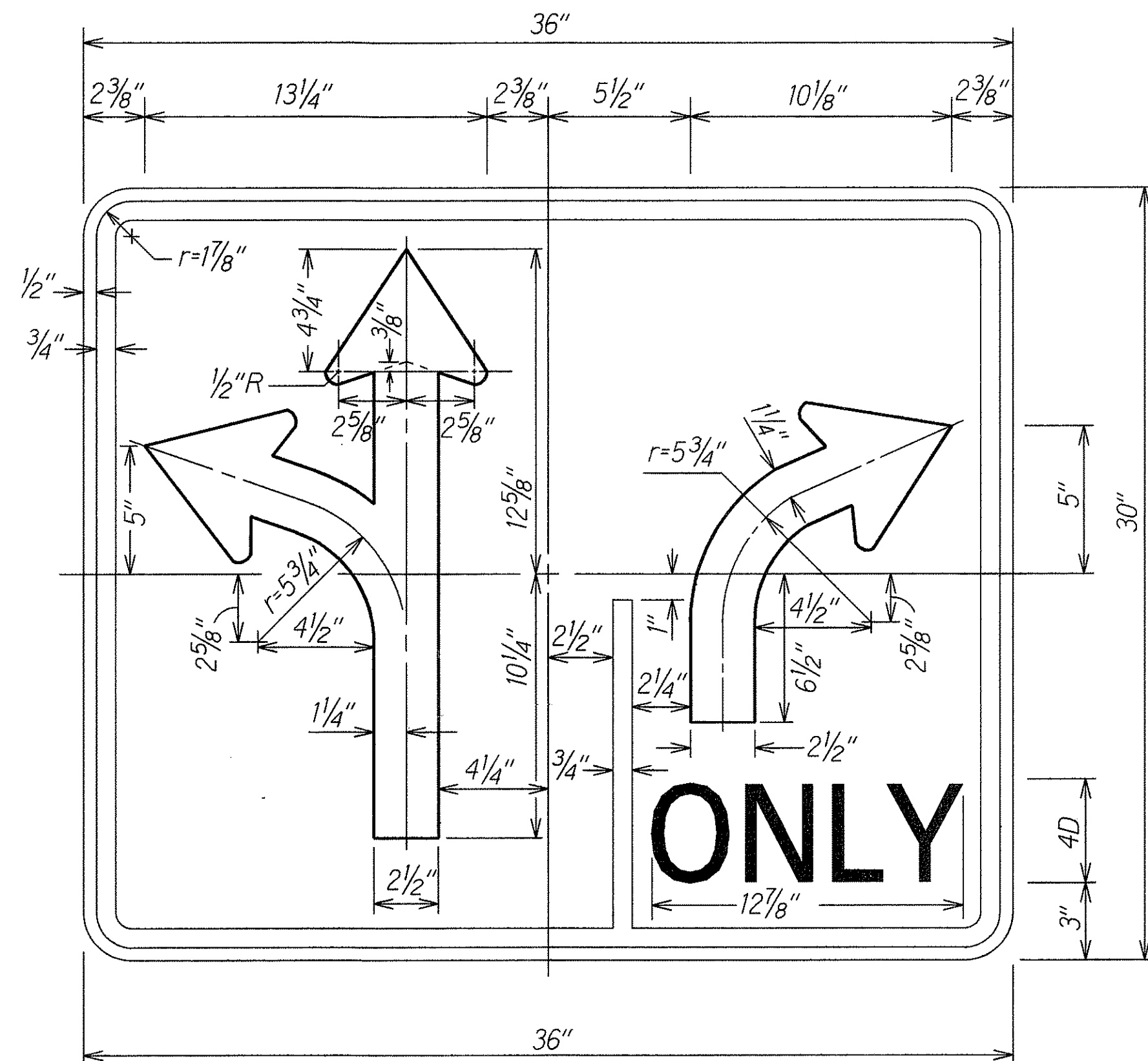
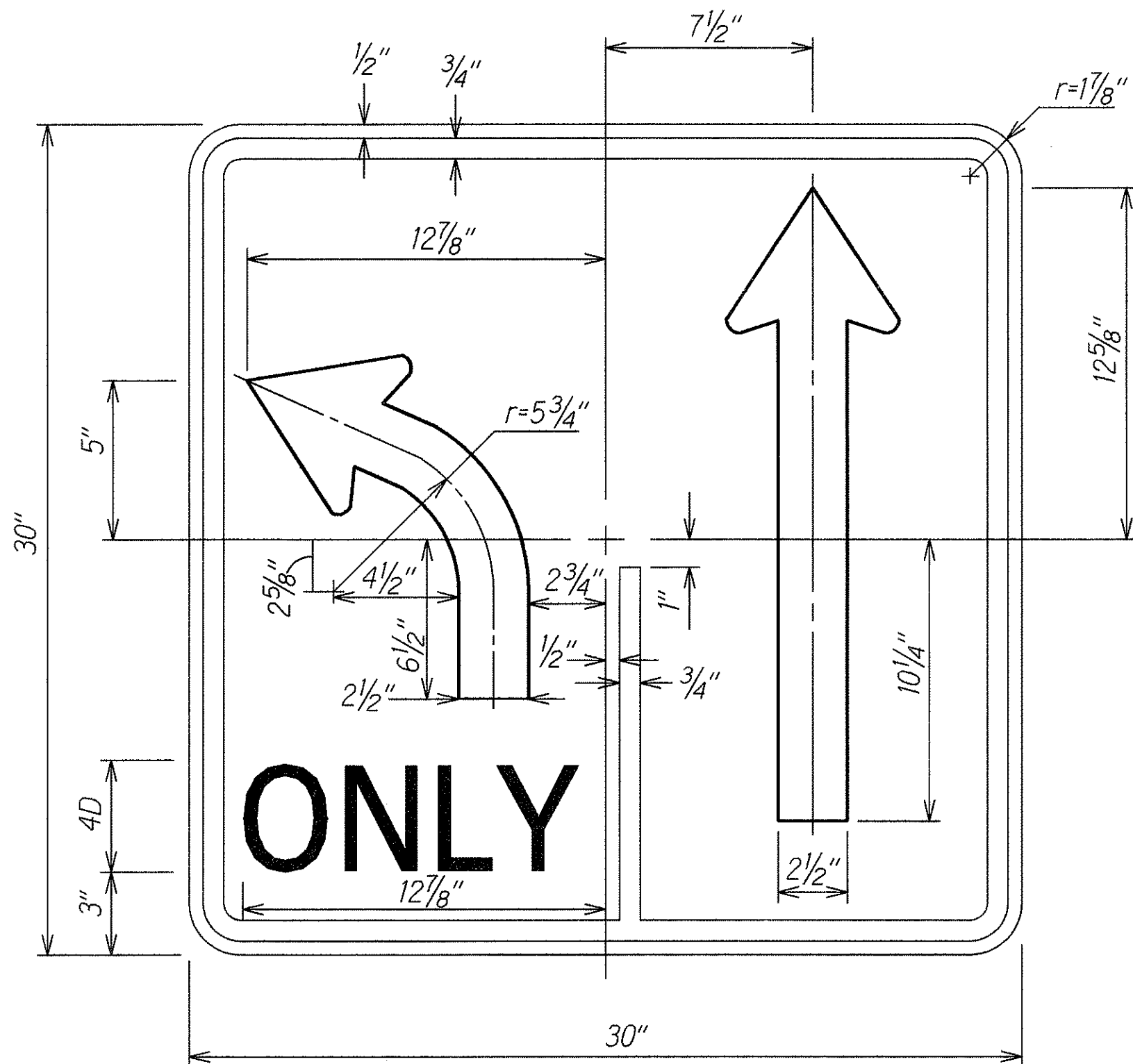


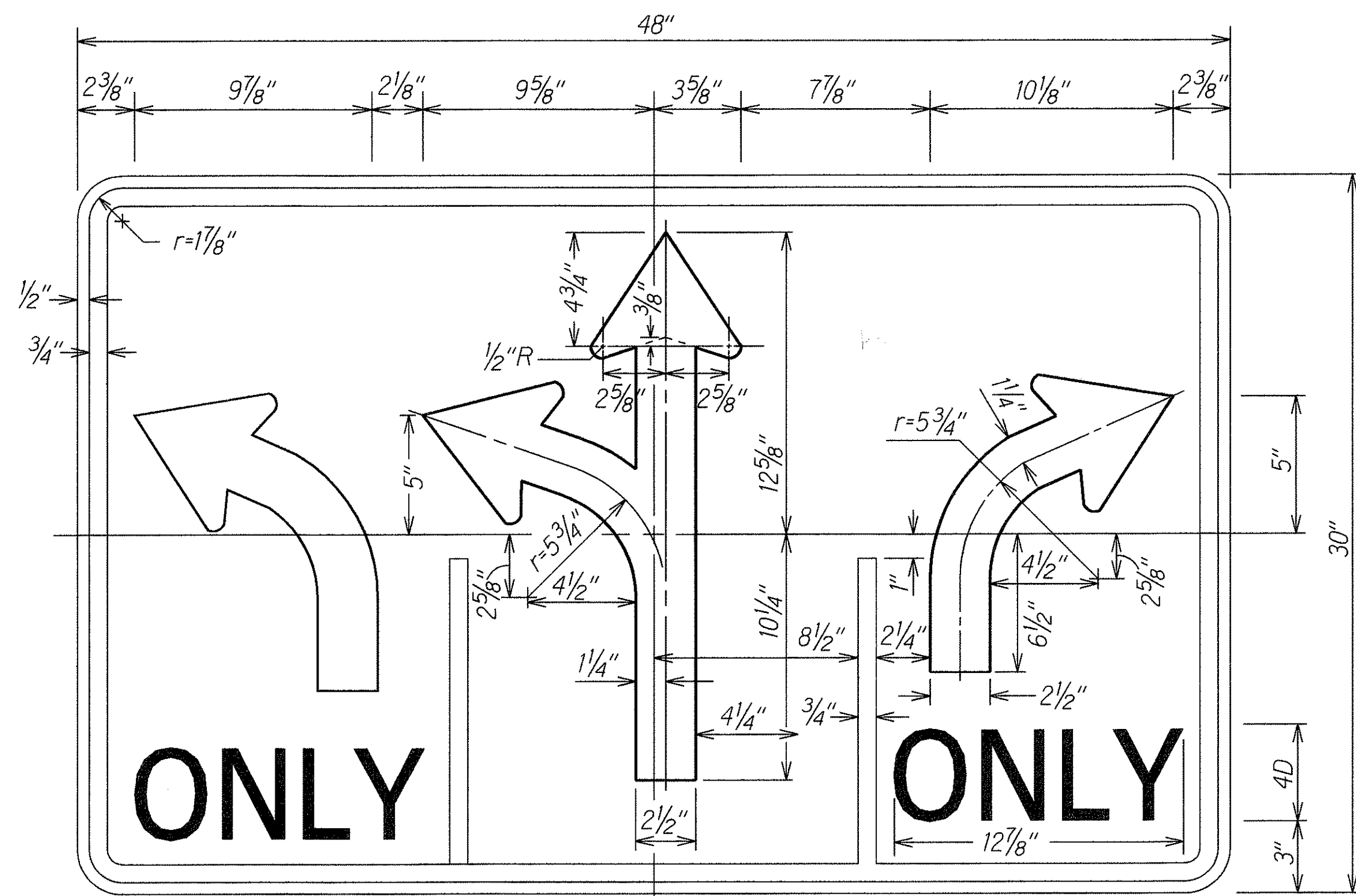
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(32)	1994	18	21



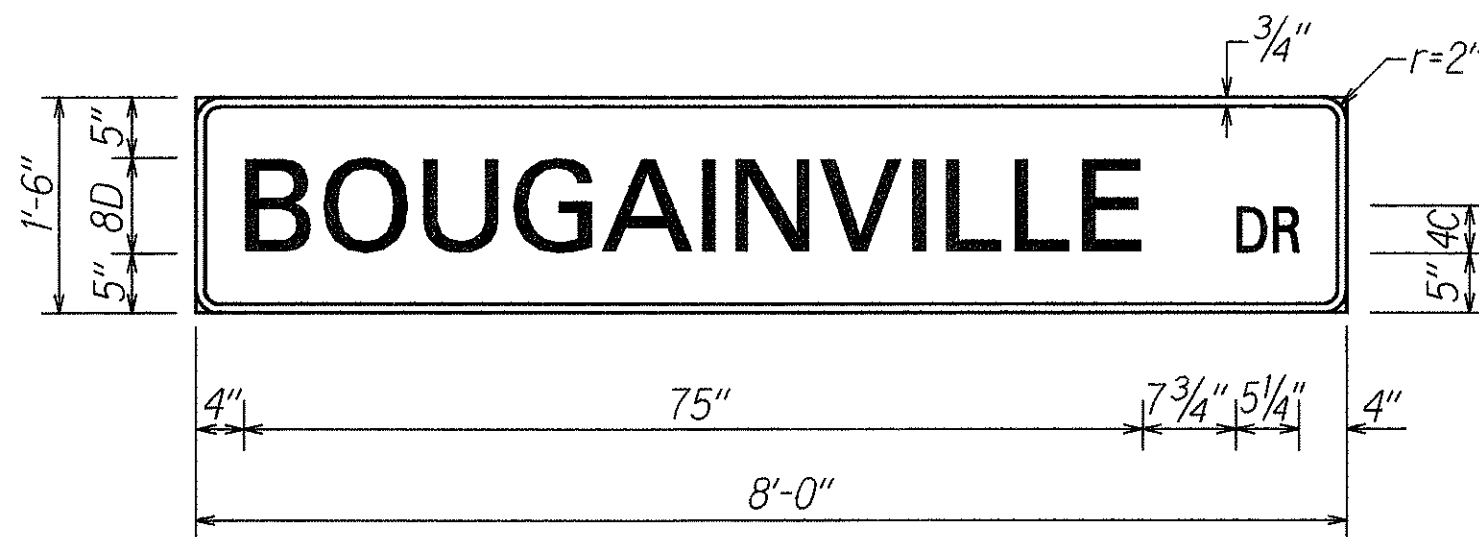
R3-26  
Not to Scale



R3-40  
Not to Scale



R3-45  
Not to Scale



D3-1  
3/4" = 1' - 0"

#### REGULATORY SIGN NOTES:

- Sign details shall conform to the latest editions of FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," and "Standard Highway Signs," and as amended.
- All regulatory signs shall be reflectorized unless otherwise specified.
- Signs R3-26, R3-40, and R3-45 are a variation of Sign R3-8. Plate and arrow details shall conform to Sign R3-8.

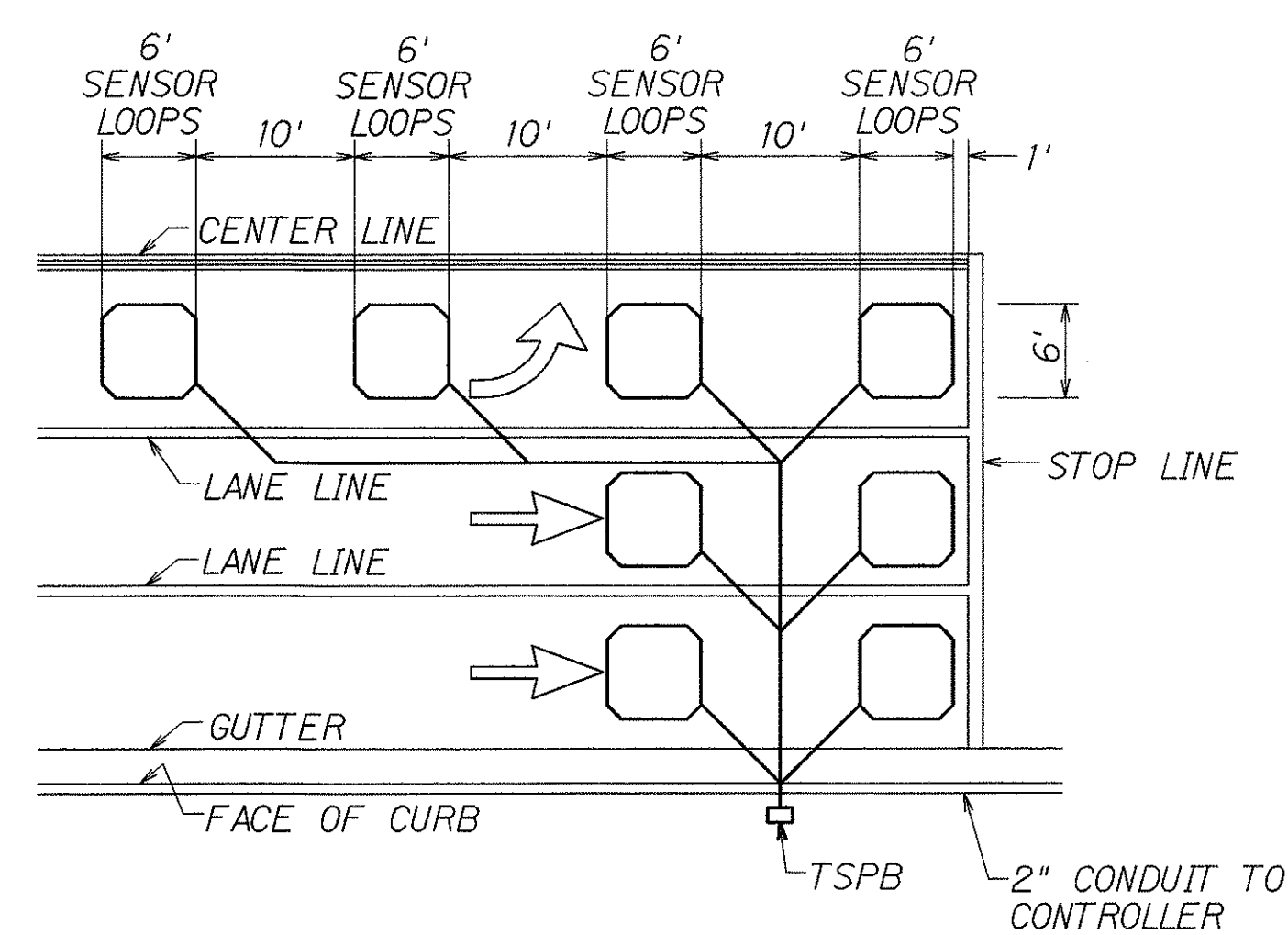
#### STREET NAME (D3) SIGN NOTES:

- Provide the same message on the front and back side of the sign. Payment will not be made separately but shall be considered as one unit.
- Colors:  
Legend - White (Reflectorized)  
Background - Green (Reflectorized)
- All panels shall be reflectorized with Type III or IV retroreflective sheeting (High Intensity or High Performance Grade).
- All signs shall conform to section 621 of the standard Specifications and the latest editions and amendments of the following FHWA publications:
  - "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD)
  - "Standard Highway Signs"
  - "Standard Alphabets for Highway Signs"
- Borders and messages shall conform to details as shown on the plans and as specified in the MUTCD.
- Sign mounting brackets, fixtures, fasteners and all necessary hardware, and equipment, tools, labor, materials and other incidentals for installation, will not be paid for separately but shall be considered incidental to street name sign installation.
- Install Street Name Signs on Traffic Signal Mast Arm.
- All panels shall be installed with three (3) sign mounting brackets.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY R. Ail	1/94
DESIGNED BY G. Kakehi		
CHECKED BY		

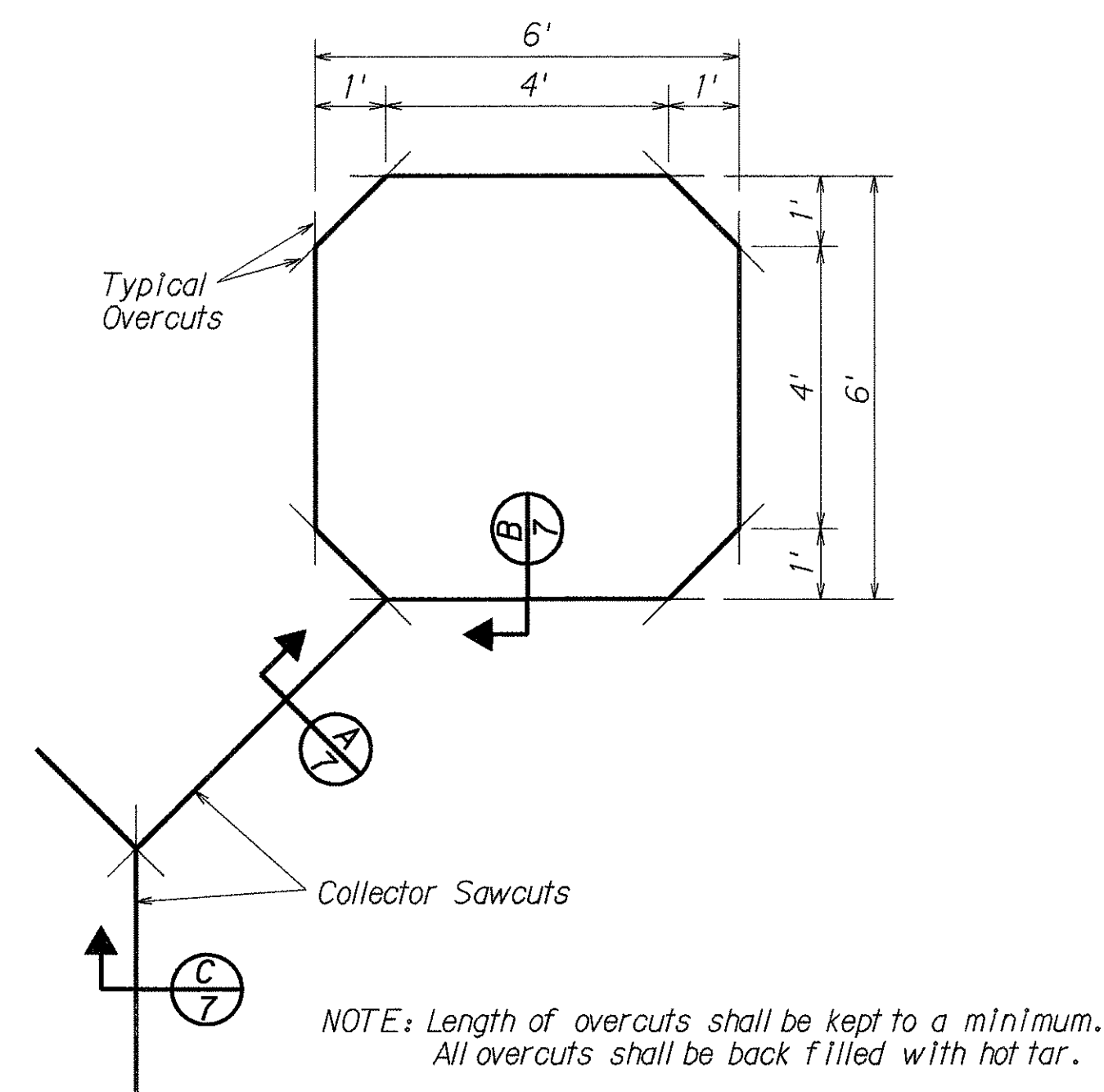
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
<b>SIGN DETAIL</b>
<b>RADFORD DR. &amp; BOUGAINVILLE DR.</b>
<b>RESURFACING</b>
<b>Kamehameha Hwy. Towards Salt Lake Blvd.</b>
<b>FED. AID PROJ. NO. STP-0300(32)</b>
Scale: As Noted Date: Jan., 1994
SHEET No. T8 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(32)	1994	19	21

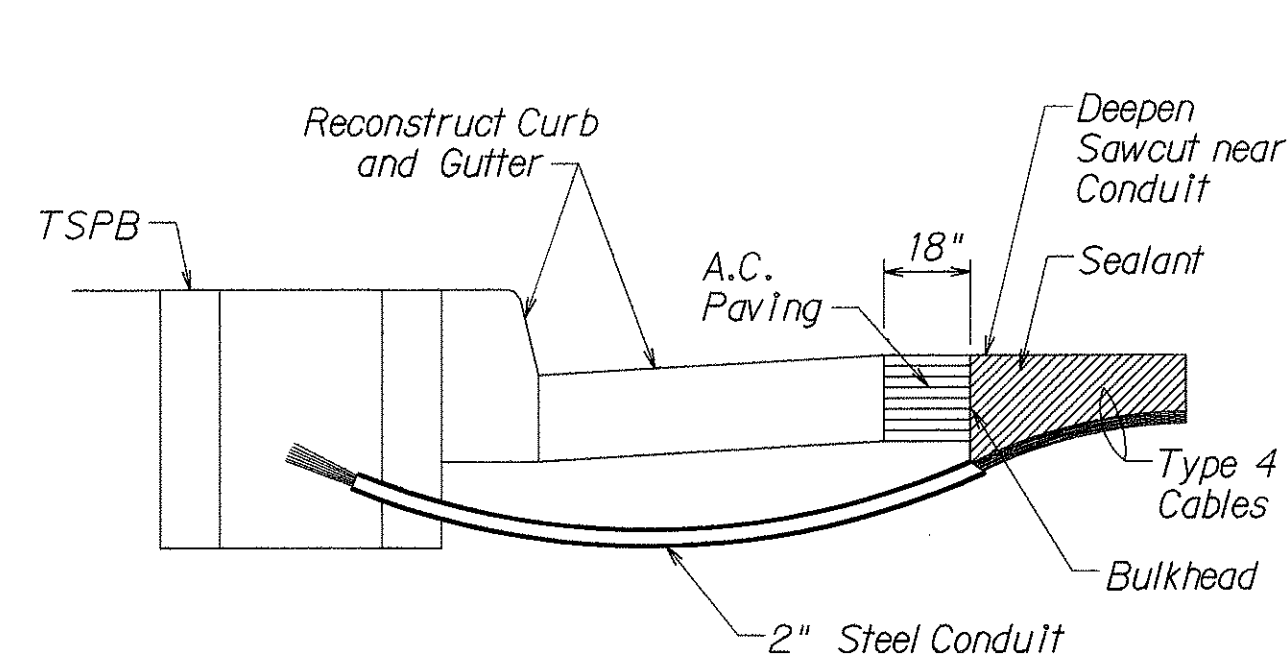
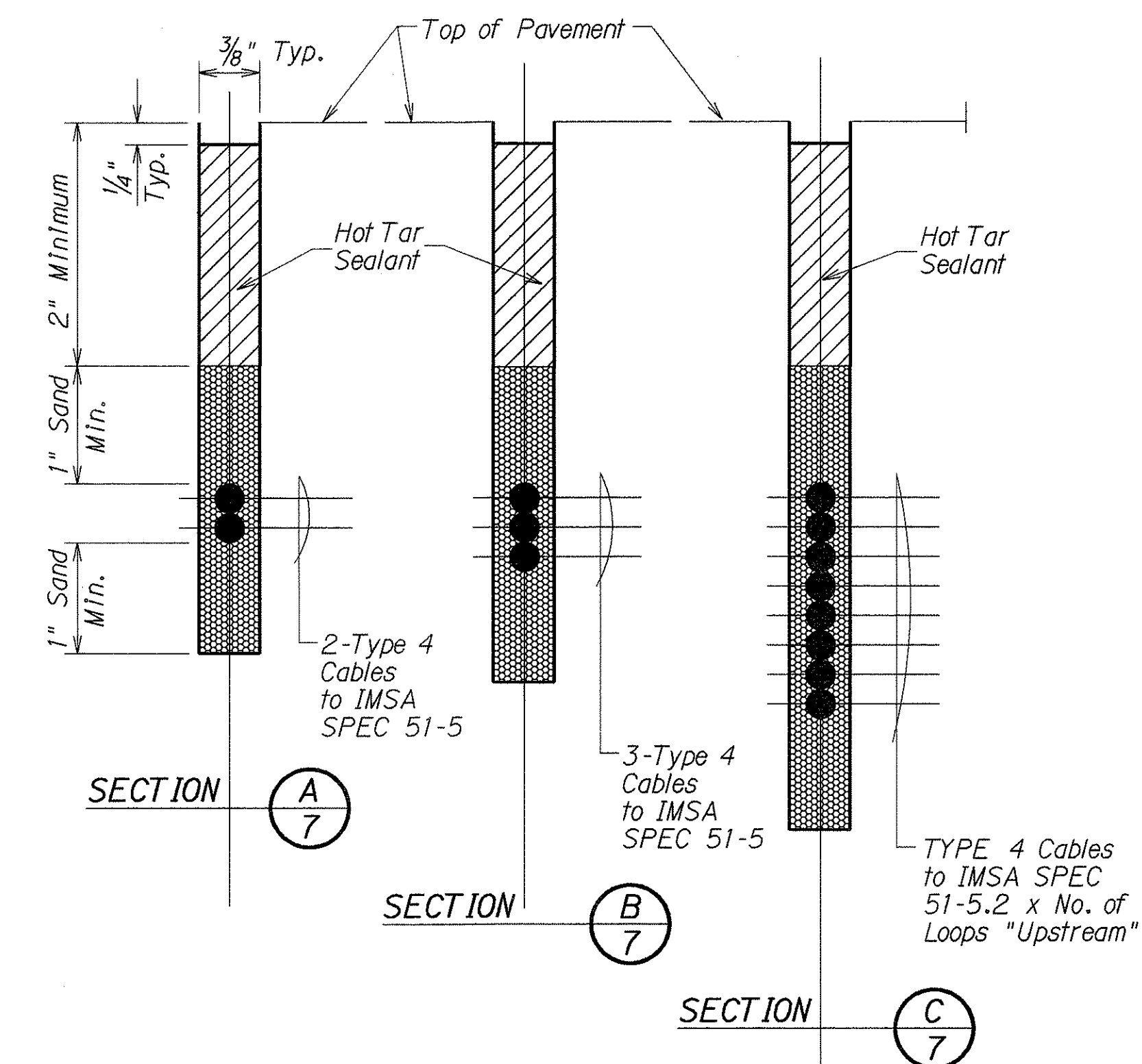


- NOTES:
- Center sensor loops in lanes.
  - Collector cables shall be twisted 2 turns per foot.
  - Number of loops and locations vary. See project plans.
  - Number and locations of collector sawcuts may be varied in the field to suit.

TYPICAL SENSOR LOOP LAYOUT

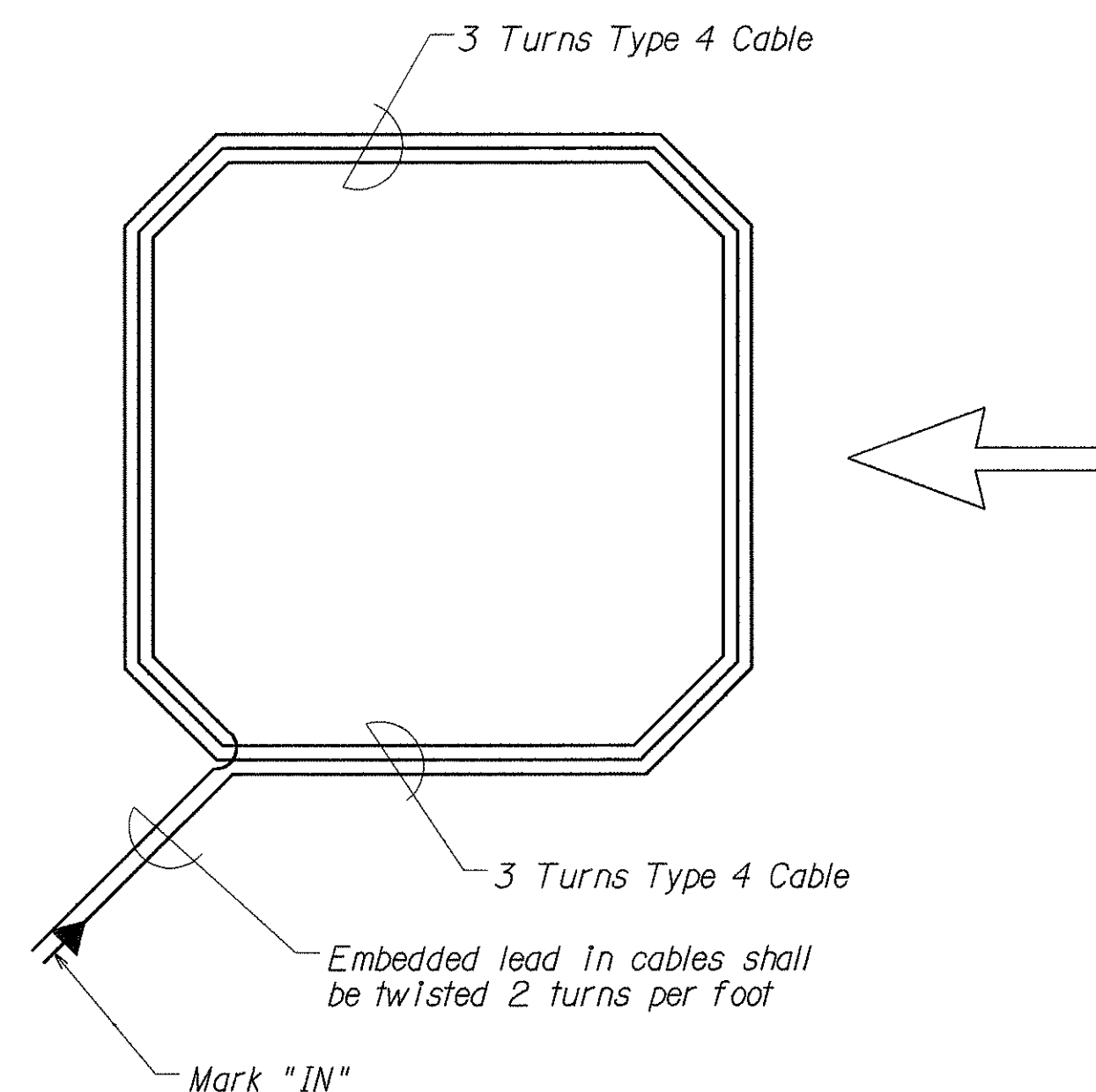


TYPICAL SENSOR LOOP SAWCUT DETAIL



- 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

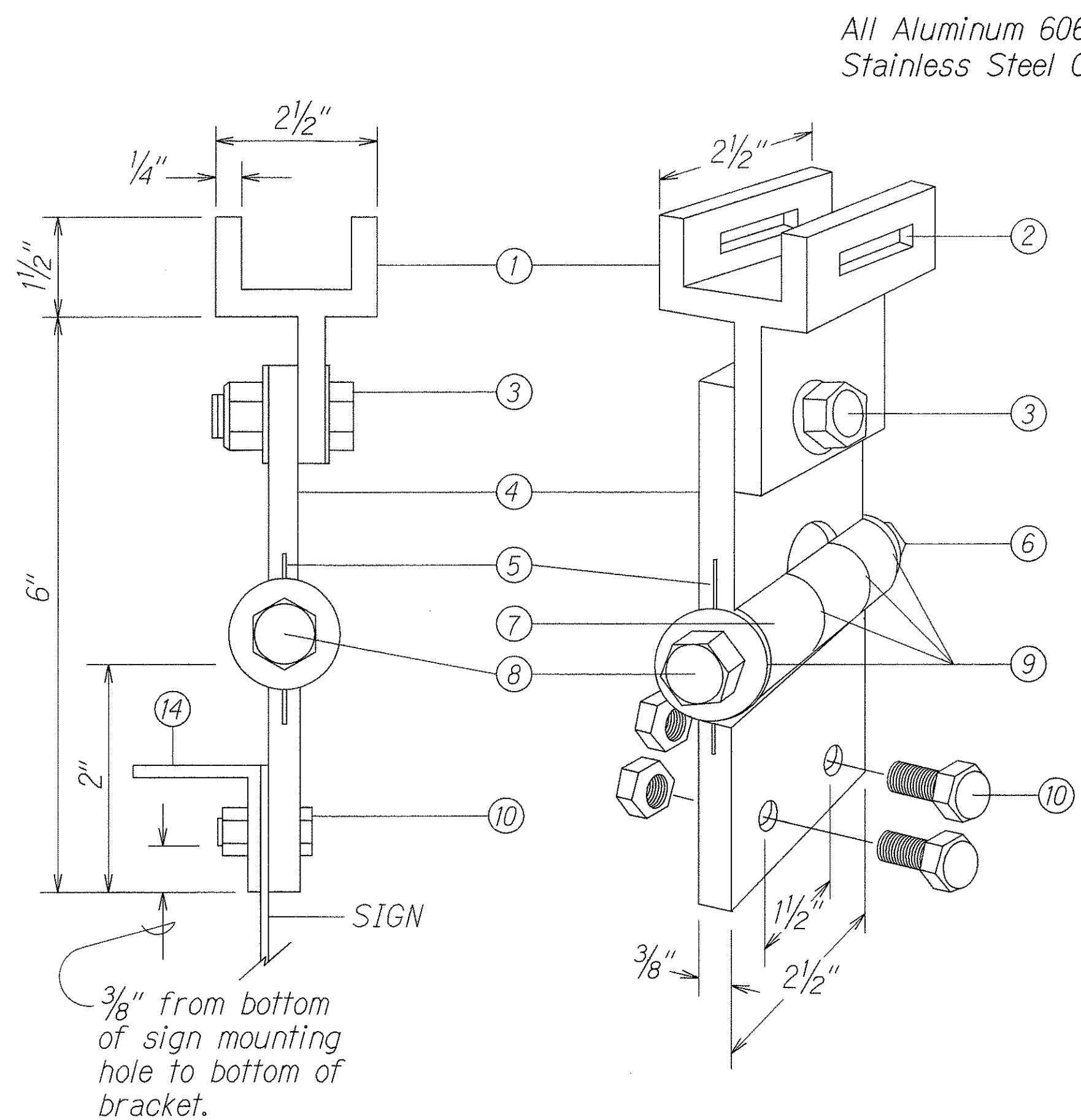
### TYPES OF CABLES

- 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

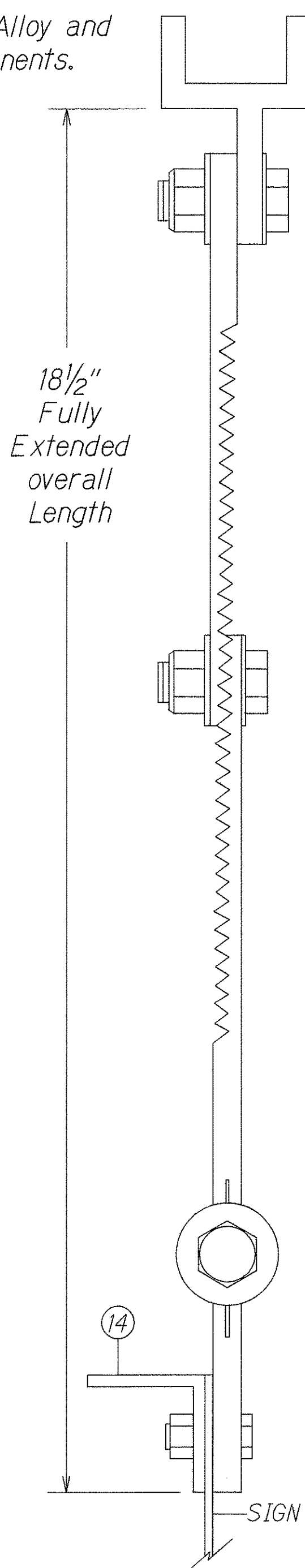
**LOOP DETECTOR DETAILS**  
**RADFORD DR. & BOUGAINVILLE DR.**  
**RESURFACING**  
**Kamehameha Hwy. Towards Salt Lake Blvd.**  
**FED. AID PROJ. NO. STP-0300(32)**  
Not to Scale Date: Jan., 1994

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(32)	1994	20	21



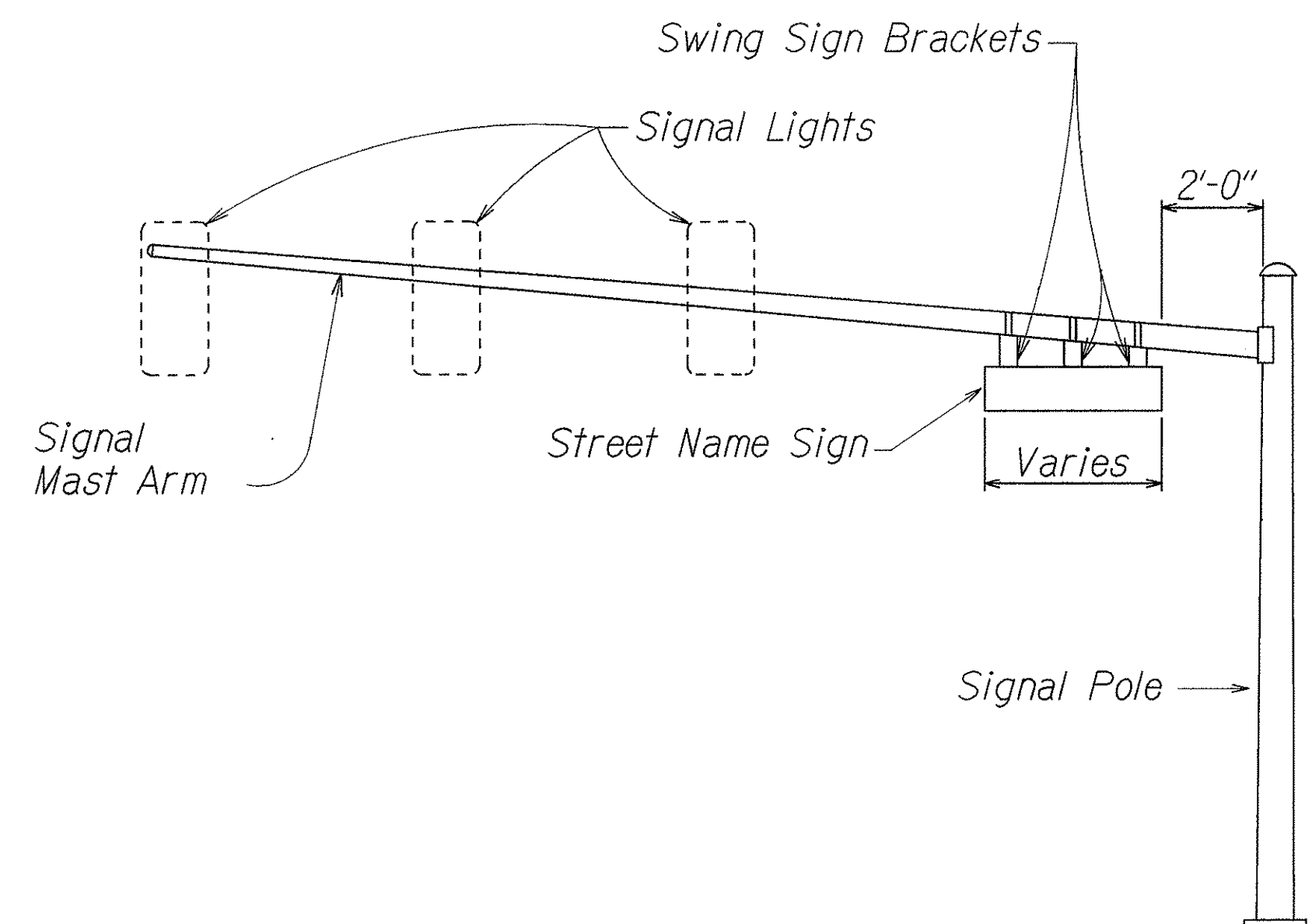
### FIXED LENGTH NON-ADJUSTABLE SWING SIGN BRACKET

- ① Pivotal Upper Bracket
- ② 1 5/8" x 1/4" Slot for double strapping to electrolier mast arm. (M2G-34S(HD) .030" x 3/4" Heavy Duty Stainless Steel Strap with M2G-34B(HD) Buckle recommended.)
- ③ 1/2" - 13 x 1 1/2" Stainless Steel Hex Head Bolt with Stainless Steel Hex Lock Nut and 1/16" Stainless Steel Washer (both sides). Allows upper bracket to pivot and align with electrolier mast arm.
- ④ 6" Overall drop with Fixed Length Sign Bracket
- ⑤ Stainless Steel Dampener Spring (Removable)
- ⑥ Stainless Steel Hex Lock Nut with 1/16" Stainless Steel Washer
- ⑦ 1" O.D. Axle Housing
- ⑧ 1/2" - 13 x 4" Stainless Steel Hex Head Bolt with 1/16" Stainless Steel Washer
- ⑨ Oilite Bushing
- ⑩ Sign Mounting Sets, consisting of two each 5/16" - 18 x 1" Stainless Steel Hex Head Bolt with Stainless Steel Hex Lock Nut. Two holes on 1/2" centers provide positive lock sign mounting to bracket.

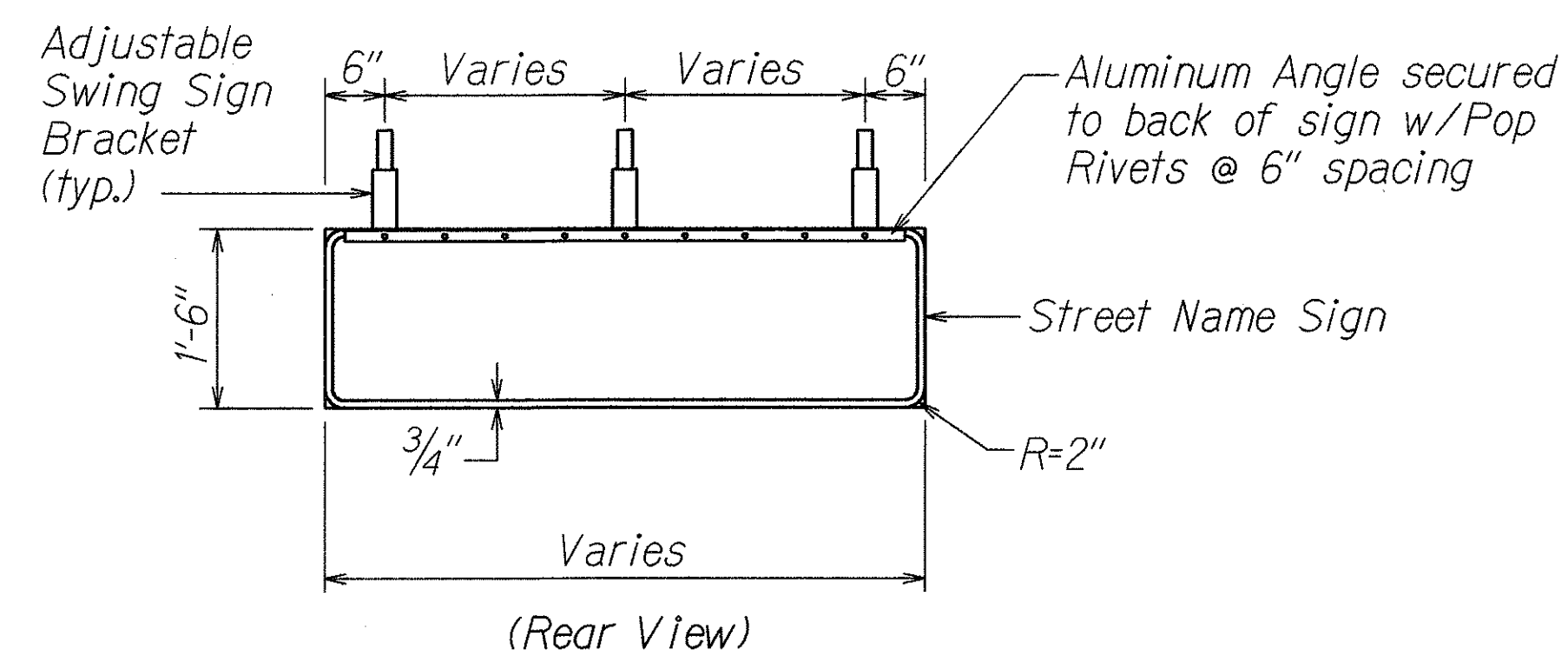


### ADJUSTABLE LENGTH SWING SIGN BRACKET

- ⑪ 8 1/4" overall length Upper Adjustable Sign Bracket section
- ⑫ 9" overall length Lower Adjustable Sign Bracket section, including Axle Housing (8" overall length to top of Axle Housing)
- ⑬ 1/2" - 13 x 1 1/2" Stainless Steel Hex Bolt with Stainless Steel Hex Lock Nut and 1/16" Stainless Steel Washers (both sides). Loosen lock nut, adjust bracket teeth to level sign.
- ⑭ 1 1/4" x 1 1/4" x 1/8" Aluminum Angle



### STREET NAME SIGN MOUNTING ON MAST ARM



### PANEL & SWING BRACKET LAYOUT FOR STREET NAME SIGN

Note: Dimensions may vary slightly.

ORIGINAL PLAN	DATE 1/94
DESIGNED BY G. Katch	
CHECKED BY M. Katch	
NOTED BY M. Katch	

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
<b>SIGN MOUNTING DETAIL</b>
<b>RADFORD DR. &amp; BOUGAINVILLE DR.</b>
<b>RESURFACING</b>
<b>Kamehameha Hwy. Towards Salt Lake Blvd.</b>
<b>FED. AID PROJ. NO. STP-0300(32)</b>
Not to Scale Date: Jan., 1994
SHEET No. 110 OF 11 SHEETS