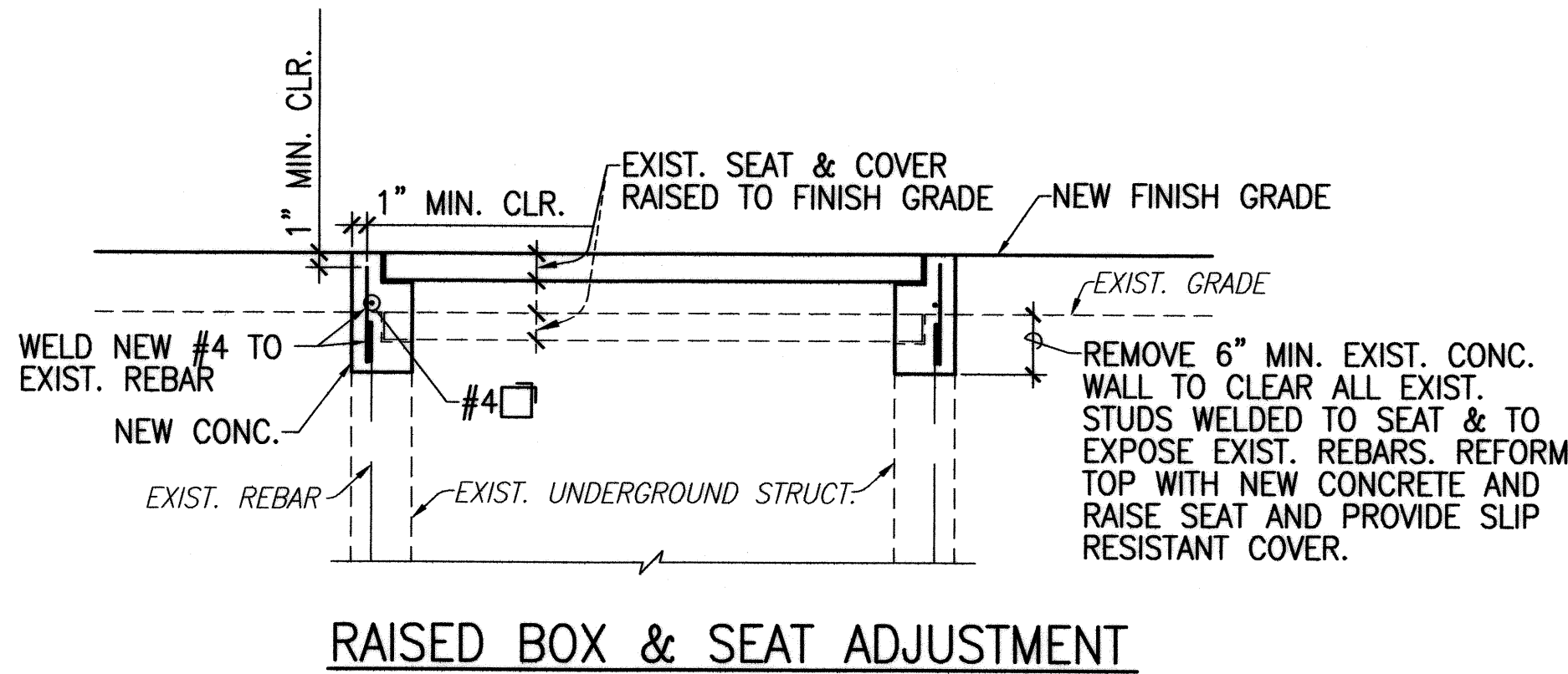
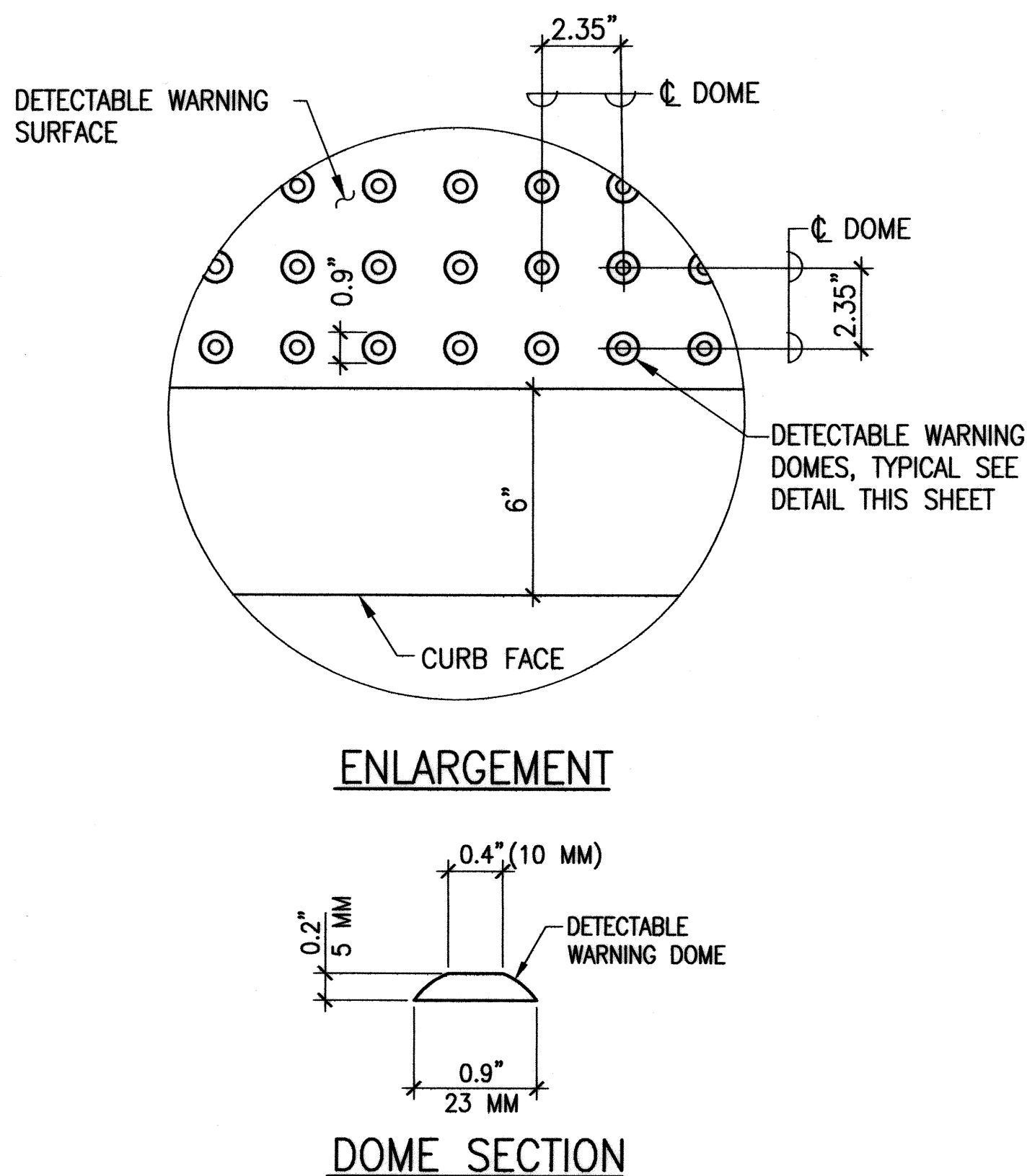
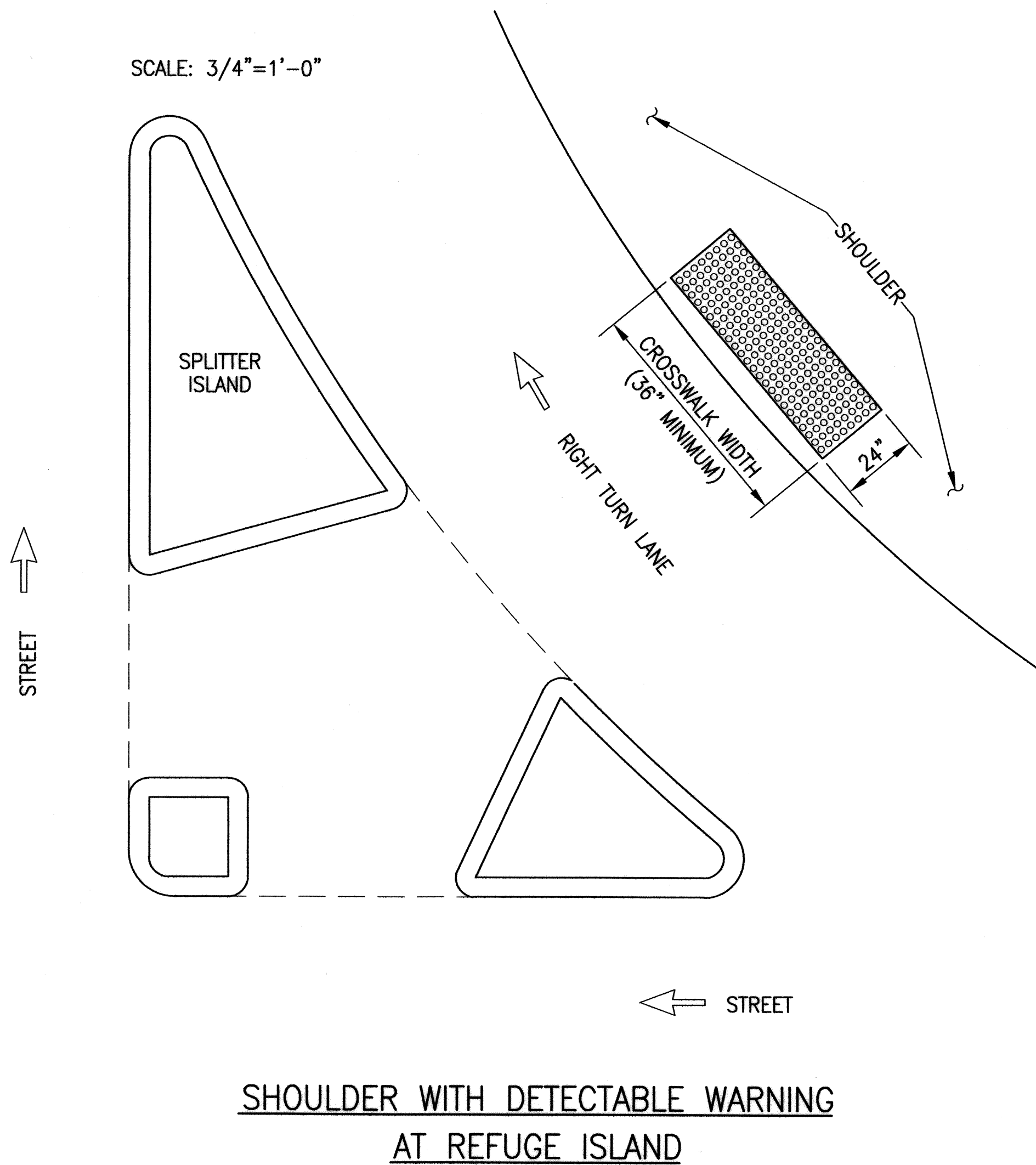


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ARR-031-1 (11)	2009	27	31



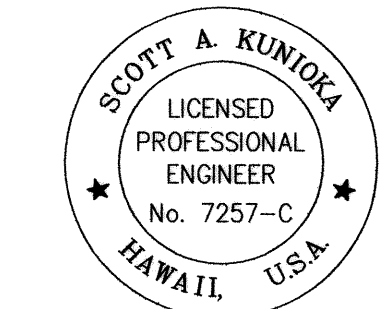
TYPICAL UTILITY BOX ADJUSTMENT DETAIL 1  
C-25



- NOTES:
1. DETECTABLE WARNINGS SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE (DOES NOT INCLUDE FLARES).
  2. TRUNCATED DOMES SHALL HAVE A DIAMETER OF 0.9 INCH AT THE BOTTOM, A DIAMETER OF 0.4 INCH AT THE TOP, A HEIGHT OF 0.2 INCH AND A CENTER-TO-CENTER SPACING OF 2.35 INCHES MEASURED ALONG ONE SIDE OF A SQUARE ARRANGEMENT.
  3. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN THE DOMES.
  4. THE DETECTABLE WARNING SHALL BE "SAFETY YELLOW".
  5. THE MATERIAL USED TO PROVIDE VISUAL CONTRAST SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING SURFACE.
  6. THE DETECTABLE WARNING SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE OR OTHER POTENTIAL HAZARD IS 6 TO 8 INCHES FROM THE CURB LINE.
  7. ALL COSTS ASSOCIATED WITH THE DETECTABLE WARNING SURFACE SHALL BE CONSIDERED INCIDENTAL TO THE COST FOR THE CURB RAMP CONSTRUCTION. NO ADDITIONAL COMPENSATION SHALL BE MADE TO THE CONTRACTOR FOR INSTALLATION OF THE DETECTABLE WARNING SURFACE.

DESIGNED BY	DATE
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

TYPICAL INSTALLATION OF DETECTABLE WARNINGS 2  
NOT TO SCALE  
C-25



LICENSE EXPIRATION DATE: 4/30/10  
THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION  
*Scott A. Kunioka*  
SHIMABUKURO, ENDO & YOSHIZAKI, INC.  
1126 12TH Avenue  
Honolulu, Hawaii 96816

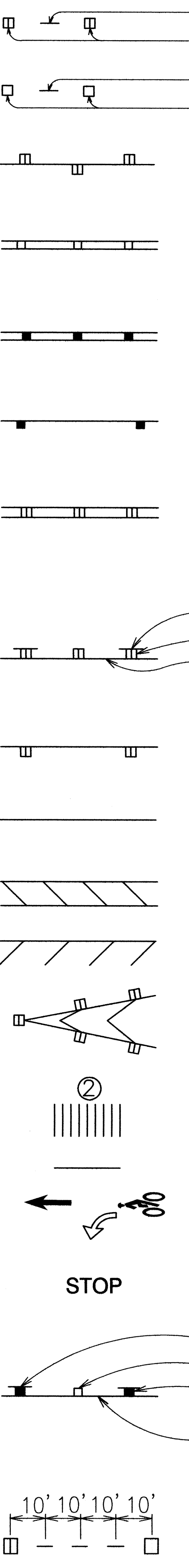
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

PIILANI HIGHWAY PAVEMENT PREVENTIVE  
MAINTENANCE, LIPOA ST. TO KILOHANA DR.  
Fed. Aid Project No. ARR-031-1 (11)  
Scale: AS NOTED Date: APRIL 2009

SHEET No. C-25 OF 31 SHEETS

LEGEND



4 EACH TYPE A RAISED PAVEMENT MARKERS  
TYPE C RAISED PAVEMENT MARKERS @ 40'-0" O.C.

4 EACH TYPE J RAISED PAVEMENT MARKERS  
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))

4" 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  
4 EACH TYPE A RAISED PAVEMENT MARKERS  
TYPE C RAISED PAVEMENT MARKERS @ 20'-0" O.C.  
4" WHITE STRIPE (TAPE, TYPE I OR THERMOPLASTIC  
Extrusion)

4" 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 OR SYMBOL (TAPE, TYPE III OR  
Thermoplastic Extrusion)

STOP

PAVEMENT WORD (TAPE, TYPE III OR THERMOPLASTIC  
Extrusion)

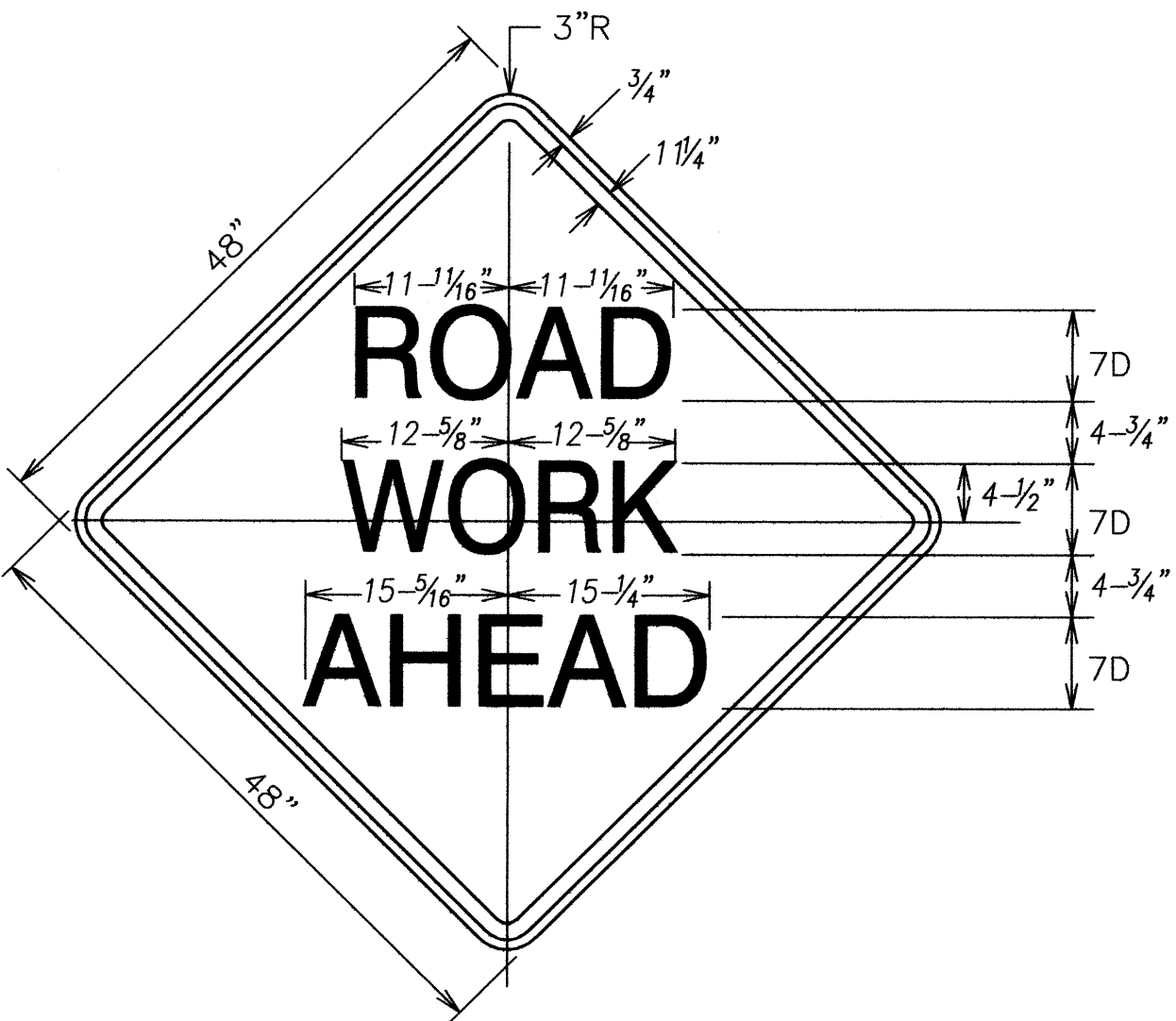
4 EACH TYPE J RAISED PAVEMENT MARKERS  
TYPE D RAISED PAVEMENT MARKERS @ 40'-0" O.C.  
TYPE H RAISED PAVEMENT MARKERS (REFLECTIVE  
SURFACE FACING NO-PASSING DIRECTION)  
4" SINGLE SOLID YELLOW STRIPE (TAPE, TYPE I  
OR THERMOPLASTIC EXTRUSION)

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

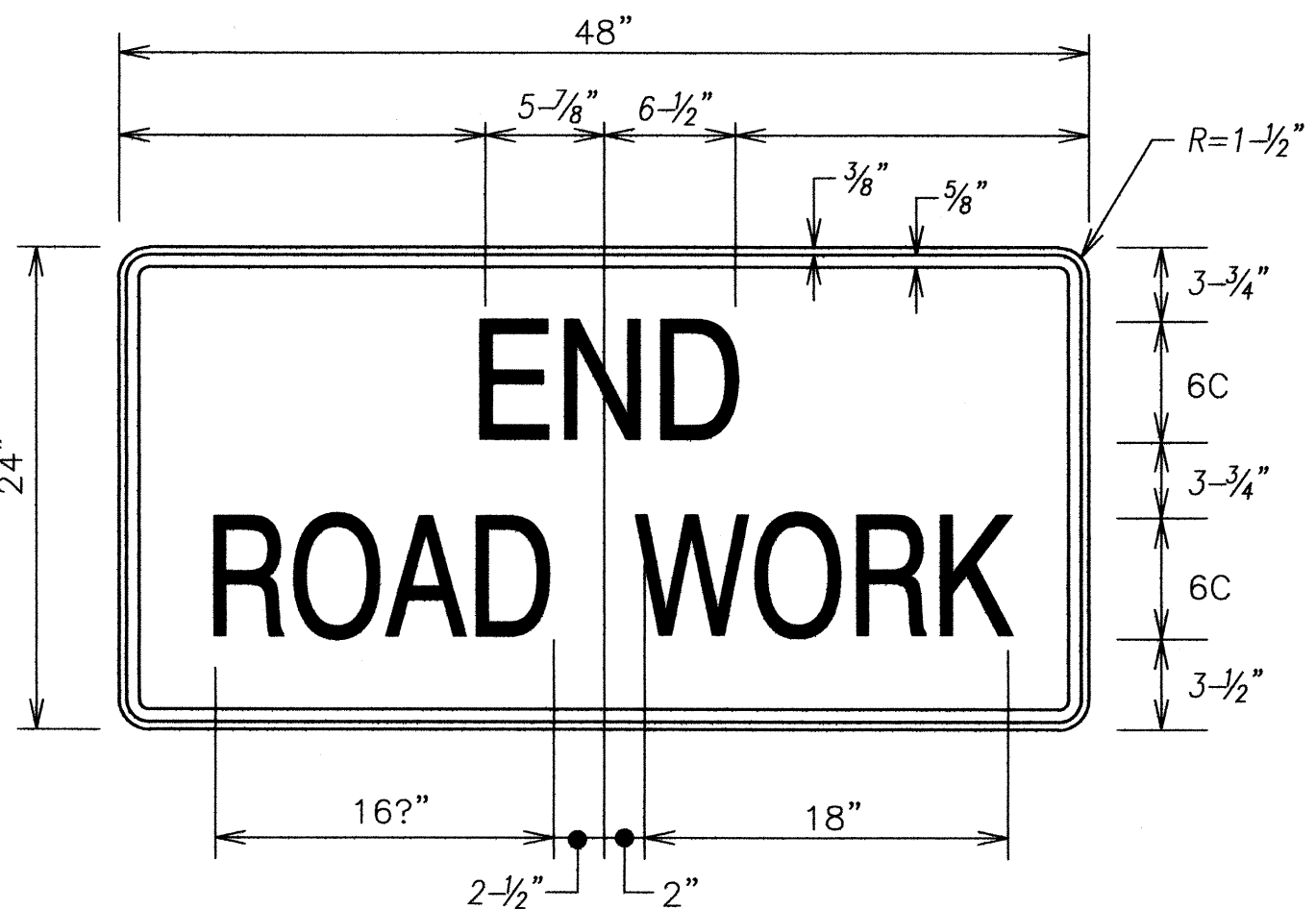
1. LAYOUT OF PAVEMENT MARKINGS AND STRIPING SHALL BE DONE BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO ANY INSTALLATION WORK.
2. EXISTING PAVEMENT MARKINGS NOT INCORPORATED IN THE FINAL TRAFFIC PATTERN SHALL BE REMOVED AS DIRECTED BY THE ENGINEER. COSTS SHALL BE INCIDENTAL TO THE VARIOUS PAVEMENT MARKING ITEMS.
3. FINAL LOCATIONS OF ALL SIGNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO ANY INSTALLATION WORK.
4. 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.
5. FINAL LOCATIONS OF ALL STOP LINES SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
6. ALL PAVEMENT STRIPING SHALL BE AS NOTED ON THE LEGEND OR PLANS.
7. TYPE II OBJECT MARKERS SHALL BE INSTALLED ON ALL SIGN POSTS EXCEPT BEHIND GUARDRAILS.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ARR-031-1 (11)	2009	28	31



CW20-1Ad  
Scale: 1" = 1'-0"

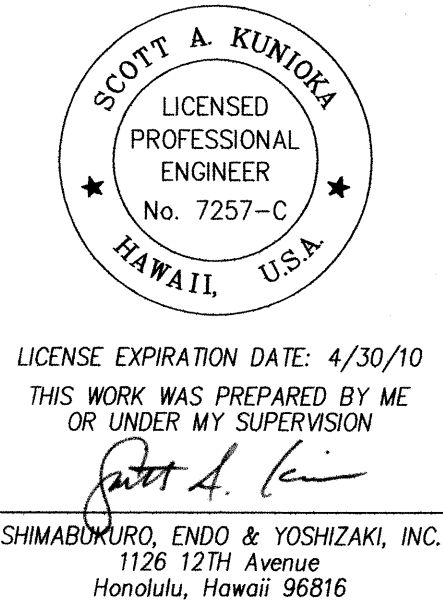
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Legend: Black (Non Refl)  
Background: Orange



CG20-2A  
Scale: 1- 1/2" = 1'-0"

Colors:  
Legend: Black (Non Refl)  
Background: Orange (Relf)

ORIGINAL PLAN	SURVEY PLANNED BY	DATE
	DESIGNED BY	
	TRACED BY	
	NOTED BY	
NOTE BOOK	QUANTITIES BY	
	CHECKED BY	
No.		



LICENSE EXPIRATION DATE: 4/30/10  
THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION  
*Scott A. Kunioka*  
SHIMABUKURO, ENDO & YOSHIKAWA, INC.  
1126 12TH Avenue  
Honolulu, Hawaii 96816

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**PAVEMENT MARKING LEDGEND,**  
**DETAILS, & NOTES**

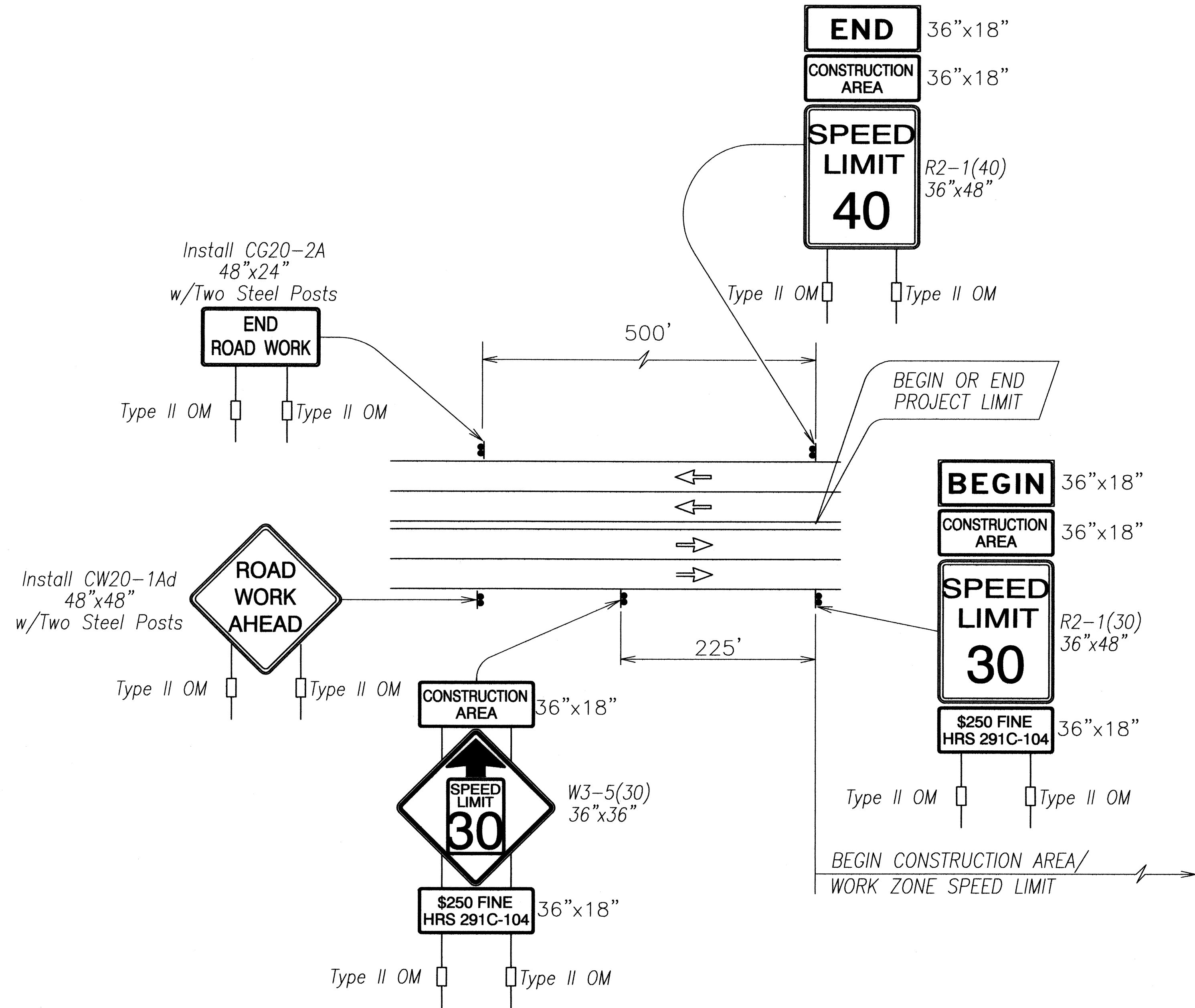
*PIILANI HIGHWAY PAVEMENT PREVENTIVE  
MAINTENANCE, LIPOA ST. TO KILOHANA DR.*  
*Fed. Aid Project No. ARR-031-1 (11)*

Scale: NONE Date: APRIL 2009

SHEET No. C-26 OF 31 SHEETS



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ARR-031-1 (11)	2009	29	31



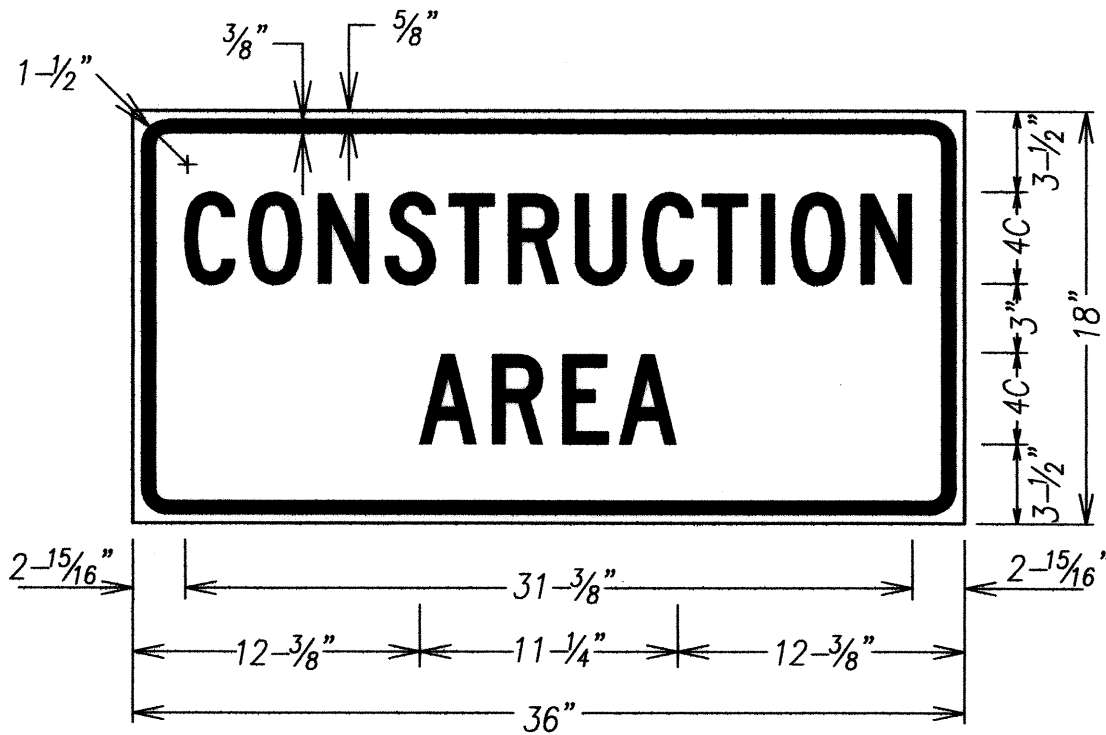
#### Work Zone Note:

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 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(30) AND W3-5(30) 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 AND WORK ZONE SPEED LIMIT ASSEMBLY SHALL HAVE A MINIMUM OF TWO (2) TYPE II OM. INSTALLATION OF EACH TYPE II OM SHALL BE CONSIDERED INCIDENTAL TO ITEM NO. 645.1000, 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. 645.1000, TRAFFIC CONTROL.

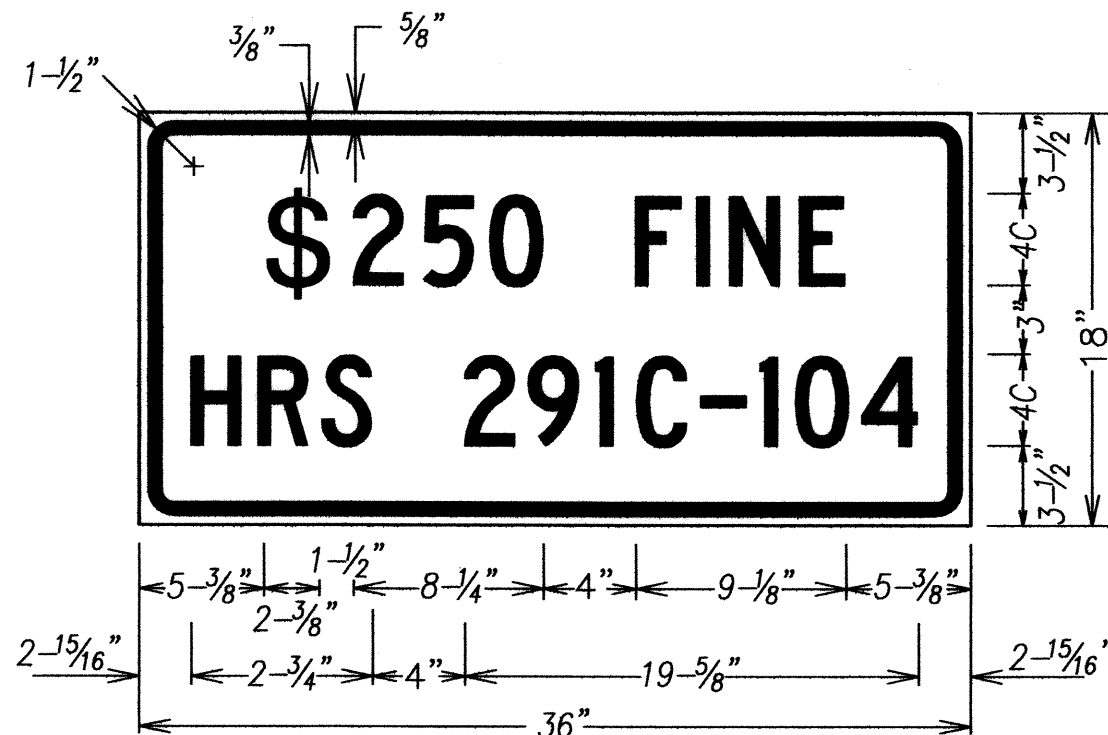
TABLE I GUIDELINE FOR ADVANCE PLACEMENT OF SPEED REDUCTION SIGN R2-5b(XX)-A, CONSTRUCTION AREA SPEED LIMIT		
EXISTING POSTED SPEED LIMIT (MPH)	XX-NEW CONSTRUCTION AREA SPEED LIMIT (MPH)	D-REDUCED SPEED LIMIT SIGN SPACING TO FIRST CONSTRUCTION AREA SPEED LIMIT SIGN (FEET)
40	30	200

TYPICAL DETAIL FOR CONSTRUCTION SIGNS  
ON TWO LANE OR MULTILANE UNDIVIDED HIGH SPEED HIGHWAY

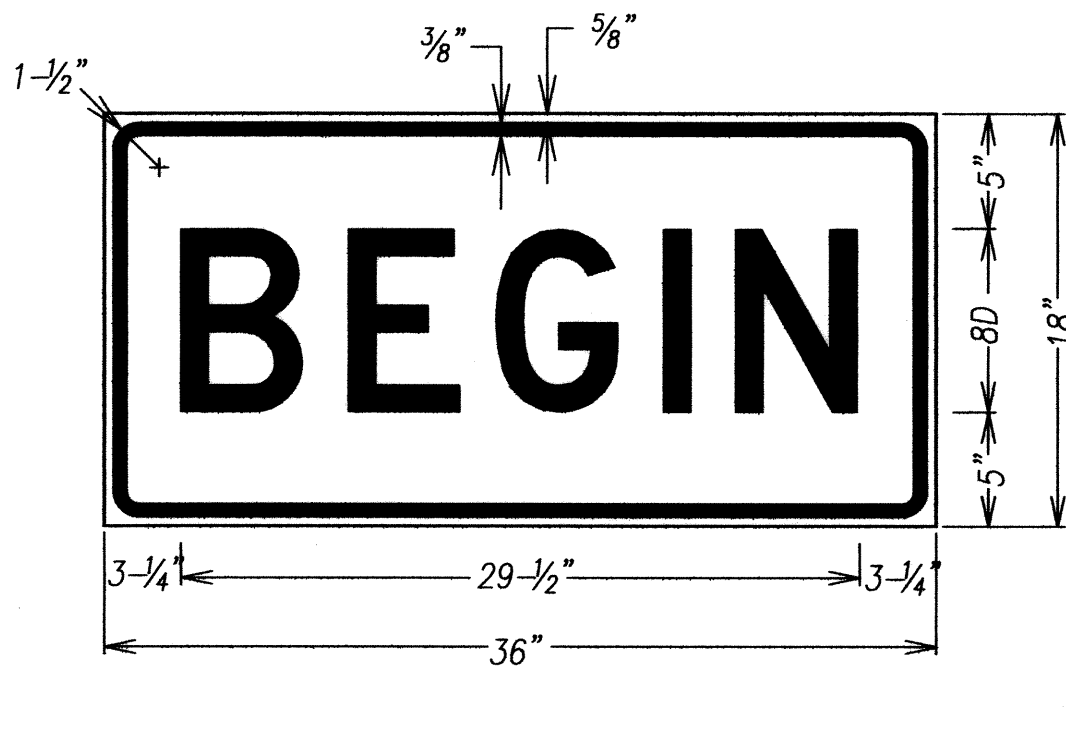
SURVEY PLANNED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	No.



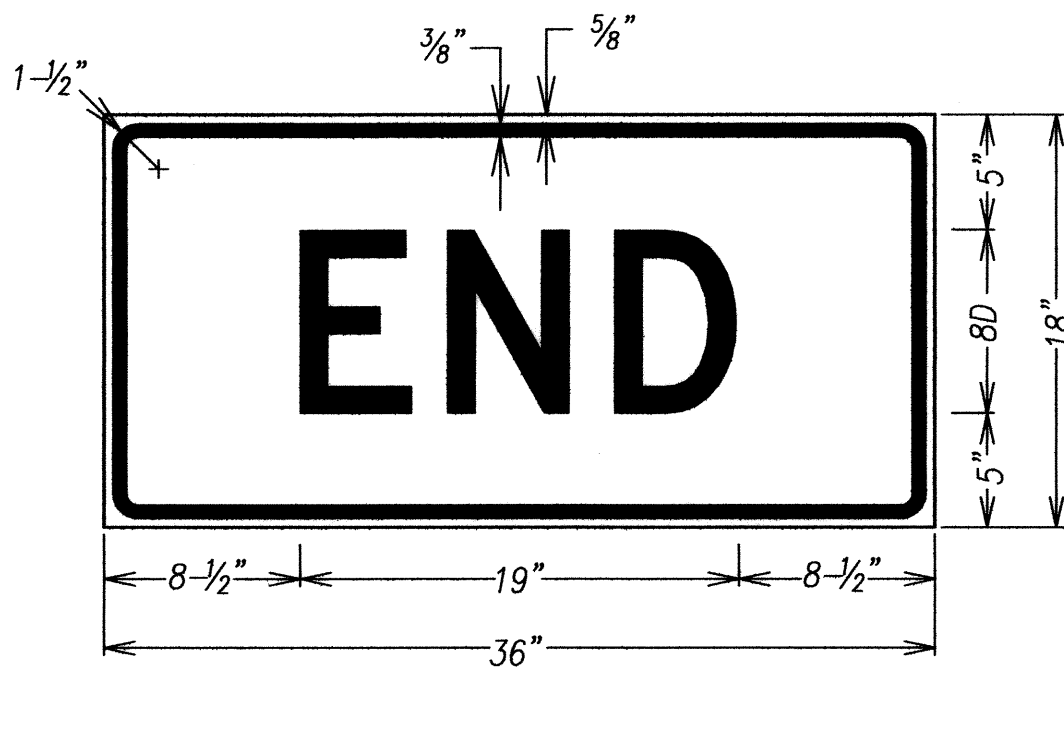
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BACKGROUND: ORANGE



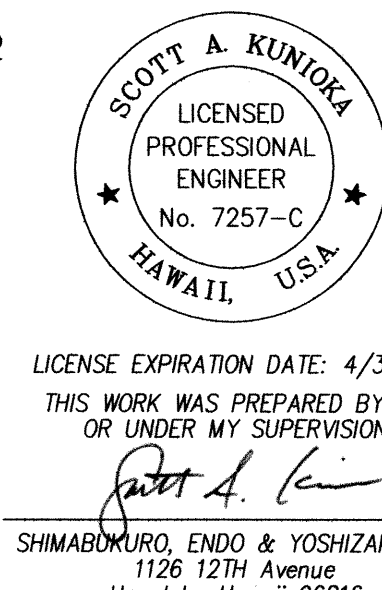
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BACKGROUND: WHITE



LEGEND: BLACK  
BACKGROUND: ORANGE



LEGEND: BLACK  
BACKGROUND: ORANGE



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**HIGH SPEED UNDIVIDED HIGHWAY**  
**WORK ZONE SIGNING PLAN, NOTES & DETAILS**  
**PIILANI HIGHWAY PAVEMENT PREVENTIVE**  
**MAINTENANCE, LIPOA ST. TO KILOHANA DR.**  
**Fed. Aid Project No. ARR-031-1 (11)**  
Scale: NONE Date: APRIL 2009  
SHEET No. C-27 OF 31 SHEETS