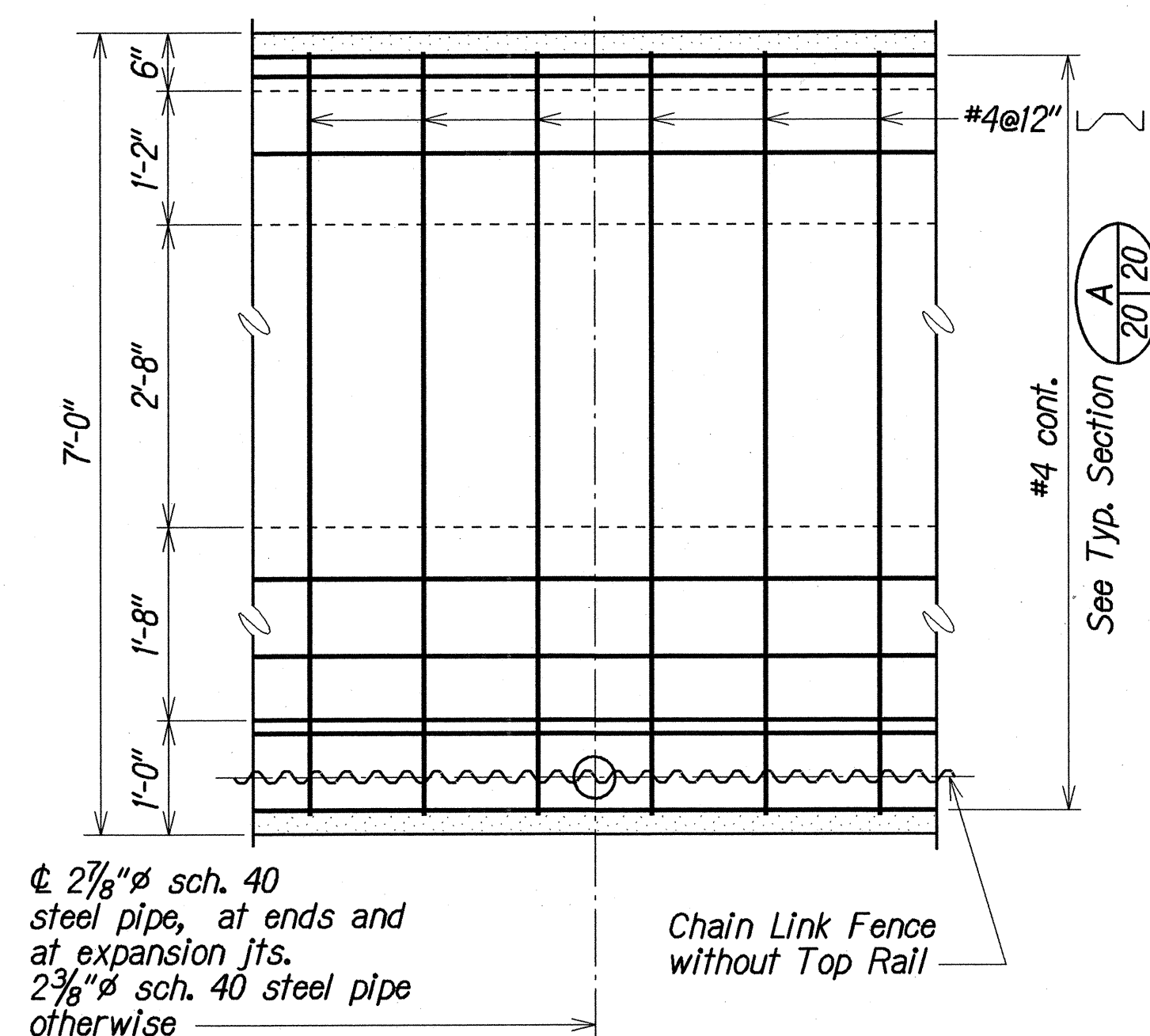
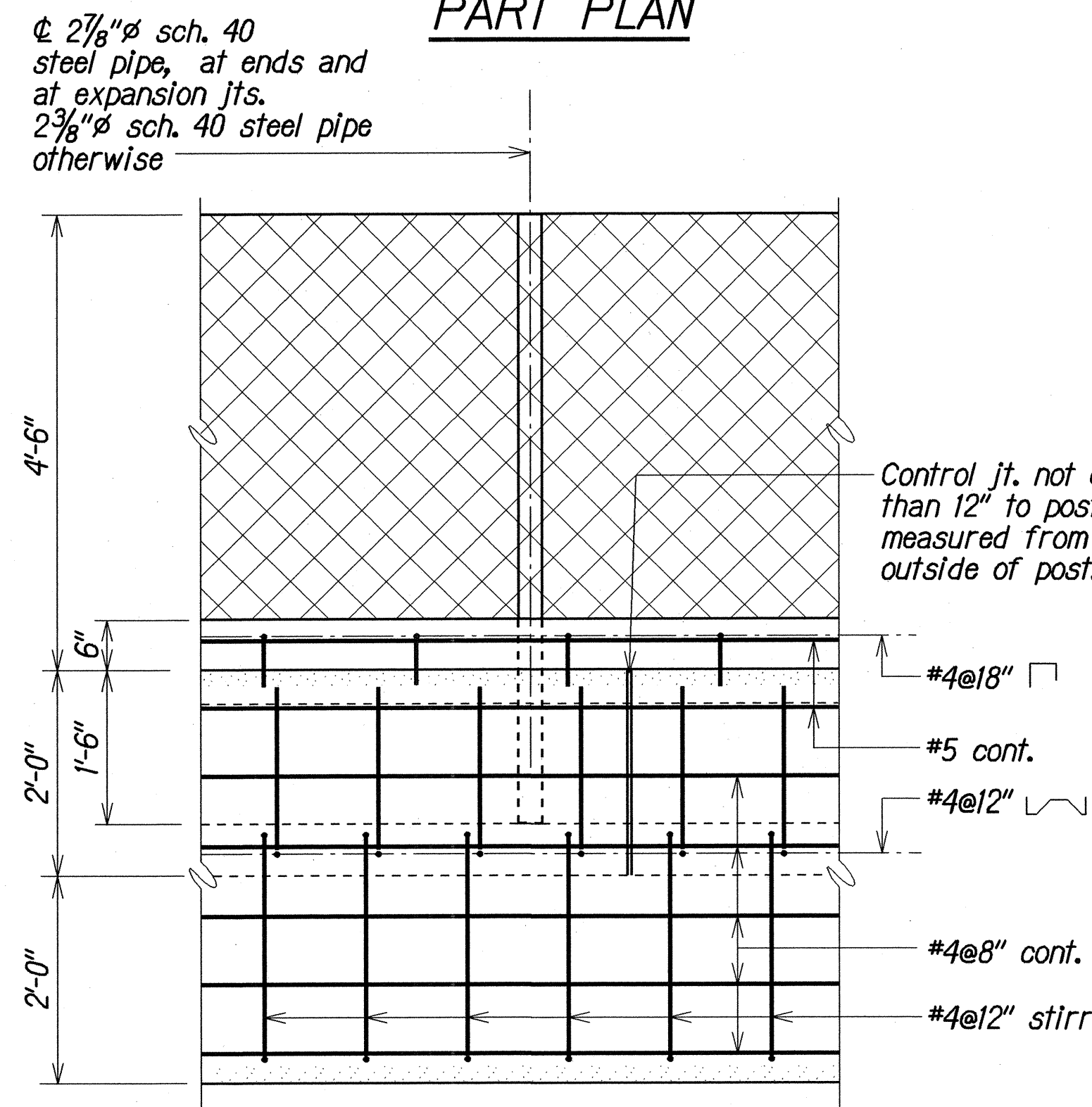


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(9)	2003	20	114



PART PLAN



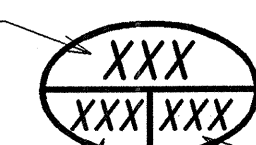
ELEVATION

MODIFIED REINFORCED CONCRETE SIDEWALK

Scale: 3/4"=1'-0"

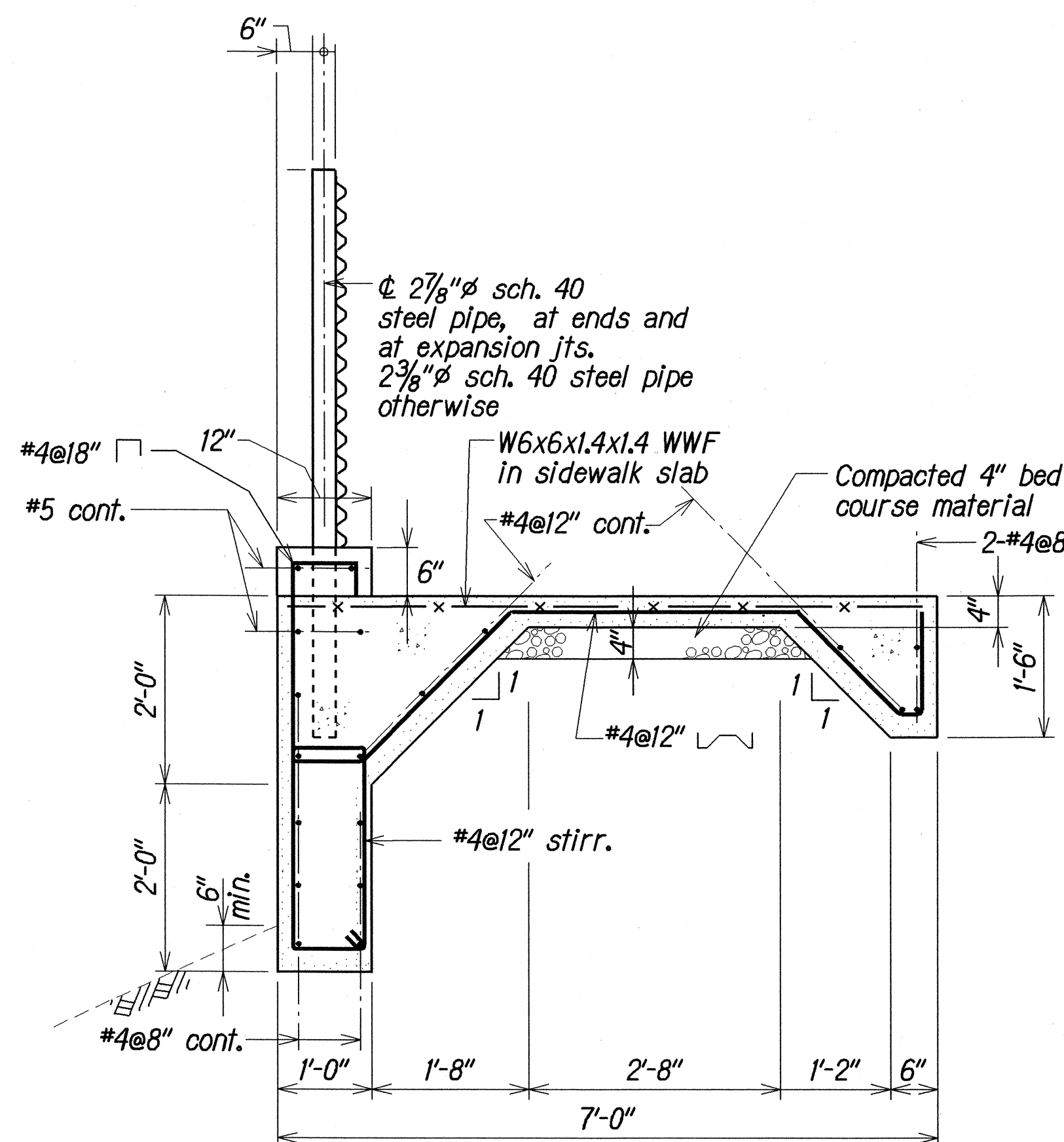
SYMBOLS

Detail or Section designation



Sheet Number Section is cut or Detail Section

Sheet Number Detail in drawn on



TYPICAL SECTION

GENERAL SIDEWALK NOTES

MATERIALS:

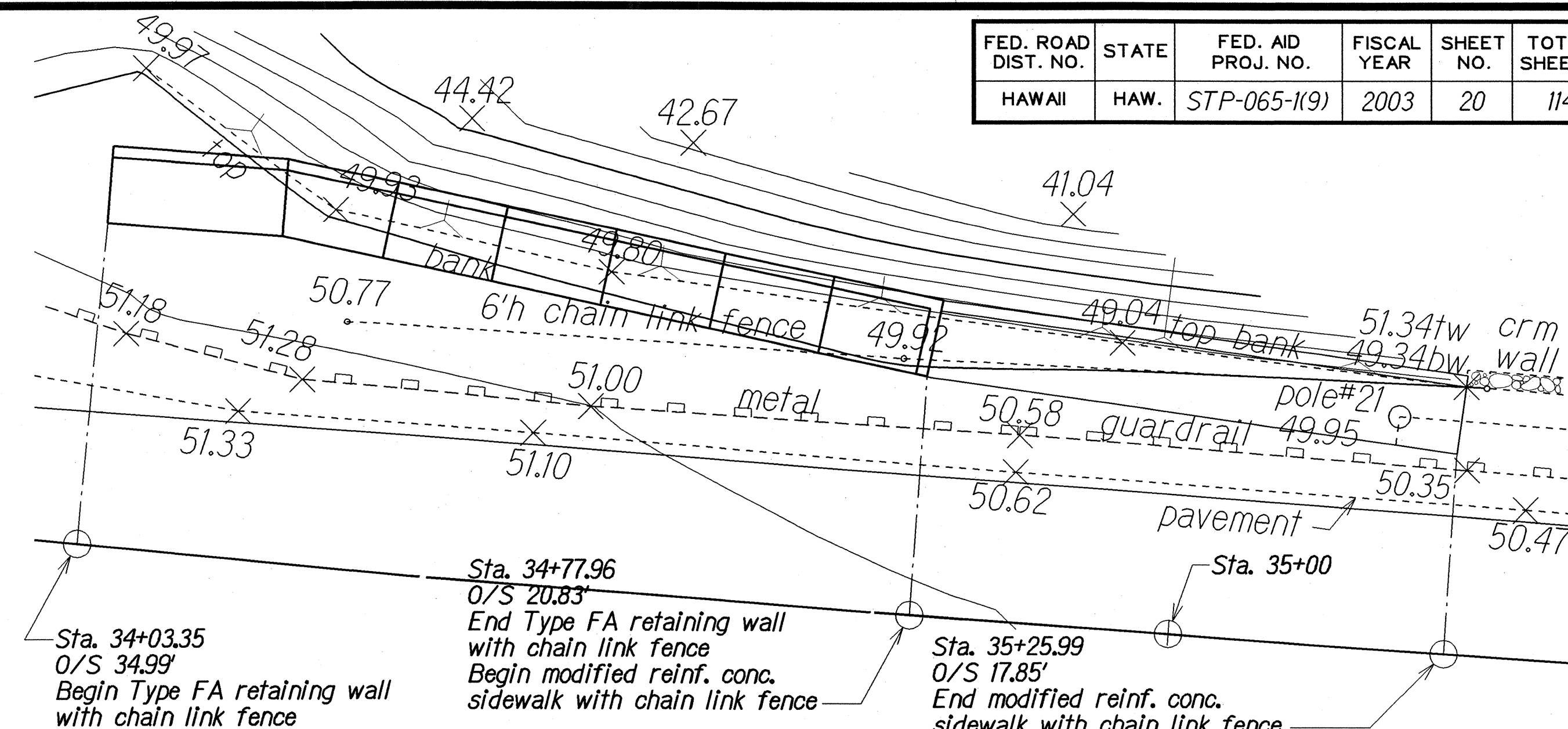
- Concrete: Class A
- Reinforcing Steel: ASTM A 615, Grade 60
- Welded Wire Fabric: ASTM 185
- All welded wire fabric shall be hot-dip galvanized, unless noted otherwise. All galvanizing shall conform to Hawaii Standard Specifications Section 501.03 (G).

CONSTRUCTION METHODS:

- Refer to Hawaii Standard Specifications for Road, Bridge and Public Works Construction, 1994 Edition and Special Provisions.
- Except as noted otherwise, all dimensions are measured plumb.
- For concrete finish, see Special Provisions.
- For steel reinforcing, all splices shall be staggered where possible. No splice will be allowed within 12" of steel posts, except as shown in plans.
- Steel reinforcing shall be supported, bent and placed as per the ACI Detailing Manual, 1994.
- For cast-in-place concrete, minimum reinforcement cover unless shown otherwise:
Concrete cast against earth: 3"
walls: 2"
- At the time concrete is placed, reinforcing shall be free from mud, oil, laitance or other coatings adversely affecting bond capacity.
- Reinforcement, dowels and other embedded items shall be positively secured before pouring.
- All footings shall bear on firm undisturbed natural soils or properly compacted embankment fill.
- No joints within 12" of posts measured from outside of post.

REFERENCE:

- Refer to Standard Plans for additional details and notes not covered by details and typical drawings.



PLAN - RETAINING FILL WALL "FA" (MAKAI)

Scale: 1"=10'-0"

GENERAL:

- All items noted incidental will not be paid for separately.
- The Contractor shall verify the locations of all existing utility lines and notify their respective owners before commencing with any work. Locations of utility shown are approximate.
- The Contractor shall verify all grades and dimensions in the field before commencing with any work.
- The Contractor shall be solely responsible for the protection of adjacent property, utilities and existing and new structures from damage due to construction. Repairing any damage shall be at the Contractor's own expense, to the satisfaction of the Engineer. He shall conduct his work in such a manner and provide such temporary shoring other measures as may be necessary to insure the safety of all concerned and to protect existing structures.
- Excavation for all footings and footing keys shall be accomplished by maintaining as near a vertical cut as possible.
- In the event of over-excavation, the space between the footing or footing key and ground shall be filled with a minimum of Class D concrete at the Contractor's expense and as directed by the Engineer.
- Premolded joint filler shall be incidental to Items 608J200, 608J300 and 608J400.
- Control and expansion joints in sidewalk will be considered incidental to Items 608J200, 608J300 and 608J400.
- Place 1/2" premolding joint filler between Type FA retaining wall and modified reinf. conc. sidewalk.

SIDEWALK NOTES:

- 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.
- No sign posts, signs, utility posts, fire hydrants, traffic signal standards, light poles shall be installed within 24" from the face of the curb.
- 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' width by 5' long as feasible.
- For new construction, the minimum sidewalk width shall be 6'-0" (excluding curb). The cross slope shall not exceed 2%.
- If possible, install utility poles, fire hydrants, light posts, sign posts, pullboxes, etc. off of sidewalk but within the right-of-way.
- 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.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

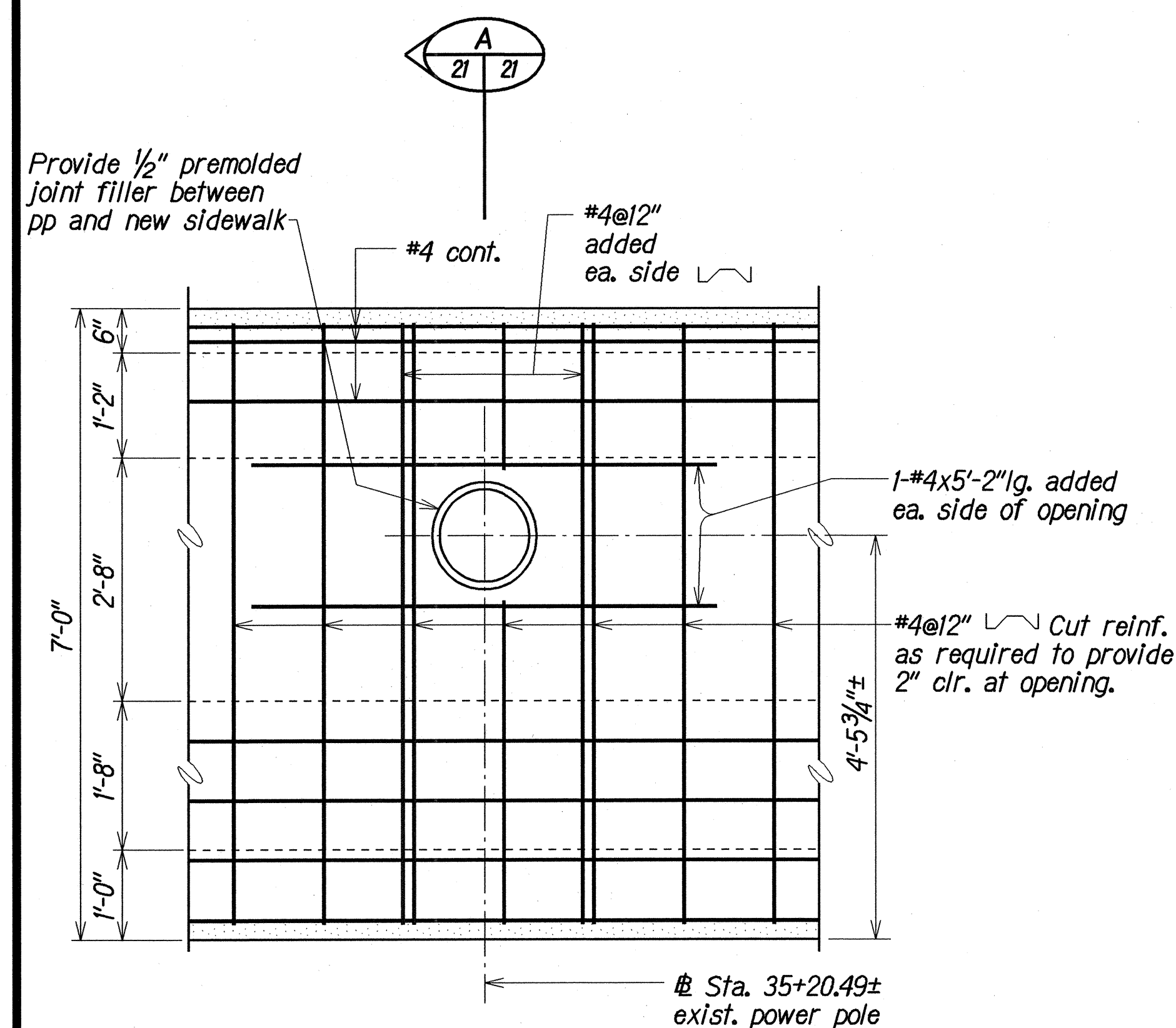
MISCELLANEOUS DETAILS - 1
KANE OHE BAY DRIVE IMPROVEMENTS
Vicinity of Puohala Street to Kawa Bridge
Fed. Aid Proj. No. STP-065-1(9)

Scale: As Noted

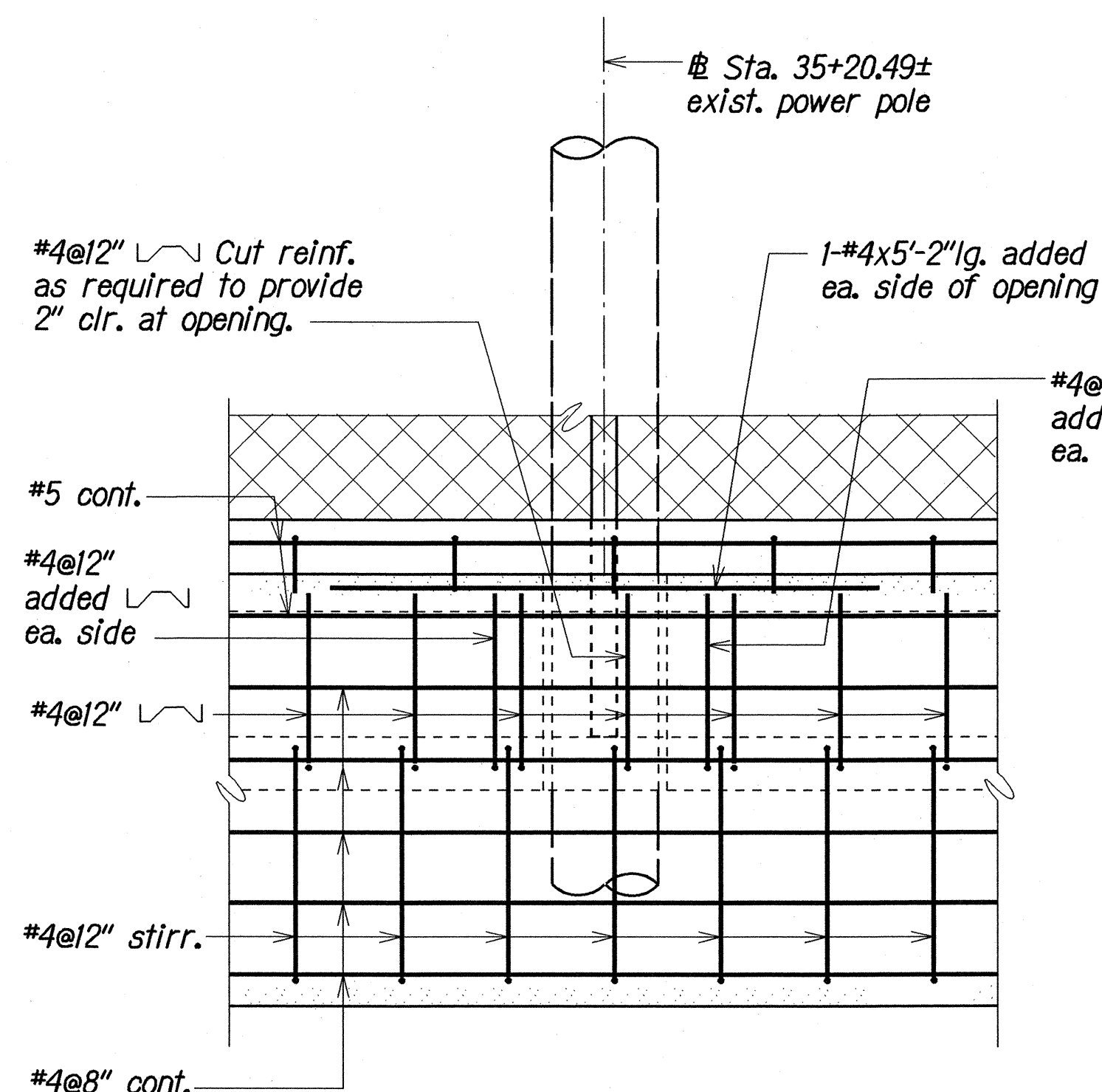
Date: June, 2001

SHEET No. 1 OF 2 SHEETS

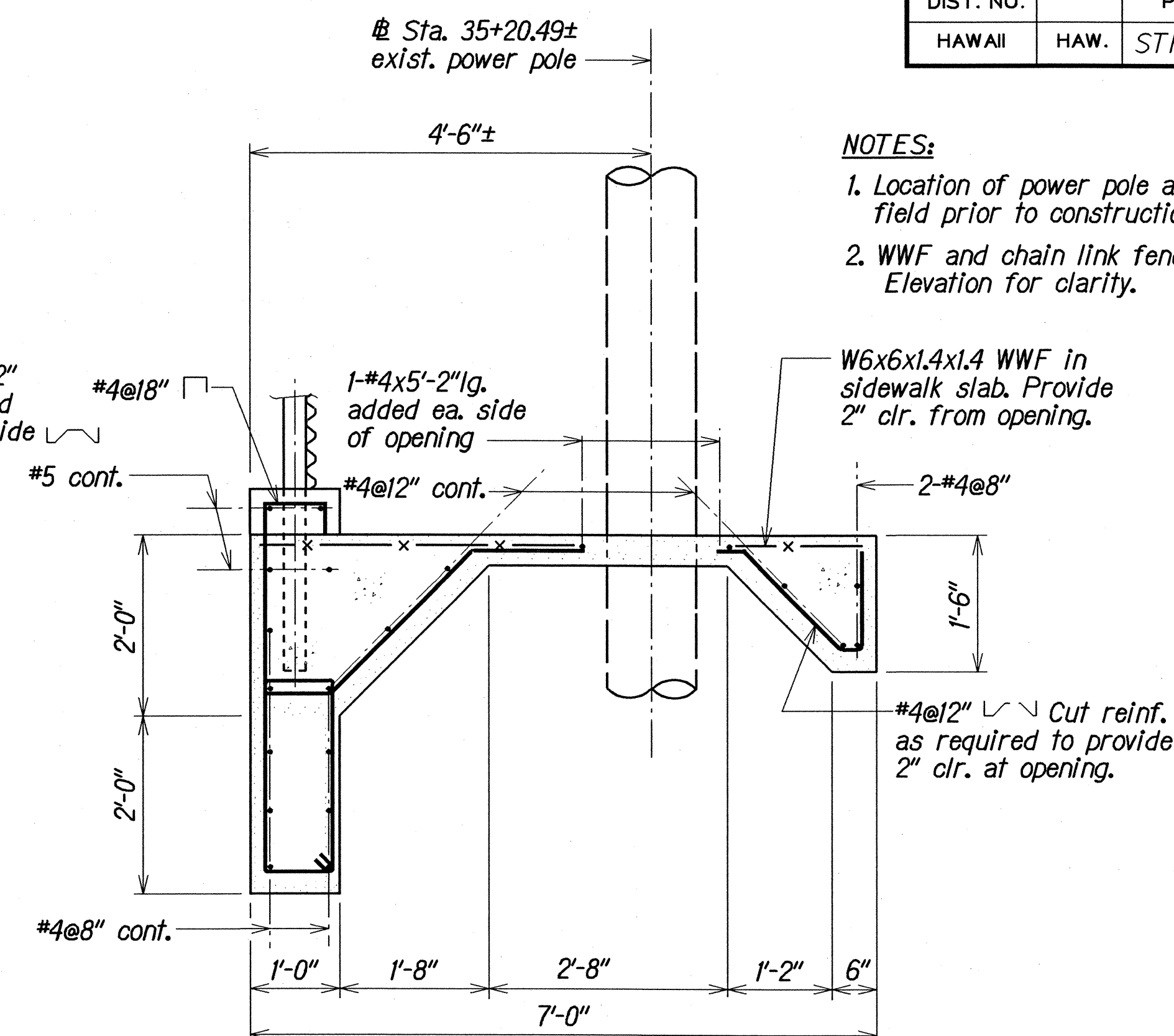
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(9)	2003	21	114



PLAN



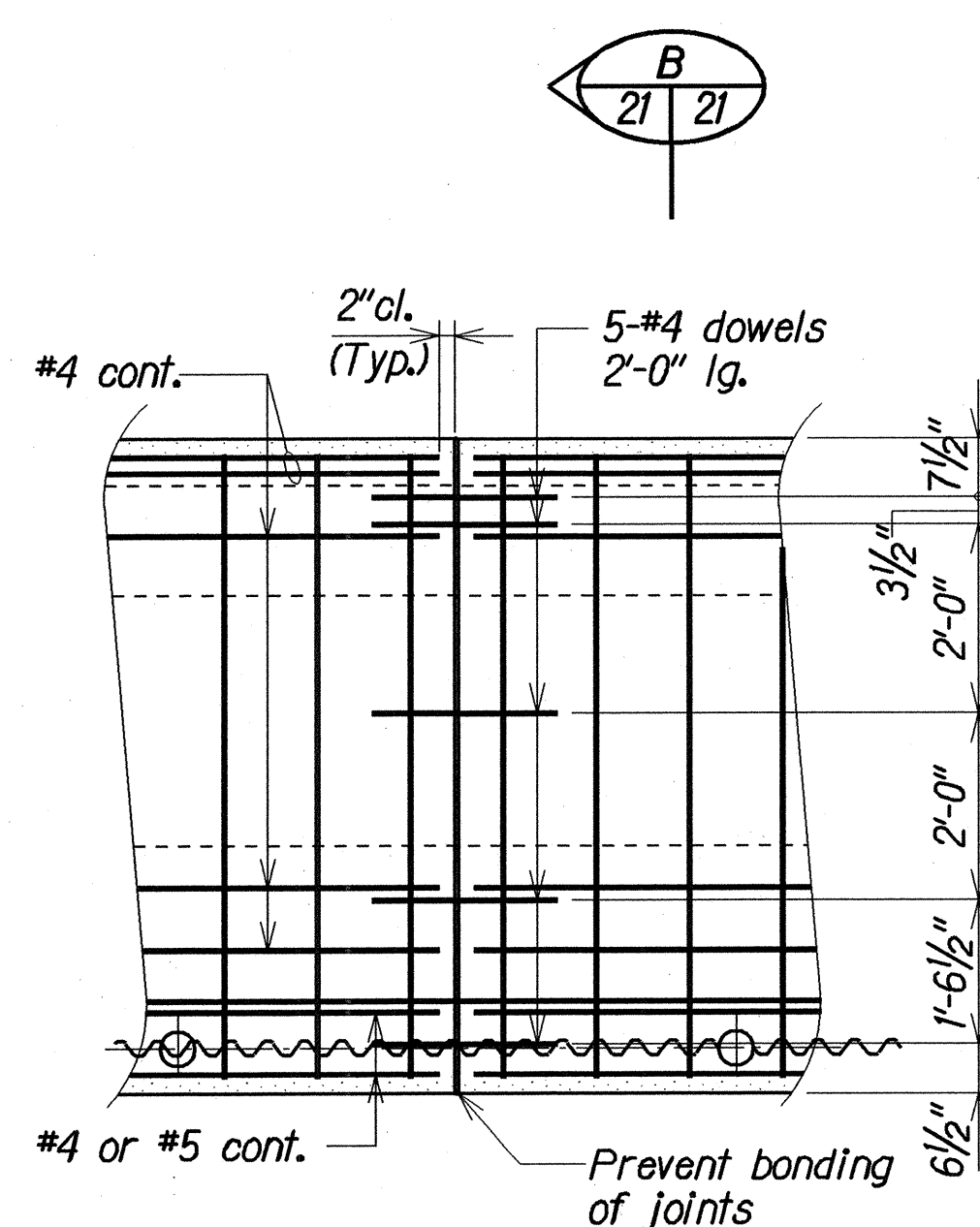
ELEVATION



SECTION A

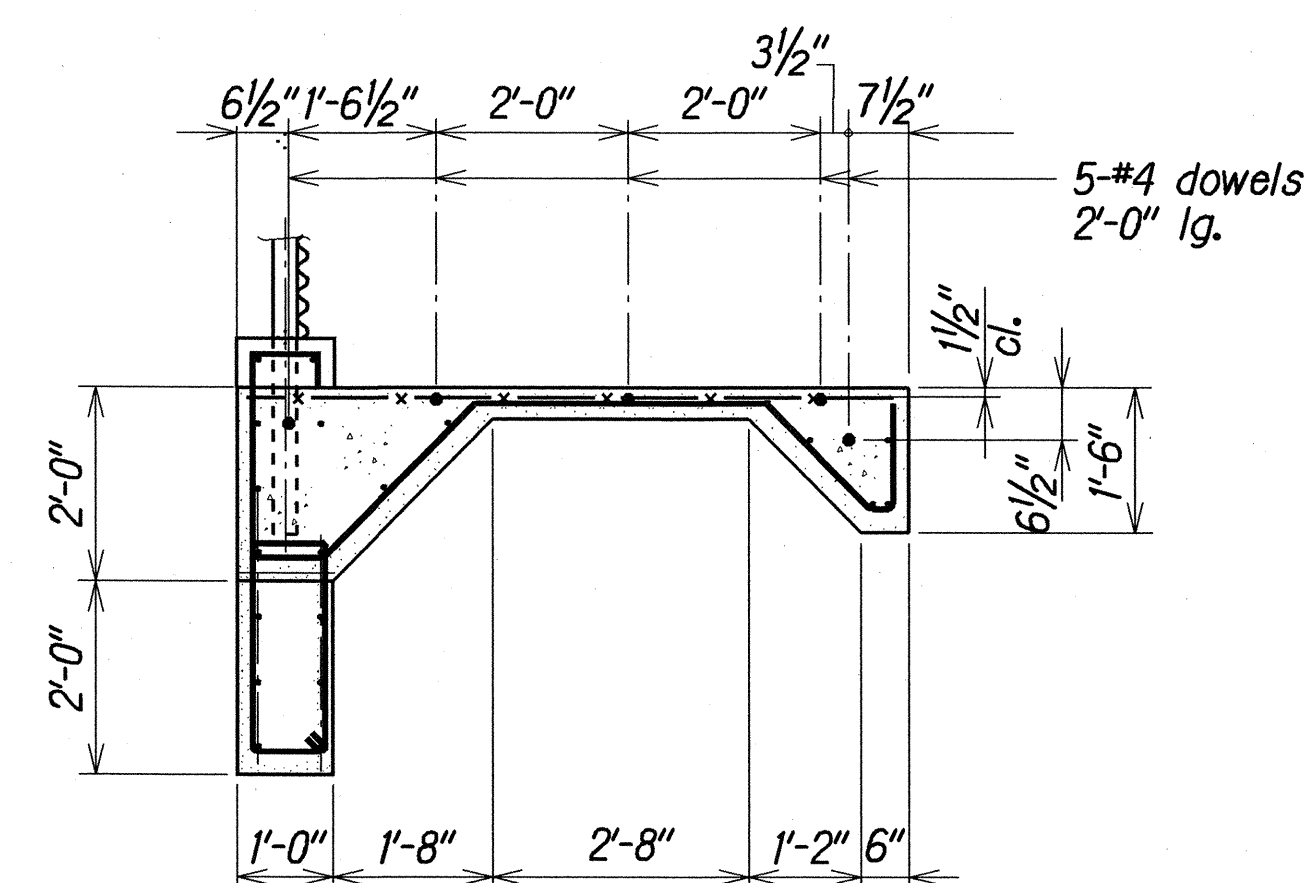
SPECIAL MODIFIED REINF. CONC. SIDEWALK DETAILS AT STA. 35+20.49±

Scale: 3/4"=1'-0"



AT CONTROL JOINT

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



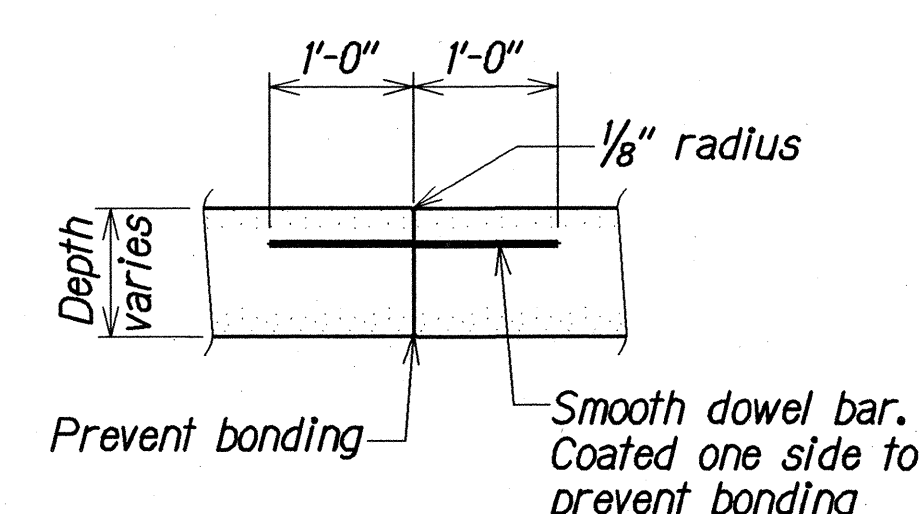
SECTION B
(AT CONTROL JOINT)

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

TYPICAL JOINT DETAILS AT MODIFIED REINF. CONC. SIDEWALK

NOTES:

1. Control joints - maximum spacing of 12'-0"oc.



ELEVATION

(AT CONTROL JOINT)

Not to Scale

NOTES:

1. Location of power pole approximate. Verify location in field prior to construction.
2. WWF and chain link fence not shown on Plan and Elevation for clarity.

W6x6x1.4x1.4 WWF in sidewalk slab. Provide 2" clr. from opening.

#4@12" Cut reinf. as required to provide 2" clr. at opening.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS - 2

KANE OHE BAY DRIVE IMPROVEMENTS
Vicinity of Puohala Street to Kawa Bridge
Fed. Aid Proj. No. STP-065-1(9)

Scale: As Noted

Date: June, 2001

SHEET No. 2 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(9)	2003	22	114

CURB RAMP NOTES:

1. A 2% maximum cross slope shall be maintained in the direction of pedestrian traffic.
2. Curb ramps shall be installed at 90° to the sidewalk or to the maximum extent feasible, in alterations.
3. At intersections for new construction, curb ramps for each crosswalk are preferred and shall be in line and into the crosswalk. However, for existing sites, a single curb ramp (diagonal curb ramp) serving two crosswalks can be approved if the design detail is acceptable by the State.
4. 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.
5. All pullboxes shall be installed away from the curb ramp and within the sidewalk/unpaved area to the maximum extent feasible.
6. 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.
7. Transitions from ramps to gutters and roadways shall be flush. If needed, a lip with a maximum vertical change in level of 1/4" is allowed.
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. 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.
10. Unless otherwise noted, new gutters are required as shown.
11. All curb ramps shall be reinforced with 6x6 W1.4/W1.4 welded wire fabric.
12. Surface of sidewalks and curb ramps shall be firm, stable, and slip-resistant. This includes the surfaces of pullboxes, valve covers, manhole covers, etc.
13. Bed course material is required for curb ramps, sidewalks, and gutters.
14. Additional information is available from:
 - a) American with Disabilities Act Accessibility Guidelines (ADAAG), September 1998, The Access Board.
 - b) Accessible Rights-of-Way: A Design Guide, November 1999, The Access Board.
 - c) Designing Sidewalks and Trails for Access, July 1999, FHWA.
15. 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 P.C.C. shall be based on 1/4 inch per 10 feet (±0.2%). Remedial measures will not be accepted.
16. Curb ramps and sidewalks shall be designed and constructed to eliminate ponding to the maximum extent feasible.

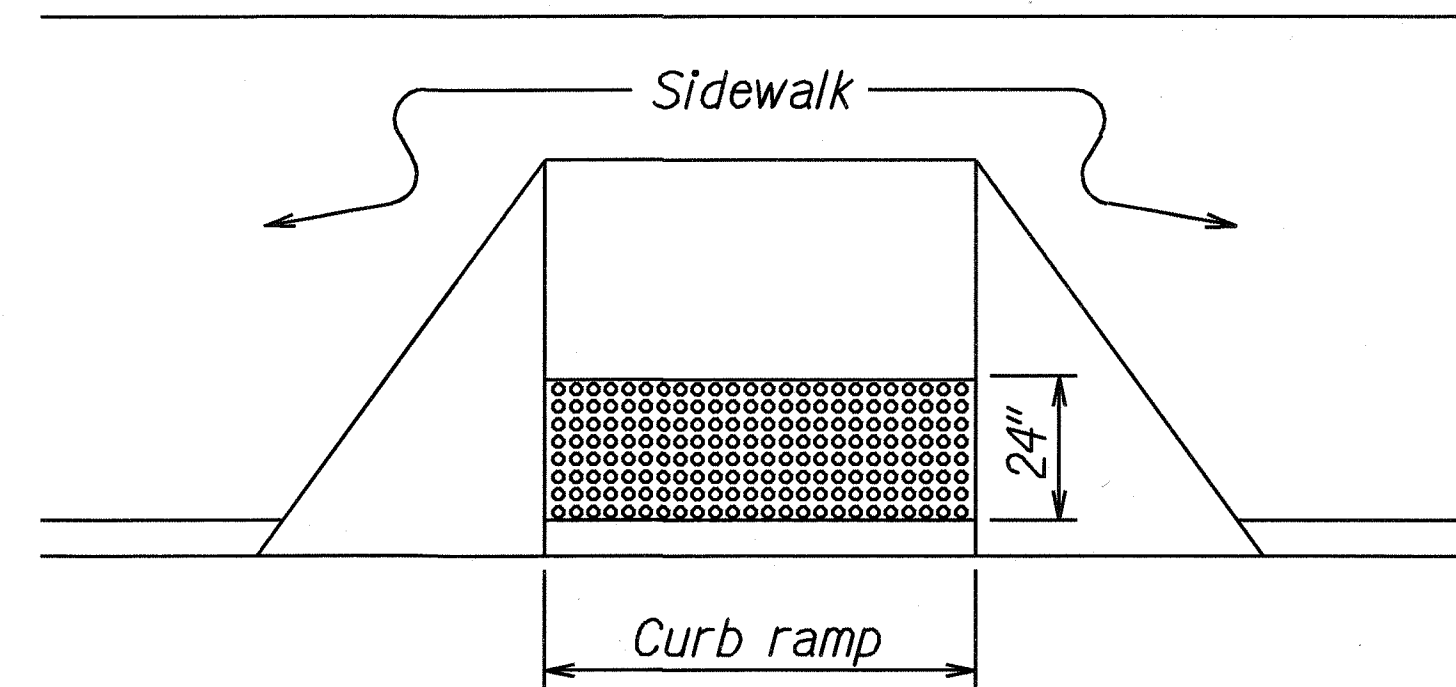
SIDEWALK NOTES:

1. 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.
2. Narrow sidewalks (3'-0" min. width, excluding curb) may prohibit the installation of any sign posts, utility poles, fire hydrants, traffic signal standards, light poles, etc. in the sidewalk.
3. 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.
4. For new construction, the minimum sidewalk width shall be 5'-0" (excluding curb). The cross slope shall not exceed 2%.
5. If possible, install utility poles, fire hydrants, light poles, sign posts, pullboxes, etc. off of sidewalk but within the right-of-way.
6. 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.

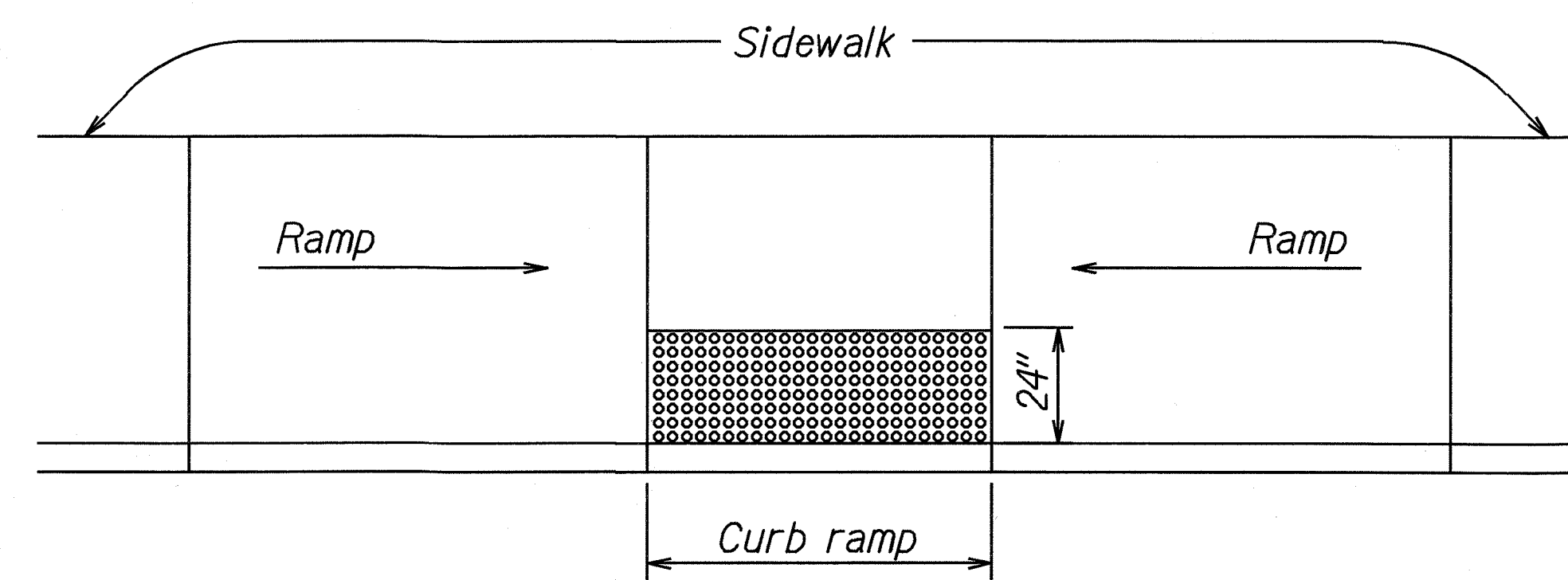
DESIGNED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
<u>CURB RAMP AND SIDEWALK NOTES</u>
<u>KANEOHE BAY DRIVE IMPROVEMENTS</u>
<u>Vicinity of Puohala Street to Kawa Bridge</u>
<u>Federal Aid Project No. STP-065-1(9)</u>
Date: June, 2002
SHEET No. 1 OF 3 SHEETS

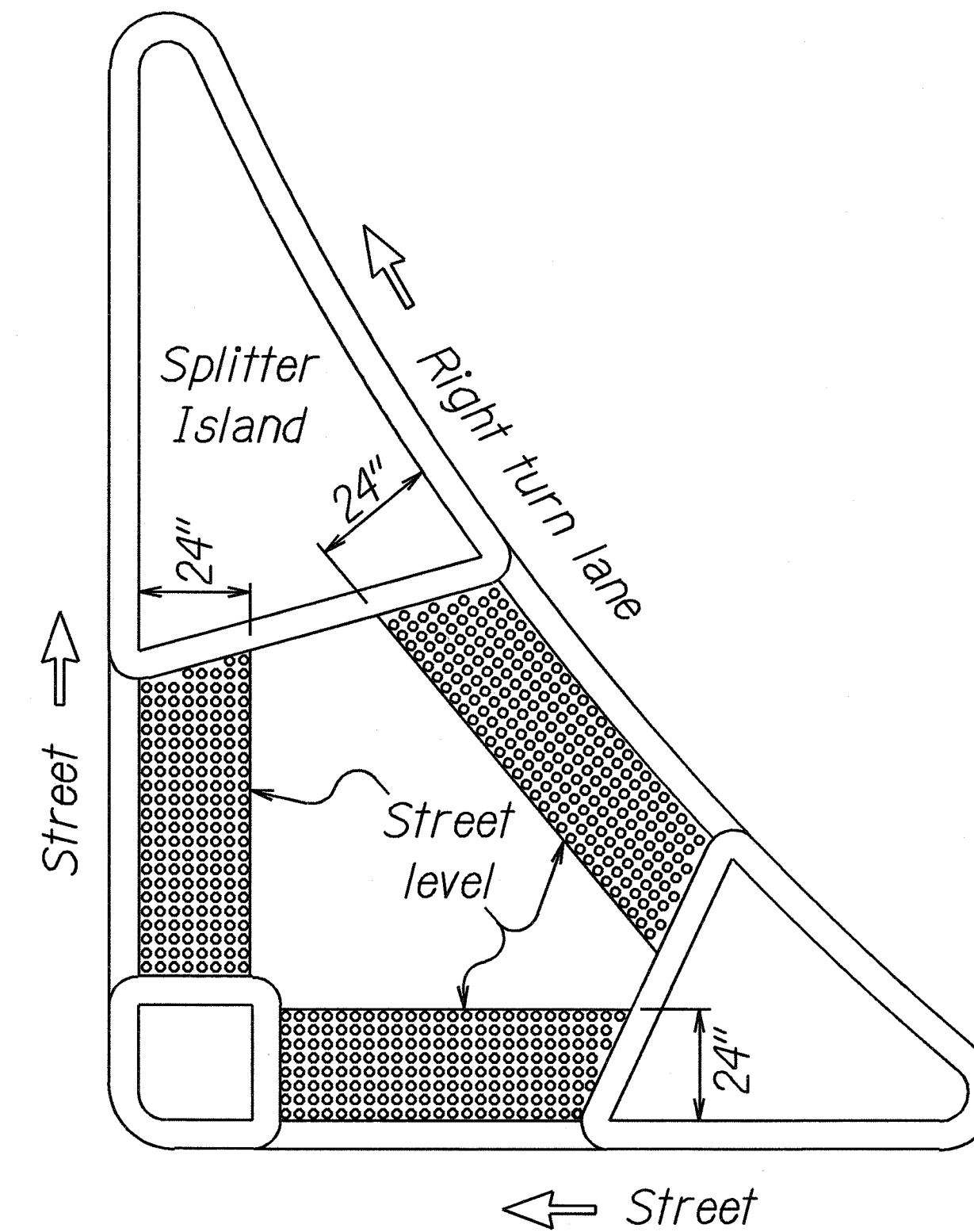
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(9)	2003	22 S-1	114



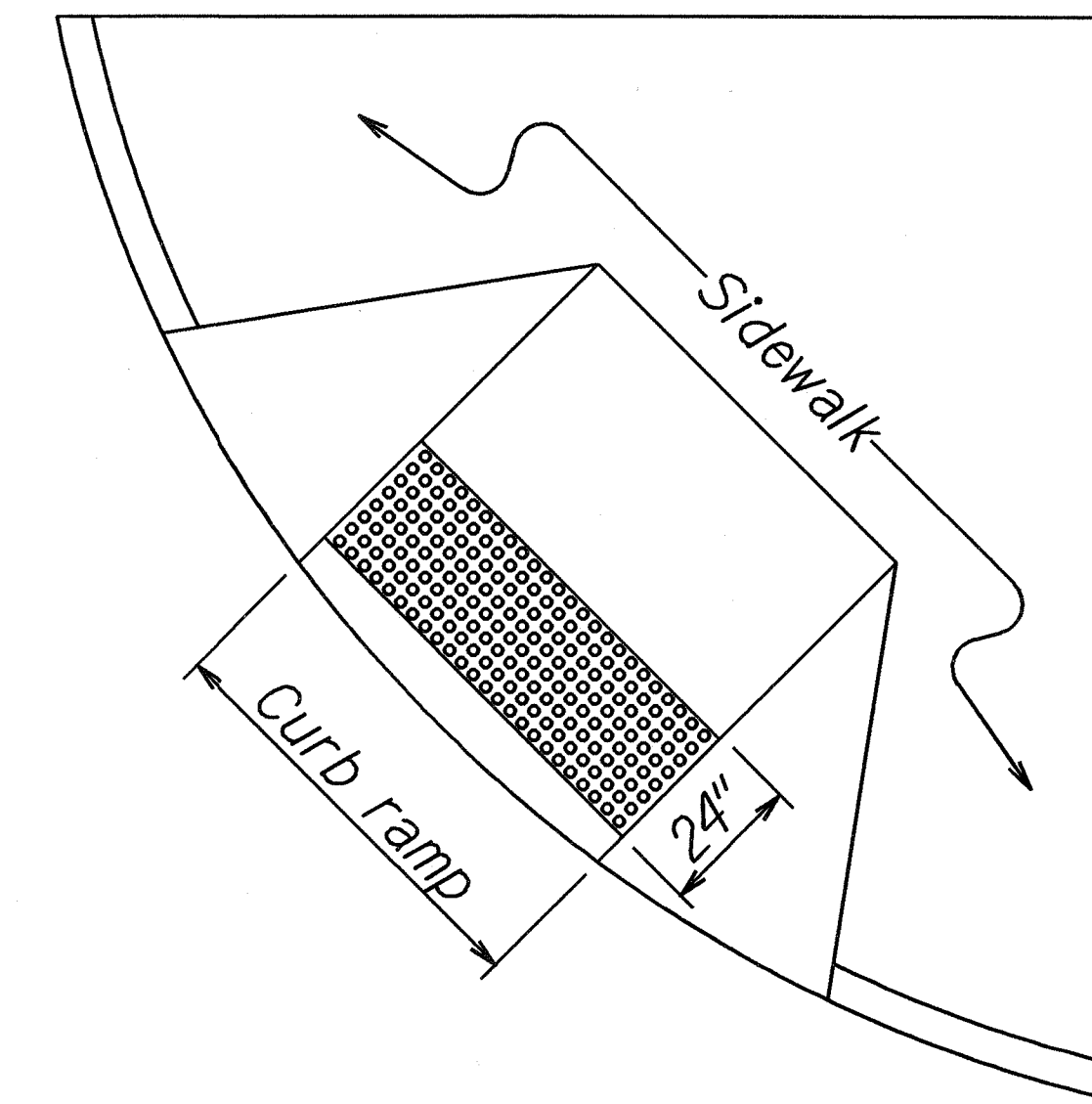
DETECTABLE WARNING AT CURB RAMP



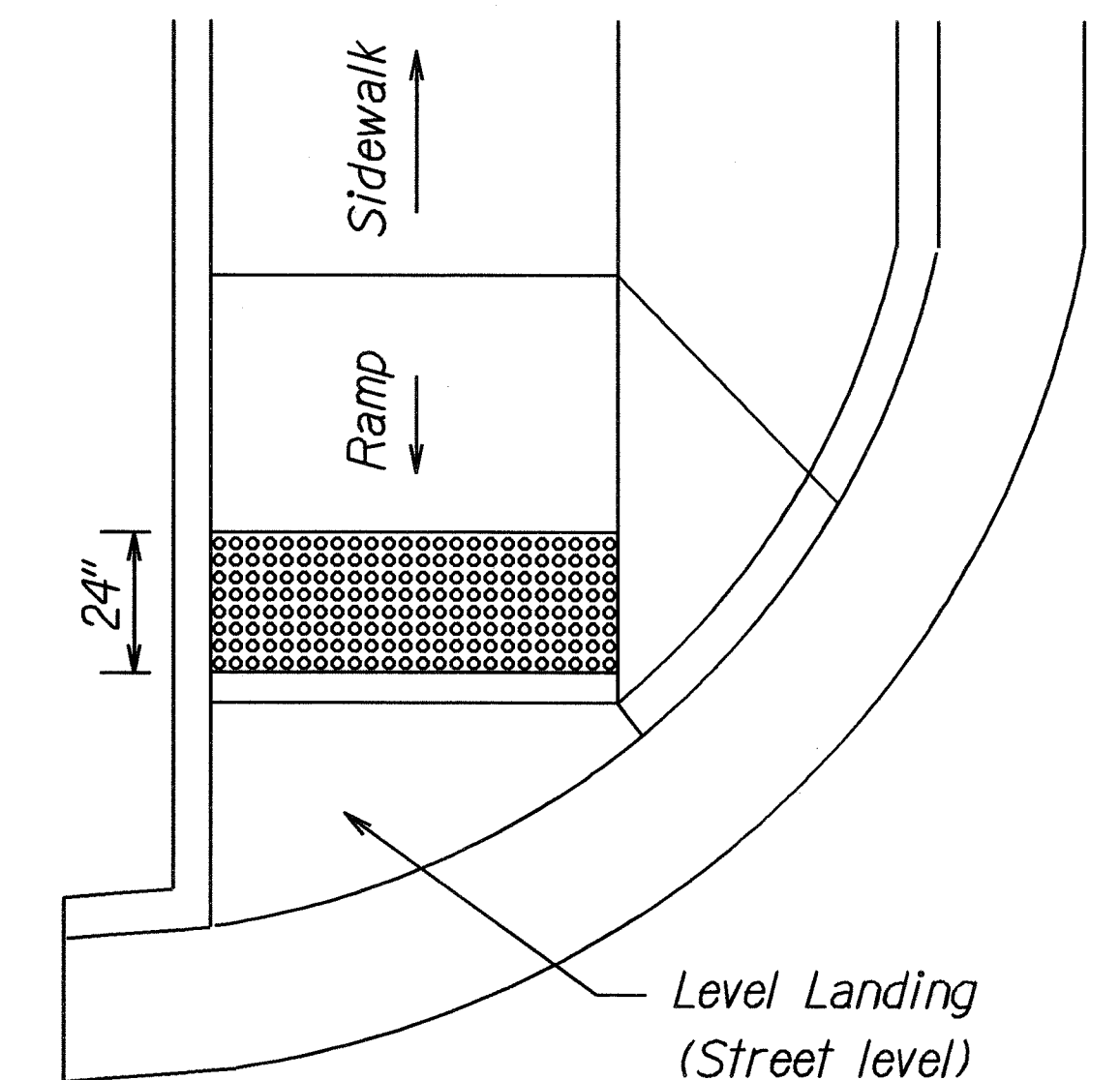
TRANSITION RAMP WITH DETECTABLE WARNING



REFUGE ISLAND WITH DETECTABLE WARNING



SHARED CURB RAMP WITH DETECTABLE WARNING



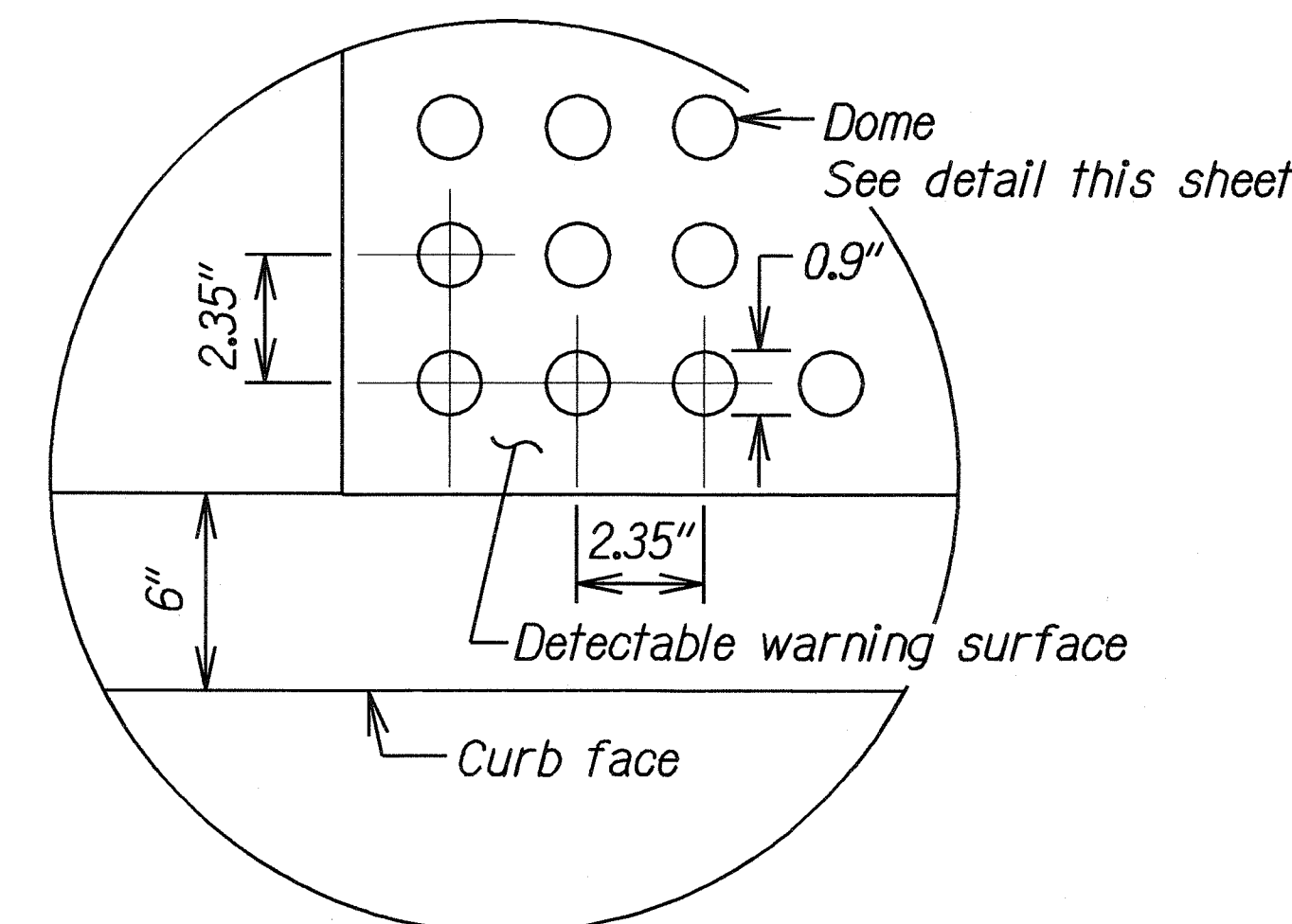
END OF SIDEWALK CURB RAMP WITH DETECTABLE WARNING

TYPICAL INSTALLATION OF DETECTABLE WARNINGS

Not to Scale

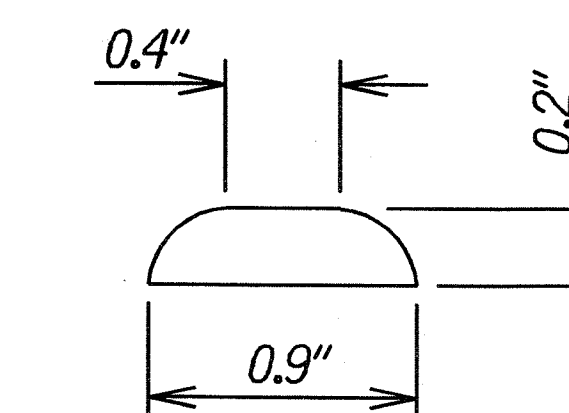
NOTES:

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 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. 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

Note: This tracing prepared during "As-Built" posting.



DOME SECTION

DETECTABLE WARNING DETAIL

Not to Scale

ORIGINAL PLAN	DATE
SURVEY PREPARED BY	7/13/03
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

7/13/03 asbuilt-4kander01s1

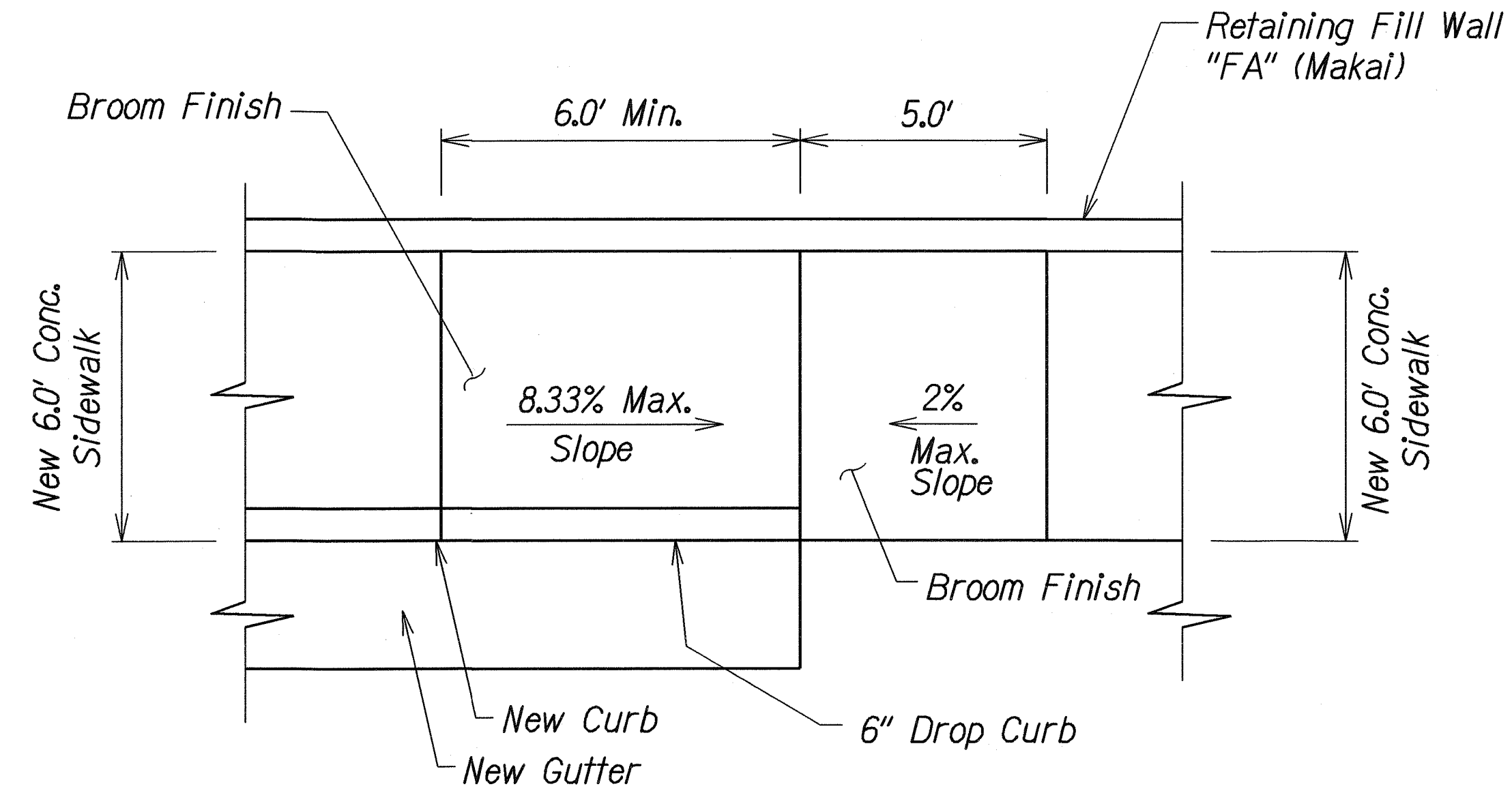
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
DETECTABLE WARNING DETAILS
KANEIOHE BAY DRIVE IMPROVEMENTS Vicinity of Puuhala Street to Kawa Bridge Federal Aid Project No. STP-065-1(9)
Scale: 1" = 20' Date: May, 2007

SHEET No. 1 OF 1 SHEETS

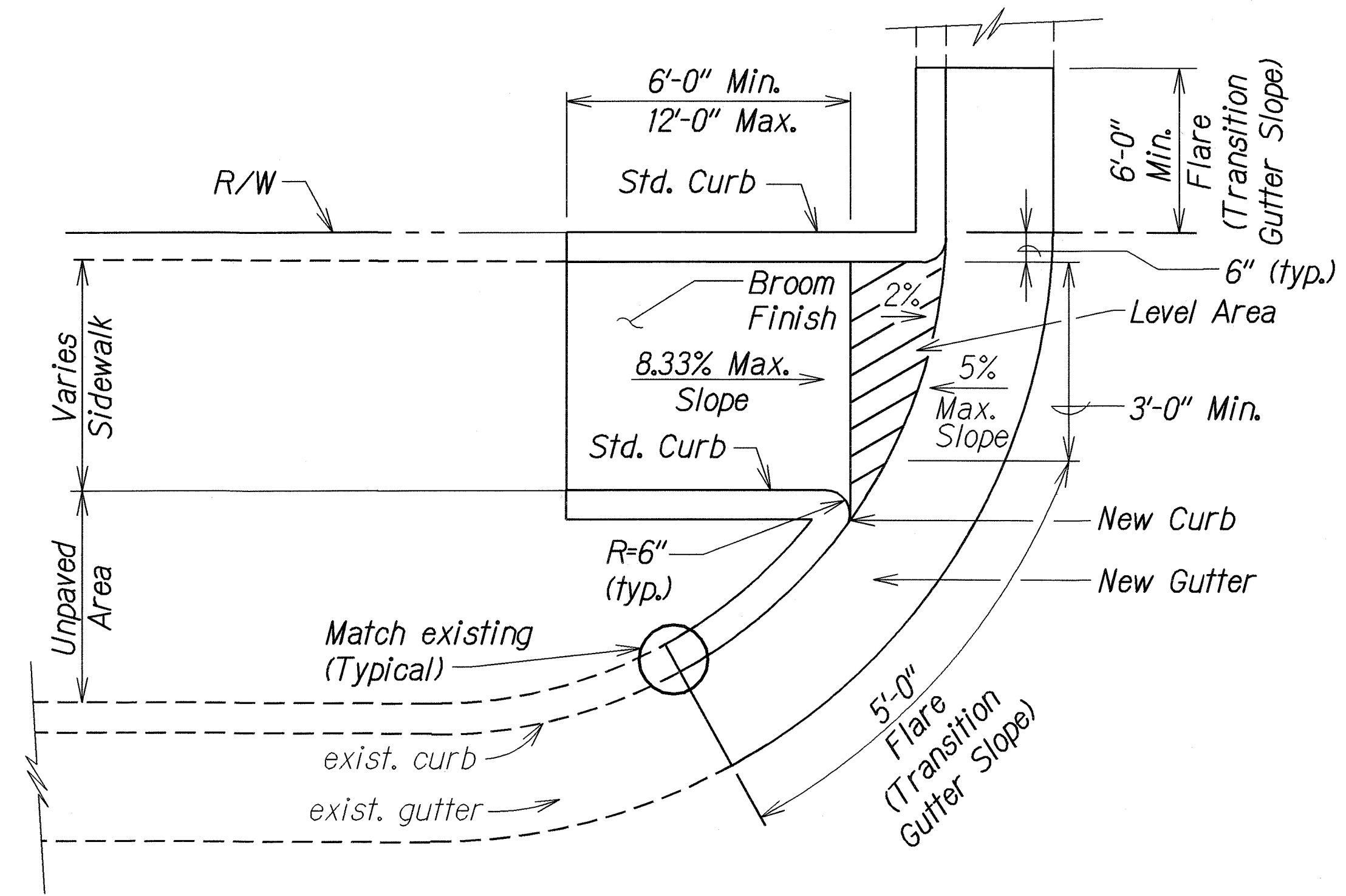
"AS-BUILT"

22 S-1

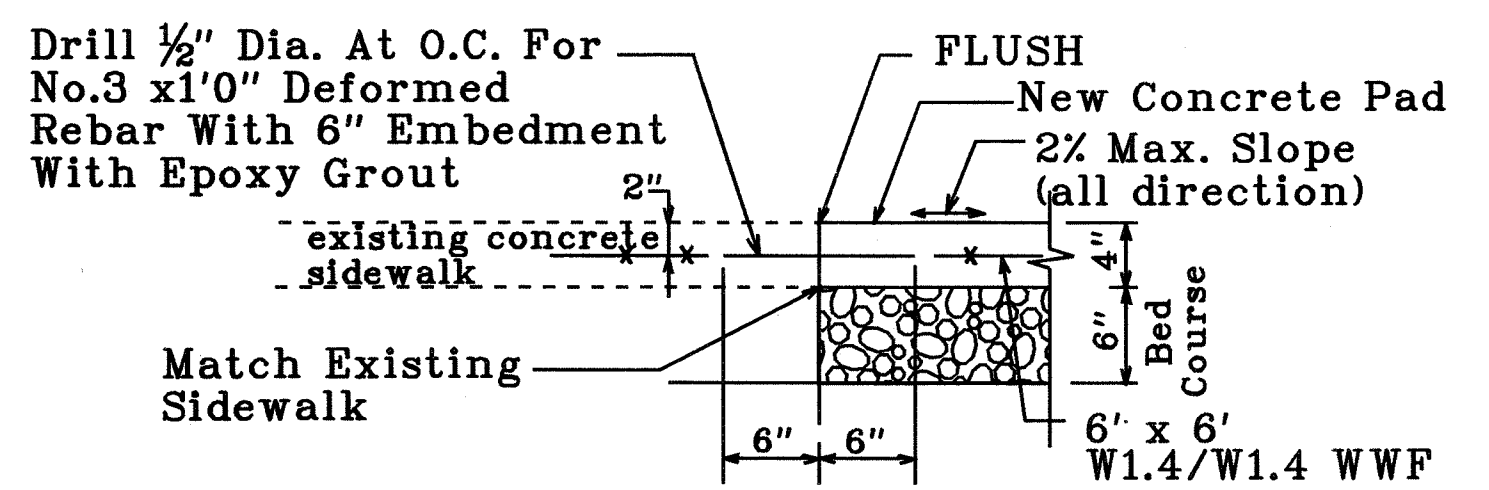
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(9)	2003	23	114



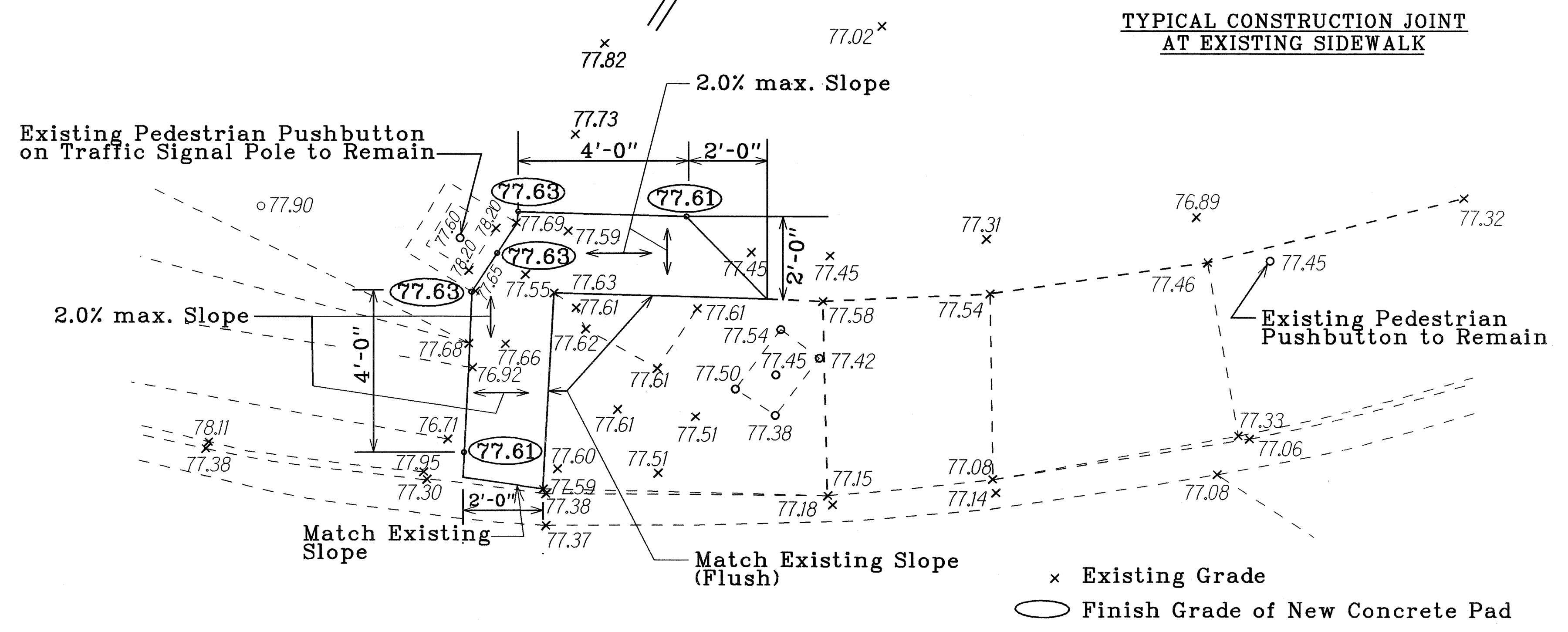
CURB RAMP - TYPE "D-1"



CURB RAMP - TYPE "D"



TYPICAL CONSTRUCTION JOINT AT EXISTING SIDEWALK



- Notes :
1. The new 4" thick reinforced concrete pad shall be level(less than 2.0% slope in all directions), for the first 4-feet radially from the pedestrian pushbutton.
 2. Concrete shall be Class B.
 3. Surface of pad shall be broom finished.
 4. Pad shall be flush with the existing sidewalk and top of curb.

NEW CONCRETE PAD AT STA. 22+30 (LT.) (See Sht. 28)
Scale : 1 in. = 2 ft.

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

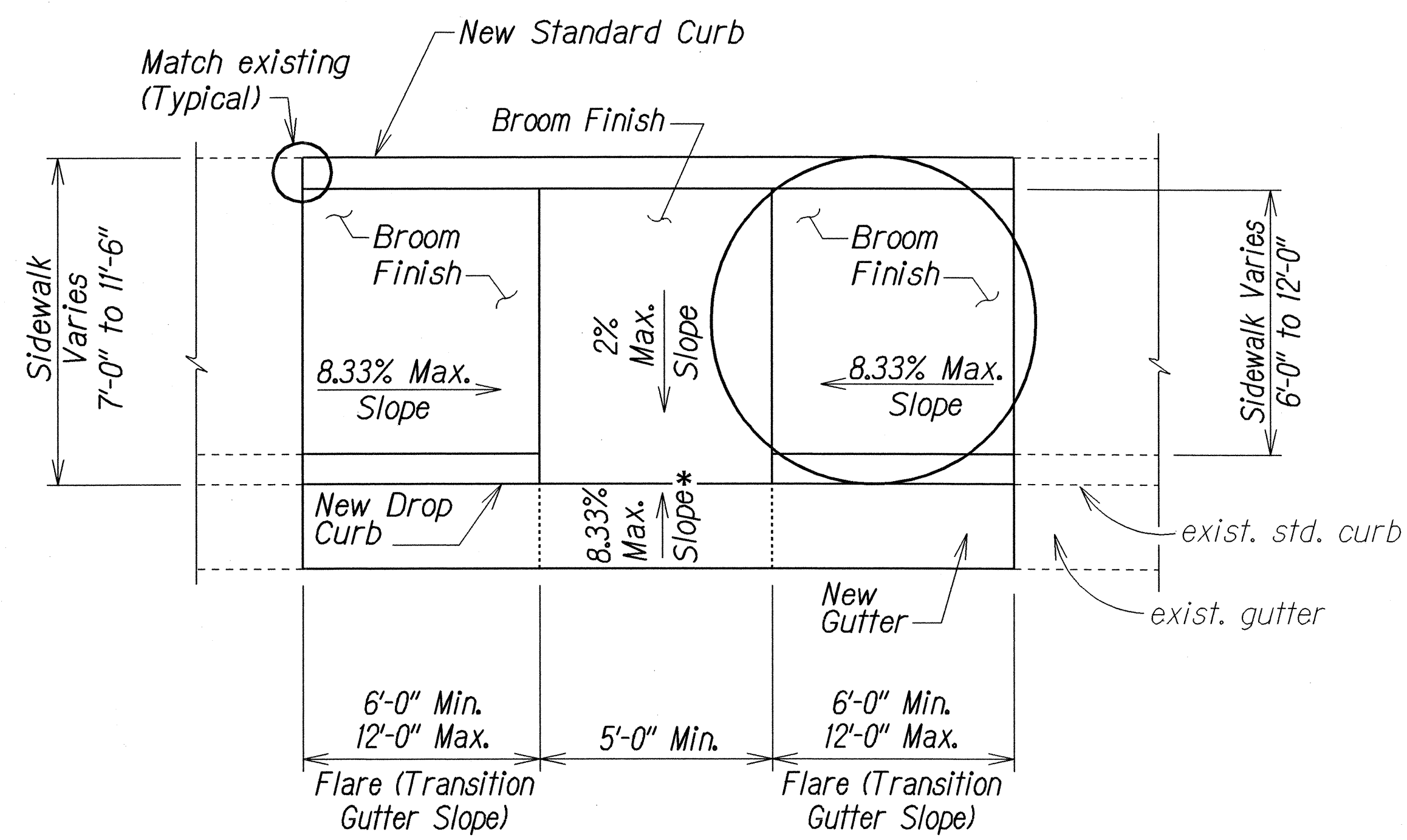
CURB RAMP DETAILS

KANE OHE BAY DRIVE IMPROVEMENTS
Vicinity of Puohala Street to Kawa Bridge
Federal Aid Project No. 065A-1(9)

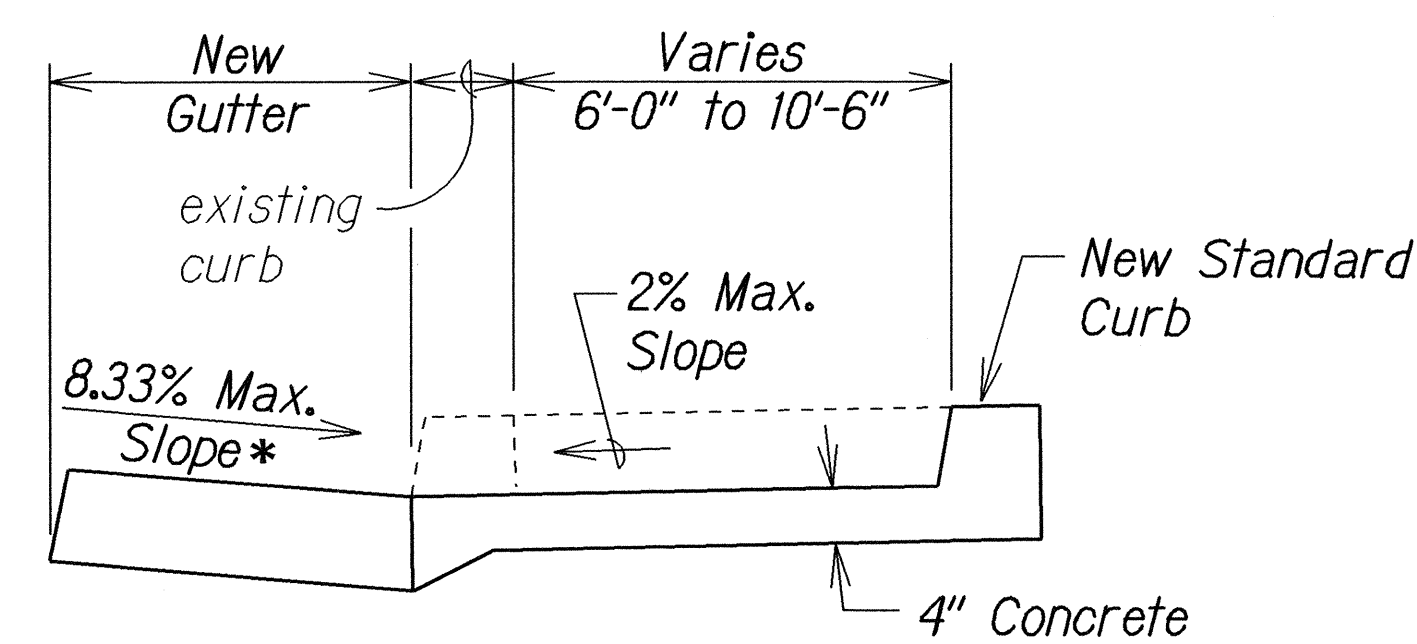
Not to Scale
Date: May, 2002

SHEET No. 2 OF 3 SHEETS

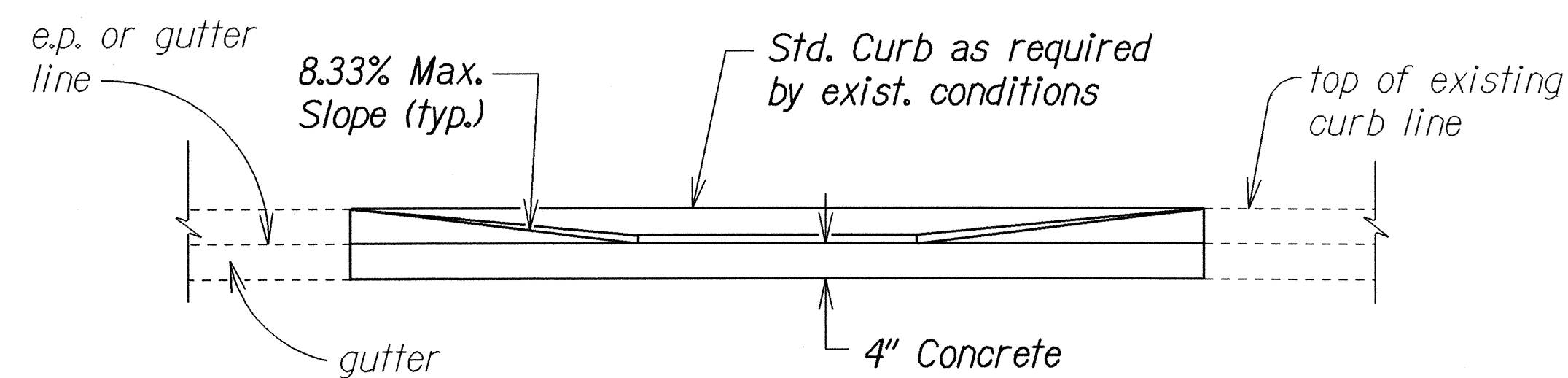
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(9)	2003	24	114



PLAN



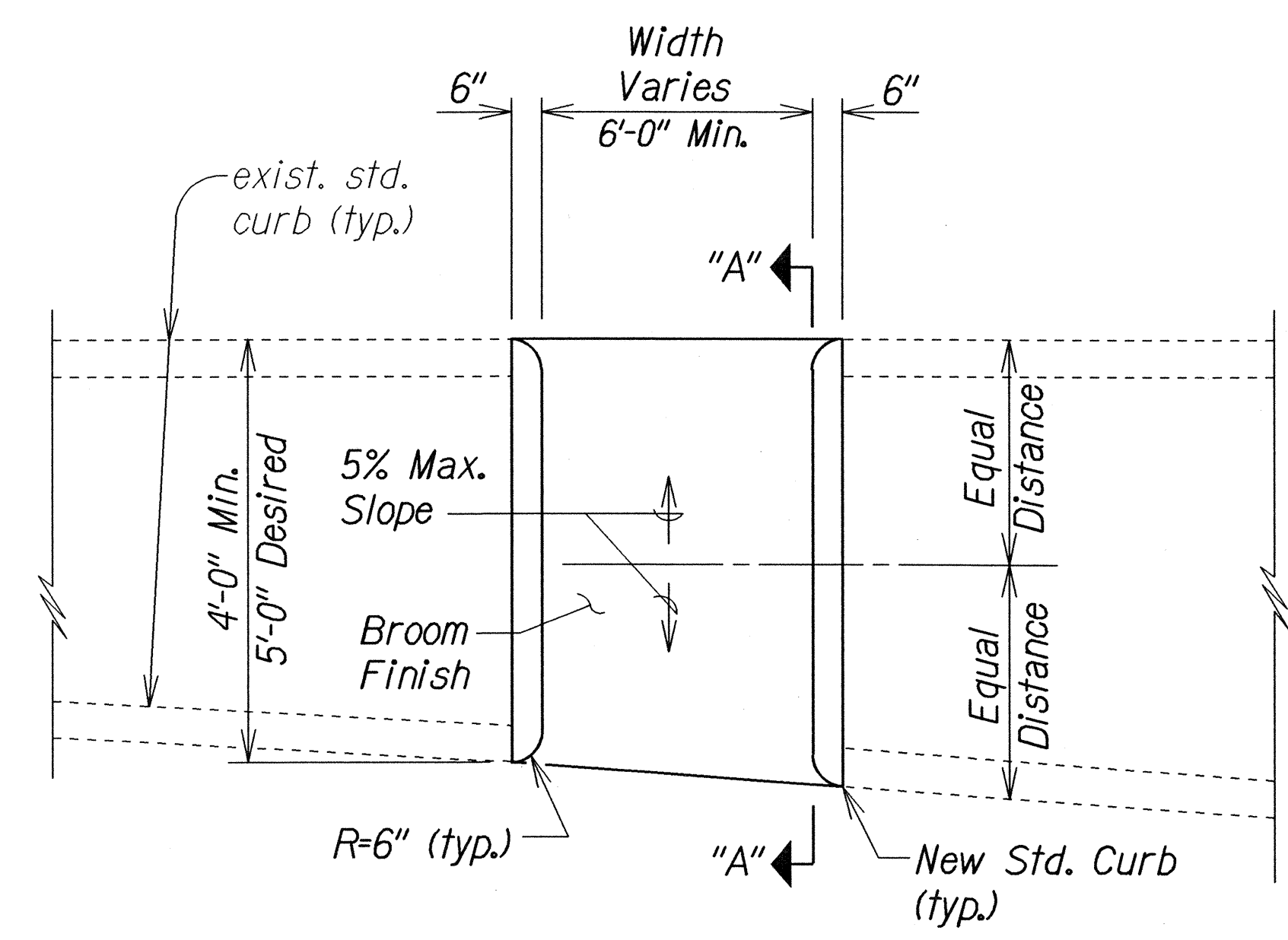
TYPICAL SECTION



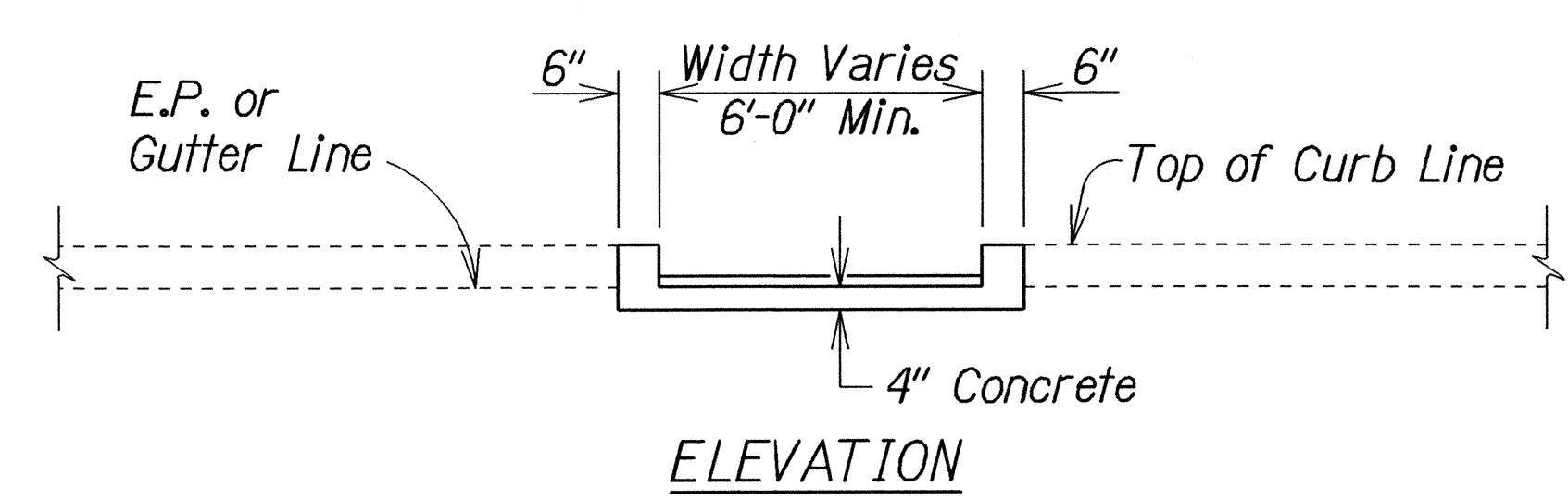
ELEVATION

CURB RAMP - TYPE "B" MODIFIED

SIDEWALK WIDTH 7'-0" OR GREATER
BUT LESS THAN 12'-0" WIDTH



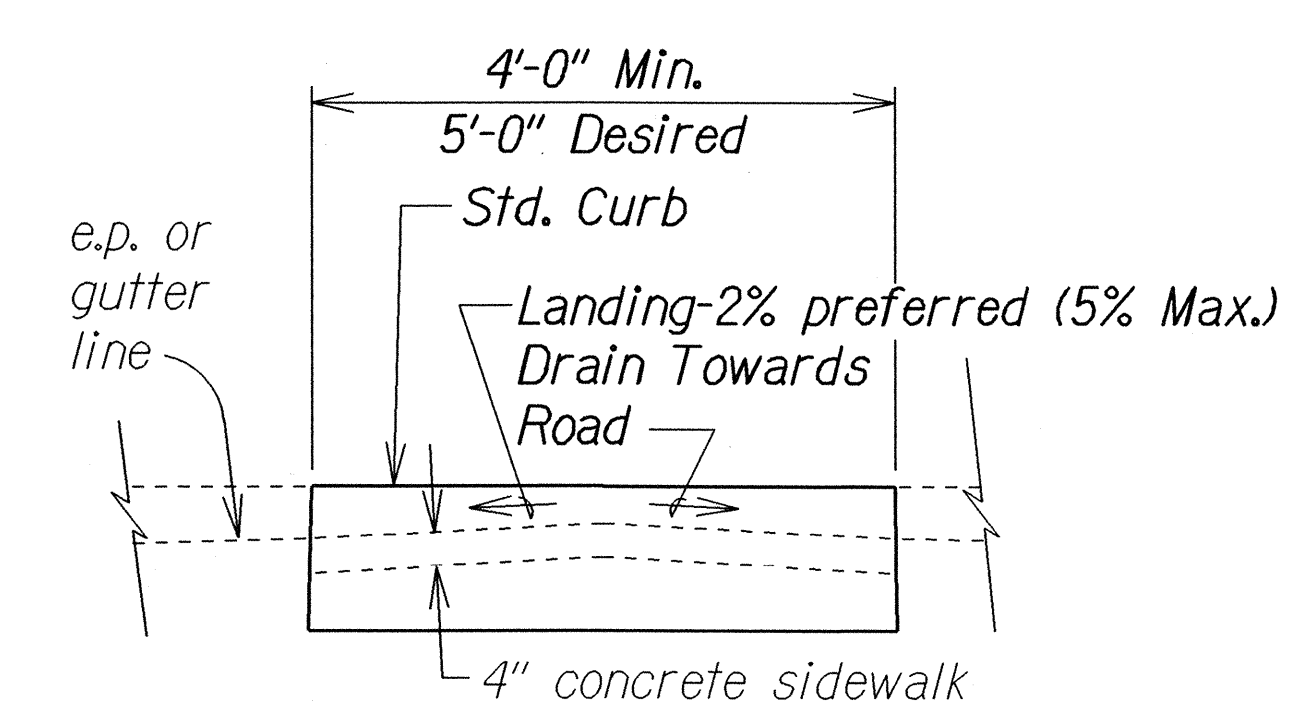
PLAN



ELEVATION

CURB RAMP - TYPE "C"

USE AT MEDIAN CROSSINGS, ISLANDS



SECTION "A-A"

- * See Curb Ramp 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.

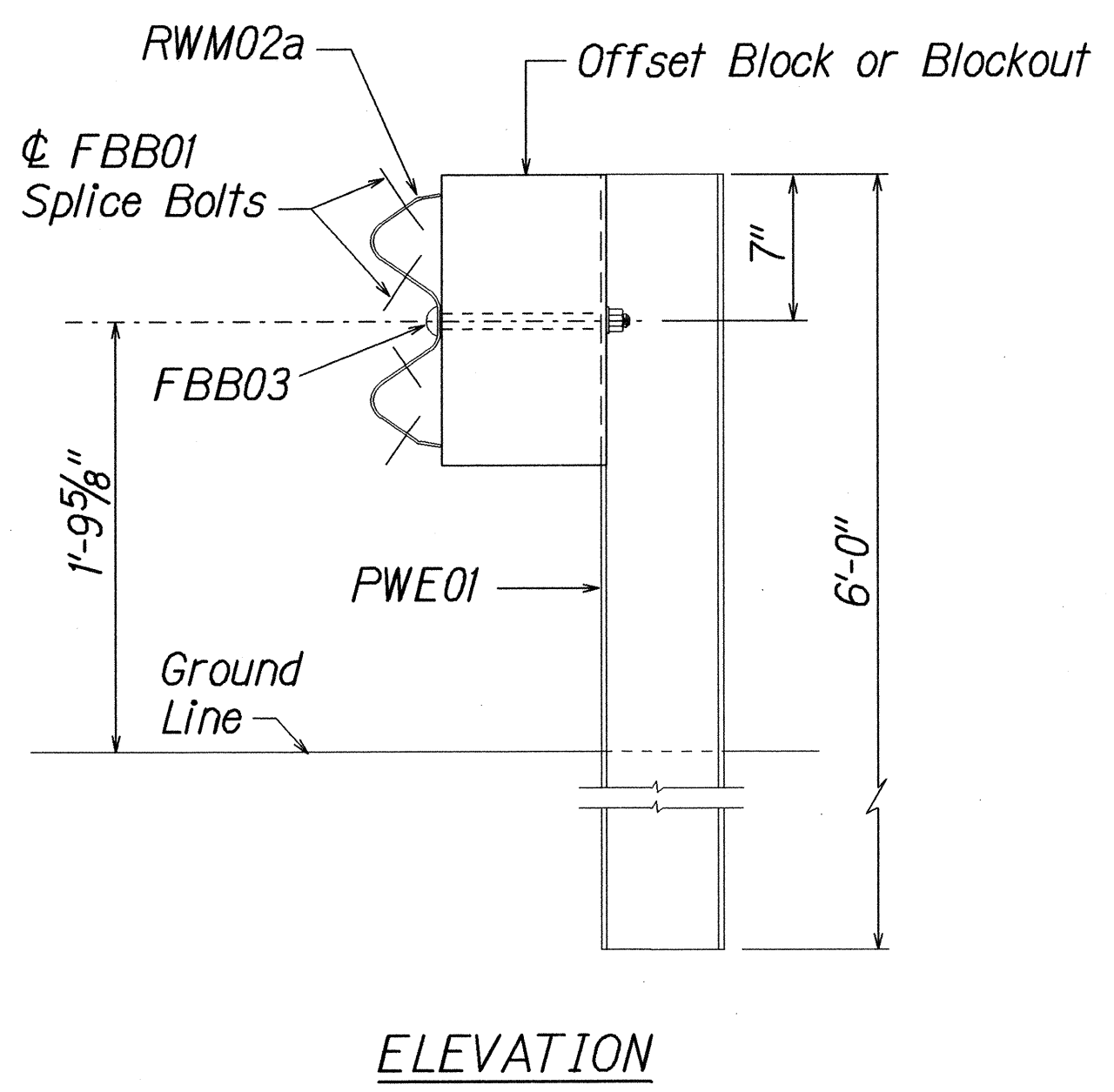
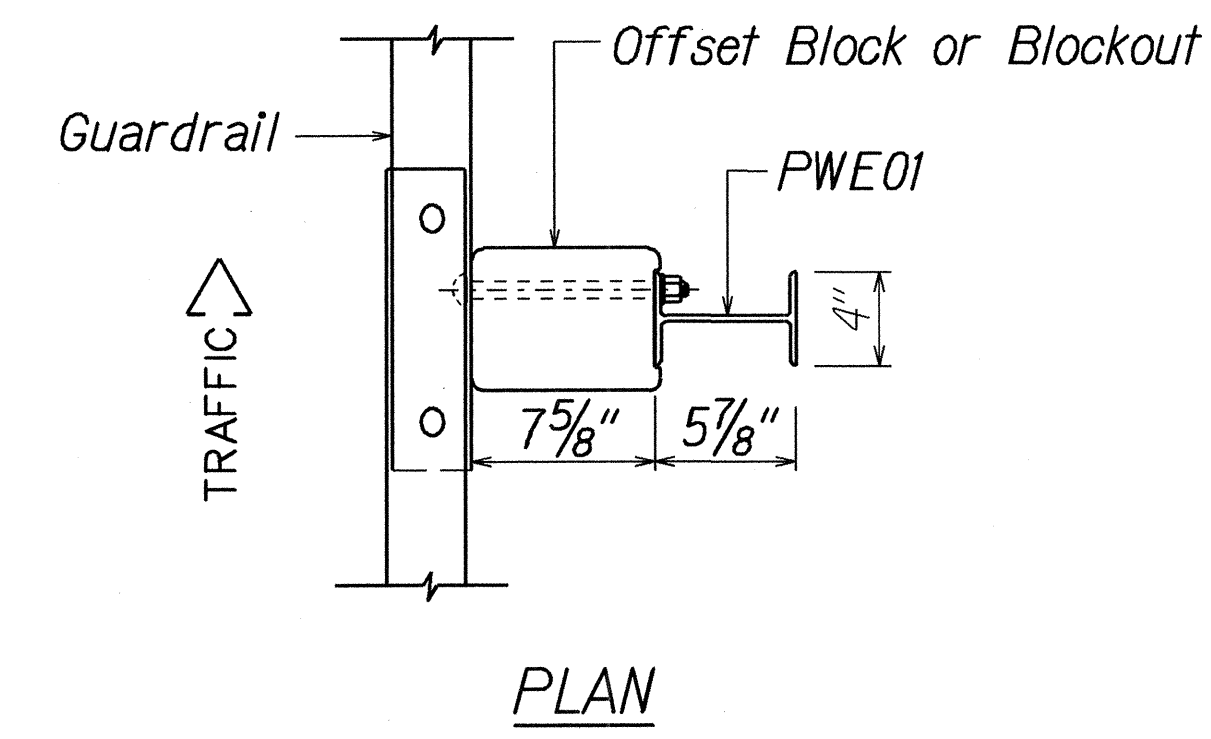
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP DETAILS

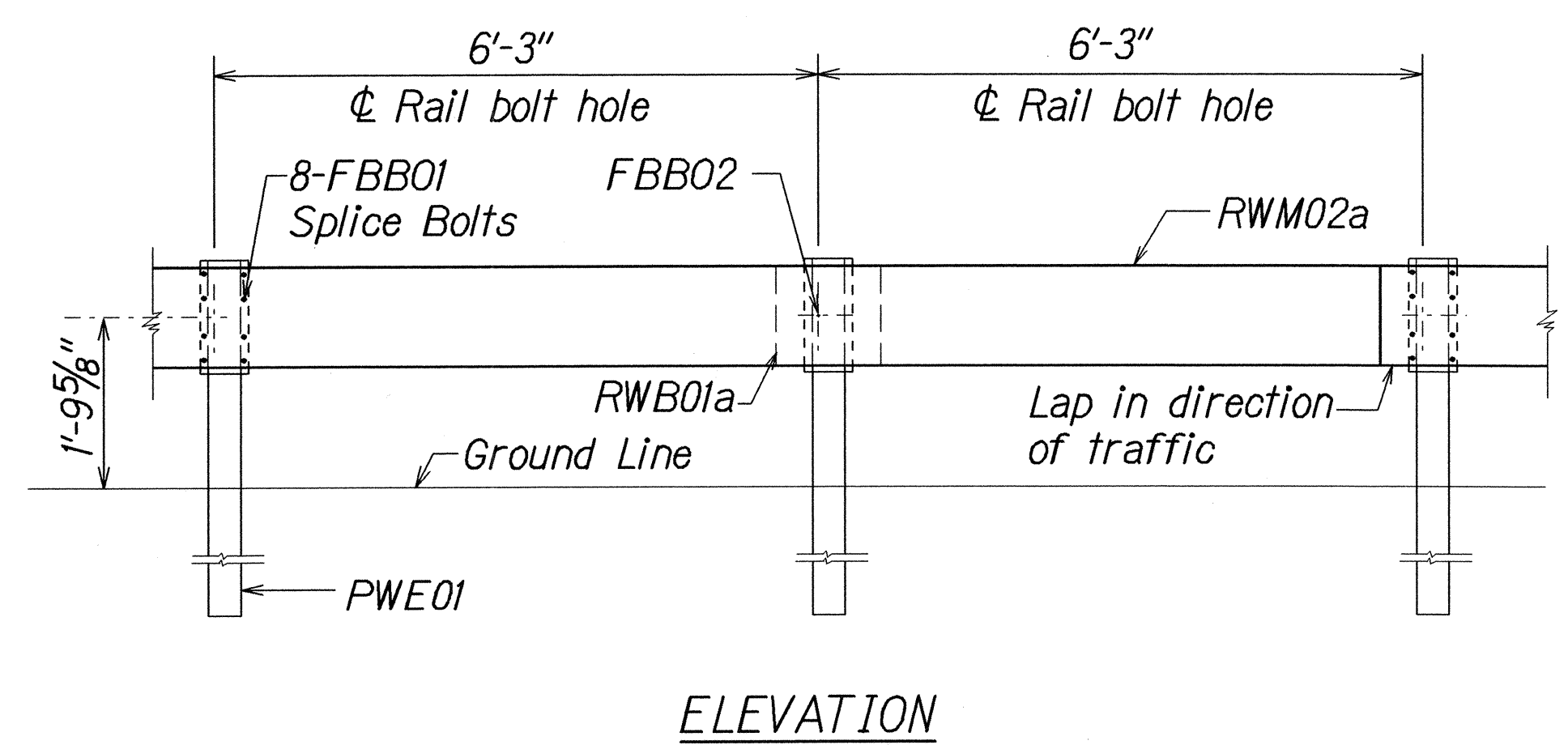
KANEHOE BAY DRIVE IMPROVEMENTS
Vicinity of Puohala Street to Kawa Bridge
Federal Aid Project No. STP-065-1(9)

Not to Scale
Date: June, 2002

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(9)	2003	25	114

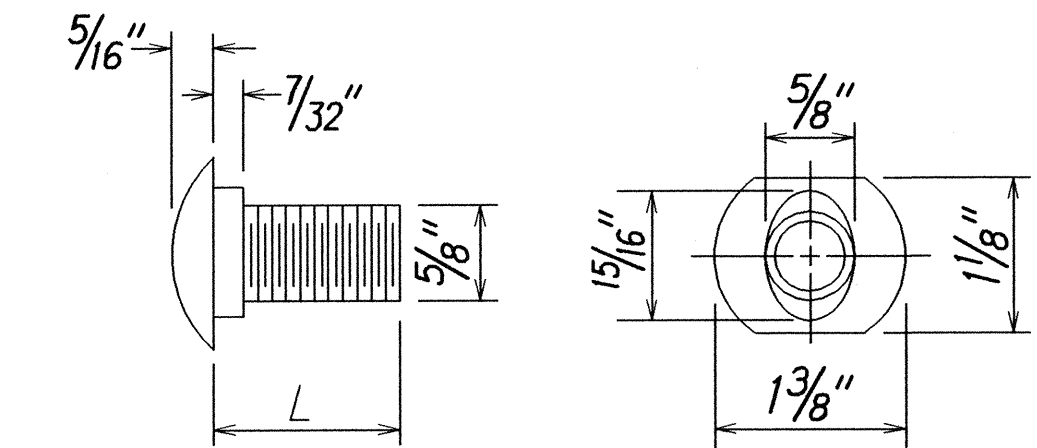
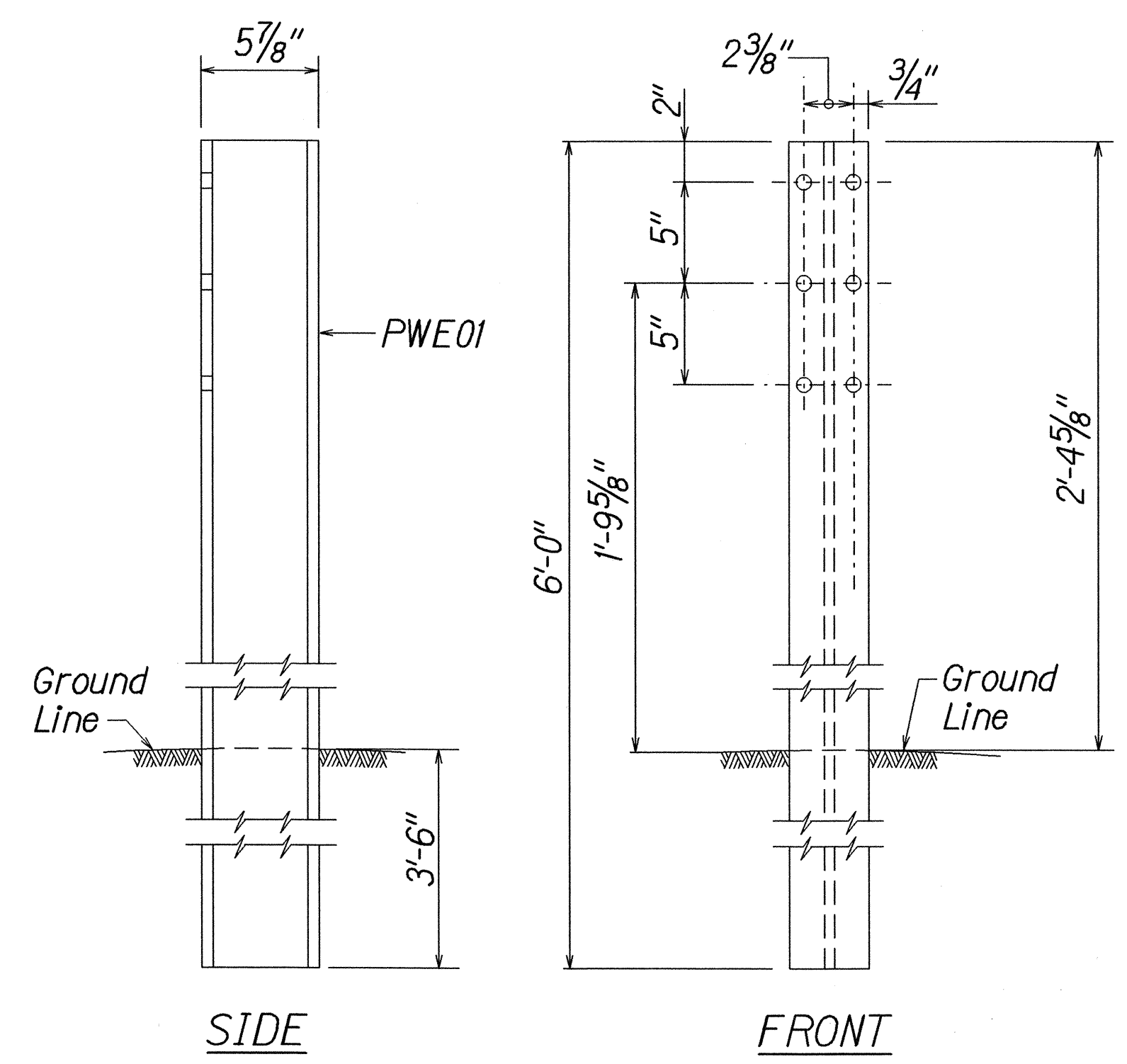


STRONG POST W-BEAM GUARDRAIL
(SGR04a)

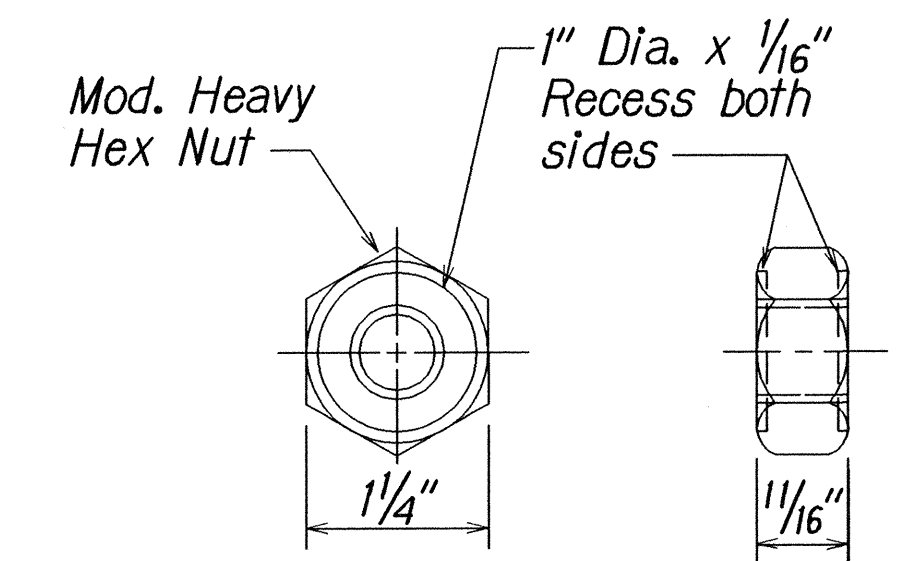


STRONG POST W-BEAM GUARDRAIL WITH
RECYCLED OFFSET BLOCK OR PLASTIC BLOCKOUT

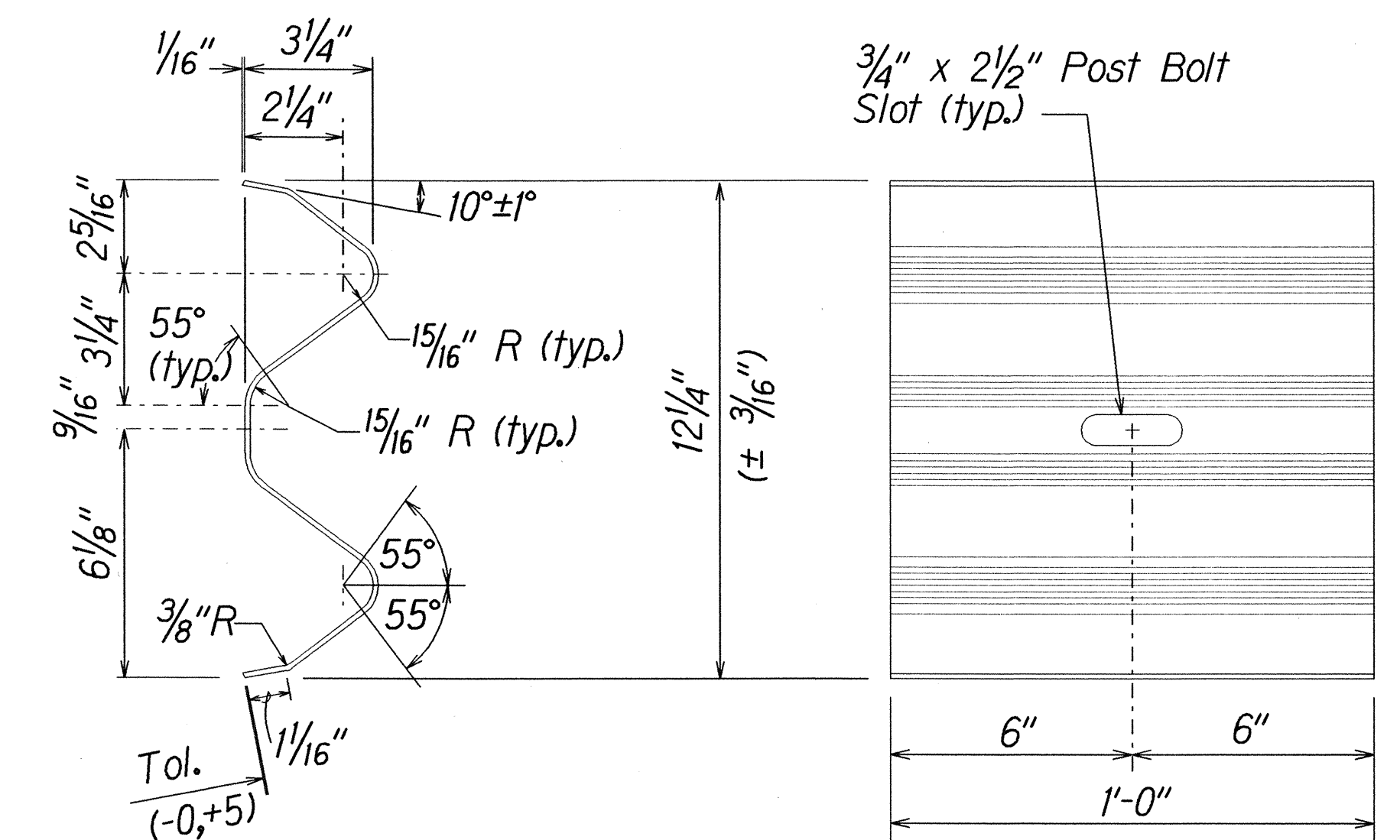
NOTE:
All Holes are
3/4" Dia.



DESIGNATOR	L
FBB01	1 3/8"
FBB02	2"
FBB03	10"

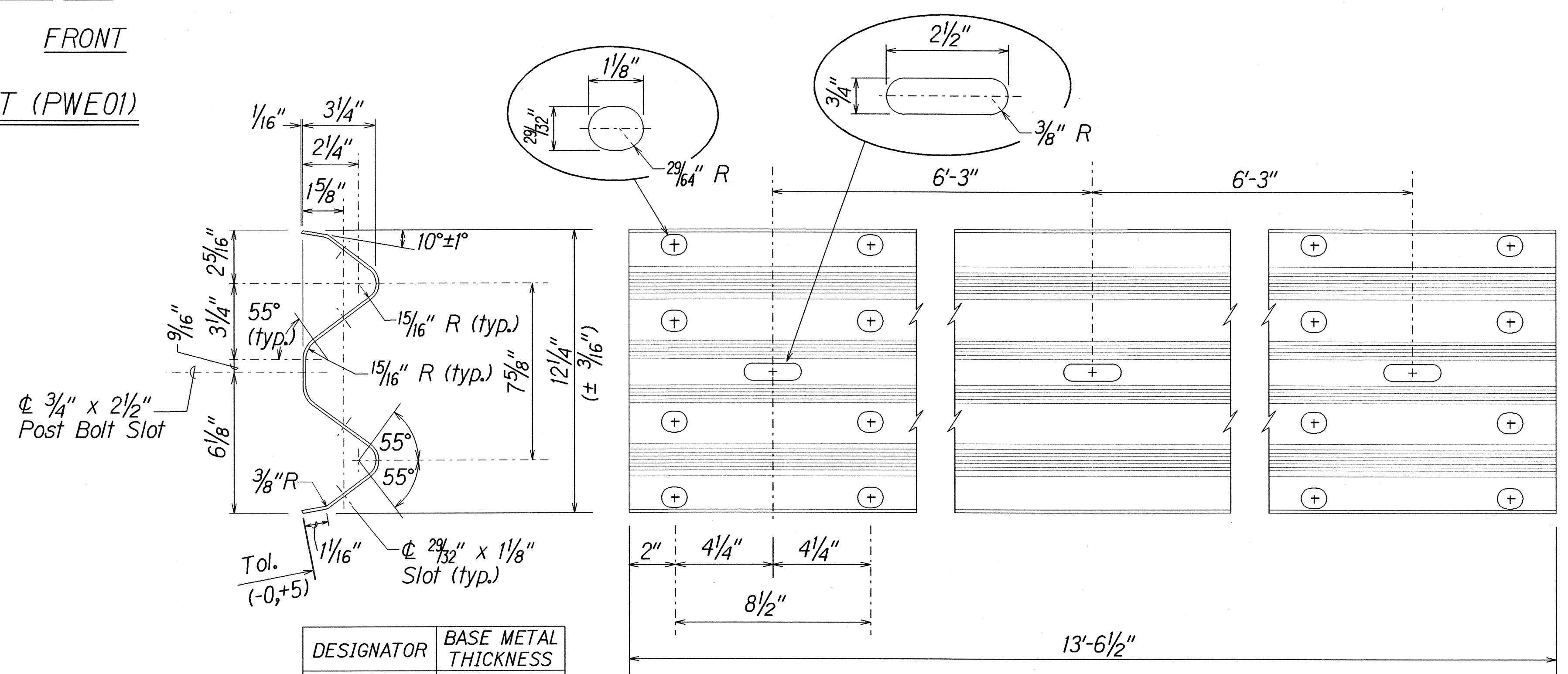


GUARDRAIL BOLTS AND
RECESSED NUT



DESIGNATOR	BASE METAL THICKNESS
RWB01a	12 Gauge

W-BEAM BACK-UP-PLATE (RWB01a)



DESIGNATOR	BASE METAL THICKNESS
RWM02a	12 Gauge

2 SPACE W-BEAM GUARDRAIL (RWM02a)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

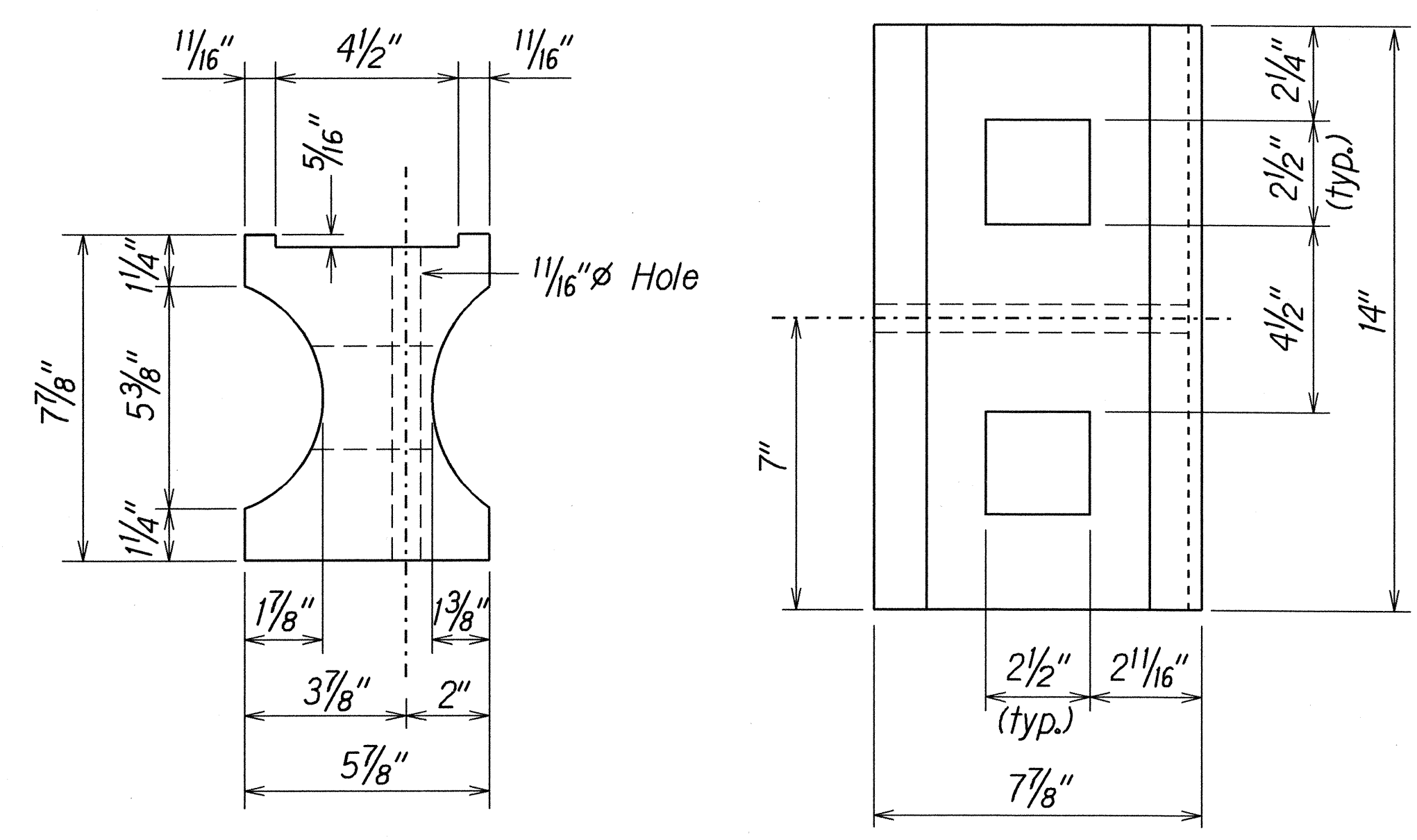
STRONG POST W-BEAM GUARDRAIL
KANEHOE BAY DRIVE IMPROVEMENTS
Vicinity of Puohala Street to Kawa Bridge
Federal Aid Project No. STP-065-1(9)
Not to Scale
Date: June, 2002

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(9)	2003	26	114

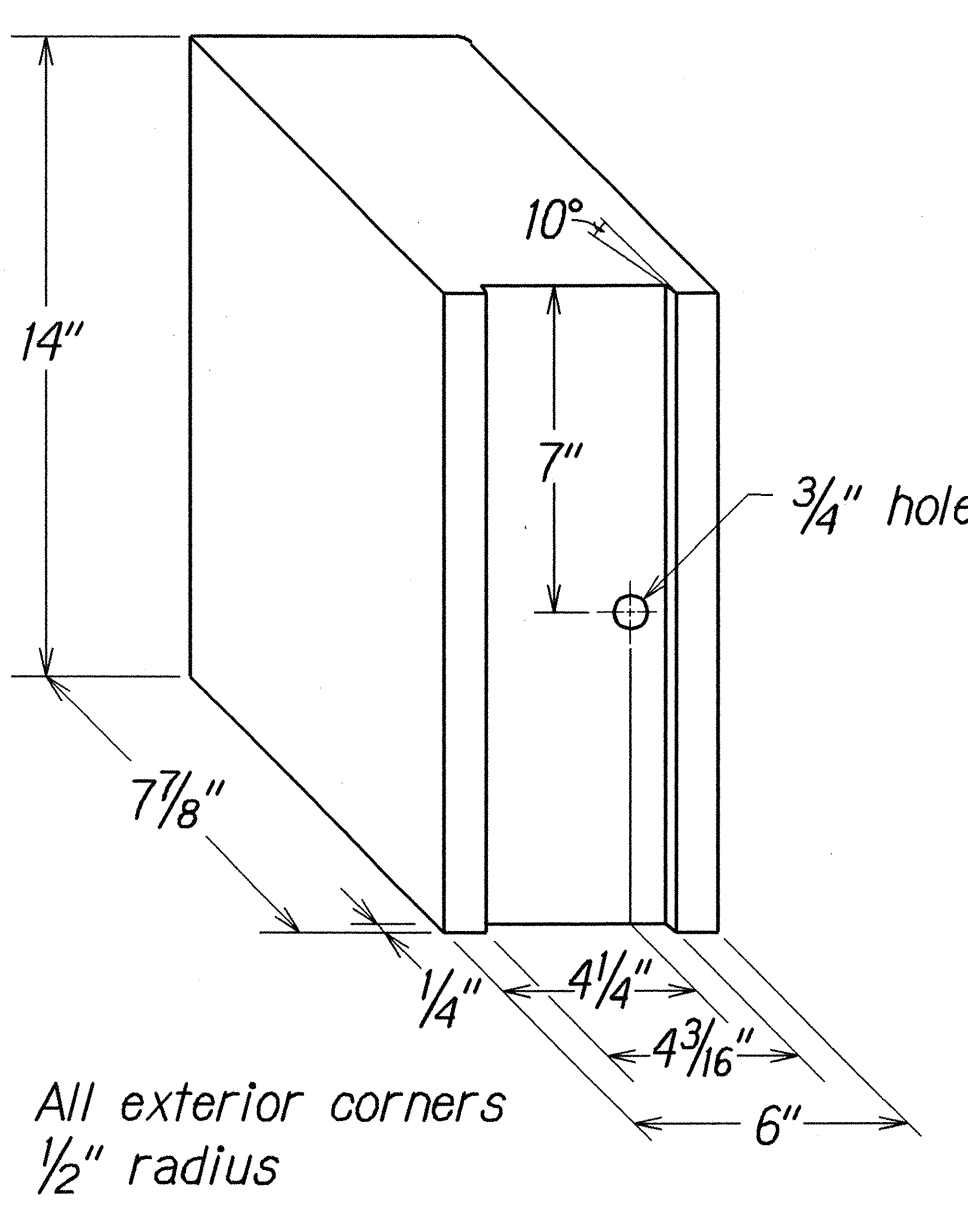
GENERAL NOTES

- All hardware, posts and fasteners shall be hot-dip zinc coated galvanized after fabrication. No punching, drilling or cutting will be permitted after galvanizing.
- Where conditions require, special post lengths in increments of 6 inches may be specified.
- All fasteners, posts, and rail elements (i.e. FBB03, PWE01, RWM02b, etc.) shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware", a report prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Subcommittee On New Highway Materials, Task Force 13 Report. Dimensions of fastners, posts and rail elements have been converted from metric units into their present form.
- The Recycled Plastic Block or Offset Block shall be approved by the State.
- All new guardrail systems (system consists of total length of guardrail including both end treatments) shall include the Additional Paved Area.
- After the guardrail posts are installed in the paved area, the Contractor shall fill/seal around each guardrail post and all cracks in the paved area caused during the guardrail post installation. If required by the inspector/engineer, the Contractor shall tamper the paved area around the guardrail post prior to filling/sealing. All costs associated with this work shall not be paid for separately, but shall be considered incidental to the various guardrail items.
- When standards for the fill slope area cannot be met, a site specific, engineer approved design may be used.
- New A.C. pavement at guardrails shall extend 6 feet longitudinally beyond terminal ends.
- Reflector Markers (RM-5) mounted on guardrails shall be spaced every 200 feet. Spacing of RM-5's on Horizontal Curves shall comply with Table III-1 of the MUTCD. RM-5's shall be incidental to construction.

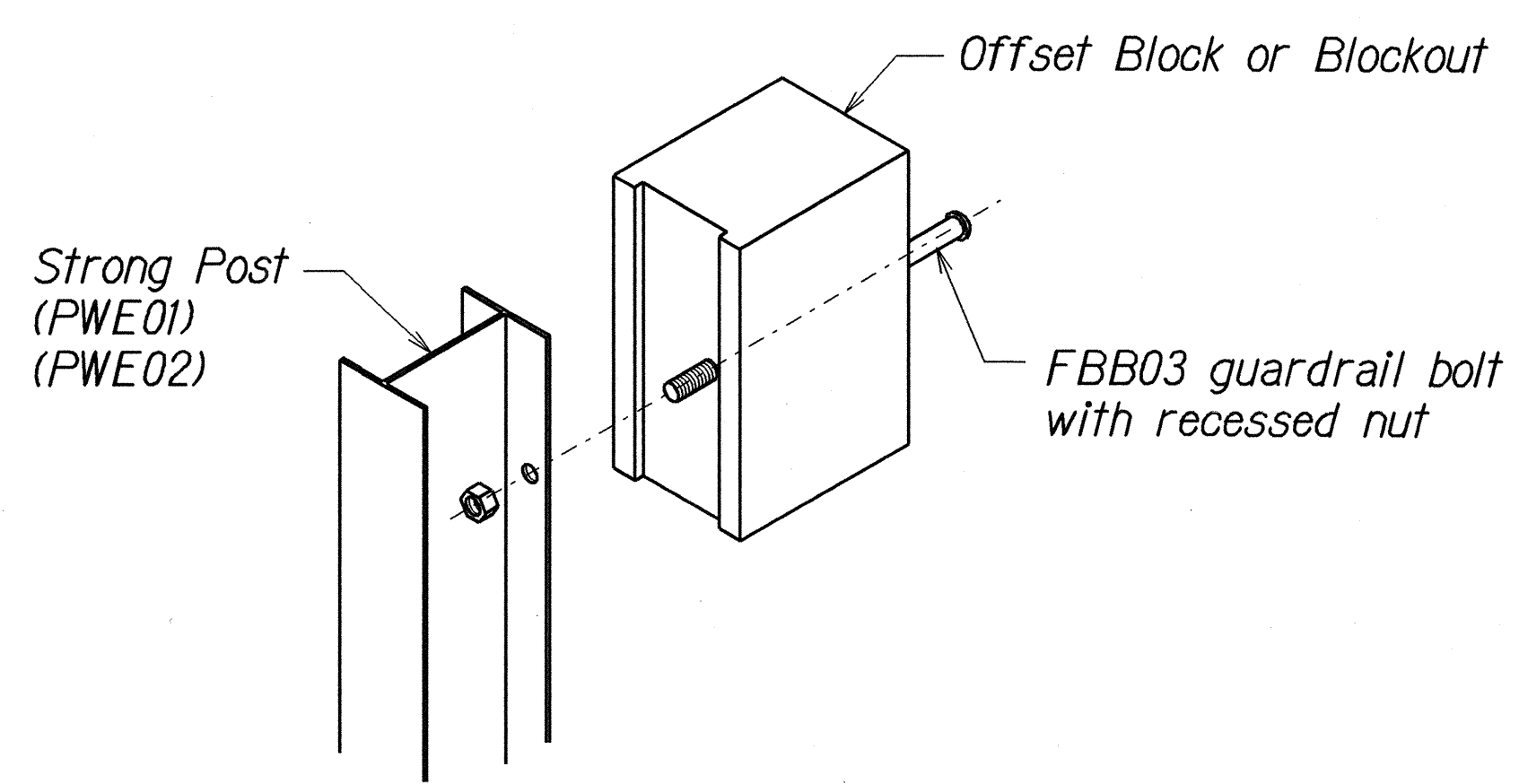
GUARDRAIL TYPE	DIMENSION	
	H	A
Strong Post w/W Beam	1'-9 ⁵ / ₈ "	1'-6"
Rubrail	2'-0"	1'-6"
Modified Thrie Beam	2'-0"	2'-0"



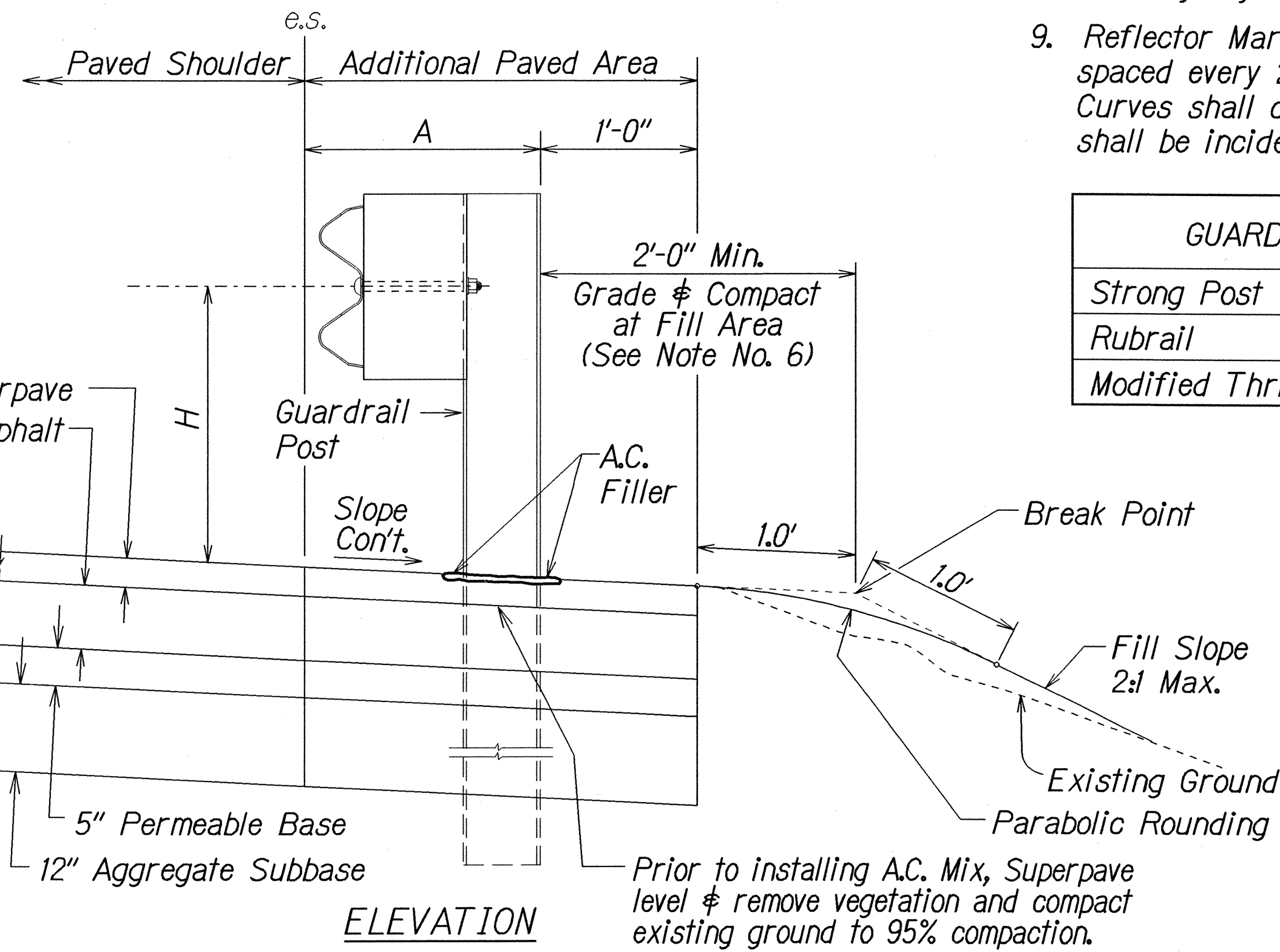
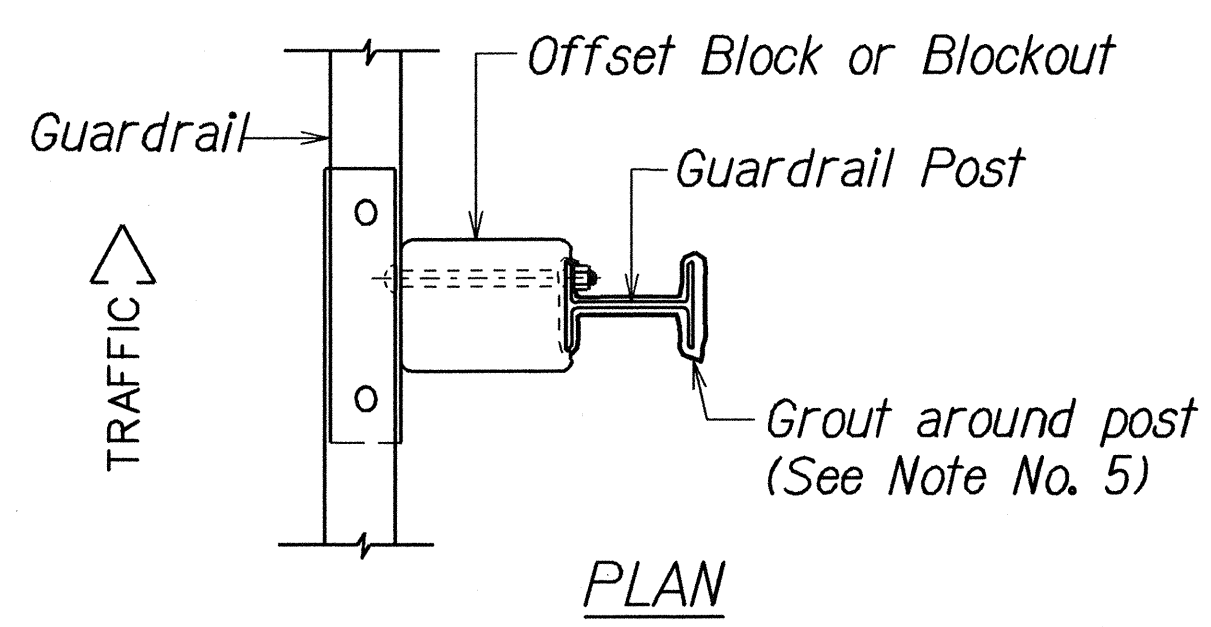
TOP
SIDE
RECYCLED PLASTIC BLOCKOUT (TYPE I)



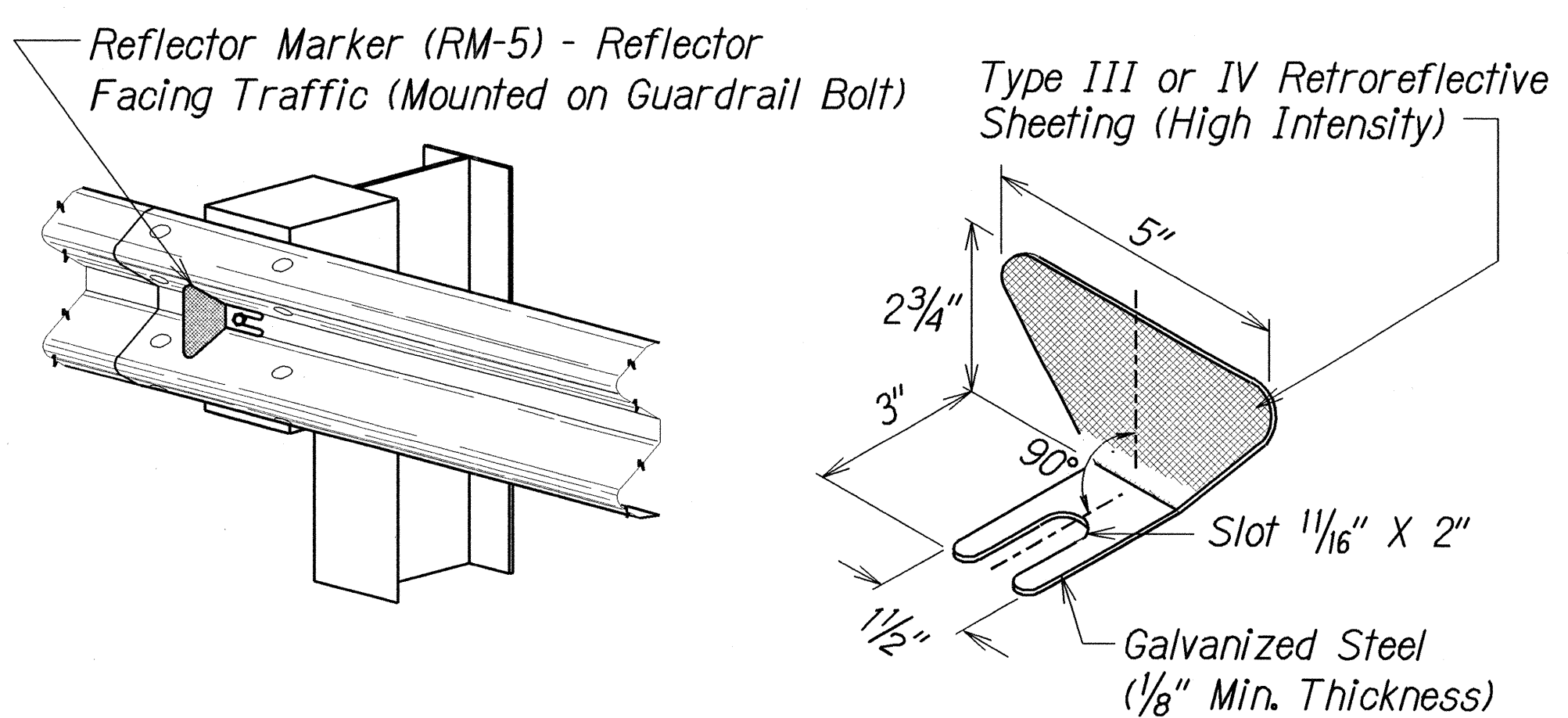
RECYCLED POLYETHYLENE
OFFSET BLOCK (TYPE II)



Exploded View
(Rail and washer not shown)
STEEL POST AND BLOCK DETAIL



TYPICAL GUARDRAIL INSTALLATION



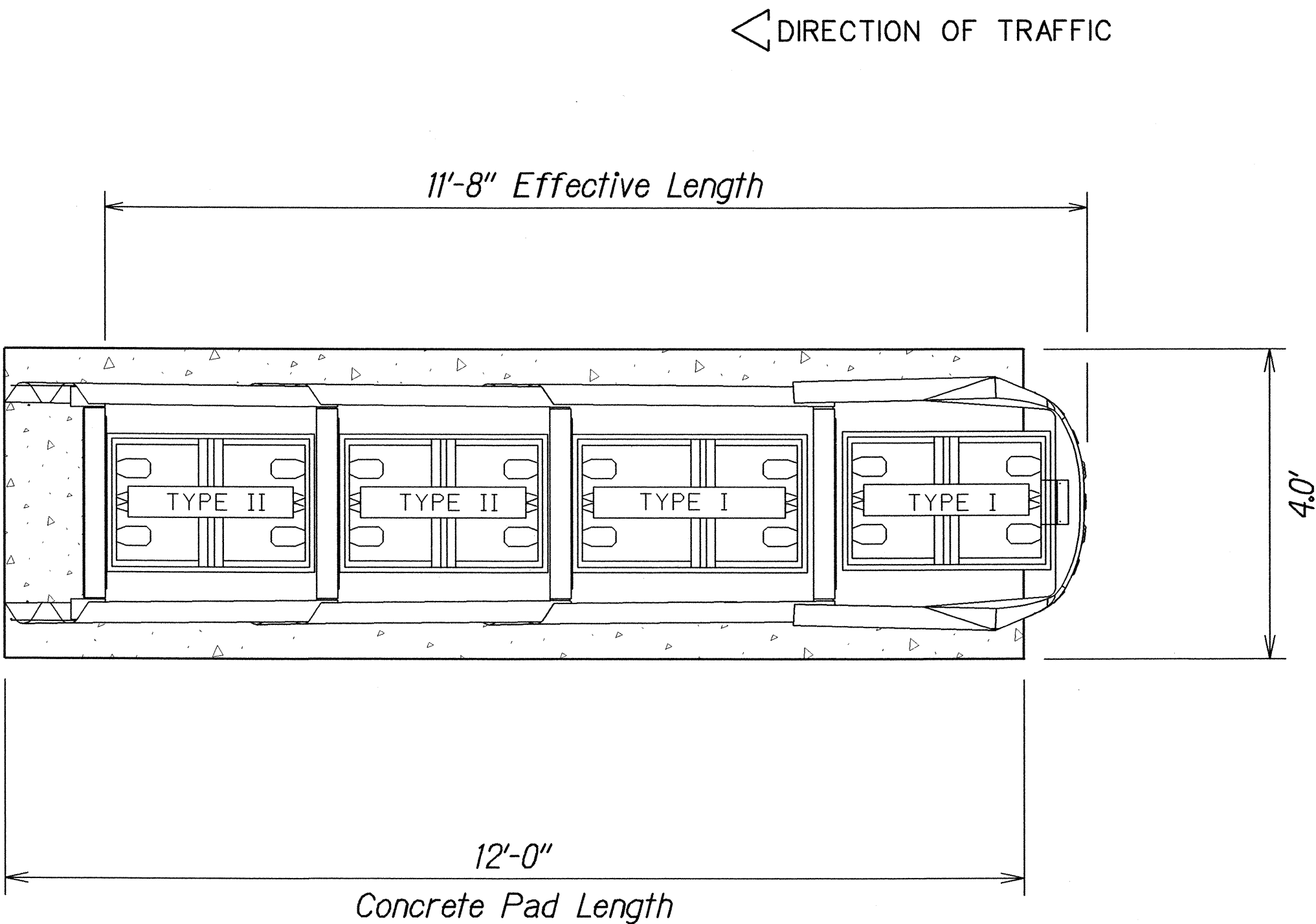
REFLECTOR MARKER (RM-5) DETAIL AND TYPICAL INSTALLATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

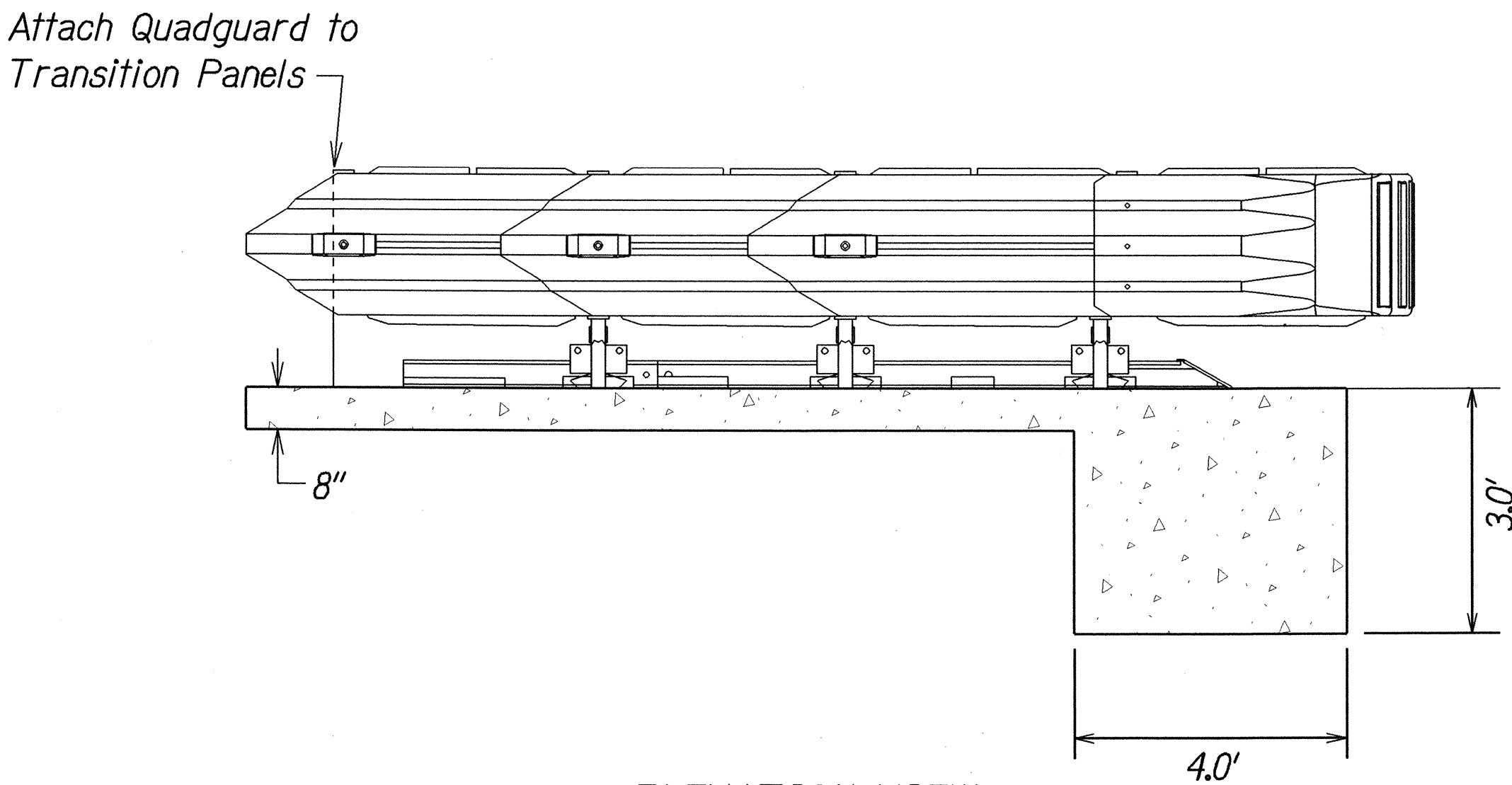
GUARDRAIL DETAILS & NOTES
KANEOHE BAY DRIVE IMPROVEMENTS
Vicinity of Puohala Street to Kawa Bridge
Federal Aid Project No. STP-065-1(9)
Not to Scale
Date: June, 2002

SHEET No. 2 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(9)	2003	ADD.27	114



PLAN VIEW



ELEVATION VIEW

QUADGUARD CRASH ATTENUATOR WITH CONCRETE PAD DETAILS
3-BAY SYSTEM - MODEL QS3003Y
 Not To Scale

"QUADGUARD" SYSTEM NOTE

1. All work and Materials Associated with the "QUADGUARD" System shall be per the Manufacturer's Requirements.
2. The Transition and Extension Panels, Concrete Pad and Tension Strut Backup Assembly Required for the "QUADGUARD" System shall be Considered Incidental to the "QUADGUARD" System.
3. The Contractor's Attention is Directed to the Special Provisions Section 693.

TERMINAL IMPACT ATTENUATOR NOTES:

1. The Details Shown Here are for the Assembly of a Quadguard System. The Contractor Shall Use This System, TAU II or on Approved Equivalent.
2. The Contractor Shall be Responsible for Providing the Concrete Pad, Transition Piece, Tension Strut Backup Assembly, and Any Other Materials Called For as per Manufacturer's Requirements All Work Related to the Construction of the Terminal Impact Attenuator Shall Comply with the Manufacturer's Specifications and the Special Provisions Sect. 693.

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

2/3/03	Added New Terminal Impact Attenuator Notes
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION TERMINAL IMPACT ATTENUATOR DETAILS <u>KANEOHE BAY DRIVE IMPROVEMENTS</u> <u>Vicinity of Puohala Street to Kawa Bridge</u> <u>Federal Aid Project No. STP-065-1(9)</u> Scale: As Shown Date: June, 2002	
SHEET No. 1 OF 1 SHEETS	