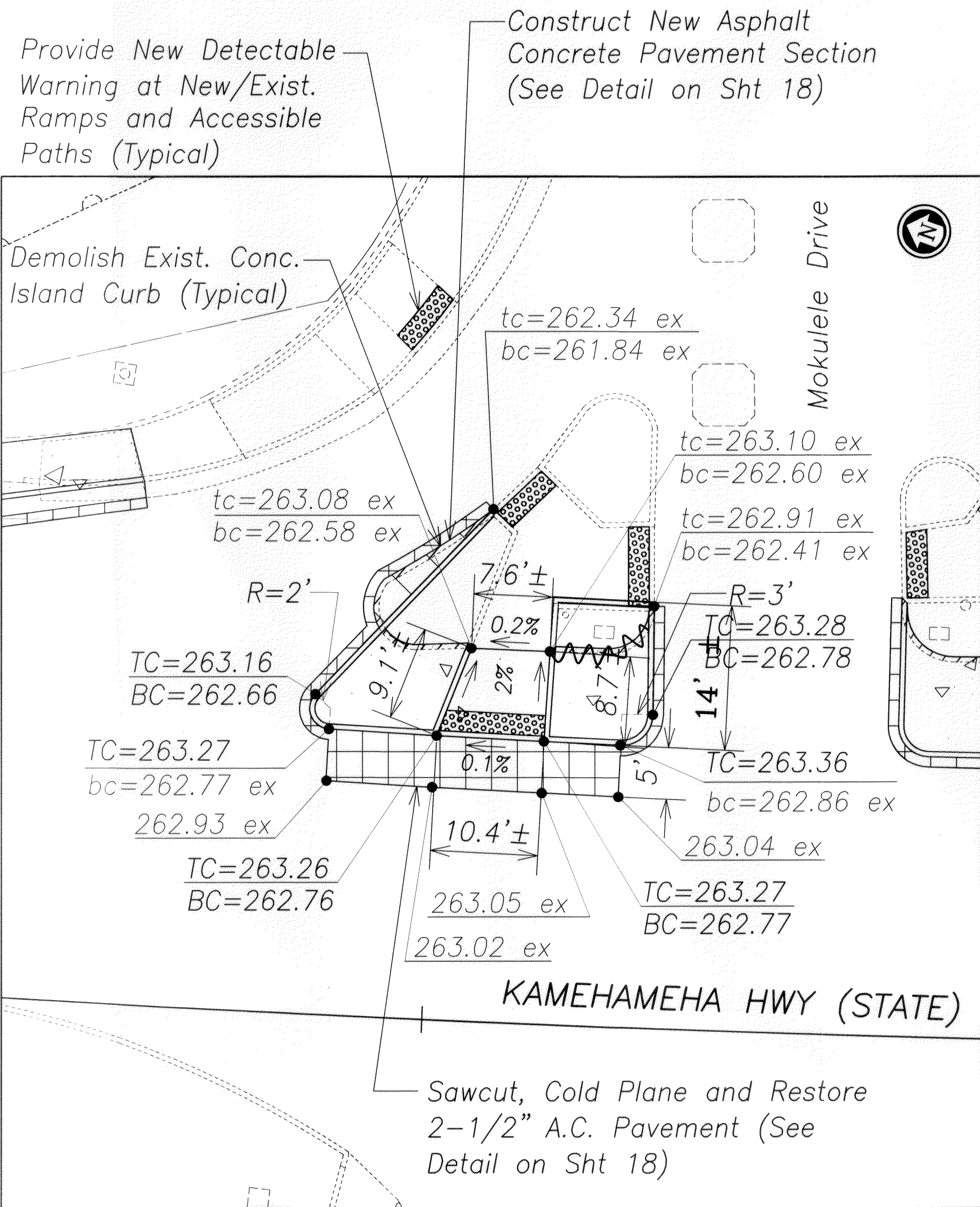
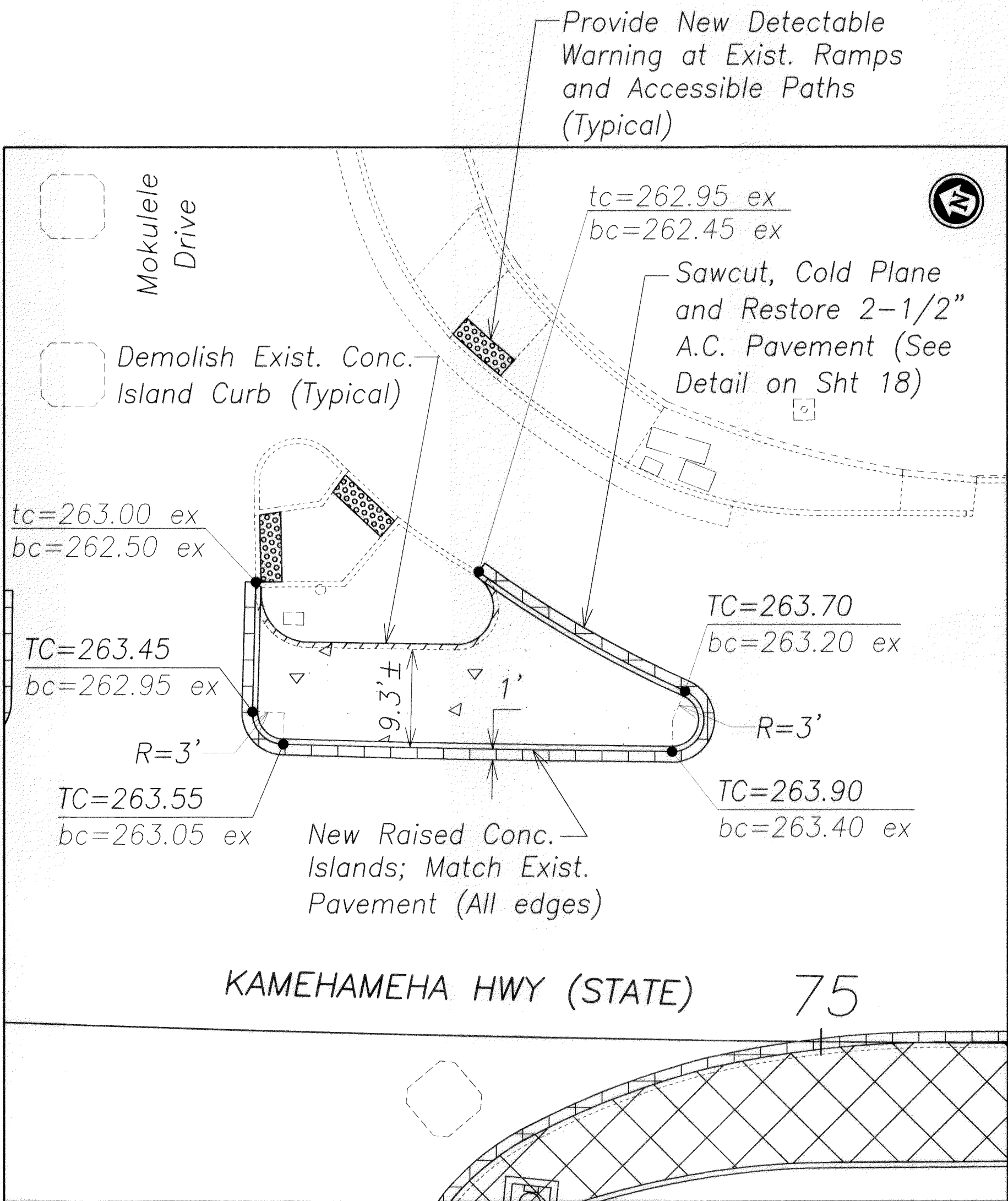


FED.ROAD DIST.NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
OAHU	HAW.	83G-01-10	2011	17	38



CONCRETE ISLAND DETAIL
SCALE: 1"=10'



CONCRETE ISLAND DETAIL
SCALE: 1"=10'

- Notes:**
- The cost for the Detectable Warnings shall be considered incidental to the cost of Portland Cement Concrete Sidewalks.
 - The cost for the extension of the Concrete Island shall be included in the cost for Portland Cement Concrete Sidewalks and Portland Cement Concrete Curb and Gutter.

**LEGEND FOR
AS-BUILT POSTINGS**

- ~~~~~ Squiggly line for as-built deletion
- ~~100.00~~ Double line for as-built deletion
- Roadway Text for as-built posting

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
	CHECKED BY	
	QUANTITIES BY	
	CHECKED BY	
No.		

C:\Documents and Settings\Peter M\My Documents\Projects\2009-208 Traffic Operational Improvements\Drawn\AutoCAD Files\Construction\83G-01-14 17 26-27 8-6-11 (48)eng.dwg, Sun 05/20/11 - 9:07am



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. ("OBSERVATION OF CONSTRUCTION" SHALL BE AS DEFINED IN CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII, SUBCHAPTER 1, SECTION 16-115-2, DEFINITIONS, EFFECTIVE 08/28/94.)

Peter L. Mow

ENGINEERS SURVEYORS HAWAII, INC.
MY LICENSE EXPIRES: APRIL 30, 2014

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONCRETE ISLAND DETAILS

TRAFFIC OPERATIONAL IMPROVEMENTS
AT VARIOUS LOCATIONS
VICINITY OF KAMEHAMEHA HIGHWAY AND MOKULELE DRIVE
Project No. 83G-01-10

Scale: As Noted Date: May 2011
SHEET No. 1 OF 4 SHEETS

"AS-BUILT"

17

FED.ROAD DIST.NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
OAHU	HAW.	83G-01-10	2011	18	38

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 high forward reach shall be 48" maximum and the low forward reach shall be 15" above the finish ground.
 - b) Side Reach. The high side reach shall be 48" maximum and the low side reach shall be 15" minimum above the finish ground.
 - 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.

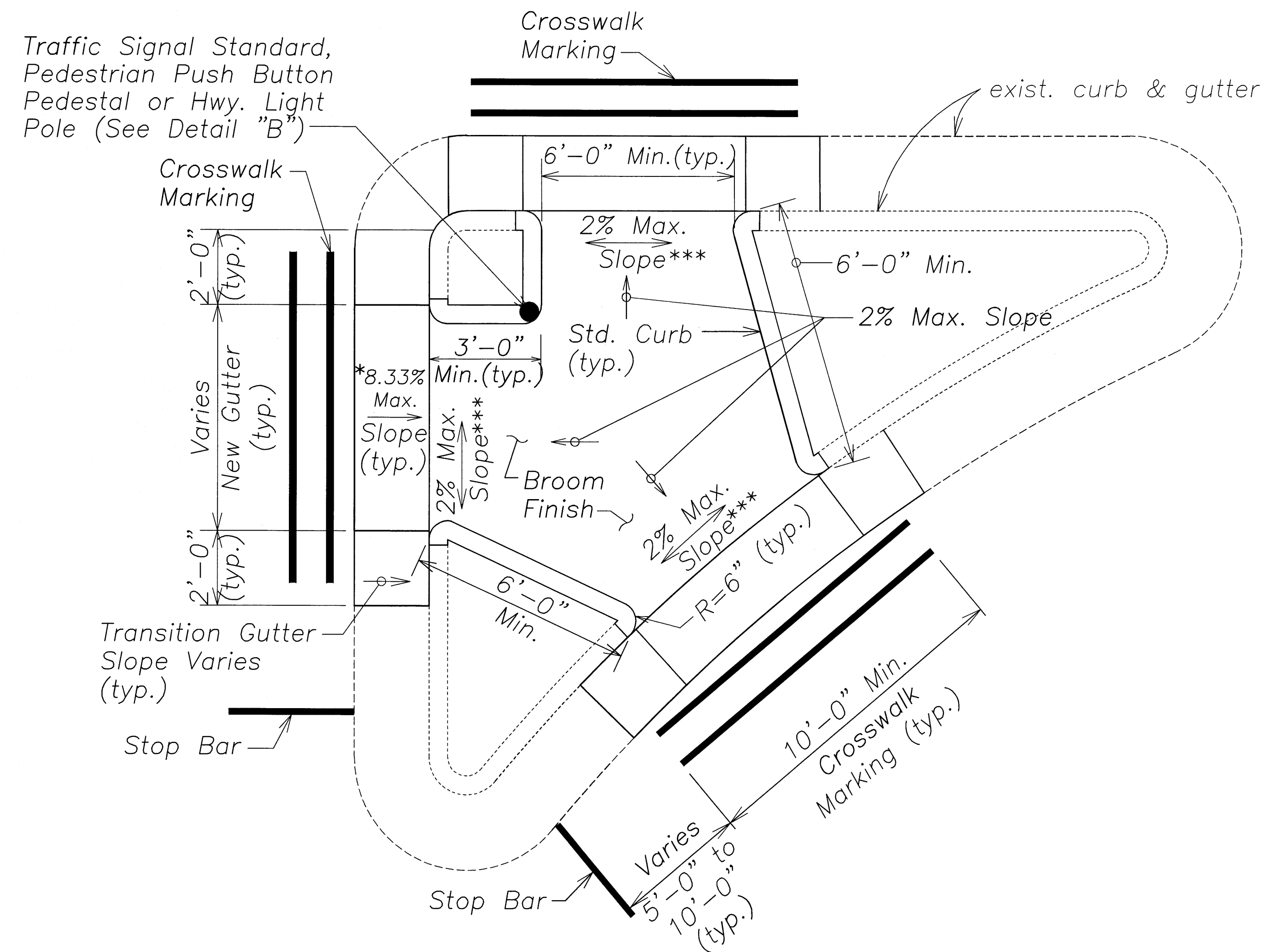
19. Objects protruding from utility poles and walls adjacent to the sidewalks (i.e. wall mounted fire hydrants, telephones, meters on poles, etc.) shall be mounted to meet the current American with Disabilities Act Accessibility Guidelines (ADAAG) and will be subject to Engineer's approval.
20. If a 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. ($\pm 0.2\%$). Remedial measures will not be accepted.
21. Additional information is available from:
 - a) American with Disabilities Act Accessibility Guidelines (ADAAG), July 23, 2004, The U.S. Access Board.
 - b) Accessible Rights-of-Way: A Design Guide, Nov. 1999, The U.S. 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.

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

C:\Documents and Settings\Peter\My Documents\AutoCAD Files\Project\2009-028 Traffic Operational Improvements\Drawn\18-20_RAMP.dwg Wed, May 25 2011 - 11:12am

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
CURB RAMP & SIDEWALK NOTES
TRAFFIC OPERATIONAL IMPROVEMENTS AT VARIOUS LOCATIONS VICINITY OF KAMEHAMEHA HIGHWAY AND MOKULELE DRIVE Project No. 83G-01-10
Scale: As Noted Date: May 2011
SHEET No. 2 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
OAHU	HAW.	83G-01-10	2011	19	38

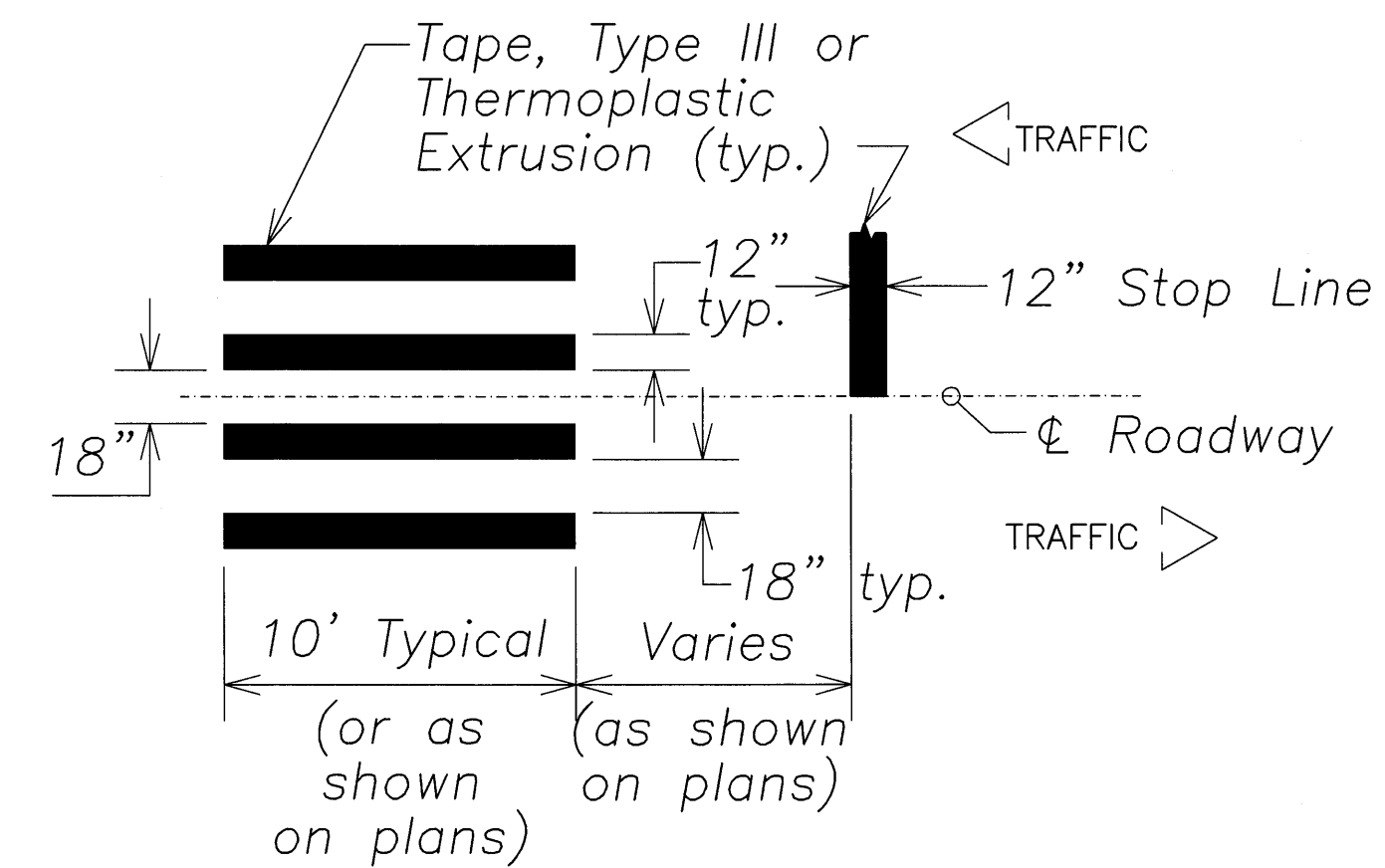


CURB RAMP - TYPE "C" MODIFIED

* See Curb Ramp and Sidewalk Note No. 9.

** The slope of the ramp shall take precedence over the length of the ramp. If the maximum slope of a ramp cannot be met within a length of 12 feet, then the slope of the ramp shall be set when the length of the ramp is set at the maximum of 12 feet.

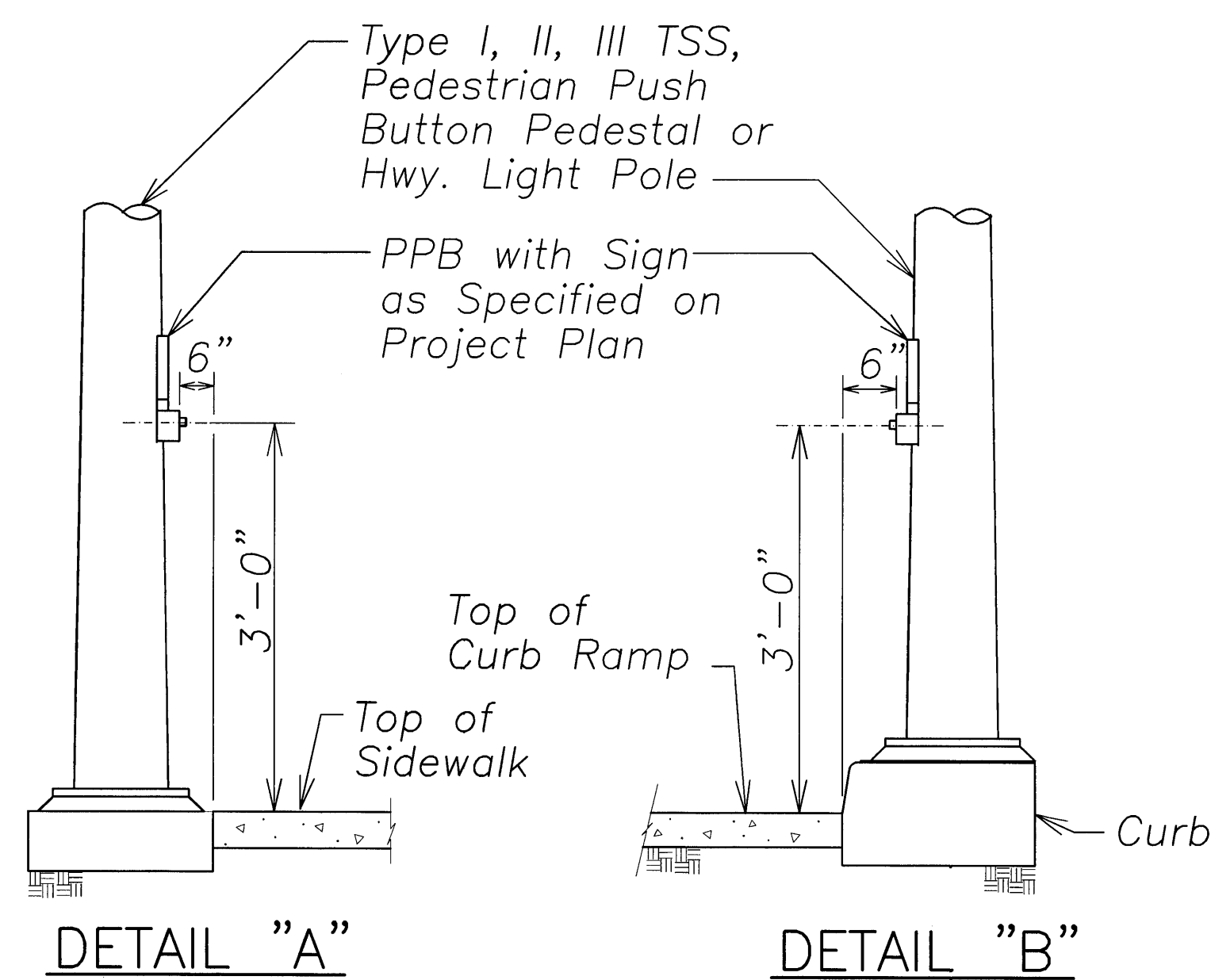
*** If Roadway Slope >2% Conform to Roadway Slope and File a Technical Infeasibility (TI) Statement



DETAIL "A"

NOTE:
Longitudinal lines shall be parallel to traffic flow.

CROSSWALK STRIPING DETAIL



DETAIL "A"

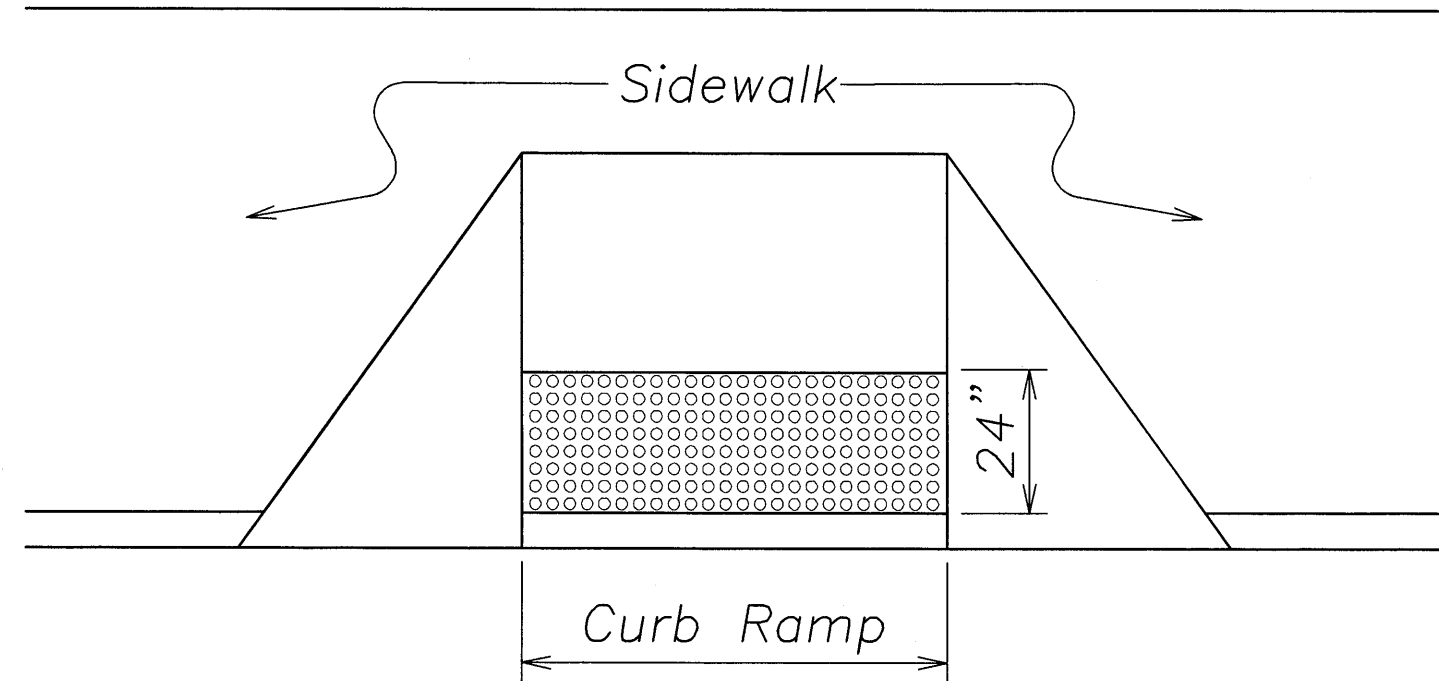
DETAIL "B"

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
No.	

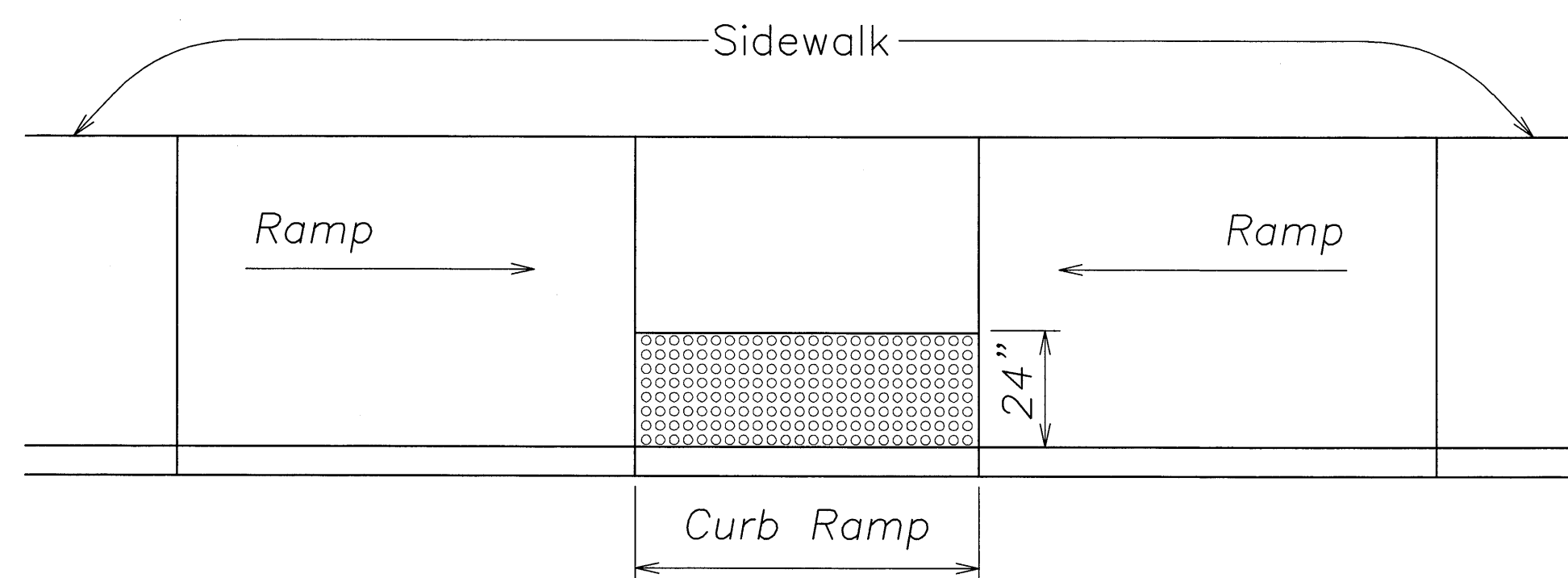
C:\Documents and Settings\Peter\My Documents\AutoCAD Files\Projects\2009-028 Traffic Operational Improvements\Plans\1b_Kamehameha H1E-20_RAMP.dwg, Wed, May 25 2011 - 1:12pm

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<u>CURB RAMP DETAILS</u>	
TRAFFIC OPERATIONAL IMPROVEMENTS AT VARIOUS LOCATIONS VICINITY OF KAMEHAMEHA HIGHWAY AND MOKULELE DRIVE Project No. 83G-01-10	
Scale: As Noted	Date: May 2011
SHEET No. 3 OF 4 SHEETS	

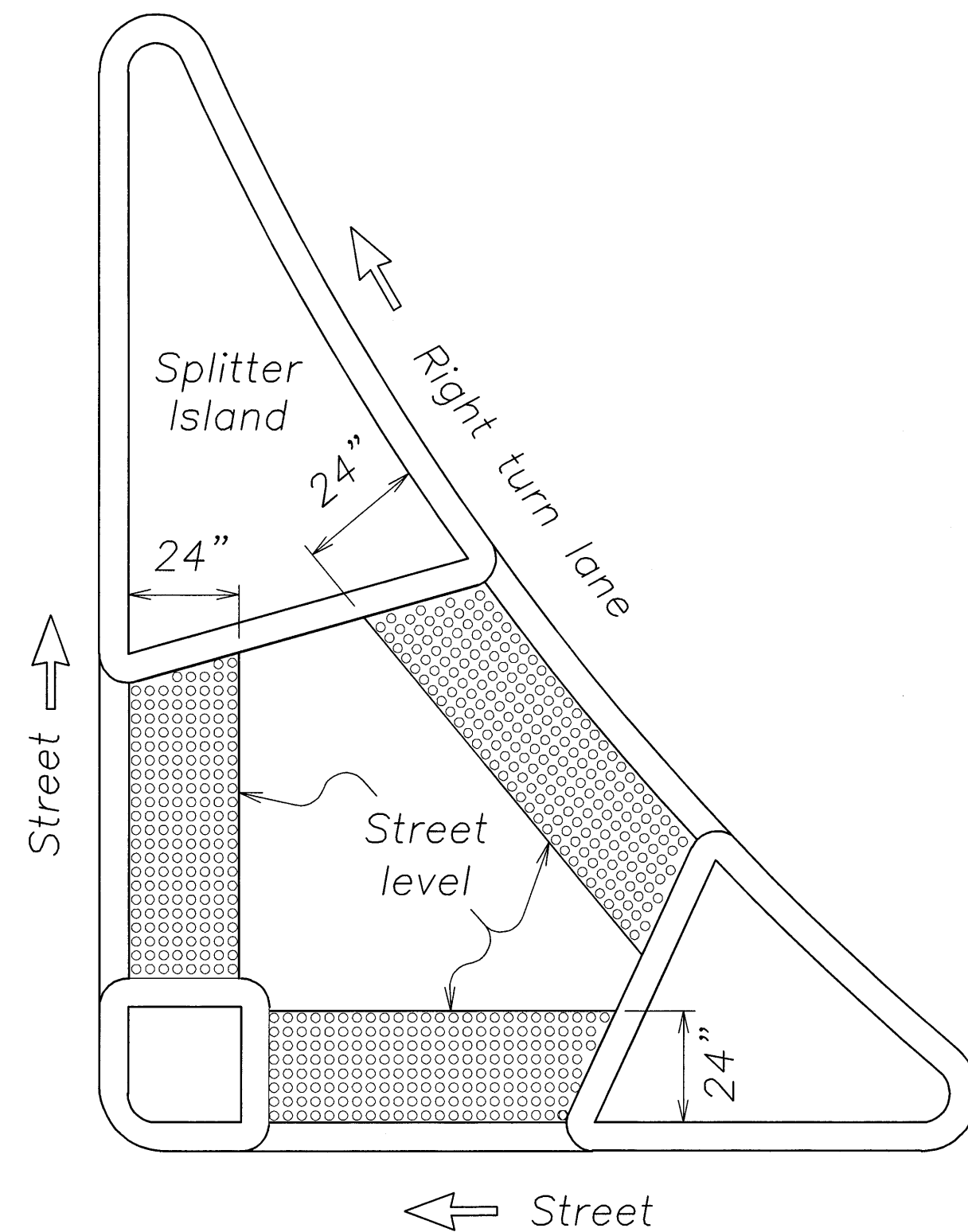
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
OAHU	HAW.	83G-01-10	2011	20	38



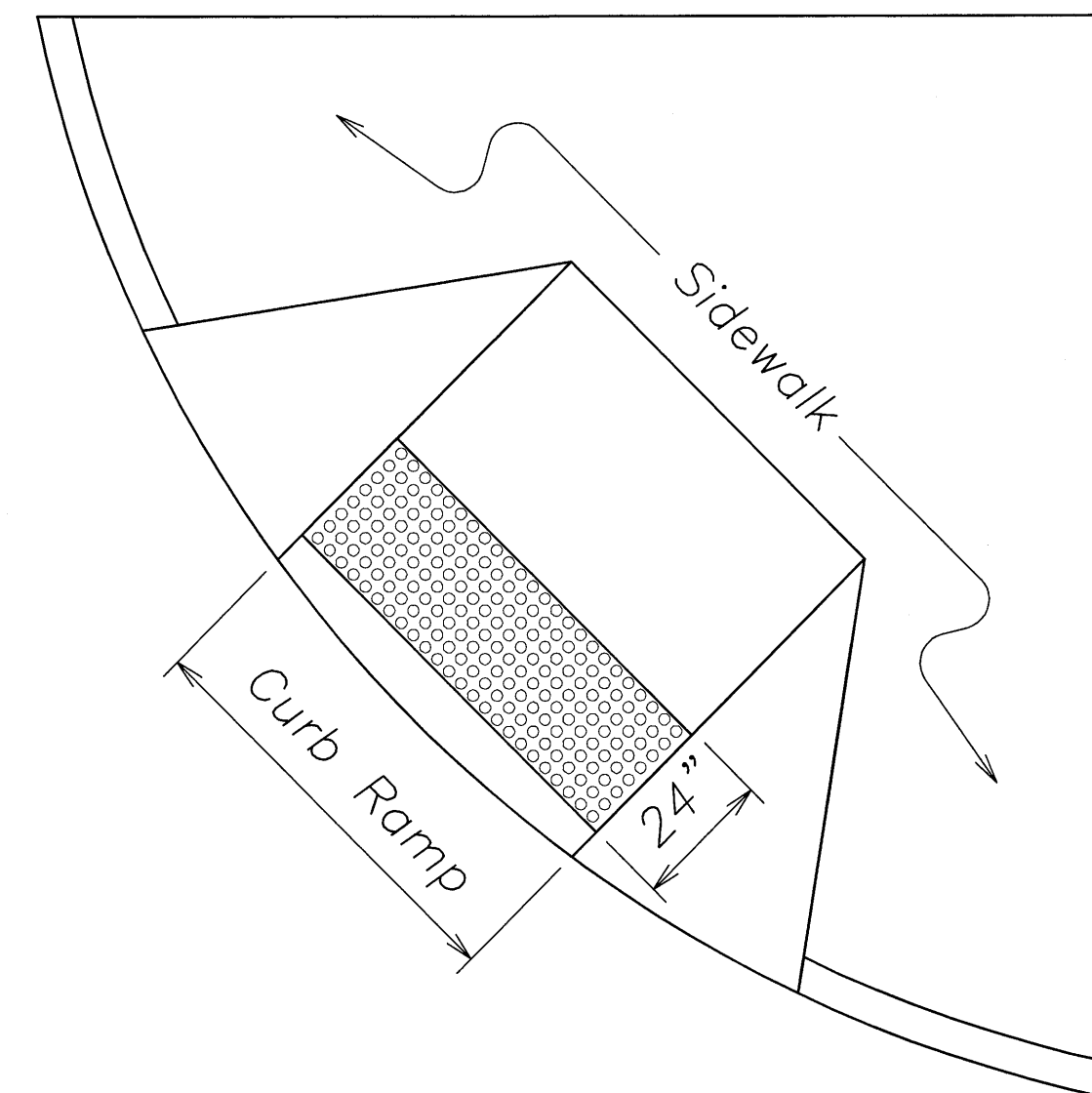
DETECTABLE WARNING AT CURB RAMP



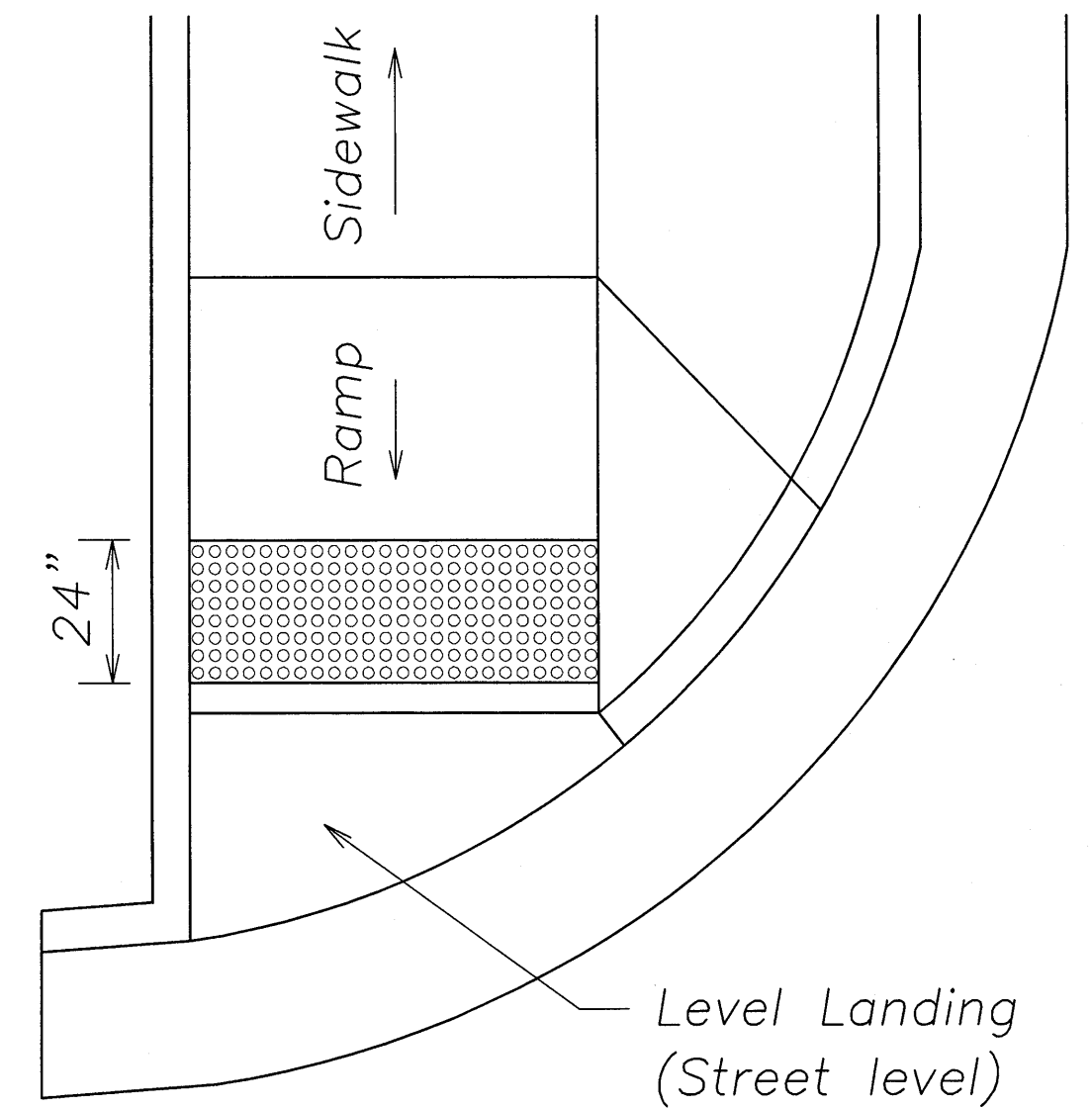
TRANSITION RAMP WITH DETECTABLE WARNING



REFUGE ISLAND WITH DETECTABLE WARNING



SHARED CURB RAMP WITH DETECTABLE WARNING



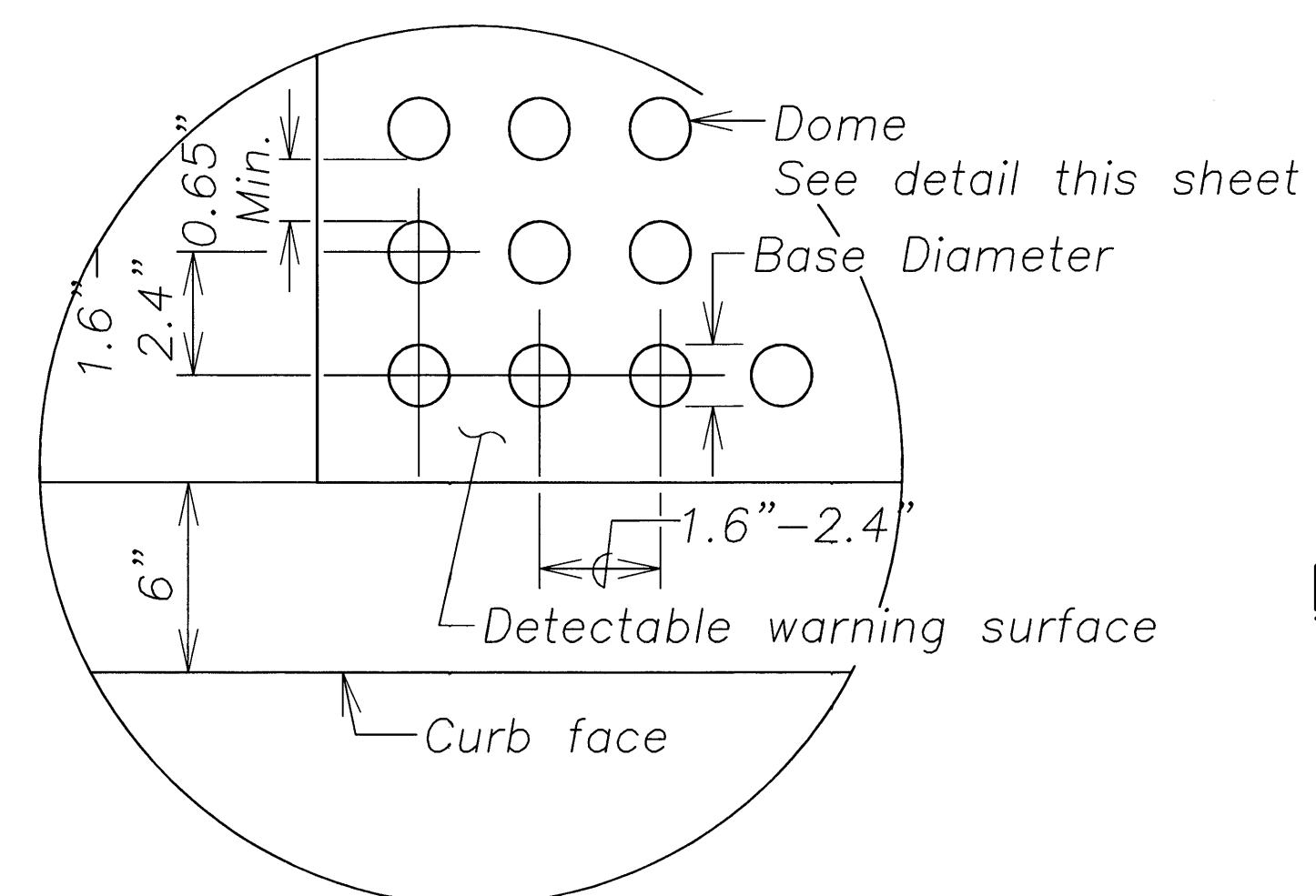
END OF SIDEWALK CURB RAMP WITH DETECTABLE WARNING

TYPICAL INSTALLATION OF DETECTABLE WARNINGS

Not to Scale

NOTES:

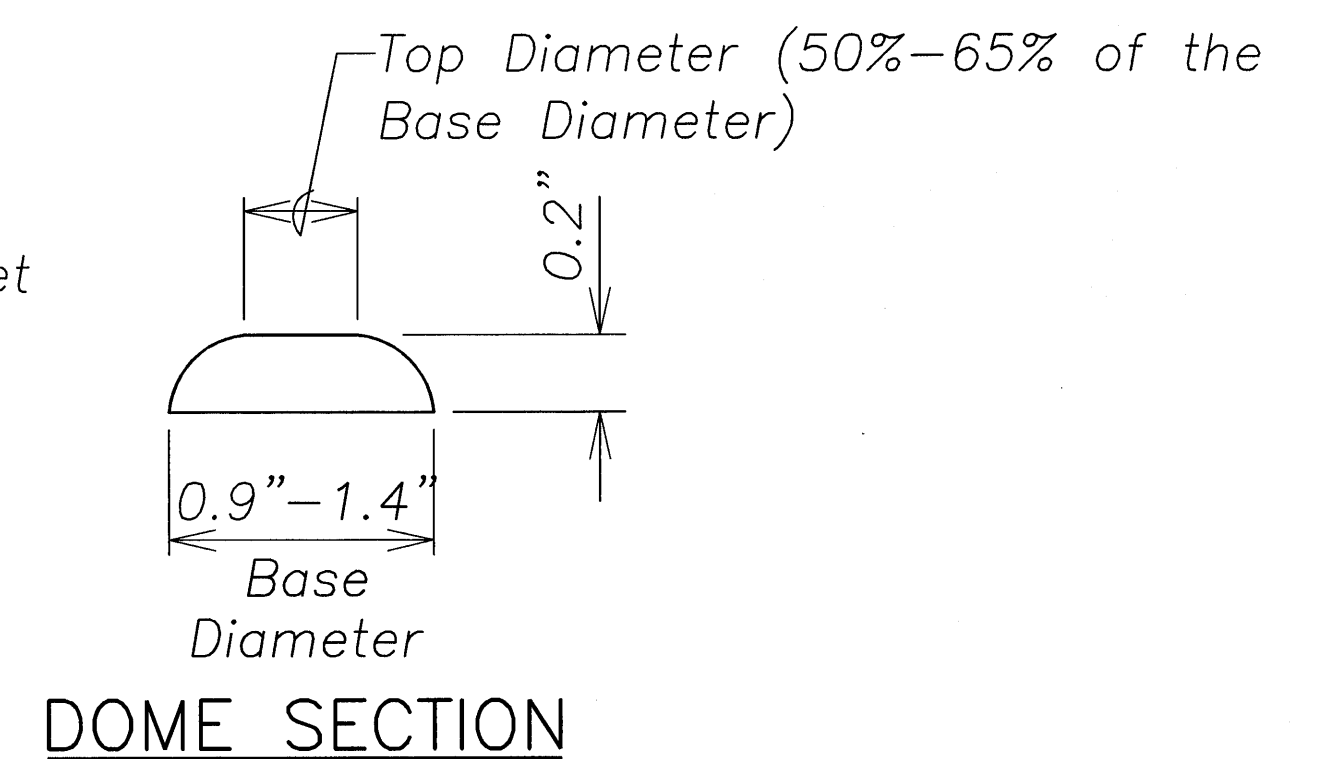
1. Detectable warnings shall be 24 inches in the direction of travel and extend the full width of the curb ramp or flush surface (does not include flares).
2. Truncated domes shall have a diameter of 0.9 to 1.4 inch at the bottom, a diameter of 50%–65% of the base diameter at the top, a height of 0.2 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

DETECTABLE WARNING DETAIL

Not to Scale



DOME SECTION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
DETECTABLE WARNING DETAILS	
TRAFFIC OPERATIONAL IMPROVEMENTS AT VARIOUS LOCATIONS VICINITY OF KAMEHAMEHA HIGHWAY AND MOKULELE DRIVE Project No. 83G-01-10	
Scale: As Noted	Date: May 2011
SHEET No. 4 OF 4 SHEETS	