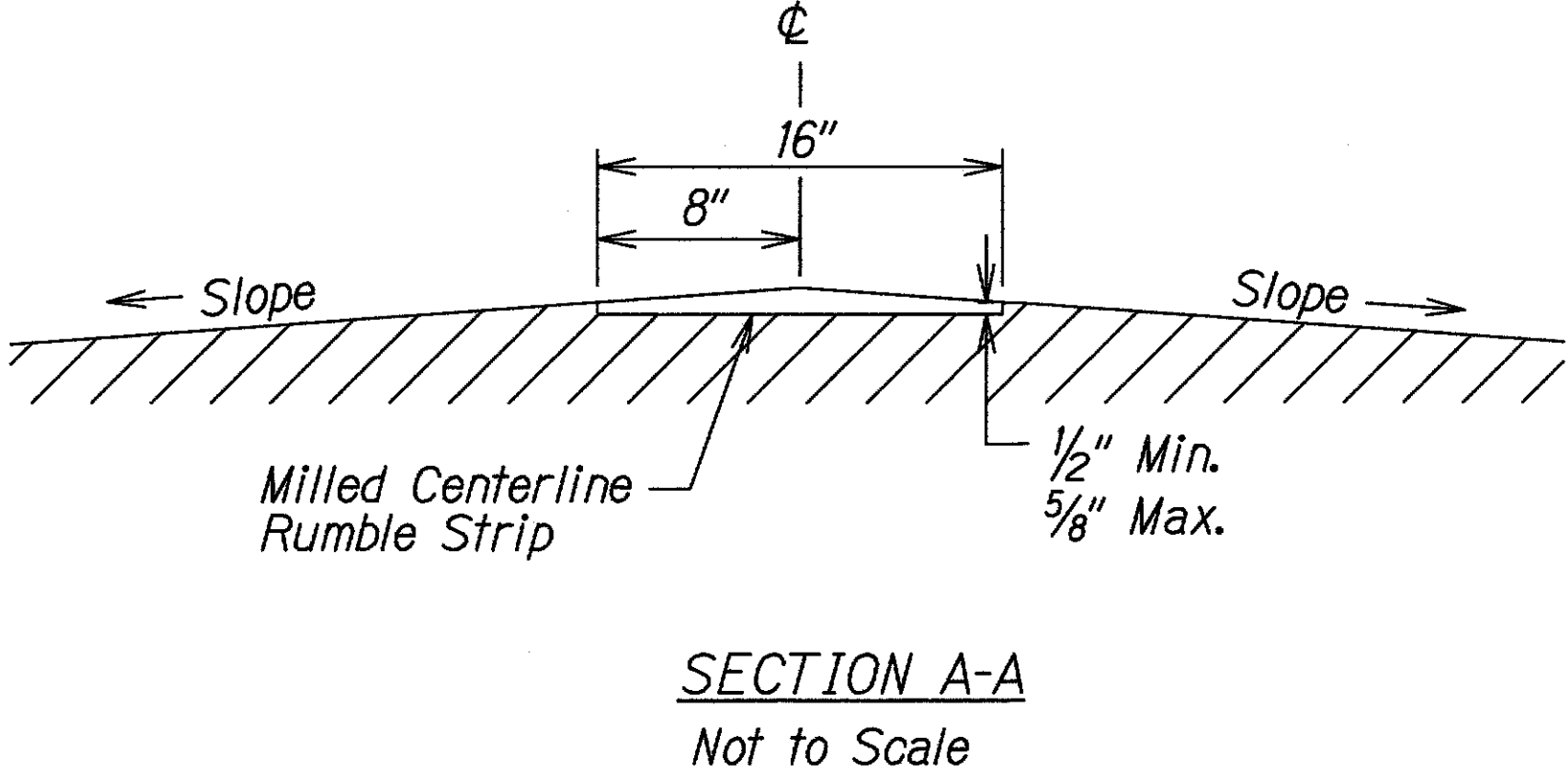
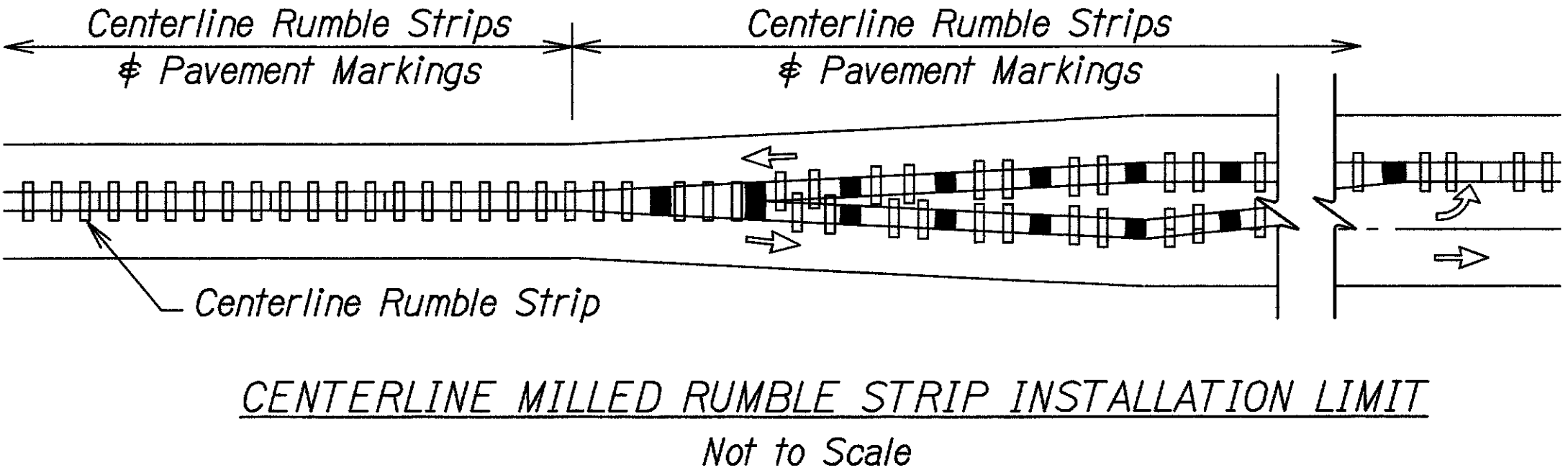
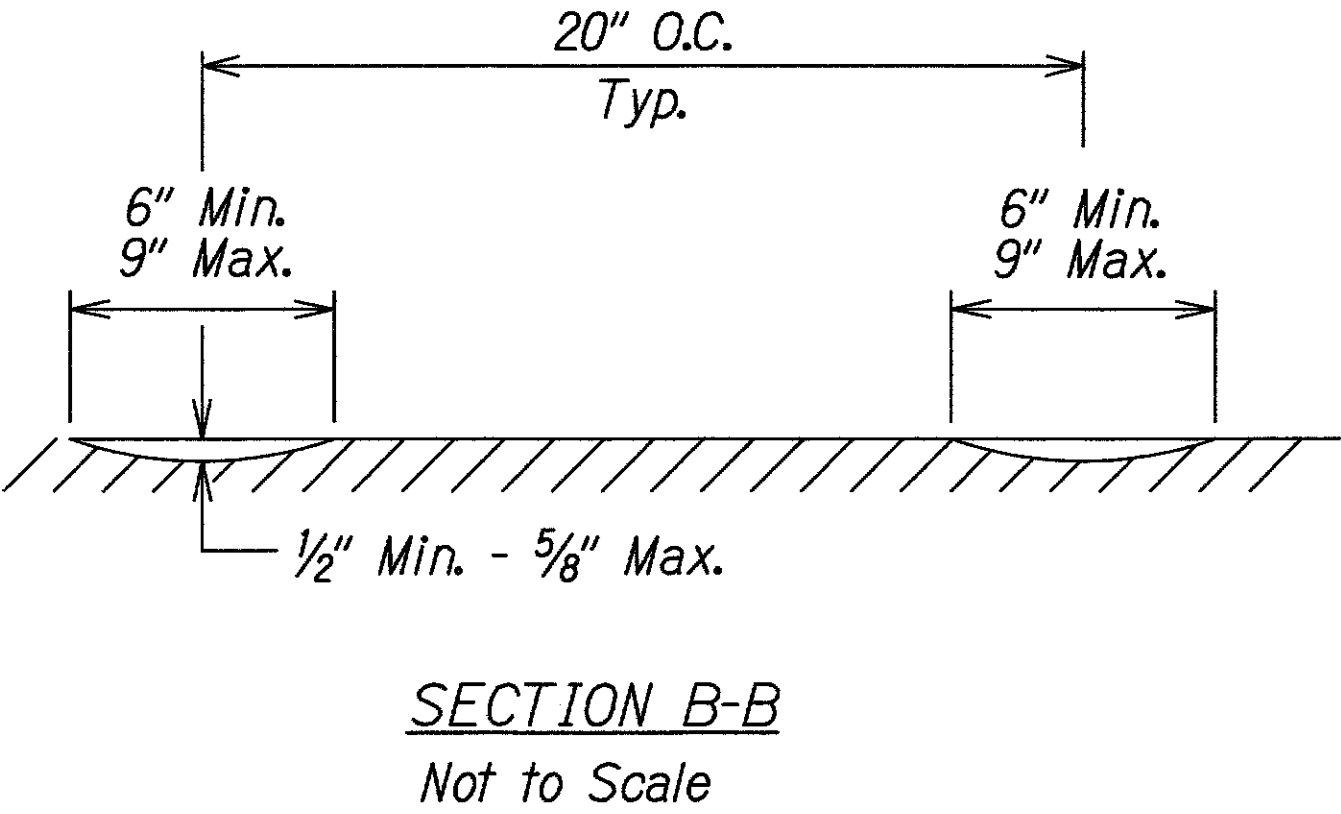
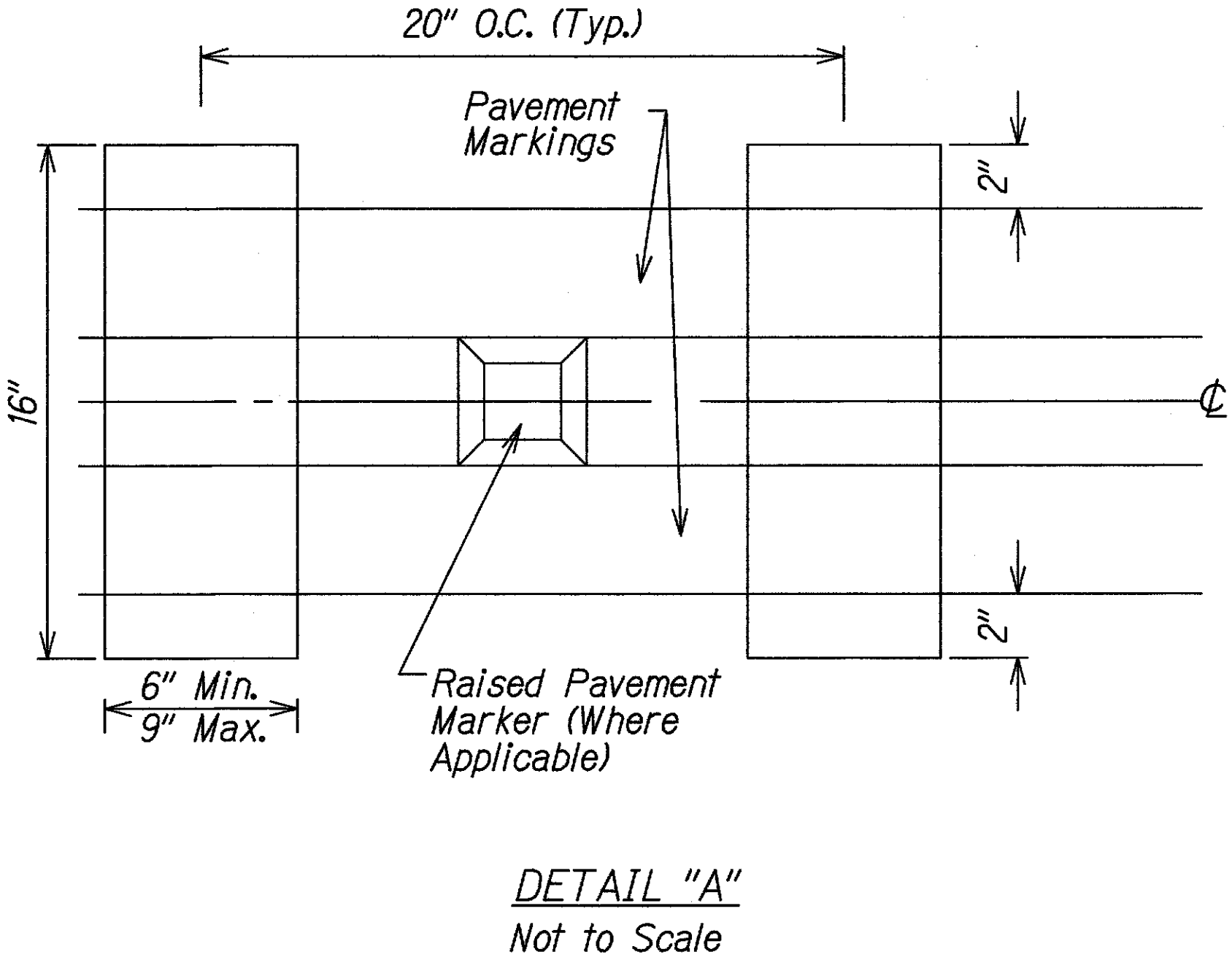
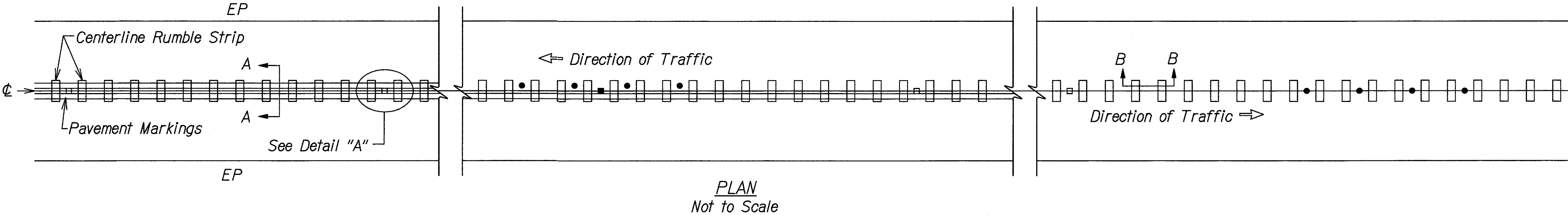


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-030-1(055)	2018	12	25



- NOTES:**
1. Dimensions shown are approximate. Adjust rumble strip spacing to coordinate with pavement markings prior to installation.
 2. Raised pavement markers shall be installed on level surface between the rumble strips. Do not install raised pavement markers inside the milled area.
 3. Do not install centerline rumble strips on bridge decks.
 4. Where at-grade bridges are present, rumble strips shall end/begin 20 L.F. beyond the existing bridge deck joints/concrete approach slab.
 5. Hot spray thermoplastic shall be used for solid line markings within the milled centerline rumble strip area.



STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
MISCELLANEOUS DETAILS 1
 HONOAPIILANI HIGHWAY
 SAFETY IMPROVEMENTS
 Vicinity of Ukumehame to Olowalu
 Federal Aid Project No. HSIP-030-1(055)
 Scale: As Shown Date: September 2017

SHEET No. 12 OF 25 SHEETS
AS-BUILT
12

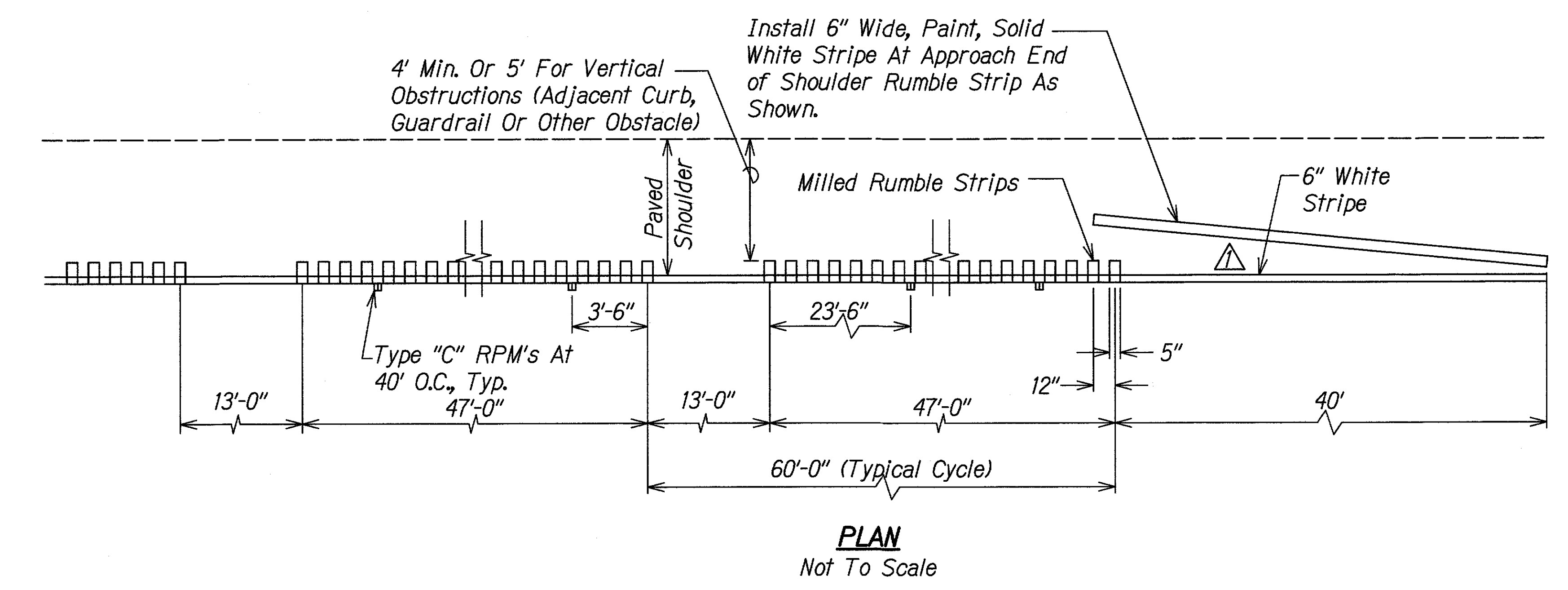
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 Last Save by: JSK
 Last Saved: 2/7/2019
 Plotted on: 2/7/2019

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
IN CHARGE BY	
APPROVED BY	
NOTED BY	
REVISIONS	

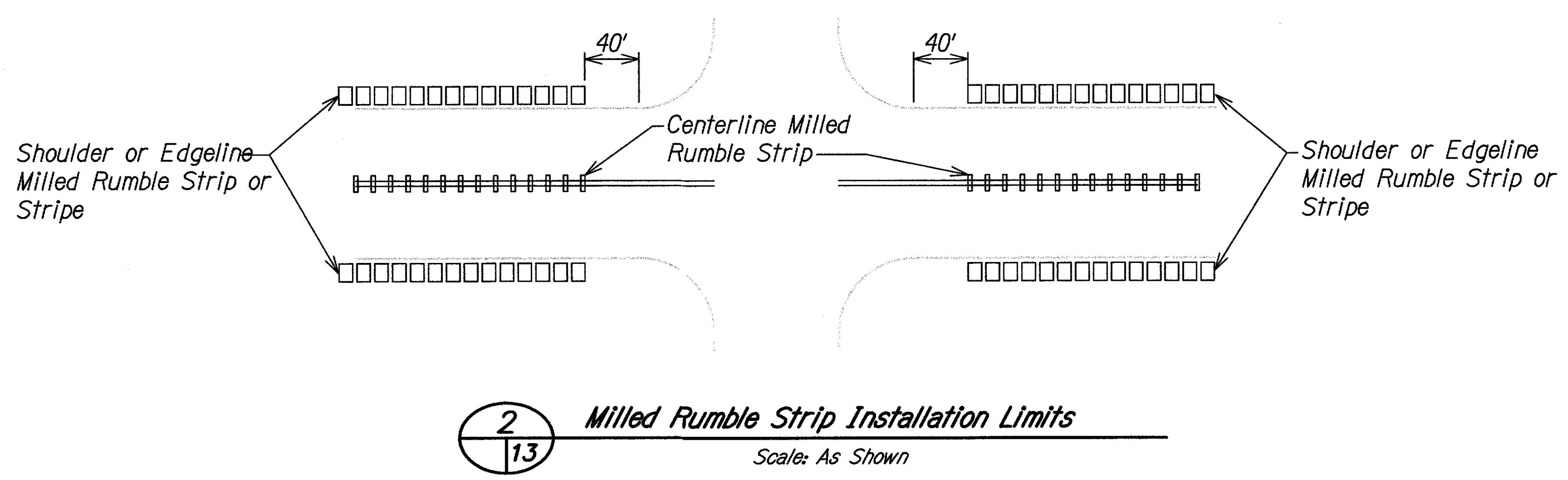
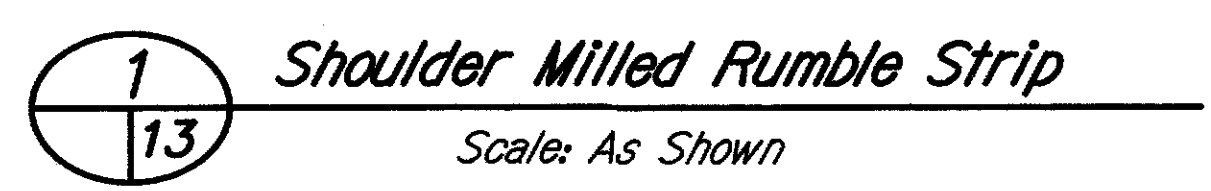
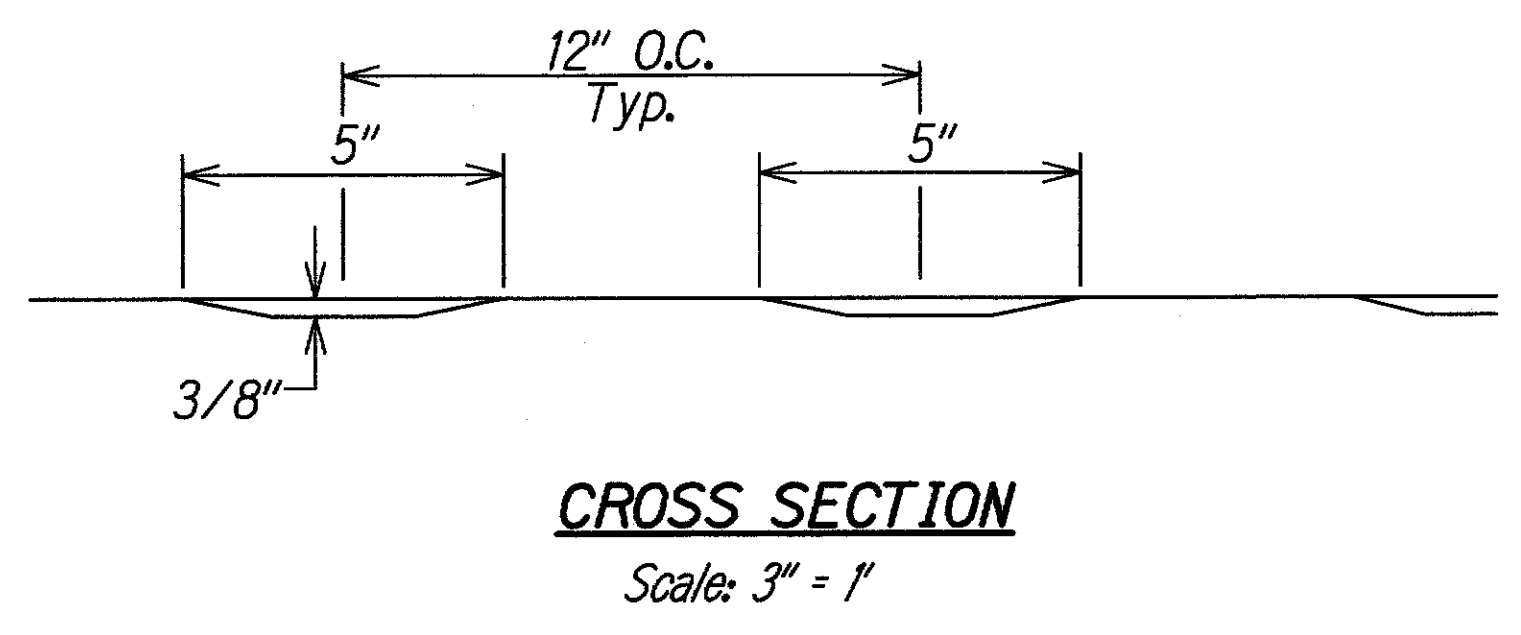
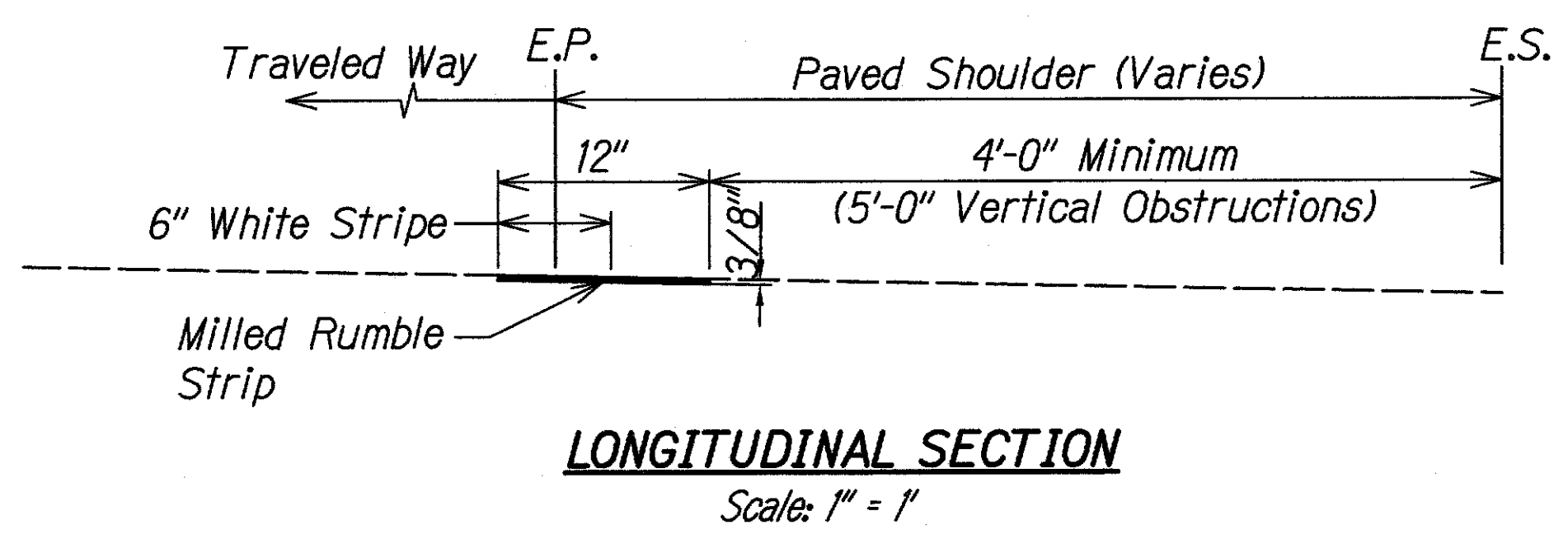
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Plotted on: 2/7/2019

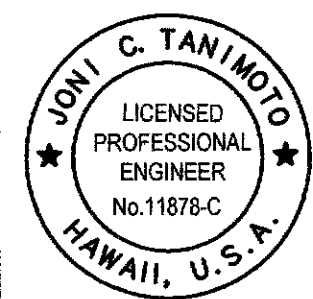
DESIGNED BY	DATE
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CHECKED BY	
IN CHARGE	
REVIEWED BY	
APPROVED BY	
DATE	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-030-1(055)	2018	ADD. 13	25



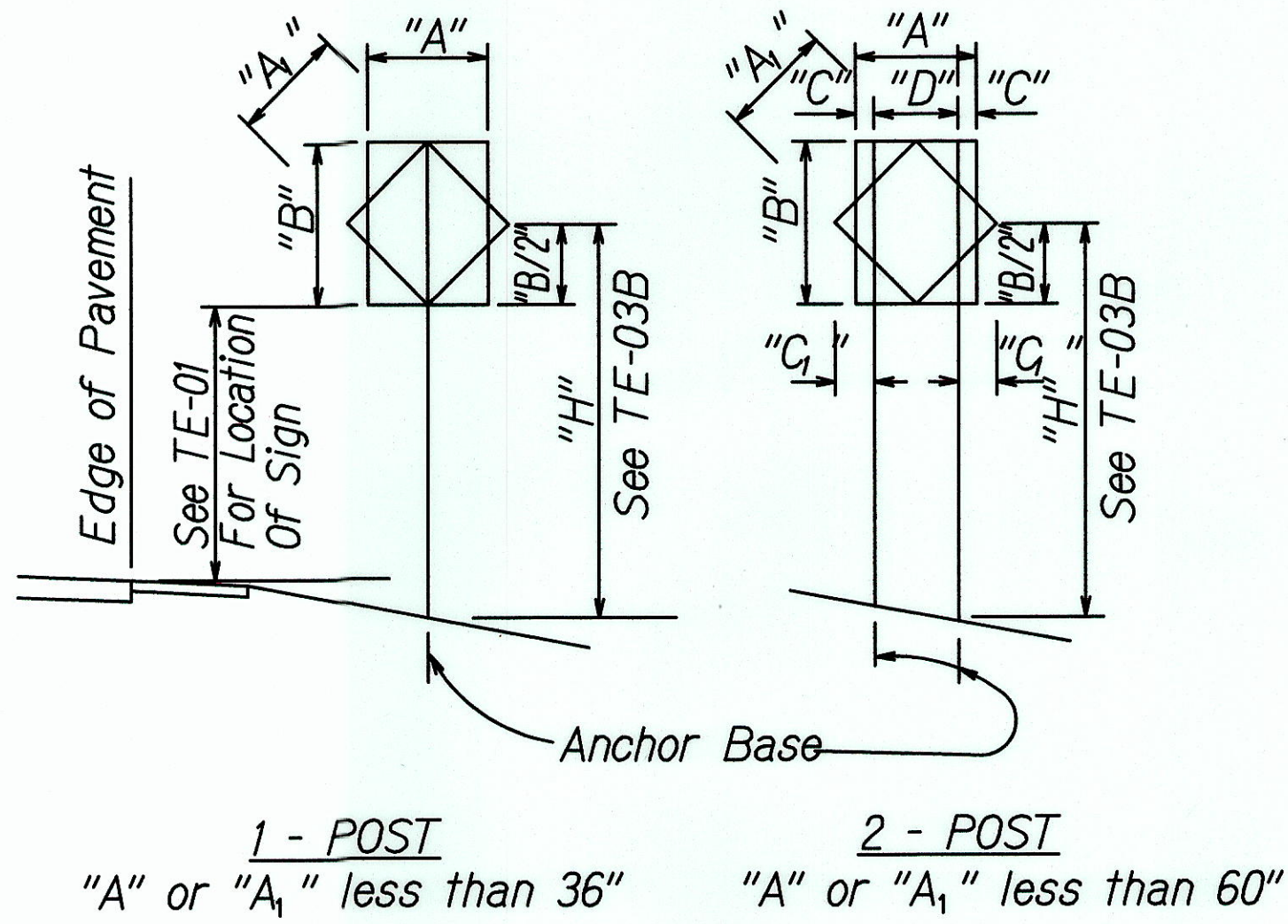
- Notes:
- Shoulder Rumble Strip Should Not Be Used Unless 4 Feet Of Clear Shoulder Width For Bicycle Use (Or 5 Feet If There Are Vertical Obstructions) Is Available Between The Rumble Strips And The Outer Edge Of The Paved Shoulder.
 - Do Not Place Type C Markers Within 2 Feet Of The 13 Feet.
 - Milled Rumble Strips Are To Be Placed On The Edge Line Marking. Hot Spray Thermoplastic Shall Be Used To Reapply Edge Line Over The Top Of The Milled Rumble Strip.



12/14/17	Revised detail per DOT standard details
DATE	REVISION
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION Expiration Date of the License: 04/30/2019	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION MISCELLANEOUS DETAILS 2 HONOAPIILANI HIGHWAY SAFETY IMPROVEMENTS Vicinity of Ukumehame to Olowalu Federal Aid Project No. HSIP-030-1(055) Scale: As Shown Date: September 2017
	SHEET No. 13 OF 25 SHEETS

FILE: G:\DOT\H1501 HONOLULU\HAWAIIAN HIGHWAY SAFETY IMPROVEMENTS\300 DSGN\310 PLANS\MISCELLANEOUS DETAILS 3.DWG
Last Save by: JSK
Last Saved: 2/7/2019
Plotted on: 2/7/2019

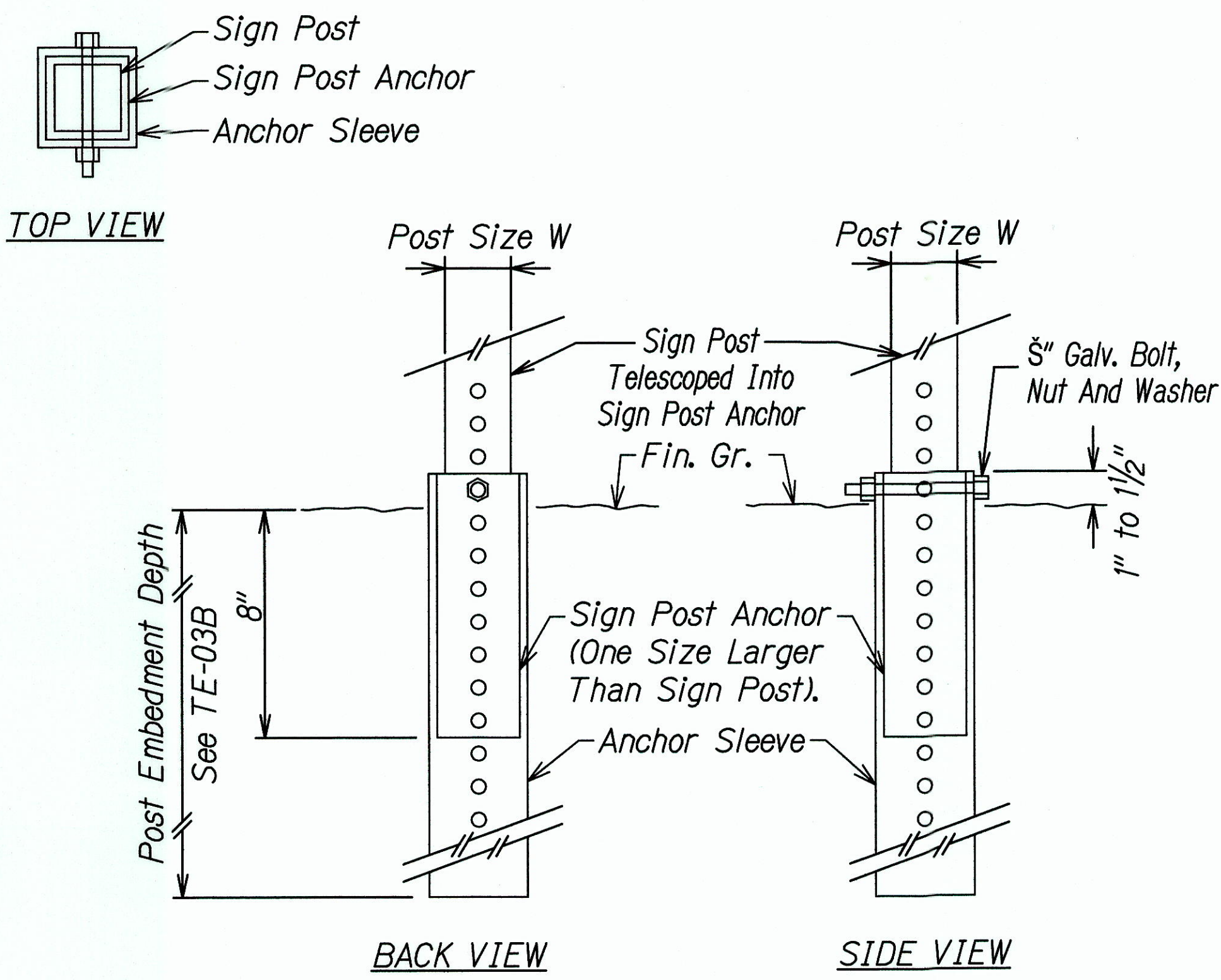
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-030-1(055)	2018	ADD. 14	25



"A" or "A ₁ "	"C"	"G"
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



SIGN POST INSTALLATION

1 Tube Sign Post Mounting
Scale: Not To Scale



2 Ukumehame Firing Range Sign
Scale: Not To Scale

- Notes:
- Sign shall have a white reflectorized border on a green reflectorized background.
 - Drill 3/8" diameter bolt holes (for mounting) at appropriate locations.
 - Corners of sign panels shall be rounded to fit the border.
 - Lettering shall be centered and 8" SERIES D letters.

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
	Text for as-built posting

GENERAL NOTES

- Design Specifications:
 - Design shall conform w/ the latest AASHTO Standard Specifications for the Structural Supports for Highway Signs, Luminaires & Traffic Signals and its interim supplements and modifications by the Highways Division, Department of Transportation State of Hawaii.
 - Latest HDOT Memorandum with subject title "Design Criteria for Bridges and Structures."
- 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 posts shall be 12 gage unless otherwise specified or shown on the plans.
 - Square tube posts shall be perforated with 3/8"Ø 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 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.
 - Install RM-3 on sign post.

12/13/17	Added Ukumehame Firing Range sign details
DATE	REVISION
	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION MISCELLANEOUS DETAILS 3 HONOLULU HIGHWAY SAFETY IMPROVEMENTS Vicinity of Ukumehame to Olowalu Federal Aid Project No. HSIP-030-1(055) Scale: As Shown Date: September 2017

DESIGNED BY	DATE
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IN CHARGE	DATE
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