~ 1100	\bigcap \bigwedge \bigwedge \bigwedge \bigwedge \bigwedge	AAID	CIDCIIIAIII	MOTEC
HRR	$H \cap M \cap$	$\Lambda M I I$	SIDEWALK	MMM - S
	/ \/\/\///	A	\mathcal{I}	

- 1. These typical details are intended as curb ramp guidelines for design and construction. These guidelines shall not replace site specific curb ramp plans.
- 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 Standards (ADA Standards):
- a) Forward Reach. The maximum height for forward reach shall be 48".
- b) Side Reach. The maximum height for side reach shall be 48".
- 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, B, C. D, E and Combination 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 Standards. 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.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(011)	2017	17	80

- 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 Americans with Disabilities Act Standards (ADA Standards) 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 $\frac{1}{4}$ inch per 10 ft. (±0.2%). Remedial measures will not be accepted.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP AND SIDEWALK NOTES

MOKAPU SADDLE ROAD REHABILITATION

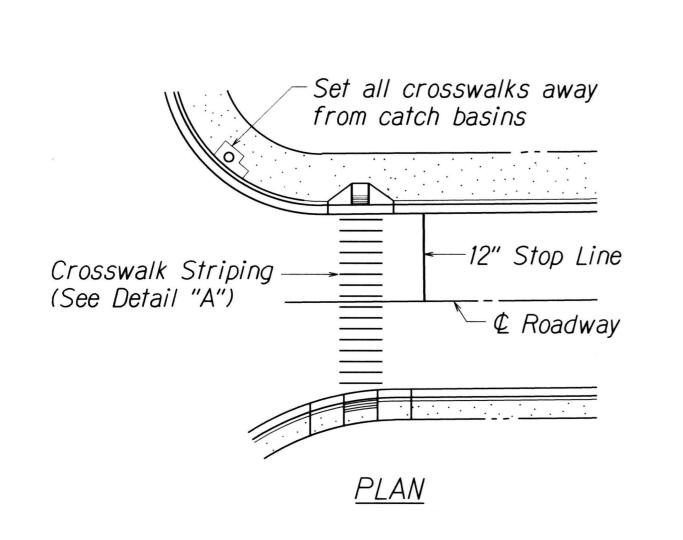
Nanamoana Street to Oneawa Street

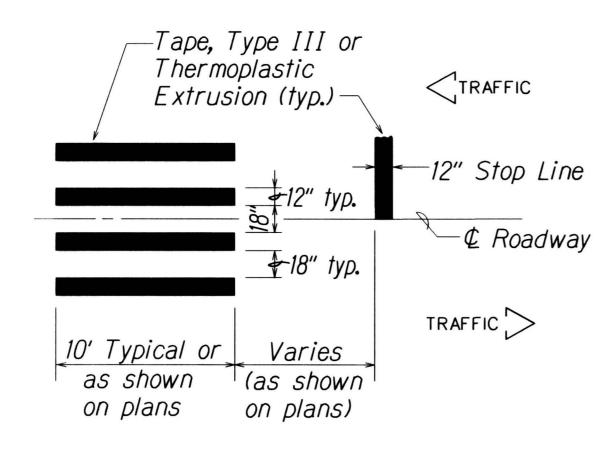
Federal Aid Project No. STP-065-1(011)

Date: March, 2017

OF 5

SHEETS



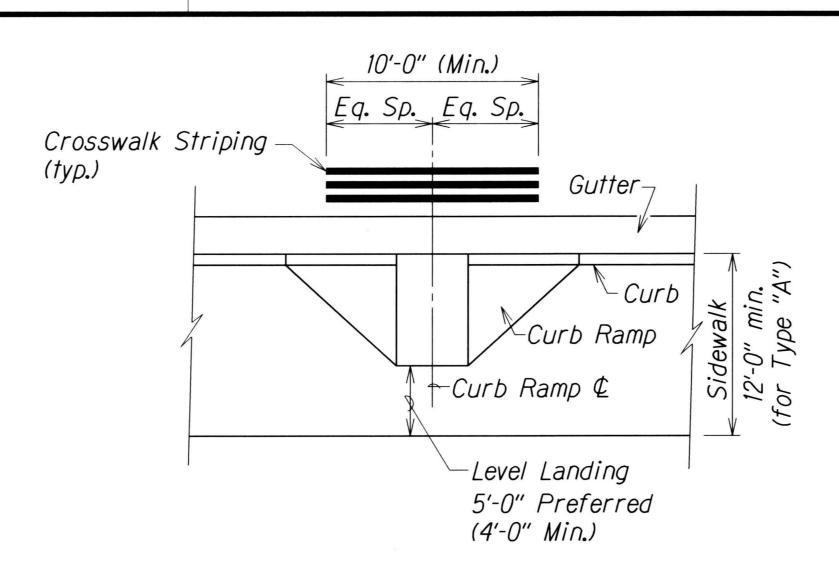


<u>DETAIL "A"</u>

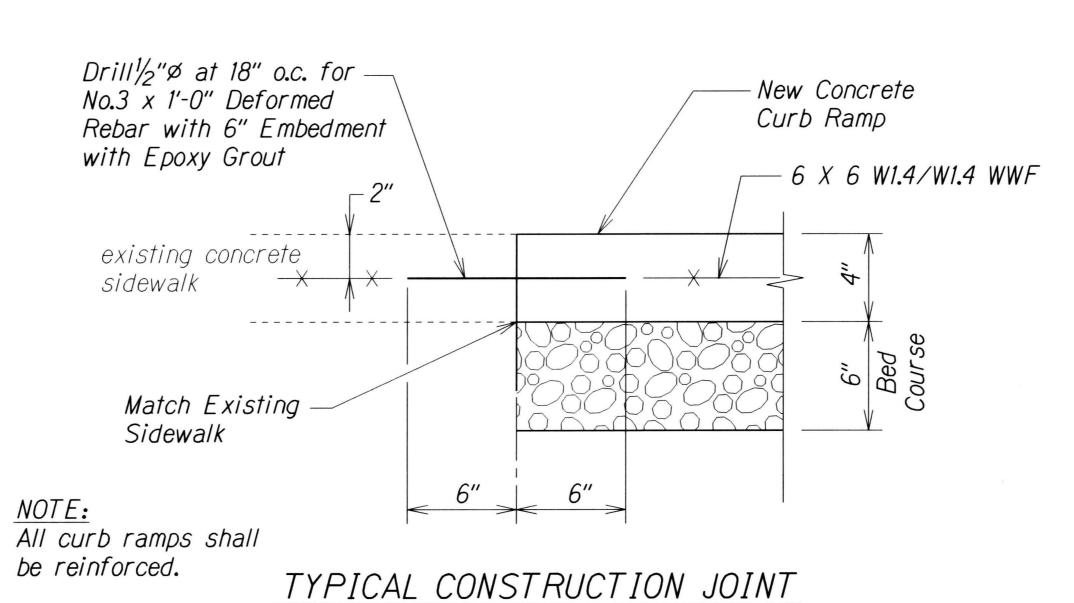
CROSSWALK STRIPING DETAIL

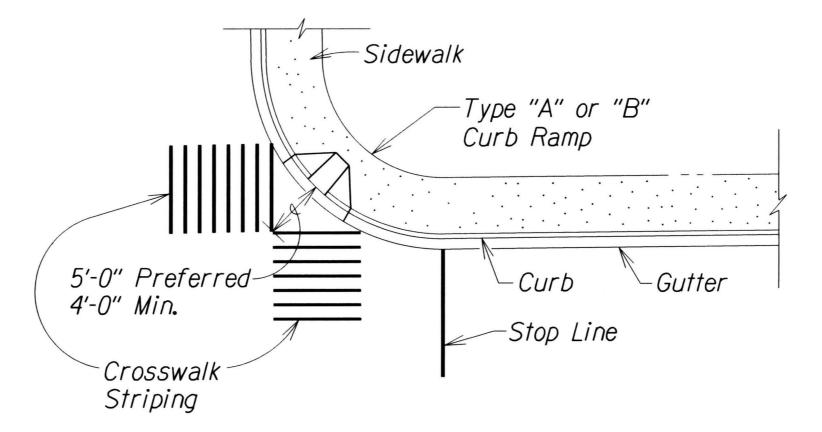
Longitudinal lines shall be parallel to traffic flow.

ORIGINAL BRAWN BY A TRACED BY DESIGNED BY OUANTITIES BY CHECKED BY CHECKED BY CHECKED BY CHECKED BY CHECKED BY



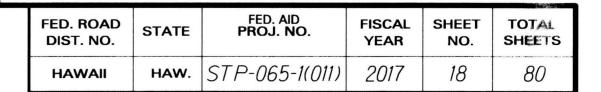
TYPICAL CROSSWALK STRIPING AT CURB RAMP

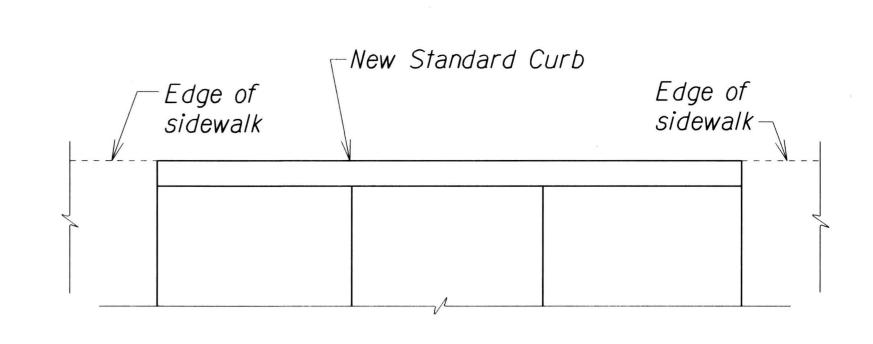




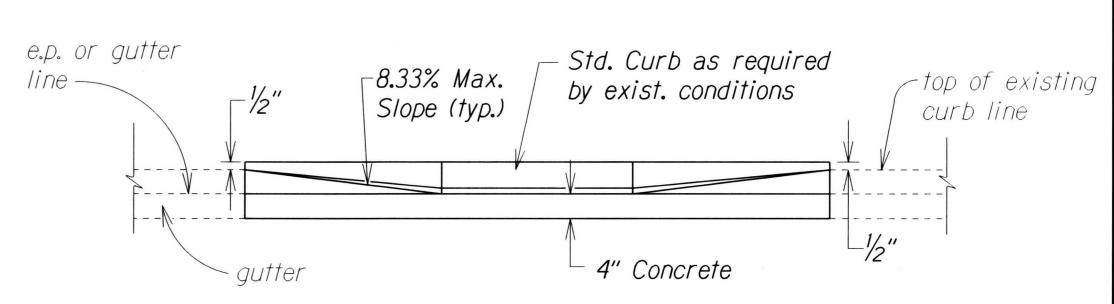
AT EXISTING SIDEWALK

TYPICAL CROSSWALK STRIPING AT DIAGONAL CURB RAMP





PLAN



ELEVATION

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.

> STATE OF HAWAII DEPARTMENT OF TRANSPORTATION

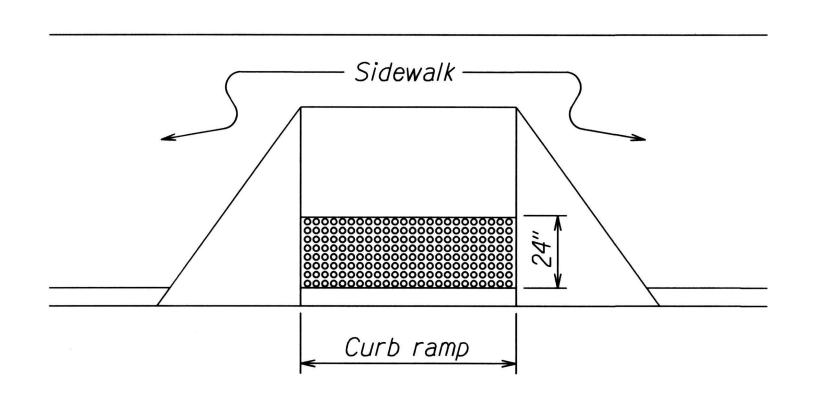
MISCELLANEOUS DETAILS

MOKAPU SADDLE ROAD REHABILITATION Nanamoana Street to Oneawa Street Federal Aid Project No. STP-065-1(011)

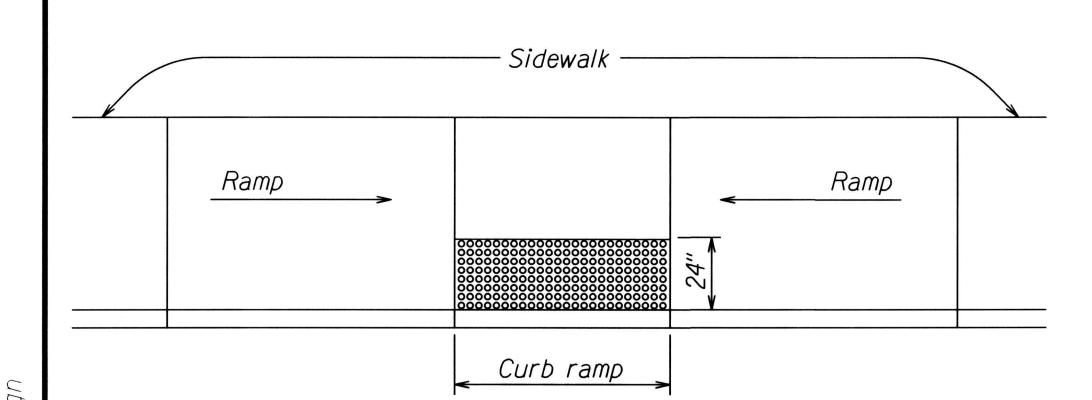
Not to Scale

Date: March, 2017 SHEET No. 2 OF 5 SHEETS

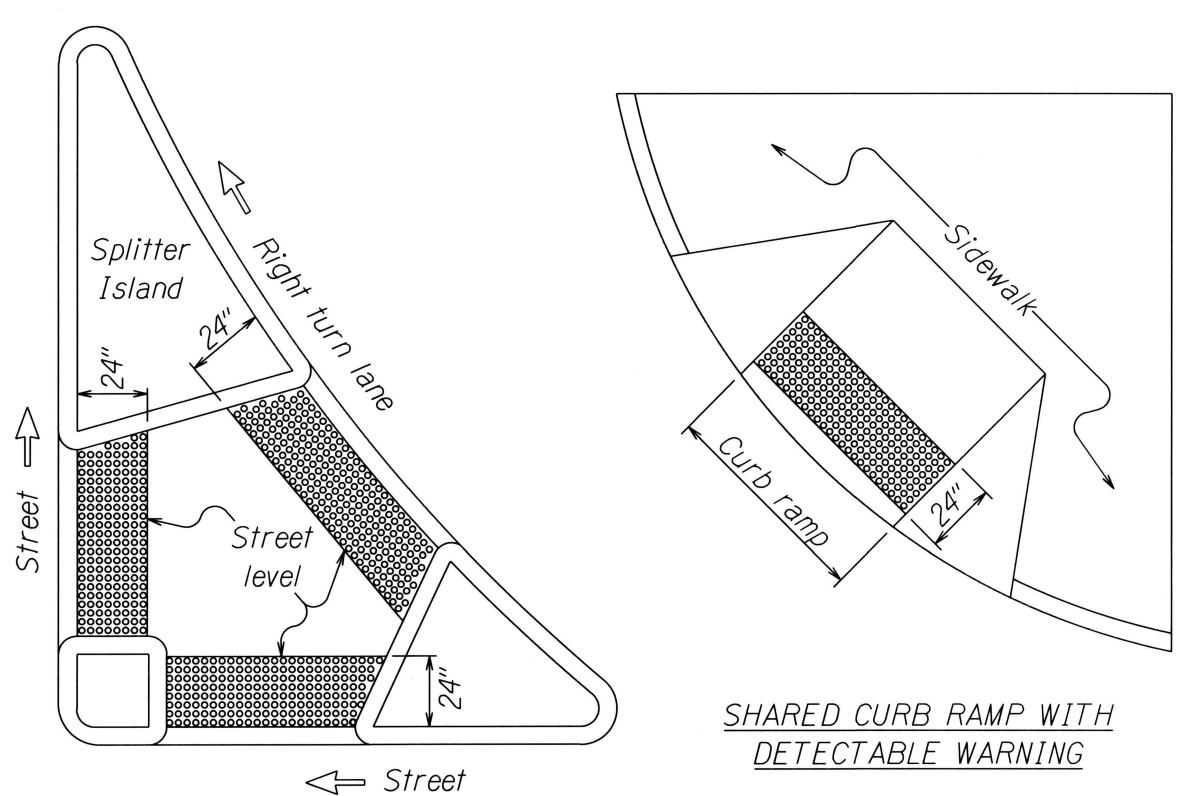
18



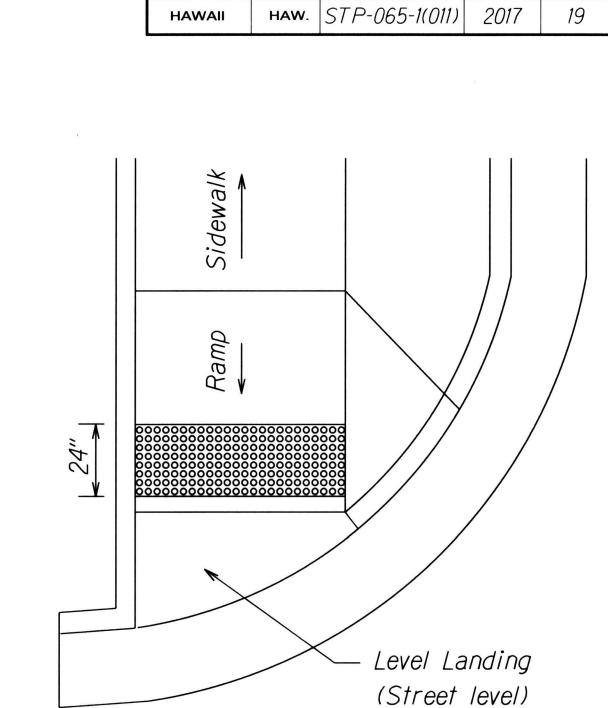
DETECTABLE WARNING AT CURB RAMP



TRANSITION RAMP WITH DETECTABLE WARNING



REFUGE ISLAND WITH DETECTABLE WARNING



FISCAL YEAR

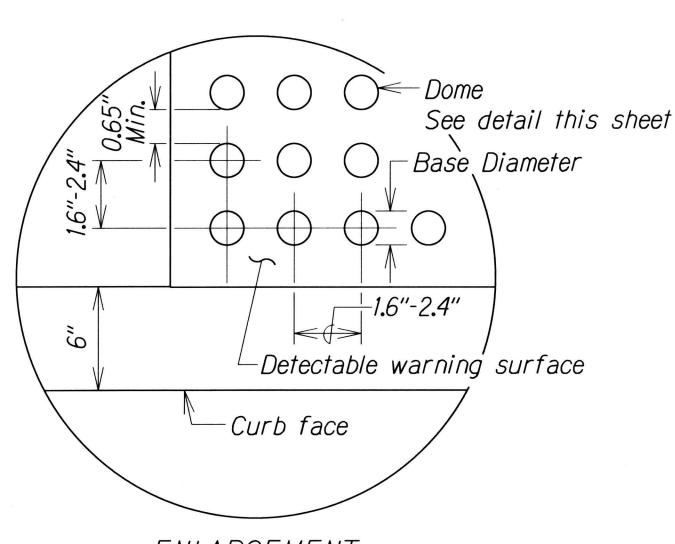
END OF SIDEWALK CURB RAMP WITH DETECTABLE WARNING

TYPICAL INSTALLATION OF DETECTABLE WARNINGS

Not to Scale

NOTES:

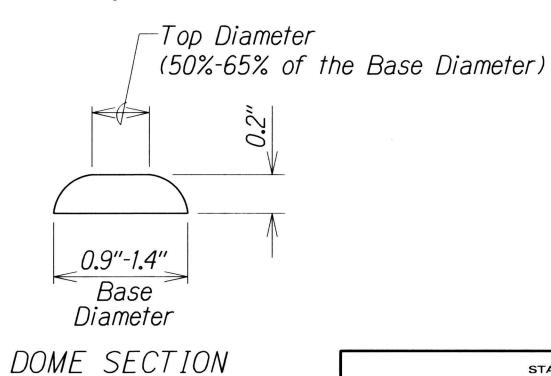
- 1. Detectable warnings shall be 24 inches in the direction of travel and extend the full width of the curb ramp or flush surface (does not include flares).
- 2. Truncated domes shall have a diameter of 0.9 to 1.4 inch at the bottom, a diameter of 50%-65% of the base diameter at the top, a height of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



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

DETECTABLE WARNING DETAILS

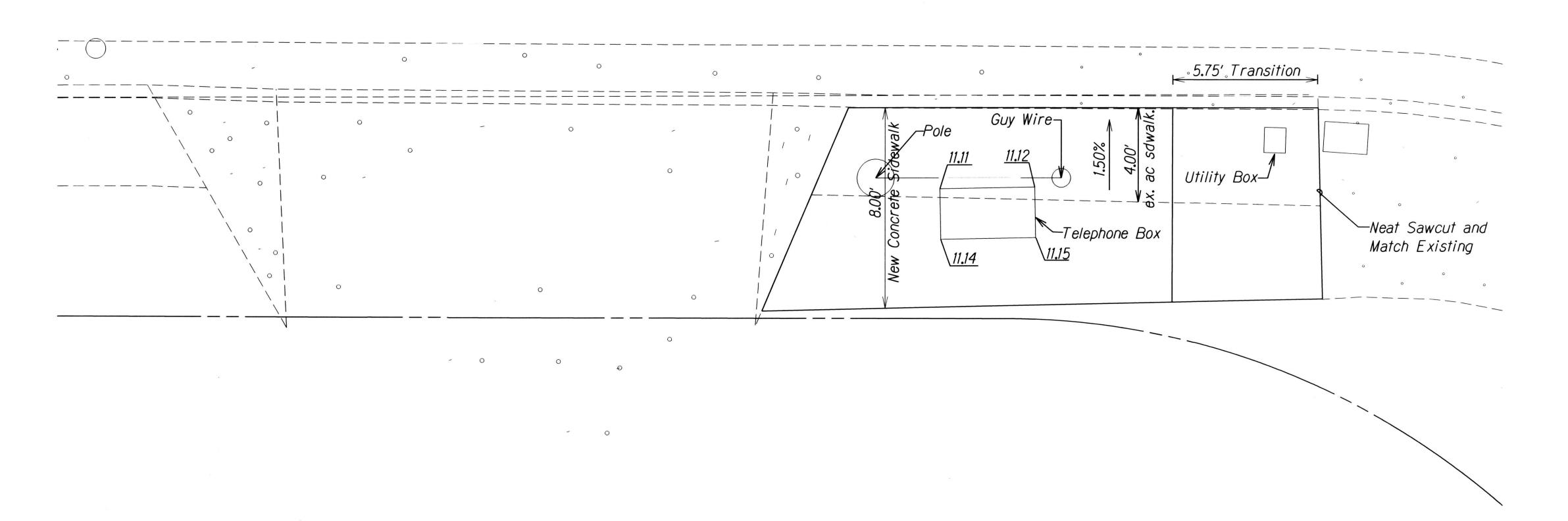
MOKAPU SADDLE ROAD REHABILITATION Nanamoana Street to Oneawa Street Federal Aid Project No. STP-065-1(011)

Date: March, 2017 Scale: Not to Scale

SHEET No. 3 OF 5 SHEETS



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(011)	2017	20	80



Sta. 48+32± to # Sta. 48+11 Rt.

Scale: 1.00" = 2.50'

Note: 1. Adjust telephone box to match Top of Grade. 2. Existing utility box will remain in place.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIDEWALK DETAIL

MOKAPU SADDLE ROAD REHABILITATION

Nanamoana Street to Oneawa Street

Federal Aid Project No. STP-065-1(011)

Scale: 1"=2.5'

Date: March, 2017

SHEET No. 4 OF 5 SHEETS

20

