

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-(1010)	2011	16	52

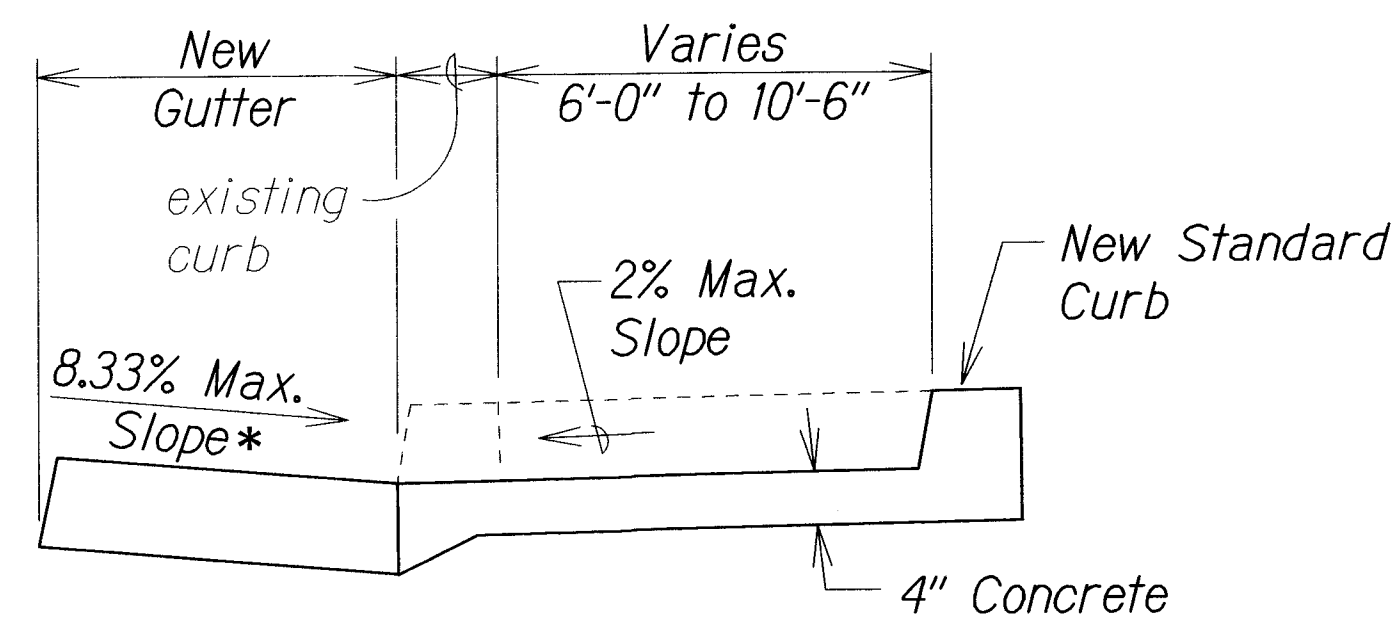
CURB RAMP AND SIDEWALK NOTES:

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 48" above finish floor. The minimum height for side reach shall be 15" above finish floor.
 - 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.
 - d) This work shall be considered incidental to the various contract items.
9. The maximum slopes of adjoining gutters or road surface immediately fronting the curb ramp shall not exceed 5% for Type A and D ramps and 8.33% for Type B, C, and E ramps. The counterslope may be exceeded when the change of grade does not exceed 13% (11% preferred) over a distance of 2 ft. Exceeding the 13% (11% preferred) change in grade will cause a person in a wheelchair to tip forward and/or fall backward.
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. The Bed course shall be considered incidental to Item No. 411.0100.
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.
22. Refer to Standard Plan D-15 for concrete sidewalk details.

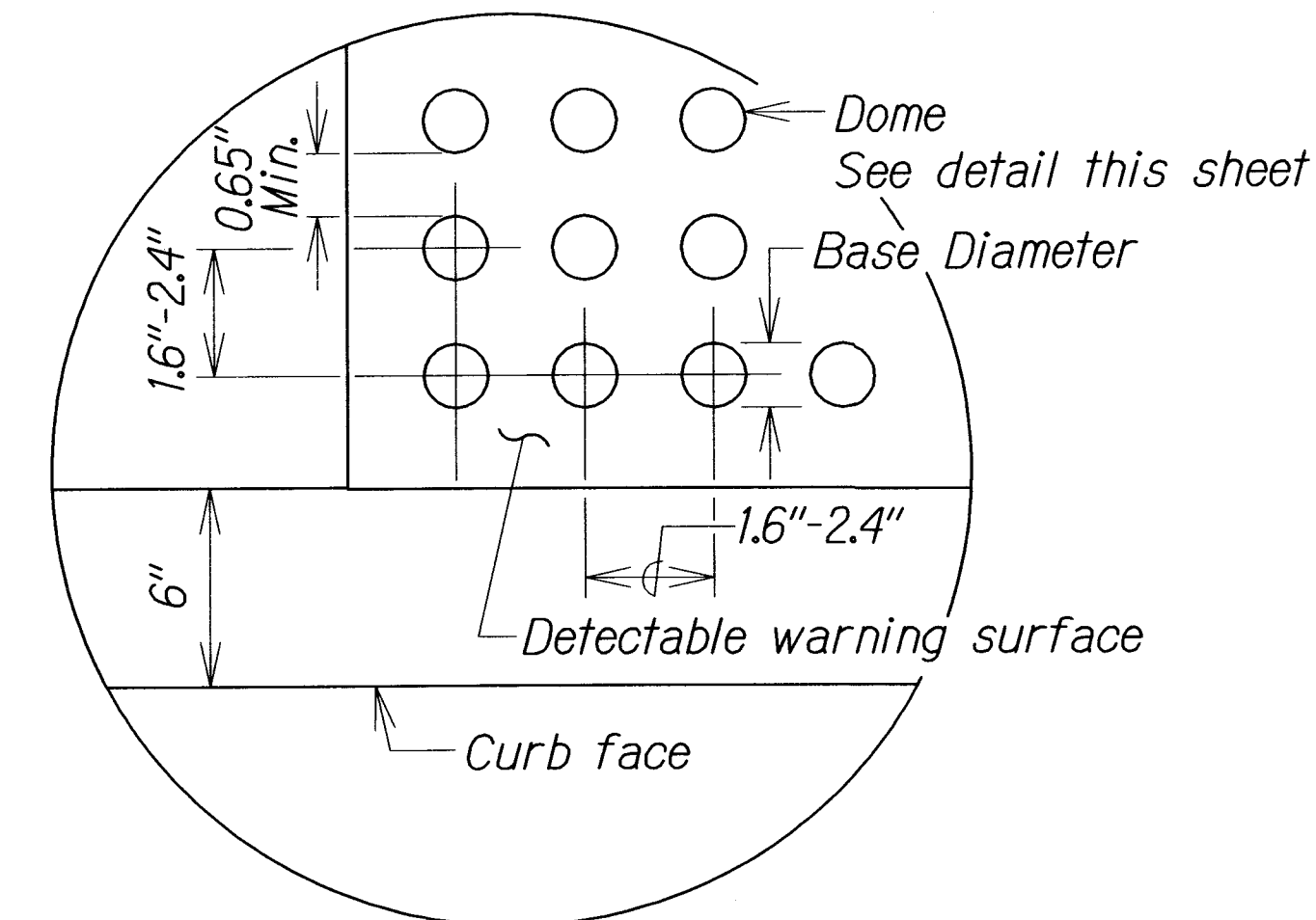
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
7/26/2011	TRACED BY	
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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
<u>CURB RAMP AND SIDEWALK NOTES</u>
<u>MOKAPU SADDLE ROAD AND</u>
<u>MOKAPU BOULEVARD RESURFACING</u>
<u>Kapaa Quarry Road to North Kalaheo Avenue</u>
<u>M.P. 2.97 to 4.15</u>
<u>Federal Aid Project No. STP-065-(1010)</u>
Date: April 2011
SHEET No. 1 OF 1 SHEETS

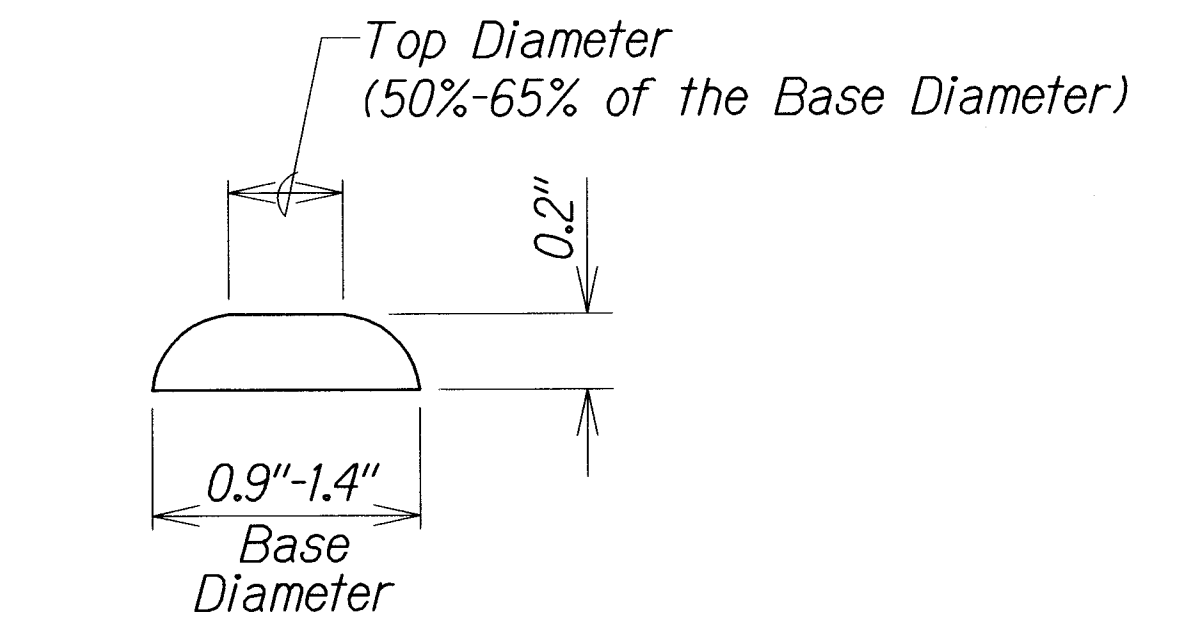
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(010)	2011	17	52



TYPICAL SECTION



ENLARGEMENT



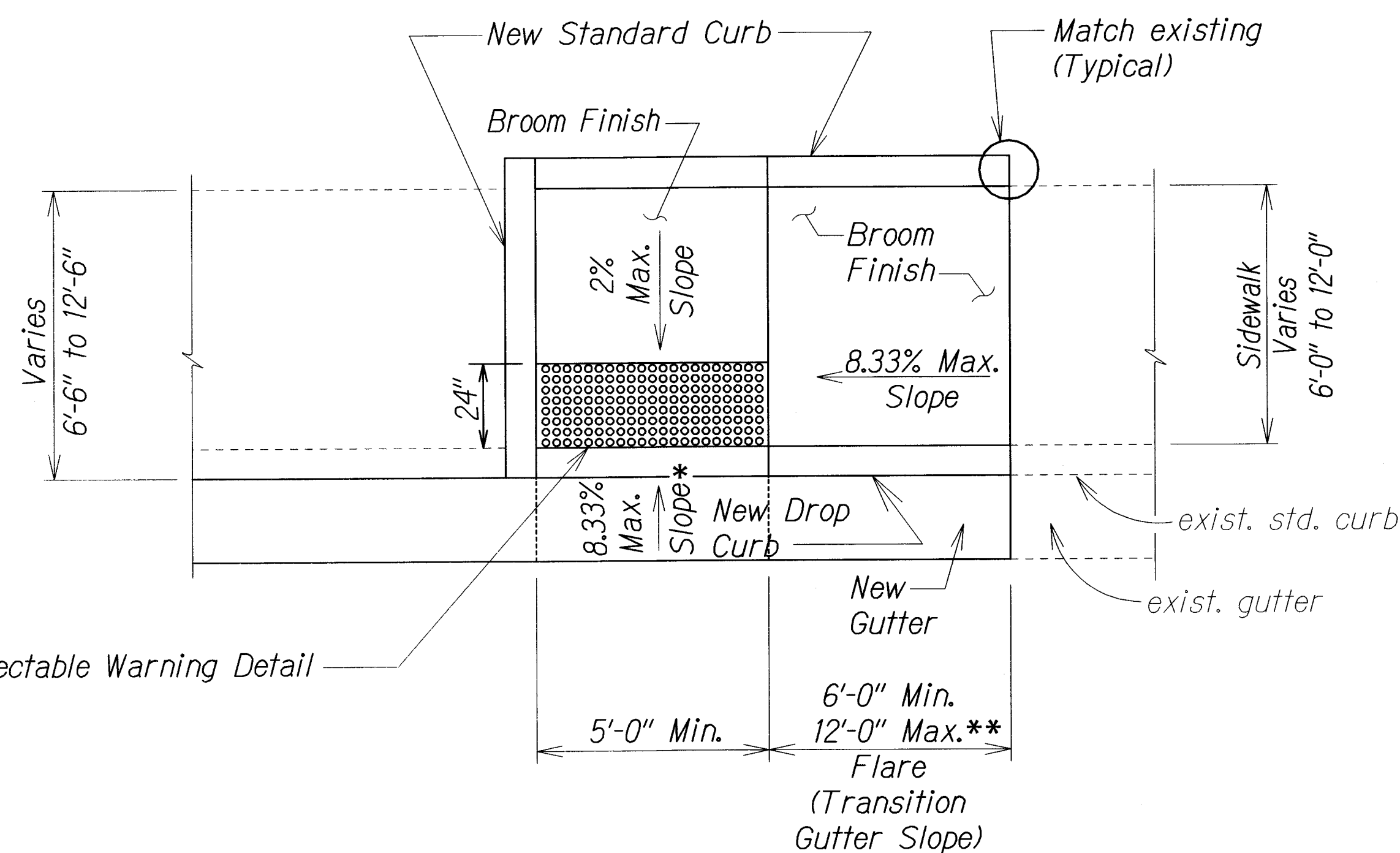
DOME SECTION

DETECTABLE WARNING DETAIL

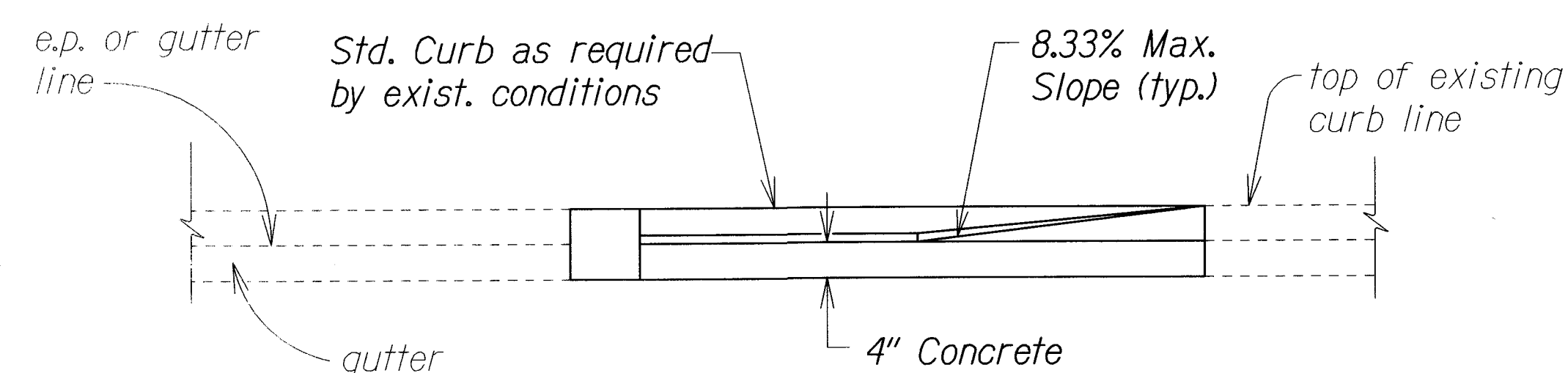
Not to Scale

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.
7. The detectable warning shall be considered incidental to Item. No. 650.1000.



PLAN



ELEVATION

CURB RAMP - TYPE "B" MODIFIED

SIDEWALK WIDTH 6'-0" OR GREATER
BUT LESS THAN 12'-0" WIDTH

- * See Curb Ramp and Sidewalk Note No. 9 on Plan Sht. No. 16.
- ** 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.

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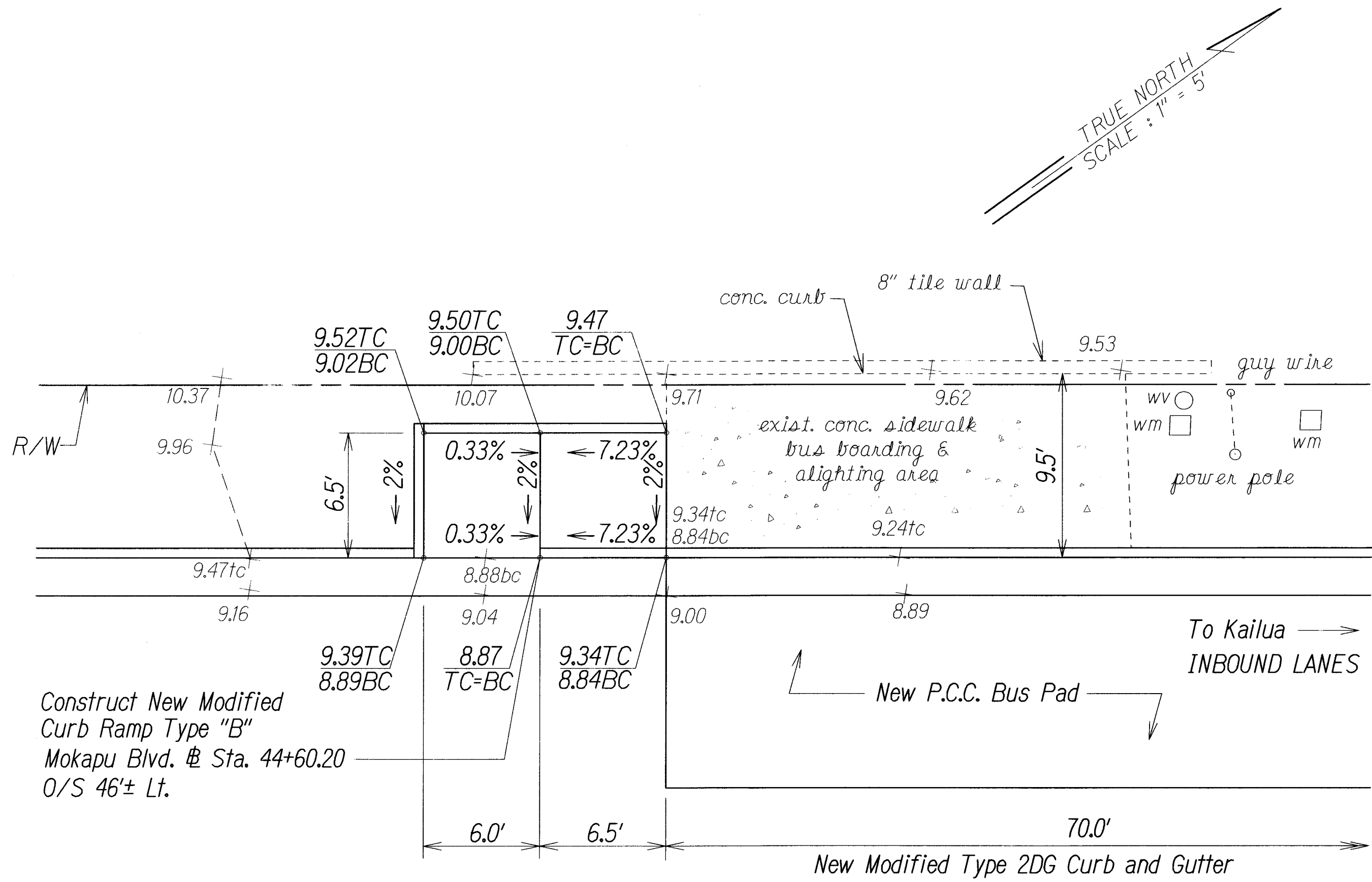
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP DETAILS

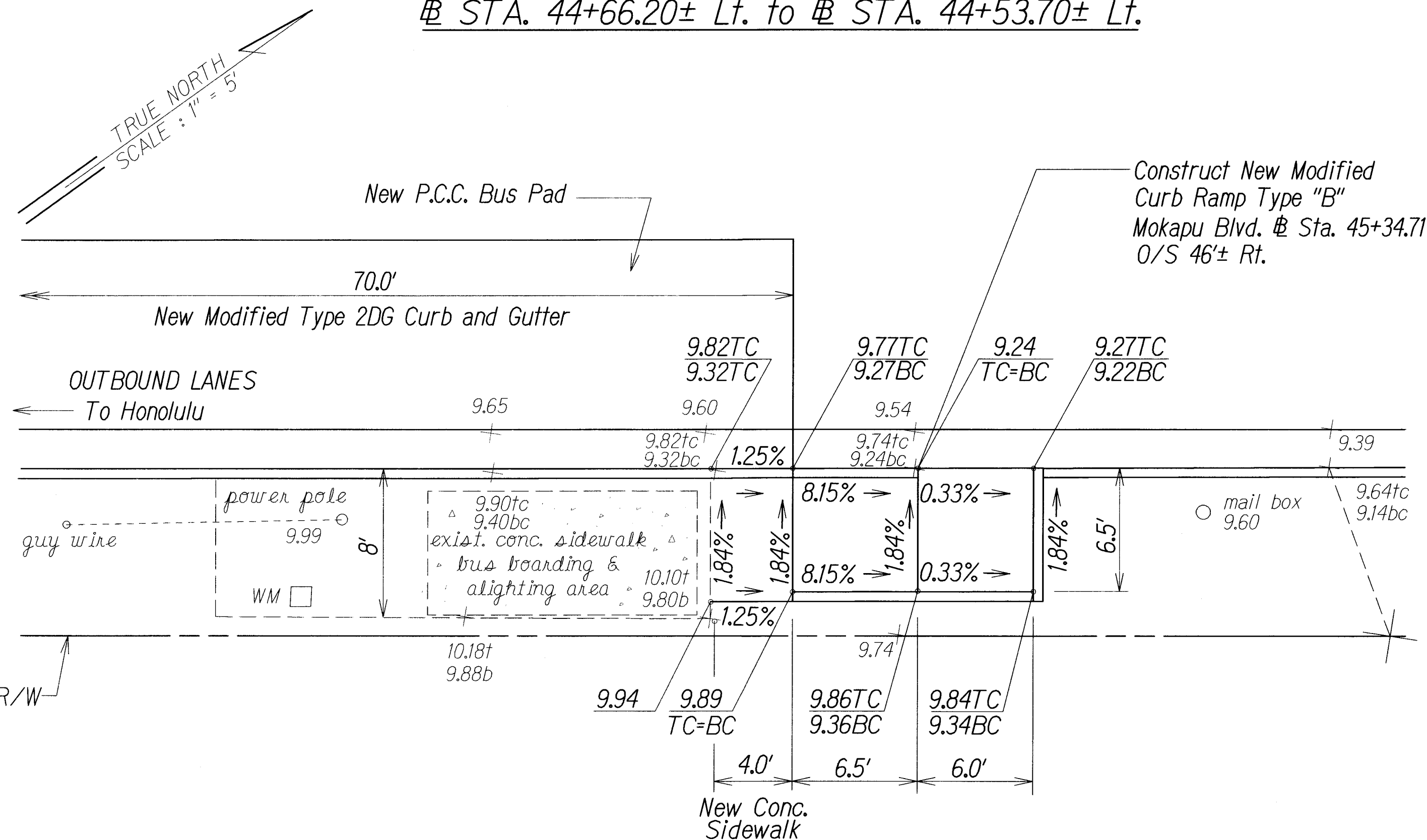
MOKAPU SADDLE ROAD and
MOKAPU BOULEVARD RESURFACING
KAPAA QUARRY ROAD TO NORTH KALEHO AVENUE
M.P. 2.97 TO M.P. 4.15
Federal Aid Project No. STP-065-1(010)
Not to Scale Date: April 2011

SHEET No. 1 OF 1 SHEETS

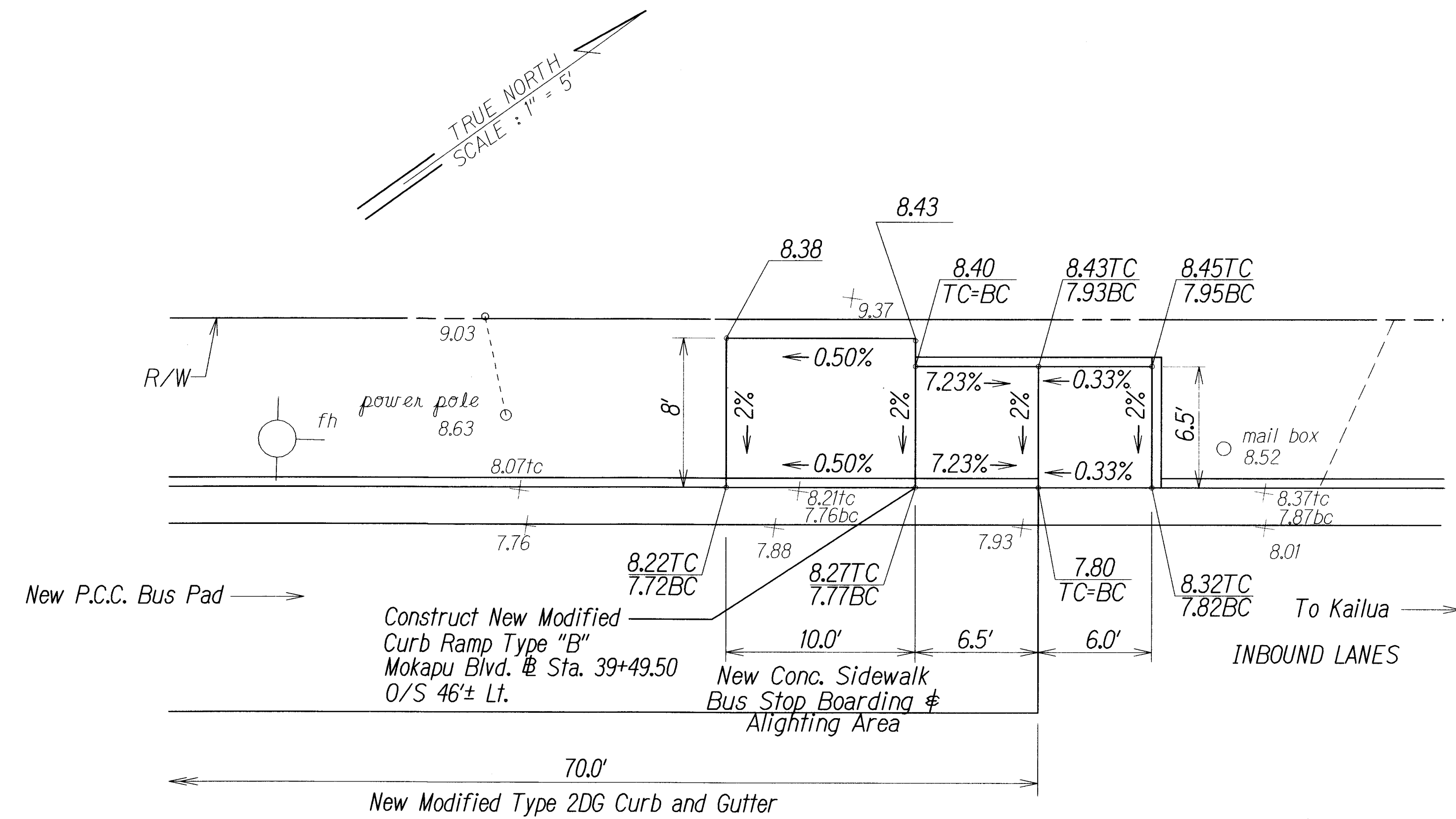
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(010)	2011	18	52



MODIFIED CURB RAMP TYPE "B"
 @ STA. 44+66.20± Lt. to @ STA. 44+53.70± Lt.



MODIFIED CURB RAMP TYPE "B"
 @ STA. 45+41.21± Rt. to @ STA. 45+28.71± Rt.



MODIFIED CURB RAMP TYPE "B"
 @ STA. 39+49.50± Lt. to @ STA. 39+37.00± Lt.

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NOTE BOOK	
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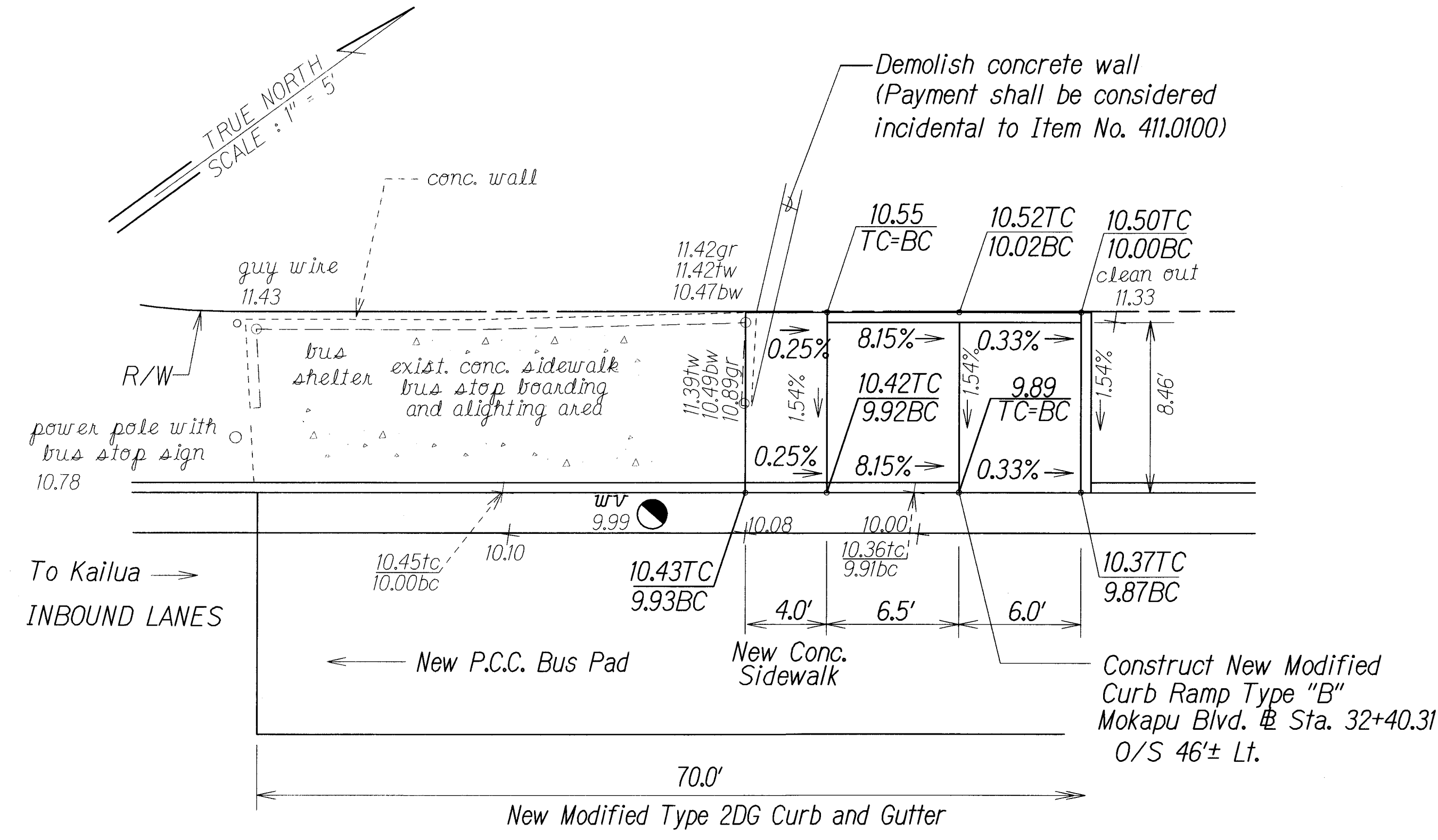
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

CURB RAMP and SIDEWALK PLANS

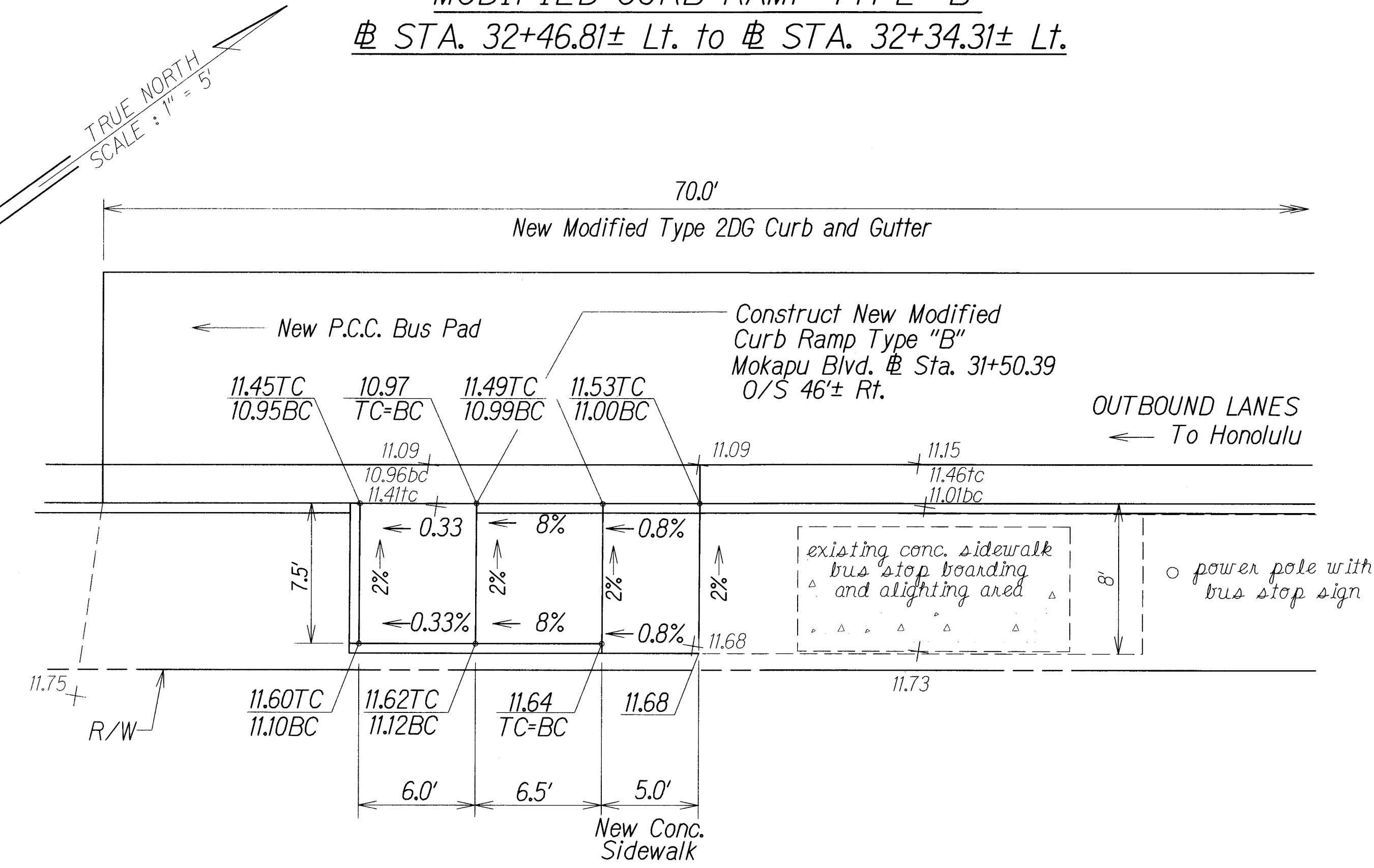
MOKAPU SADDLE ROAD and
 MOKAPU BOULEVARD RESURFACING
 Kapaa Quarry Road to North Kalaheo Avenue
 M.P. 2.97 to M.P. 4.15
 Federal Aid Project No. STP-065-1(010)
 Scale: 1"=5' Date: April 2011

SHEET No. 1 OF 5 SHEETS

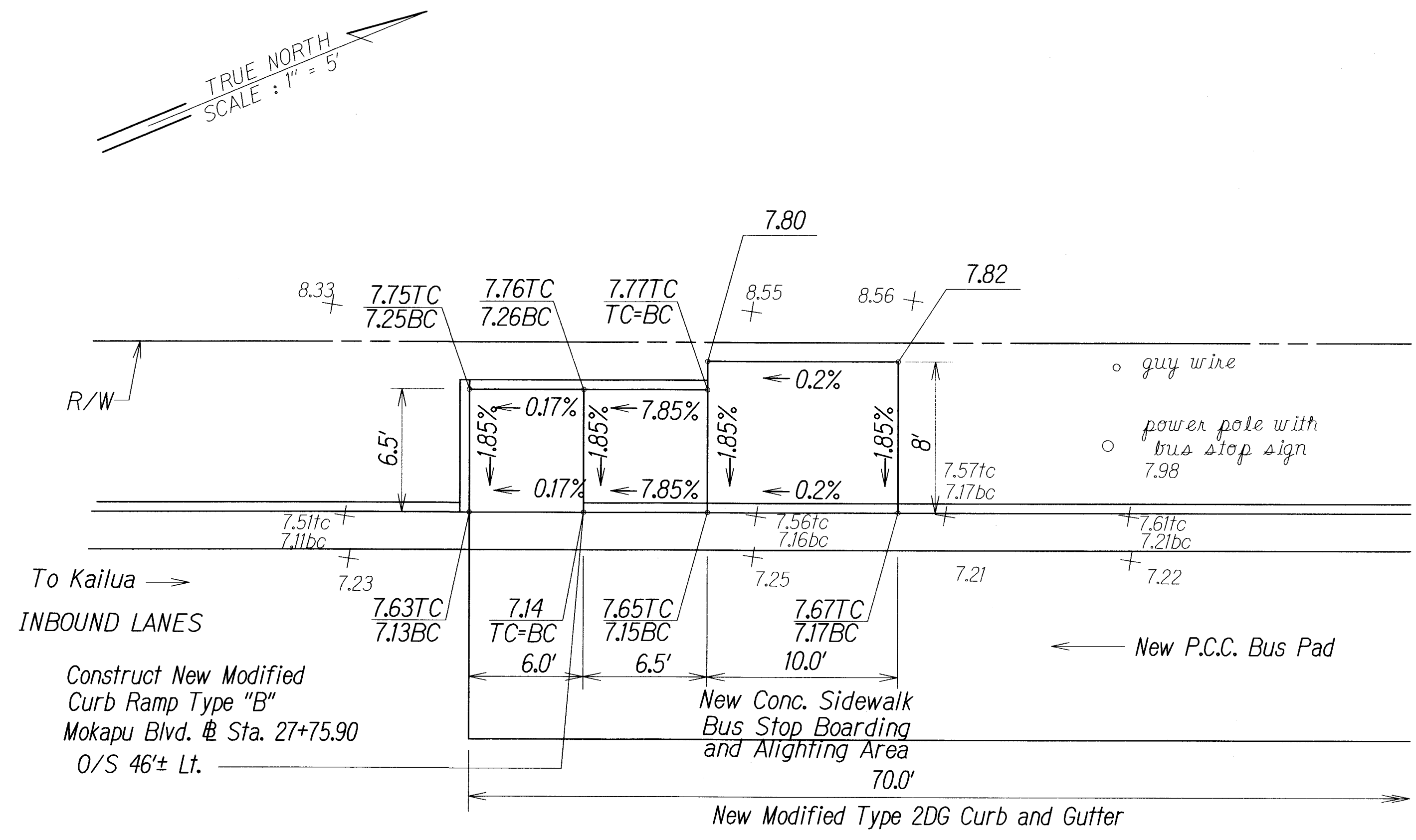
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HAWAII	HAW.	STP-065-1(010)	2011	19	52



MODIFIED CURB RAMP TYPE "B"
@ STA. 32+46.81± Lt. to @ STA. 32+34.31± Lt.



MODIFIED CURB RAMP TYPE "B"
@ STA. 31+56.39± Rt. to @ STA. 31+43.89± Rt.



MODIFIED CURB RAMP TYPE "B"
@ STA. 27+81.90± Lt. to @ STA. 27+69.40± Lt.

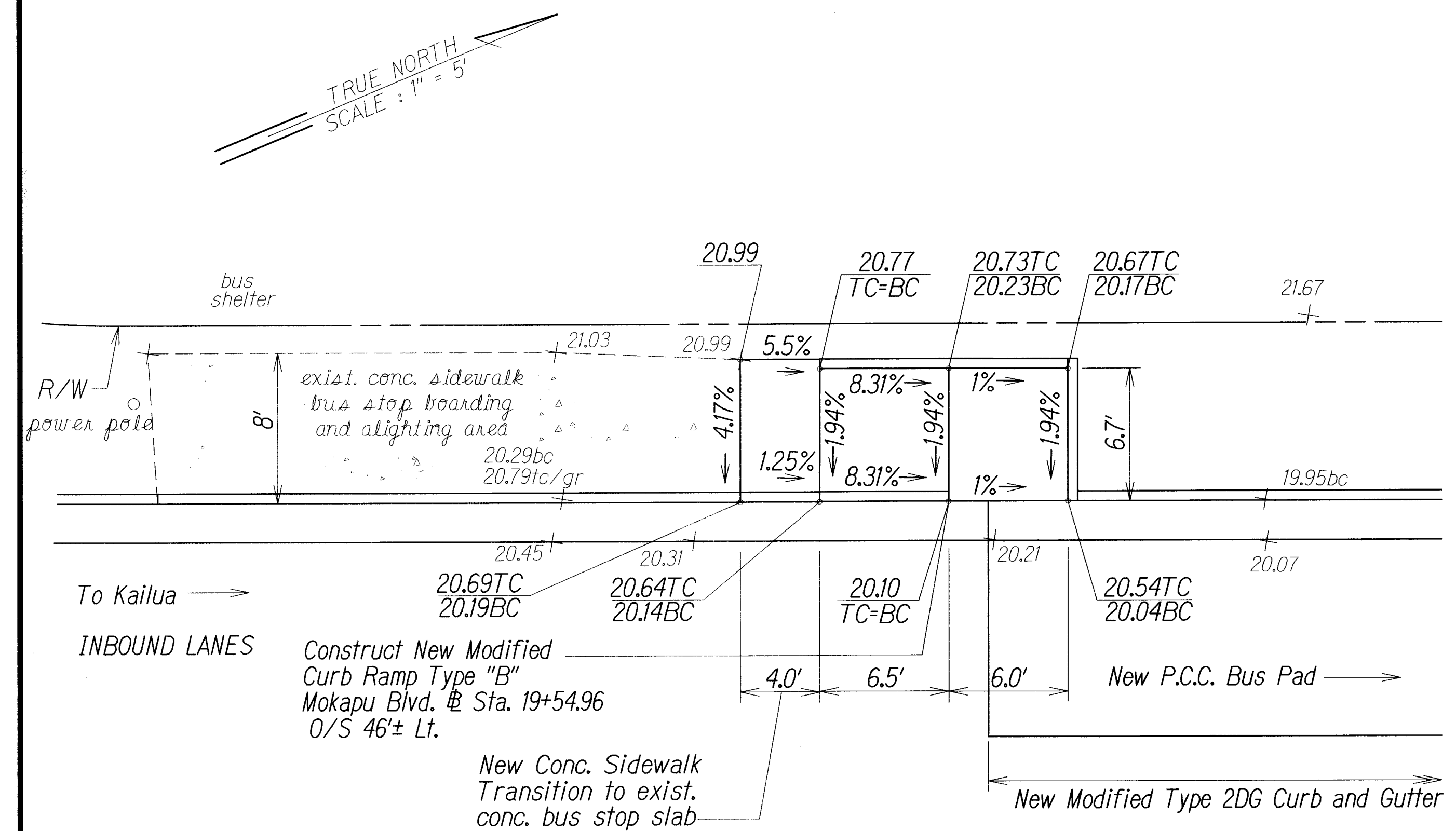
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NOTE BOOK	DRAWN BY	
7/10/11/2011	DESIGNED BY	
7/10/11/2011	QUANTITIES BY	
7/10/11/2011	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

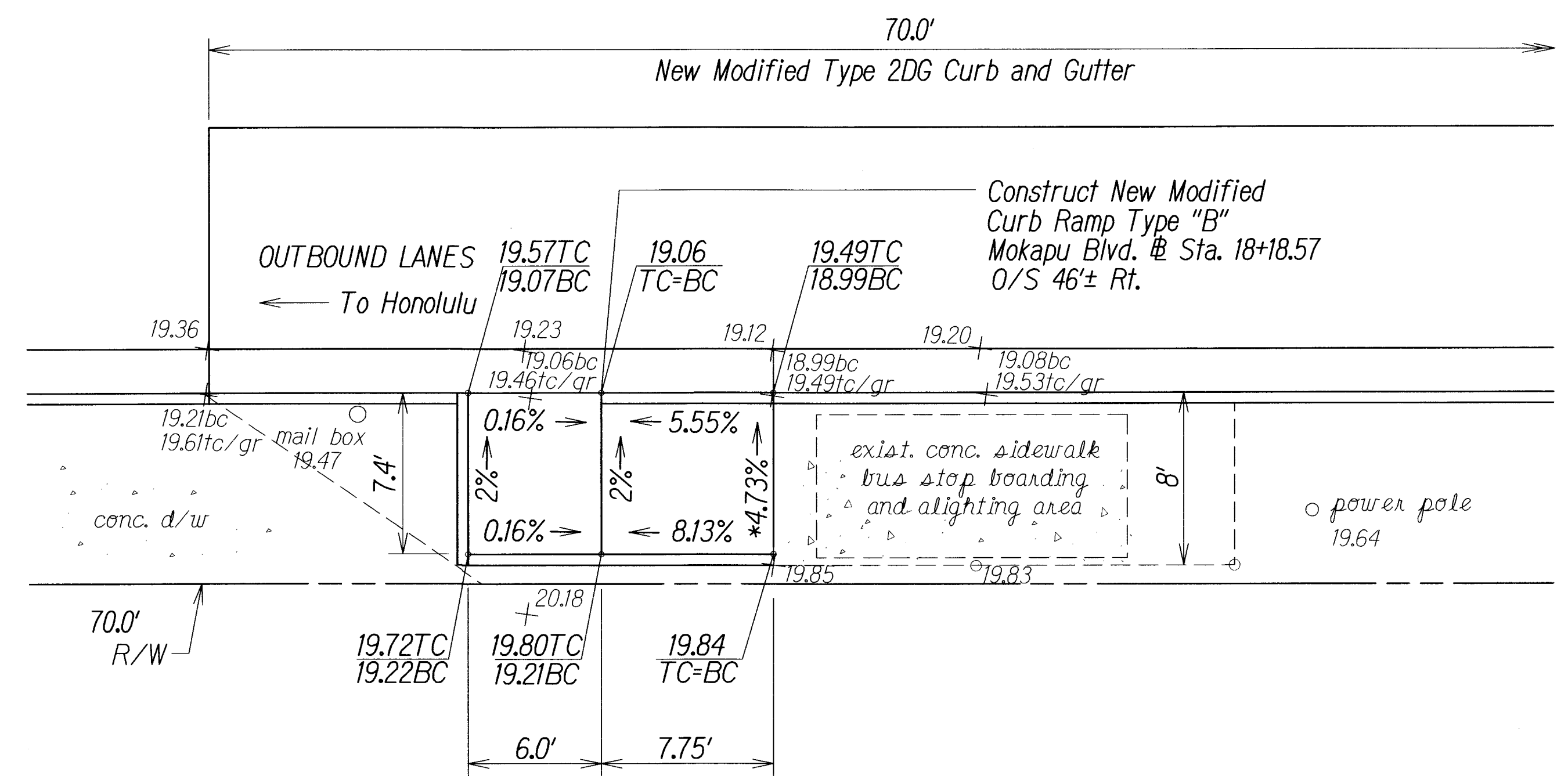
CURB RAMP and SIDEWALK PLANS
MOKAPU SADDLE ROAD and
MOKAPU BOULEVARD RESURFACING
Kapaa Quarry Road to North Kalaheo Avenue
M.P. 2.97 to M.P. 4.15
Federal Aid Project No. STP-065-1(010)
Scale: 1"=5' Date: April, 2011

SHEET No. 2 OF 5 SHEETS

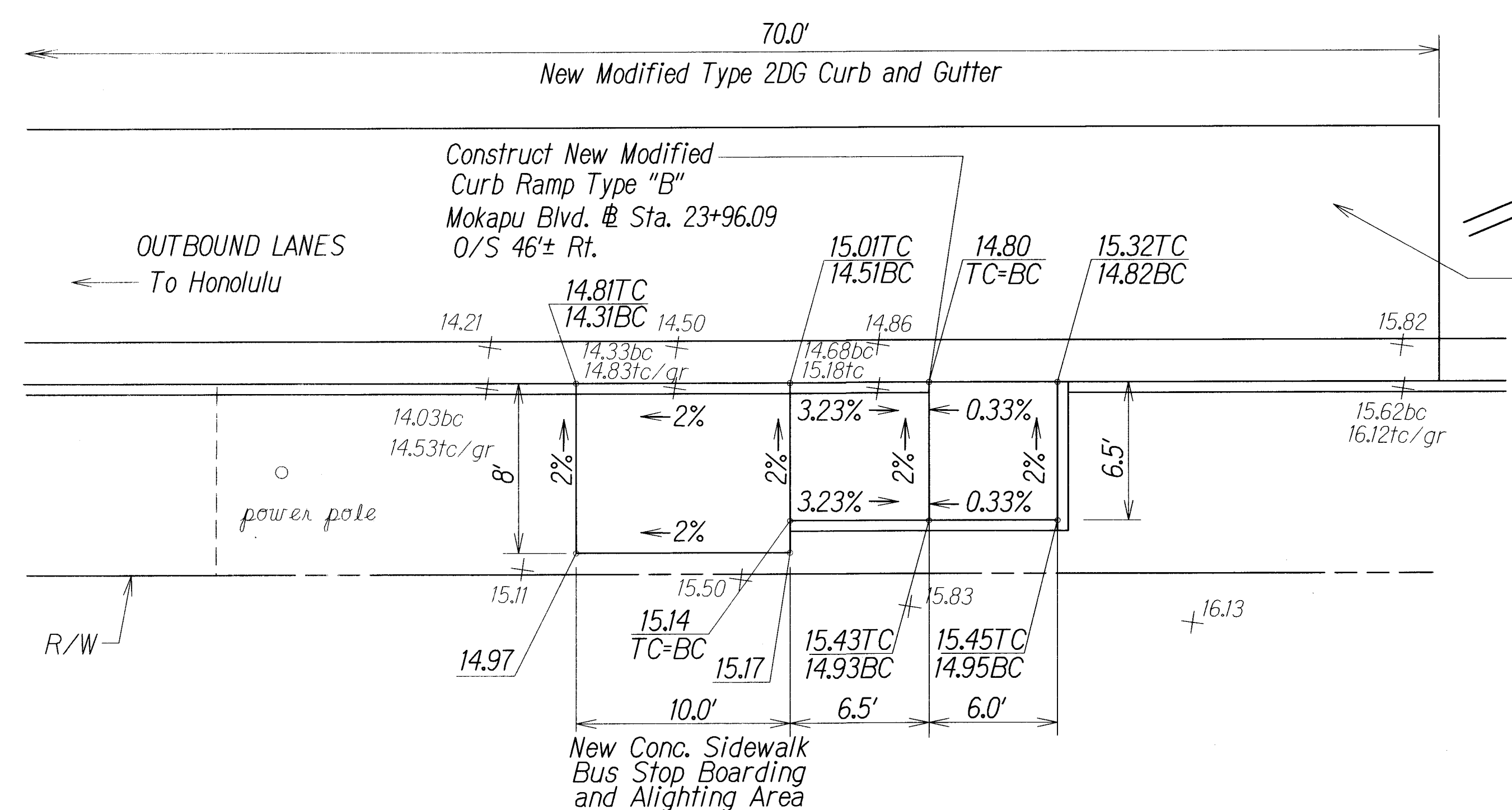
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HAWAII	HAW.	STP-065-1(010)	2011	20	52



MODIFIED CURB RAMP TYPE "B"
 @ STA. 19+61.46± Lt. to @ STA. 19+48.96± Lt.



MODIFIED CURB RAMP TYPE "B"
 @ STA. 18+24.57± Rt. to @ STA. 18+10.82± Rt.



MODIFIED CURB RAMP TYPE "B"
 @ STA. 24+02.59± Rt. to @ STA. 23+90.09± Rt.

* TECHNICAL INFEASIBILITY STATEMENT TO BE FILED

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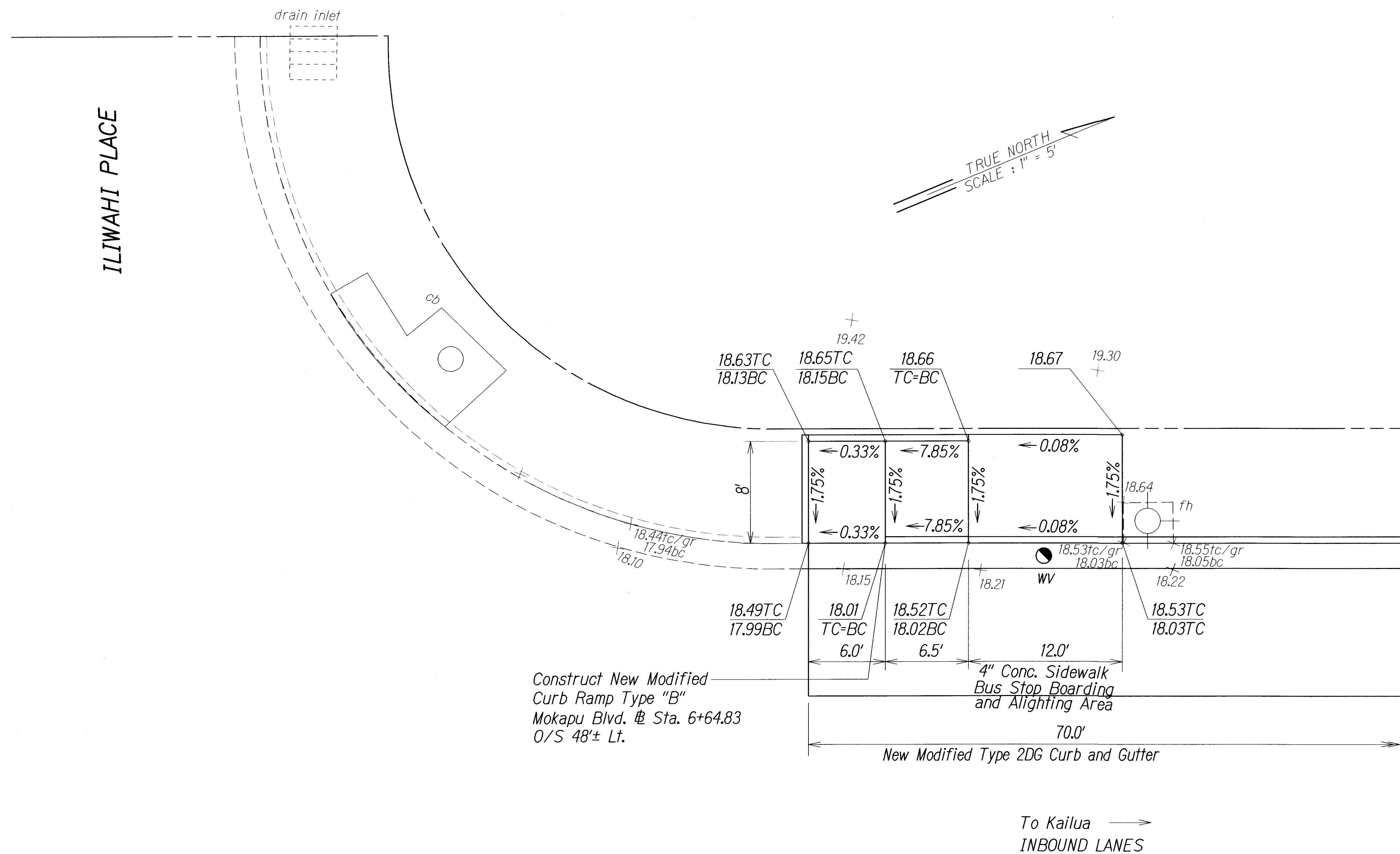
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

CURB RAMP and SIDEWALK PLANS

MOKAPU SADDLE ROAD and
 MOKAPU BOULEVARD RESURFACING
 Kapaa Quarry Road to North Kalaheo Avenue
 M.P. 2.97 to M.P. 4.15
 Federal Aid Project No. STP-065-1(010)
 Scale: 1"=5' Date: April, 2011

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(010)	2011	21	52



MODIFIED CURB RAMP TYPE "B"
@ STA. 6+70.83± Lt. to @ STA. 6+58.33± Lt.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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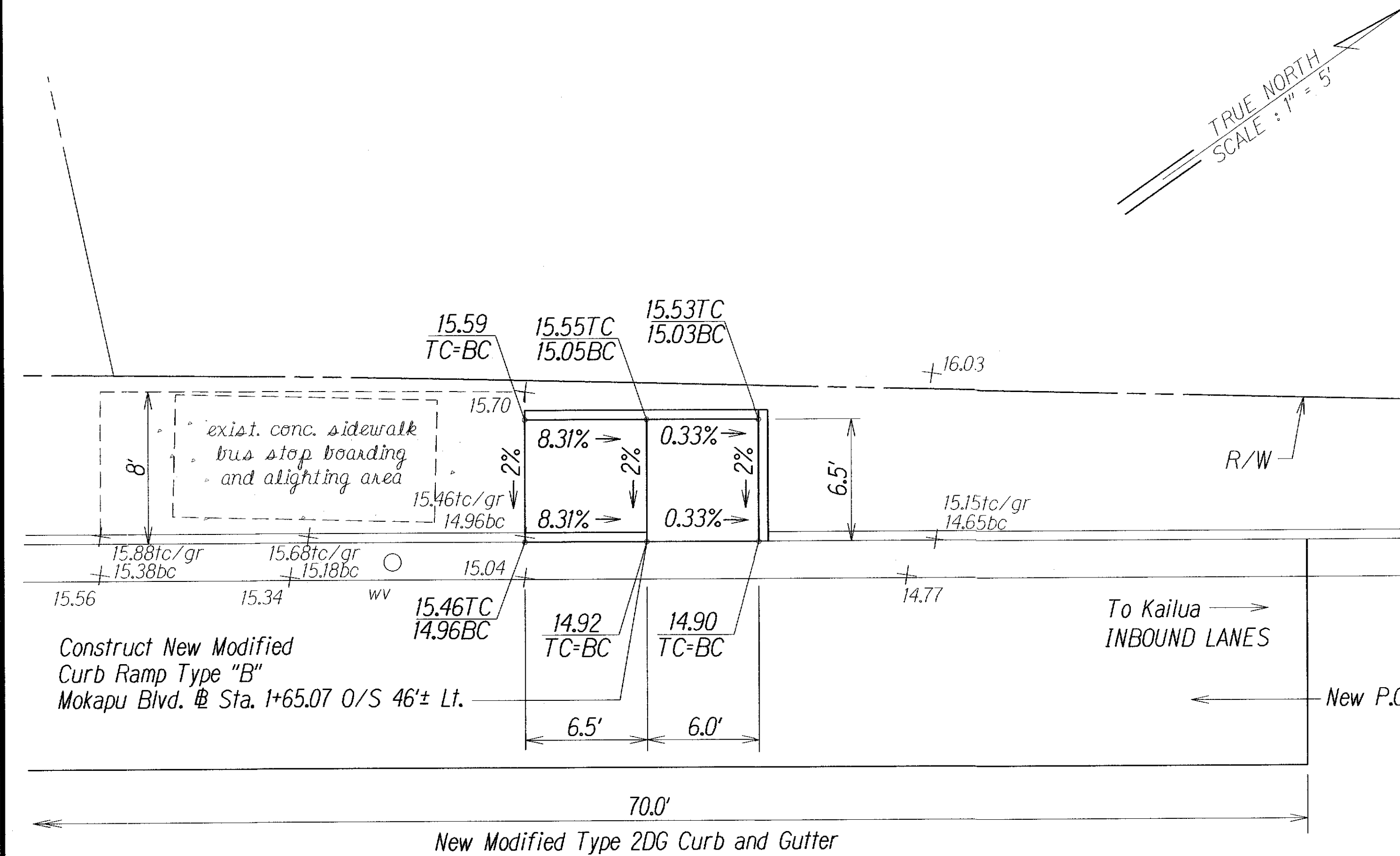
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP and SIDEWALK PLANS

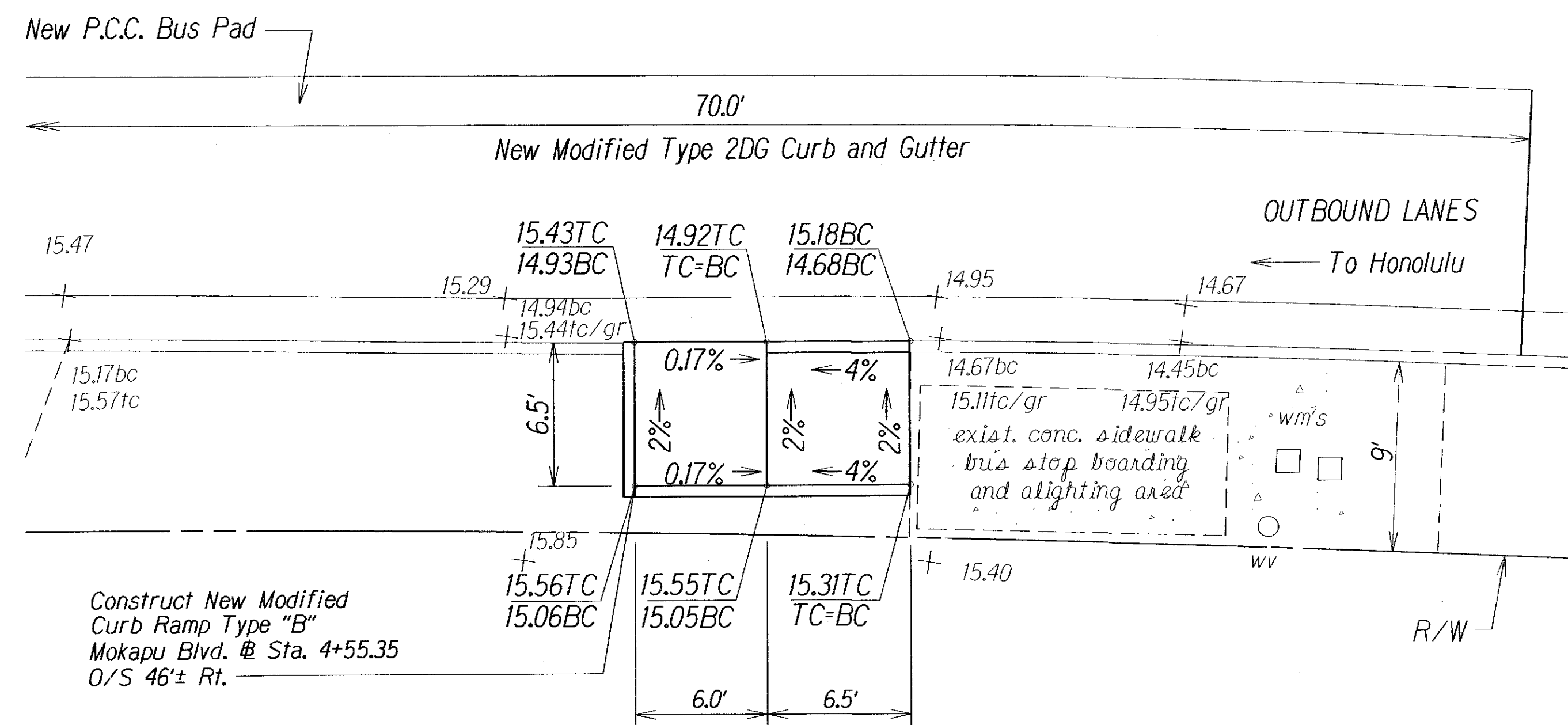
MOKAPU SADDLE ROAD and
MOKAPU BOULEVARD RESURFACING
Kapaa Quarry Road to North Kalaheo Avenue
M.P. 2.97 to M.P. 4.15
Federal Aid Project No. STP-065-1(010)
Scale: 1"=5' Date: April, 2011

SHEET No. 4 OF 5 SHEETS

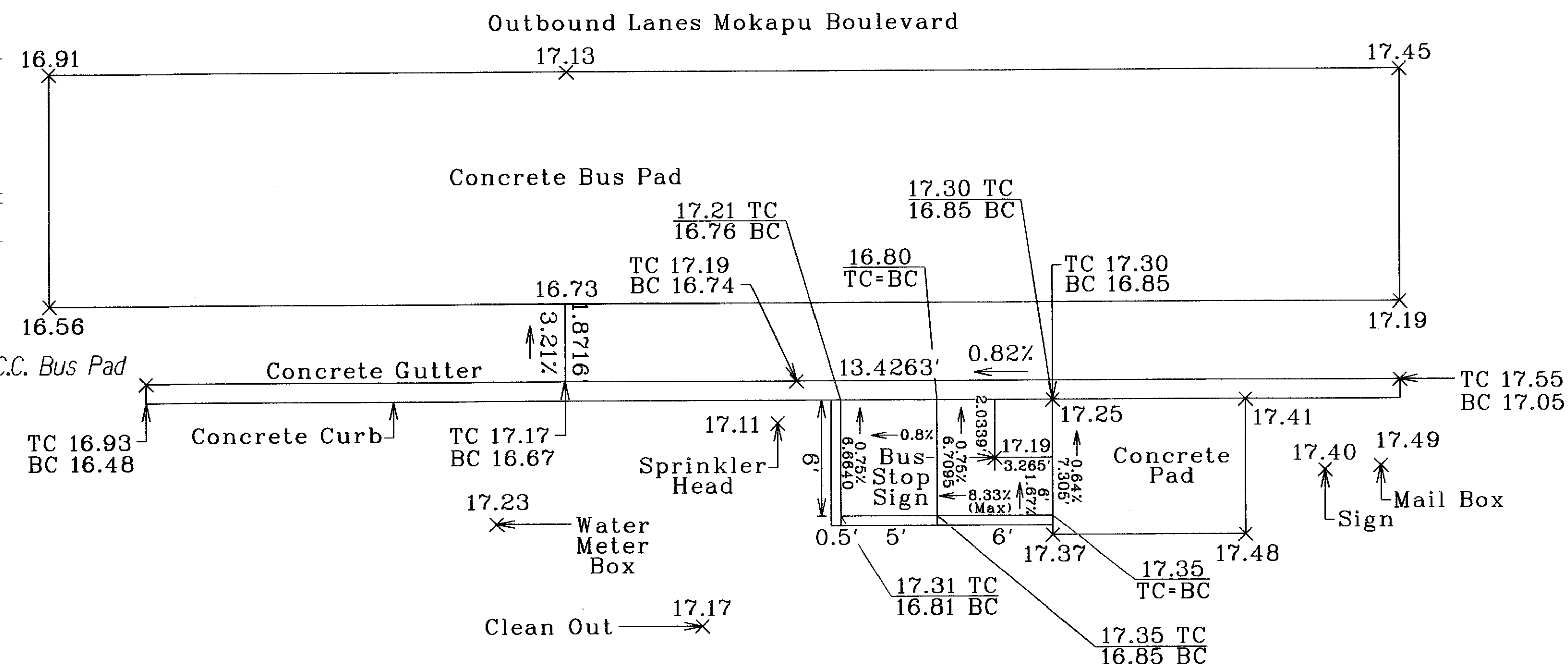
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(010)	2011	22	52



MODIFIED CURB RAMP TYPE "B"
 @ STA. 1+71.57± Lt. to @ STA. 1+59.07± Lt.



MODIFIED CURB RAMP TYPE "B"
 @ STA. 4+61.35± Rt. to @ STA. 4+48.85± Rt.



Curb Ramp at Bus Pad
Mokapu Boulevard Outbound Lanes
 @ Sta. 8+60 to @ Sta. 9+30± Rt.

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LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
CURB RAMP and SIDEWALK PLANS
MOKAPU SADDLE ROAD and MOKAPU BOULEVARD RESURFACING Kapaa Quarry Road to North Kalaheo Avenue M.P. 2.97 to M.P. 4.15 Federal Aid Project No. STP-065-1(010) Scale: 1"=5' Date: April, 2011
SHEET No. 5 OF 5 SHEETS