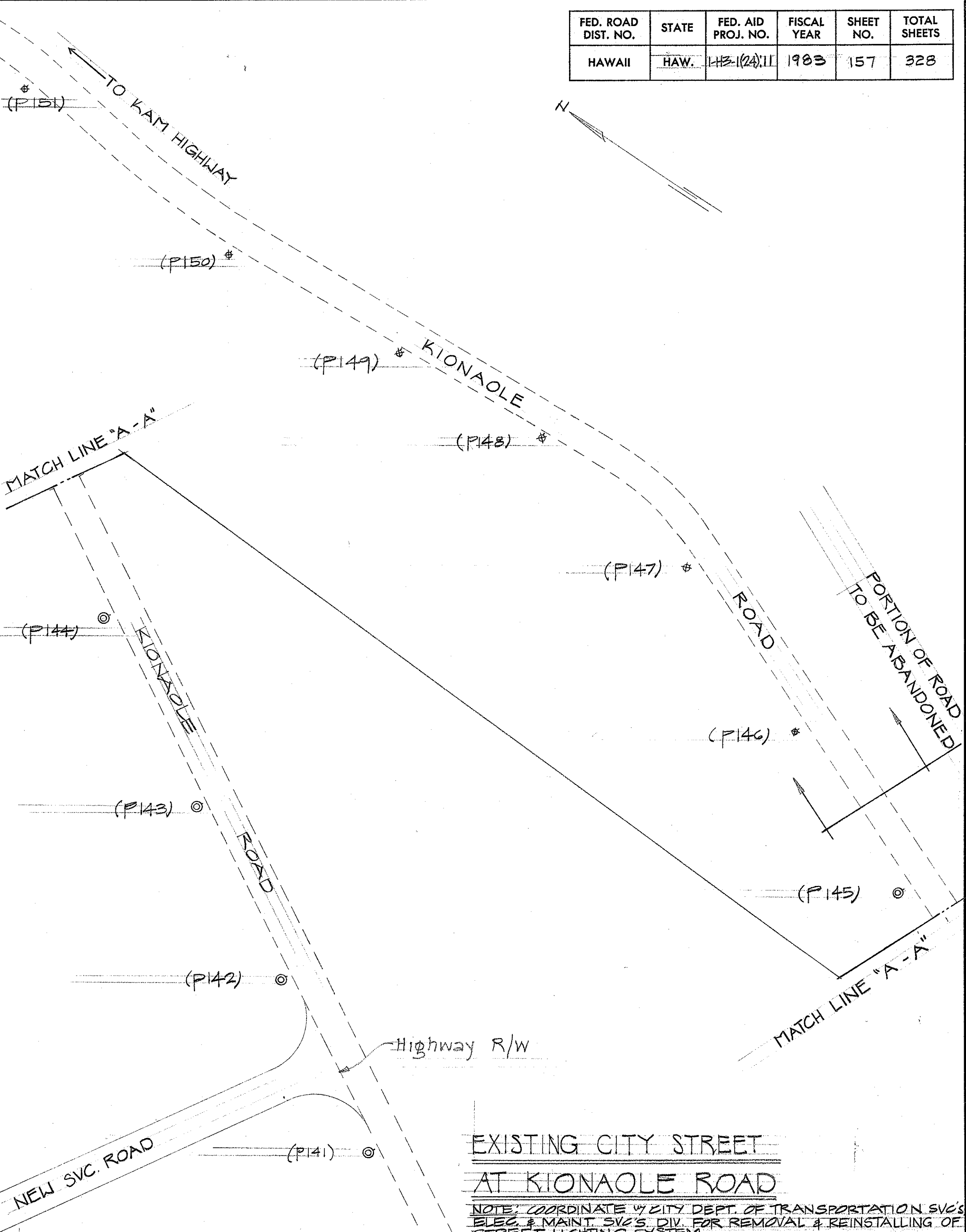
HIGHWAY LIGHTING PLANS
PLANS "A1 & B1" - KAM. HWY.

HALEKOU INTERCHANGE
F.A.I. PROJECT NO. I-H3-1(24):11
SCALE 1"=50'-0" DATE: Sep 1982

SHEET No. 24 OF 14 SHEETS E-2

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

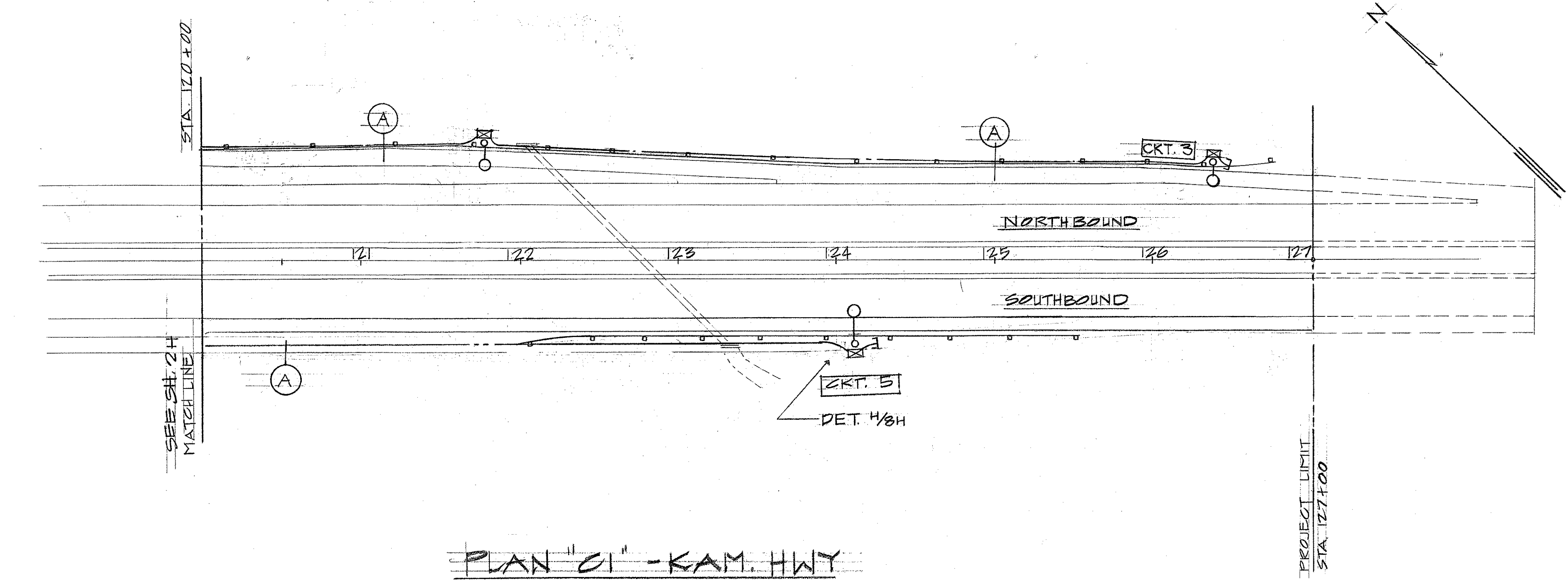
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HAWAII	HAW.	143-1(24)11	1983	157	328



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

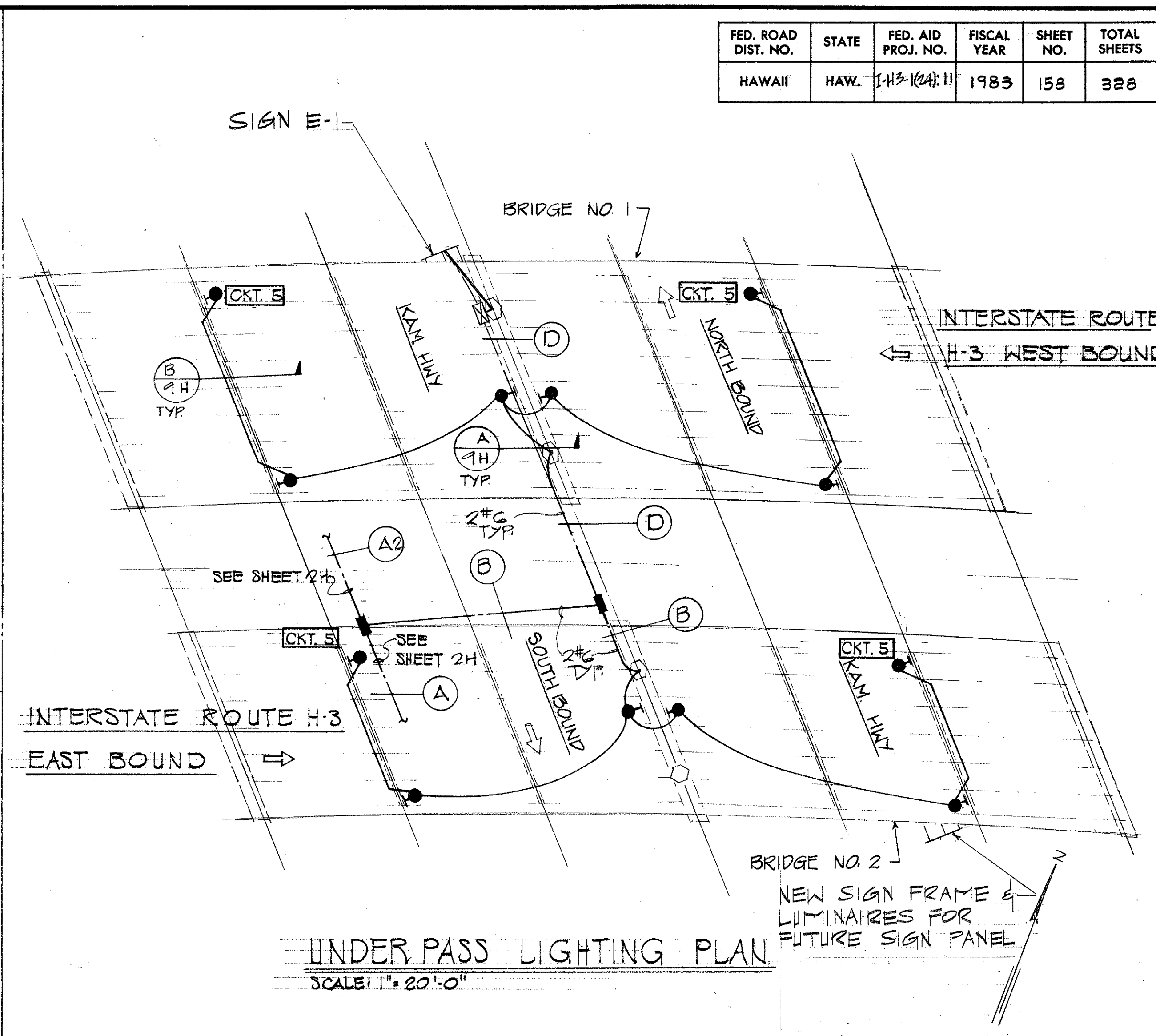
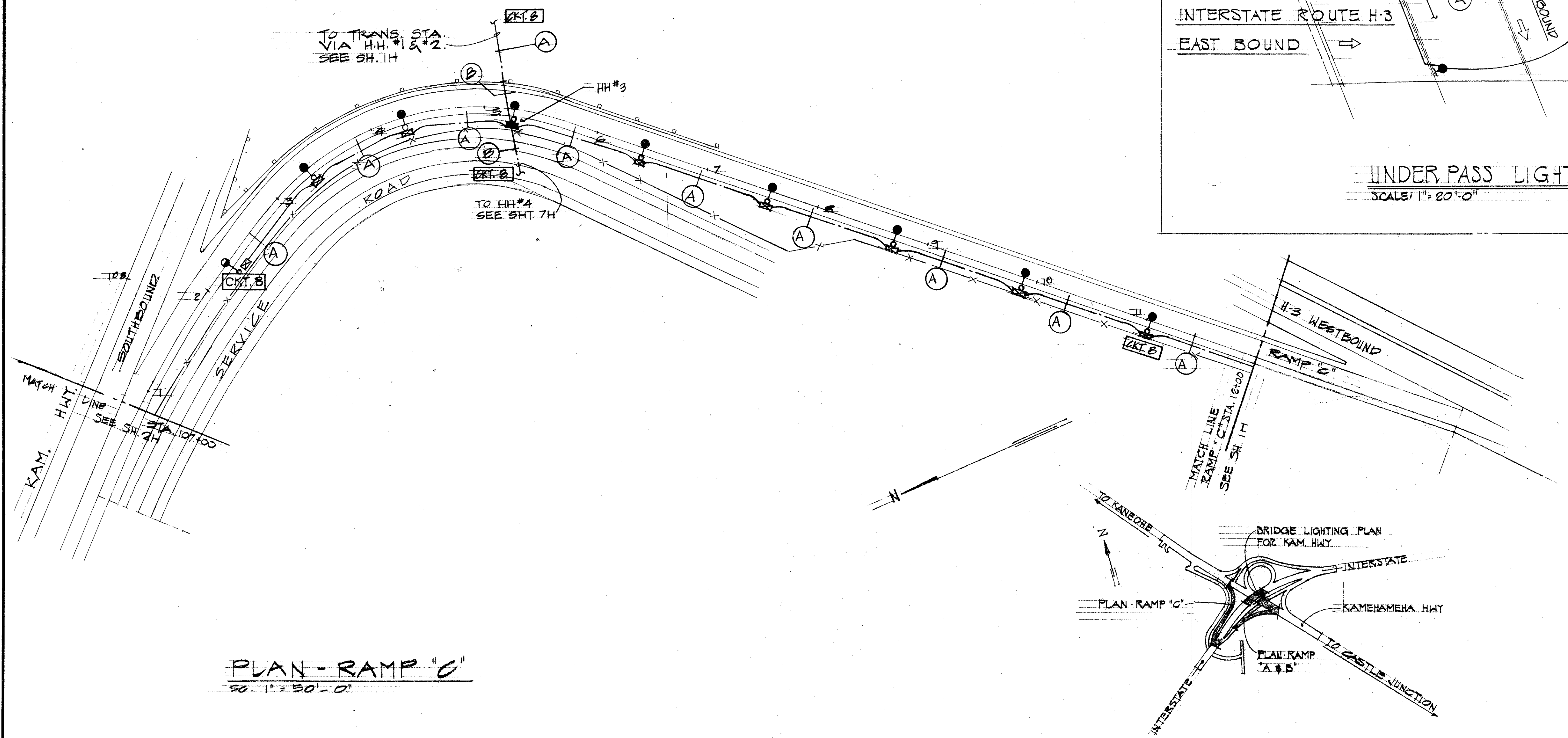
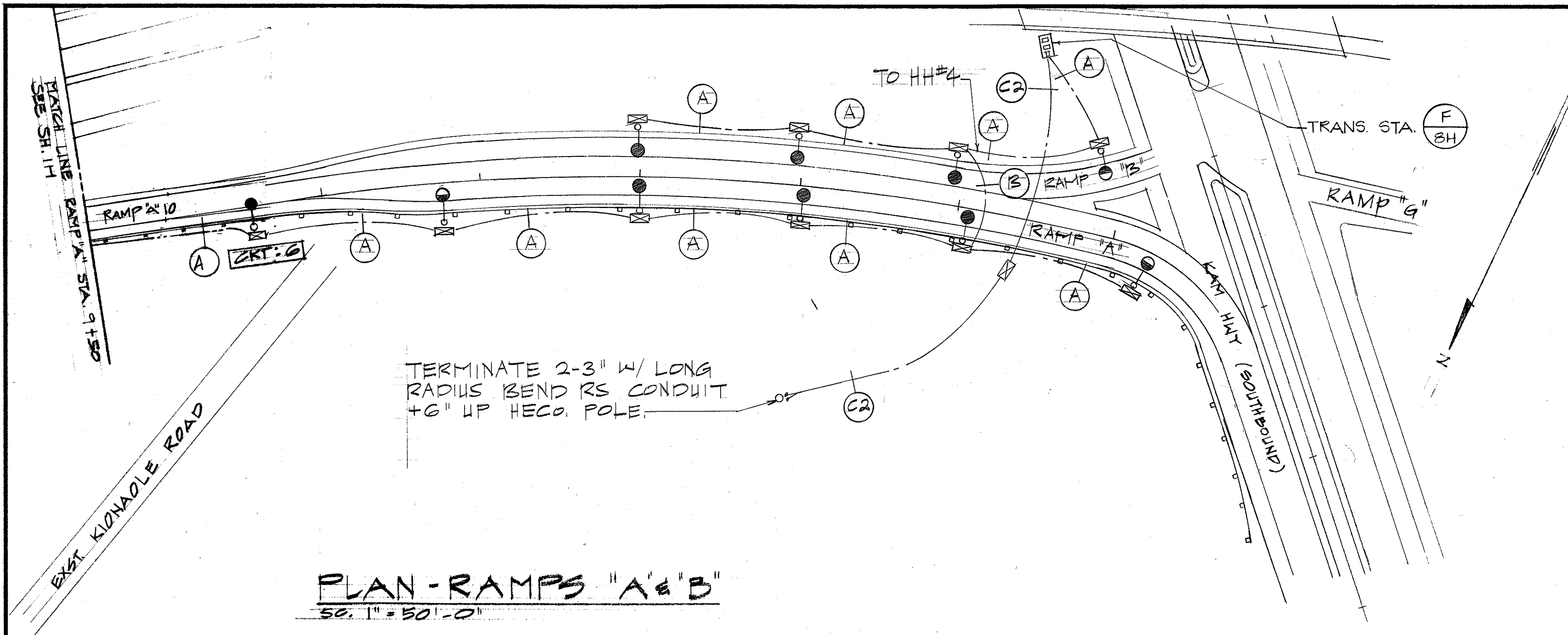
HIGHWAY LIGHTING PLANS
PLAN "CI" - KAM HWY PLAN.
HALEKOLU INTERCHANGE
F.A.I. PROJECT NO. I-H3-1(24)11
SCALE: 1"=50'-0"
DATE: SEPT. 1982

ORIGINAL PLAN	DATE
NO.	
SURVEY PLOTTED BY	
DRAWN BY	
TRACED BY	
CHECKED BY	
NOTED BY	



PLAN "CI" - KAM HWY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H3-1(24):11	1983	158	328



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

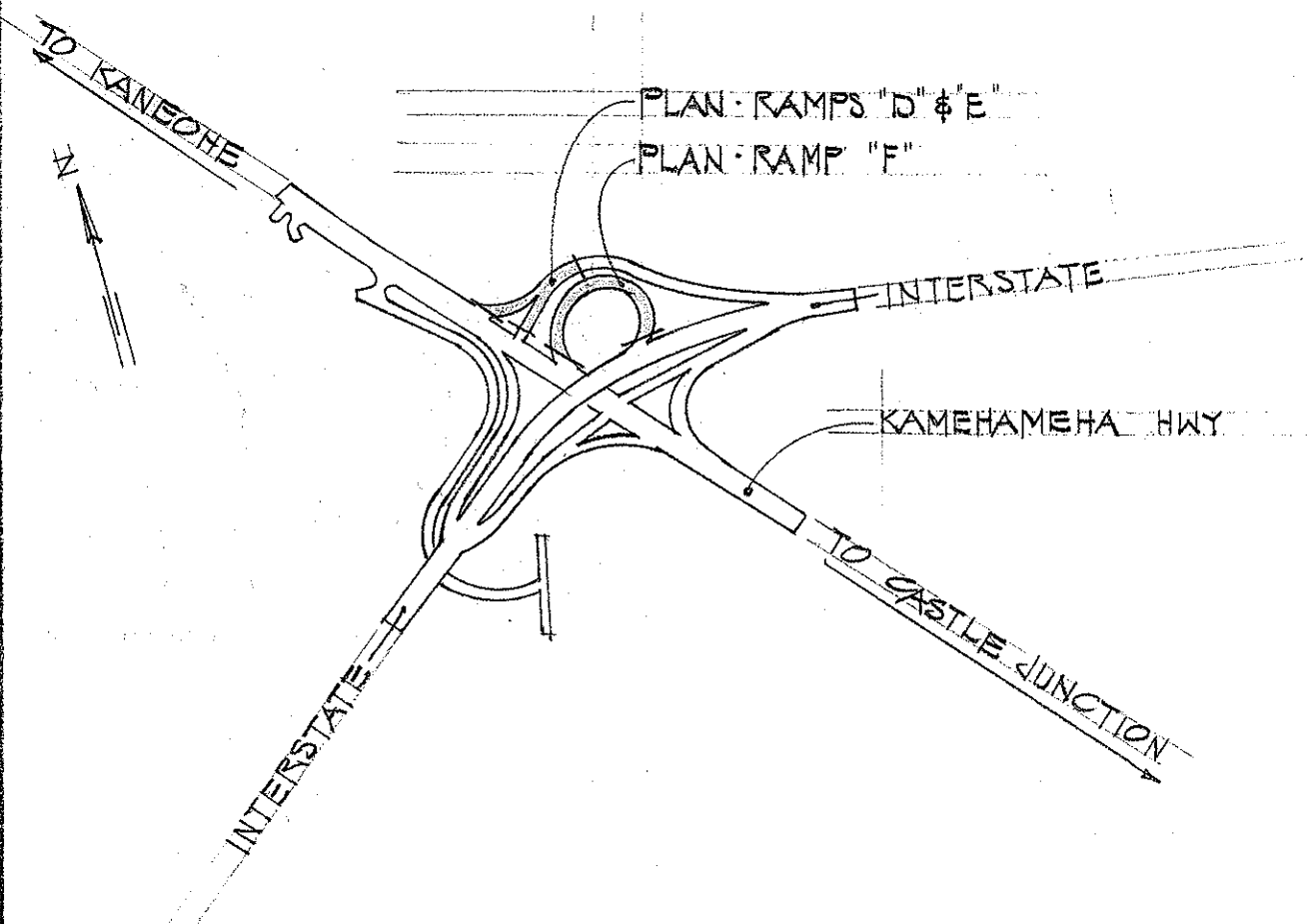
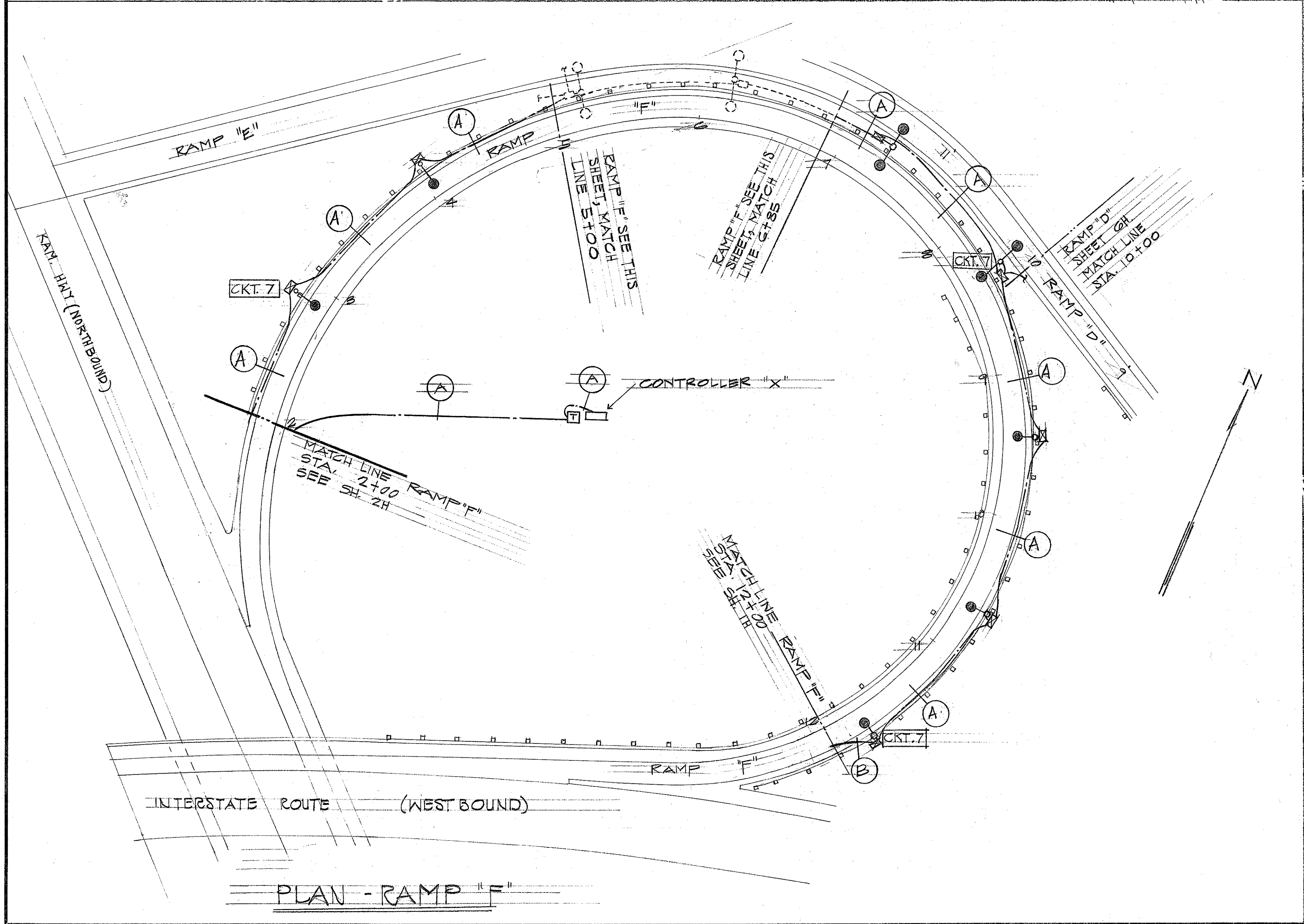
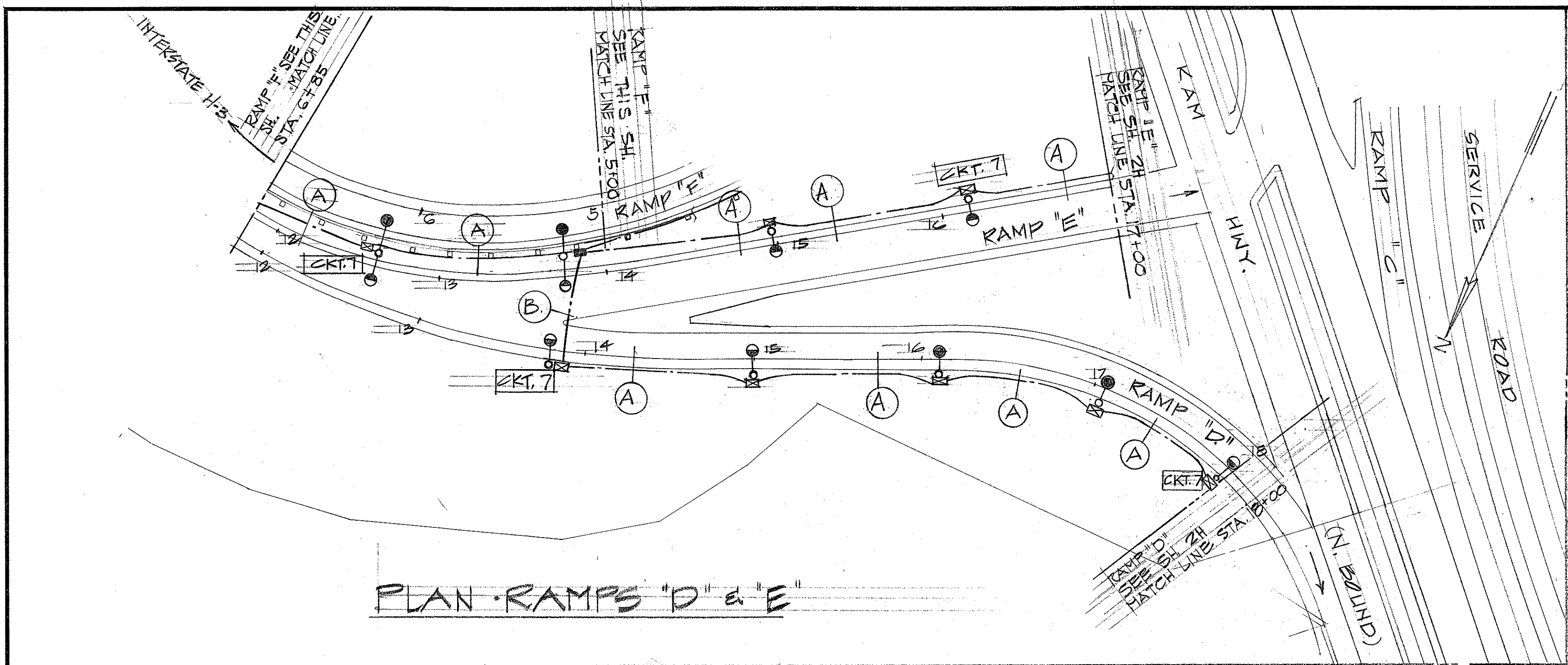
Highway Lighting Plans
PLANS-RAMPS "A, B, & C"

HALEKOLU INTERCHANGE
F.A.I. PROJECT NO. I-H3-1(24):11
SCALE: AS NOTED DATE: Sept. 1982

SHEET No. 4H OF 14 SHEETS E-4

ORIGINAL PLAN	DATE
NOTED BY	
CHECKED BY	
DESIGNED BY	
TRACED BY	
SURVEY PLOTTED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(24):11	1983	159	326



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

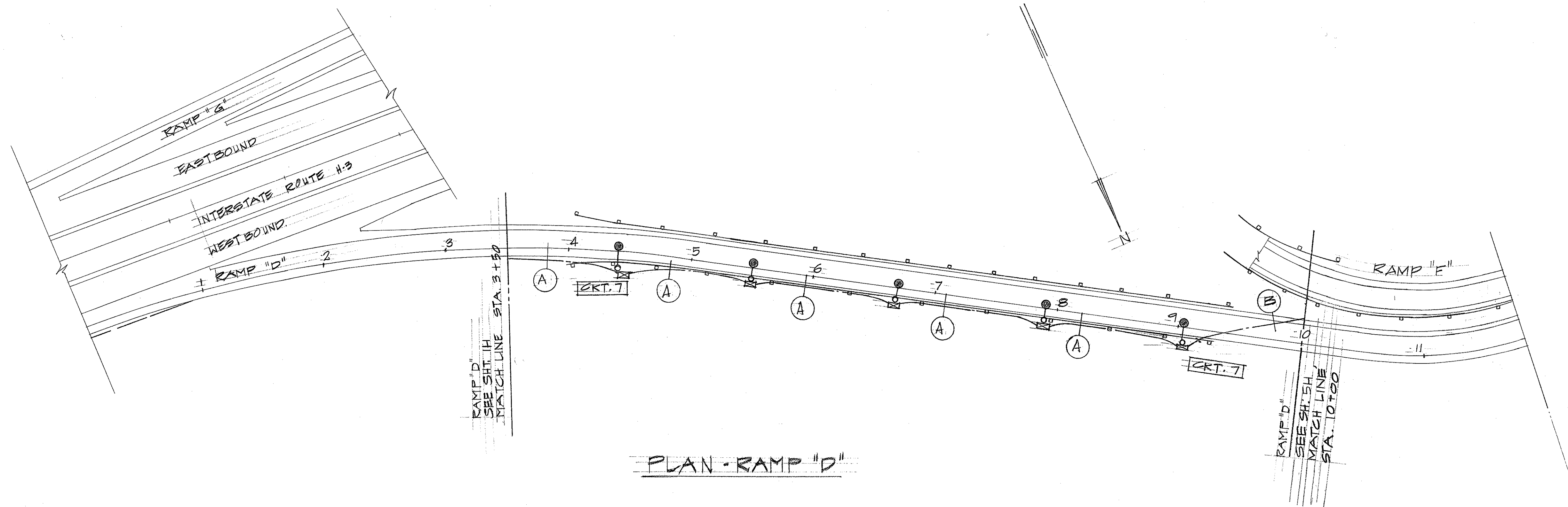
Highway Lighting Plans
Plans - Ramps "D, E & F"

HALEKOU INTERCHANGE
FAT PROJECT NO. I-H3-1(24):11
SCALE: 1" = 50'-0"
DATE: Sept. 1982

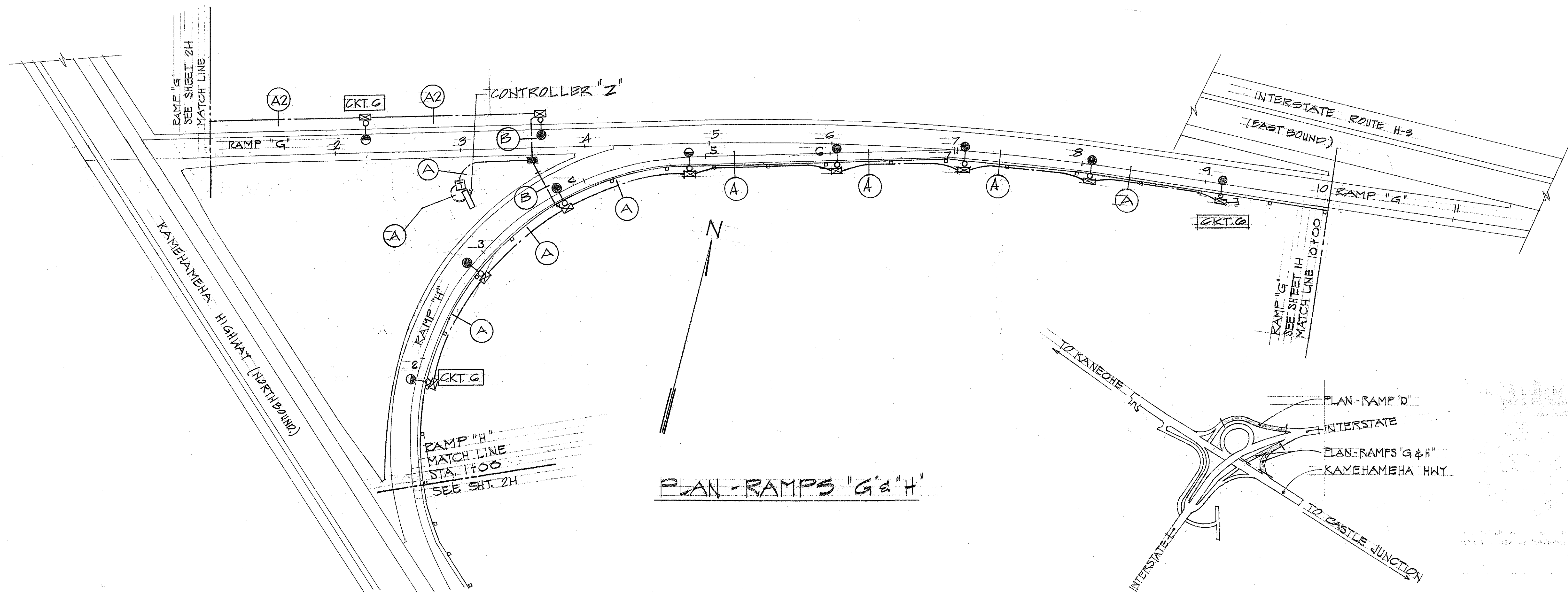
SHEET No. 54 OF 14 SHEETS E-5

DATE	_____
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DRAWN BY	_____
TRACED BY	_____
CHECKED BY	_____
NOTE BOOK	_____
No.	_____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HA-1(24)-11	1983	160	328



PLAN - RAMP "D"



PLAN - RAMPS "G" & "H"

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

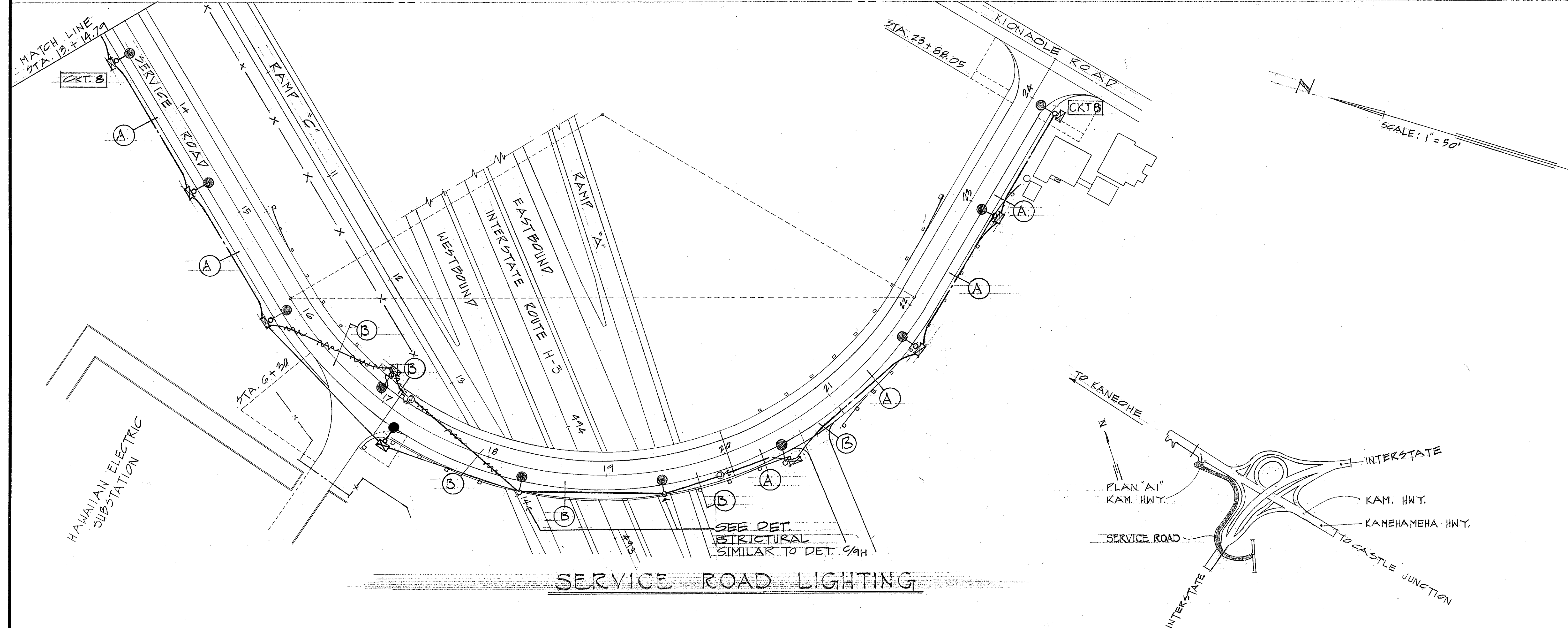
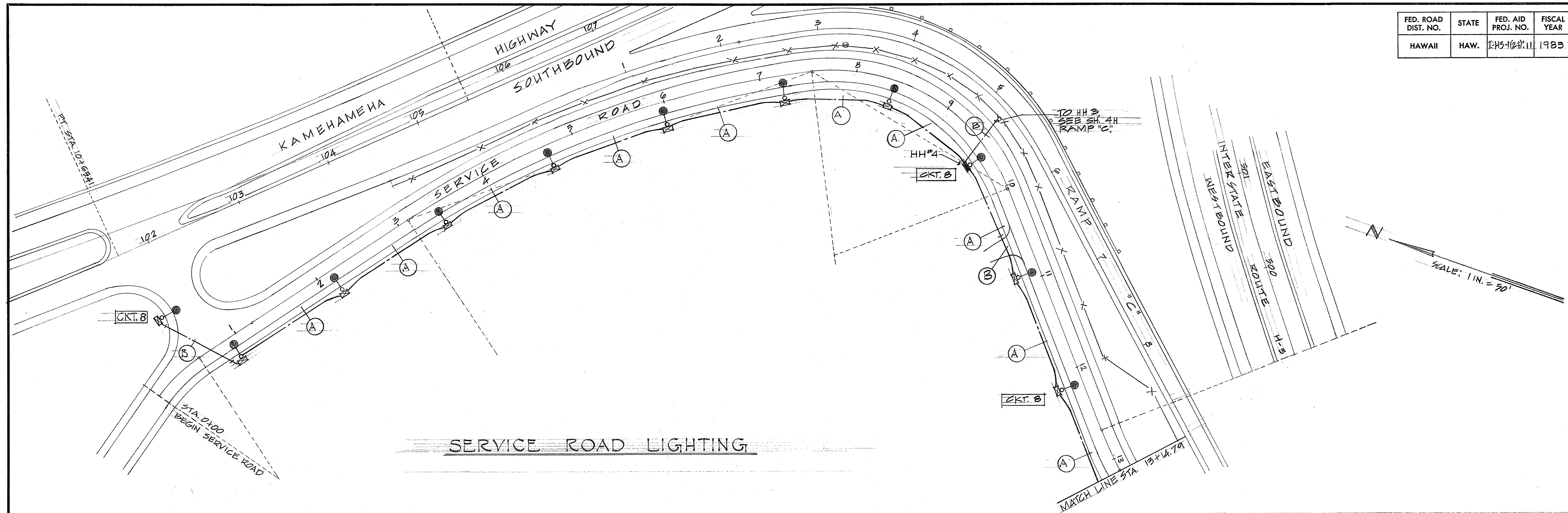
Highway Lighting Plans
Plans - Ramps "D, G & H"

HALEKOU INTERCHANGE
F.A.I. PROJECT NO. I-H-3.1(24)-11

SCALE: 1" = 50' 0" DATE: Sept. 1982

SHEET No. 64 OF 14 SHEETS E-G

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1H3-1(24)-11	1983	161	328



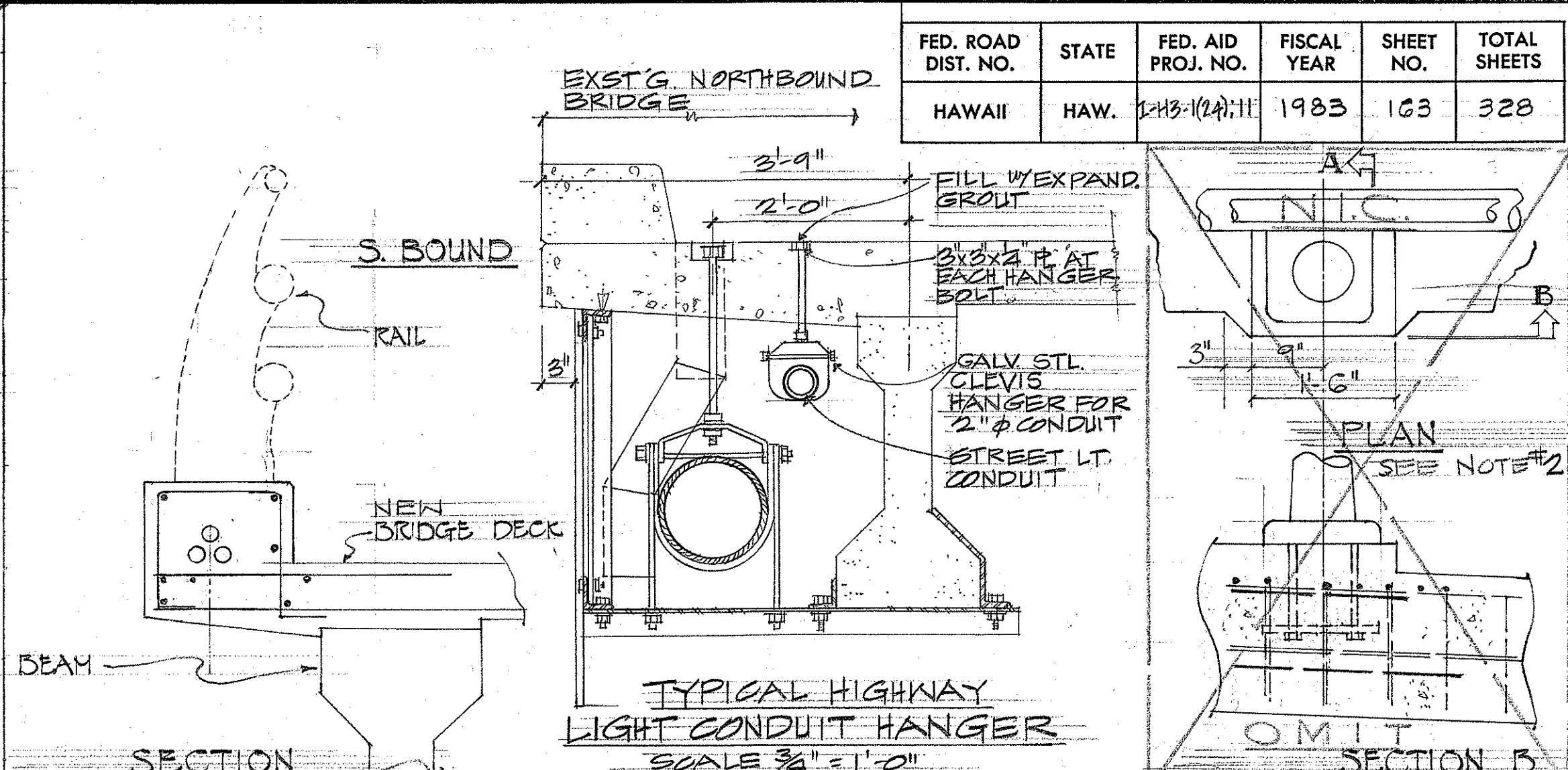
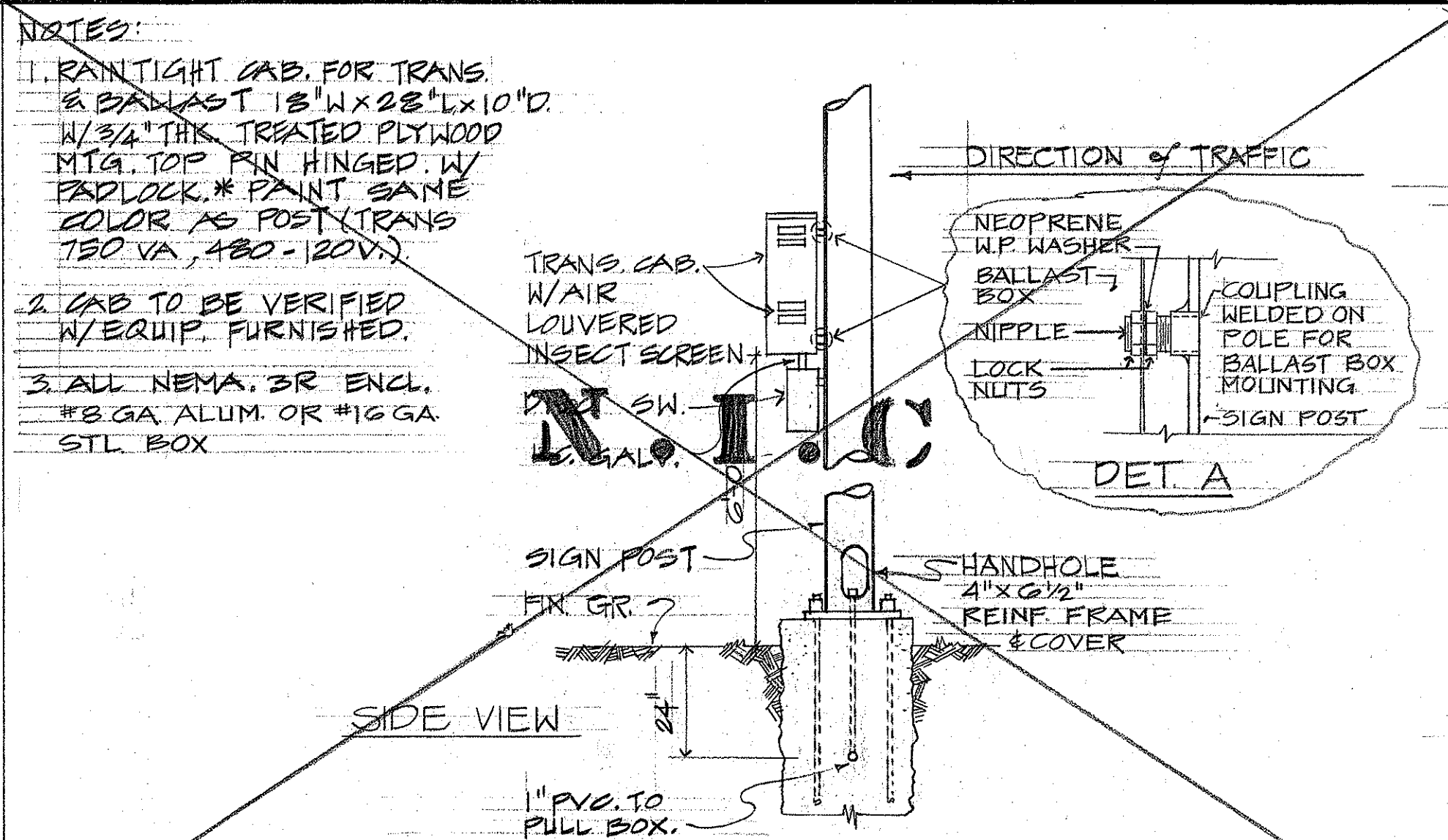
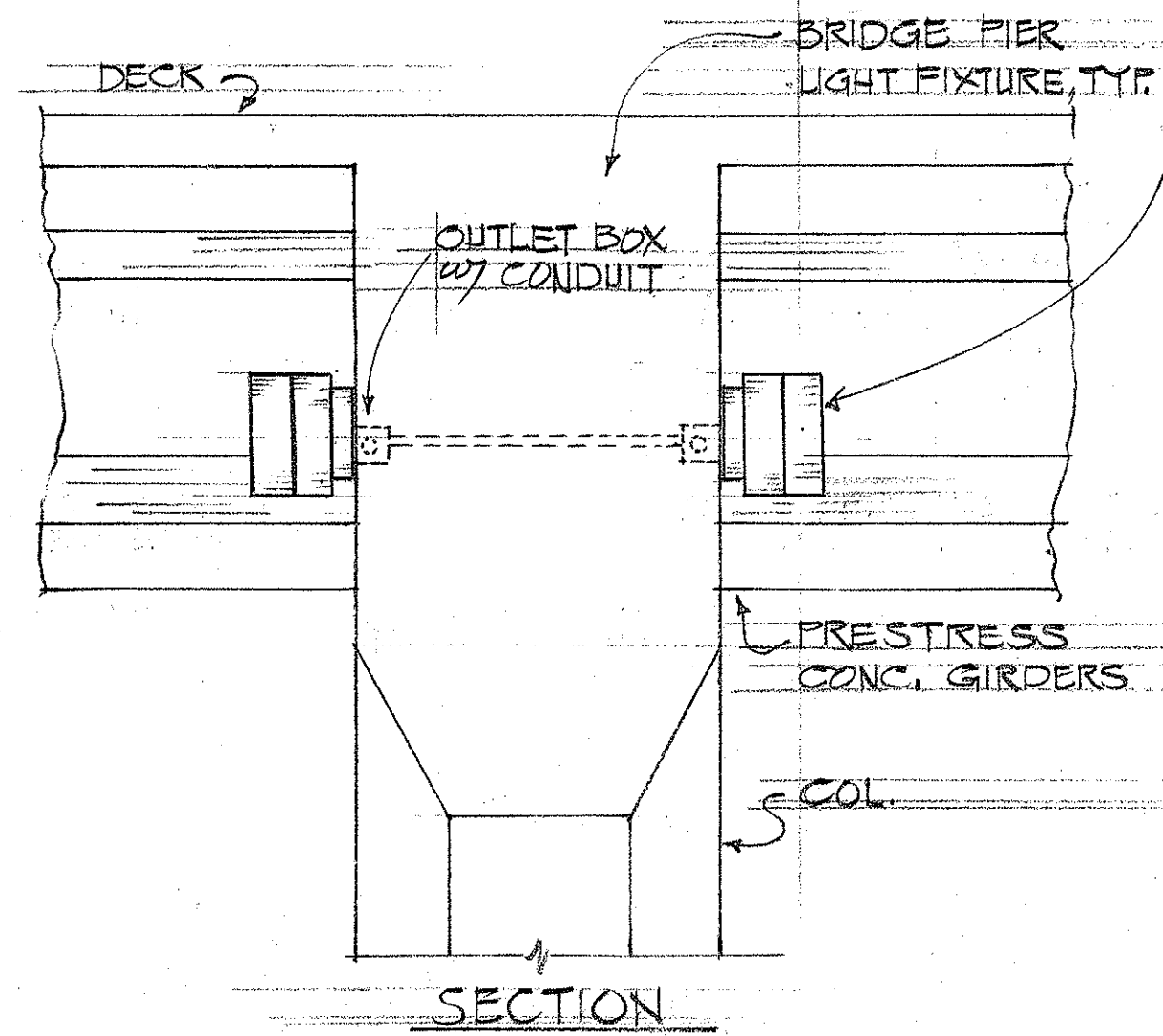
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DRAWN BY	_____
TRACED BY	_____
NOTED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAY LIGHTING PLANS
SERVICE ROAD LIGHTING
HALEKOU INTERCHANGE
FAT PROJECT NO. I-H3-1(24)-11
SCALE: 1"=50'-0" DATE: Sept. 1982

SHEET No. 74 OF 14 SHEETS E-7

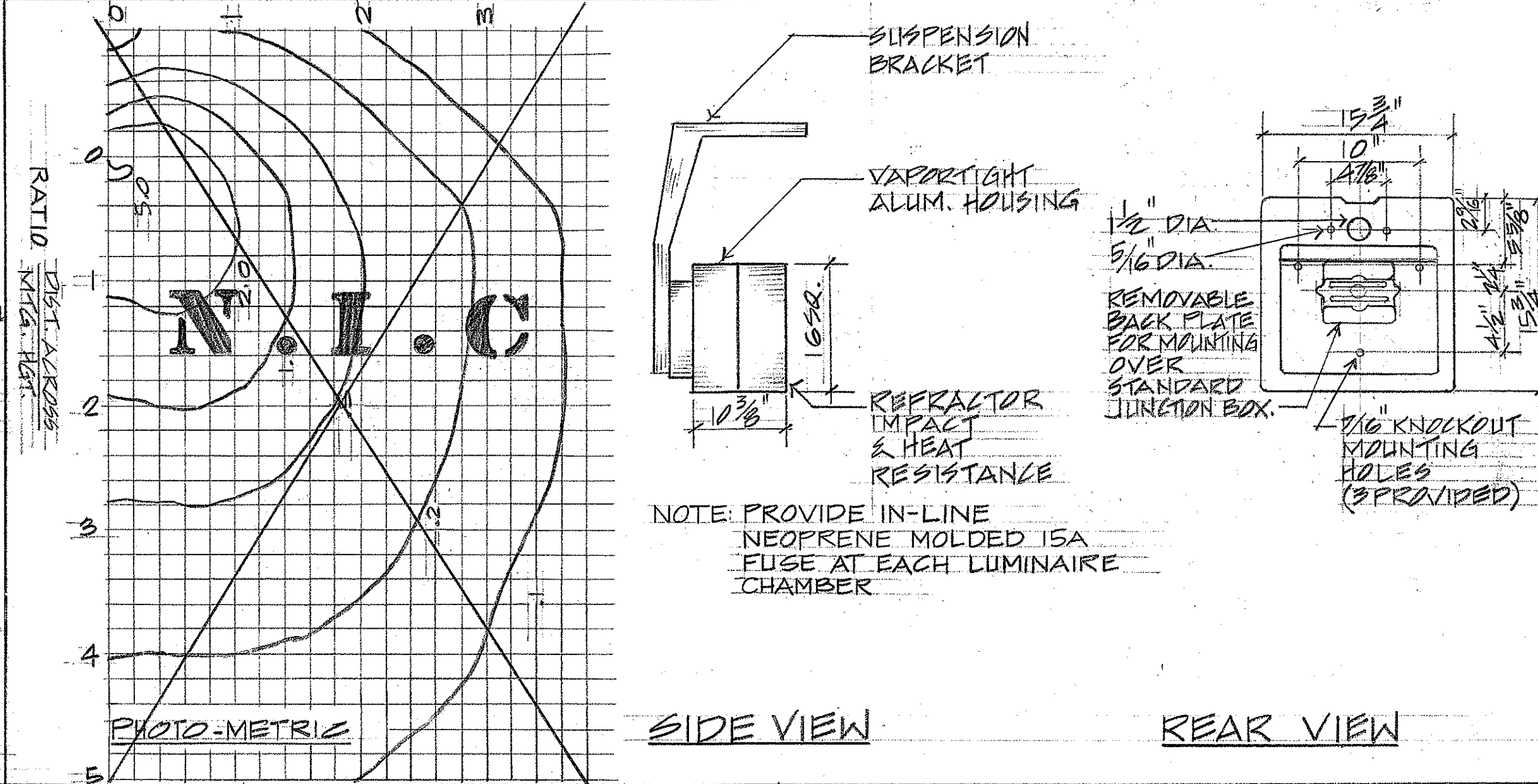
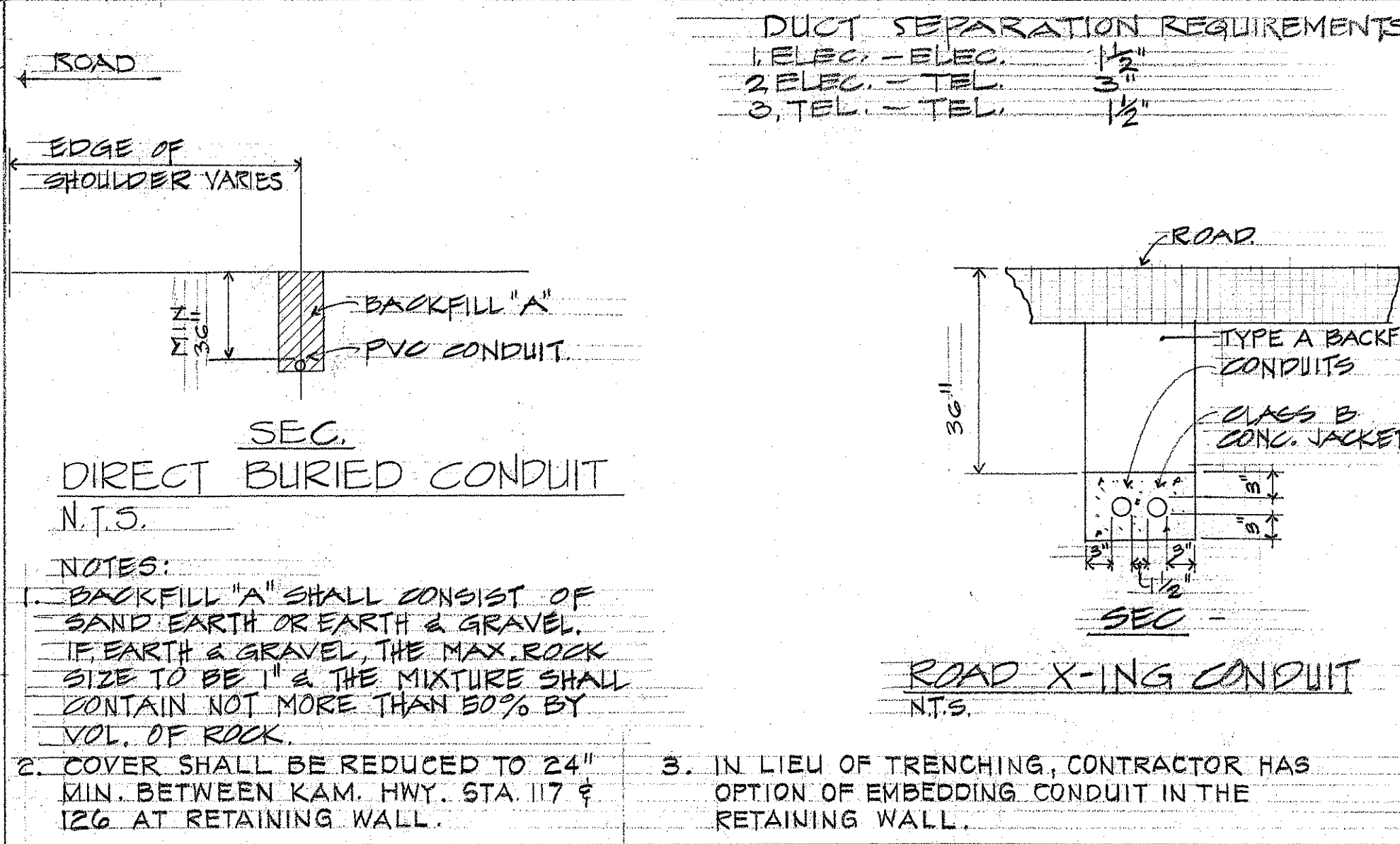
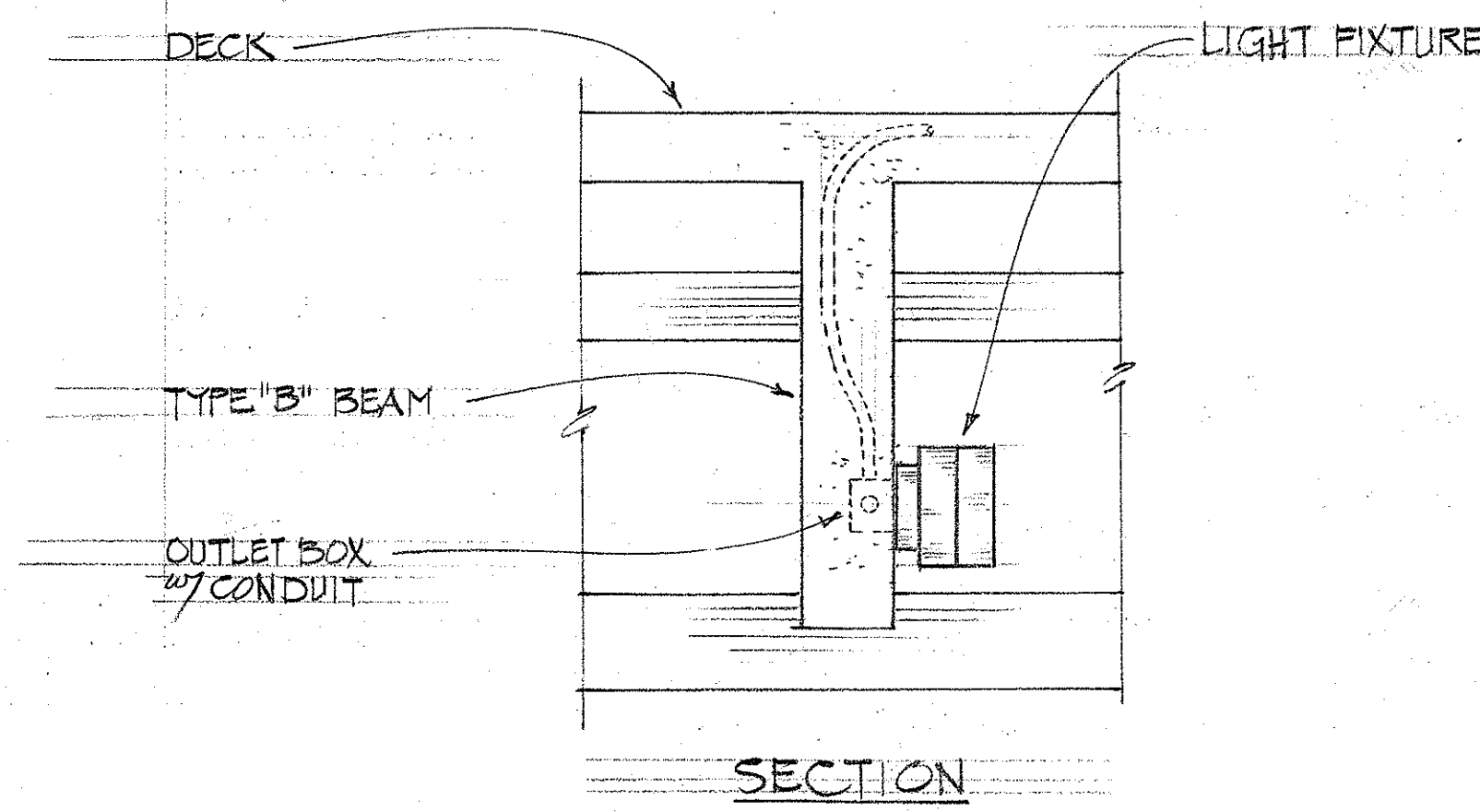
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	143-124-11	1983	163	328



A
9H
UNDERPASS FIXTURE MOUNTING at PIER
SCALE: 1/2" = 1'-0"

D
9H
TYPE "E" SIGN SERVICE EQUIPMENT DETAILS
N.T.S.

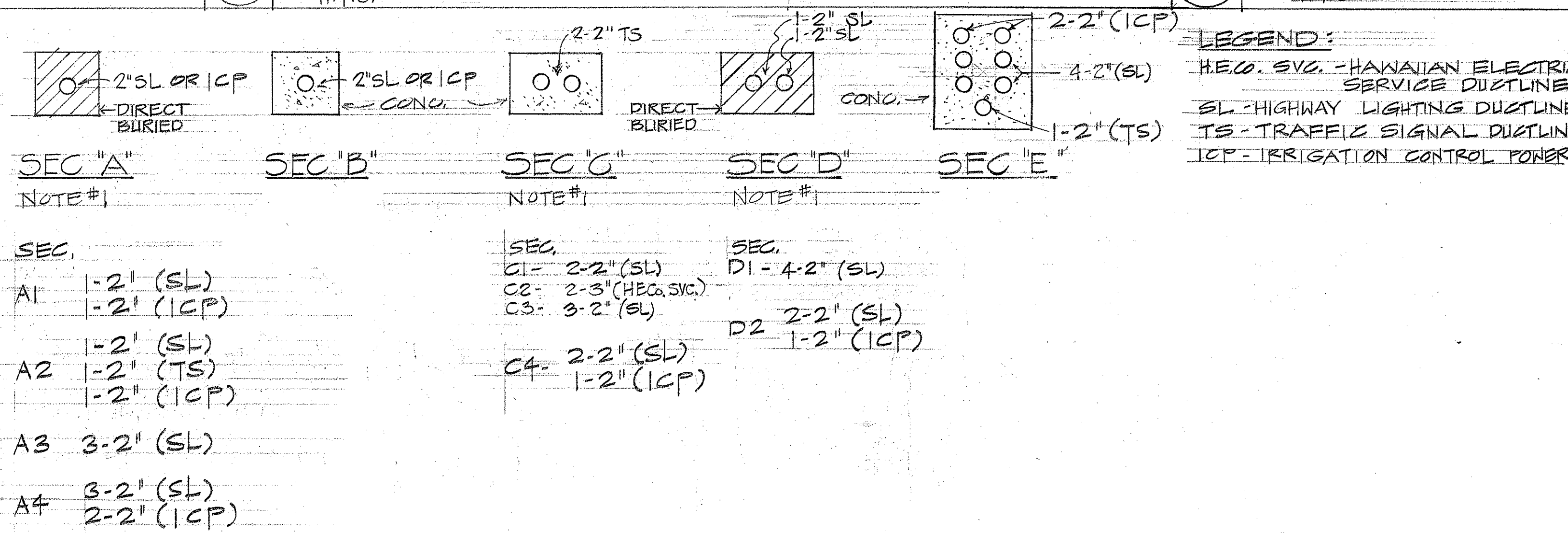
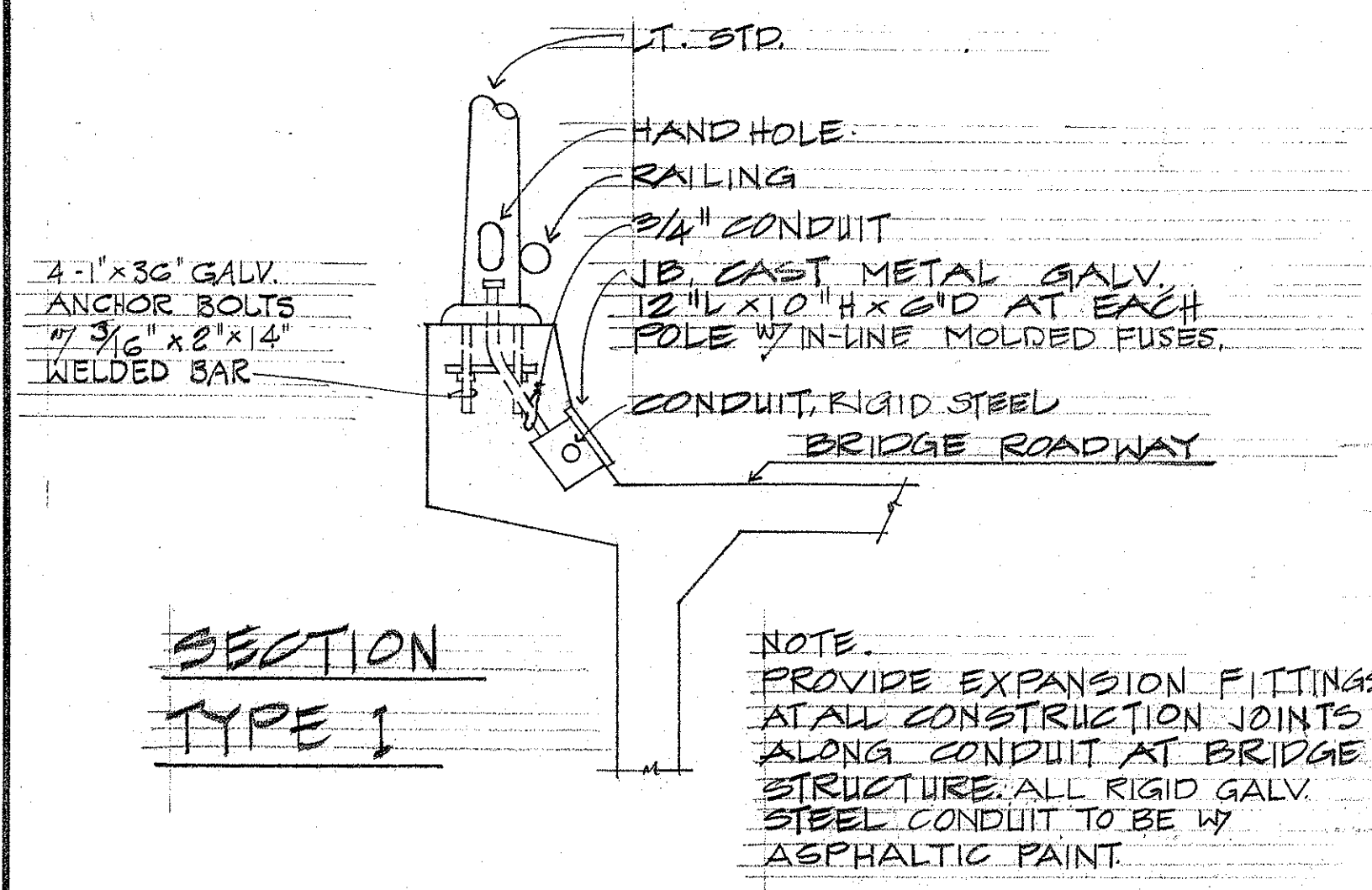
H
9H
STREET LIGHT at KAMOOALII STREAM BRIDGES
SCALE: 3/4" = 1'-0"



B
9H
UNDERPASS FIXTURE MOUNTING at BEAM "B"
SCALE: 3/4" = 1'-0"

E
9H
TYPICAL RACEWAY DETAILS
N.T.S.

G
9H
UNDERPASS FIXTURE DETAIL
N.T.S.



NOTE:
1. DUCT SEC. THE FOLLOWING DUCT SECTIONS ARE SIMILAR W/ EXCEPTIONS AS NOTED.
2. FOR HIGHWAY LIGHT STD. AT BRIDGE RAILING, SEE STATE HWY STD. DWG. DB-203-1 DET 5.

C
9H
STREET LIGHT POLE at BRIDGES No 1 & 2
SCALE: 3/4" = 1'-0"

F
9H
DUCT SECTION DETAILS
N.T.S.

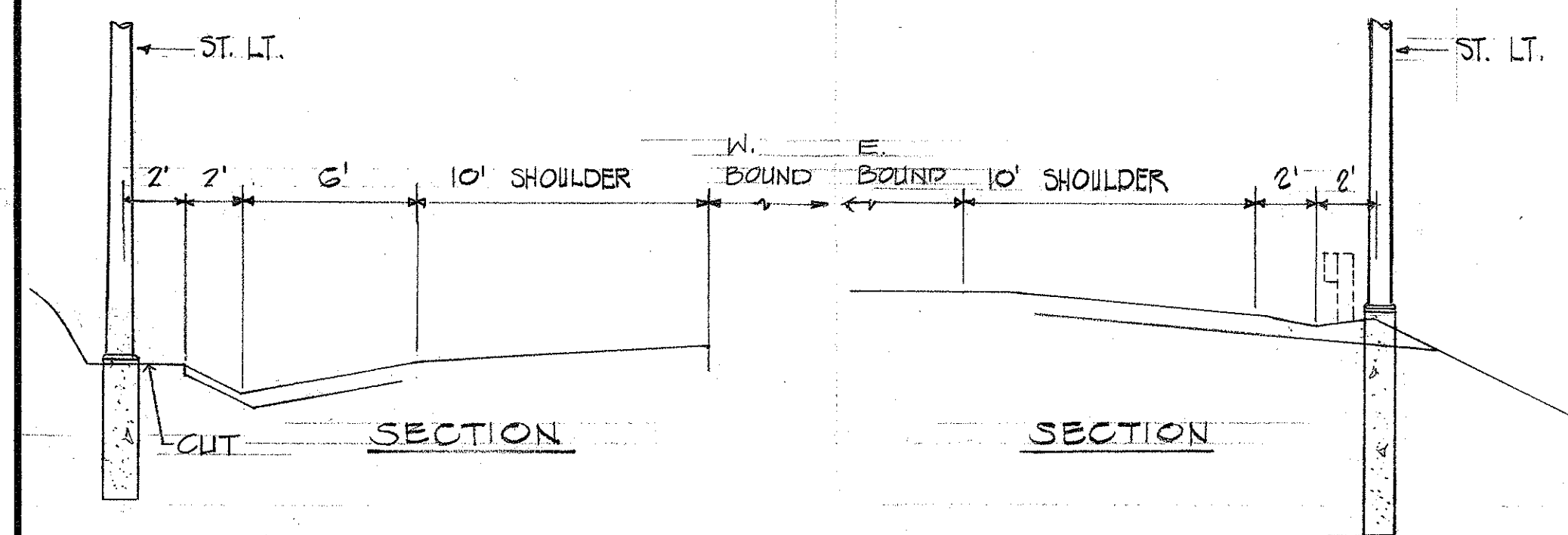
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Highway Lighting Plans

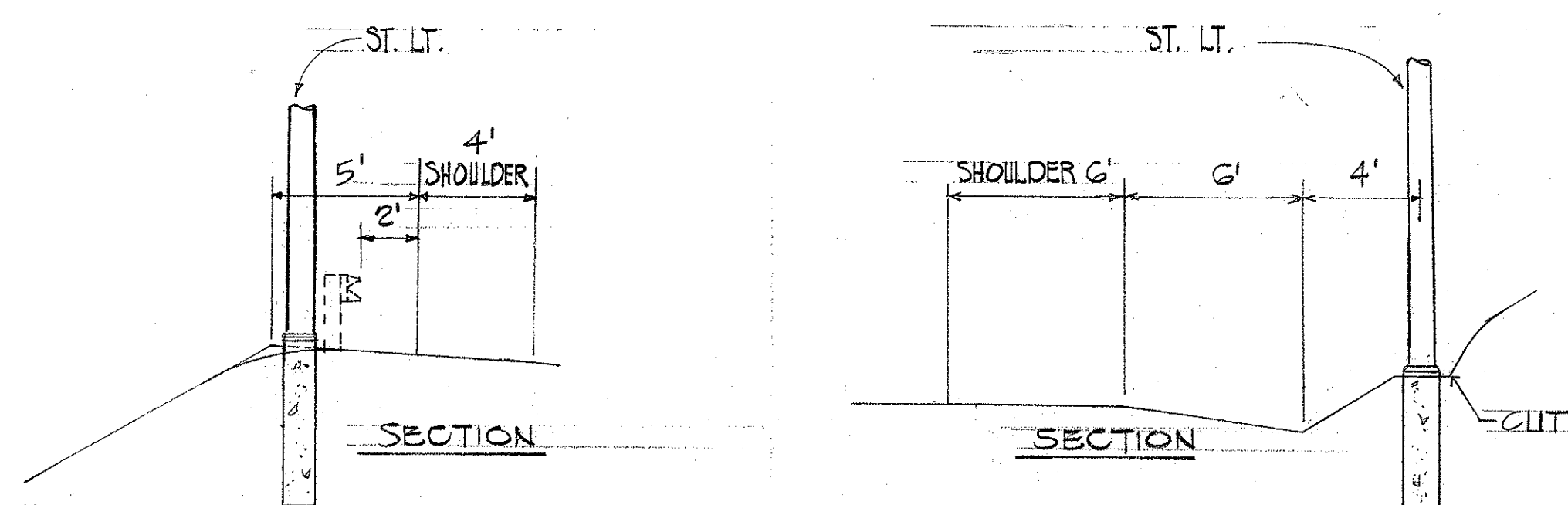
ELECTRICAL DETAILS

HALEKOU INTERCHANGE
FAI PROJECT NO. I-43-124-11
SCALE: AS NOTED DATE: SEPT. 1982

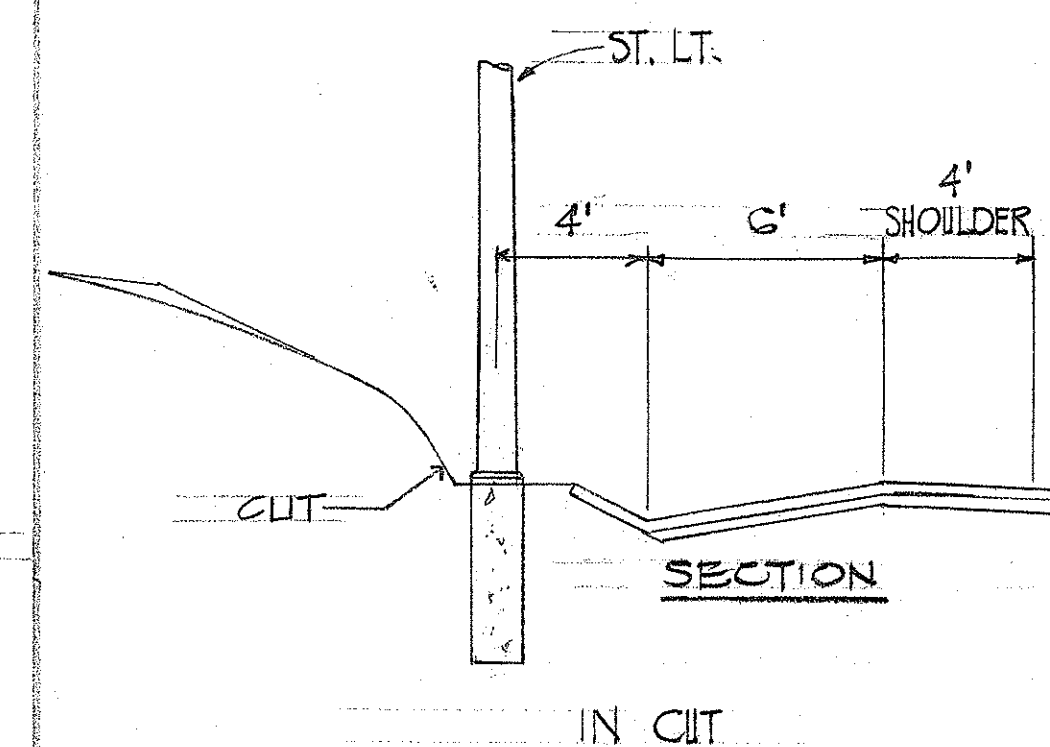
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	143-1(24):11	1983	104	328



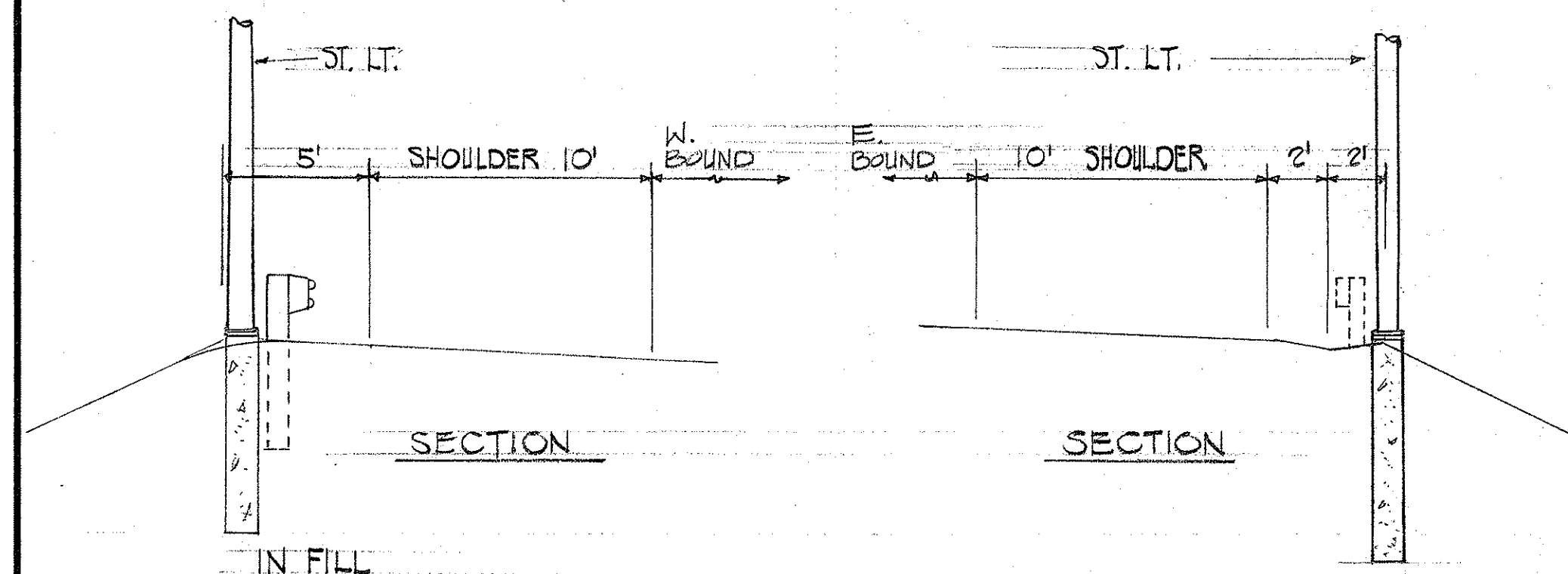
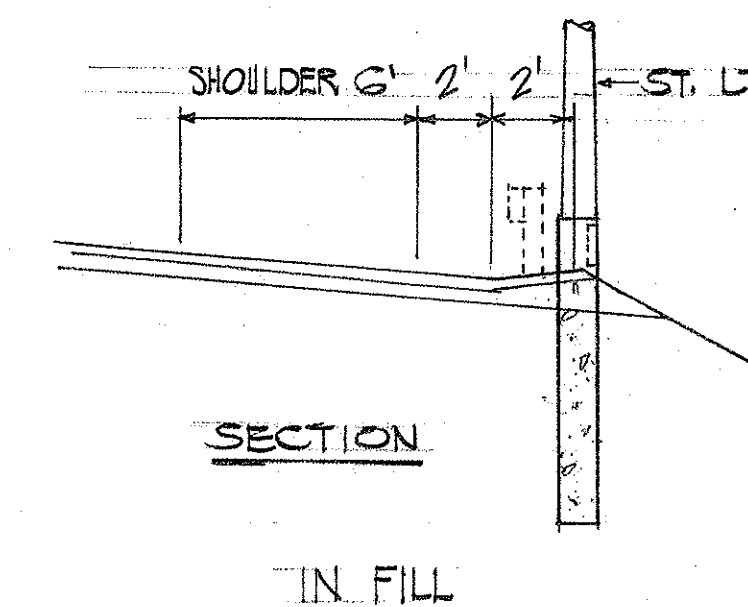
INTERSTATE ROUTE H-3



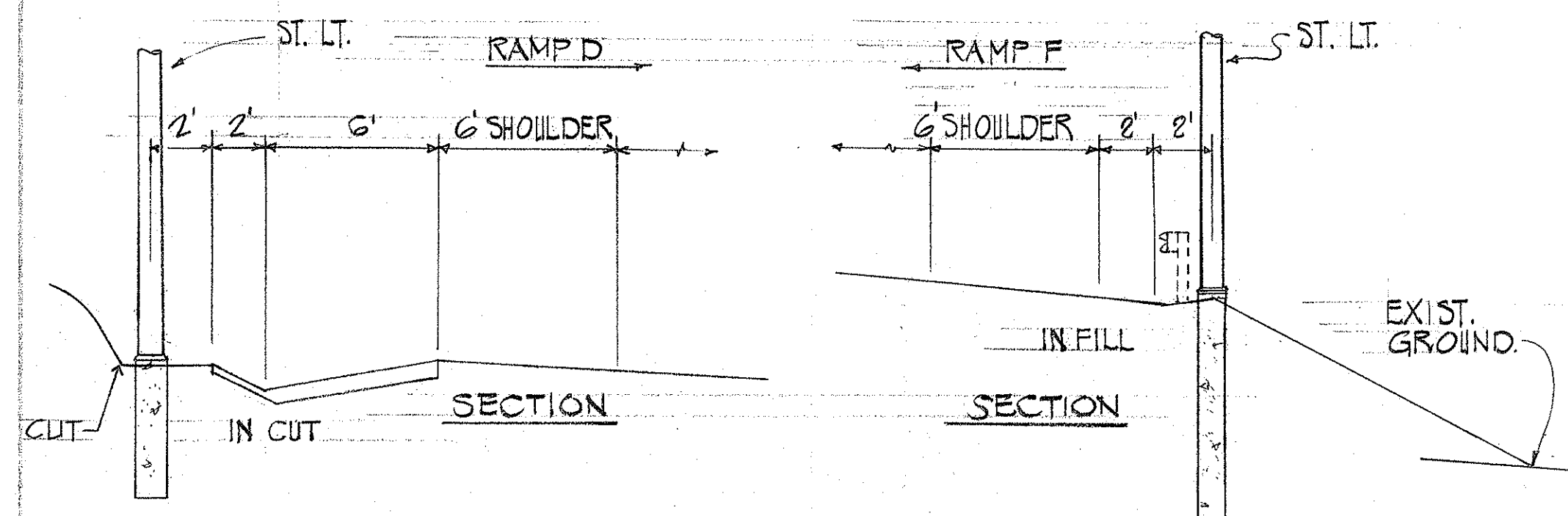
TYPICAL RAMP



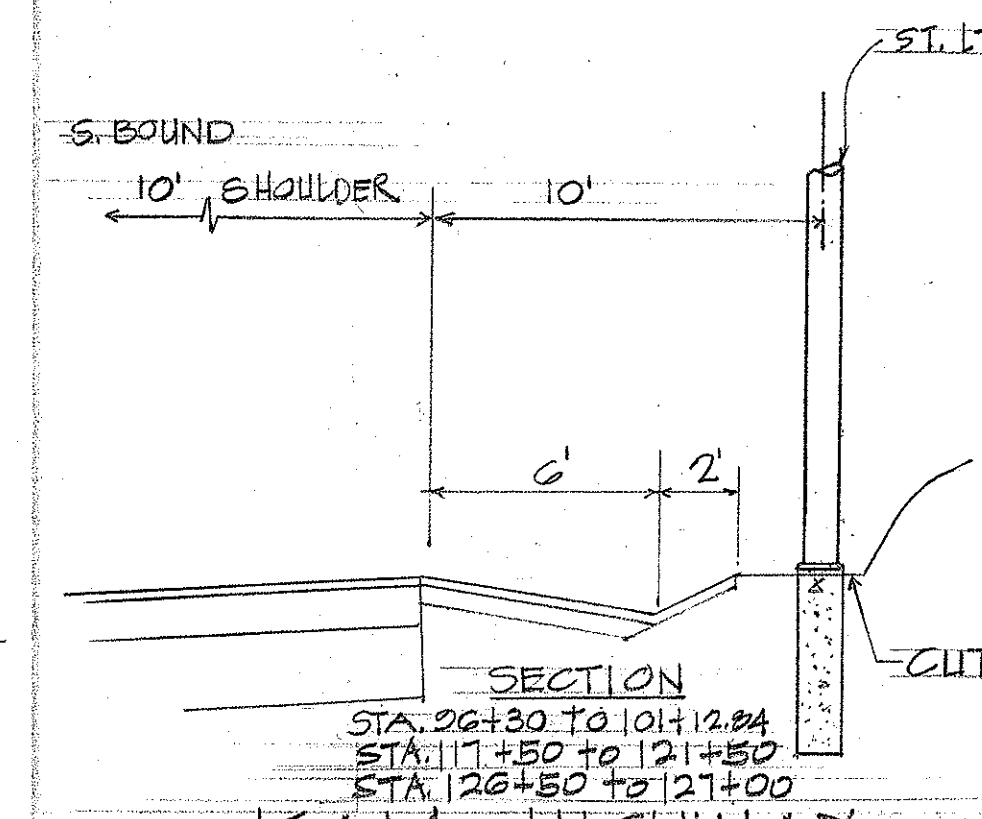
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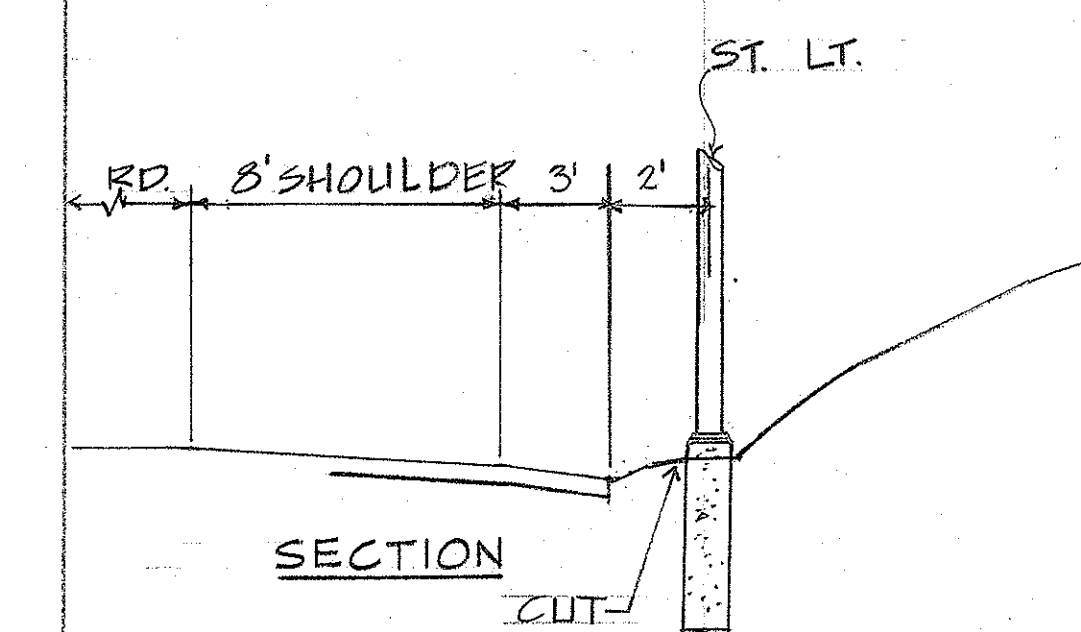
INTERSTATE ROUTE H-3



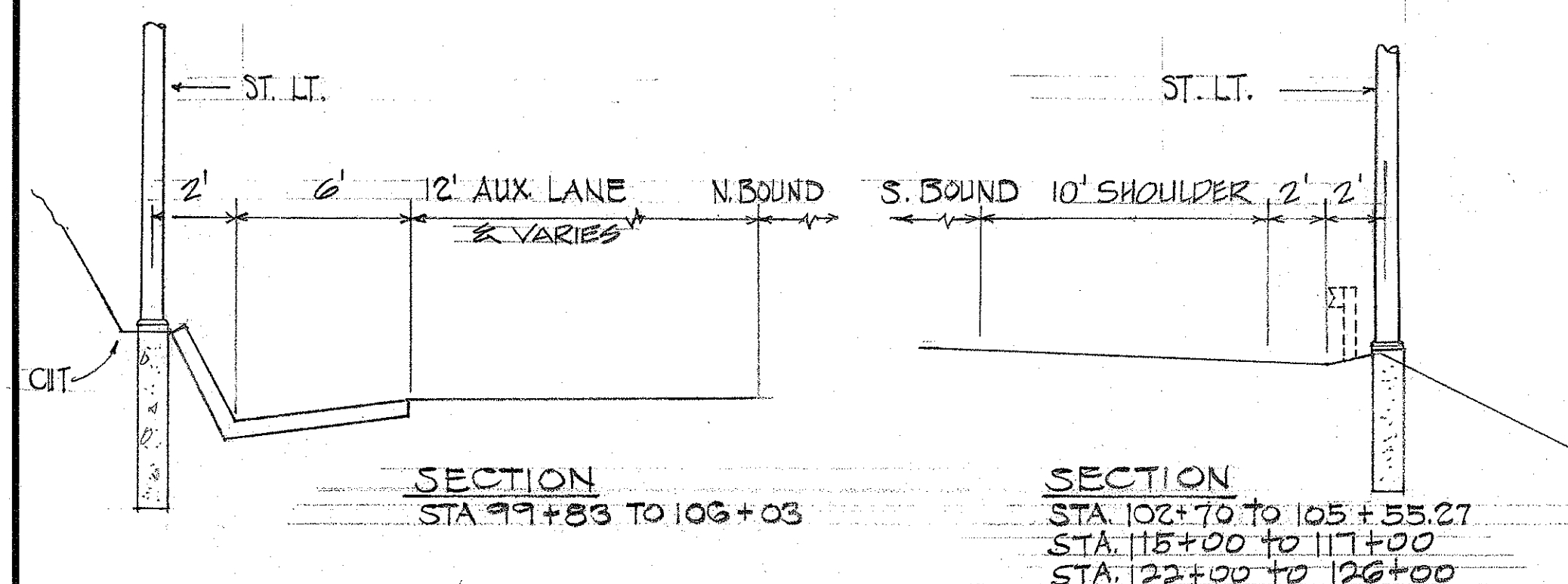
TYPICAL RAMP D & E



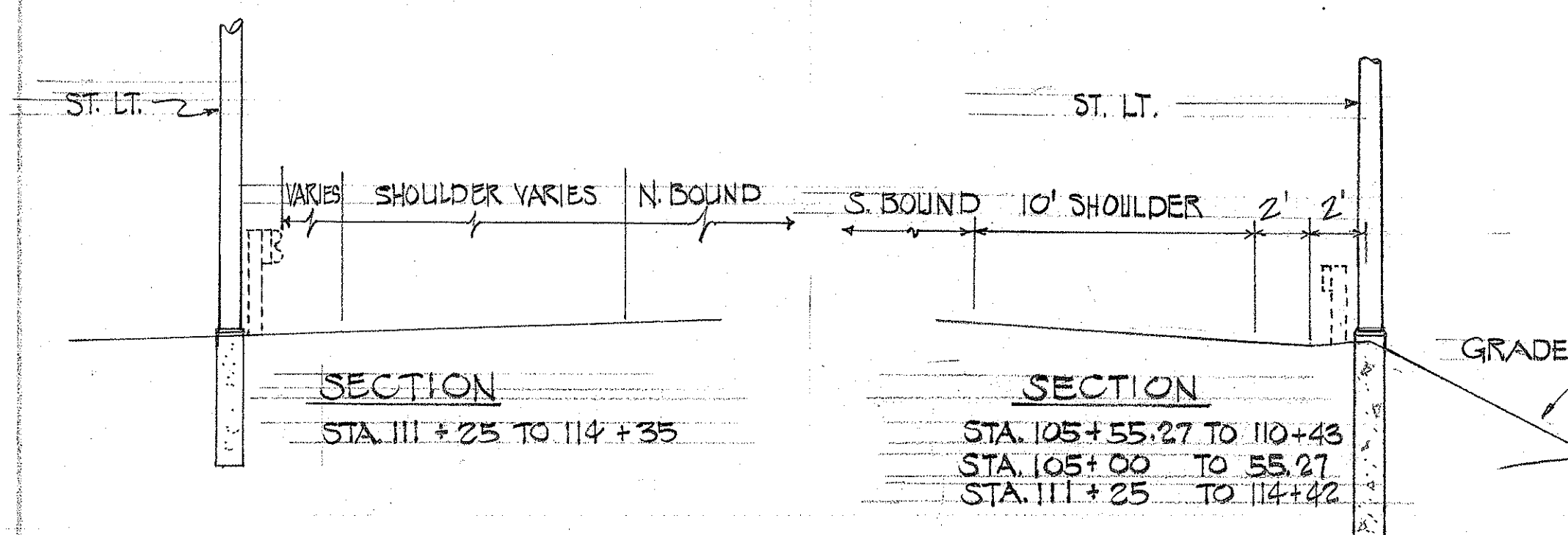
KAM HWY



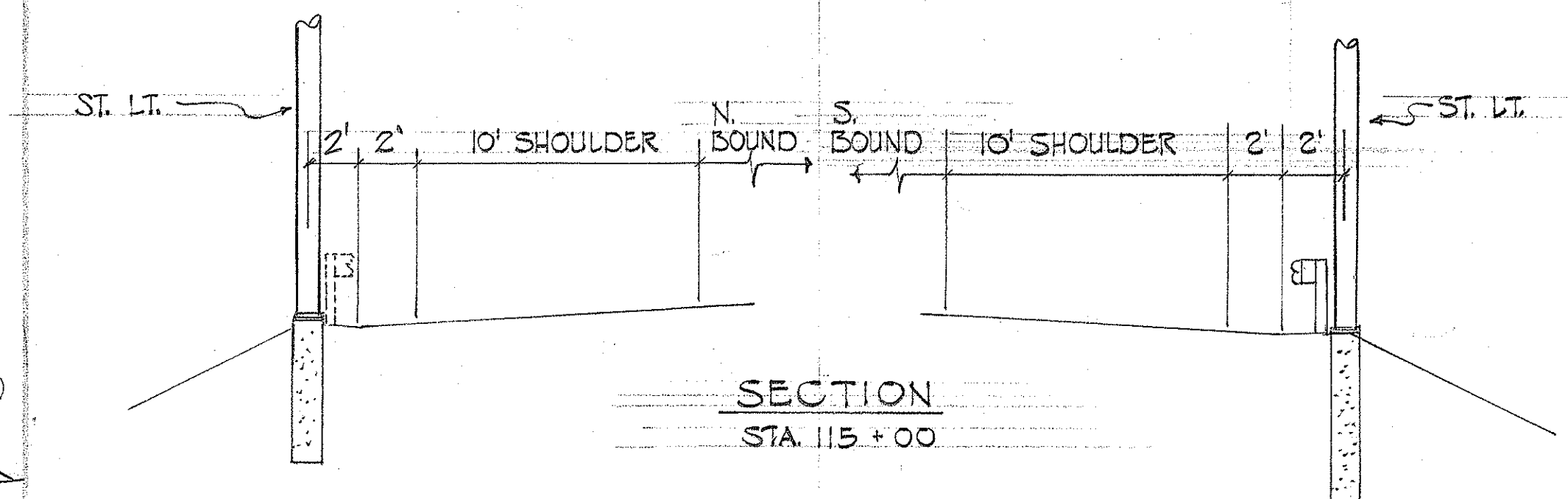
SERVICE ROAD



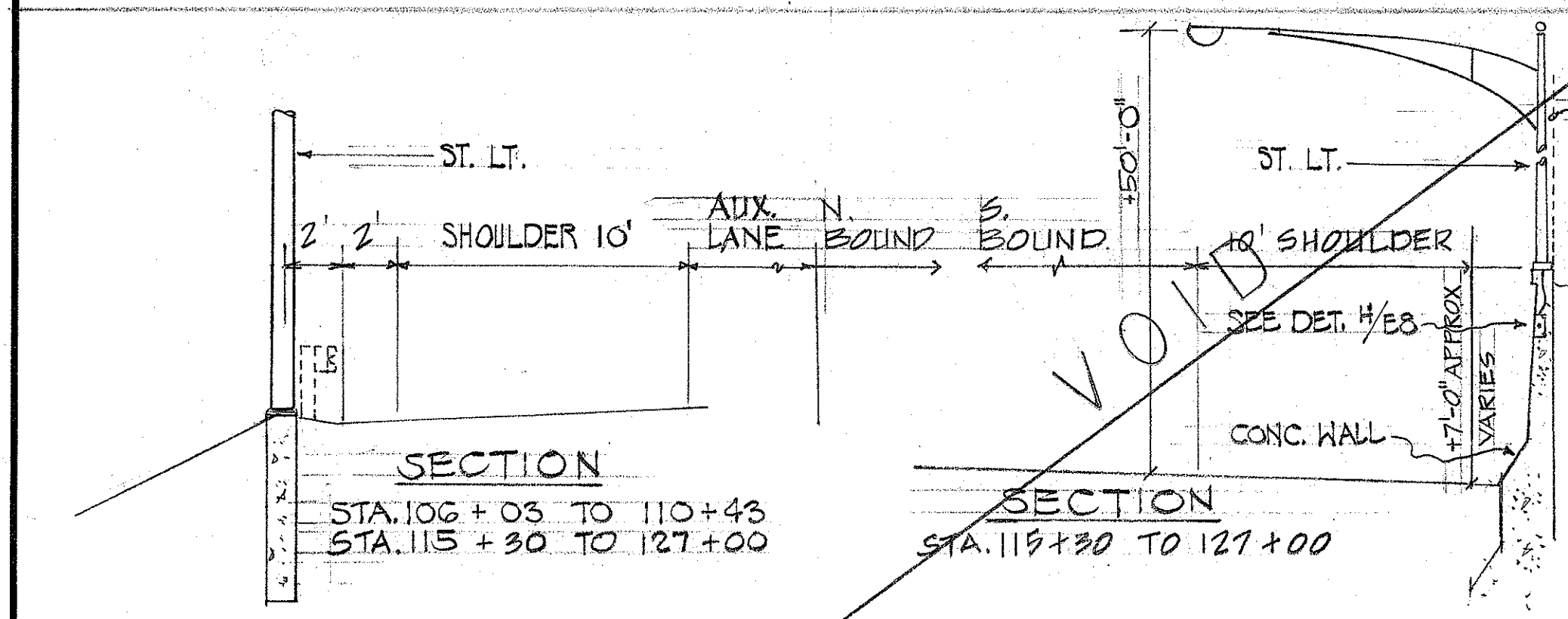
KAM HWY



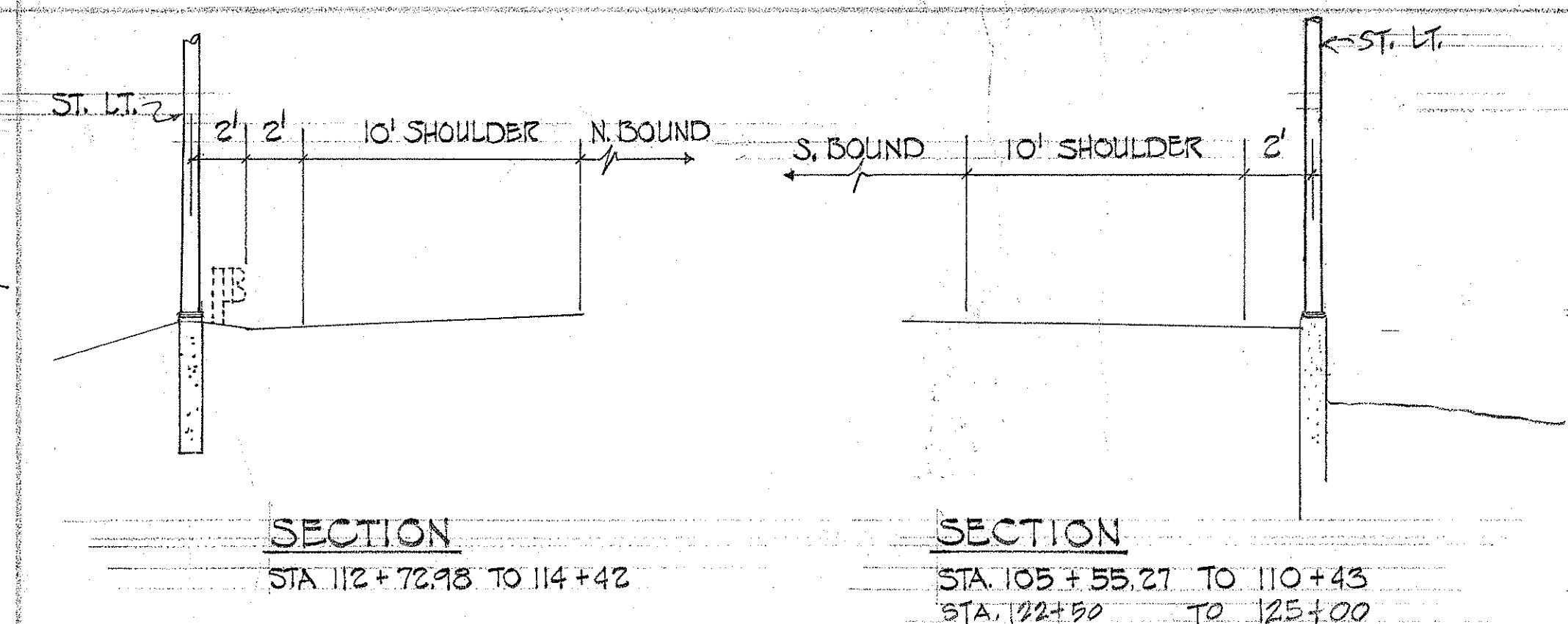
KAM HWY



KAM HWY



KAM HWY



KAM HWY

LEGEND:
N NORTH
S SOUTH
W WEST
E EAST
ST. LT. HIGHWAY LIGHT

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

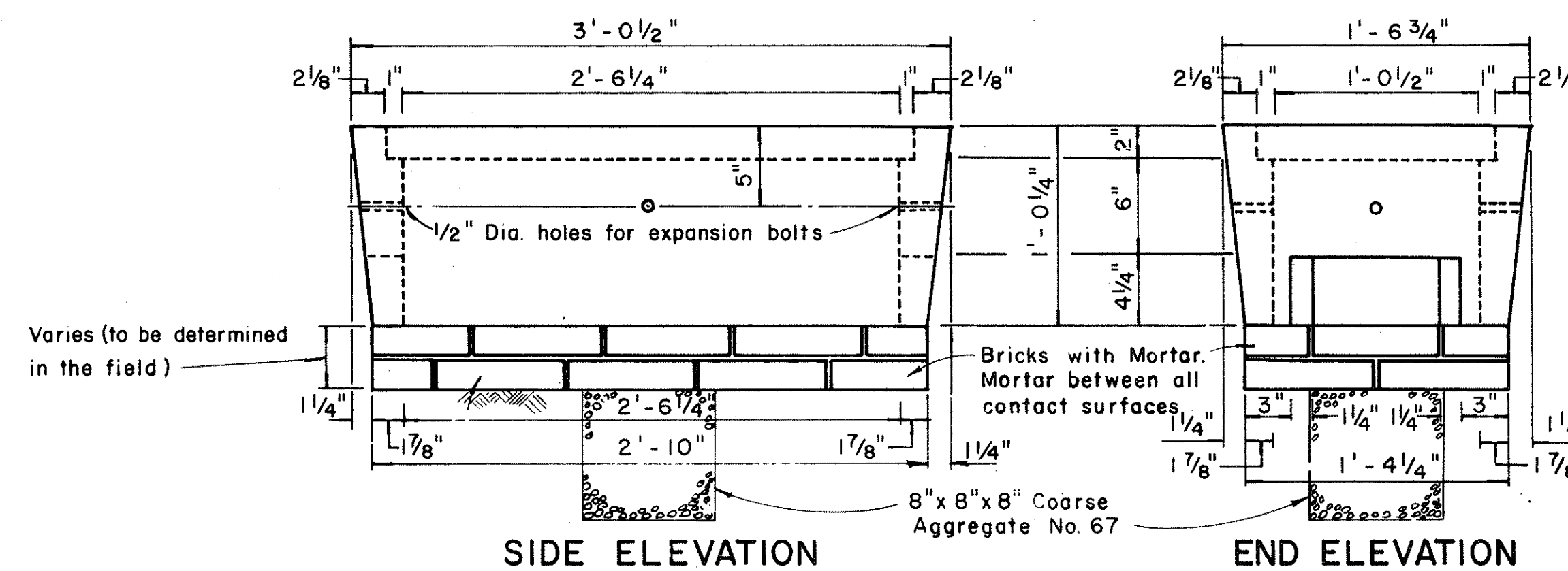
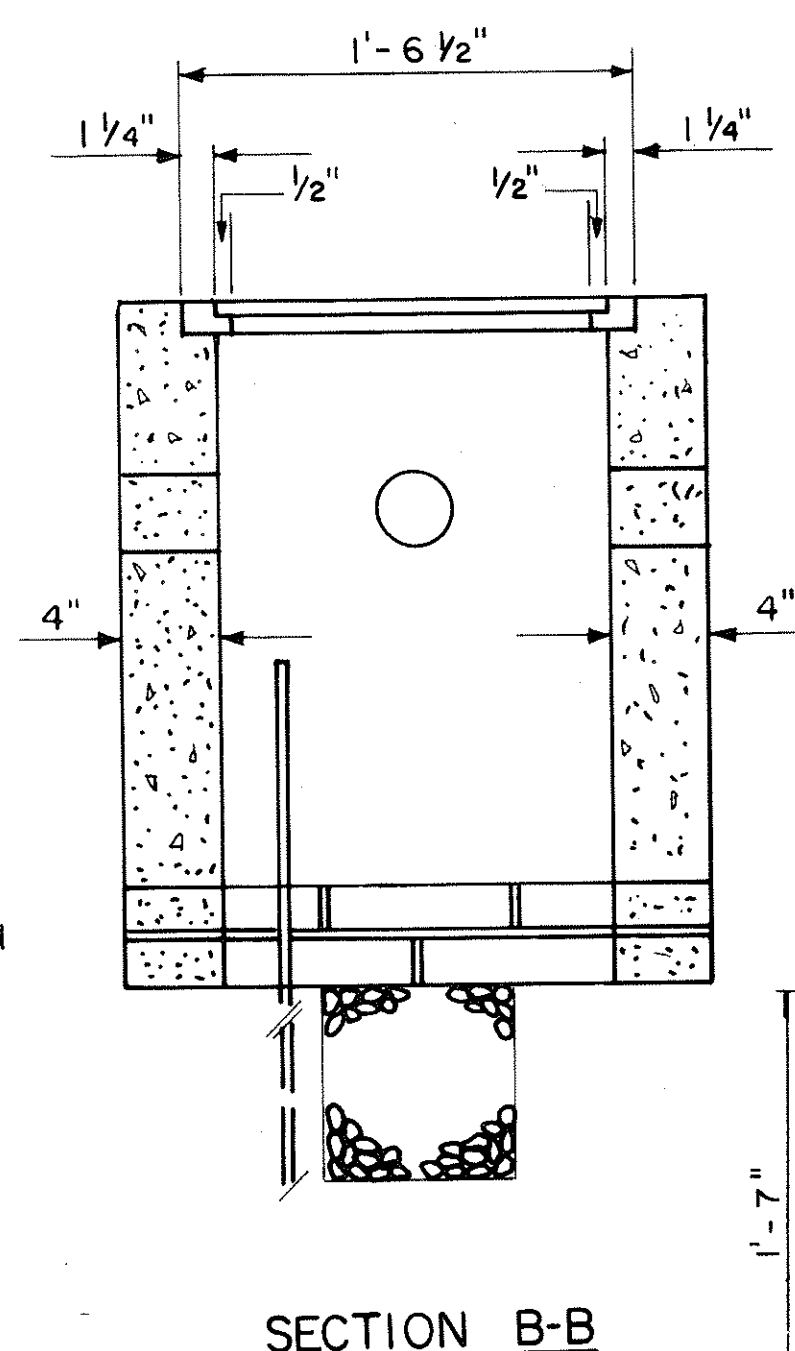
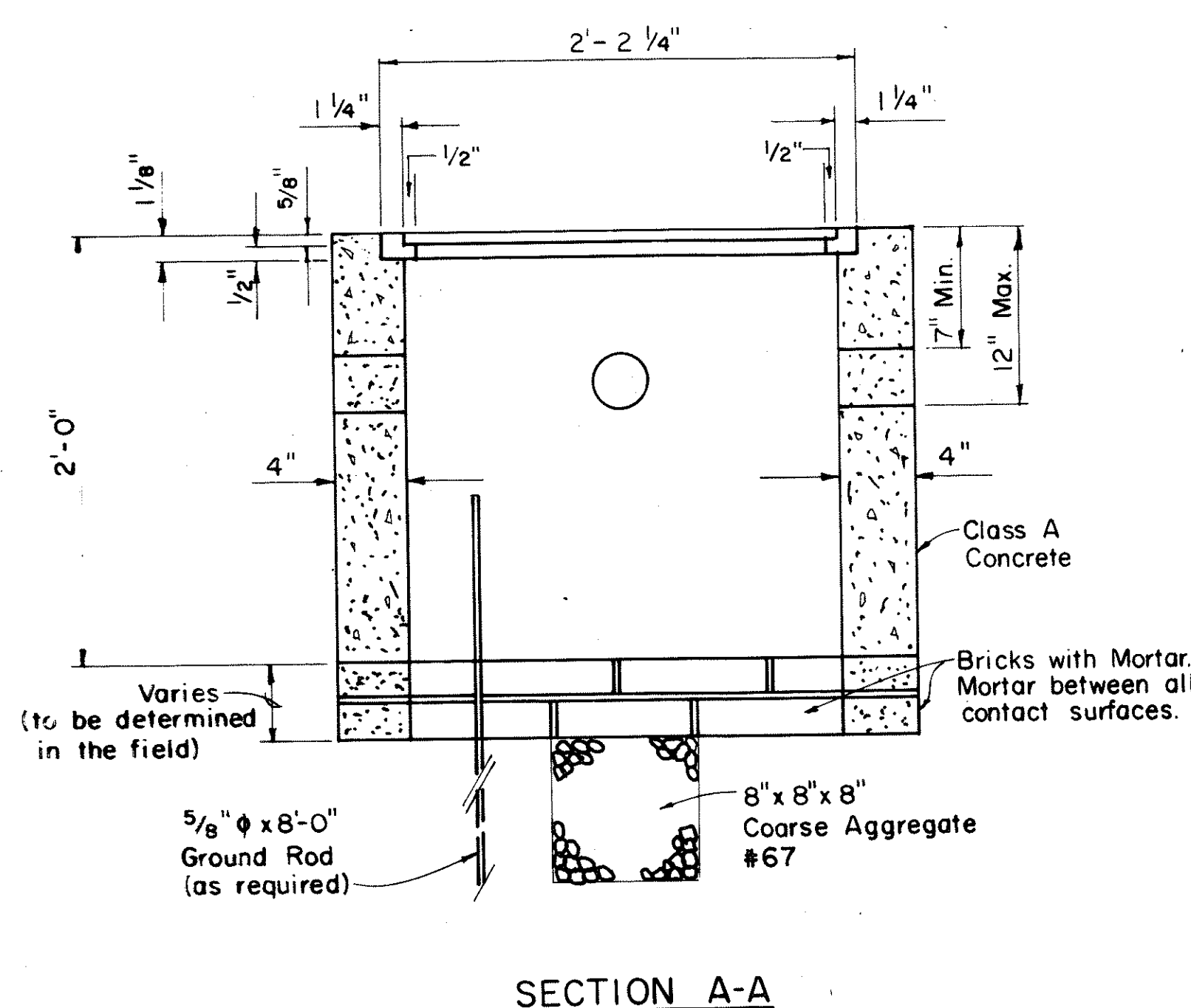
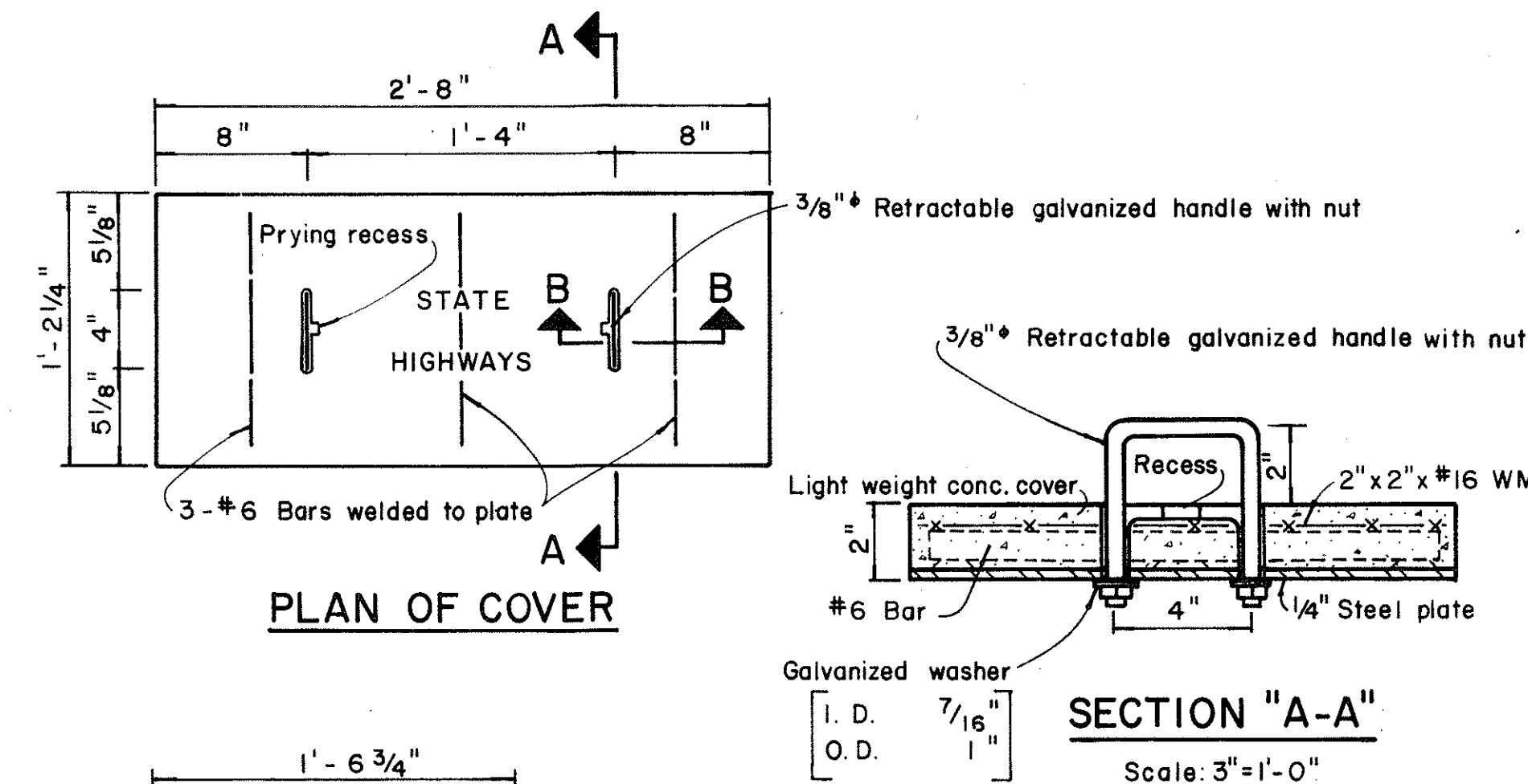
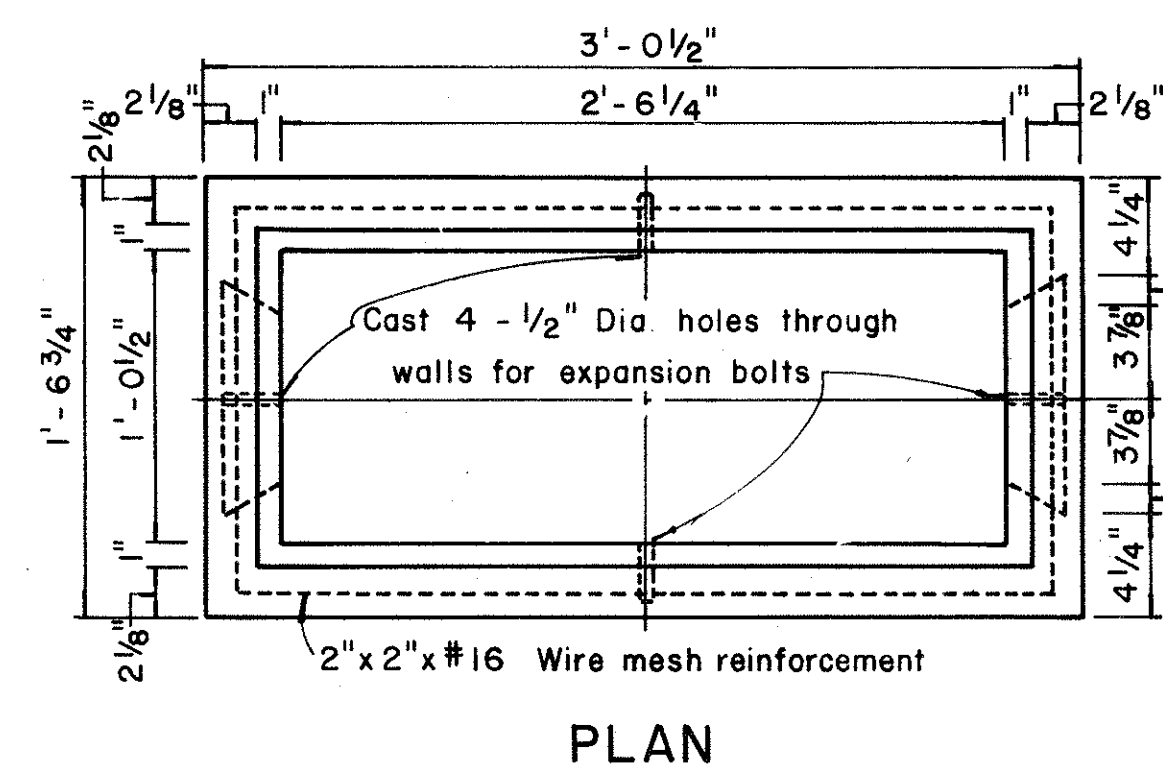
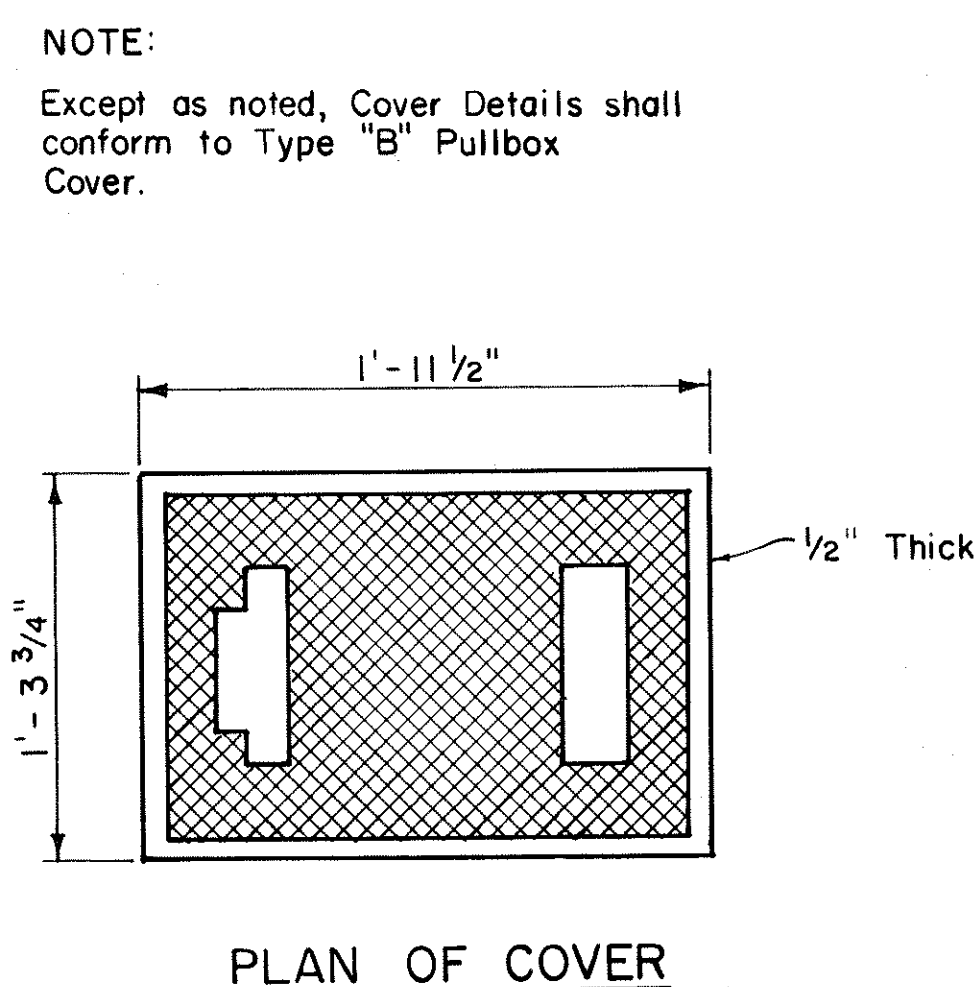
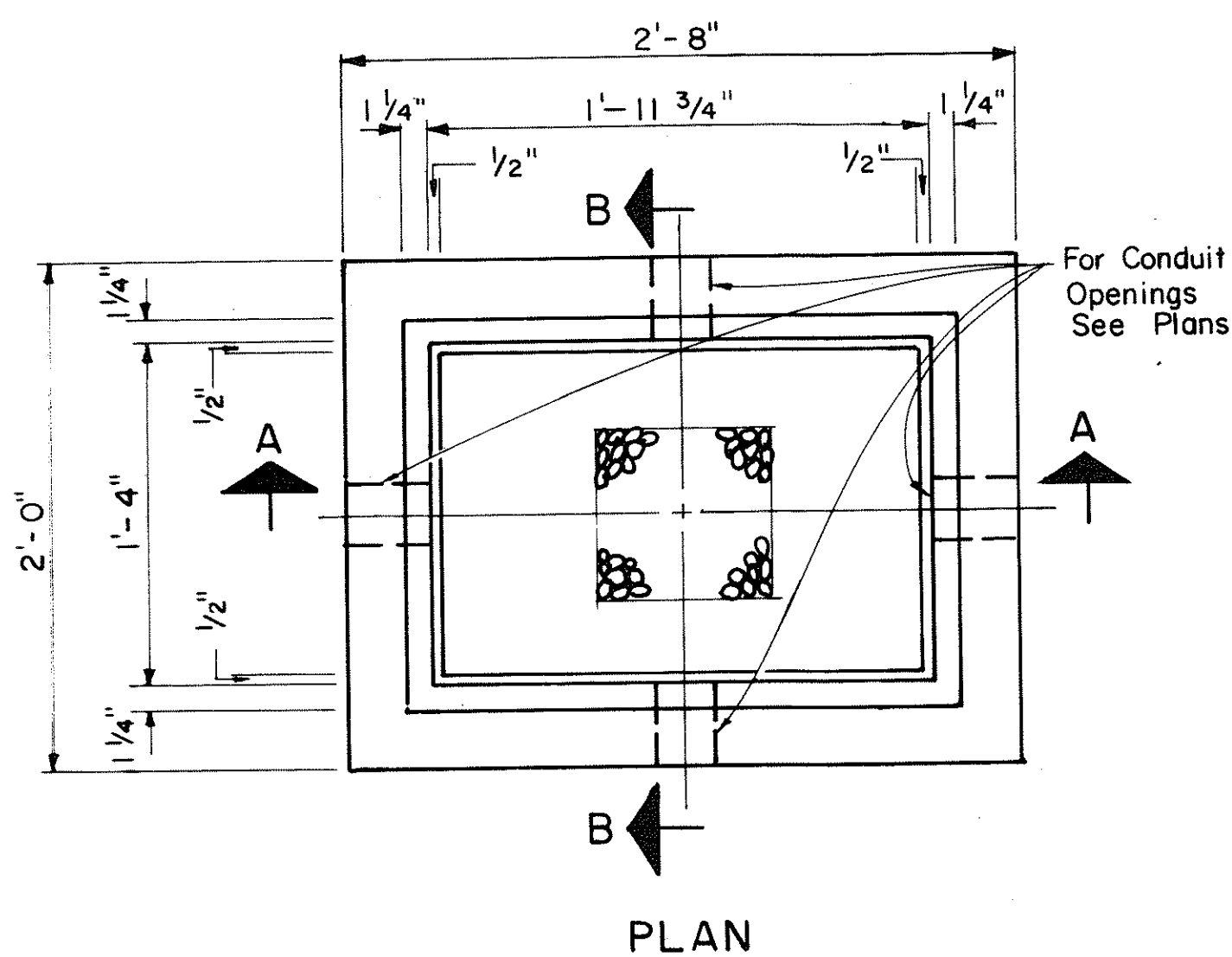
Highway Lighting Plans
STREET LIGHT MOUNTING

HALEKOU INTERCHANGE
FAI PROJECT NO. I-13-1(24):11

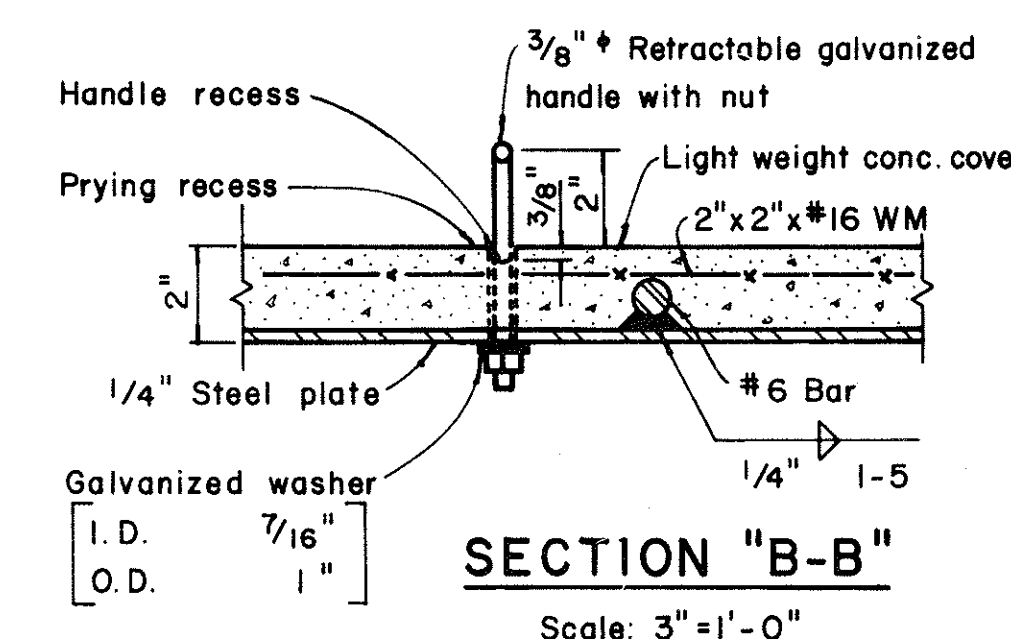
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SHEET No. 104 OF 14 SHEETS E-10

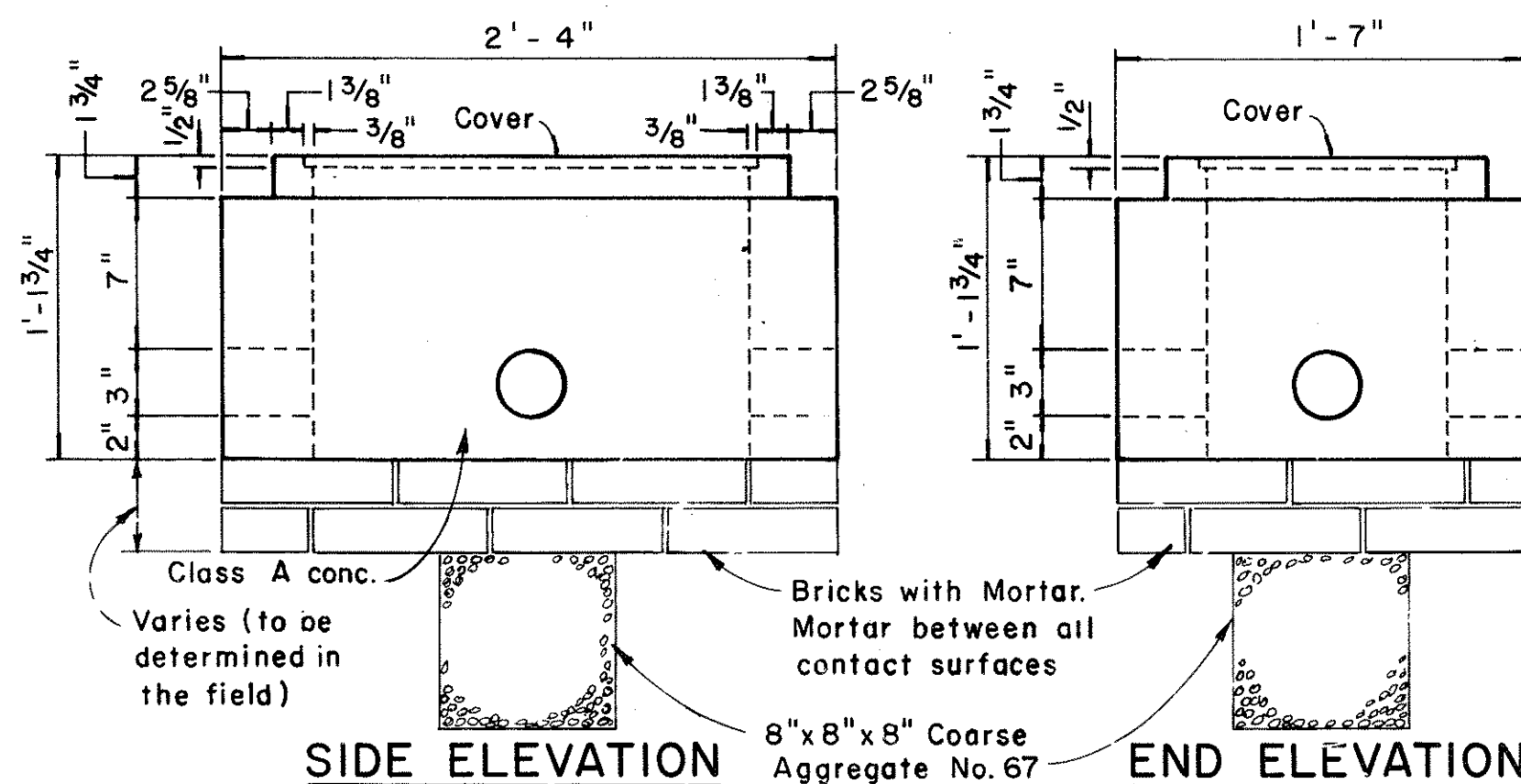
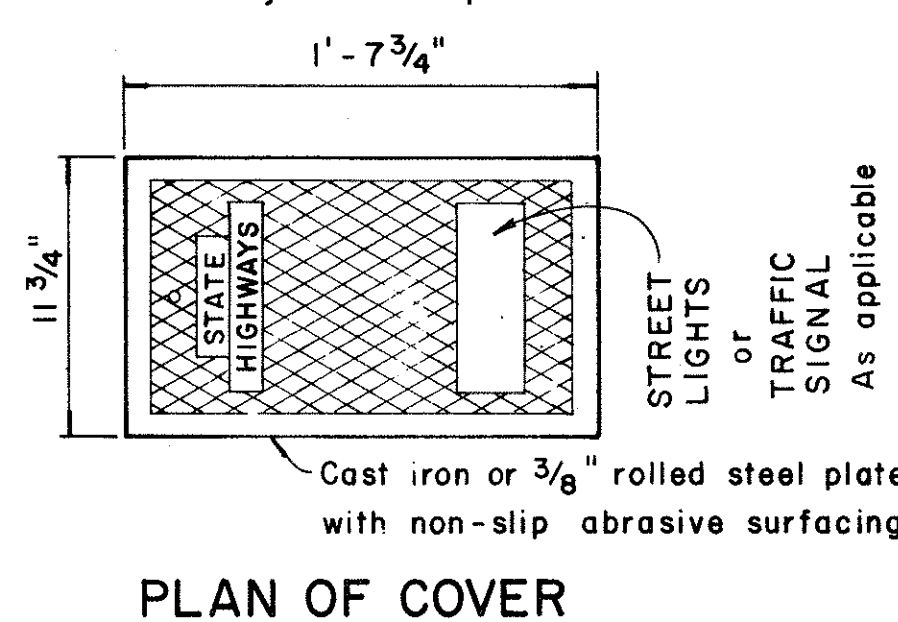
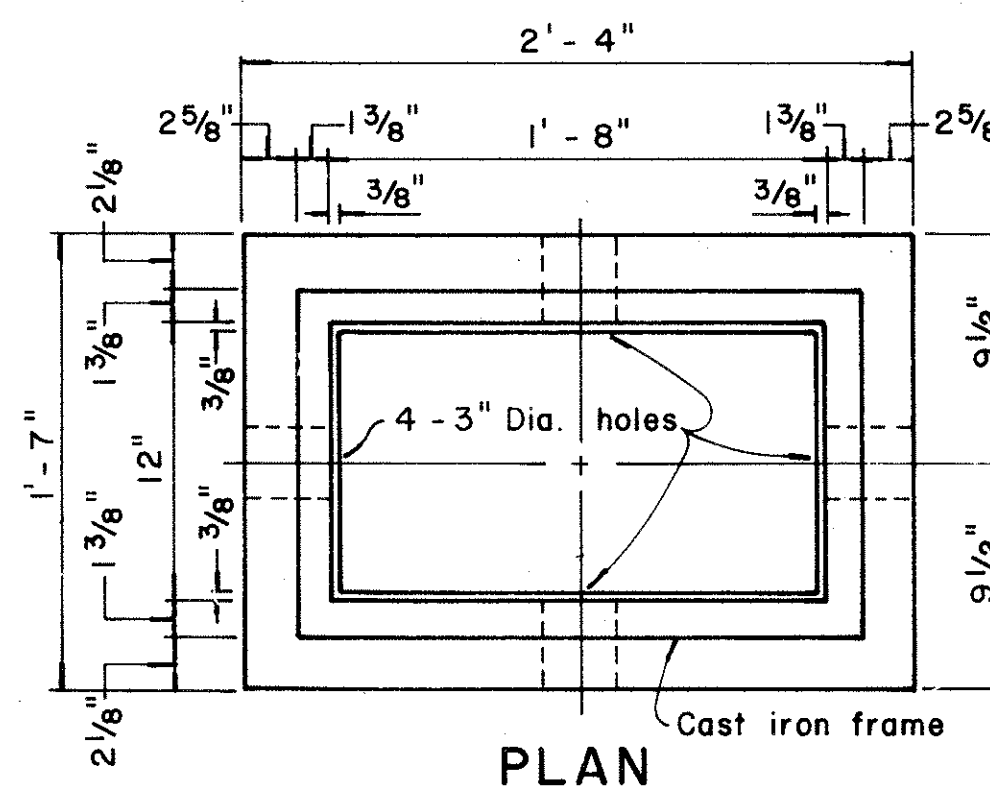
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-13-1(24)	1983	165	328



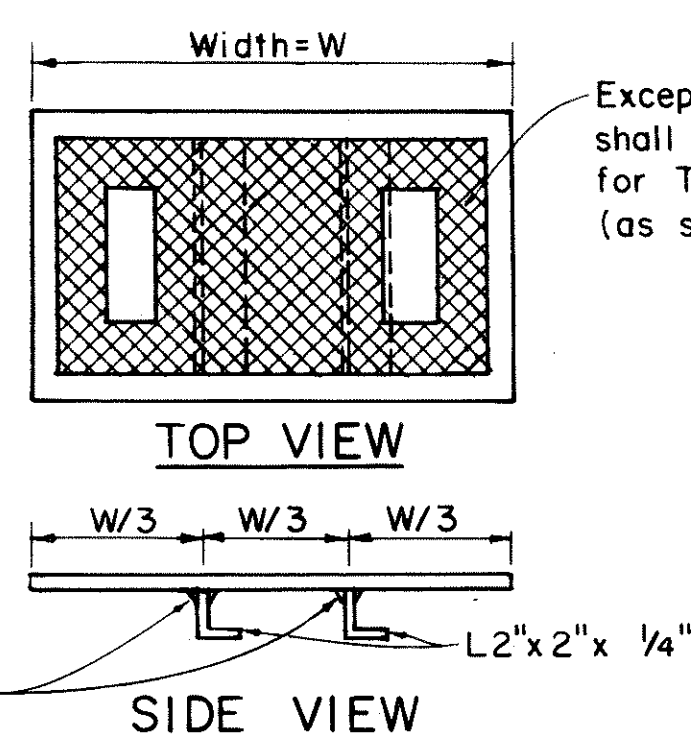
TYPE "C" PULLBOX
Scale: 1/2" = 1'-0"



NOTE:
Steel rim shall be welded to bottom of steel cover if necessary so that top of cover and frame are flush.



TYPE "B" PULLBOX
Scale: 1/2" = 1'-0"



MODIFIED COVER DETAIL
Not to Scale

NOTE:
Hot dip galvanize after fabrication. Modified cover shall be furnished when called for on plans.

APPROVAL RECOMMENDED:
TRAFFIC ENGINEER
12/29/69
DATE

APPROVED:
ASSISTANT CHIEF, ENGINEERING
12-30-69
DATE

NO.	REVISION	APPROVED BY	DATE
1	Revised Type B & C Pullbox details	H.T.	3-5-70
2	Revised Type "A" Pullbox & Added Modified Cover.	H.T.	1-31-80

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
PULLBOXES
Scale as noted
Date
SHEET No. 114 OF 14 SHEETS DT 401

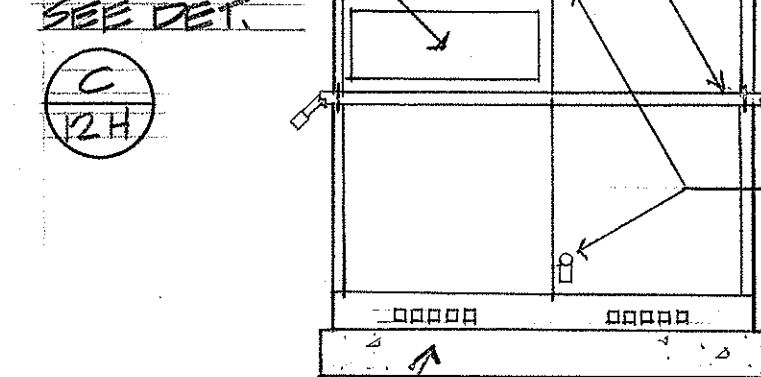
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(24):11	1983	166	328

DUCT SECT.	RACEWAYS	FEEDER ASSIGNMENT FOR DUCT SECT.	REMARKS
A	1-2" PVC	IRRIGATION CONTROL PWR. WIRES	
A1	1-2" PVC	UNASSIGNED	
B	1-2" PVC W/ 3" CONG. JACKET	IRRIGATION CONTROL PWR. WIRES	
C	2-2" PVC W/ 3" CONG. JACKET		TRAFFIC SIGNAL DUCTLINE
C1	2" PVC W/ 3" CONG. JACKET 2" PVC W/ 3" CONG. JACKET	2 OR 3 6 OR 7 OR 8	
C2	2-3" PVC W/ 3" CONG. JACKET		TO H.B. CO. FOLE
C3	2" PVC W/ 3" CONG. JACKET 2" PVC W/ 3" CONG. JACKET 2" PVC W/ 3" CONG. JACKET	2 4 6	
D	2" PVC 2" PVC	3 6 OR 7	
D1	2" PVC 2" PVC 2" PVC	3 6 7	
E	2" PVC W/ 3" CONG. JACKET 2" PVC W/ 3" CONG. JACKET 2" PVC W/ 3" CONG. JACKET	3 6 7	
A2	1-2" PVC	SAME AS "A" PLUS IRRIGATION CONTROL PWR. WIRES	
C4	2" PVC W/ 3" CONG. JACKET 2" PVC W/ 3" CONG. JACKET	SAME AS "C1" PLUS IRRIGATION CONTROL PWR. WIRES	
C5	2" PVC W/ 3" CONG. JACKET 2" PVC W/ 3" CONG. JACKET 2" PVC W/ 3" CONG. JACKET	3 6 7	
D2	2" PVC 2" PVC	SAME AS "D" PLUS IRRIGATION CONTROL PWR. WIRES	
D3	2" PVC 2" PVC 2" PVC	SAME AS "D1" PLUS IRRIGATION CONTROL PWR. WIRES	

PROVIDE FRONT & REAR CONT. 2" GALV. STL. PIPE W/ END PADLOCK HOLES & WELDED SUPPORT 1/2" BOLTS AT ENDS.

NEMA 3R ENCL.

SIGN SEE DET. (C) 12H



CONC. PAD.

FRONT ELEV.

COMPARTMENT #2

FUSES

SW'S.

COMPARTMENT #1

DIAGRAM

INTER. SEC.

OUTDOOR SWITCHGEAR

N.T.S.

FILLET WELDED ALL AROUND.

3/8" X 1/2" VERT. SLOT.

3/8" HOLE CENTERED

PLAN

DET. "A"

VERT. SLOT.

DOOR

LOCK: BRASS PADLOCKS COMPATIBLE TO H.E. KEY SYSTEM.

ELEV. DET. "A"

140°

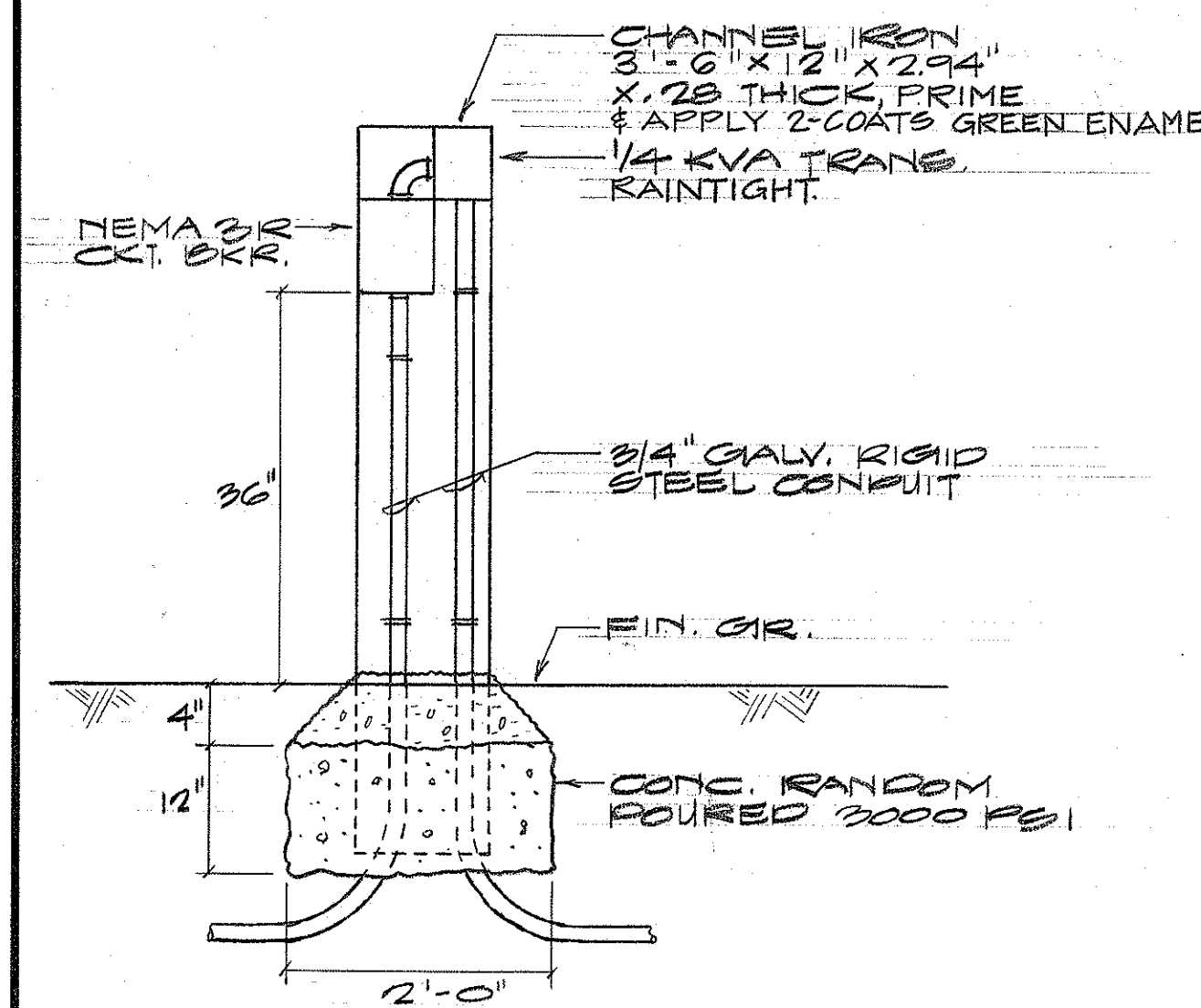
SW. OPER.

20°

HANDLE IN OPER.

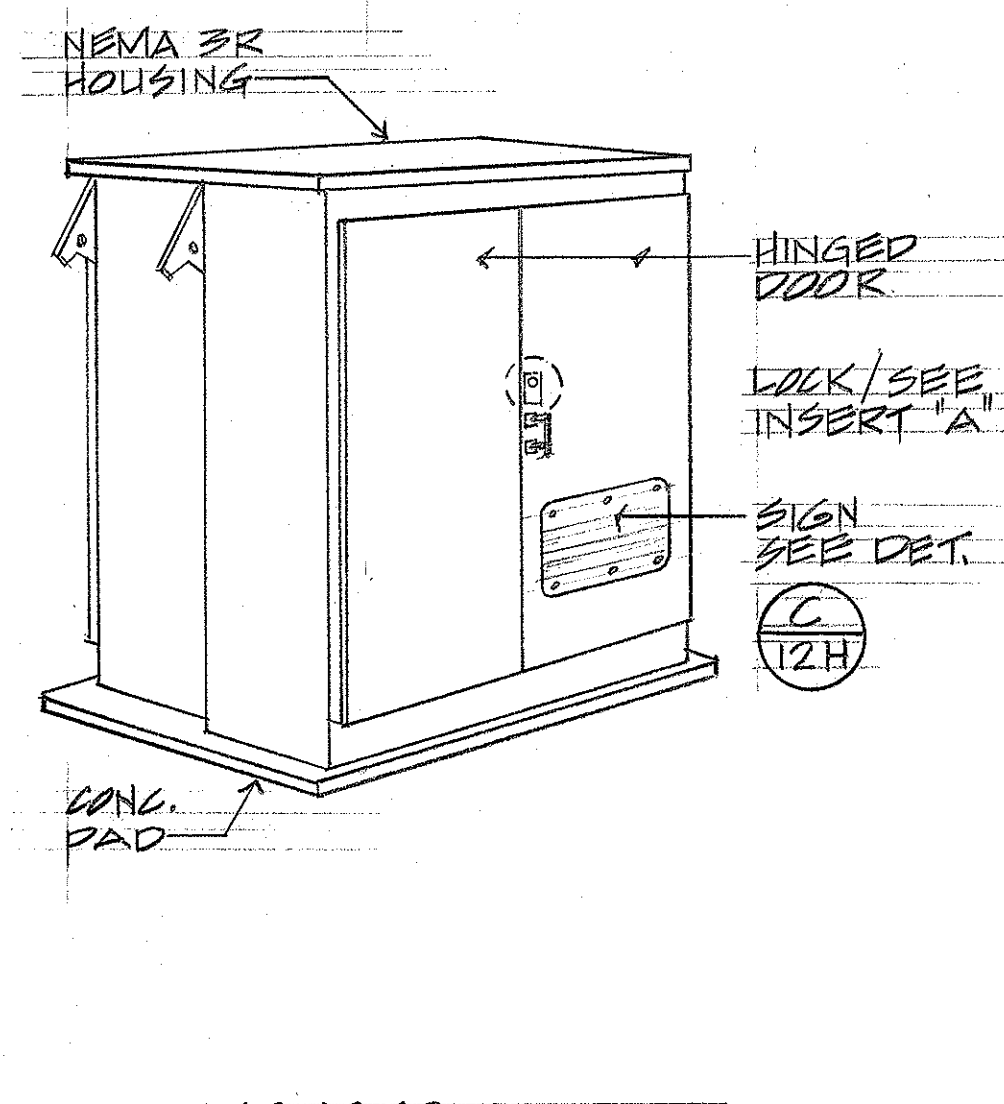
HANDLE IN STOR.

SIDE VIEW



IRRIGATION SYSTEM EQUIP. ELEVATION

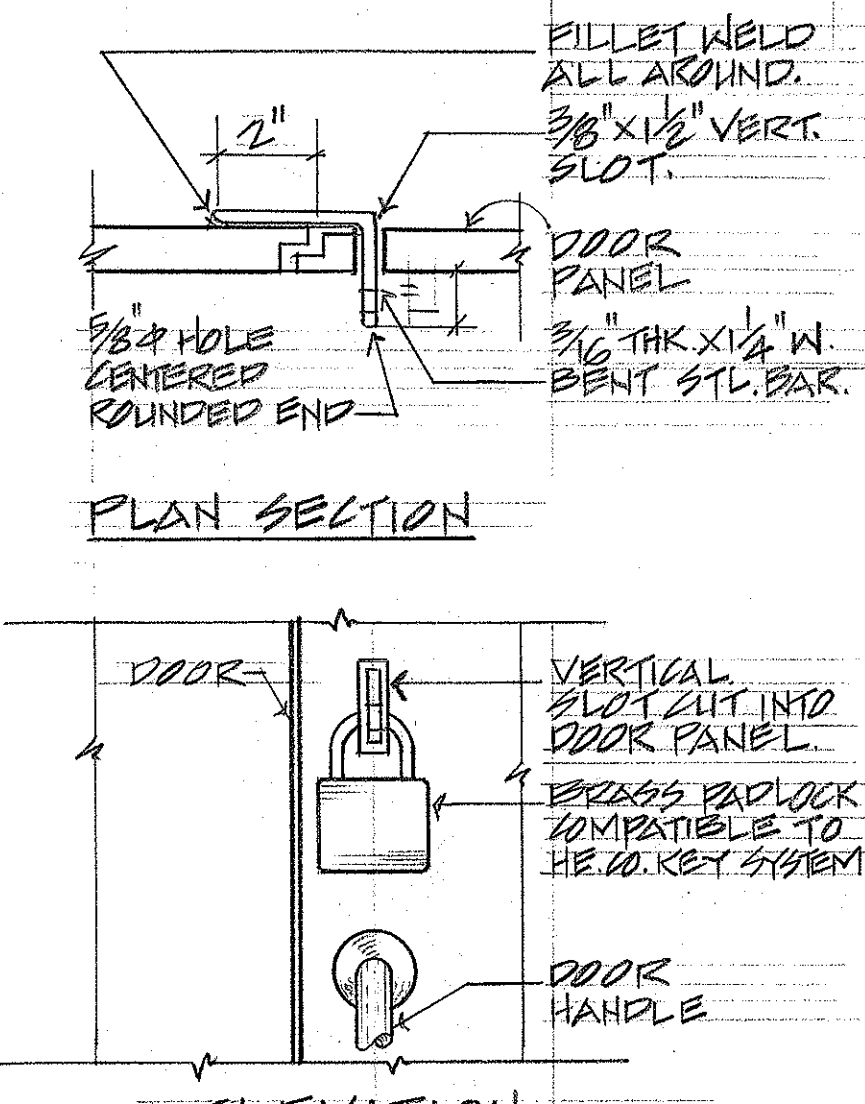
SCALE: 3/4" = 1'-0"



ISOMETRIC

TRANSFORMER STATION ENCLOSURE

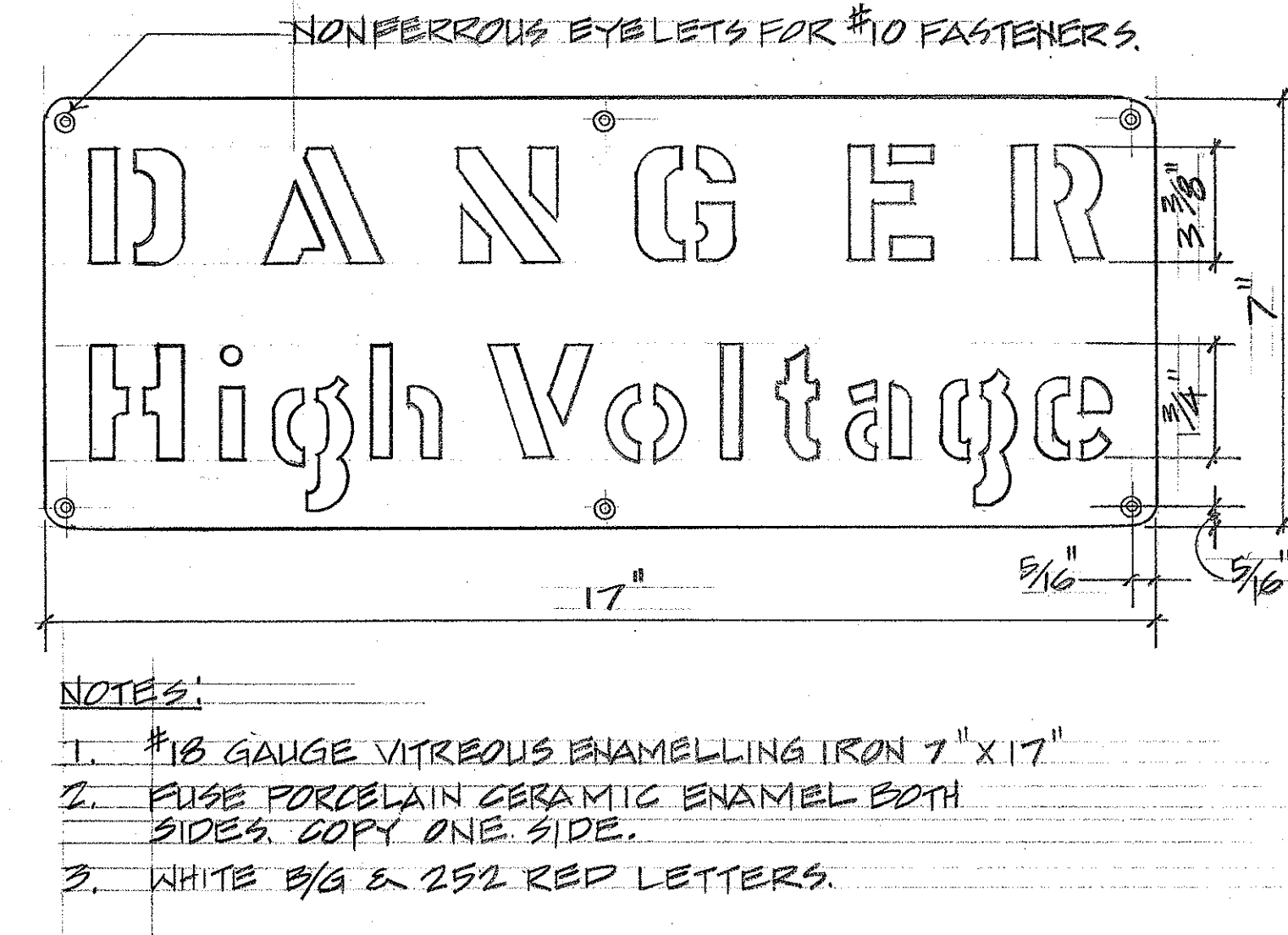
N.T.S.



PLAN SECTION

ELEVATION

INSERT "A"



NOTES:

1. #18 GAUGE VITREOUS ENAMELLING IRON 7" X 17"

2. FUSE PORCELAIN CERAMIC ENAMEL BOTH SIDES. COPY ONE SIDE.

3. WHITE 5/8" & 252 RED LETTERS.

SCALE AS NOTED

DATE: Sept. 1982

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISC. ELECTRICAL DETAILS

HALEKOLU INTERCHANGE
F.A.I. Project No. I-H3-1(24):11
SCALE AS NOTED
date: Sept. 1982

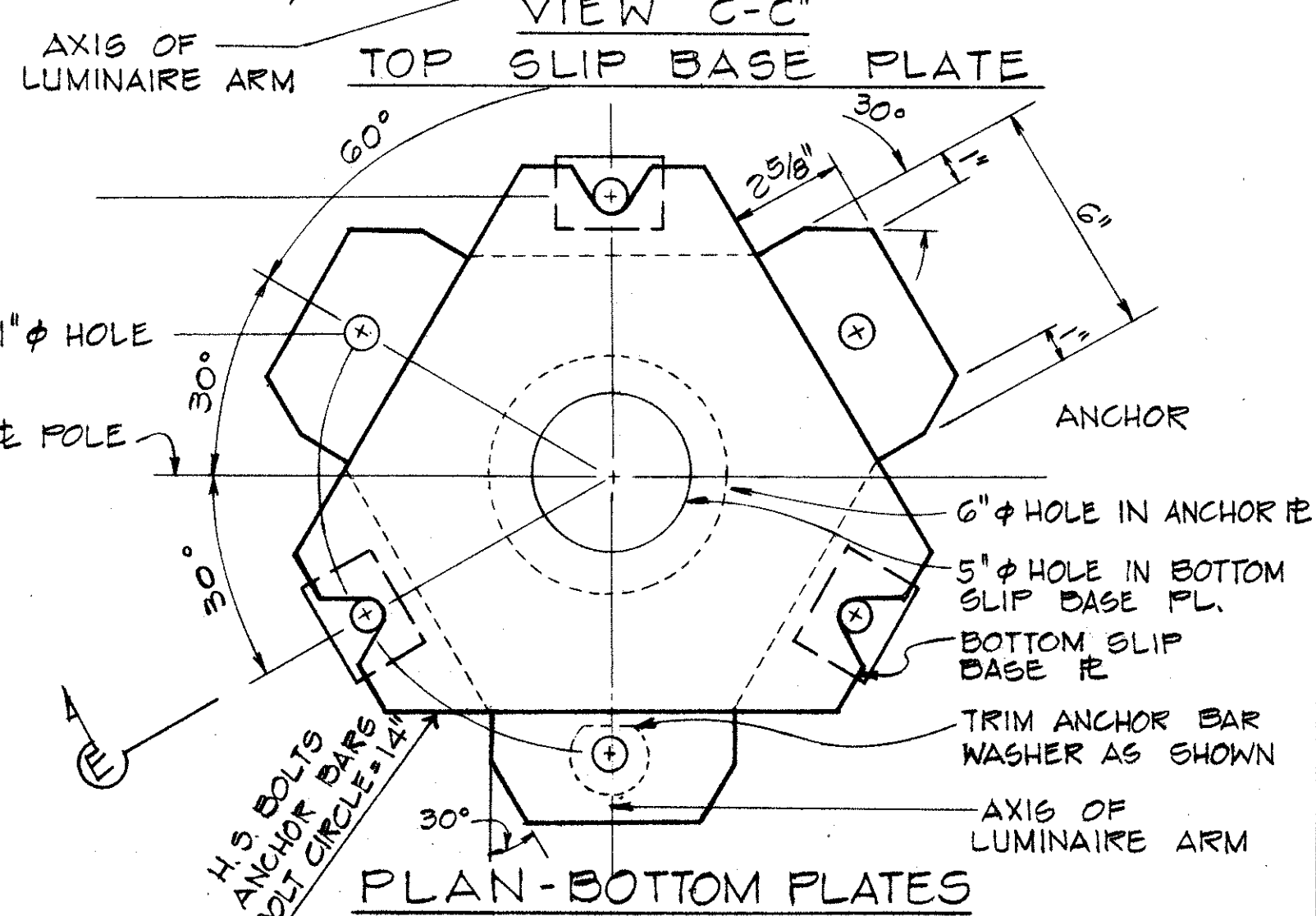
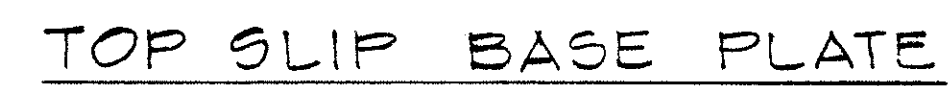
SHEET NO. 12 H OF 14 SHEETS E-12

NOTES

- STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
-
- HIGHWAY LIGHTING
SLIP BASE POLE

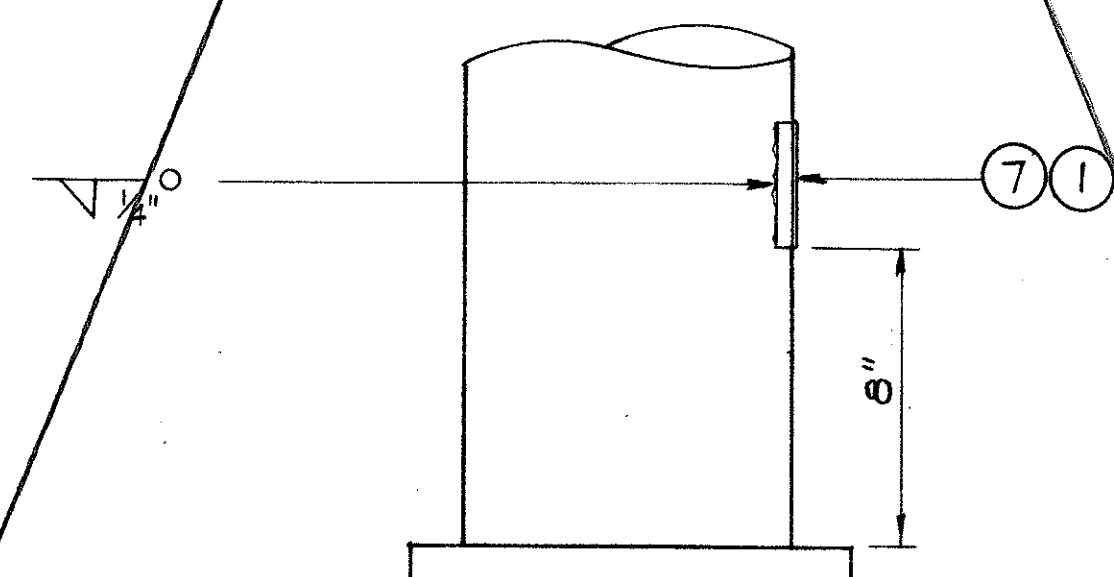
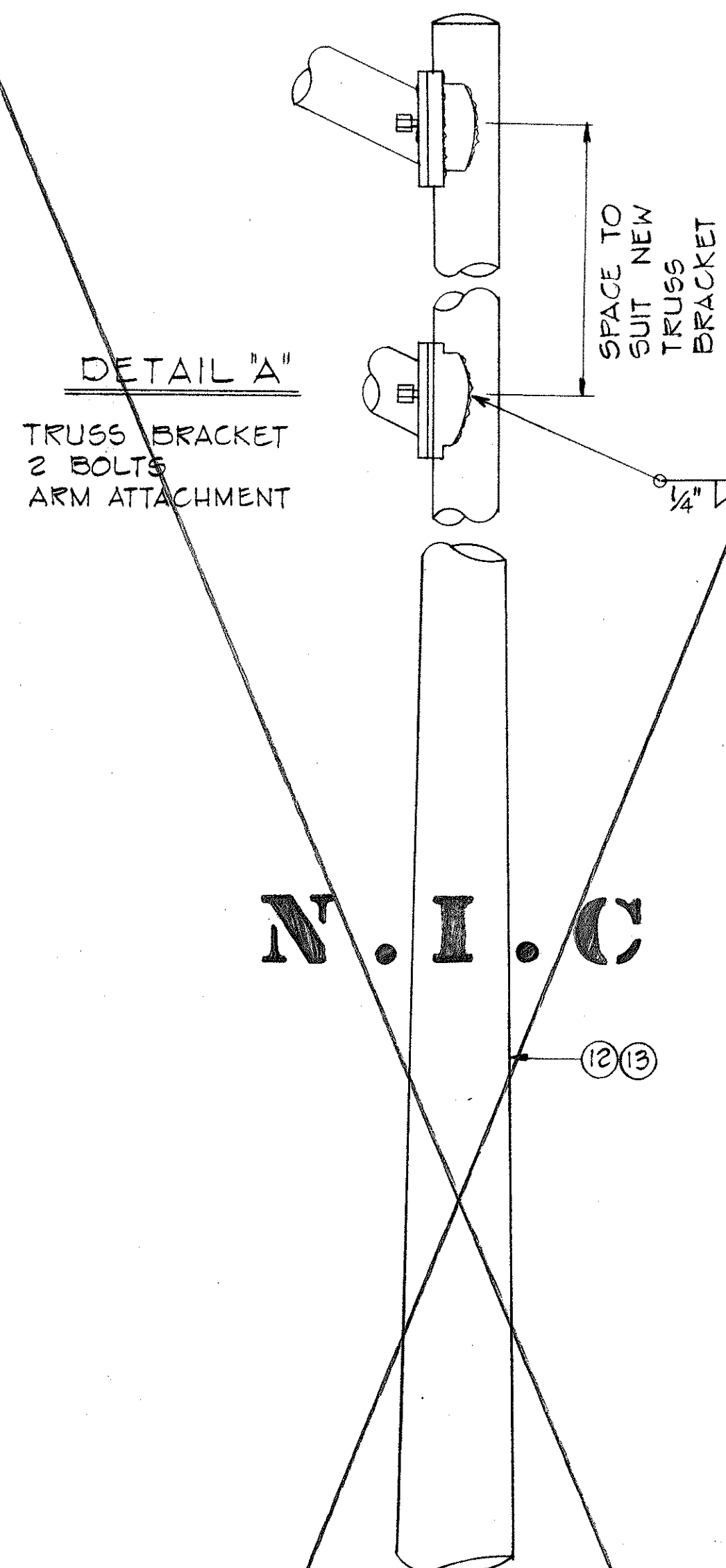
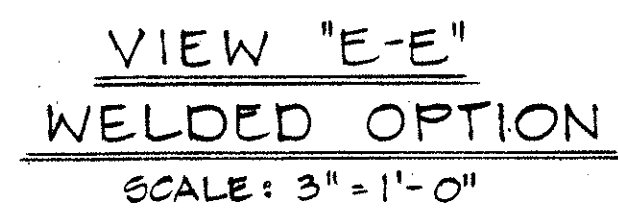
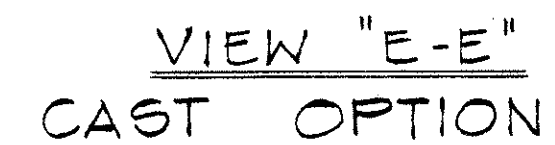
F.A.I. PRO. NO 1-13-(24):11

168



SLIP BASE DETAIL

SCALE: 3" = 1'-0"



DETAIL B

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(24):11	1983	60, 168 S-1	328

NOTES

- Locations of all new traffic signal equipment shall be staked out in the field by the Contractor for approval by the Engineer prior to installation.
- All new conduits under roadways or other areas subject to vehicular traffic shall be steel or PVC Schedule 80.
- Conduits under asphalt concrete roadways shall have backfill consisting of asphalt concrete mix no. V in the upper portion to match the existing asphalt concrete thickness.
- All new traffic signal controller equipment and appurtenances shall be completely wired in the cabinet and shall control the traffic signals as shown on the plans.
- All splicing of cables shall be done in the pullboxes.
- #8 B.C. = No. 8 bare copper wire.

New Cond.	New Cable
2"	1-26c #14
2"	1-1c #8 B.C.
2"	Vacant

New Cond.	New Cable
2"	1-26c #14
2"	1-1c #8 B.C.

New Cond.	New Cable
2"	1-2c #14

New Cond.	New Cable
2"	1-26c #14
2"	1-1c #8 B.C.
2"	1-2c #14

New Cond.	New Cable
2"	1-26c #14
2"	1-1c #8 B.C.
2"	Vacant

New Cond.	New Cable
2"	3-2c #14

New Cond.	New Cable
2"	4-2c #14

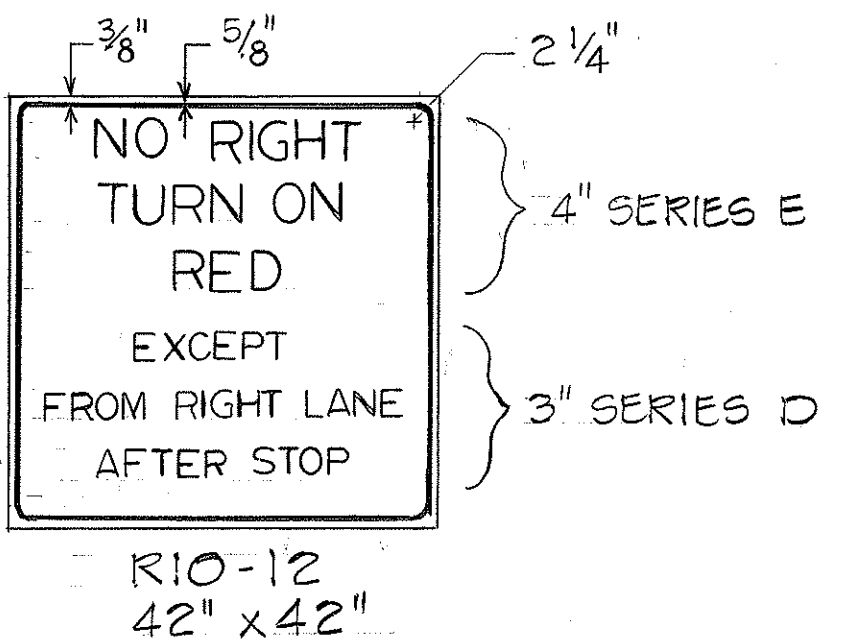
New Cond.	New Cable
2"	4-2c #14
2"	1-26c #14
2"	1-1c #8 B.C.

New Cond.	New Cable
2"	1-26c #14
2"	1-1c #8 B.C.

New Cond.	New Cable
2"	1-26c #14
2"	1-1c #8 B.C.
2"	1-26c #14
2"	1-1c #8 B.C.
2"	6-2c #14
2"	6-2c #14
2"	1-24c #20
2"	1-3c #2/0

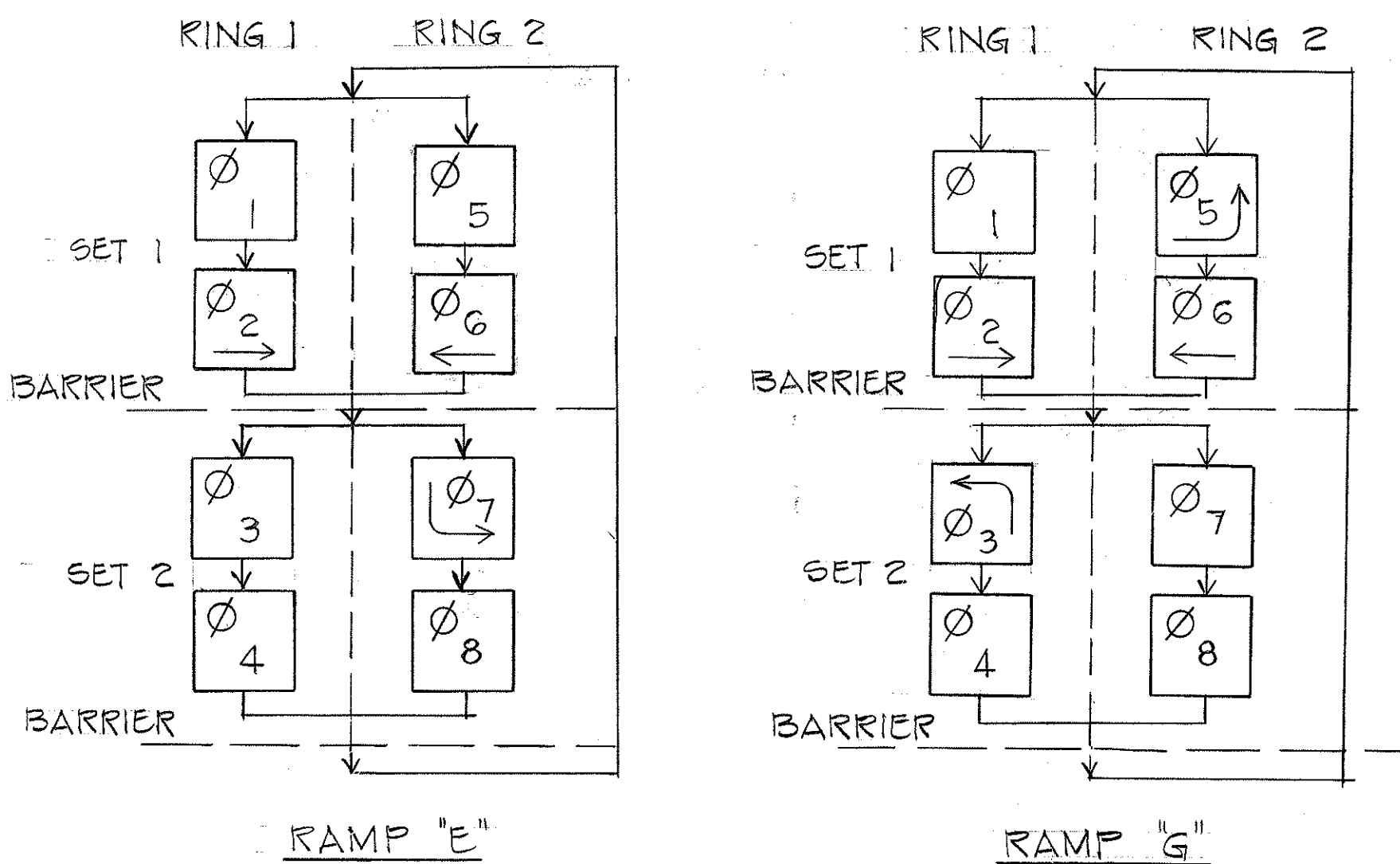
New Cond.	New Cable
2"	1-26c #14
2"	1-1c #8 B.C.
2"	4-2c #14

New Cond.	New Cable
2"	1-26c #14
2"	1-1c #8 B.C.
2"	1-26c #14
2"	1-1c #8 B.C.
2"	6-2c #14



LEGEND

- New RY↑ traffic signal head
- New RY→ traffic signal head (Programmed visibility head when noted on plans)
- New RY← traffic signal head (Programmed visibility head when noted on plans)
- New Type I traffic signal standard with signal head as shown on the plans.
- New Type II traffic signal standard with signal heads and mastarm length as shown on the plans.
- New Type III traffic signal standard with signal heads, mastarm lengths, and 400 W HPS luminaire.
- New traffic signal system local controller with coordinator including 4" thick x 4'-0" wide concrete slab across entire front of controller.
- New traffic signal system master controller, including 4" thick x 4'-0" wide concrete slab across entire front of controller.
- New Type A Pullbox
- New Type B Pullbox
- New RYG traffic signal head



PHASE DIAGRAMS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL SYSTEM

HALEKOU INTERCHANGE
E.A.I. PROJECT NO. I-H3-1(24):11

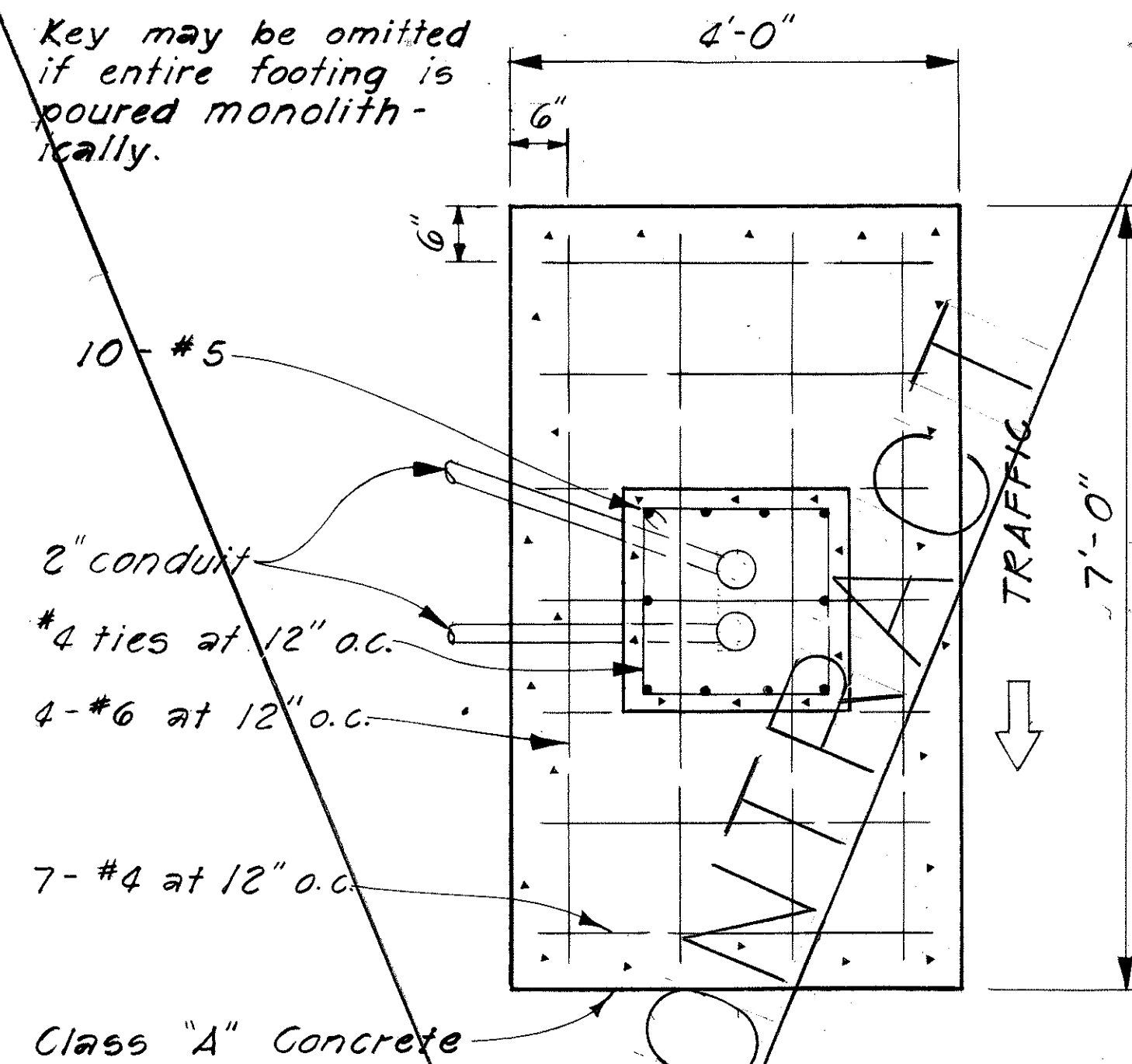
Scale: 1"=50' Date: JUNE, 1983
SHEET NO. 1 OF 6 SHEETS

C.O. 168 S-1

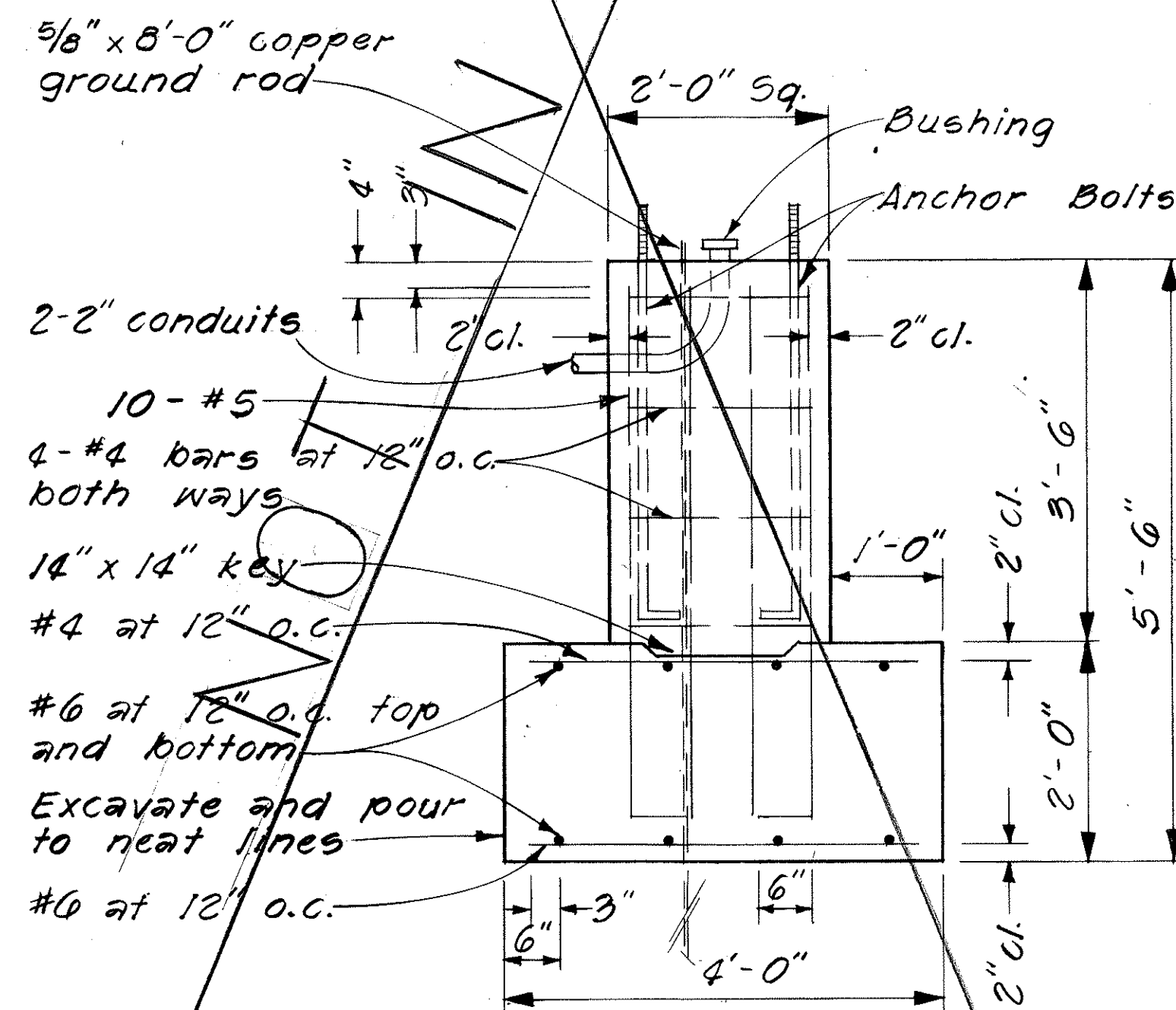
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	[H3-1(24)41	1983	C.O. 108 5-2	328

NOTE:

~~Key may be omitted if entire footing is poured monolithically.~~

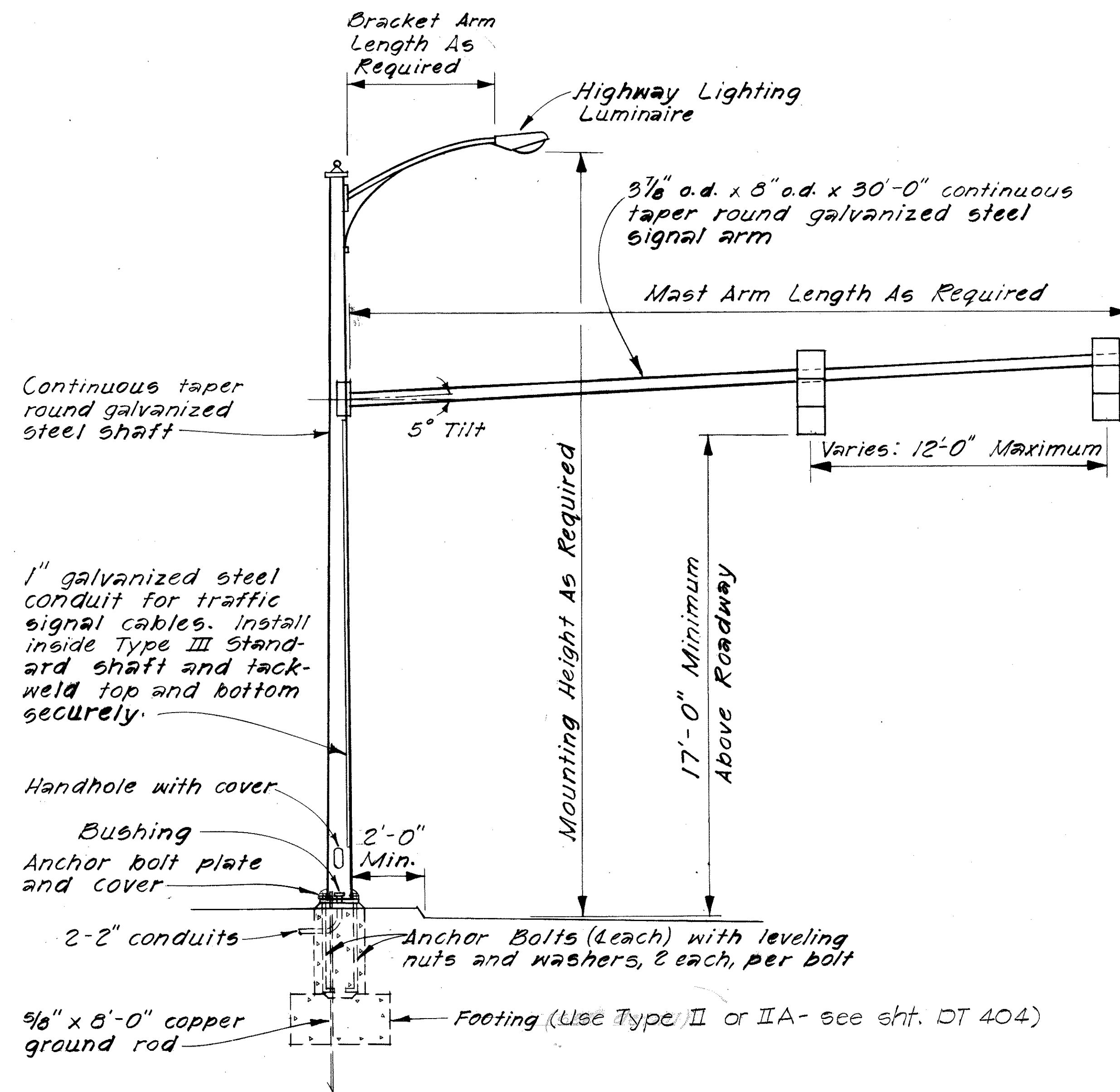


(TOP) / VIEW

ELEVATION

FOOTING
FOR TYPE III STANDARD

Scale: $\frac{3}{4}" = 1' - 0"$



TYPE III STANDARD

Not to Scale

NOTES:

1. Item for Type III Traffic Signal Standard with mast arm and foundation includes highway lighting bracket arm.
2. Highway Lighting Luminaire to be paid for under respective items in Section 622.
3. For additional details see Sheet DT400.
4. Size, length, and diameter of anchor bolts shall be as recommended by the manufacturer. Contractor shall submit catalog cuts to the Engineer for approval.

SUMMARY OF MAST ARMS AND BRACKET
ARMS FOR TYPE III STANDARD

<u>INTERSECTION</u>	<u>TRAFFIC SIGNAL MAST ARM LENGTH</u>	<u>HIGHWAY LIGHTING BRACKET ARM LEN.</u>	<u>MOUNTING HEIGHT</u>
Kamehameha Highway at Ramp "E"	40'-0"	10'-0"	50'-0"

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

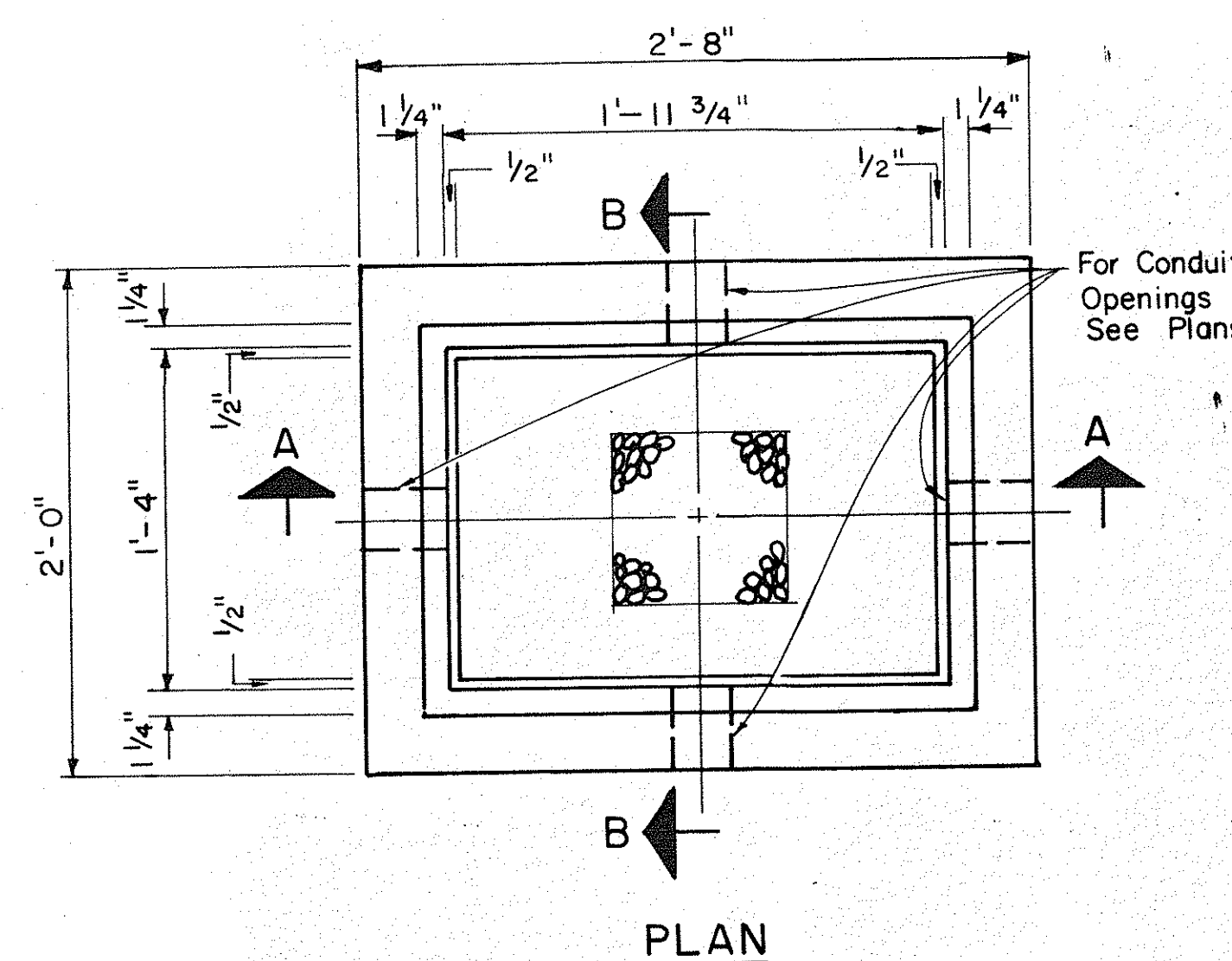
**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION**

TYPICAL DETAILS TYPE III TRAFFIC SIGNAL STANDARD

SCALE: As Shown DATE: April, 1977
SHEET No. 2 OF 6 SHEETS

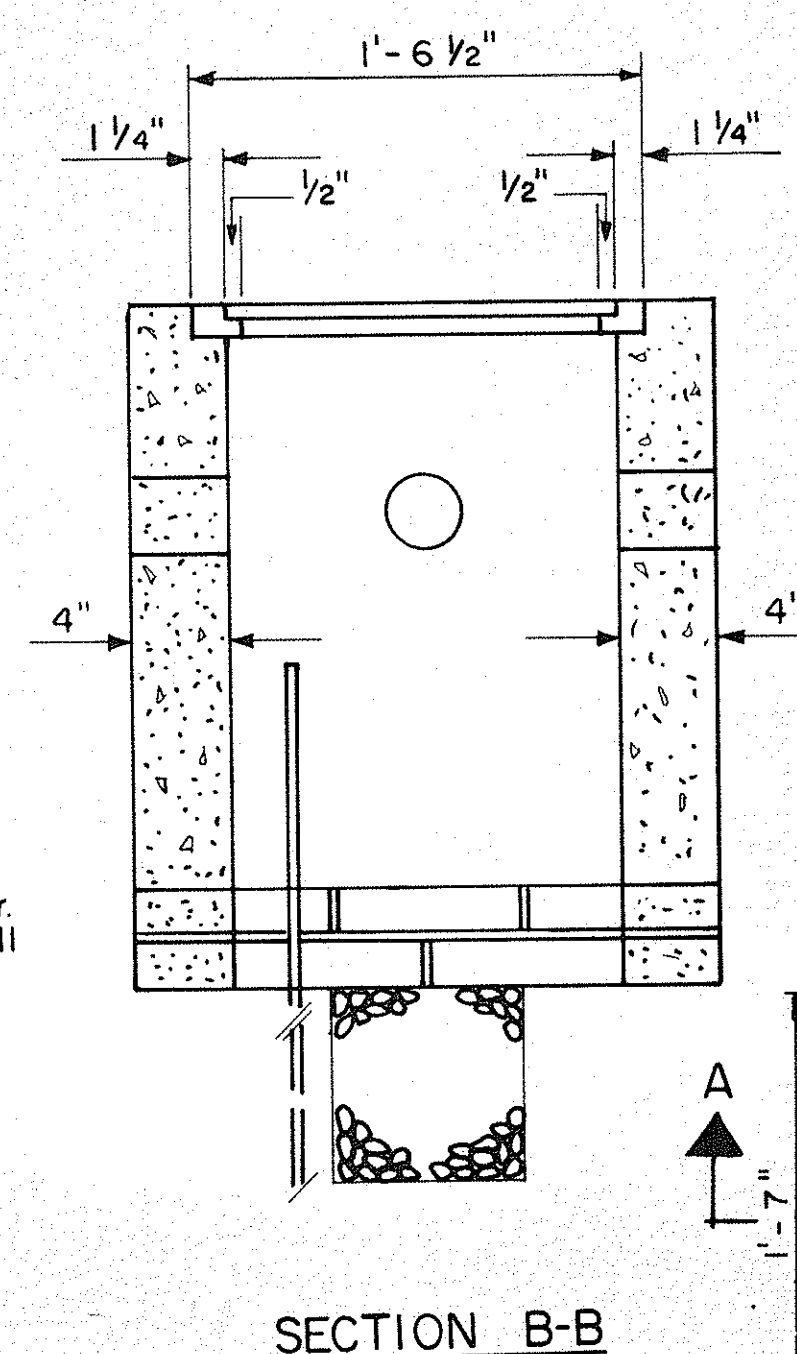
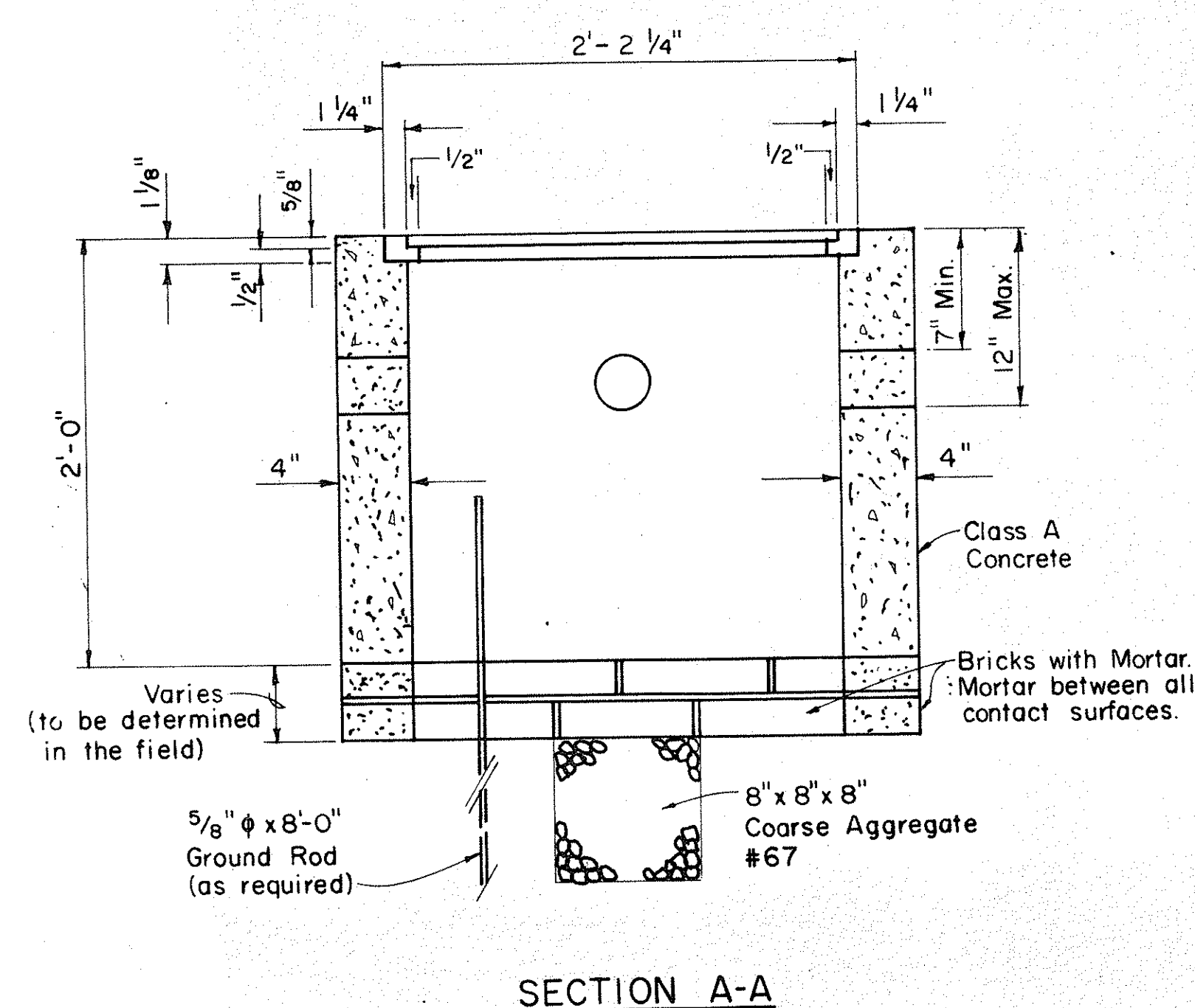
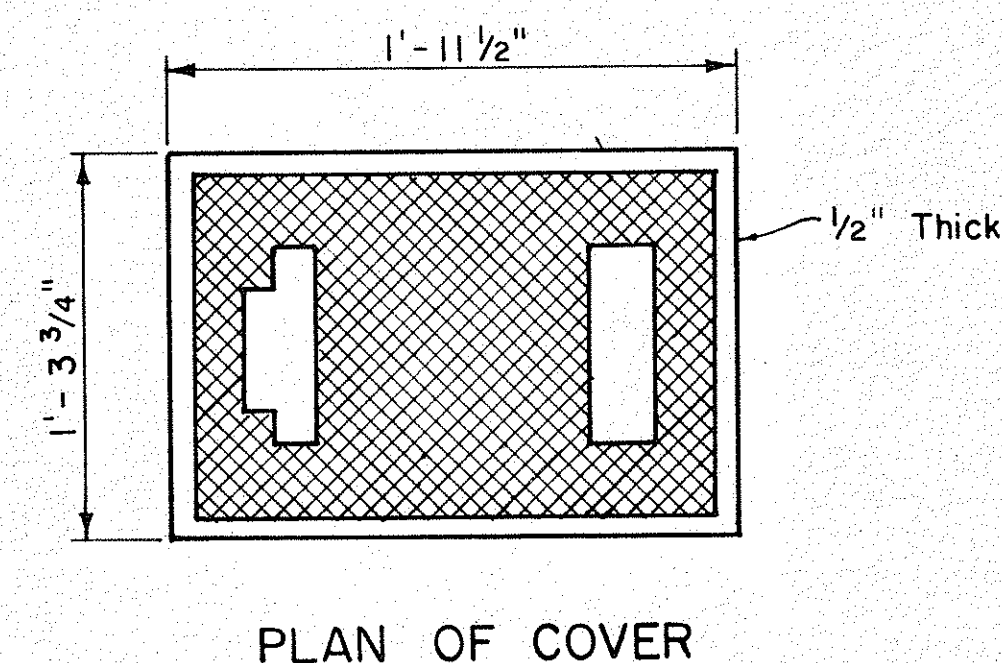
C.O. 168 S-2

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	143-1(24)11	1983	C.O. 168 S-4	328

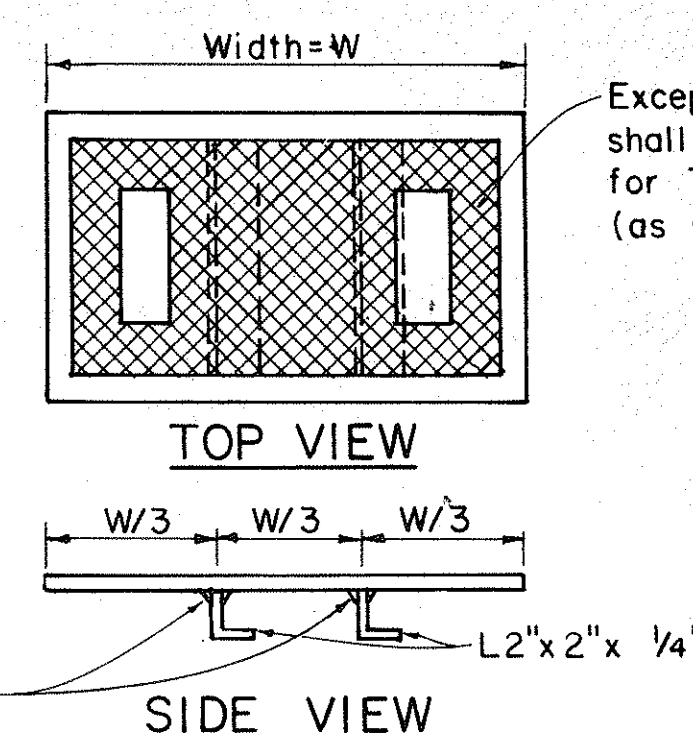


NOTE:

Except as noted, Cover Details shall conform to Type "B" Pullbox Cover.



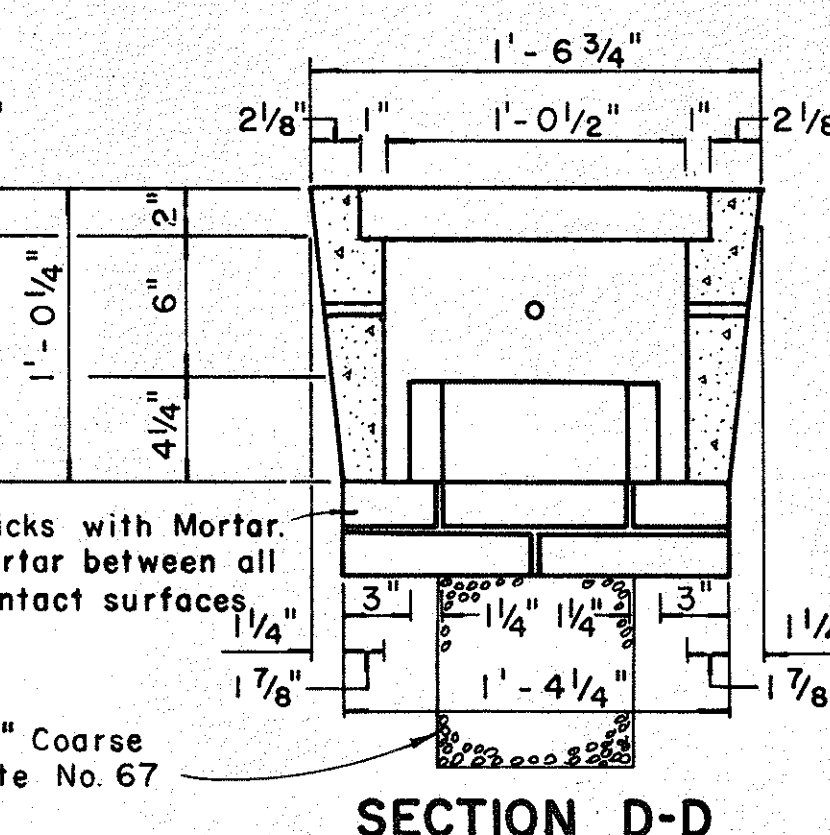
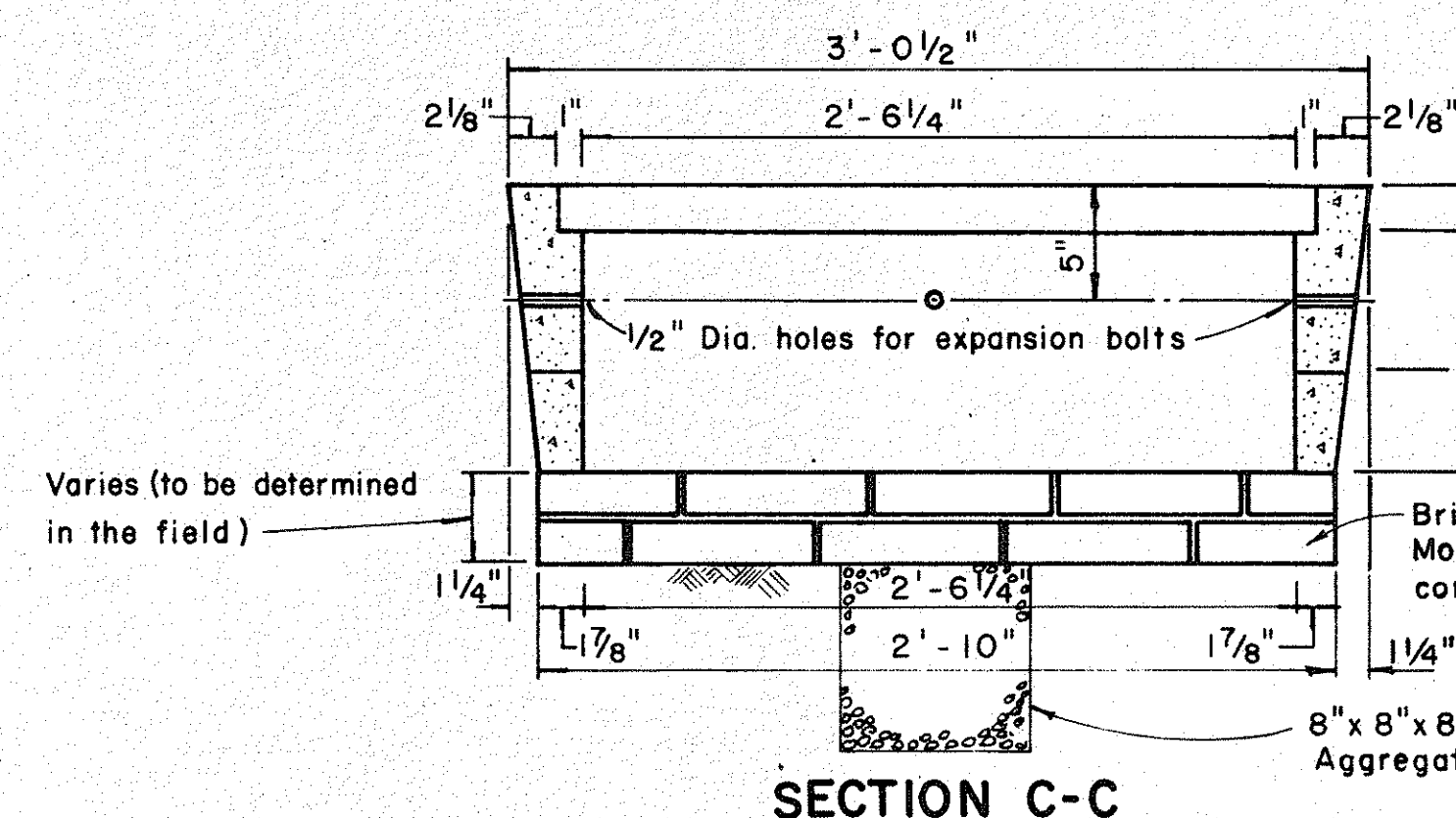
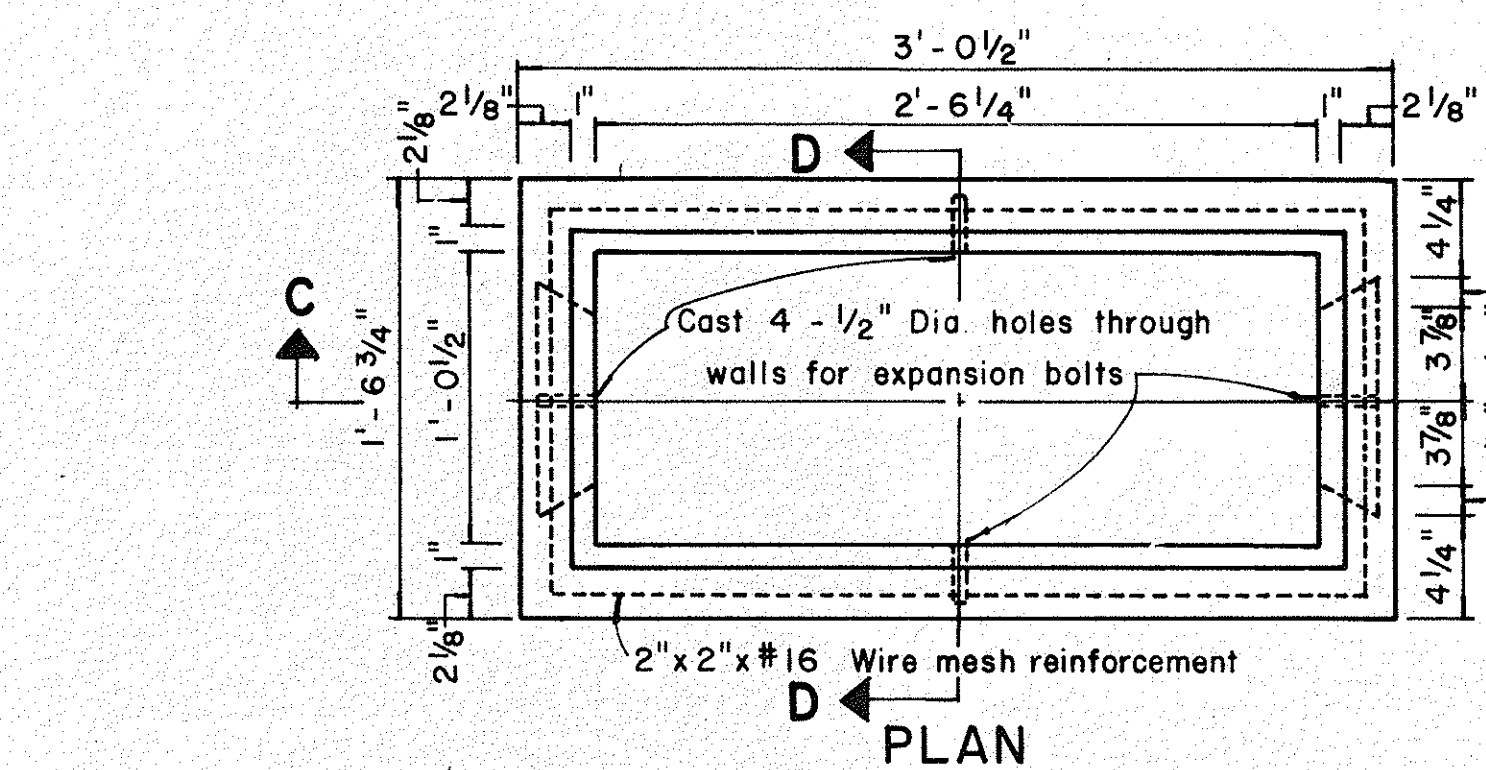
TYPE "A" PULLBOX
Scale: 1/2" = 1'-0"



MODIFIED COVER DETAIL
Not to Scale

NOTE:

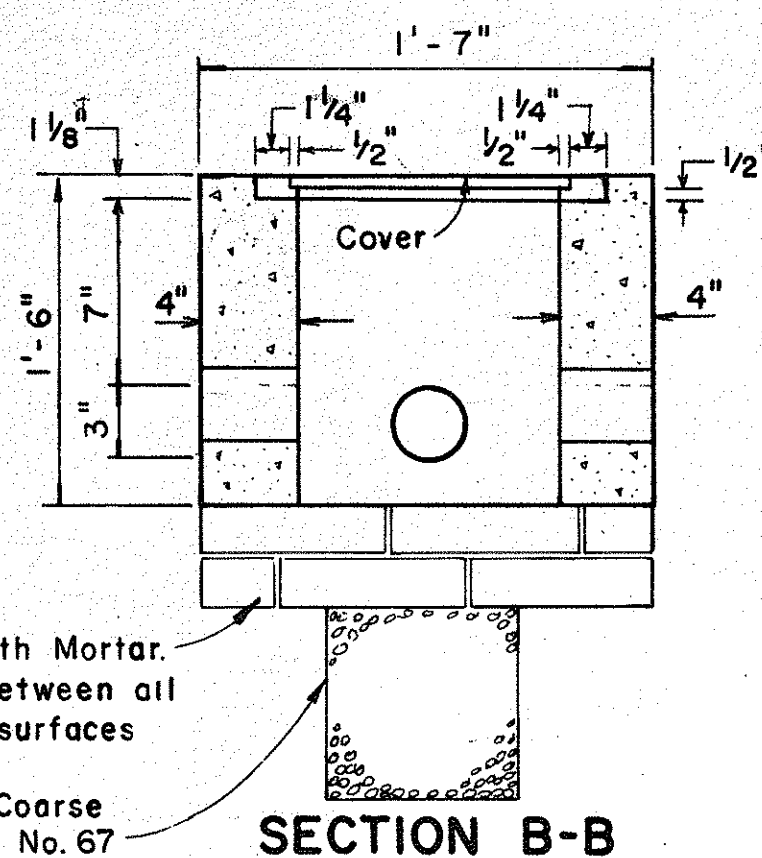
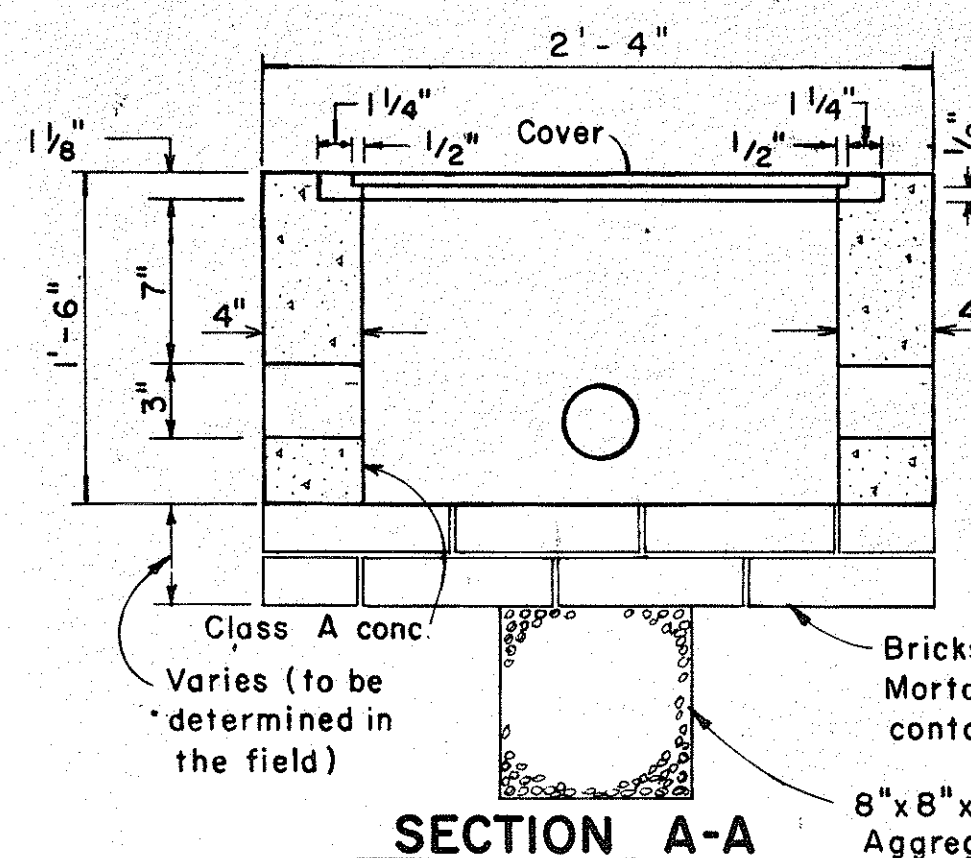
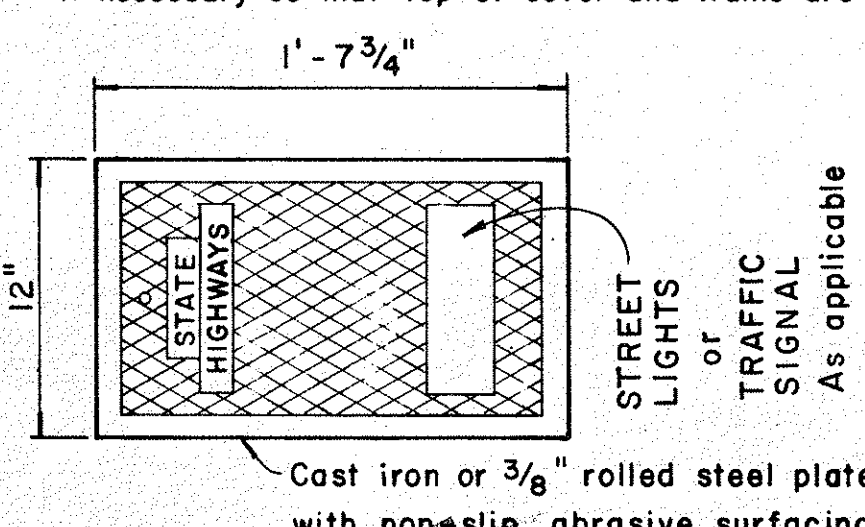
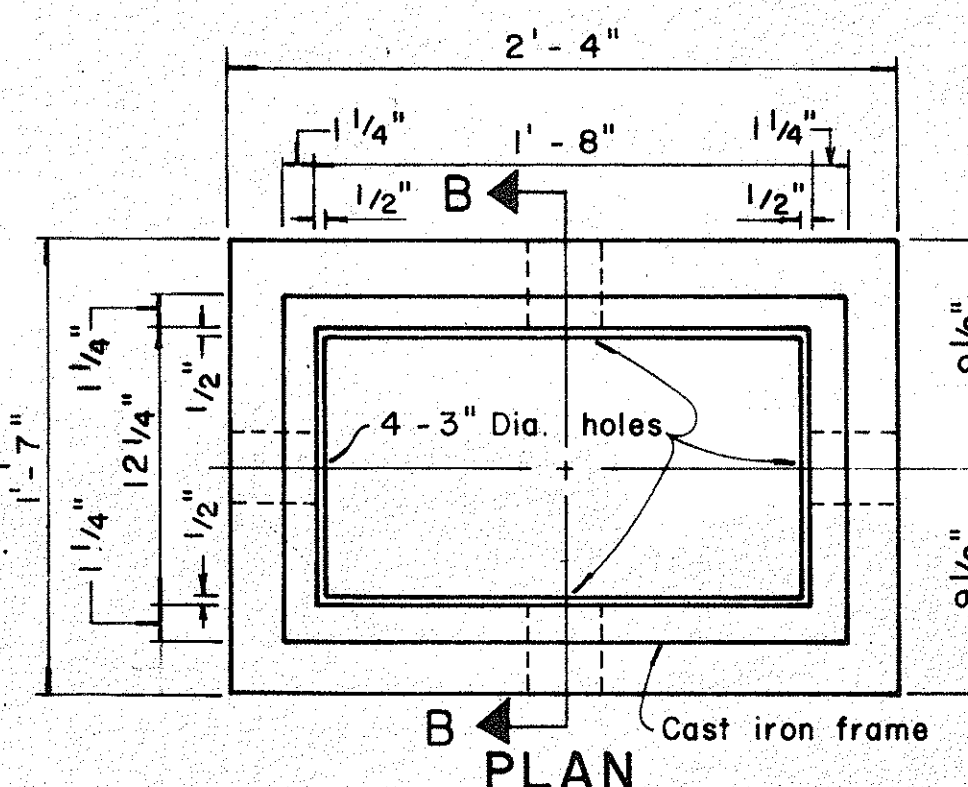
Hot dip galvanize after fabrication. Modified cover shall be furnished when called for on plans.



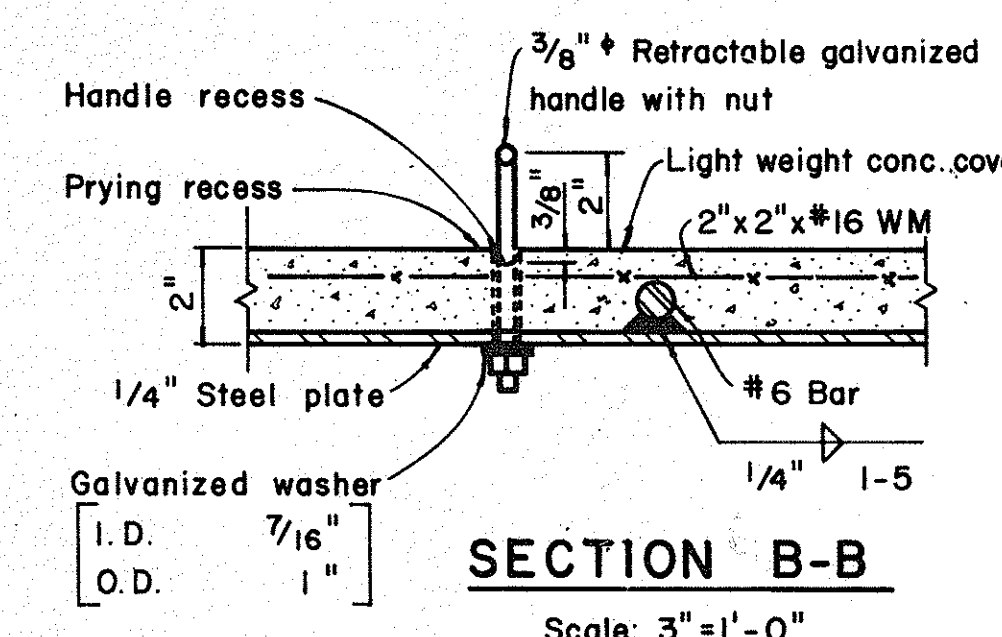
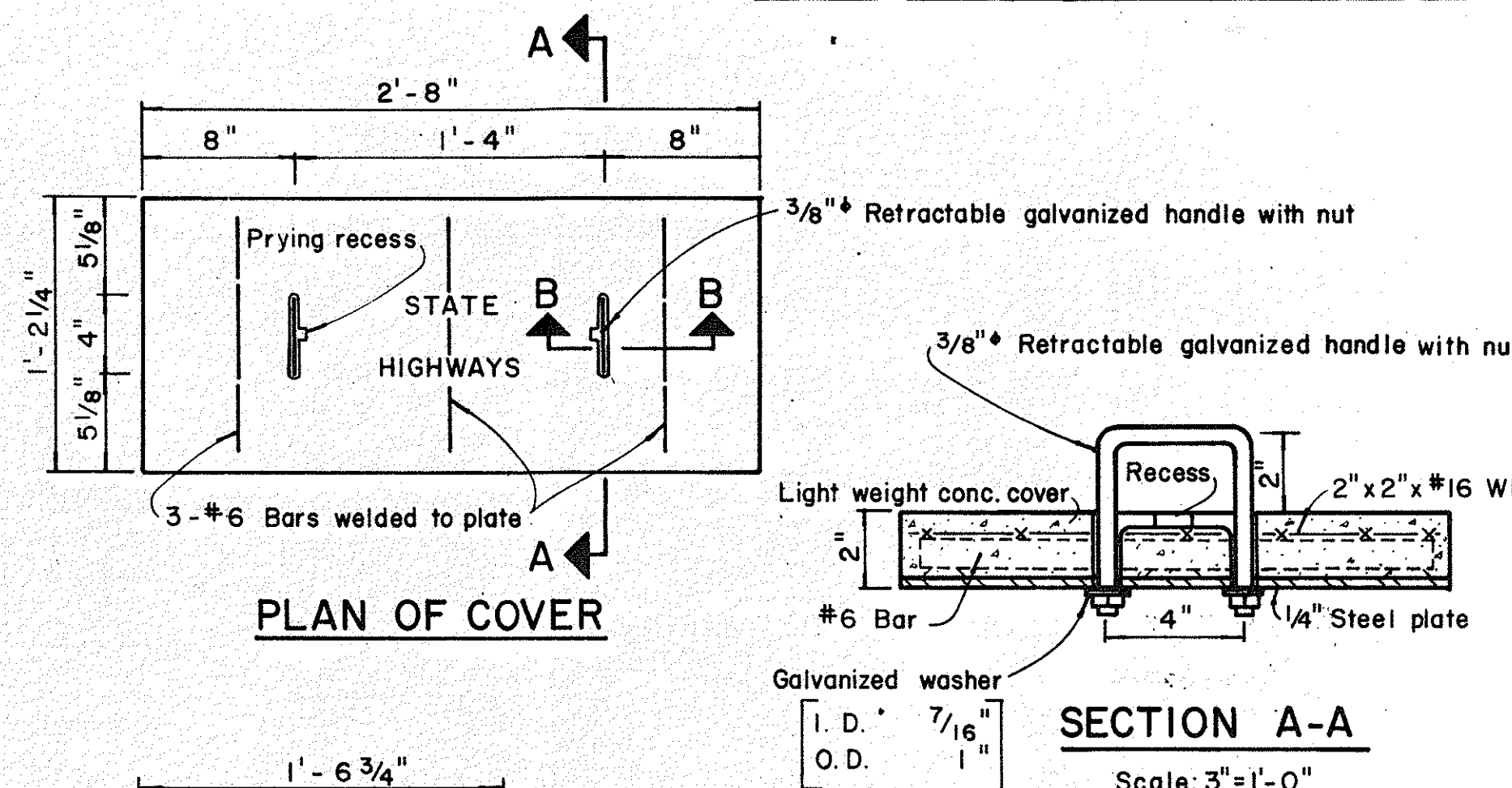
TYPE "C" PULLBOX
Scale: 1/2" = 1'-0"

NOTE:

Steel rim shall be welded to bottom of steel cover if necessary so that top of cover and frame are flush.



TYPE "B" PULLBOX
Scale: 1/2" = 1'-0"



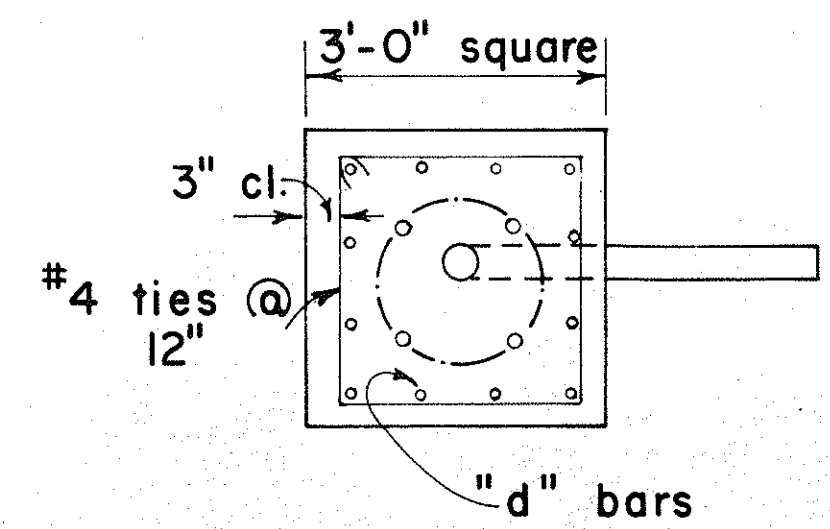
APPROVAL RECOMMENDED:
TRAFFIC ENGINEER
12/27/62
DATE

APPROVED:
ASSISTANT CHIEF, ENGINEERING
12-20-69
DATE

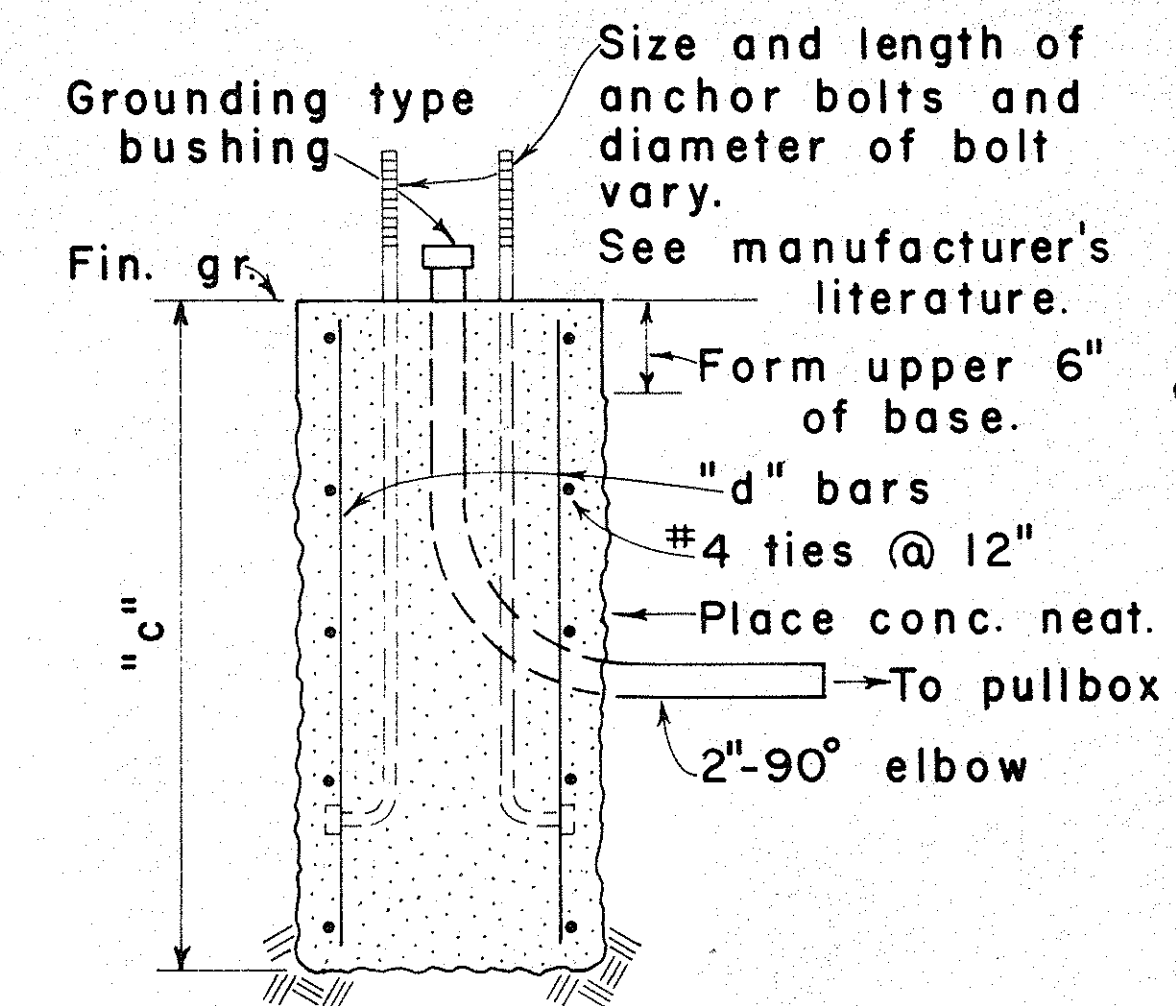
NO.	REVISION	APPROVED BY	DATE
1	Revised Type B & C Pullbox details	AT	3-5-76
2	Revised Type "A" Pullbox & Added Modified Cover.	K.T.	1-31-80
3	Revised Type B & C Pullbox details.	6/10	2-1-83

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
PULLBOXES
Scale as noted Date
SHEET NO. 4 OF 6 SHEETS DT 401

C.O. 168 S-4



PLAN - SECTION

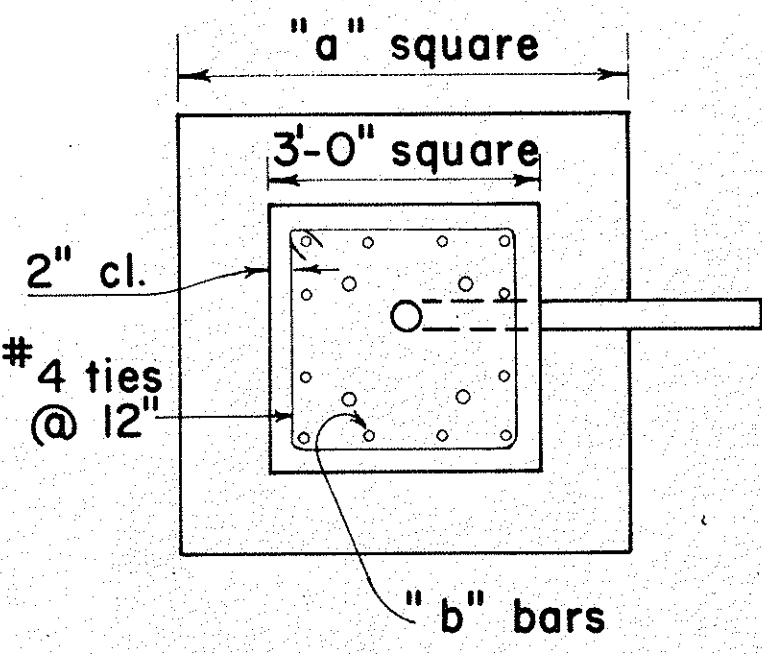


NOTE:
Concrete shall be Class B.

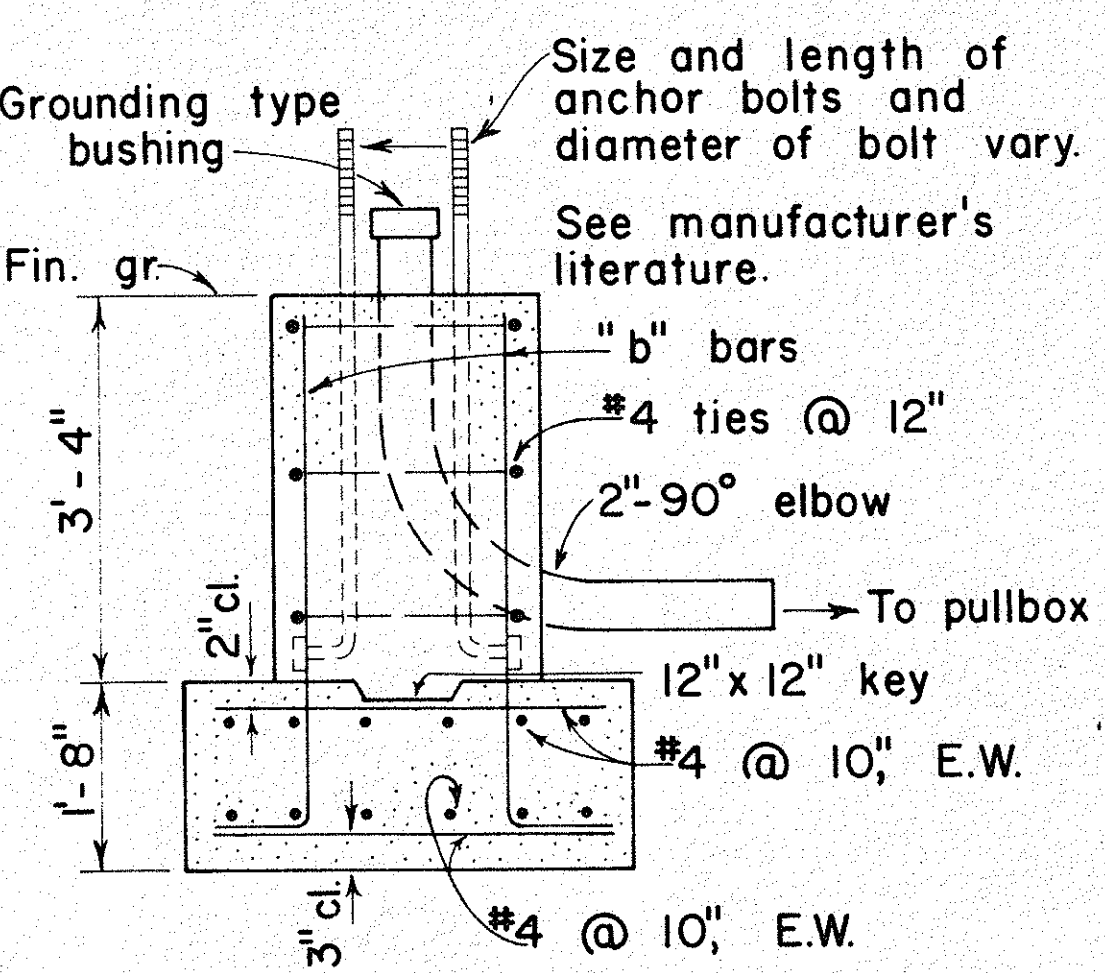
SECTION

MAST ARM LENGTH	"c"	"d" BARS
16' - 18'	5' - 0"	12 - #6
20'	5' - 6"	12 - #6
25'	6' - 0"	12 - #6
30'	6' - 6"	12 - #6
35'	7' - 0"	12 - #8
40'	8' - 0"	12 - #8

TYPE II



PLAN - SECTION



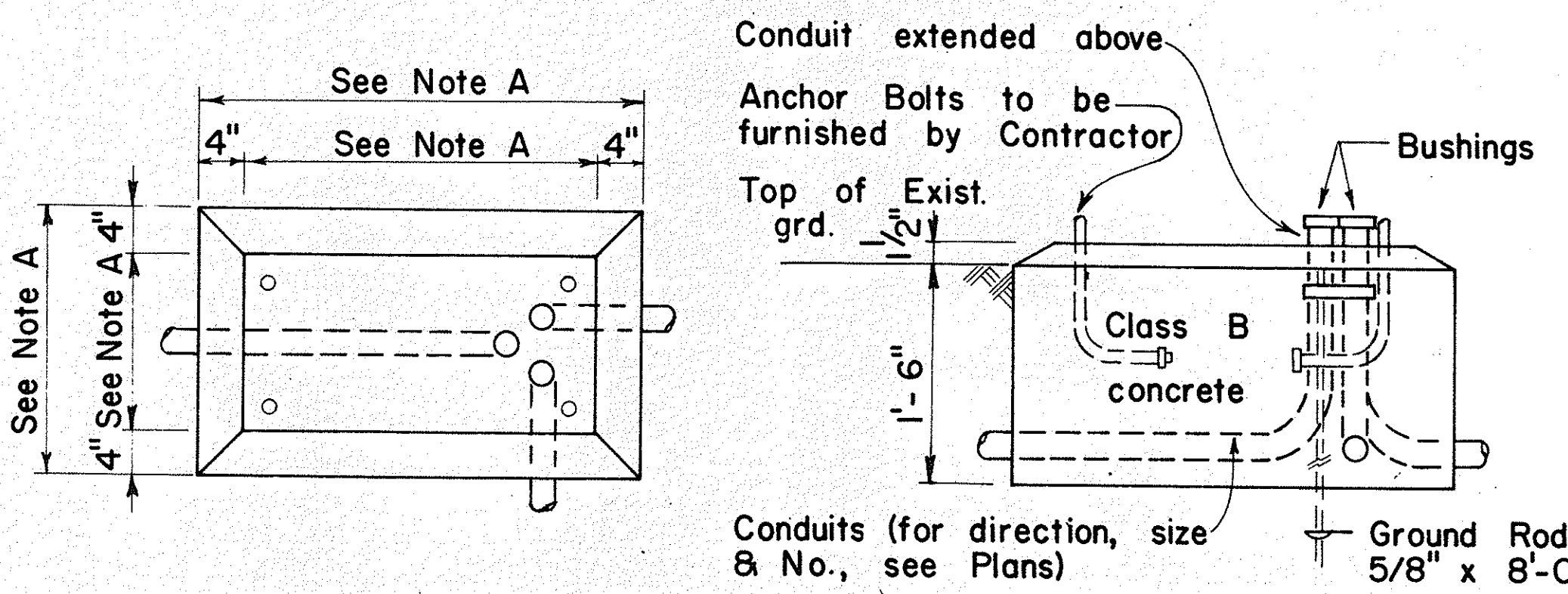
NOTE:
Concrete shall be Class B.

SECTION

MAST ARM LENGTH	"a"	"b" BARS
16' - 18'	5' - 0"	12 - #6
20'	5' - 6"	12 - #6
25'	6' - 0"	12 - #6
30'	6' - 6"	12 - #8
35'	6' - 6"	12 - #8
40'	7' - 0"	12 - #8

TYPE IIA

FOOTING FOR MAST ARM STANDARD



PLAN
CONCRETE BASE FOR CONTROLLER CABINET
ELEVATION

- NOTES:
- A. Dimensions to be determined by the size of the Controller Cabinet to be furnished under this Contract.
 - B. Details of Conduits, Anchor Bolts, etc., are approximate only. Exact details shall be secured by the Contractor from Manufacturer.

APPROVAL RECOMMENDED:
Eichi Tanaka 3/9/76
TRAFFIC ENGINEER DATE

APPROVED:
Robert S. Sakash 2-5-76
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

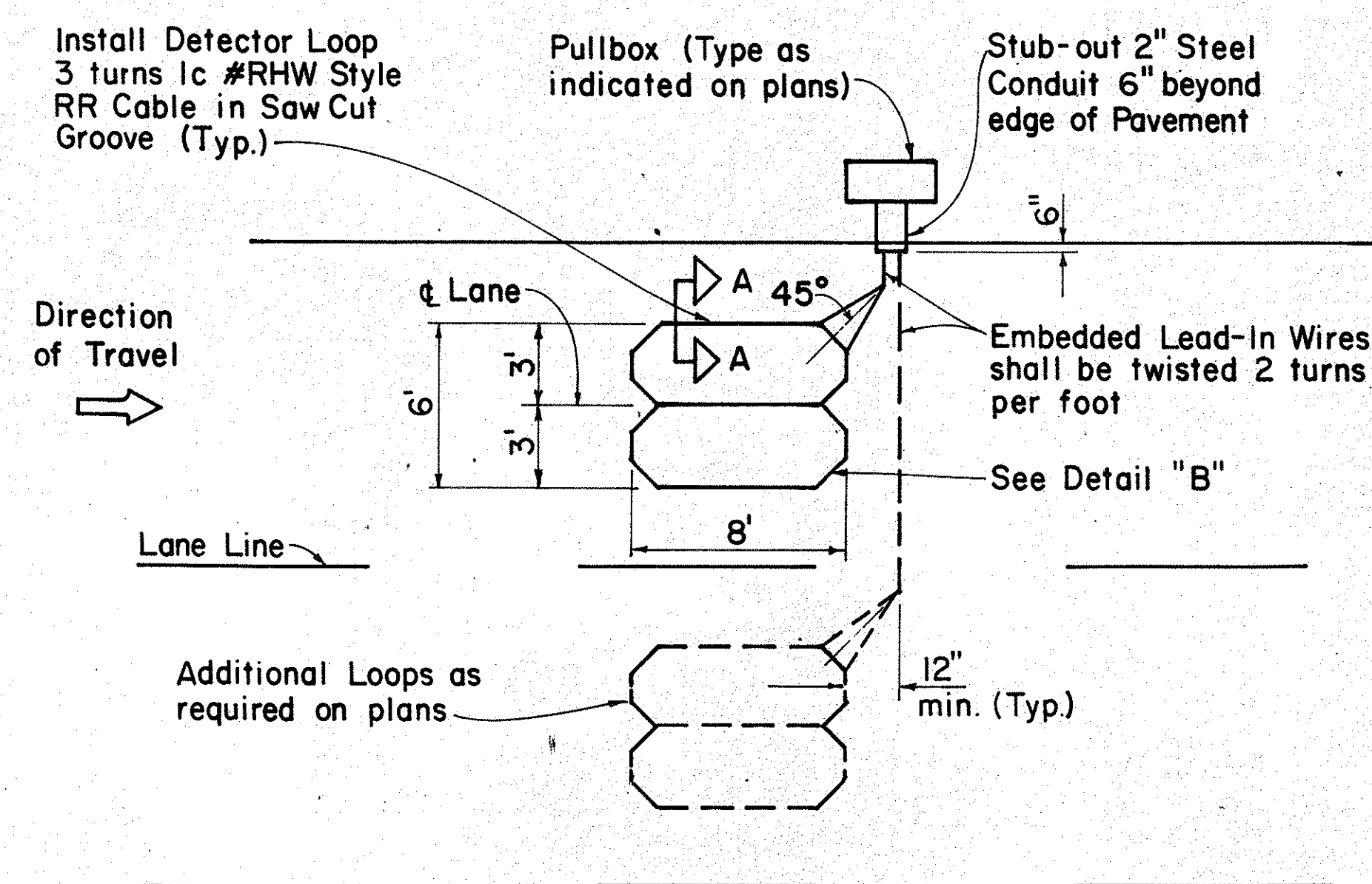
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

TRAFFIC SIGNAL SYSTEM
MISCELLANEOUS DETAILS

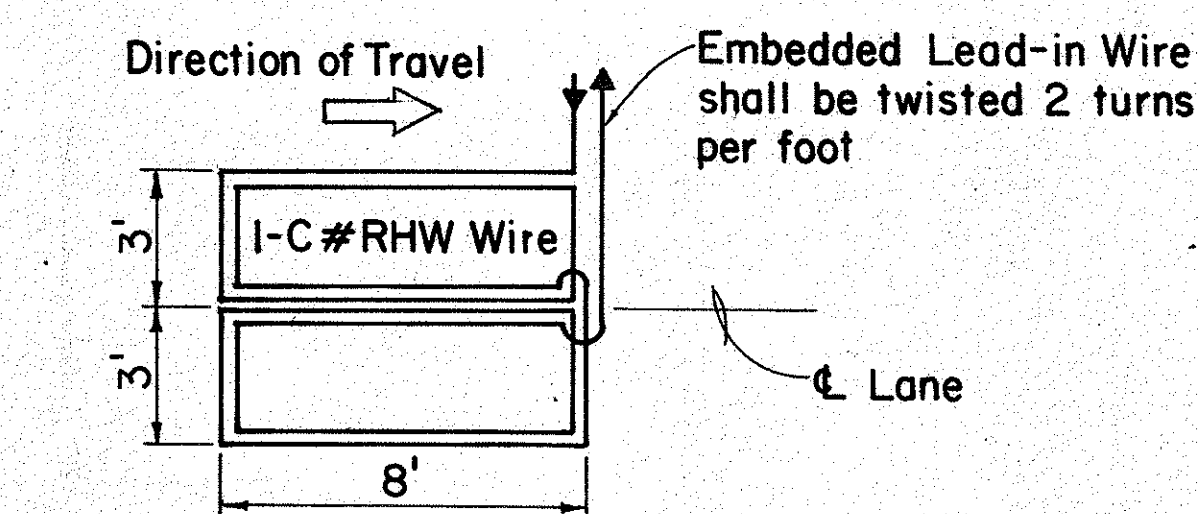
Not to Scale

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

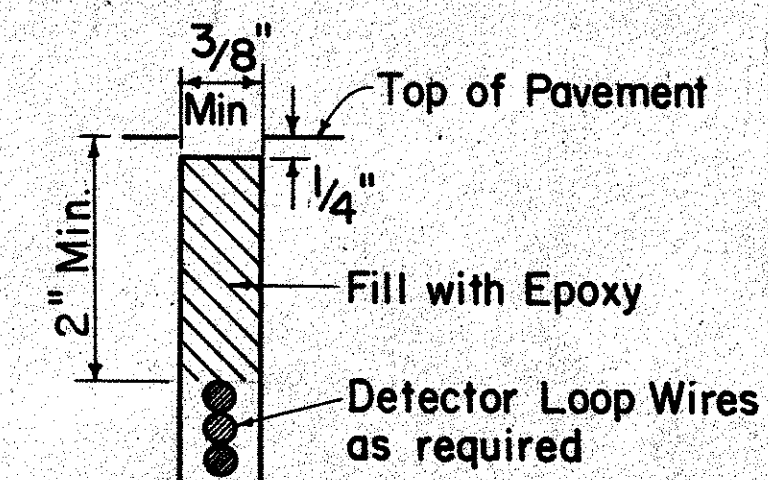
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-43-(24)-11	1983	C.O. 163-5-0	328



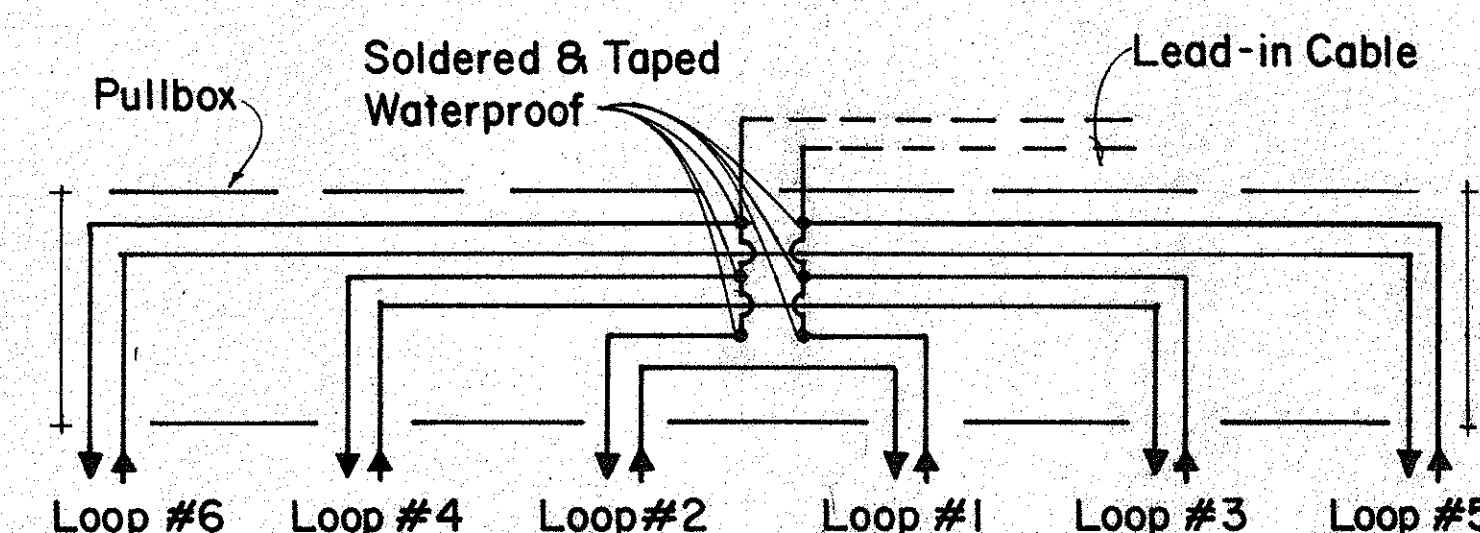
SINGLE LOOP LAYOUT



WIRING DIAGRAM



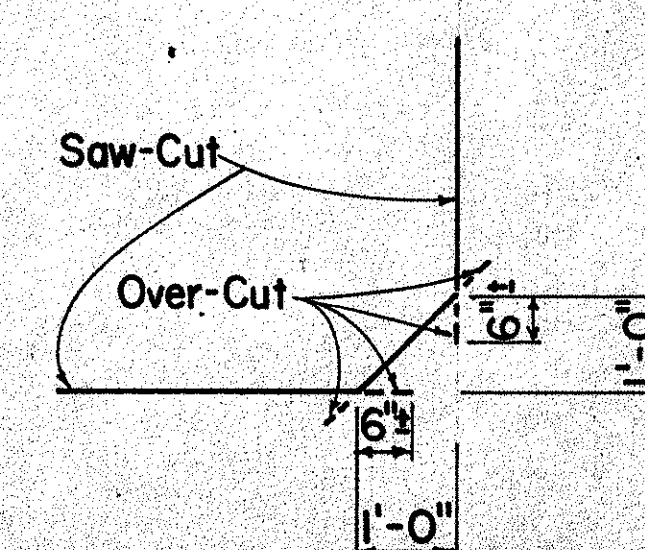
DETECTOR LOOP SAW-CUT
SECTION A-A (TYPICAL)



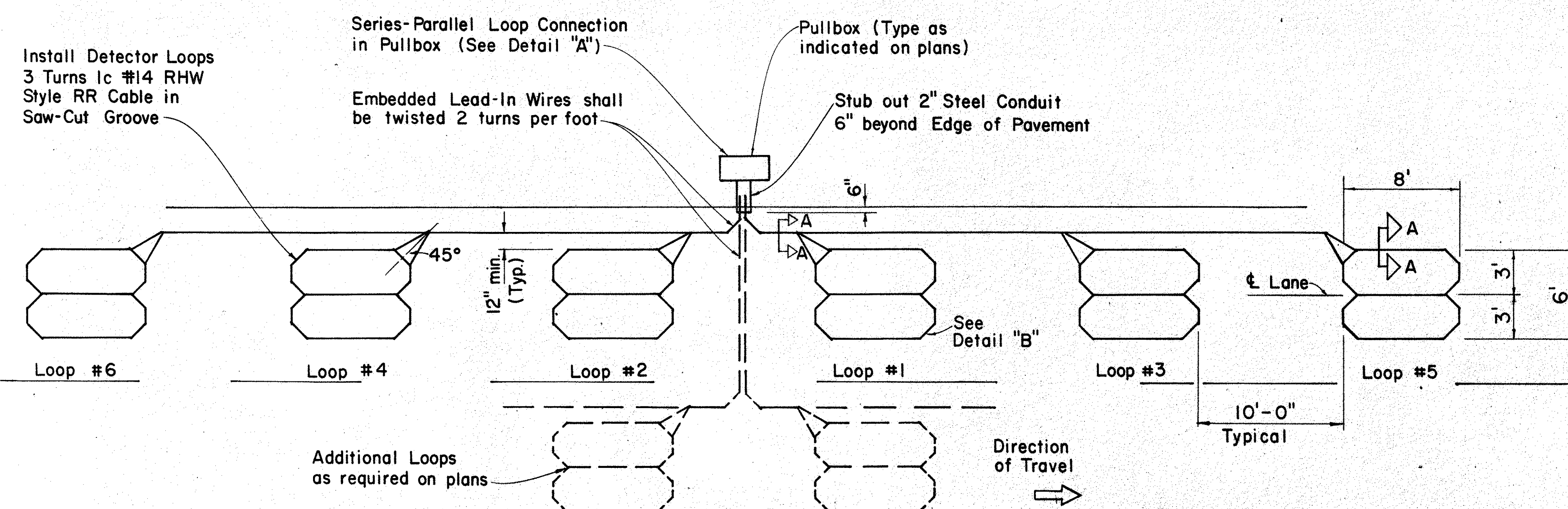
DETAIL "A"

TYPICAL SERIES-PARALLEL LOOP CONNECTION

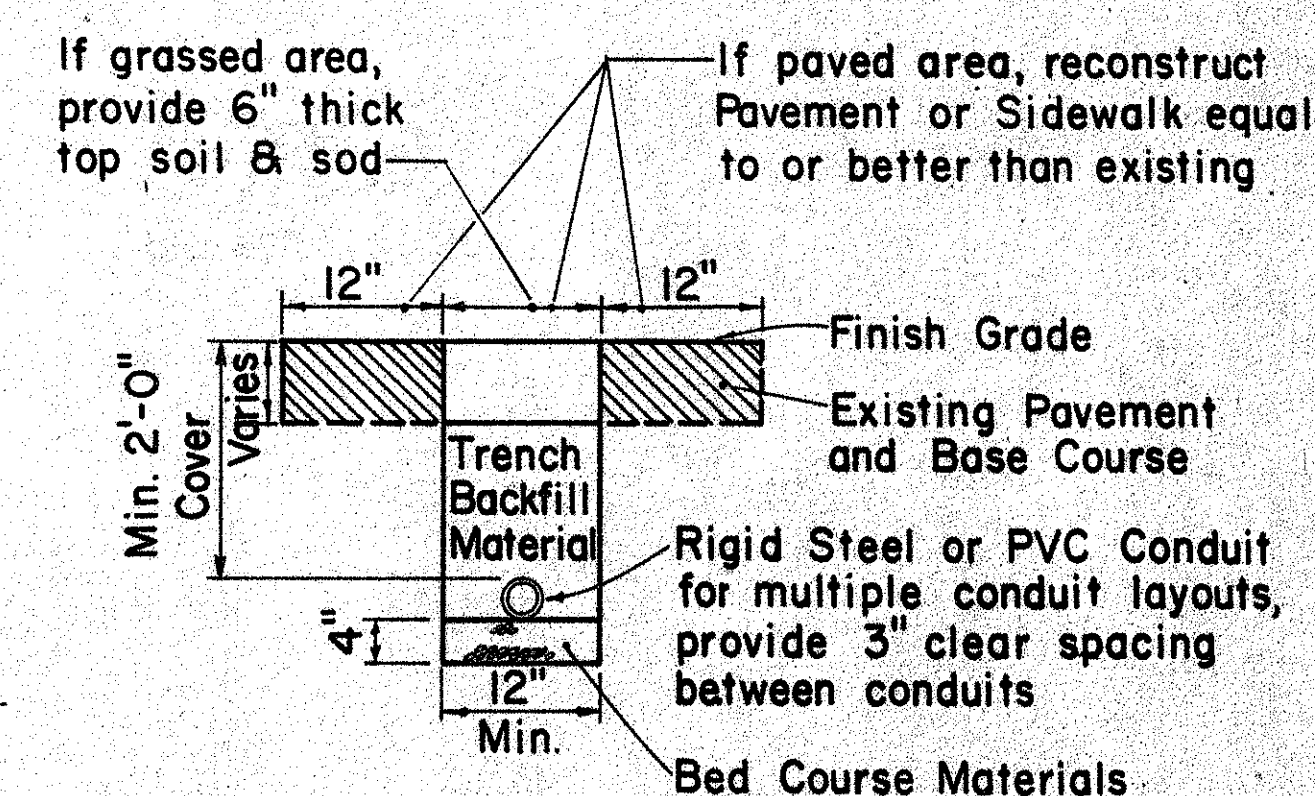
Note: Back-Fill Over-Cuts with Epoxy



DETAIL "B"
SAW-CUT AT CORNERS



MULTIPLE LOOP LAYOUT



TYPICAL TRENCH SECTION FOR CONDUIT

NOTE:

1. All conduits under roadways shall be steel or PVC schedule 80. All other conduits shall be steel or PVC schedule 40.

APPROVAL RECOMMENDED:

Eichi Tanaka 9/26/80
TRAFFIC ENGINEER DATE

APPROVED:

Harbour Zafishis 9/30/80
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Replaces Sht. DT 405 dated 3/5/76	H.T.	9/30/76
2	Revised Section A-A	H.T.	5/15/76

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

LOOP DETECTORS

Not to Scale

SHEET No. 6 OF 6 SHEETS DT 405

C.O. 168 S-6

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