

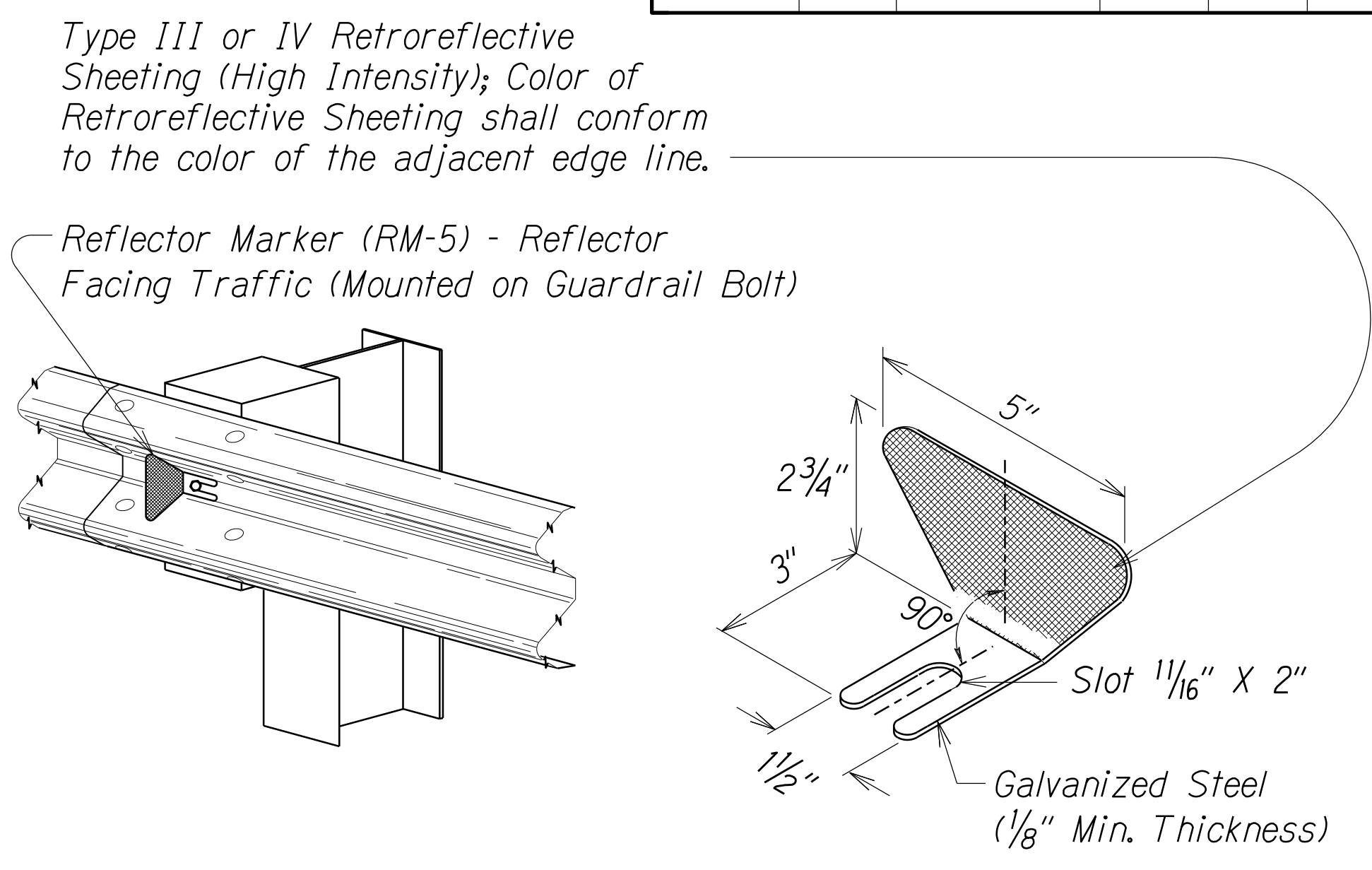
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-22	2022	23	33

**LEGEND**

- 10' White Profiled Thermoplastic Stripe  
Type C Raised Pavement Markers @ 40'-0" o.c.
- 10' Yellow Profiled Thermoplastic Stripe  
Type D Raised Pavement Markers @ 40'-0" o.c.
- 8" White Stripe with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
- 4" Double Solid Yellow with Type D Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
- 4" Double Solid Yellow Stripes with Type H Raised Pavement Markers @ 20'-0" o.c. (Tape, Type II or Thermoplastic Extrusion)
- 6" Yellow Edge Stripe with Type H Raised Pavement Markers @ 40'-0" o.c. (Tape, Type II or Thermoplastic Extrusion)
- 4" Double Solid White Stripes with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
- Lane Change Restriction Marking  
10' White Profiled Thermoplastic Stripe  
Type C Raised Pavement Markers @ 20'-0" o.c.  
4" White Stripe (Tape, Type I or Thermoplastic Extrusion)
- 6" or 8" White Edge Stripe with Type C Raised Pavement Markers @ 40'-0" o.c. (Tape, Type II or Thermoplastic Extrusion)
- 4" White Guide Lines (Tape, Type III or Thermoplastic Extrusion except for bus bays)
- Transverse Median Marking (Tape, Type II or Thermoplastic Extrusion)
- Transverse Shoulder Marking (Tape, Type II or Thermoplastic Extrusion)
- Channelizing Island or Deceleration Lane Gore (Tape, Type II or Thermoplastic Extrusion)
- Crosswalk and Stop Line. All Stop Lines shall be 10'-0" from Crosswalk unless otherwise noted. The circled number indicates the number of lanes for payment (Tape, Type III or Thermoplastic Extrusion)
- Pavement Arrow (Tape, Type III or Thermoplastic Extrusion)
- Pavement Word (Tape, Type III or Thermoplastic Extrusion)
- STOP
- 10' Yellow Profiled Thermoplastic Stripe  
Type D Raised Pavement Markers @ 40'-0" o.c.  
Type H Raised Pavement Markers (Reflective Surface facing no-passing direction)  
4" Single Solid Yellow Stripe (Tape, Type I or Thermoplastic Extrusion)
- Extension of Edge Line, 4" Wide x 2'-0" Long White Stripe @ 10'-0" o.c. w/Type C Markers @ 40'-0" o.c. (Tape, Type III or Thermoplastic Extrusion)

**NOTES**

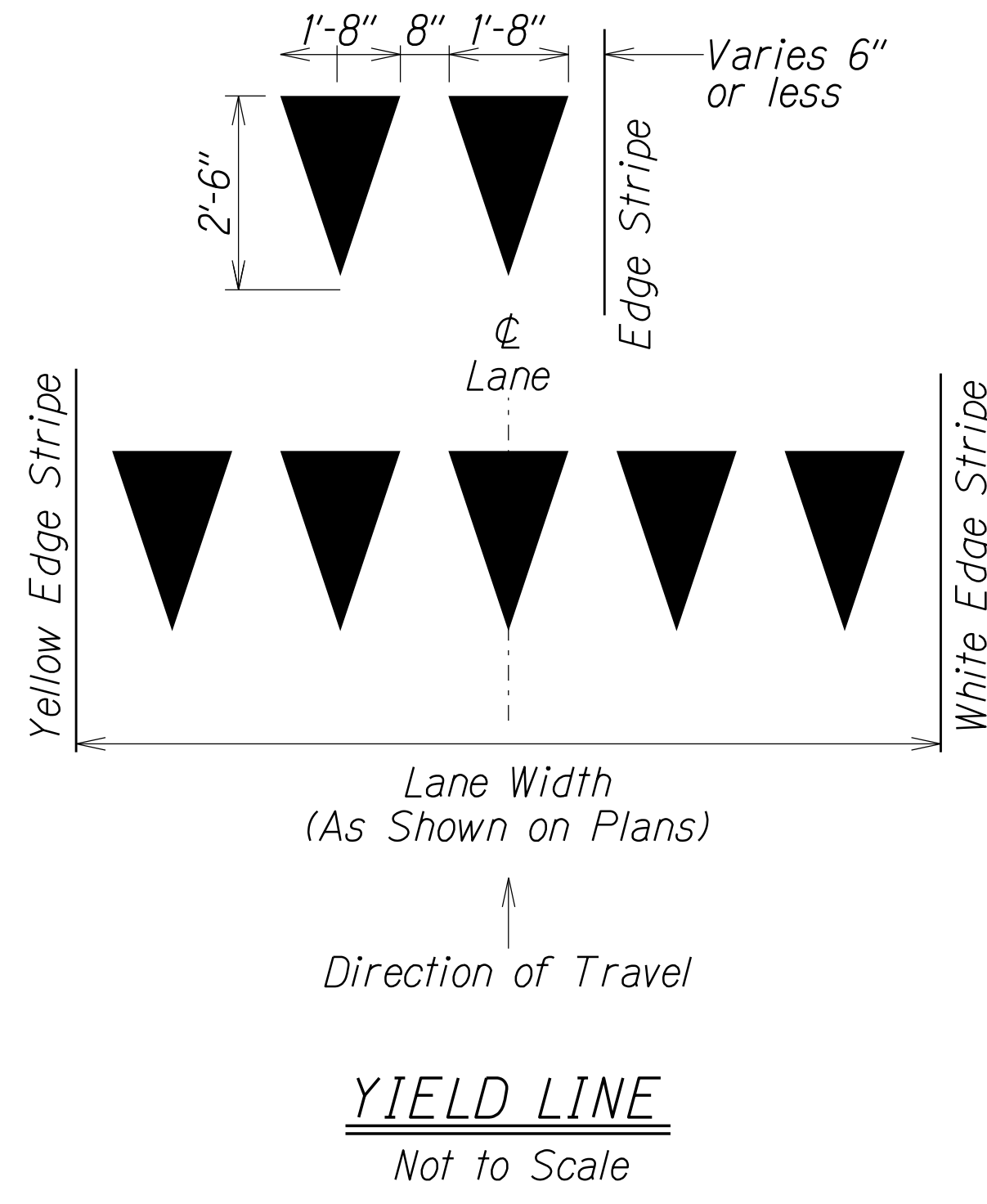
1. Layout of pavement markings and striping shall be done by the Contractor and approved by the Engineer prior to any installation work.
2. Existing pavement markings not incorporated in the final traffic pattern shall be removed as directed by the Engineer. Costs shall be incidental to the various pavement marking items.
3. Raised pavement markers shall not be installed within crosswalks.
4. Final locations of all signs shall be approved by the Engineer prior to any installation work.
5. Existing signs not shown on these plans shall remain as posted unless otherwise directed by the Engineer. Removal and disposal of existing signs and/or posts as designated on these plans shall be incidental to the various signing items.
6. Final locations of all Stop Lines shall be approved by the Engineer prior to installation.
7. All pavement striping shall be as noted on the legend or plans.
8. All preformed pavement marking tapes over existing pavement shall be applied with an approved primer as recommended by the tape manufacturer and as approved by the Engineer. The primer shall be allowed to dry to the tacky stage prior to tape application.
9. All pedestrian warning signs with supplemental sign shall be on a fluorescent yellow-green retroreflective background with a black legend and border.



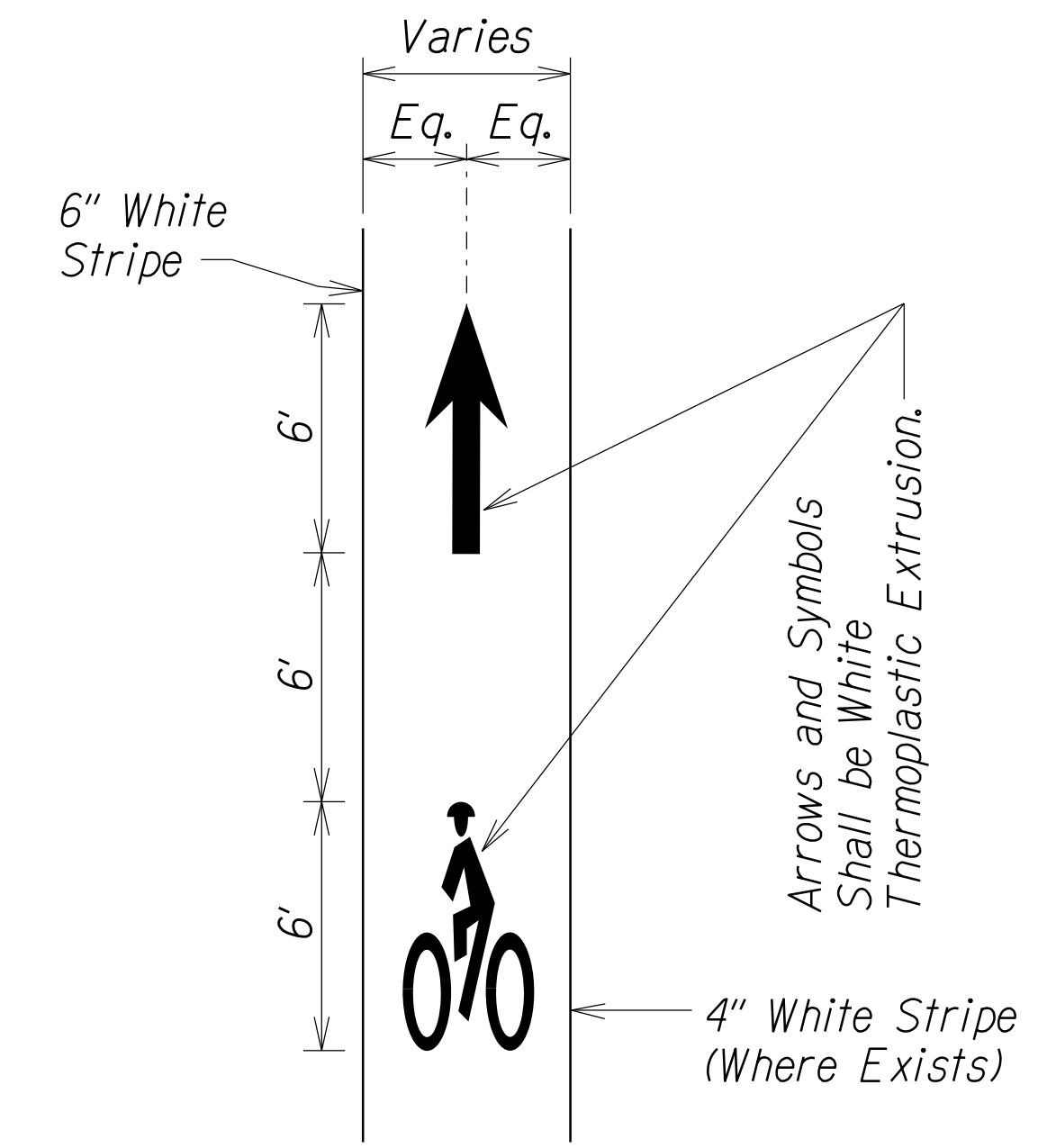
**REFLECTOR MARKER (RM-5) DETAIL AND TYPICAL INSTALLATION**

**NOTE**

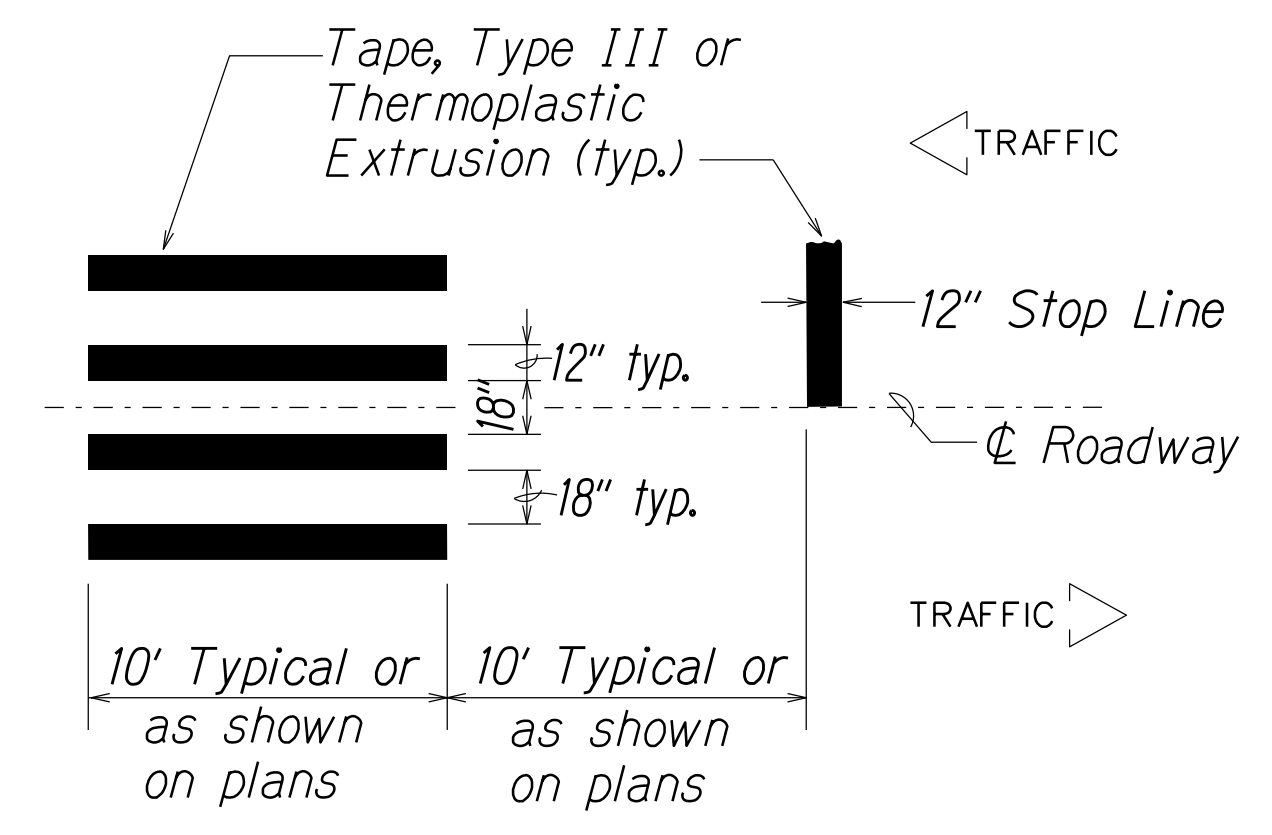
Ⓜ Reflecter Markers (RM-5) shall be mounted every 25 feet on all new and existing metal guardrails except on Terminal Sections. For new guardrail installation, furnishing and installing of each RM-5 shall be considered incidental to the adjacent guardrail system. Unless otherwise noted, the Contractor shall be responsible for mounting RM-5s on all existing metal guardrails even when not shown on plans.



**YIELD LINE**  
Not to Scale



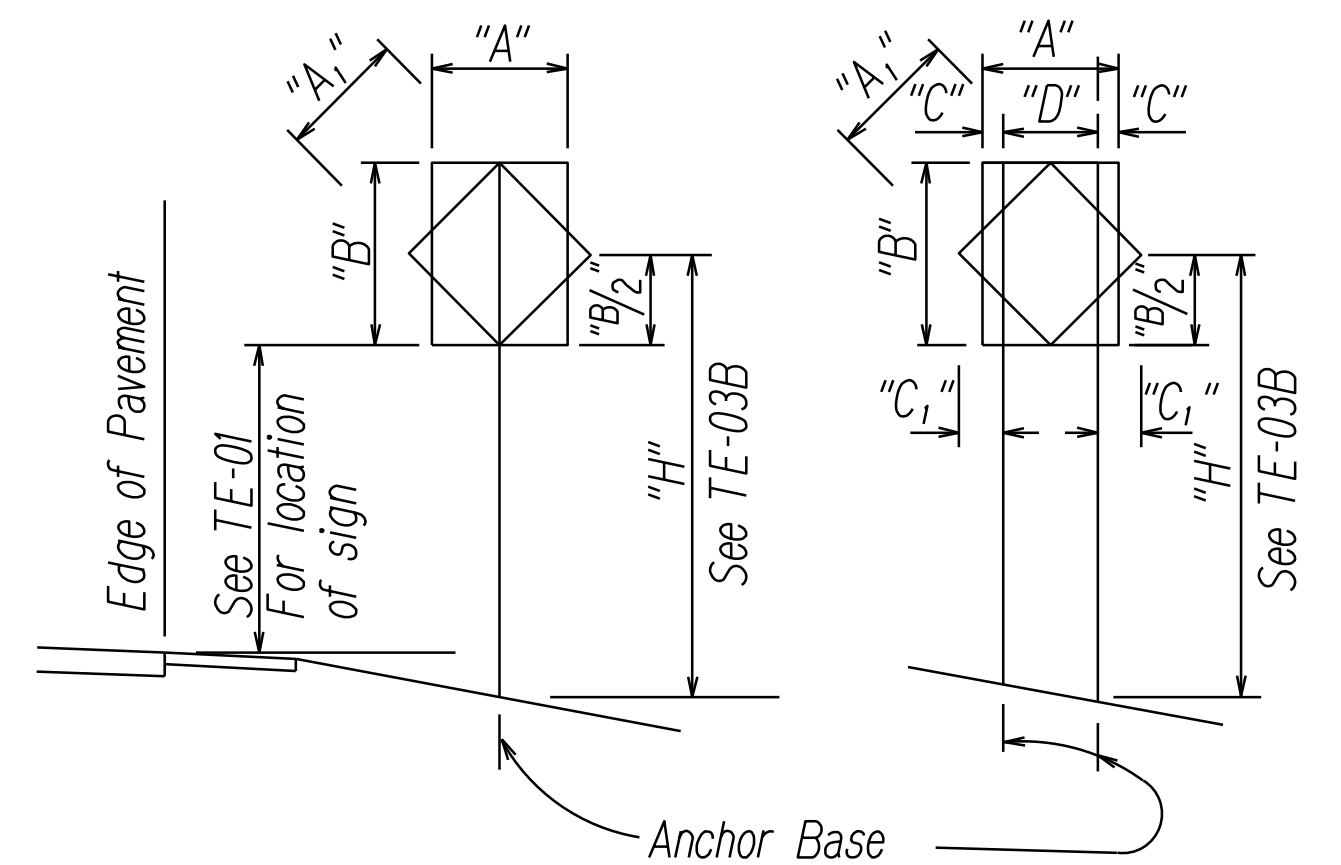
**BIKE LANE PAVEMENT MARKING DETAIL**  
Not to Scale



**CROSSWALK STRIPING DETAIL**  
Not to Scale

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
	DESIGNED BY	
	CHECKED BY	
	IN CHARGE	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**PAVEMENT MARKING**  
**LEGEND, NOTES & DETAILS**  
FORT BARRETTE ROAD IMPROVEMENTS  
Vicinity of Kamaaha Avenue to Vicinity of Farrington Highway  
PROJECT NO. 901A-01-22  
Scale: As Noted Date: Feb., 2022  
SHEET No. 71 OF 7 SHEETS



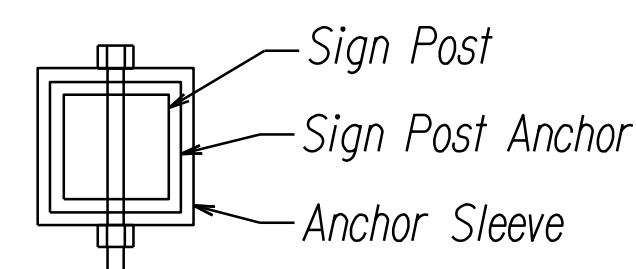
1 - POST  
"A" or "A<sub>1</sub>" less than 36"

2 - POST  
"A" or "A<sub>1</sub>" less than 60"

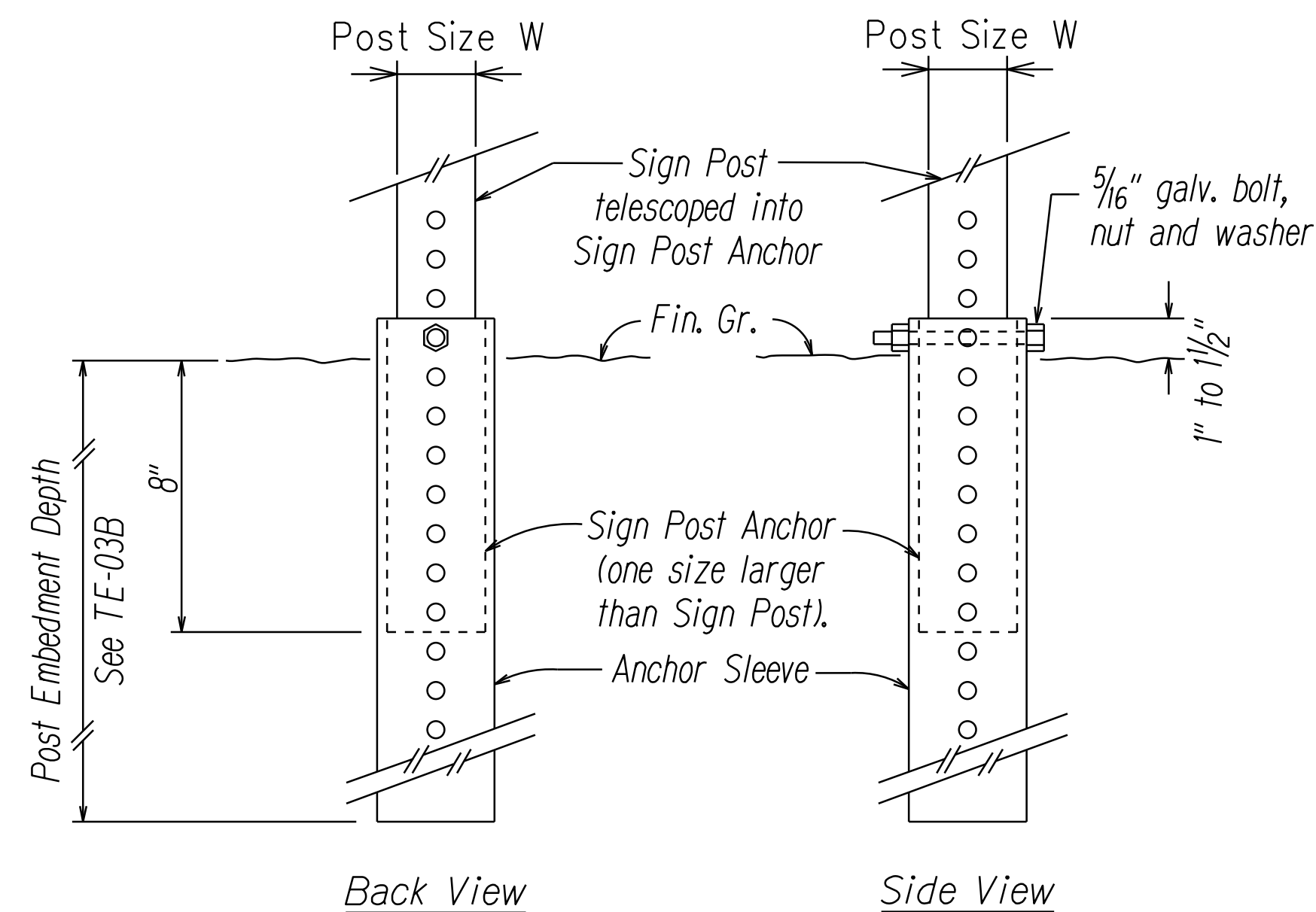
"A" or "A <sub>1</sub> "	"C"	"C <sub>1</sub> "
Less than 36"	6"	-
Greater than 36" and less than 48"	9"	19"
Greater than 48"	12"	24"

NOTE: Frame stiffeners are required when D is greater than 24"  
See General Notes.

### TYPICAL INSTALLATION



TOP VIEW



Back View

Side View

### SIGN POST INSTALLATION

### ANCHOR BASE DETAIL

Not to Scale

### GENERAL NOTES

- Design Specifications:**
  - "Traffic Signal Supports and Foundations design shall conform with the AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 1st Edition, with latest Interim Revisions and as modified by HDOT Memorandum with subject title, "Changes to Design Criteria for Bridges and Structures" (Letter No. HWY-DB 2.5098) dated January 8, 2018."
- Loads:**
  - Basic Wind Speed: 105 mph.
  - Recurrence Interval of 10 years.
- Materials:**
  - Post shall conform to the Standard Specifications.
  - All connection bolts shall be AASHTO M164 bolts and anchor bolts shall be AASHTO M314-105 bolt.
  - Lap splice nuts and bolts shall be M180, with an ultimate tensile strength of 180 ksi, min.
  - Aluminum members and surfaces in contact with structural steel shall be isolated with neoprene material as approved by the Engineer.
- General:**
  - See General Notes on B-01, TE-01, and TE-03B for additional information.
  - All square tube posts shall be 12 gauge unless otherwise specified or shown on the plans.
  - Square tube posts shall be perforated with  $\frac{7}{16}$ "  $\phi$  holes, 1" o.c., 4 sides, along entire length of post.
  - All accessories, fittings and stiffener details (as required) shall be submitted to the Engineer for approval 20 days prior to installation.
  - Alternate designs in accordance with the plans and specifications shall use the Service Load Design Method and shall be stamped by a registered structural engineer of the State of Hawaii and submitted to the Engineer for approval.  
All sign support posts without break away anchor base shall be outside of the clear zone or shielded by an appropriate traffic barrier system. The traffic barrier system shall be submitted to the Engineer for his approval.
  - The Contractor shall use templates while installing the anchor bolts. Anchor bolts shall be vertical.
  - Excavation and backfill shall be considered incidental to the cost of the sign foundation.

SURVEY PLOTTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 TRACED BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_

ORIGINAL PLAN: \_\_\_\_\_  
 NOTE BOOK: \_\_\_\_\_  
 No. of sheets: \_\_\_\_\_

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

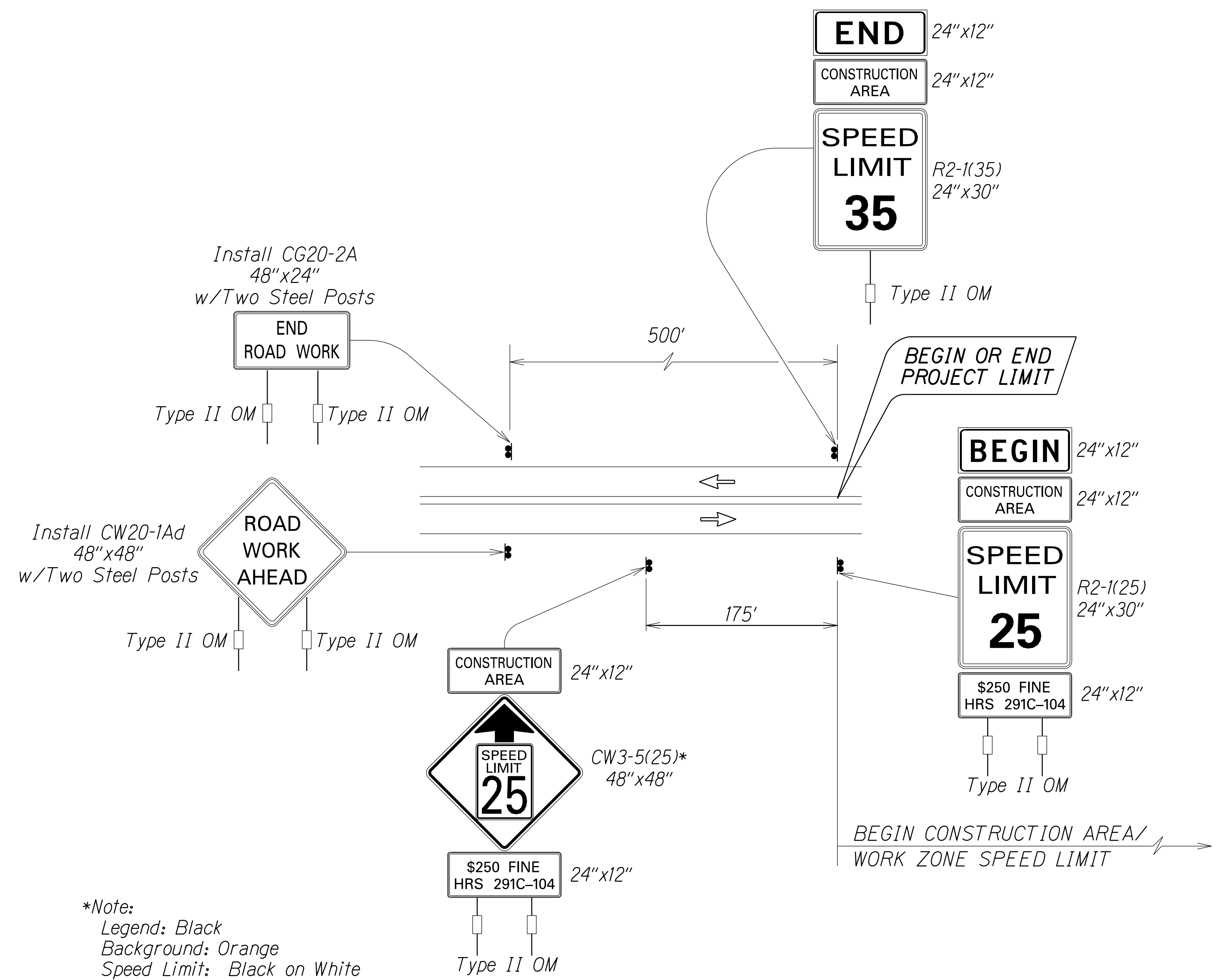
**GALVANIZED SQUARE TUBE  
 SIGN POST MOUNTING**

FORT BARRETTE ROAD IMPROVEMENTS  
 Vicinity of Kamaaha Avenue to Vicinity of Farrington Highway

PROJECT NO. 901A-01-22  
 Scale: Not to Scale Date: Feb., 2022

SHEET No. T2 OF 7 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-22	2022	25	33



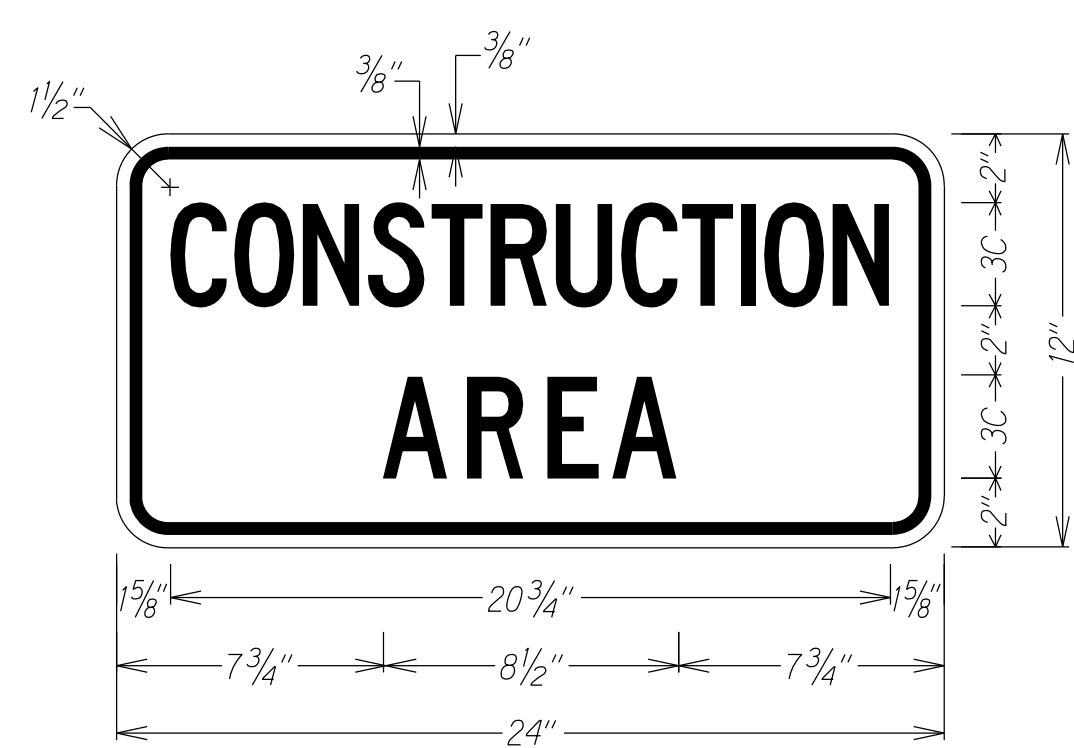
\*Note:  
 Legend: Black  
 Background: Orange  
 Speed Limit: Black on White

**TYPICAL DETAIL FOR CONSTRUCTION SIGNS  
 ON TWO LANE OR MULTILANE UNDIVIDED LOW SPEED HIGHWAY**  
 Not to Scale

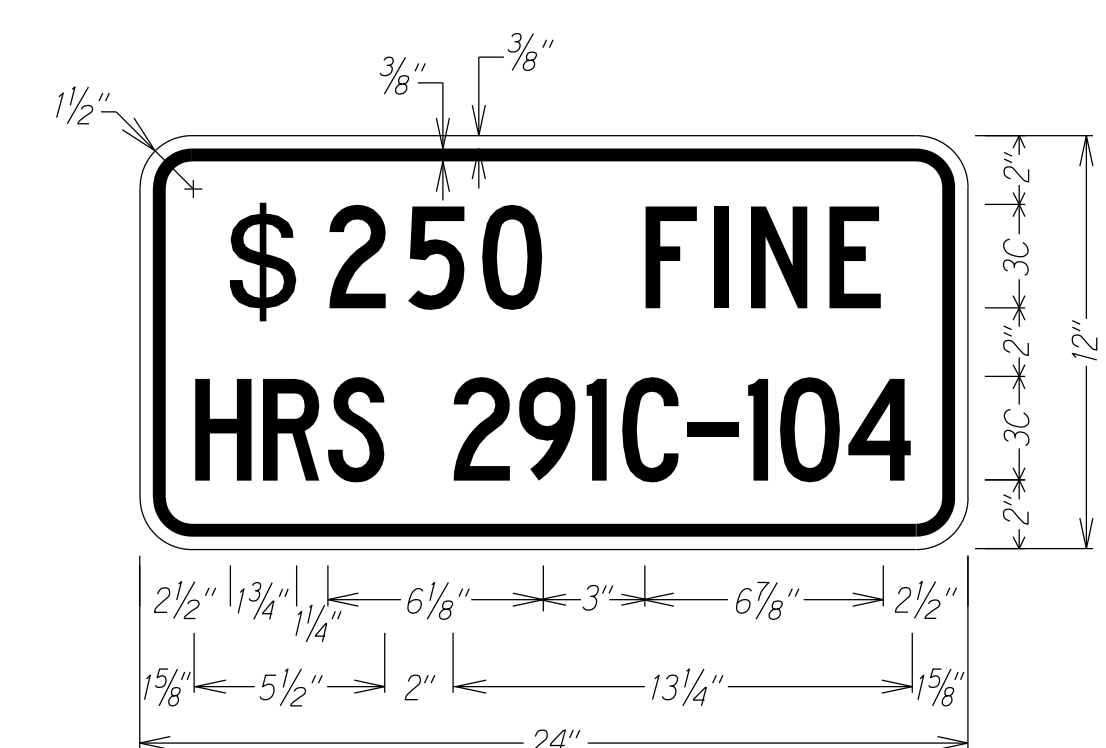
**Work Zone Notes:**

1. This Work Zone Sign Plan is intended for use on long-term stationary work zones/construction phases (3 days or more). All work zones or construction phases less than 3 days duration will use Traffic Control Plans shown in Section 645 of the Standard Specifications and/or Special Provisions.
2. All existing regulatory speed limit signs with posts within the work zone/project limits shall be removed and replaced with work zone speed limit sign assemblies (R2-1(25) and CW3-5(25) with "CONSTRUCTION AREA" and "\$250 FINE HRS 291C-104" Supplemental Signs).
3. Construction sign assemblies shall be installed on both the approaching and trailing ends of each work zone as shown on this plan.
4. Each construction warning sign shall have a minimum of two (2) Type II OM. Each work zone speed limit assembly shall have a minimum of one (1) Type II OM. Installation of each Type II OM shall be considered incidental to Item No. 645.0100 - Traffic Control.
5. Upon the completion of all physical work or as directed by the Engineer, all construction signs and work zone speed limit assemblies shall be removed. All speed limit signs and posts that were existing at the start of the project within the work zone/project limits shall be restored back to their original locations and configurations.
6. Placement of construction signs shall not obstruct the path of pedestrians and bicyclists.
7. The removal and restoration of existing regulatory speed limit signs with new posts along with the installation, maintenance and removal of work zone speed limit sign assemblies shall be considered incidental to Item No. 645.0100 - Traffic Control.

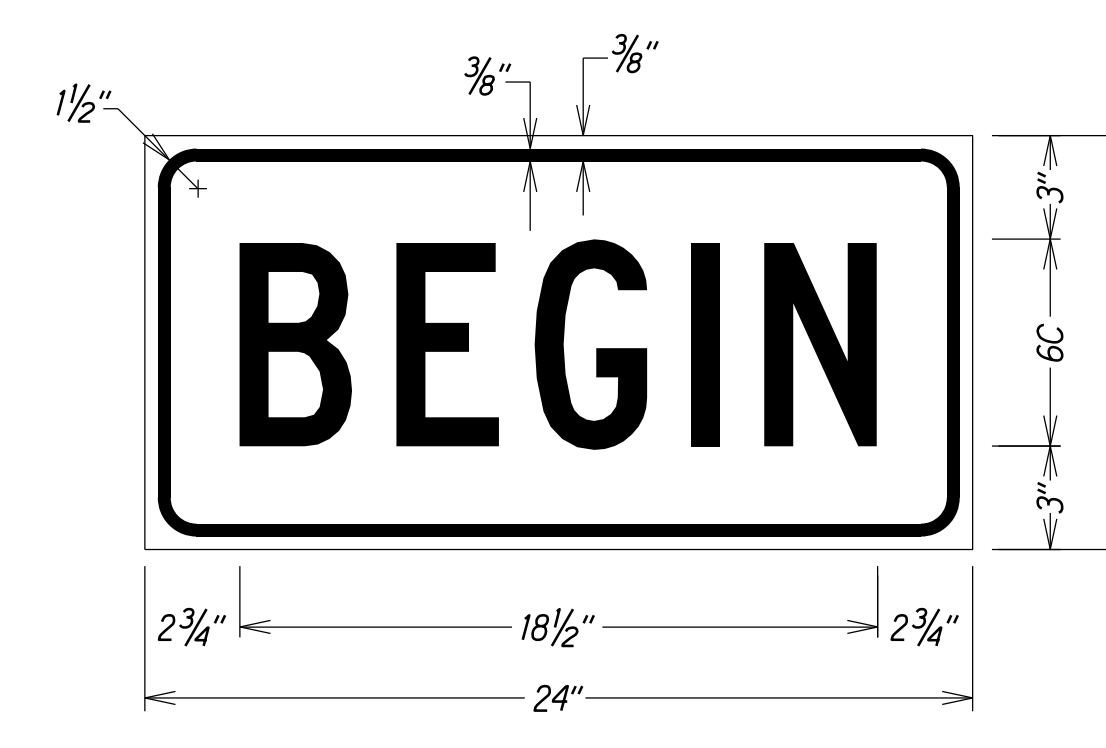
SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
SCALE	
NO.	



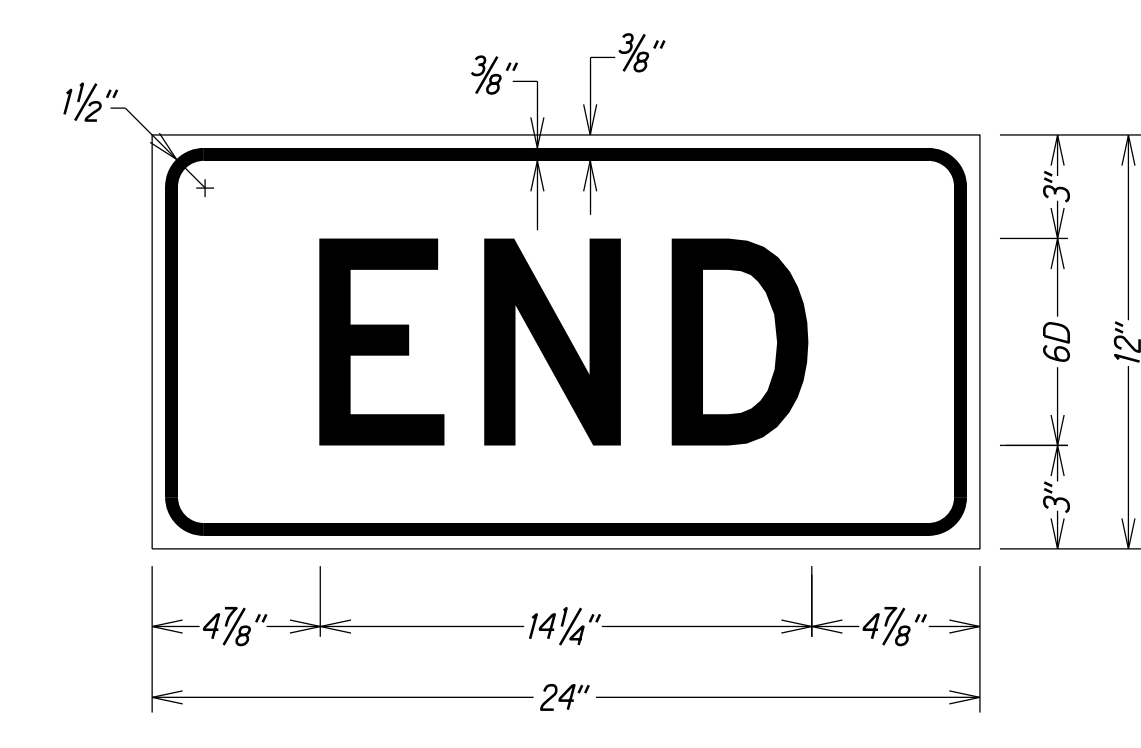
LEGEND: BLACK  
 BACKGROUND: ORANGE



LEGEND: BLACK  
 BACKGROUND: WHITE



LEGEND: BLACK  
 BACKGROUND: ORANGE



LEGEND: BLACK  
 BACKGROUND: ORANGE

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
**LOW SPEED UNDIVIDED HIGHWAY**  
 WORK ZONE SIGNING PLAN, NOTES & DETAILS

PROJECT NO. 901A-01-22  
 Scale: Not to Scale Date: Feb, 2022  
 SHEET No. T3 OF 7 SHEETS

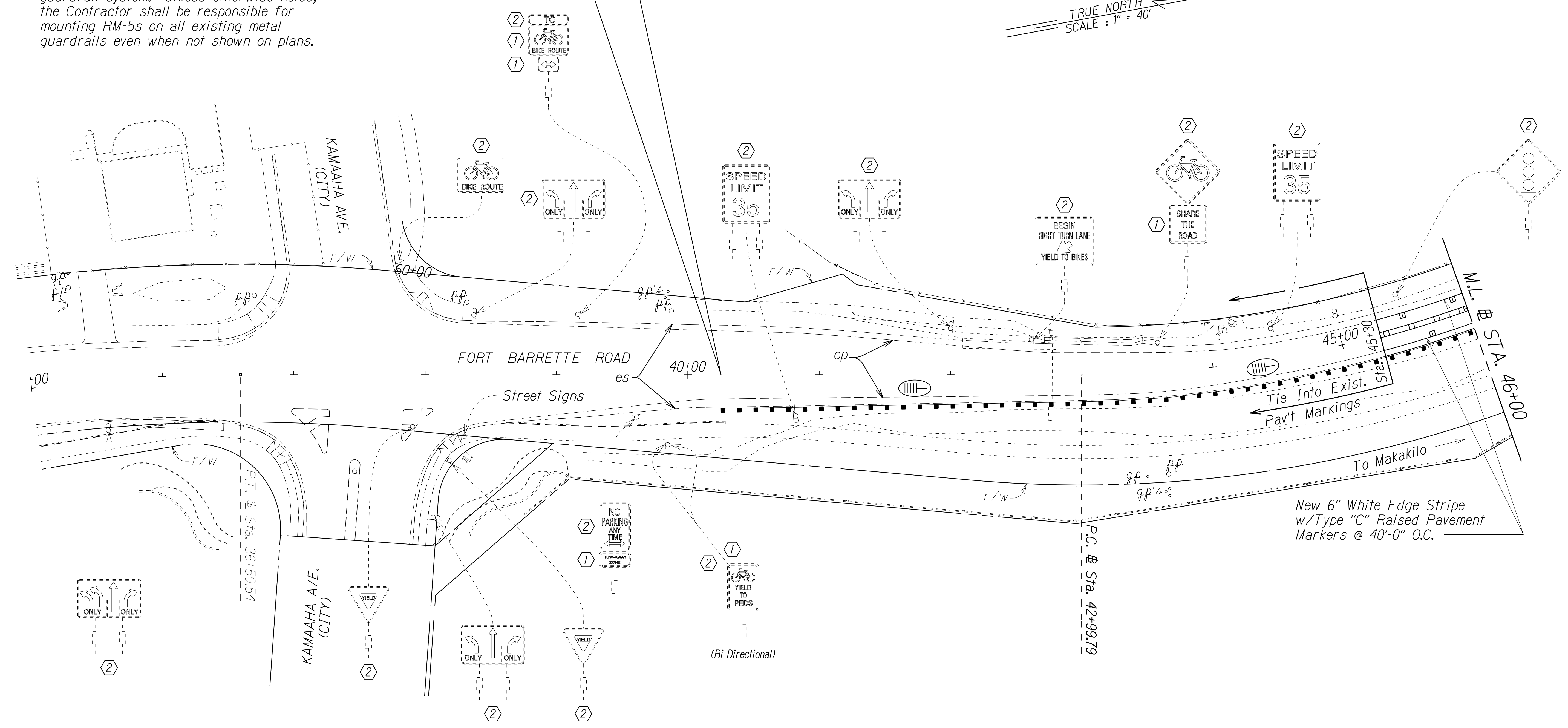
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-22	2022	26	33

**NOTE:**

☐ Reflecter Markers (RM-5) shall be mounted every 25 feet on all new existing metal guardrails except on Terminal Sections. For new guardrail installation, furnishing and installing of each RM-5 shall be considered incidental to the adjacent guardrail system. Unless otherwise noted, the Contractor shall be responsible for mounting RM-5s on all existing metal guardrails even when not shown on plans.

**BEGIN PROJECT**  
Fort Barrette Road  
# Sta. 40+25.3

TRUE NORTH  
SCALE : 1" = 40'



**KEY:**

- ① Exist. Sign(s) to Remain
- ② Exist. Sign(s) & Post(s) to Remain
- ③ Remove Exist. Sign(s) w/ Post(s)
- ④ Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
- ⑤ Install New Sign(s) & Post(s)
- ⑥ Relocate Exist. Sign(s) on New Post(s)

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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

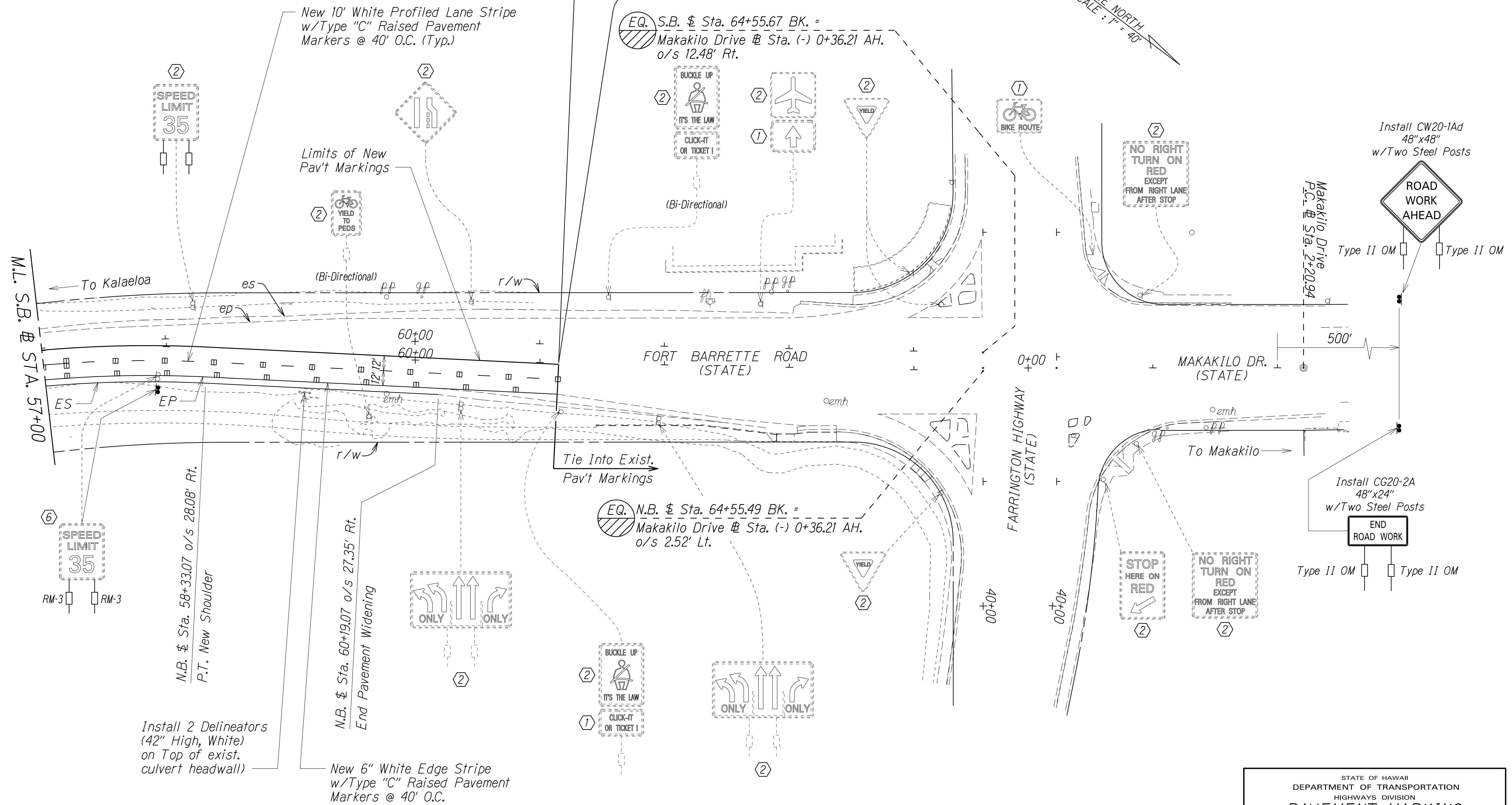
**PAVEMENT MARKING**  
**# SIGNING PLAN**

FORT BARRETTE ROAD IMPROVEMENTS  
Vicinity of Kamaaha Avenue to Vicinity of Farrington Highway  
PROJECT NO. 901A-01-22  
Scale: 1" = 40' Date: Feb., 2022  
SHEET No. T4 OF 7 SHEETS



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-22	2022	28	33

**END PROJECT**  
Fort Barrette Road N.B. # Sta. 61+14.96



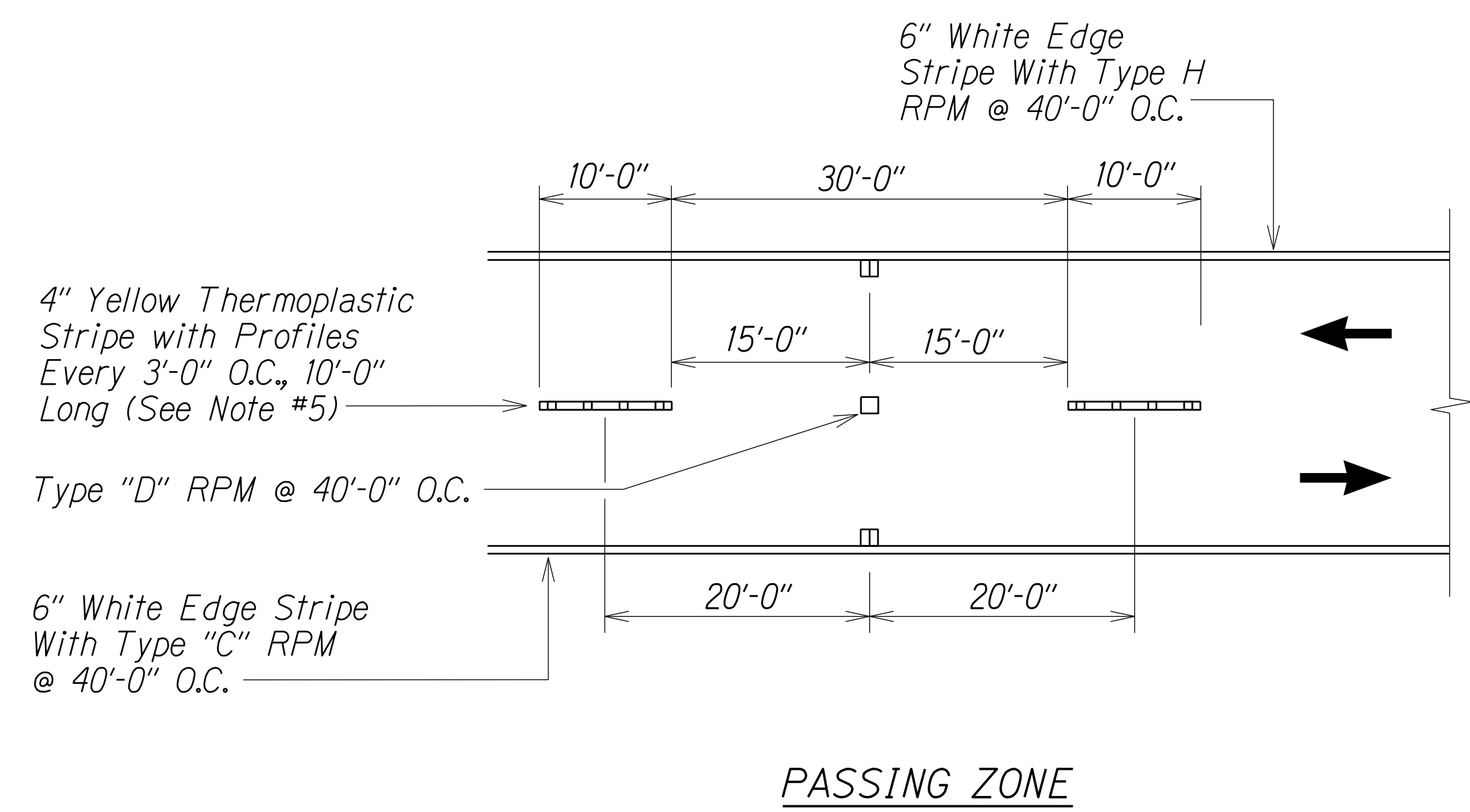
**KEY:**

- ① Exist. Sign(s) to Remain
- ② Exist. Sign(s) & Post(s) to Remain
- ③ Remove Exist. Sign(s) w/ Post(s)
- ④ Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
- ⑤ Install New Sign(s) & Post(s)
- ⑥ Relocate Exist. Sign(s) on New Post(s)

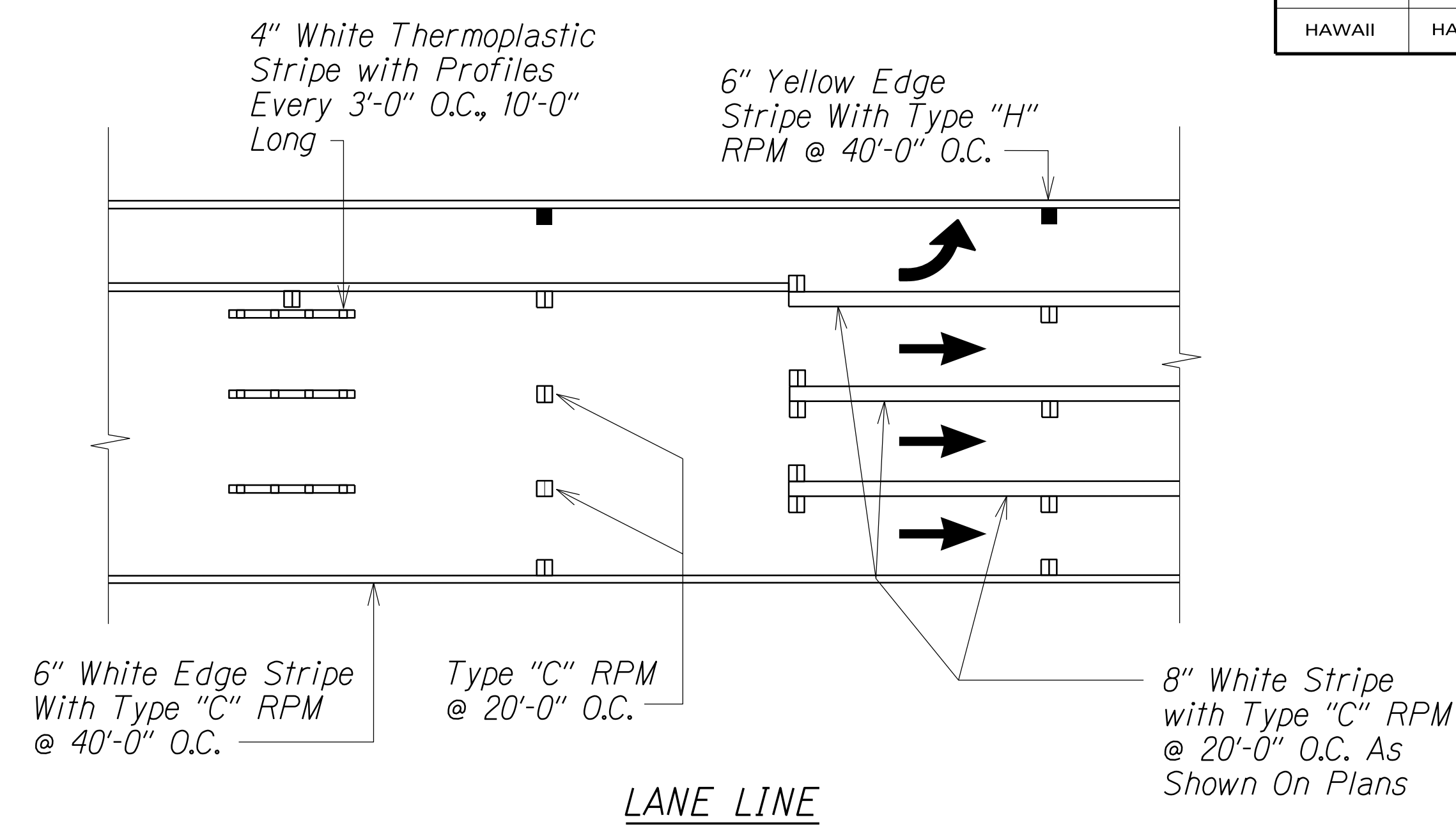
SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**PAVEMENT MARKING**  
**# SIGNING PLAN**  
FORT BARRETTE ROAD IMPROVEMENTS  
Vicinity of Kamaaha Avenue to Vicinity of Farrington Highway  
PROJECT NO. 901A-01-22  
Scale: 1" = 40' Date: Feb, 2022  
SHEET No. 76 OF 7 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-22	2022	29	33

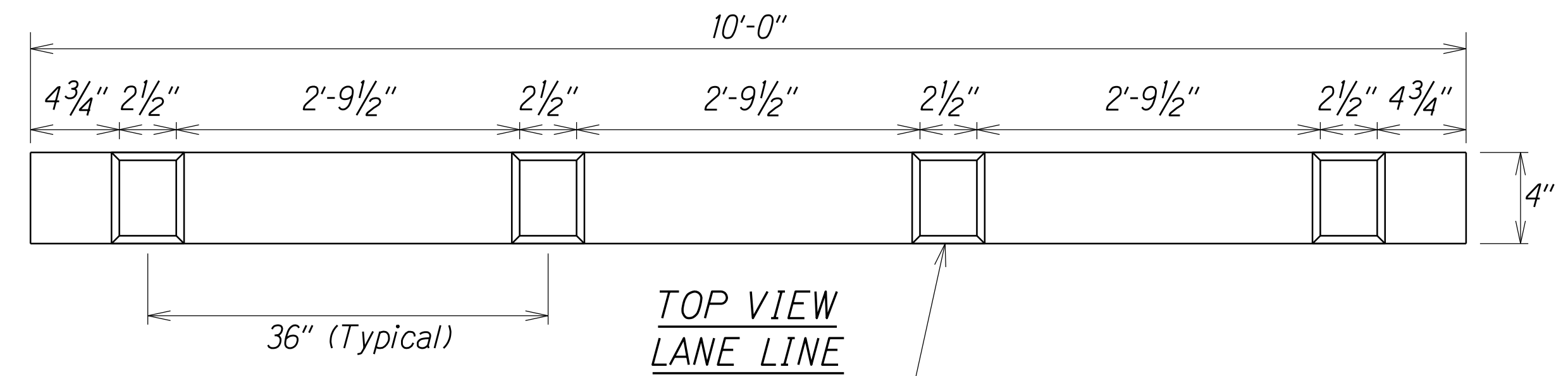


PASSING ZONE

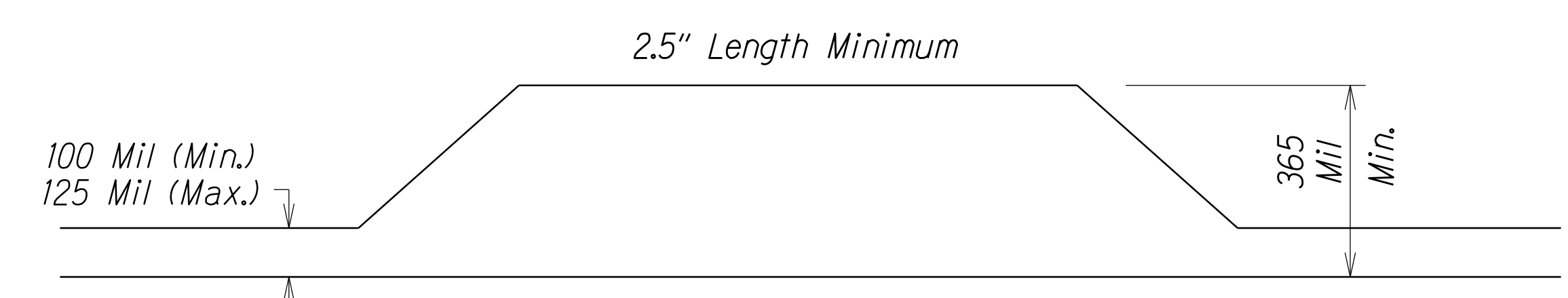


LANE LINE

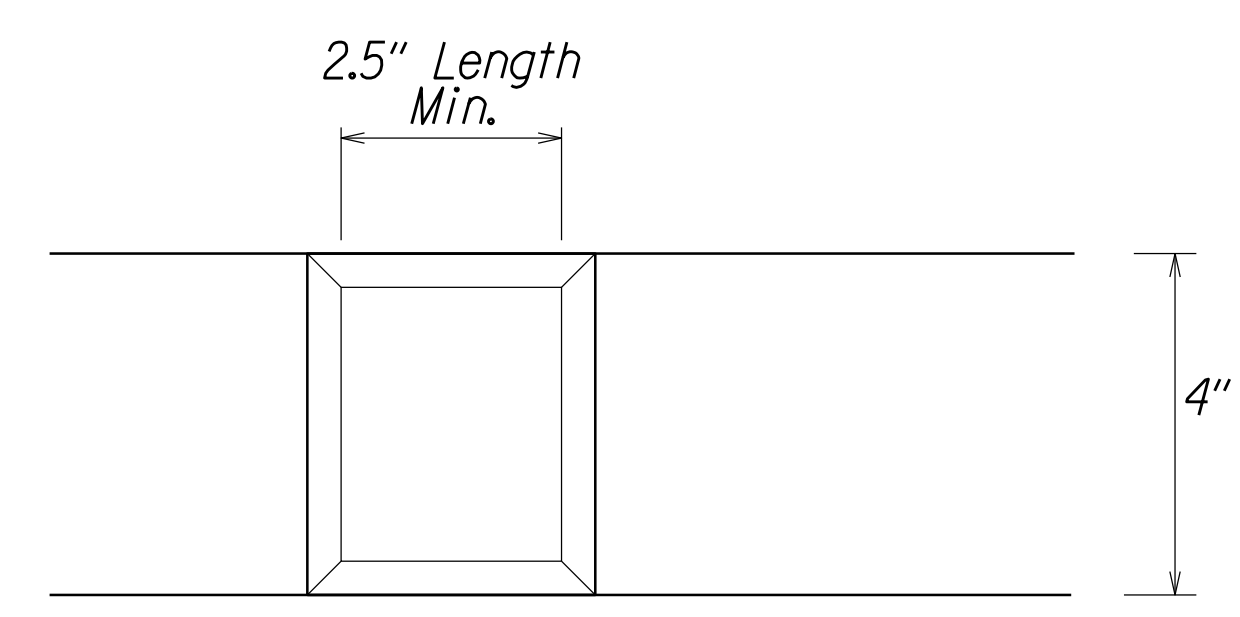
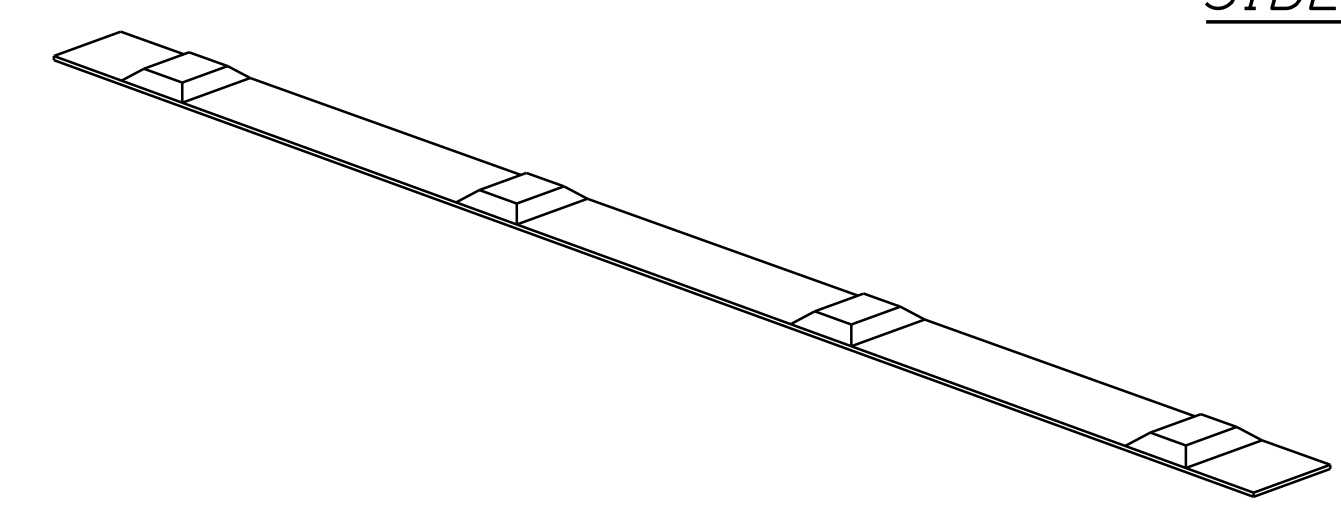
DETAIL  
Not To Scale



Profiles Placed on 36" O.C.  
365 Mil. Height, including 100 Mil. Baseline.  
Width Equal to Approximately Baseline Width



SIDE VIEW



TOP VIEW

PROFILED THERMOPLASTIC STRIPING

Not to Scale

NOTES:

1. The thermoplastic material shall be a alkyd-based compound formulated for profiled pavement marking. See specs subsection 629.03 for additional requirements
2. The Engineer will include the longitudinal gaps for skip striping, up to thirty (30) feet long, in the measurement for payment.
3. Install white profiled thermoplastic stripes as lane line.
4. Install yellow profiled thermoplastic stripes for centerline passing zone.
5. In areas with centerline milled rumble strips, install standard yellow thermoplastic stripes without raised profiles

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO. After Issuance	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**PROFILED PAVEMENT MARKING**

DETAILS

FORT BARRETTE ROAD IMPROVEMENTS  
Vicinity of Kamaaha Avenue to Vicinity of Farrington Highway

PROJECT NO. 901A-01-22  
Scale: Not to Scale Date: Feb., 2022

SHEET No. T7 OF 7 SHEETS