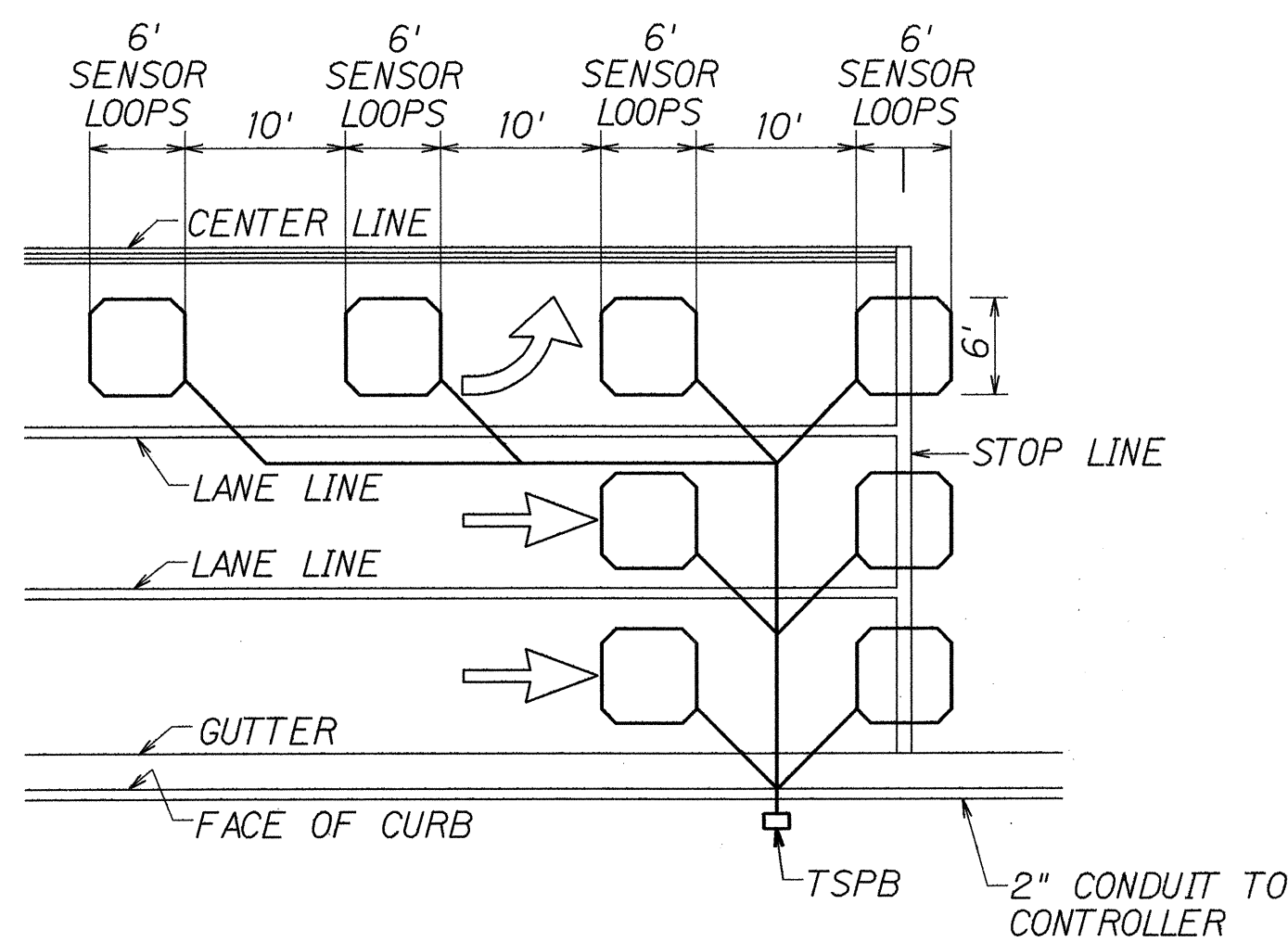
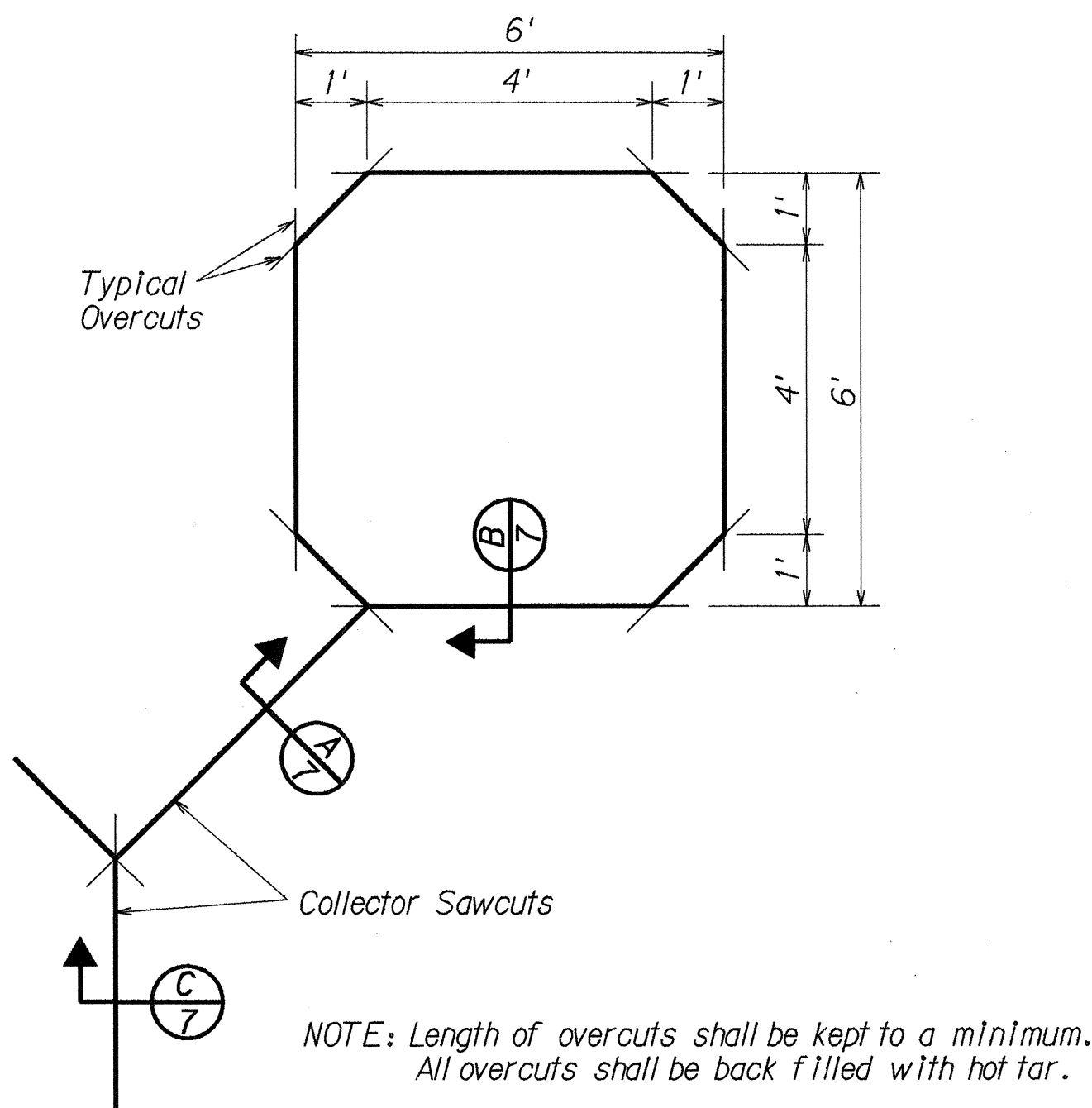


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-030-1(23)	1994	26	27

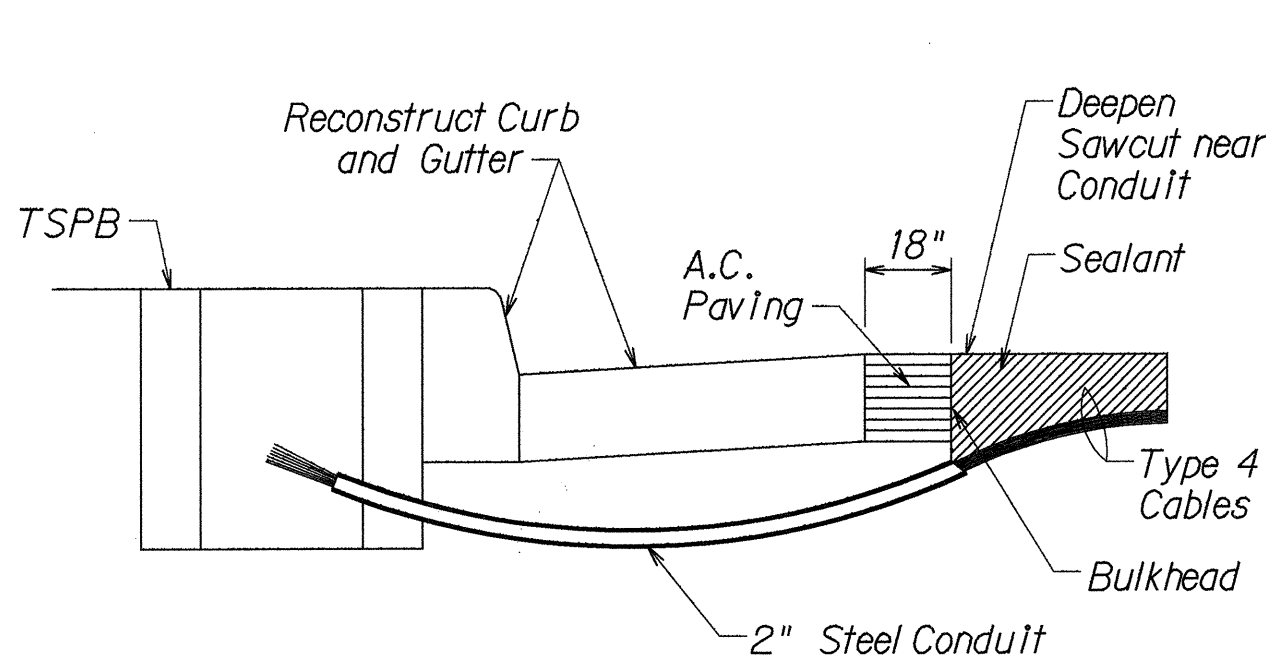
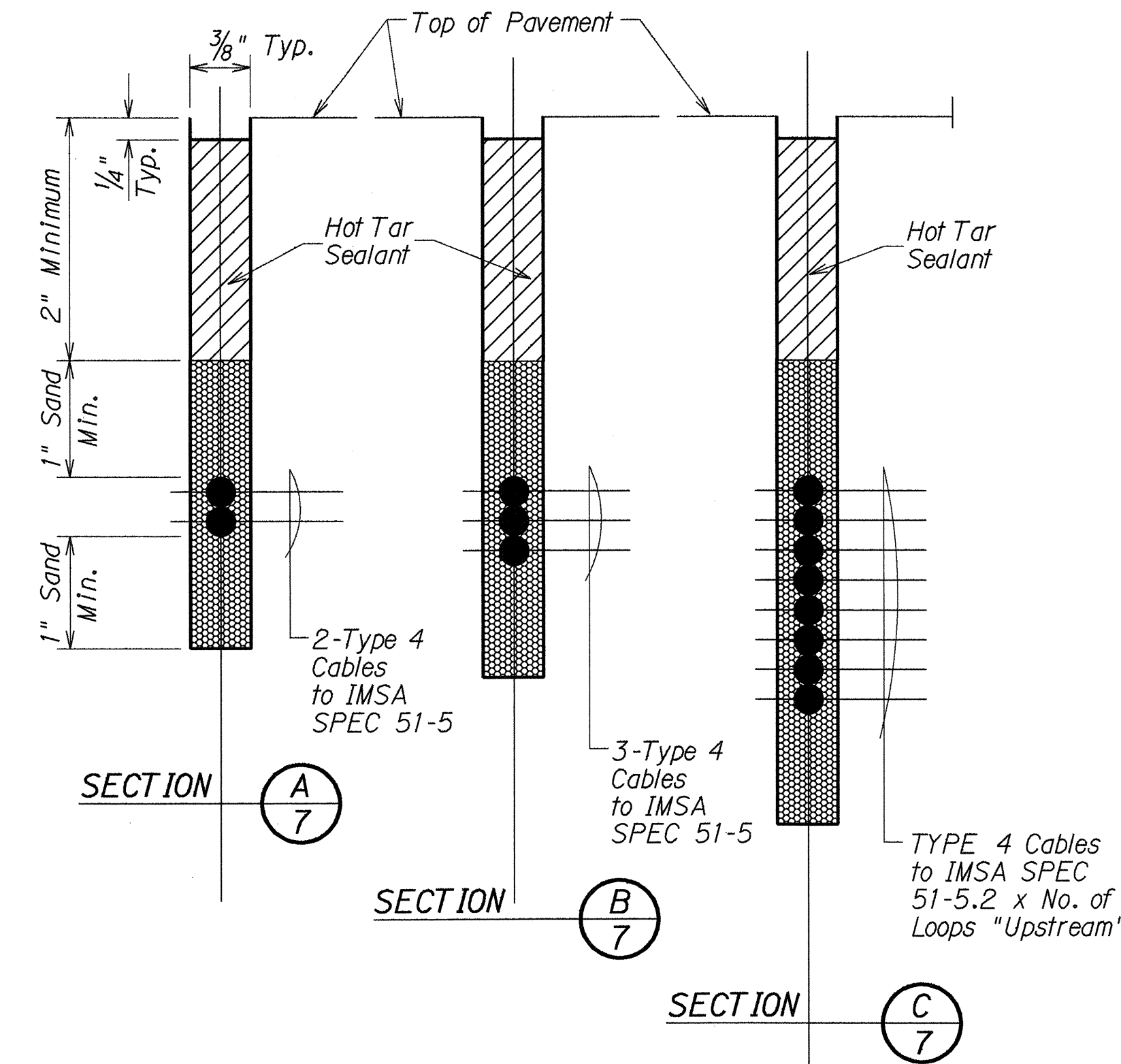


- NOTES:
- Center sensor loops in lanes.
 - Collector cables shall be twisted 2 turns per foot.
 - Number of loops and locations vary. See project plans.
 - Number and locations of collector sawcuts may be varied in the field to suit.

TYPICAL SENSOR LOOP LAYOUT

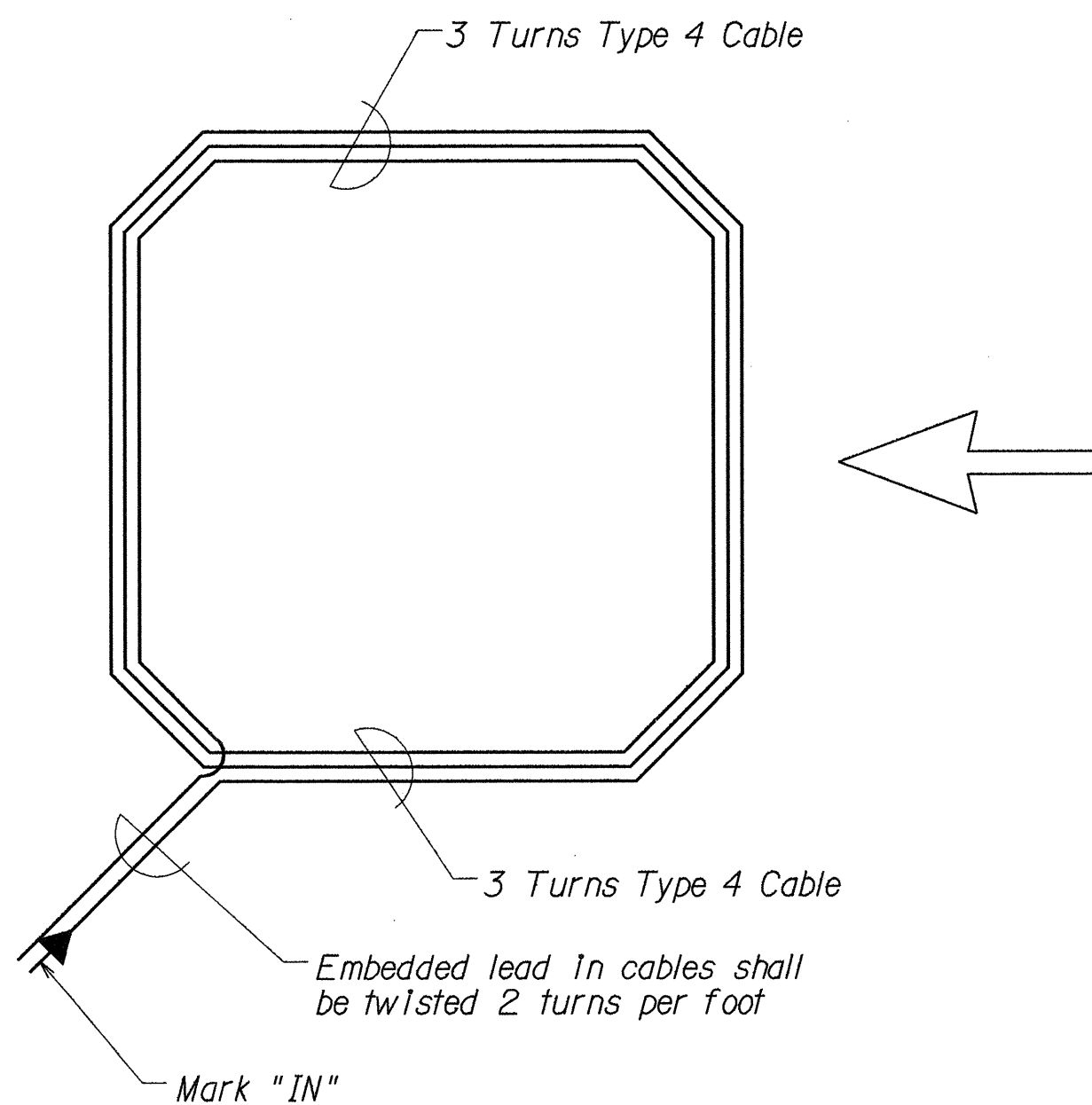


TYPICAL SENSOR LOOP SAWCUT DETAIL



- NOTES ON CONSTRUCTION AT END OF SAWCUT
- Seal roadway end of conduit after installation of conductors.
 - Install bulkhead across conduit trench.
 - Place hot tar in sawcut.
 - Backfill over conduit with new A.C.
 - Reconstruct curb and gutter as required.

DETAIL OF SENSOR LOOP INSTALLATION
AT EDGE OF ROADWAY



TYPICAL SENSOR LOOP WIRING DIAGRAM

TYPES OF CABLES

- TYPE 1 Signal Loop Cable: Stranded No. 14, 26 conductors
- TYPE 2 Detector Lead-In Cable and Pedestrian Push Button Circuit Cable: Stranded, No. 14, 2 Conductors
- TYPE 3 Interconnect Cable: Solid No. 20, 12 Pairs
- TYPE 4 Loop Sensor Cable: Solid No. 12, Single Conductor to IMSA SPEC 51-5
- TYPE 5 Cable from Signal Loop to Signal Head: Stranded, No. 14, Single Conductor
- TYPE 6 Service Cable: Solid, No. 6, 3 Conductors

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LOOP DETECTOR DETAILS

HONOAPIILANI HIGHWAY RESURFACING
Honokowai to Kahana
Fed. Aid Project No. STP-030-1(23)

Not to Scale
Date: May, 1994

SHEET NO. 110 OF 11 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	3/22/94
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
DESIGNED BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-030-1(23)	1994	27	27

PAVEMENT MARKING SUMMARY	
DESCRIPTION	QUANTITY
PAVEMENT MARKERS	
TYPE A _____	28 EA.
TYPE C _____	706 EA.
TYPE D _____	258 EA.
TYPE H _____	315 EA.
TYPE J _____	588 EA.
TAPE - TYPE I OR THERMOPLASTIC EXTRUSION	
4-INCH PAVEMENT STRIPE (YELLOW) _____	380 L.F.
8-INCH PAVEMENT STRIPE (WHITE) _____	725 L.F.
DOUBLE 4-INCH PAVEMENT STRIPE (YELLOW) _____	2,360 L.F.
TAPE - TYPE II OR THERMOPLASTIC EXTRUSION	
4-INCH PAVEMENT STRIPE (WHITE) _____	20,450 L.F.
8-INCH PAVEMENT STRIPE (WHITE) _____	1,110 L.F.
12-INCH PAVEMENT STRIPE (WHITE) _____	300 L.F.
12-INCH PAVEMENT STRIPE (YELLOW) _____	935 L.F.
DOUBLE 4-INCH PAVEMENT STRIPE (YELLOW) _____	5,960 L.F.
TAPE - TYPE III OR THERMOPLASTIC EXTRUSION	
4-INCH PAVEMENT STRIPE (WHITE) _____	2,890 L.F.
4-INCH PAVEMENT STRIPE (YELLOW) _____	310 L.F.
12-INCH PAVEMENT STRIPE (WHITE) _____	320 L.F.
PAVEMENT ARROW _____	38 EA.

MILEPOST MARKER SUMMARY			
LOCATION	SIGN NO. AND MESSAGE	QUANTITY	
		W/POST	W/O POST
Sta. 24+00± RT.	D10-2 26 D10-7 30	1	
Sta. 73+90± RT.	D10-2 27 D10-7 30	1	
TOTAL		2	

NOTE: Sign D10-7 (30), Highway Route Number Plate shall not be paid for separately but considered incidental to Sign D10-2.

RECONSTRUCTION OF WEAKENED AREAS						
STATION TO STATION (APPROX.)	OFFSET	LENGTH (FT.)	WIDTH (FT.)	THICKNESS (INCHES)	EXCAVATION (C.Y.)	ACB (TONS)
23+50 - 32+50	Lt. & Rt.	900	24	4 1/4"	283	581
46+00 - 52+00	Lt. & Rt.	600	24	4 1/4"	188	387
TOTAL					471	968
SAY					475	970

DESTINATION SIGN SUMMARY					
SIGN NO.	LOCATION	MESSAGE	SIZE	NEW PANEL AREA (SQ. FT.)	
				W/O POST	W/POSTS
D-1	Sta. 11+10± Rt.	KAHANA NAPILI HONOKOWAI KAANAPALI LAHAINA HONOKOWAI	8'-0" x 5'-6"		44.0
D-2	Sta. 24+00± Lt.	AIRPORT	8'-0" x 5'-6"		44.0
D-3 (R)	Sta. 79+50± Rt.	AIRPORT	5'-0" x 3'-6"		17.5
D-3 (L)	Sta. 90+60± Lt.	AIRPORT	5'-0" x 3'-6"		17.5
D-1	Sta. 105+50± Rt.	NAPILI KAPALUA KAHANA	7'-0" x 5'-6"		38.5
TOTAL				0	161.5

TRAFFIC SIGN SUMMARY					
SIGN NO.	MESSAGE	QUANTITY			
		10 SQ. FT. OR LESS		GREATER THAN 10 SQ. FT.	
		W/POST	W/O POST	W/POSTS	W/O POST
R1-1	STOP	7			
R1-2	YIELD	7			
R2-1 (45)	SPEED LIMIT 45			10	
R3-26		2			
R4-1	DO NOT PASS	3			
R4-2	PASS WITH CARE	2			
W2-1	CROSS ROAD SIGN	4			
W2-2	SIDE ROAD SIGN	1			
D11-1	BIKE ROUTE	14			
I-5		1 *			
I-5		1 *			
Total		42	0	10	0

* NOTE: Supplementary Signs M5-1(R) & M5-1(L) shall have a white legend on a green background and shall not be paid for separately but considered incidental to Sign No. I-5.

CONSTRUCTION SIGN SUMMARY		
SIGN NO.	MESSAGE	W/POSTS
CW20-1d	ROAD CONSTRUCTION AHEAD	3
CG20-2	END CONSTRUCTION	3
Total		6

ROUTE MARKER SUMMARY			
SIGN ASSEMBLY	SIGN NO. AND MESSAGE	TYPE A ASSEMBLY	
		W/POST	W/O POST
SRM-1	M3-2 M1-6 (30) EAST 30	2	
SRM-2	M3-4 M1-6 (30) WEST 30	2	
TOTAL		4	0

TYPE II OBJECT MARKER & REFLECTOR MARKER SUMMARY		
TYPE	QUANTITY	
	W/ POST	W/O POST
RM-2 (white)	35	8
RM-3		68
RM-4	4	
OM-II	10	7

SURVEY PLOTTED BY _____	DATE Feb. 1994
DRAWN BY J. Gilbert	
TRACED BY _____	
NOTED BY _____	
QUANTITIES BY _____	
CHECKED BY _____	
ORIGINAL PLAN _____	
NOTED BY _____	
QUANTITIES BY _____	
CHECKED BY _____	

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
MISCELLANEOUS SUMMARIES
HONOAPIILANI HIGHWAY RESURFACING
Honokowai to Kahana
Fed. Aid Project No. STP-030-1(23)
Date: May, 1994
SHEET No. 27 OF 27 SHEETS