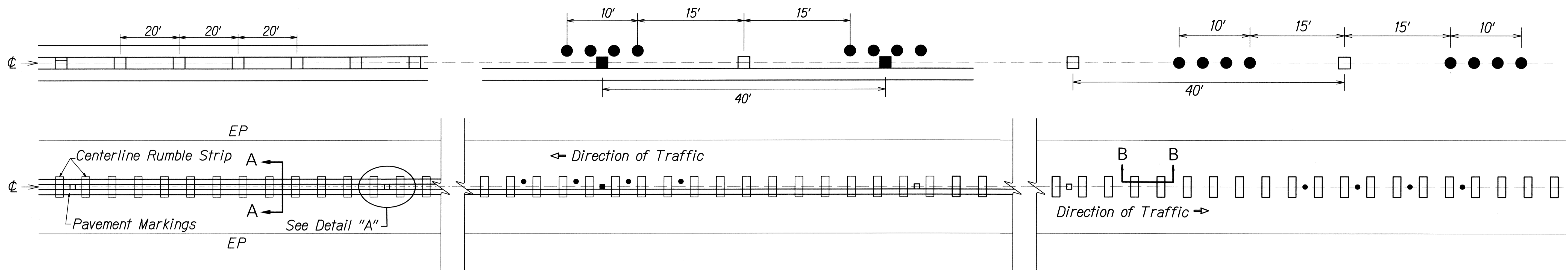
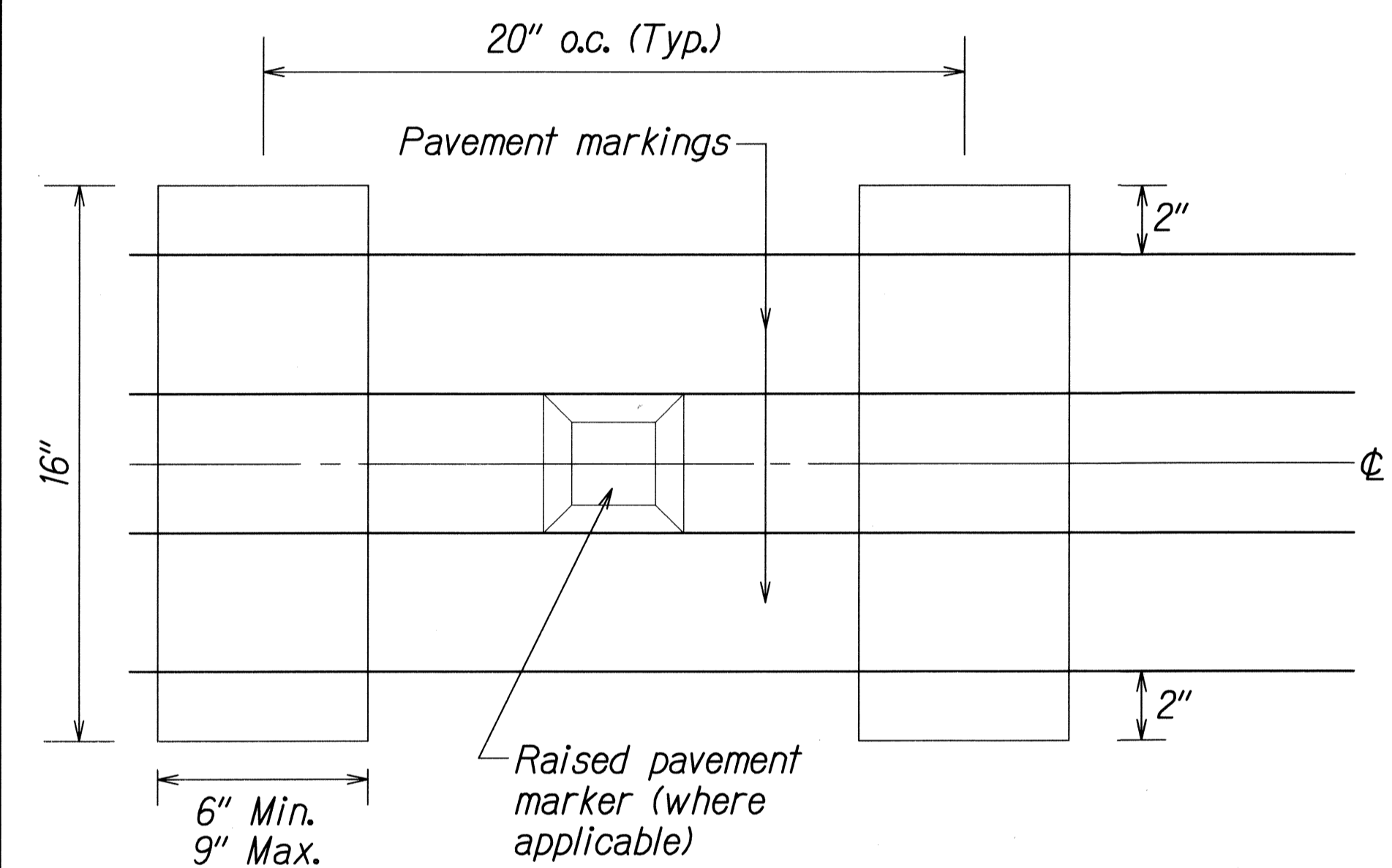


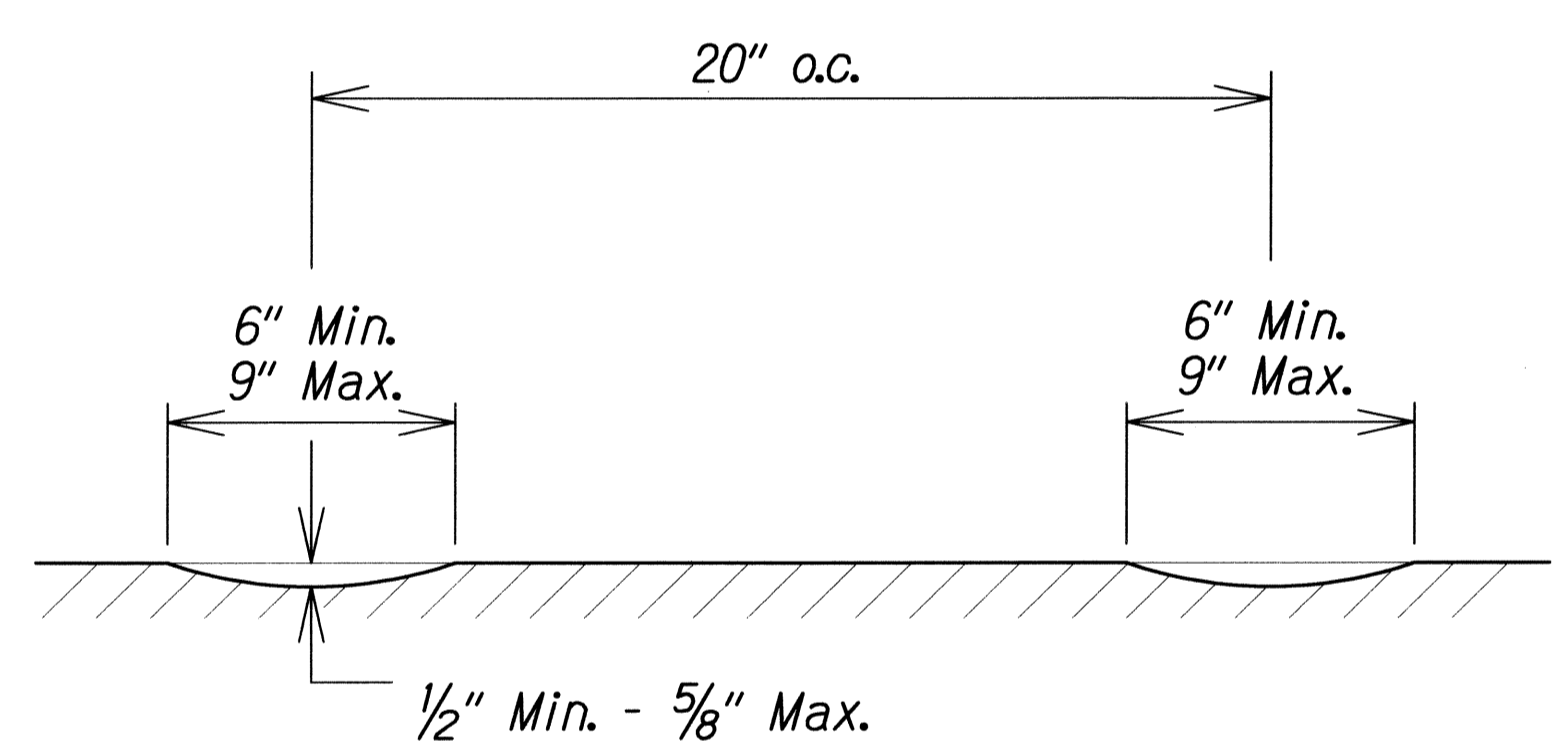
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0900(073)	2010	ADD.15	38



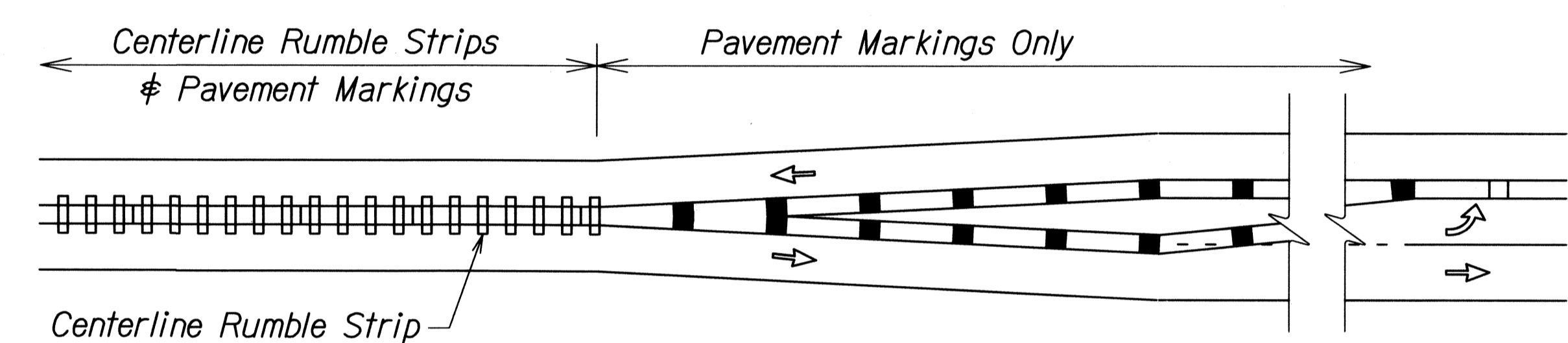
PLAN - CENTERLINE MILLED RUMBLE STRIP



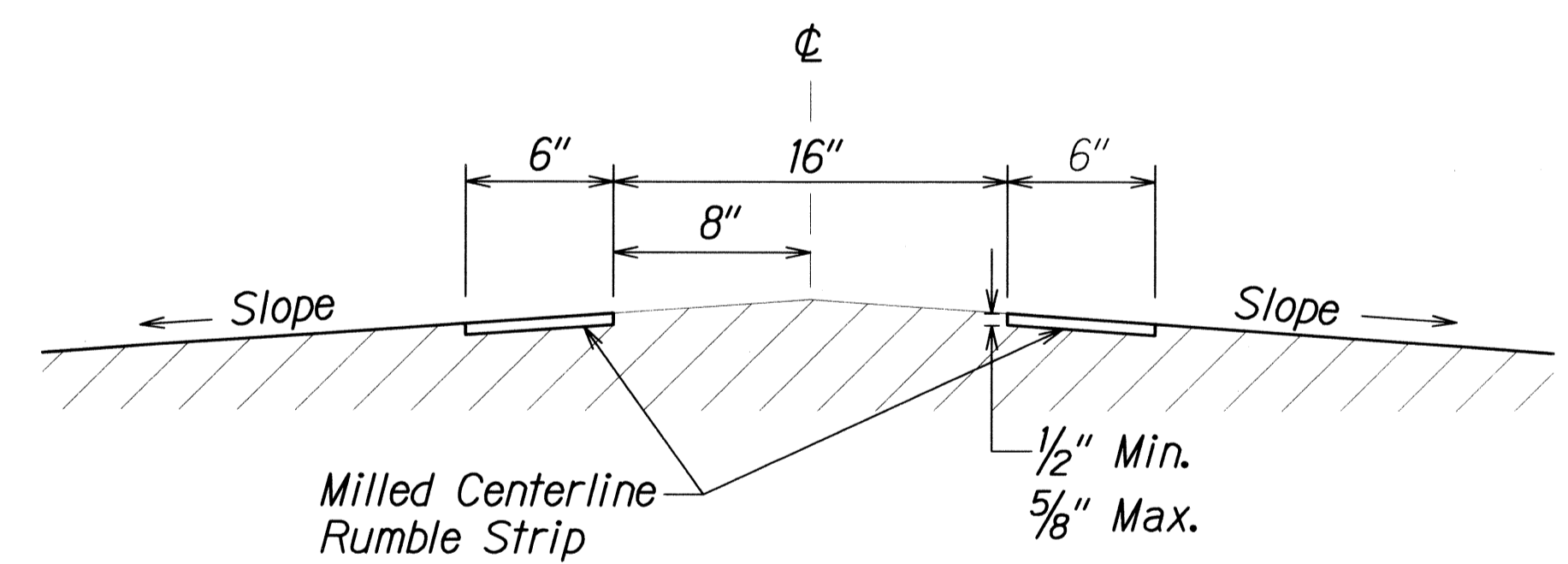
DETAIL "A"



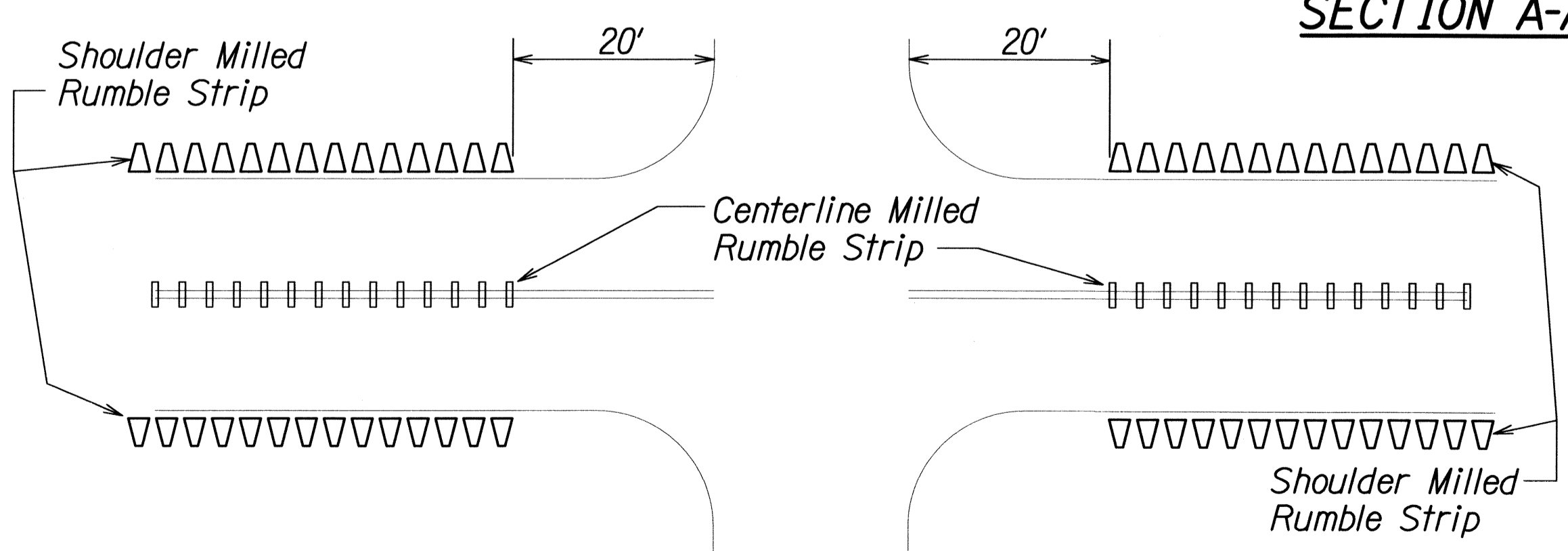
SECTION B-B - CENTERLINE MILLED RUMBLE STRIP



CENTERLINE MILLED RUMBLE STRIP INSTALLATION LIMIT



SECTION A-A - CENTERLINE MILLED RUMBLE STRIP



SHOULDER MILLED RUMBLE STRIP INSTALLATION LIMIT

Not to Scale

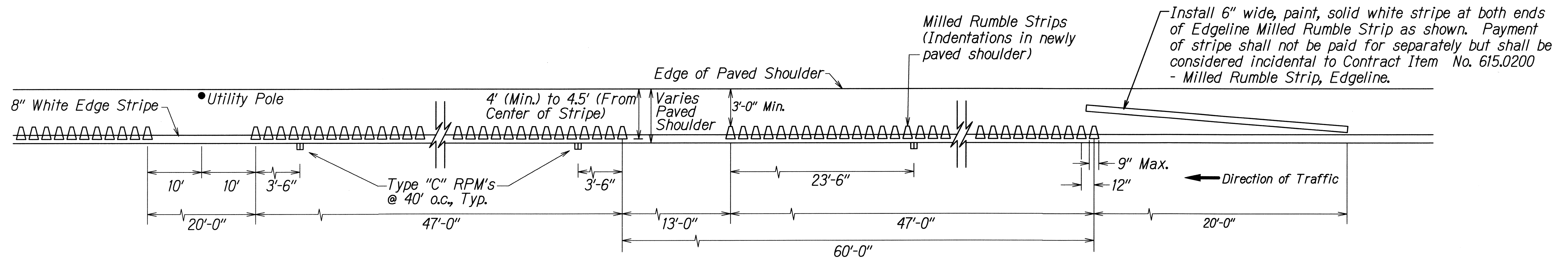
NOTES:

1. The method of constructing the centerline milled rumble strip shall be submitted to the Engineer for acceptance prior to the actual work.
2. Dimensions shown are approximate. Adjust rumble strip spacing to coordinate with pavement markings prior to installation.
3. Raised pavement markers shall be installed on level surface between the rumble strips. Do not install raised pavement markers inside the milled area.
4. The construction of the centerline milled rumble strip shall be paid for under Item No. 615.0100 - Milled Rumble Strip, Centerline. The milling apparatus and removal of existing pavement markings will not be paid for separately and shall be considered incidental to Item 615.0100.
5. Do not install centerline rumble strips on bridge decks.
6. Where at-grade bridges are present, rumble strips shall end/begin 20 L.F. beyond the existing bridge deck joints/concrete approach slab.
7. Hot spray thermoplastic shall be used for solid line markings within the milled centerline rumble strip area.

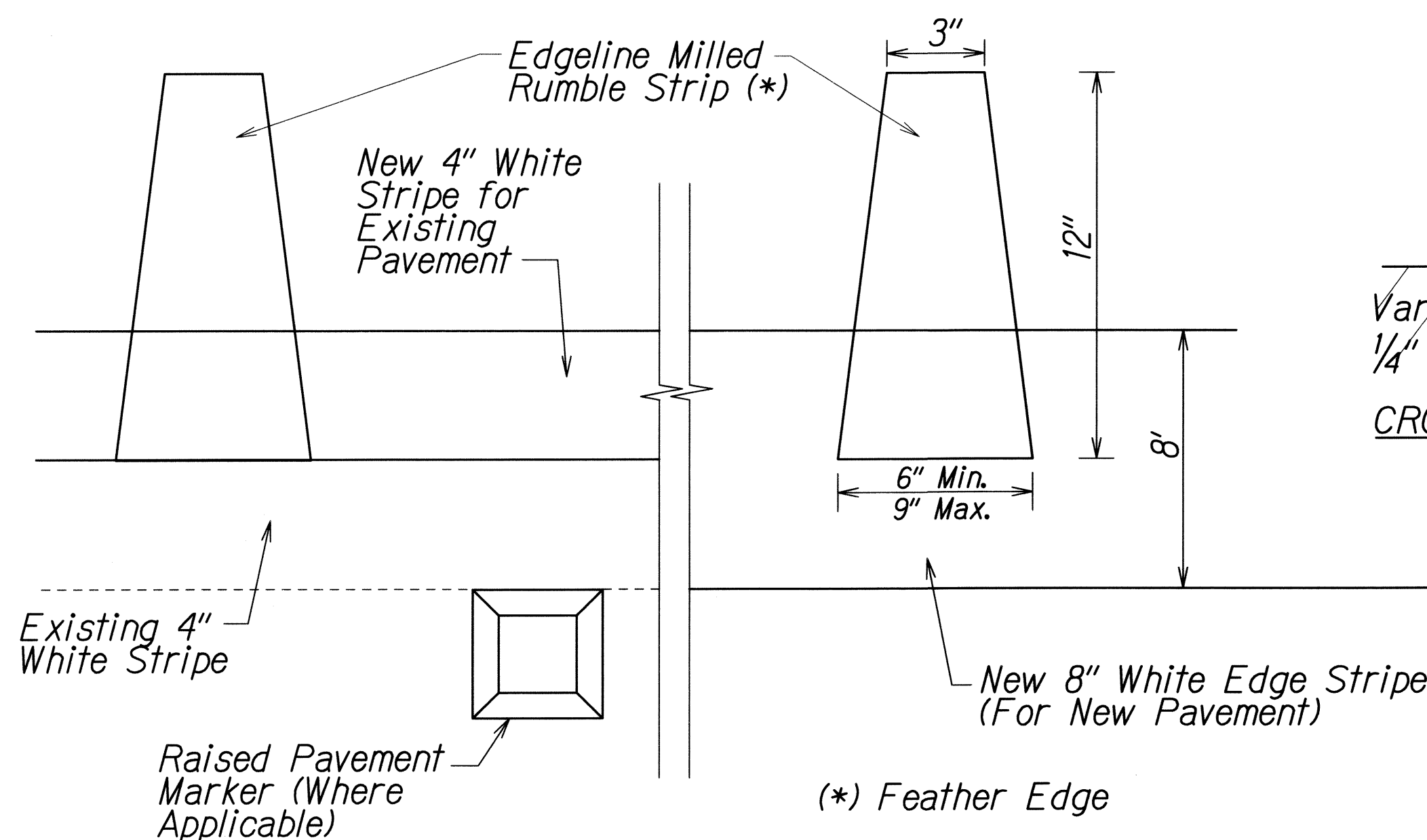
ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
DATE	

6-6-11	Revise Note No. 7.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION <b>CENTERLINE MILLED RUMBLE STRIP DETAIL</b> <b>KULA HIGHWAY RESURFACING</b> <b>Haakakai Bridge towards Old Lower Kula Rd. and</b> <b>HONOAPIILANI HIGHWAY RESURFACING</b> <b>Kapoli St. to Kaheawa Wind Farm Access Rd.</b> <b>Federal-Aid Project No. STP-0900(073)</b> Scale: As Shown Date: July, 2009 SHEET No. 1 OF 3 SHEETS	

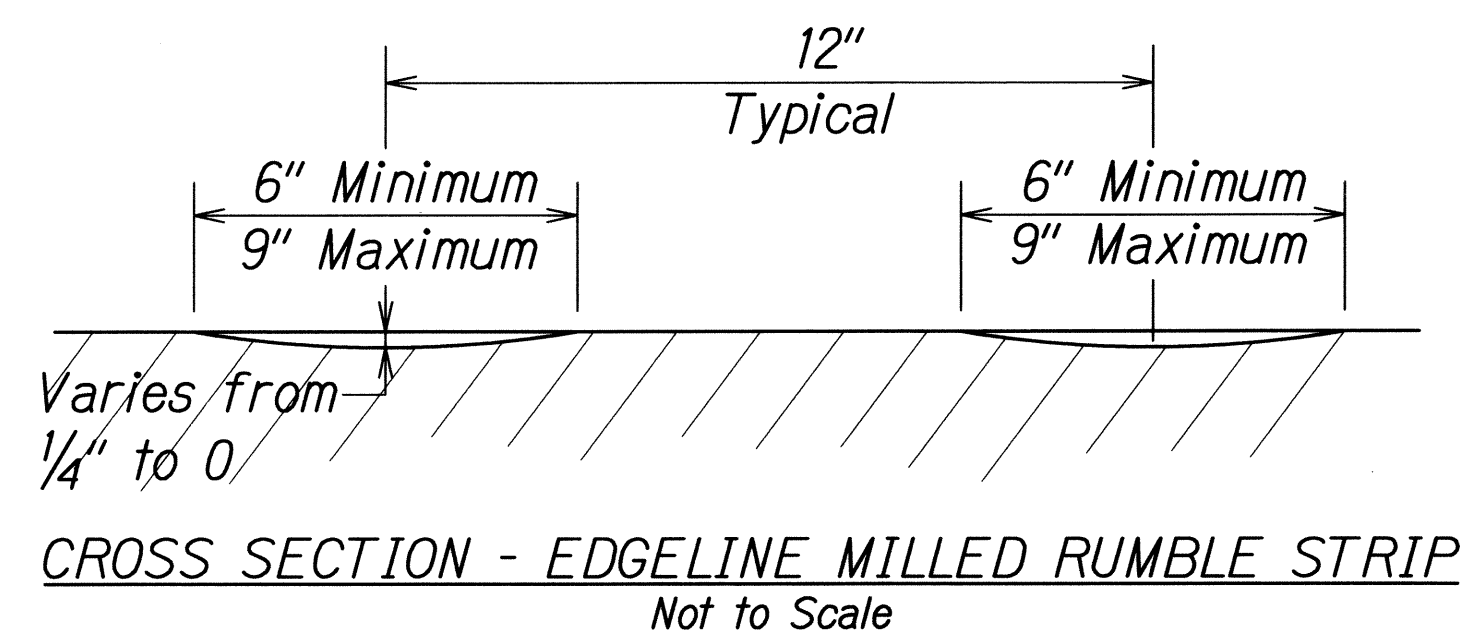
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0900(073)	2010	ADD.16	38



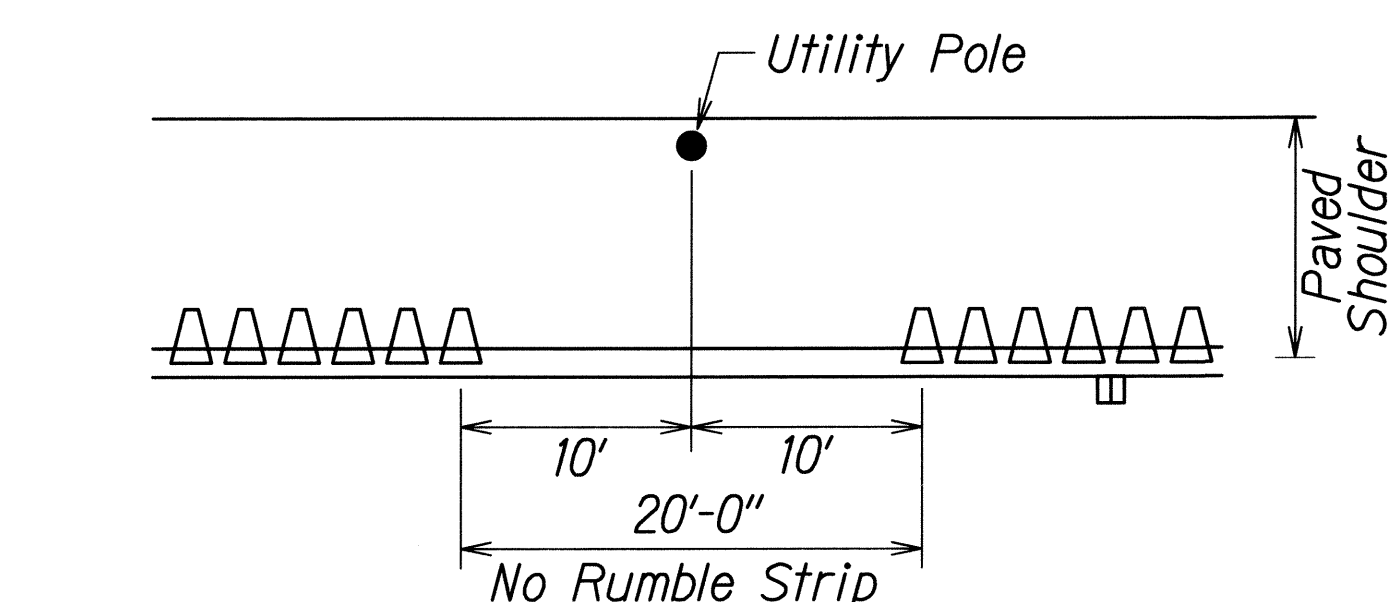
PLAN - EDGELINE MILLED RUMBLE STRIP  
Not to Scale



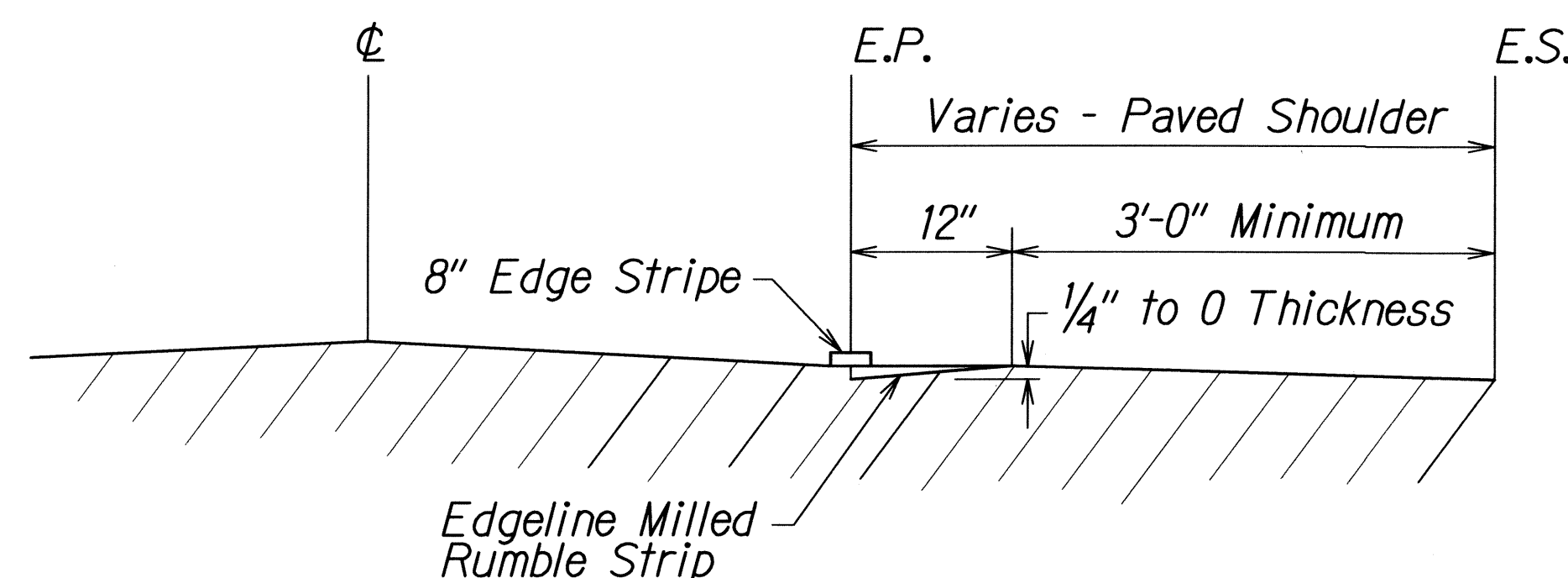
DETAIL - EDGELINE MILLED RUMBLE STRIP  
Not to Scale



CROSS SECTION - EDGELINE MILLED RUMBLE STRIP  
Not to Scale




DETAIL - CONDITION WHERE UTILITY POLE EXISTS  
Not to Scale



LONGITUDINAL SECTION - EDGELINE MILLED RUMBLE STRIP  
Not to Scale

- NOTES:

1. *Edgeline milled rumble strips shall be installed where the existing condition of the shoulder are 4' to 4.5' from center of edge stripe.*
2. *The method of constructing the edgeline milled rumble strip shall be submitted to the Engineer for acceptance prior to the actual work.*
3. *Dimensions shown are approximate. Adjust rumble strip spacing to coordinate with pavement marking prior to installation.*
4. *Raised pavement markers shall be installed on level surface between the rumble strips. Do not install raised pavement markers inside the milled area.*
5. *The construction of the edgeline milled rumble strip and 13-foot gaps shall be paid for under Item No. 615.0200 - Milled Rumble Strip, Edgeline. The milling apparatus, 20 L.F. - 6" white stripe, and removal of existing pavement markings will not be paid for separately and shall be considered incidental to Item 615.0200 - Milled Rumble Strip, Edgeline.*
6. *Rumble strips shall be installed along all shoulders, except at right turn deceleration and acceleration lanes, as noted on the plans.*
7. *Do not place Type "C" Raised Pavement markers within 2 ft. of the 13 ft. Rumble Strip opening.*
8. *Do not install edgeline rumble strips on bridge decks.*
9. *Where at-grade bridges are present, rumble strips shall end/begin 20 L.F. beyond the existing bridge deck joints/concrete approach slab.*
10. *Rumble Strips are to be installed after the edge of pavement stripe and before the installation of the Type "C" raised pavement markers.*
- △ 11. *Hot spray thermoplastic shall be used for solid line markings within the edgeline milled rumble strip area.*

	6-6-11	Revise Note 11.
	DATE	REVISION

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**EDGE LINE MILLED RUMBLE STRIP**  
**DETAIL FOR SHOULDER 4' TO 4.5'**

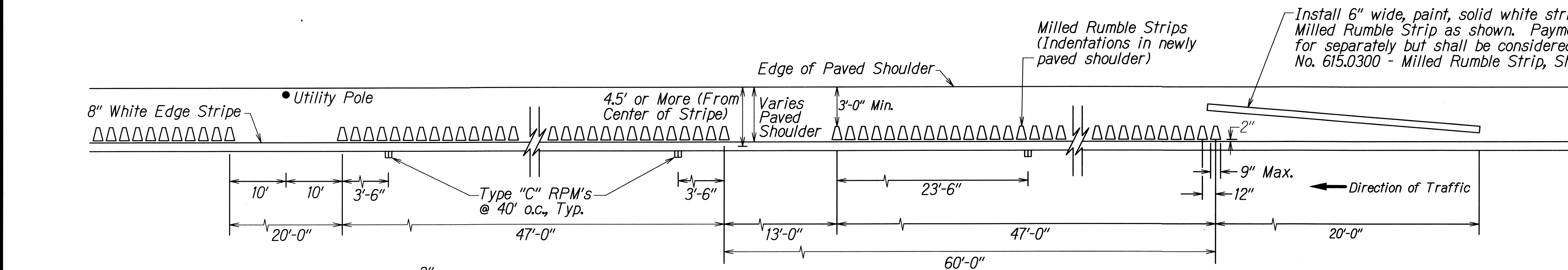
KULA HWY. RESURF. Haakakai Brid. towards Old Lower Kula Rd.  
HONOAPIILANI HIGHWAY RESURFACING  
Kapoli St. to Kaheawa Wind Farm Access Rd.  
Federal-Aid Project No. STP-0900(073)

Scale: As Shown                      Date: July, 2009

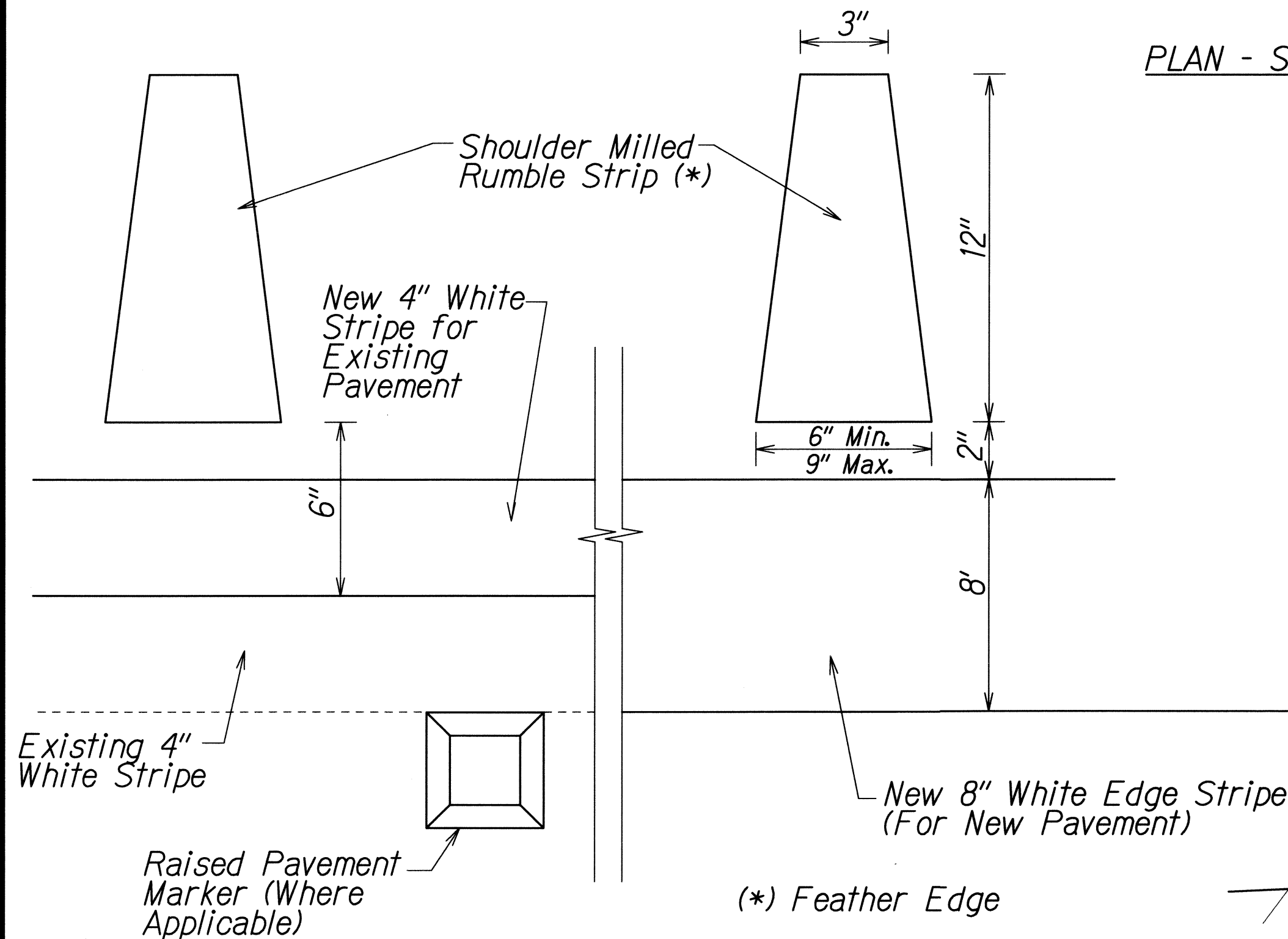
SHEET No. 2 OF 3 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY _____ DATE _____
NOTE BOOK td2 may td20 June 1951	DRAWN BY <u>X</u> _____
	TRACED BY _____
	DESIGNED BY <u>X</u> _____
	QUANTITIES BY _____
Na. 614000015	CHECKED BY _____

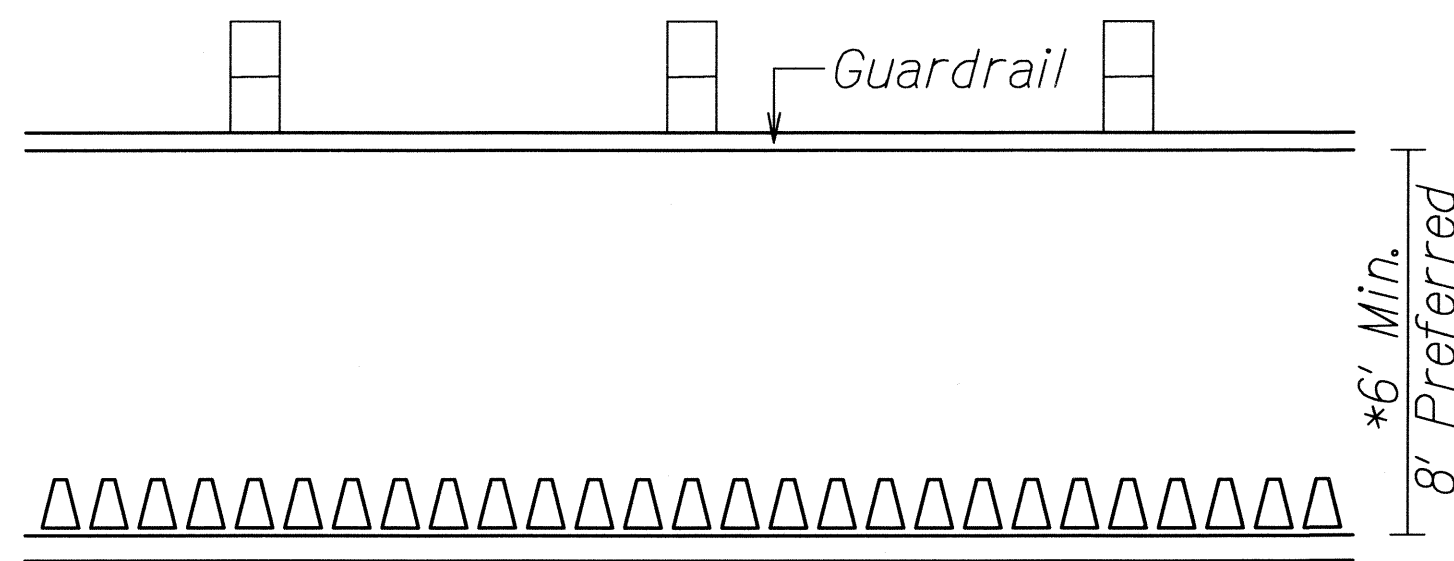
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0900(073)	2010	ADD.17	38



PLAN - SHOULDER MILLED RUMBLE STRIP  
Not to Scale

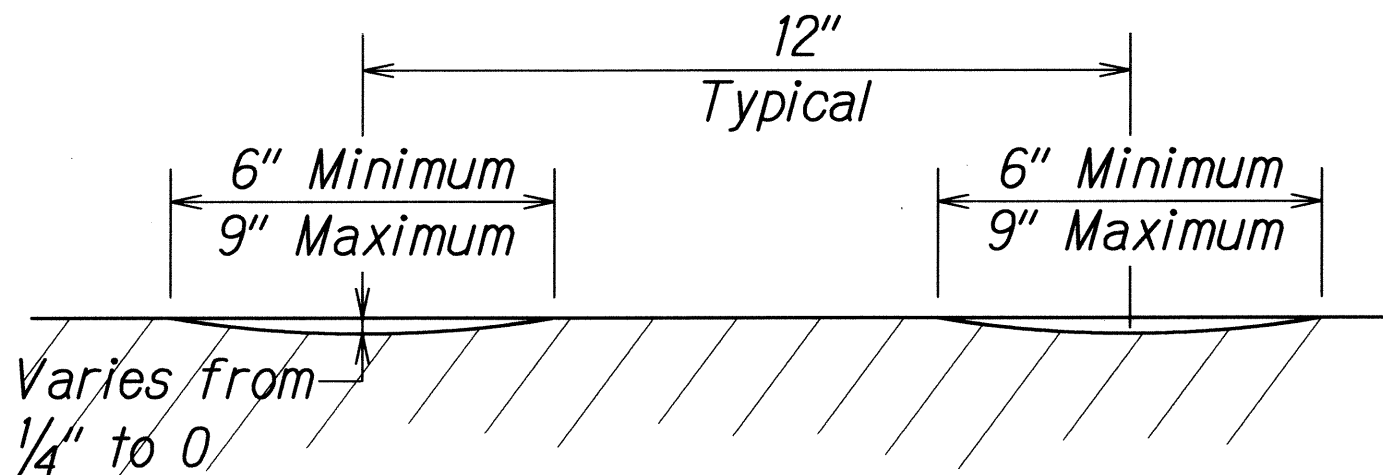


DETAIL - SHOULDER MILLED RUMBLE STRIP  
Not to Scale

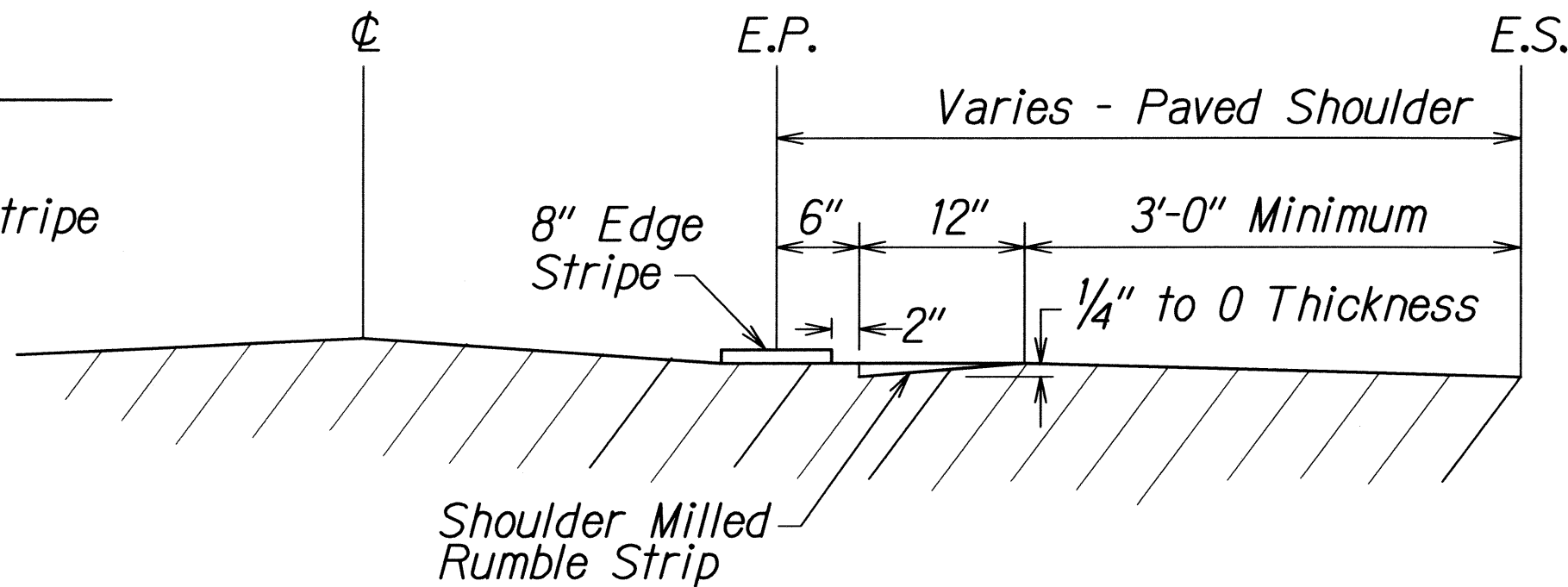


DETAIL - CONDITION WHERE GUARDRAIL EXISTS  
Not to Scale

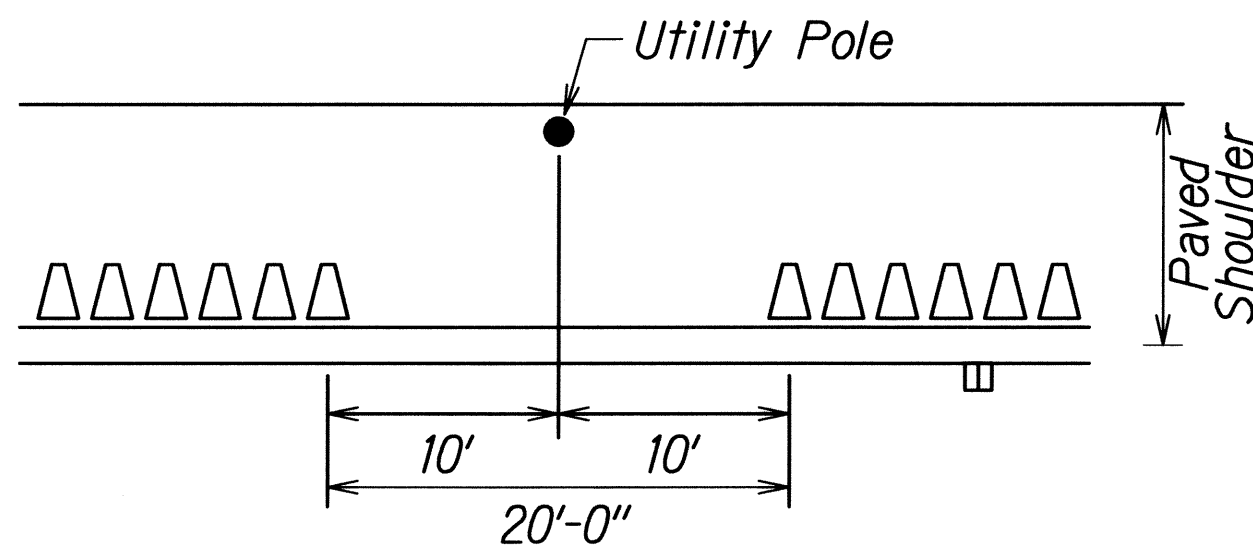
\*If shoulder width is less than 6', do not install shoulder rumble strip where guardrail exists.



CROSS SECTION - SHOULDER MILLED RUMBLE STRIP  
Not to Scale



LONGITUDINAL SECTION - SHOULDER MILLED RUMBLE STRIP  
Not to Scale



DETAIL - CONDITION WHERE UTILITY POLE EXISTS  
Not to Scale

NOTES:

- Shoulder milled rumble strips shall be installed where the existing condition of the shoulder are 4.5' or more from center of edge stripe.
- The method of constructing the shoulder milled rumble strip shall be submitted to the Engineer for acceptance prior to the actual work.
- Dimensions shown are approximate. Adjust rumble strip spacing to coordinate with pavement marking prior to installation.
- Raised pavement markers shall be installed on level surface between the rumble strips. Do not install raised pavement markers inside the milled area.
- The construction of the edgeline milled rumble strip and 13-foot gaps shall be paid for under Item No. 615.0300 - Milled Rumble Strip, Shoulder. The milling apparatus, 20 L.F. - 6" white stripe, and removal of existing pavement markings will not be paid for separately and shall be considered incidental to Item 615.0300 - Milled Rumble Strip, Shoulder.
- Rumble strips shall be installed along all shoulders, except at right turn deceleration and acceleration lanes, as noted on the plans.
- Do not place Type "C" Raised Pavement markers within 2 ft. of the 13 ft. Rumble Strip opening.
- Do not install edgeline rumble strips on bridge decks.
- Where at-grade bridges are present, rumble strips shall end/begin 20 L.F. beyond the existing bridge deck joints/concrete approach slab.
- Rumble Strips are to be installed after the edge of pavement stripe and before the installation of the Type "C" raised pavement markers.
- Hot spray thermoplastic shall be used for solid line markings within the shoulder milled rumble strip area.

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

6-6-11 Revise Note No. 11.

DATE REVISION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
<b>SHOULDER MILLED RUMBLE STRIP</b>
<b>DETAIL FOR SHOULDER 4.5' OR MORE</b>
KULA HWY. RESURF. Haakakai Brid. towards Old Lower Kula Rd. HONOAPIILANI HIGHWAY RESURFACING Kapoli St. to Kaheawa Wind Farm Access Rd. Federal-Aid Project No. STP-0900(073)
Scale: As Shown Date: July, 2009
SHEET No. 3 OF 3 SHEETS