

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7413A-01-04M	2014	18	62

CURB RAMP AND SIDEWALK NOTES:

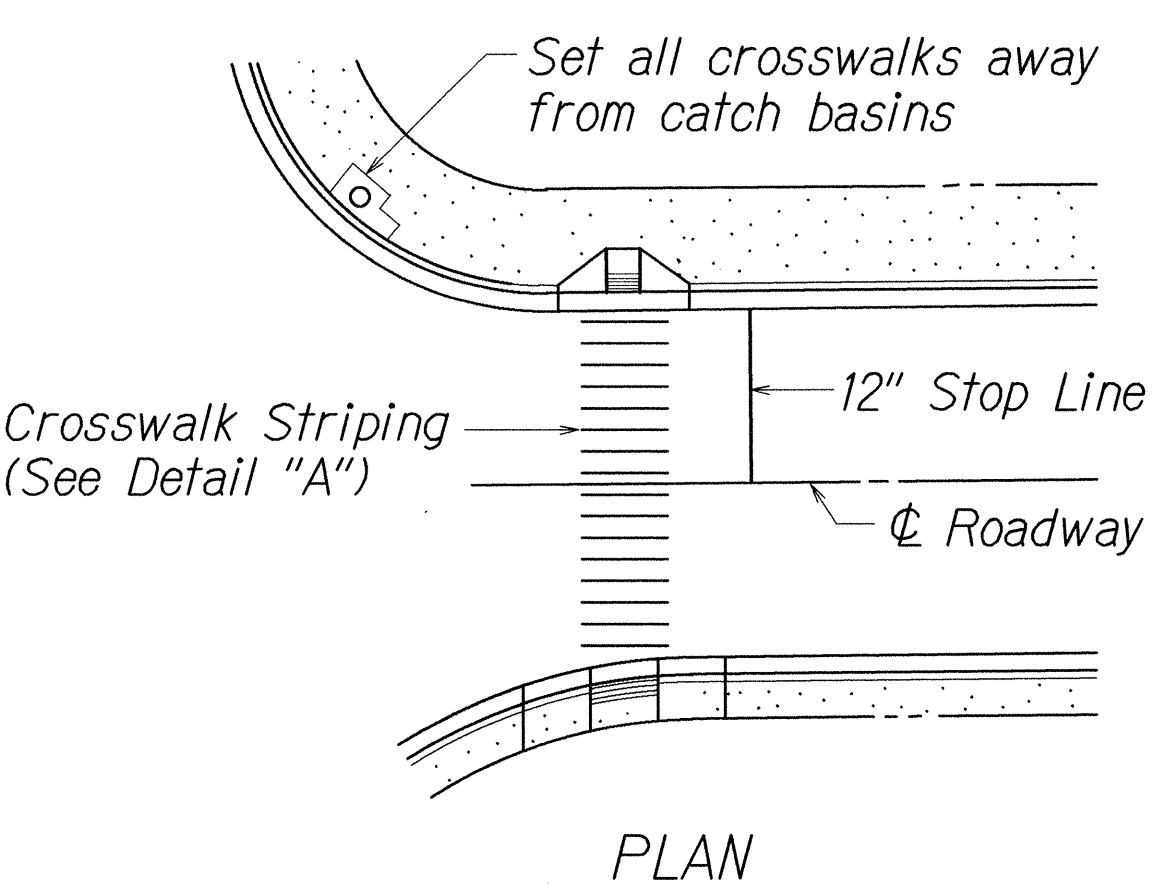
1. These typical details are intended as curb ramp guidelines for design and construction.
2. A 2% maximum cross slope shall be maintained in the direction of pedestrian traffic.
3. Subject to field conditions, the Engineer shall determine the final location of curb ramps.
4. All pullboxes shall be installed away from the curb ramp and within the sidewalk/unpaved area to the maximum extent feasible.
5. Where necessary, existing pullboxes, handholes, manholes, etc. shall be adjusted to match curb ramp grade. Adjustments shall not be paid for separately but shall be considered incidental to the various curb ramp items unless indicated otherwise.
6. Transitions from ramps to gutters and roadways shall be flush.
7. Curb ramps and sidewalks shall be constructed to eliminate ponding to the maximum extent feasible.
8. The pedestrian push button shall meet operational and reach requirements of the American with Disabilities Act Accessibility Guidelines (ADAAG):
 - a) Forward Reach. The maximum height for forward reach shall be 48".
 - b) Side Reach. The maximum height for side reach shall be 54".
 - c) Operation. Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls shall be no greater than 5 lbf.
9. The maximum slopes of adjoining gutters or road surface immediately fronting the curb ramp shall not exceed 5% for Type A, D and Combination ramps and 8.33% for Type B, C, and E ramps.
10. There shall be a 30"x48" level ground surface (2% max. cross slope, both directions) for a forward or side approach, as appropriate, to a pedestrian push button.
11. Construction joints are required to join curb ramps with sidewalks.
12. Unless otherwise noted, new gutters are required as shown.
13. All curb ramps shall be reinforced with 6x6 W1.4/W1.4 welded wire fabric.
14. Surface of sidewalks and curb ramps shall be firm, stable, and slip-resistant. This includes the surfaces of pullboxes, valve covers, manhole covers, etc.
15. Bed course material is required for curb ramps, sidewalks, and gutters.
16. All sidewalks shall provide a minimum clear width of 3'-0" (excluding curb) for pedestrian circulation. If this cannot be met, a minimum 32-inch clear width is allowed for a distance of 24-inches.
17. Passing spaces along new sidewalks with 5' clear width or less shall be provided at maximum 200' intervals as required by ADA guidelines. The passing area shall be a minimum 5' wide by 5' long as feasible.
18. If possible, install utility poles, fire hydrants, light poles, sign posts, pullboxes, etc. off of sidewalk but within the right-of-way.
19. Objects protruding from utility poles and walls adjacent to the sidewalks (i.e. wall mounted fire hydrants, telephones, meters on poles, etc.) shall be mounted to meet the current American with Disabilities Act Accessibility Guidelines (ADAAG) and will be subject to Engineer's approval.
20. If a curb ramp is not constructed according to the plans, the Contractor shall reconstruct the curb ramp at no cost to the State. Construction tolerance for Portland Cement Concrete shall be based on 1/4 inch per 10 ft. (±0.2%). Remedial measures will not be accepted.
21. Additional information is available from:
 - a) American with Disabilities Act Accessibility Guidelines (ADAAG), Jan. 1998, The Access Board.
 - b) Accessible Rights-of-Way: A Design Guide, Nov. 1999, The Access Board.
 - c) Designing Sidewalks and Trails for Access, Part 1, July 1999, FHWA.
 - d) Designing Sidewalks and Trails for Access, Part 2, Sept. 2001, FHWA.

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

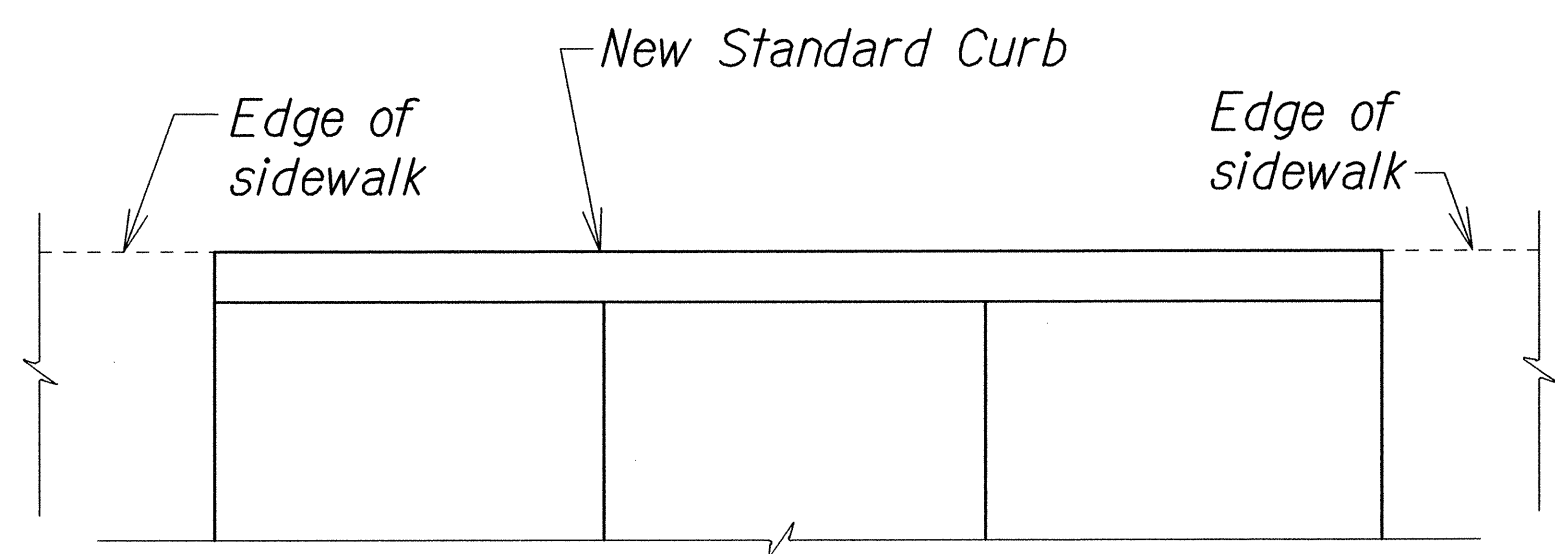
R12-06-06 TE-XX sht. 1 of 9 tdl/usr2/traffic/std/curbramp/rampnote-r12-06-06.dgn

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
CURB RAMP AND SIDEWALK NOTES
<u>LILIHA STREET REHABILITATION</u> <u>North King Street to School Street</u> <u>Project No. 7413A-01-04M</u>
Date: April, 2014
SHEET No. 1 OF 5 SHEETS

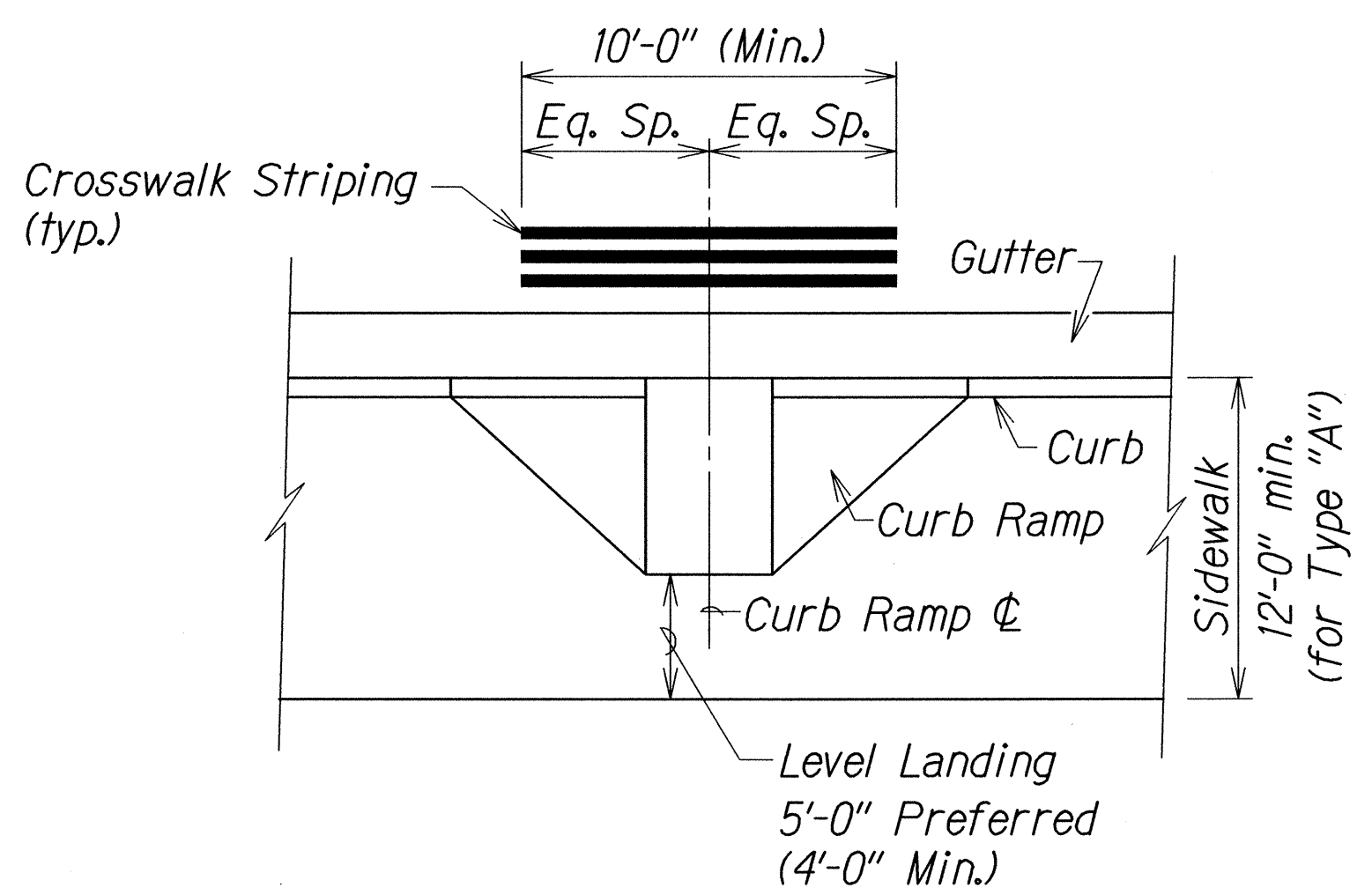
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7413A-01-04M	2014	20	62



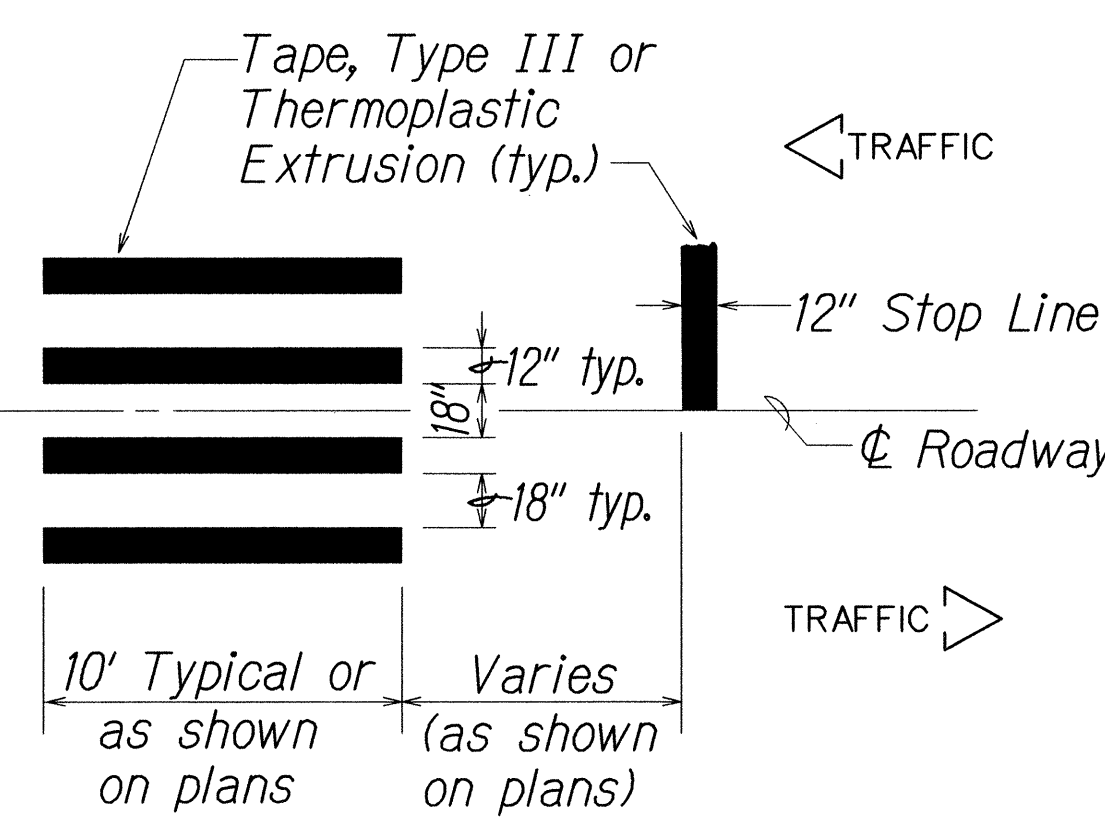
PLAN



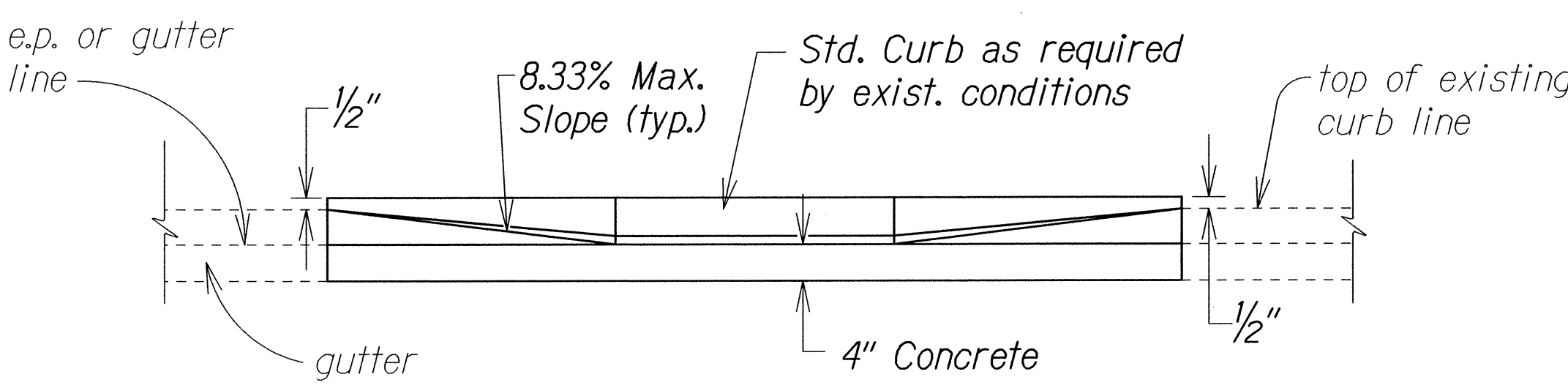
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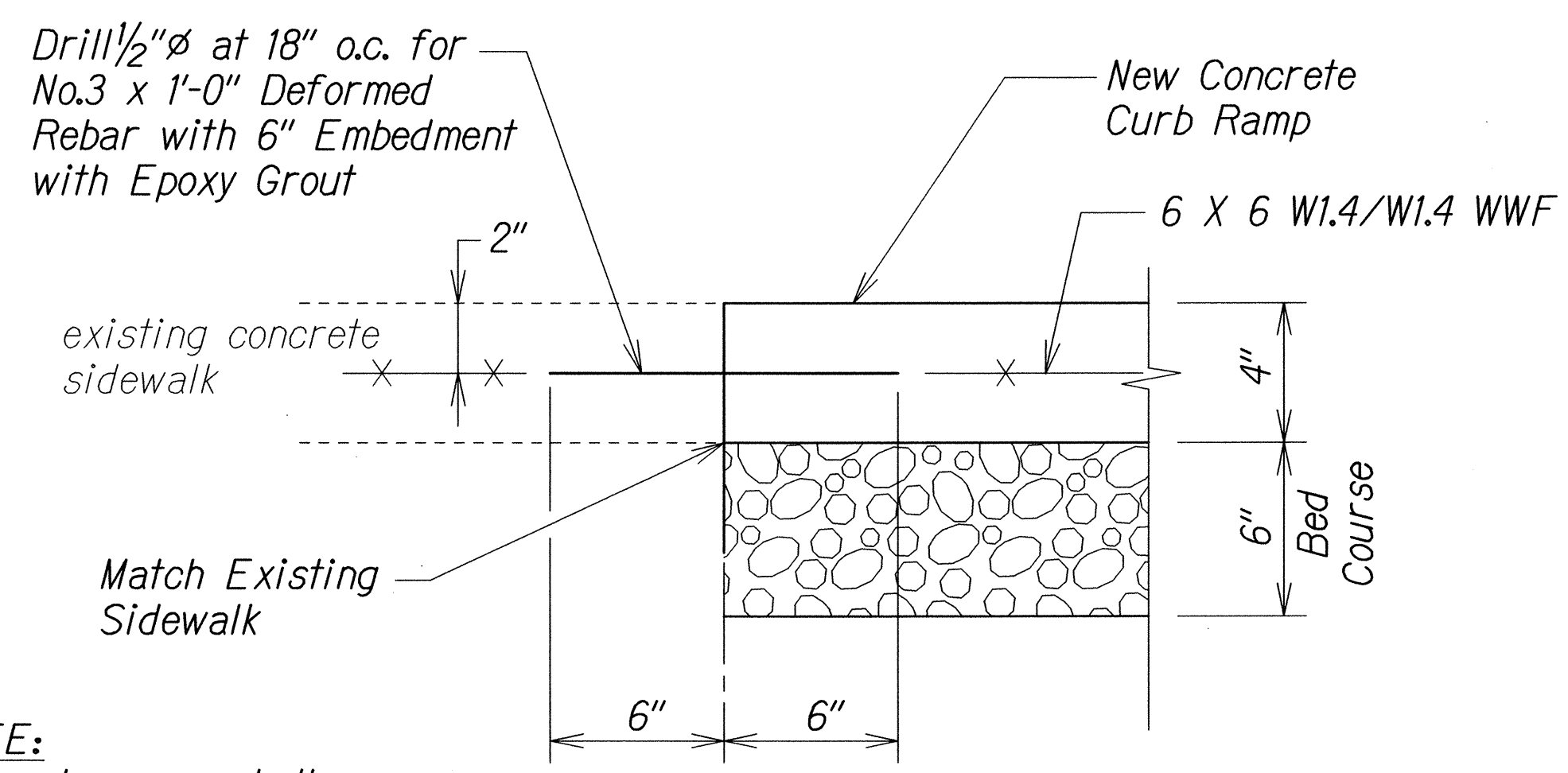
TYPICAL CROSSWALK STRIPING
AT CURB RAMP



DETAIL "A"



ELEVATION



TYPICAL CONSTRUCTION JOINT
AT EXISTING SIDEWALK

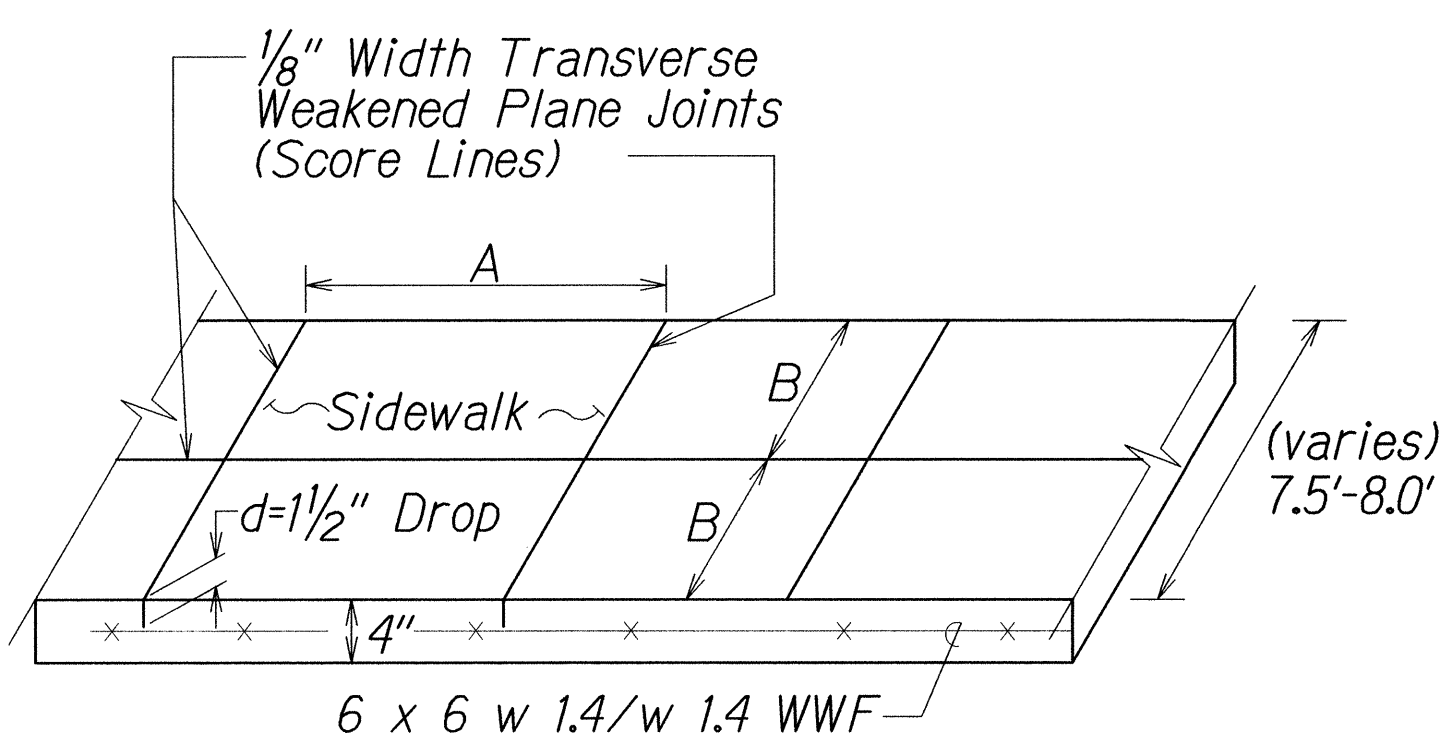
CROSSWALK STRIPING DETAIL

NOTE:
Longitudinal lines shall be parallel to traffic flow.

DETAIL - BACK CURB

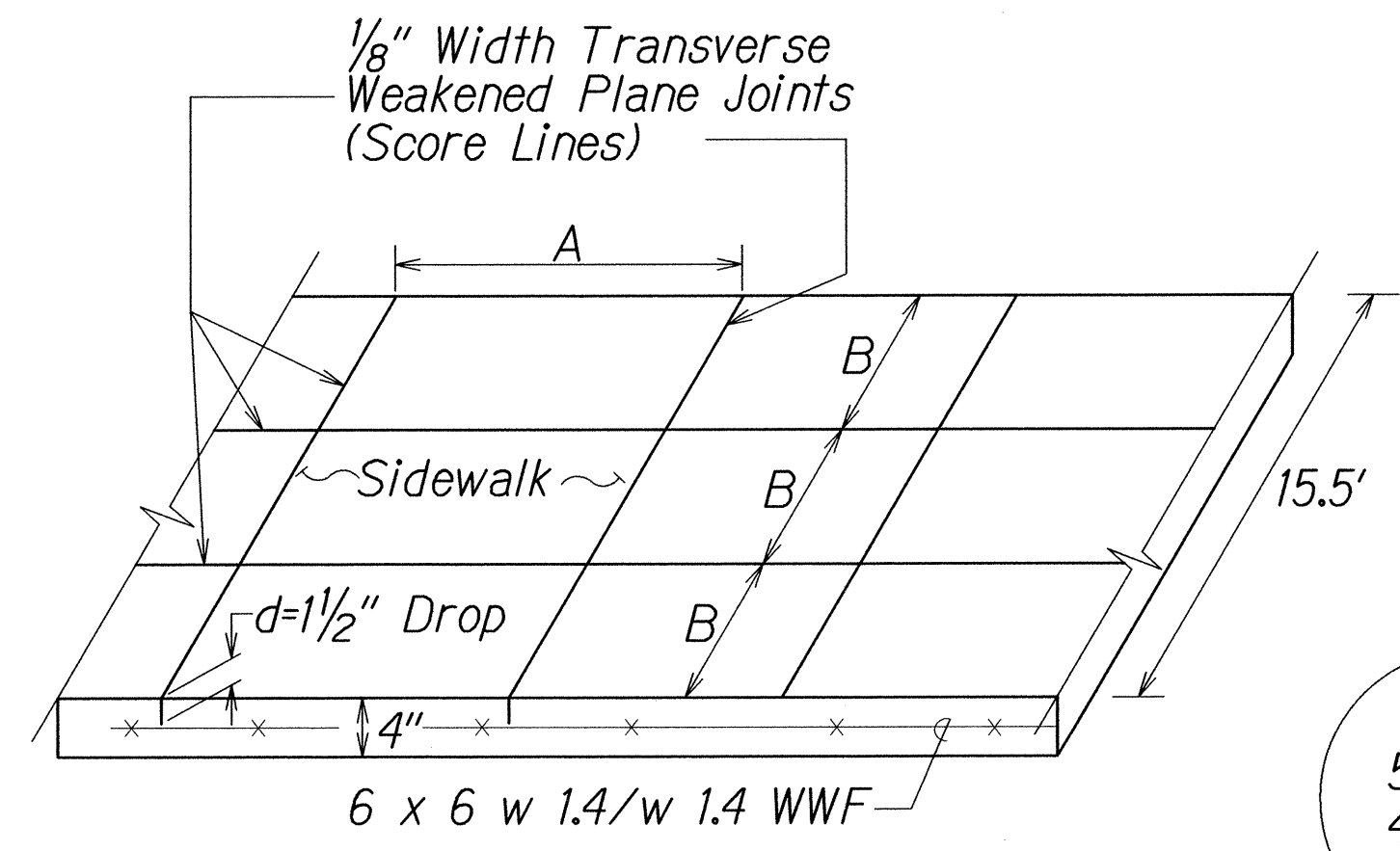
NOTE:
This detail can be used in situations where the edge of sidewalk cannot be flush with the face of (back) curb due to right of way restrictions.

NOTE:
All curb ramps shall be reinforced.



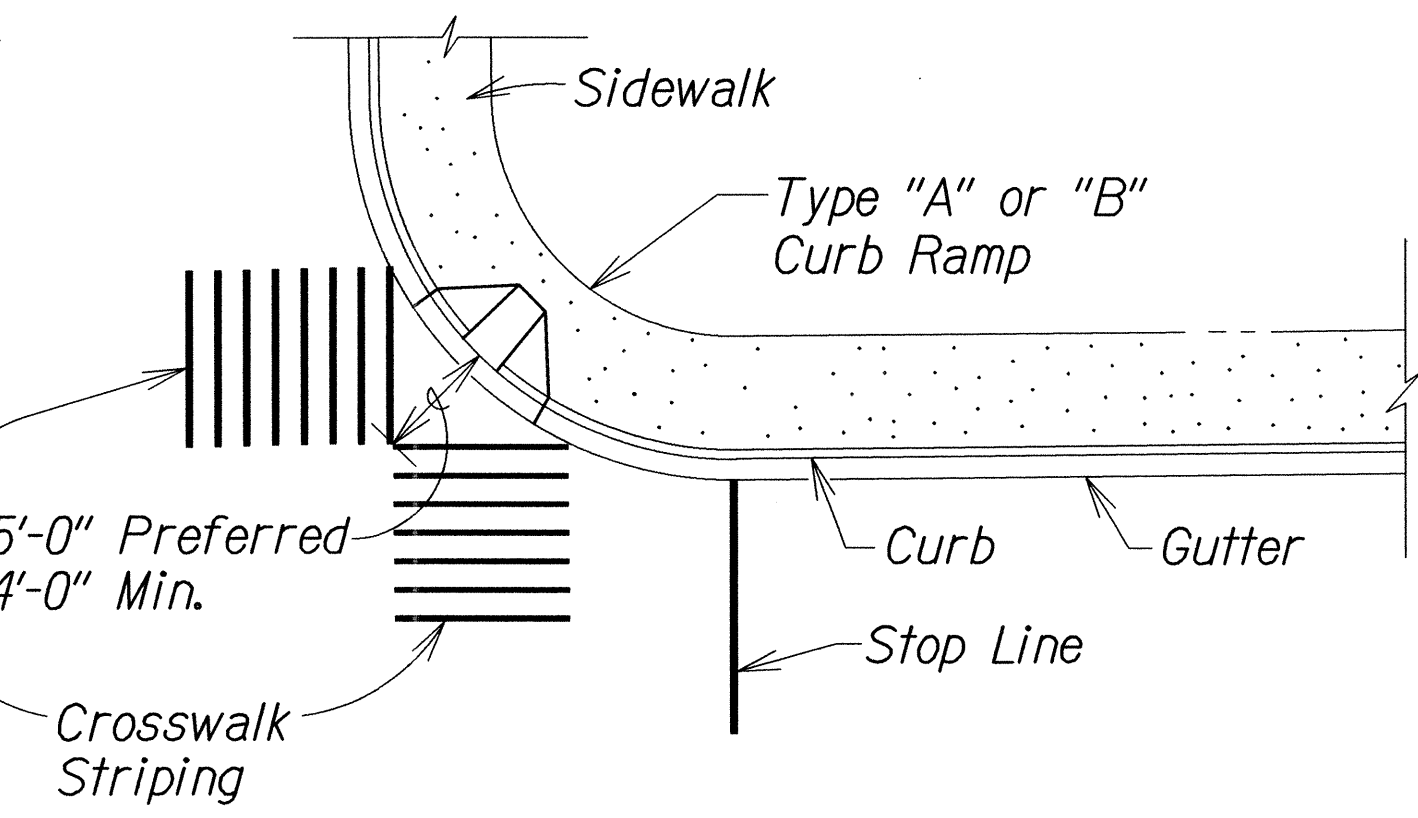
NOTE:
1. Joint Dimensions or (B/A or A/B) < 1.25 and (A or B) not to exceed 7'-0"
2. Longitudinal Joints shall be similar to Transverse Joints

7.5'-8.0' SIDEWALK CONTRACTION JOINT DETAIL



NOTE:
1. Joint Dimensions or (B/A or A/B) < 1.25 and (A or B) not to exceed 7'-0"
2. Longitudinal Joints shall be similar to Transverse Joints

15.5' SIDEWALK CONTRACTION JOINT DETAIL



TYPICAL CROSSWALK STRIPING
AT DIAGONAL CURB RAMP

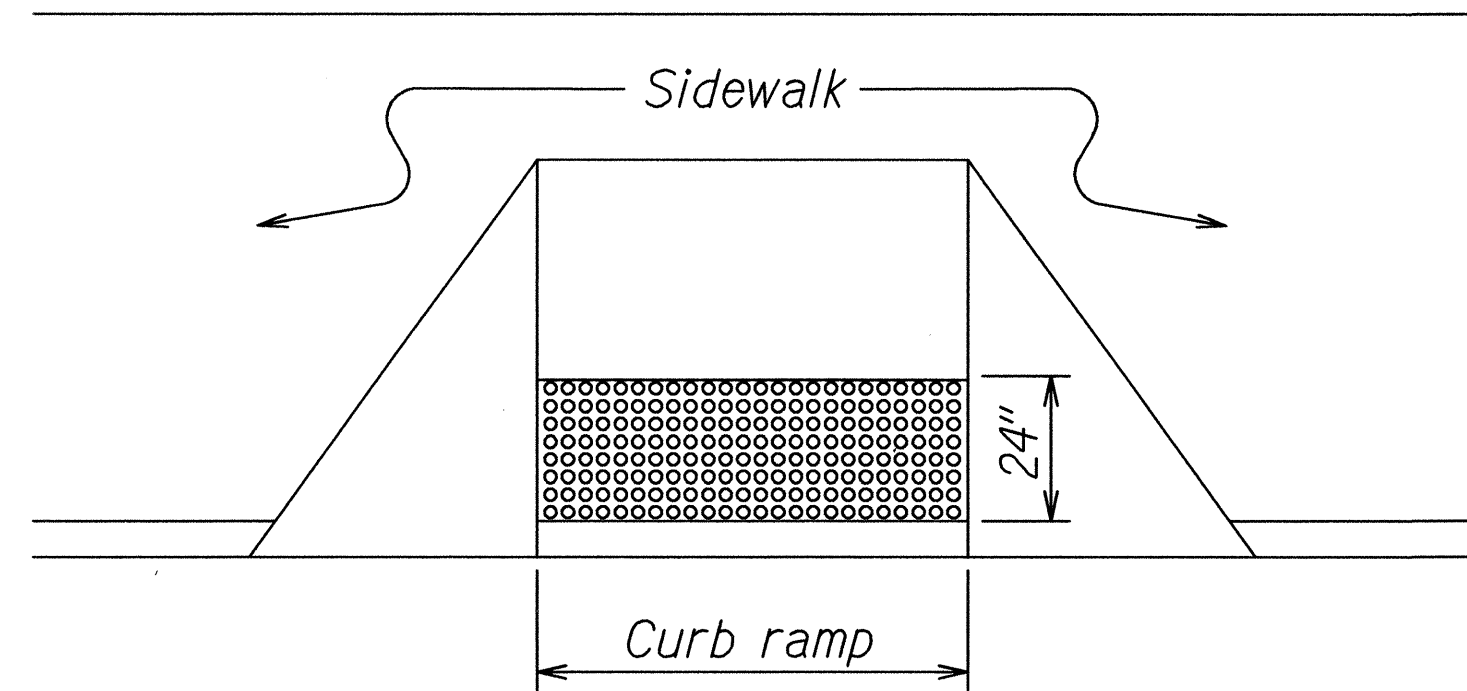
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS
LILIHA STREET REHABITATION
North King Street to School Street
Project No. 7413A-01-04M
Not to Scale
Date: April, 2014

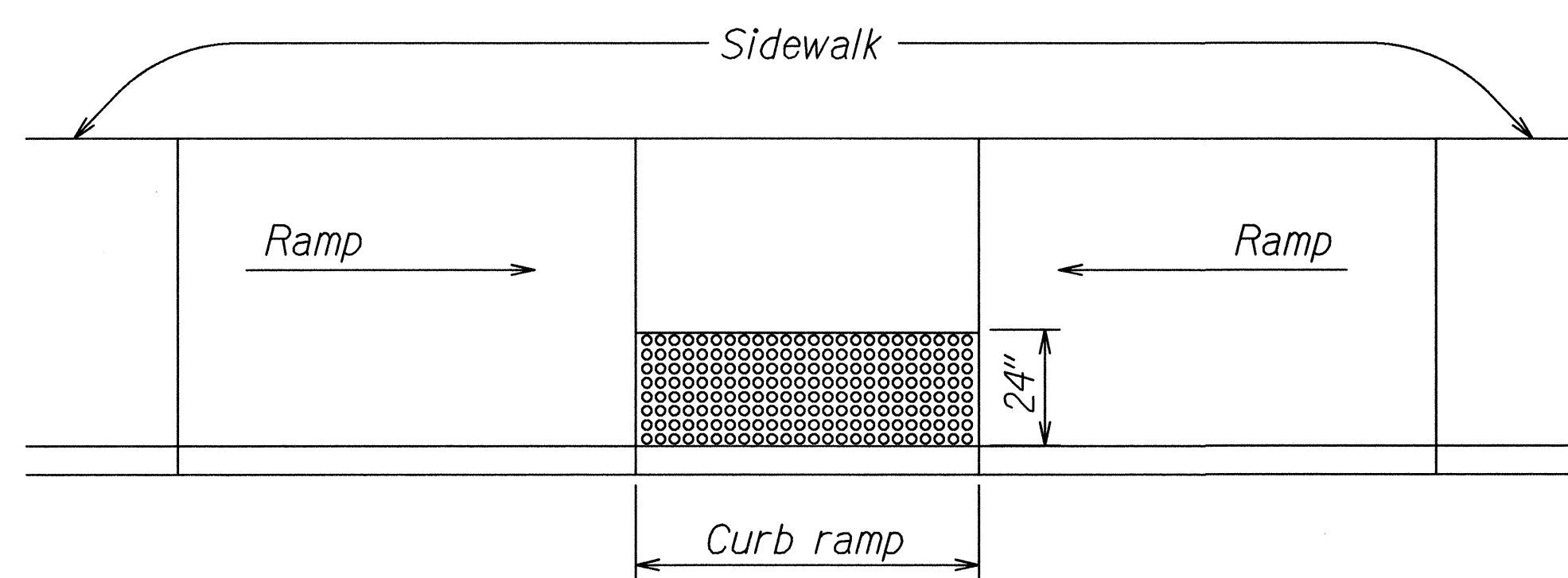
SHEET No. 3 OF 5 SHEETS

tdl/ustr2/traffic/std/curbrampmisc.dgn
R 12-06-06 TE-XX sht. 7 of 9

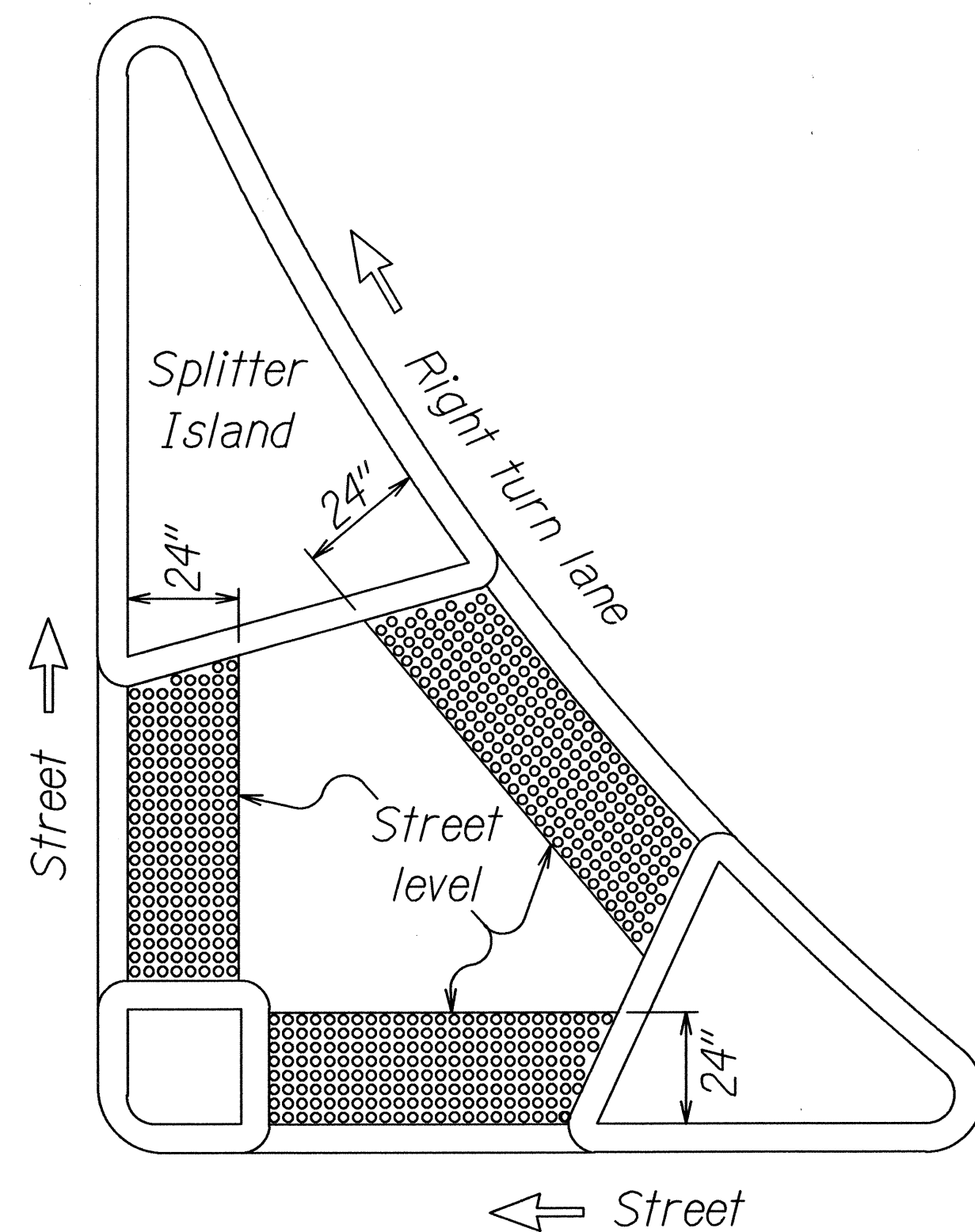
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7413A-01-04M	2014	21	62



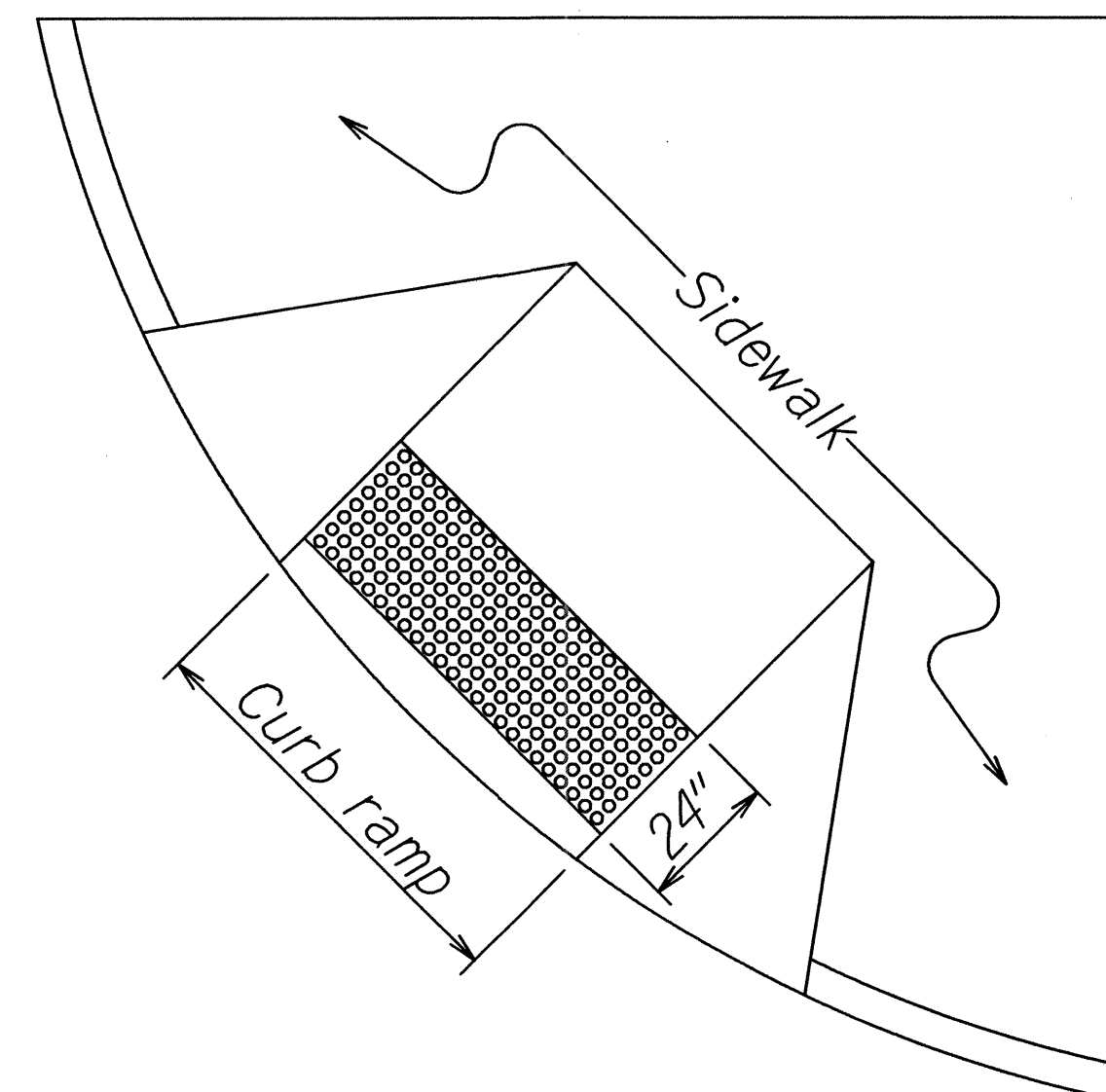
DETECTABLE WARNING AT CURB RAMP



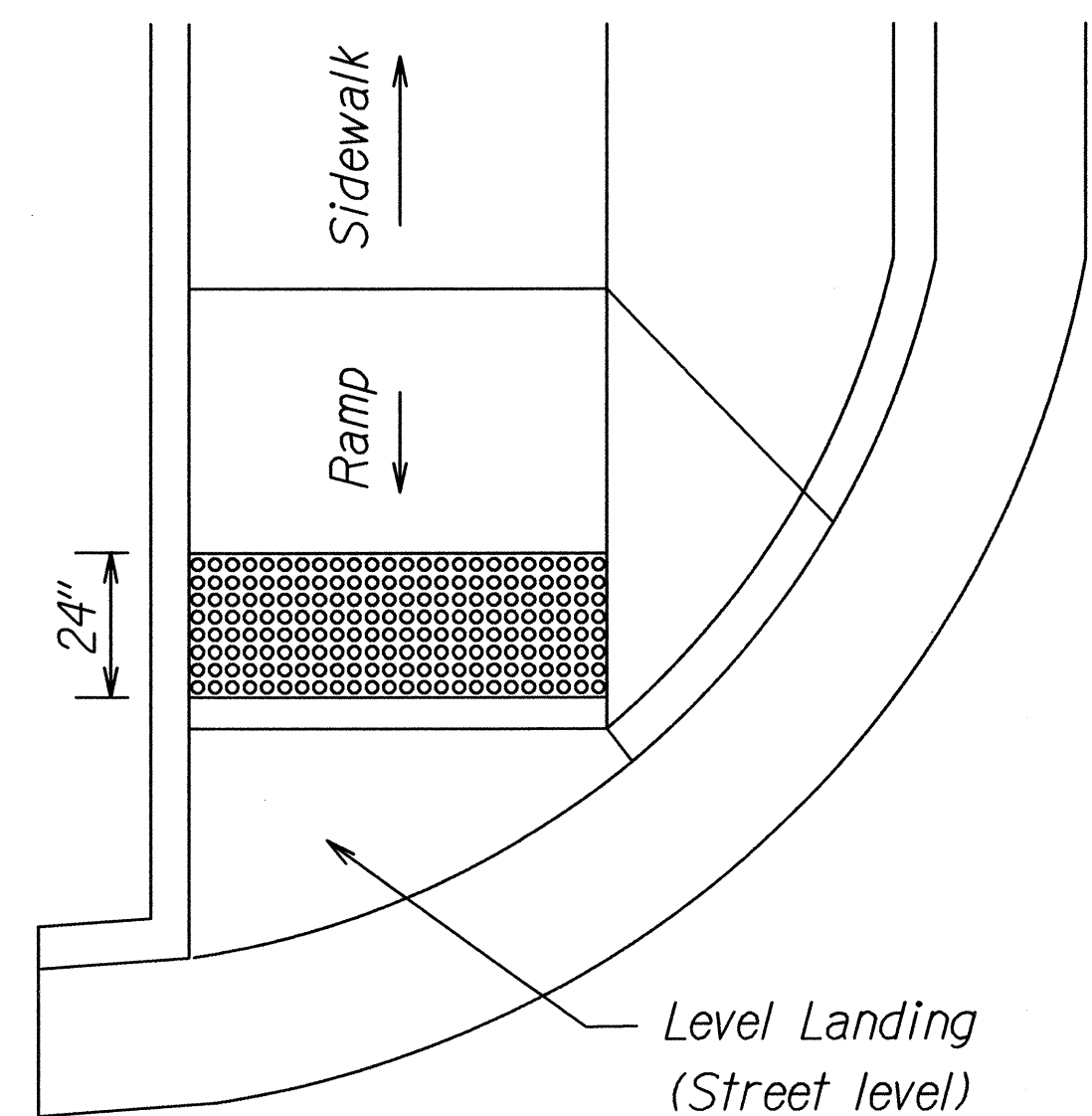
TRANSITION RAMP WITH DETECTABLE WARNING



REFUGE ISLAND WITH DETECTABLE WARNING



SHARED CURB RAMP WITH DETECTABLE WARNING



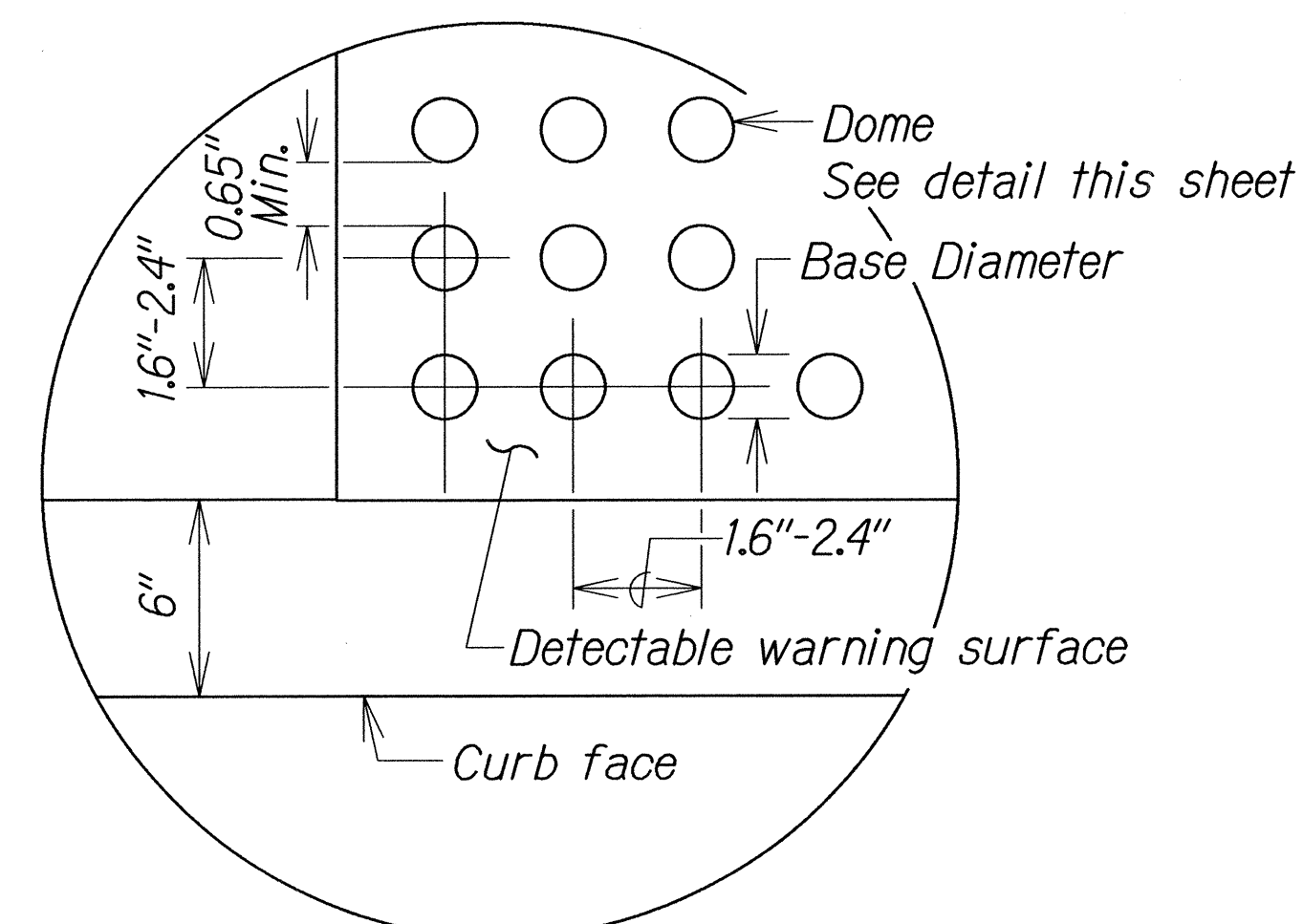
END OF SIDEWALK CURB RAMP WITH DETECTABLE WARNING

TYPICAL INSTALLATION OF DETECTABLE WARNINGS

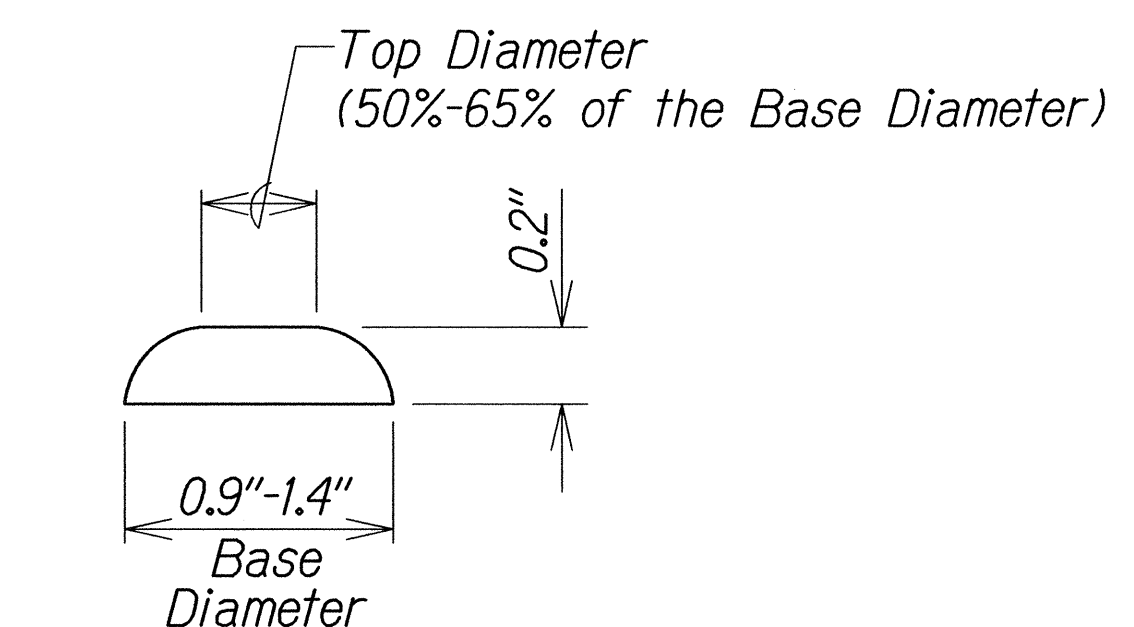
Not to Scale

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 to 1.4 inch at the bottom, a diameter of 50%-65% of the base diameter at the top, a height of 0.2 inch and a center-to-center spacing of 1.6 to 2.4 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. There shall be a minimum of 70 percent contrast in light reflectance between the detectable warning and an adjoining surface, or 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.



ENLARGEMENT



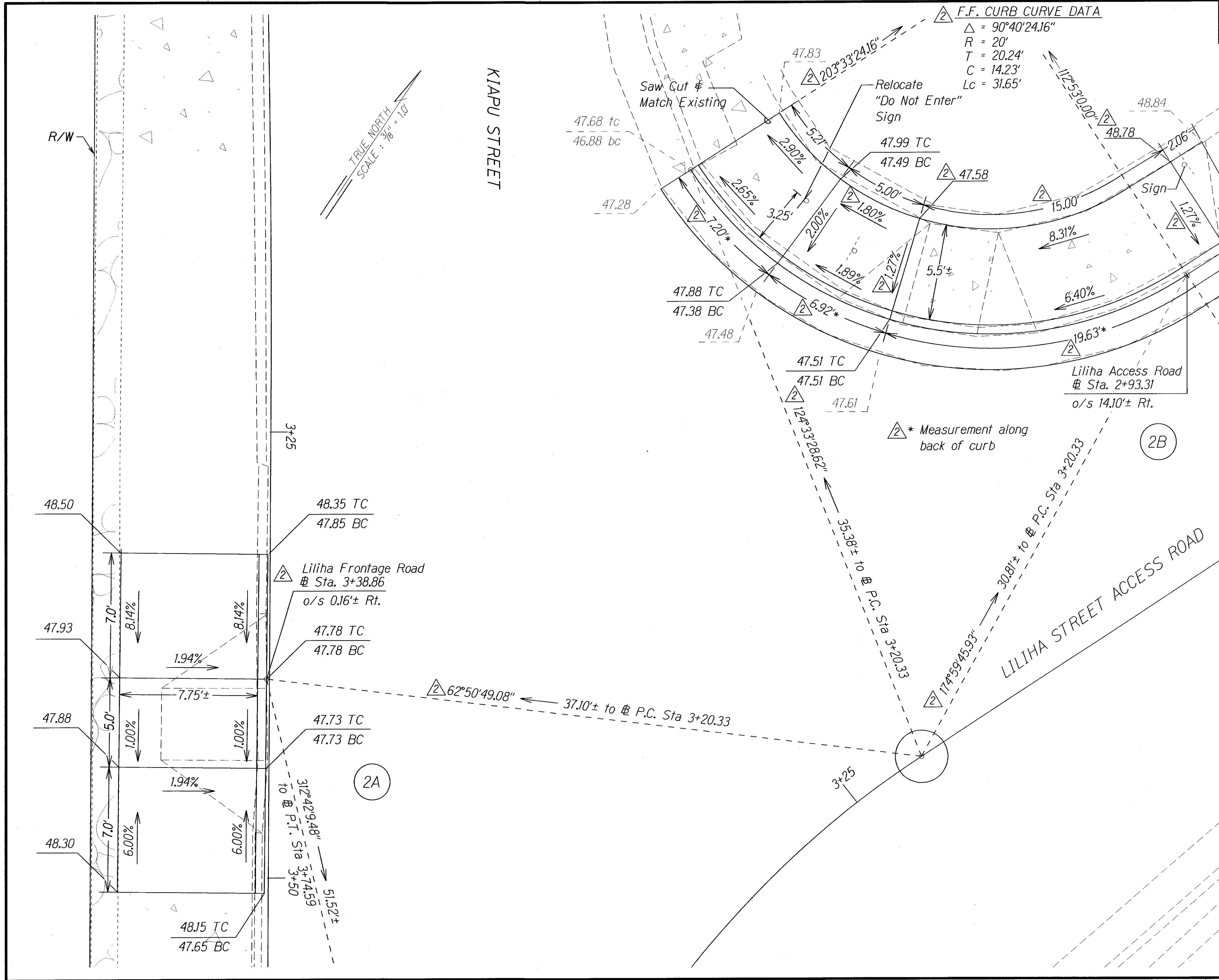
DOMES SECTION

DETECTABLE WARNING DETAIL

Not to Scale

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
DETECTABLE WARNING DETAILS	
<u>LILIHA STREET REHABILITATION</u> <u>North King Street to School Street</u> <u>Project No. 7413A-01-04M</u>	
Not to Scale	Date: April, 2014
SHEET No. 4 OF 5 SHEETS	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7413A-01-04M	2015	C.O. 22	62



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

3/20/15	Revised Curb Ramp Elevations, Curve Data, Azimuth-Distance. Deleted Technical Infeasibility. Added Station and Offset.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION CURB RAMP DETAIL LILIHA STREET REHABILITATION North King Street to School Street Project No. 7413A-01-04M Scale: 3/8" = 1.0' Date: March, 2015 SHEET No. 5 OF 5 SHEETS	