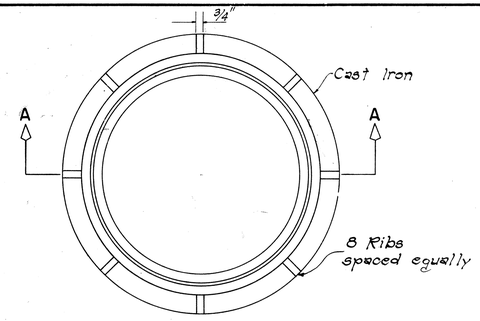
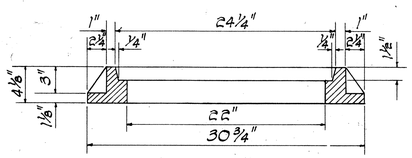
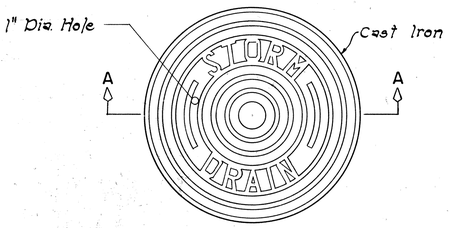
| FED. ROAD DIST. NO. | STATE | ~~FED. AID~~ PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | 72A-01-78 | 1979 | 4 | 11 |



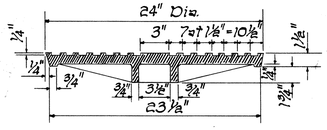

PLAN



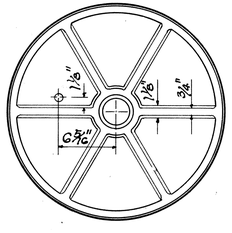

SECTION A-A




PLAN



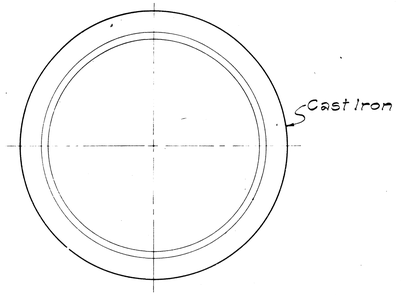

SECTION A-A



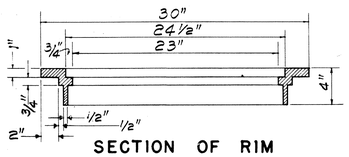

BOTTOM VIEW OF COVER

## DETAILS OF TYPE "P" CAST IRON FRAME AND COVER

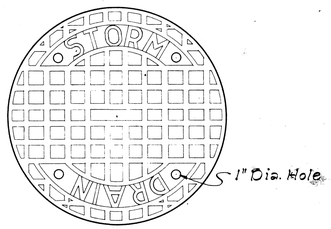
SCALE: 1-1/2" = 1'-0"



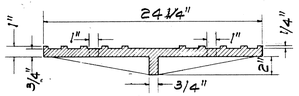

PLAN OF RIM



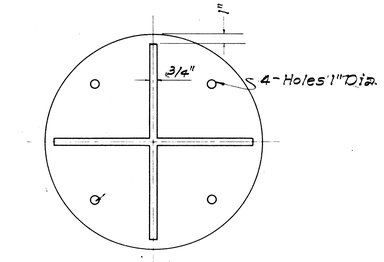

SECTION OF RIM




TOP VIEW OF COVER



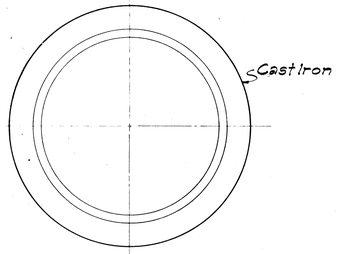

SECTION



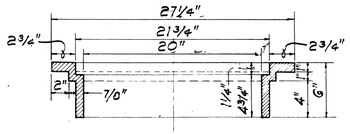

BOTTOM VIEW OF COVER

## DETAILS OF TYPE "B" CAST IRON FRAME AND COVER

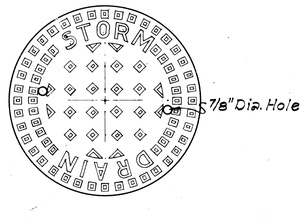
SCALE: 1-1/2" = 1'-0"



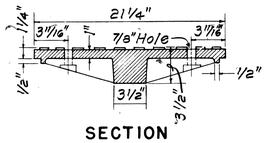

PLAN OF RIM



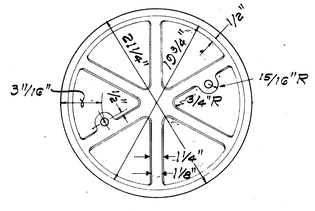

SECTION OF RIM




TOP VIEW OF COVER



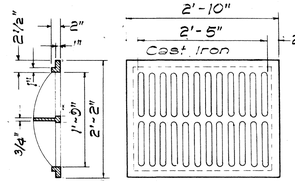

SECTION




BOTTOM VIEW OF COVER

## DETAILS OF TYPE "A" CAST IRON FRAME AND COVER

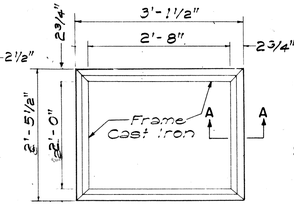
SCALE: 1-1/2" = 1'-0"



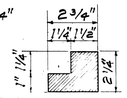

SECTION




TOP VIEW



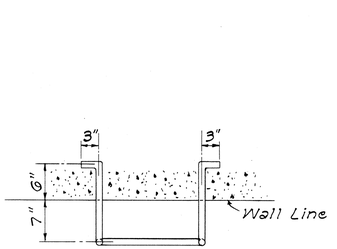

TOP VIEW



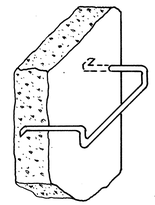

SECTION "A-A"
SCALE 3" = 1'-0"

## TYPE C C.I. FRAME AND GRATE

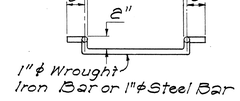
SCALE: 3/4" = 1'-0"



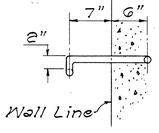

PLAN




PICTORIAL VIEW
NOT TO SCALE




FRONT VIEW




SIDE VIEW

## DETAILS OF MANHOLE RUNG

SCALE: 1" = 1'-0"

APPROVAL RECOMMENDED:
G. Takano — HYDRAULIC DESIGN ENGINEER — 12-17-69 DATE

APPROVED:
[illegible] — ASSISTANT CHIEF, ENGINEERING — 12-17-69 DATE

| NO. | REVISION | APPROVED BY | DATE |
|---|---|---|---|
| 1. | Detail of Type "P" Cast Iron Frame and Cover | H.T. | 1-6-71 |
| 2 | Details of Manhole Rungs to conform to O S H A. | H.T. | 1-21-75 |
| 3 | Option for Manhole Rungs | H.T. | 1-18-76 |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

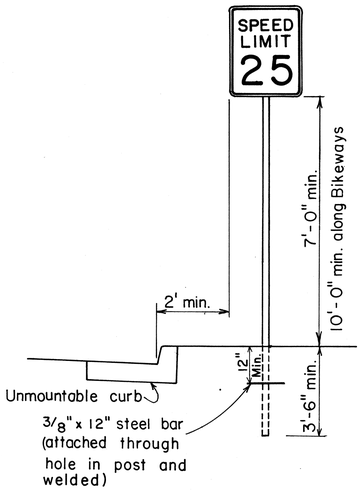
STANDARD DETAILS
# CATCH BASIN AND MANHOLE CASTINGS

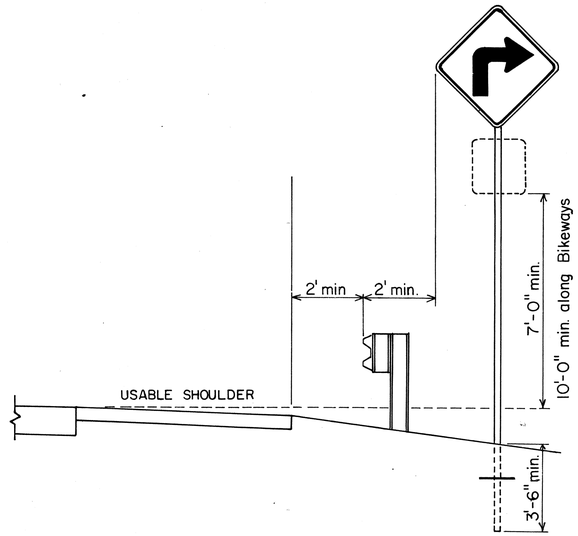
Scale: As Noted — Date: July, 1969

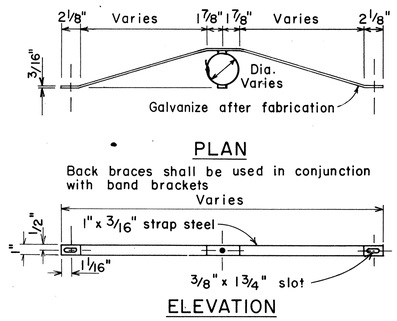
SHEET Nº 1 OF 7 SHEETS DH 6

| | | |
|---|---|---|
| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
| | DESIGNED BY | |
| | DRAWN BY | |
| NOTE BOOK | TRACED BY — Calleiro | |
| | QUANTITIES BY | |
| No. | CHECKED BY | |

| FED. ROAD DIST. NO. | STATE | ~~FED. AID~~ PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | 72A-01-78 | 1979 | 5 | 11 |



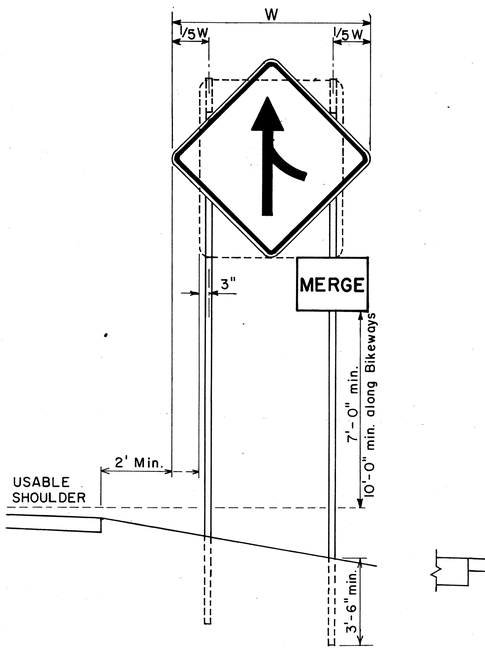



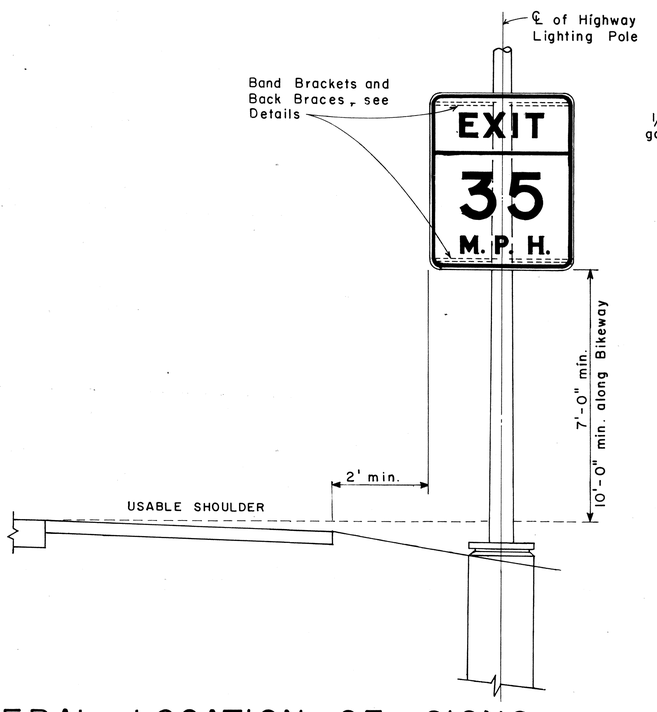




## BACK BRACE DETAILS FOR BALANCED SIGN INSTALLATION

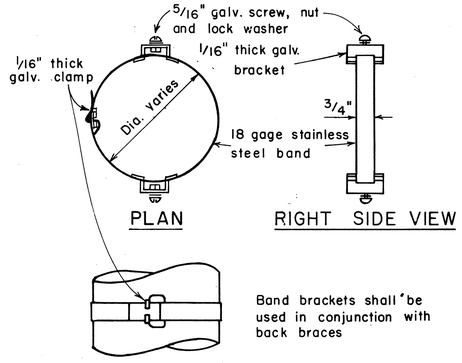
## GENERAL NOTES

1. Signs 48" and wider or larger than 10 sq. ft. in area shall be mounted on two sign posts.
2. All signs larger than 10 sq. ft. in area or 48" inches and wider, and mounted on other than two posts supports (i.e., on highway lighting poles) shall have at least two sets of band brackets and back braces.
3. All signs 28 sq. ft. in area or larger and mounted on other than two posts supports (i.e., on highway lighting poles) shall have at least three sets of band brackets and back braces.
4. Signs shall be attached to post with 5/16" galv. bolts with nuts and 7/8" x 0.06" stainless steel washers with neoprene rubber gasket.
5. Sign posts shall extend 3 1/2" above sign where required for City and County street name signs.
6. (R) or (L) indicates right or left and shall be as shown on the plans.




## HEIGHT AND LATERAL LOCATION OF SIGNS TYPICAL INSTALLATION




## TYPICAL BAND BRACKET FOR MOUNTING TRAFFIC SIGNS

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

| NO. | REVISION | APPROVED BY | DATE |
|---|---|---|---|
| 1 | Supercedes Sht. DT-100 approved 12/30/69 | H.T. | 11/15/77 |

APPROVAL RECOMMENDED:
Eiichi Tanaka — 11/10/77
TRAFFIC ENGINEER — DATE

APPROVED:
Herbert S. Sakaishi — 11/15/77
ASSISTANT CHIEF, ENGINEERING — DATE

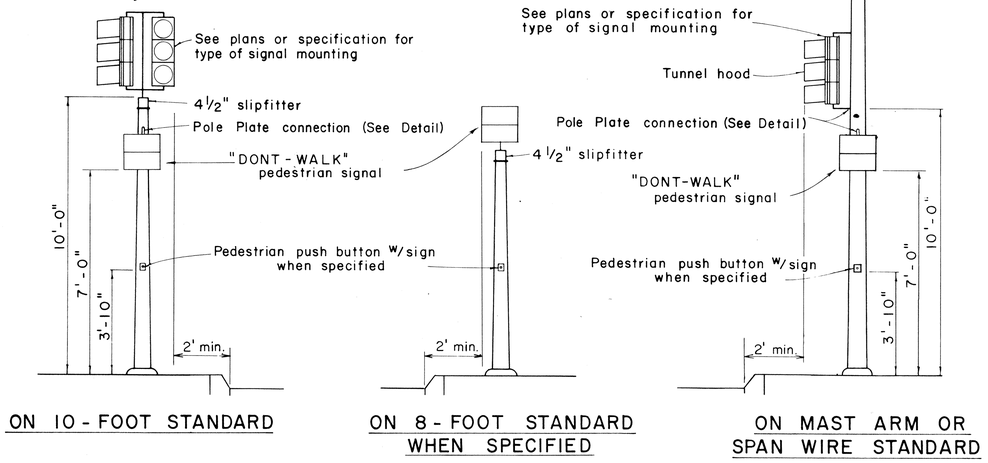
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

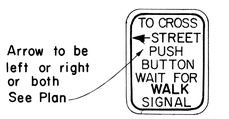
# STANDARD DETAILS
## MISCELLANEOUS SIGN DETAILS

Not to scale — June, 1977

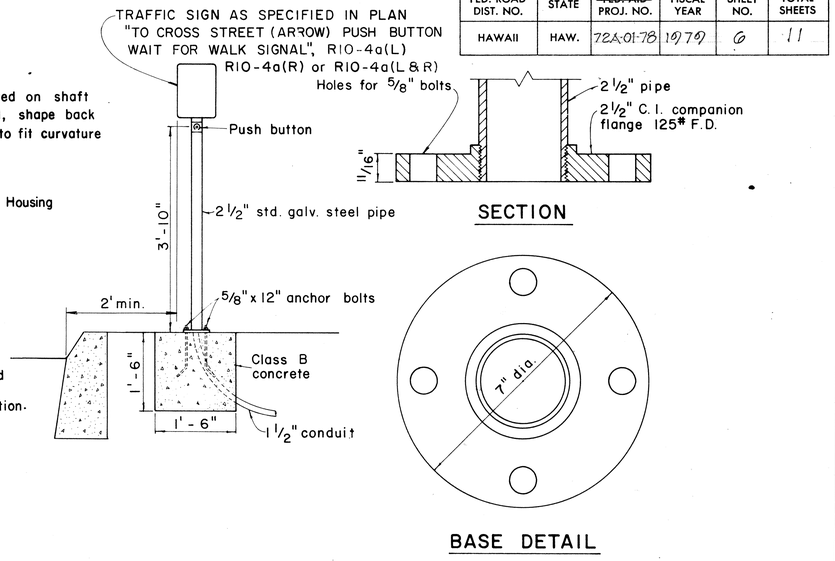
SHEET No. 2 OF 7 SHEETS DT 100

| FED. ROAD DIST. NO. | STATE | ~~FED. AID~~ PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | 72A-01-78 | 1979 | 6 | 11 |

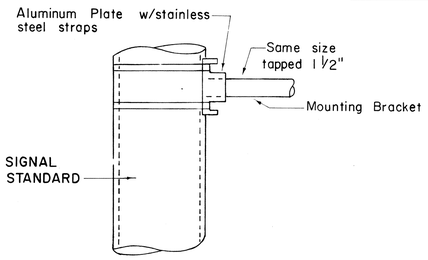


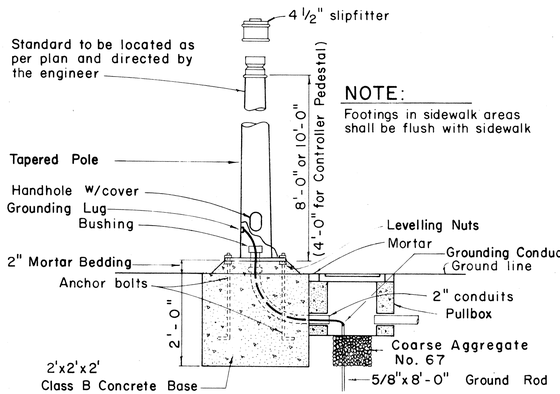

NOTE:
1. Conduits shall protrude 2" max. above finished surface of foundation.
2. Conduits shall slope away from pole foundation.




## TYPICAL EQUIPMENT MOUNTINGS

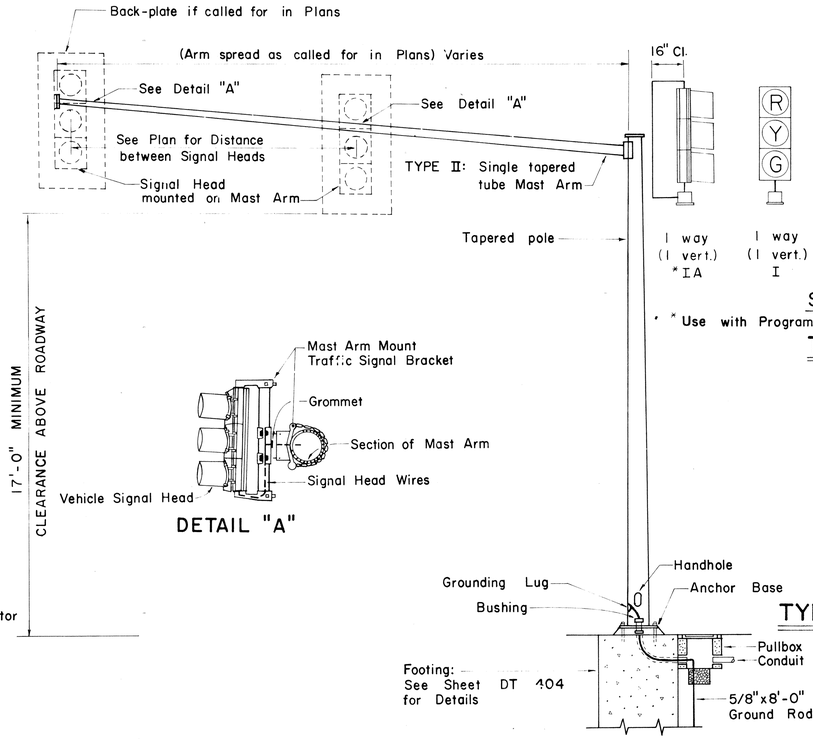



DETAIL OF POLE PLATE CONNECTIONS



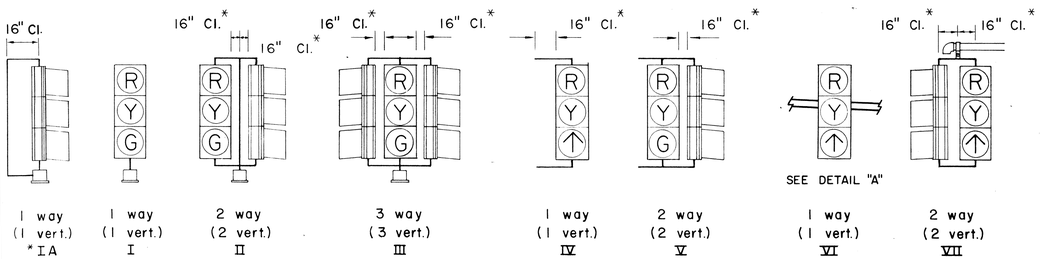

NOTE:
Footings in sidewalk areas shall be flush with sidewalk

TYPE I SIGNAL STANDARD OR CONTROLLER PEDESTAL AND FOOTING




TYPE II MAST ARM AND STANDARD

## PEDESTRIAN PUSH BUTTON POST AND FOOTING




| 1 way (1 vert.) *IA | 1 way (1 vert.) I | 2 way (2 vert.) II | 3 way (3 vert.) III | 1 way (1 vert.) IV | 2 way (2 vert.) V | 1 way (1 vert.) VI | 2 way (2 vert.) VII |
|---|---|---|---|---|---|---|---|

SLIPFITTER MOUNTINGS — BRACKET MOUNTINGS — MASTARM MOUNTINGS

* Use with Programmed Visibility Signal

## TYPICAL VEHICULAR AND PEDESTRIAN SIGNAL MOUNTINGS


| 1 - Vertical 3 - Section | 1 - Vertical 3 - Section | 1 - Dont Walk Walk | 1 - Vertical 2 - Section |
|---|---|---|---|

## TYPICAL SIGNAL ARRANGEMENTS

| NO. | REVISION | APPROVED BY | DATE |
|---|---|---|---|
| 1 | Revise code nos. for Pedestrian Push Button signs. | H.T. | 3/23/72 |
| 2 | Revise Details of Traffic and Pedestrian Signals, Standards and Pedestrian Push Button and Signs. | H.T. | 3/5/76 |
| 3 | Revise signal indications. | H.T. | 9/22/76 |
| 4 | Remove Note No. 3 & Revise clearance and dimension. | H.T. | 9/19/77 |

APPROVAL RECOMMENDED:

Eiichi Tanaka — TRAFFIC ENGINEER — 12/29/69 DATE

ASSISTANT CHIEF, ENGINEERING — 12/30/69 DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

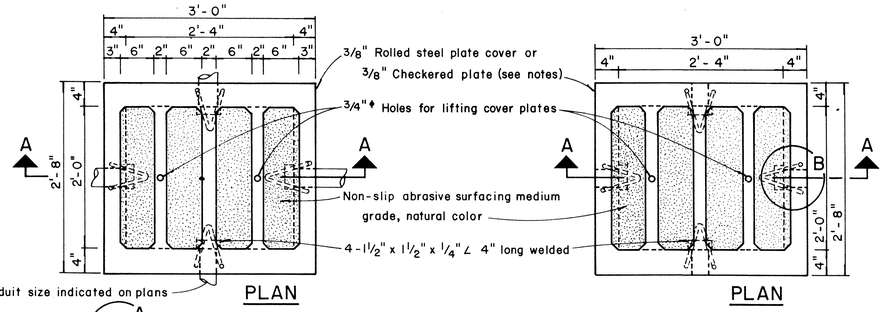
# TRAFFIC SIGNAL SYSTEM

## MISCELLANEOUS DETAILS

Not to Scale

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

| FED. ROAD DIST. NO. | STATE | ~~FED. AID~~ PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | ~~72A-0178~~ 1979 | | 7 | 11 |

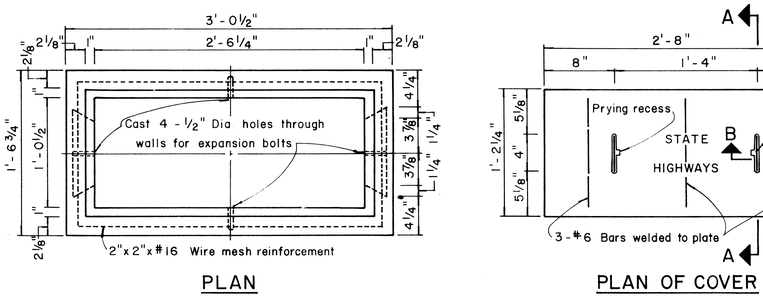


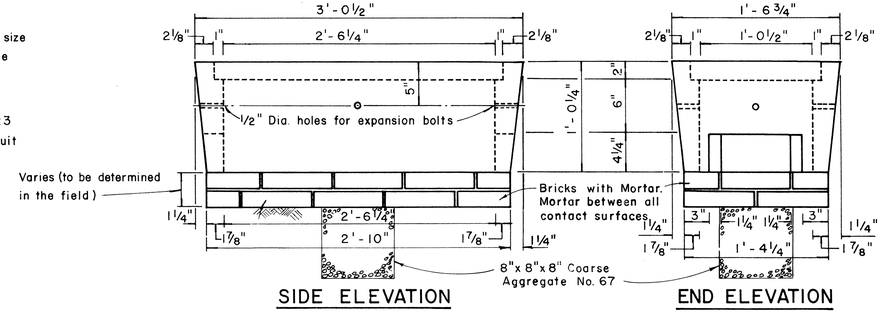

TYPE "A" PULLBOX CAST-IN-PLACE

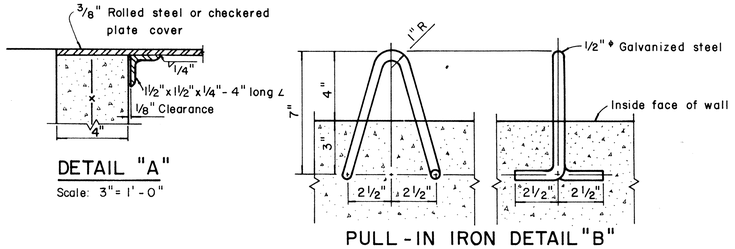
Scale: 1" = 1'-0"

TYPE "A" PULLBOX PRECAST

Scale: 1" = 1'-0"

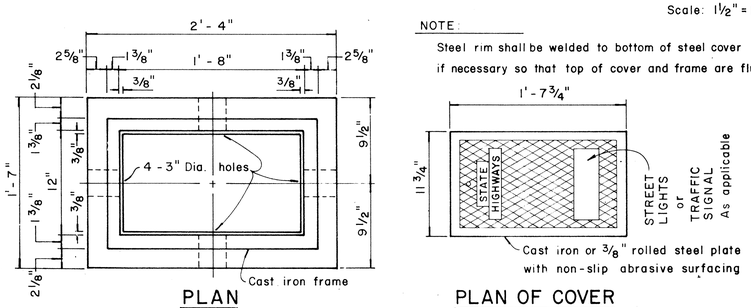



NOTES: (FOR TYPE "A" PULLBOX)

1. 3/8" Rolled steel plate cover with non-slip abrasive surfacing medium grade, natural color shall be used on all pullboxes located on sidewalk areas where pedestrians are walking.
2. 3/8" Checkered plate cover shall be used on all pullboxes located in median areas and other locations where there are no pedestrians walking.
3. Pull irons shall be placed opposite each conduit slot.
4. Covers on all pullboxes located in sidewalk areas shall be set flush with the concrete sidewalk.
5. Each pullbox shall have a pair of pull irons opposite each other for lifting purposes.




TYPE "B" PULLBOX

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

APPROVAL RECOMMENDED: Eugene Tanaka TRAFFIC ENGINEER DATE 11/22

APPROVED: ASSISTANT CHIEF, ENGINEERING DATE 12-30-69

| NO. | REVISION | APPROVED BY | DATE |
|---|---|---|---|
| 1 | Revised Type B & C Pullbox details | H.T. | 3-5-76 |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
PULLBOXES

Scale as noted Date

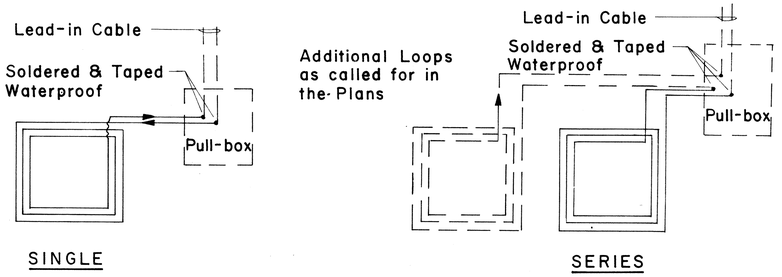
SHEET No. 4 OF 7 SHEETS DT 401

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

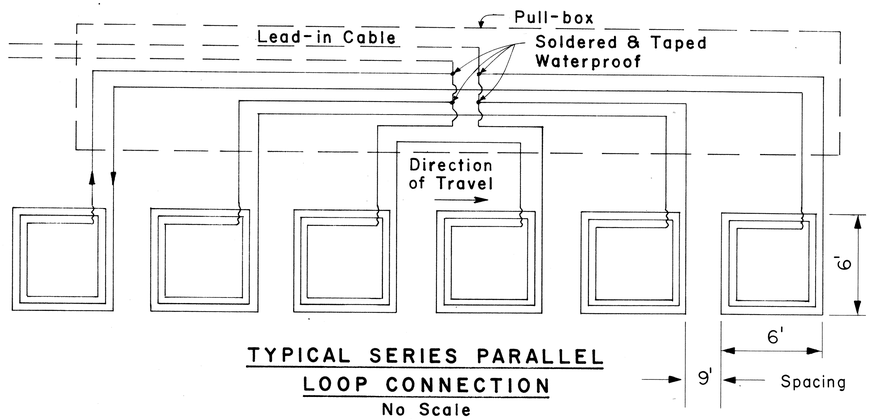
PRINTED ON NO. 1000H CLEARPRINT

7

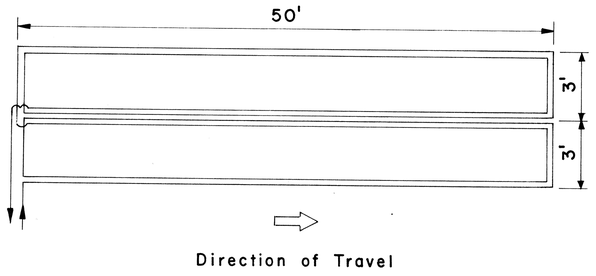
| FED. ROAD DIST. NO. | STATE | ~~FED. AID~~ PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | 72A-01-78 | 1976 | 8 | 11 |



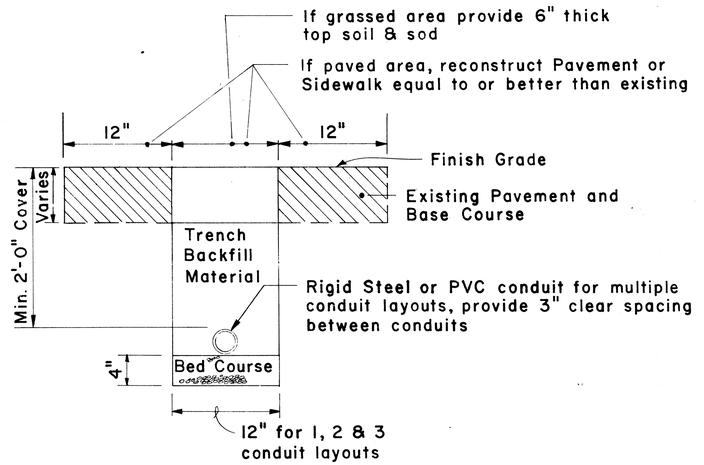

## TYPICAL LOOP CONFIGURATIONS
No Scale




## TYPICAL SERIES PARALLEL LOOP CONNECTION
No Scale



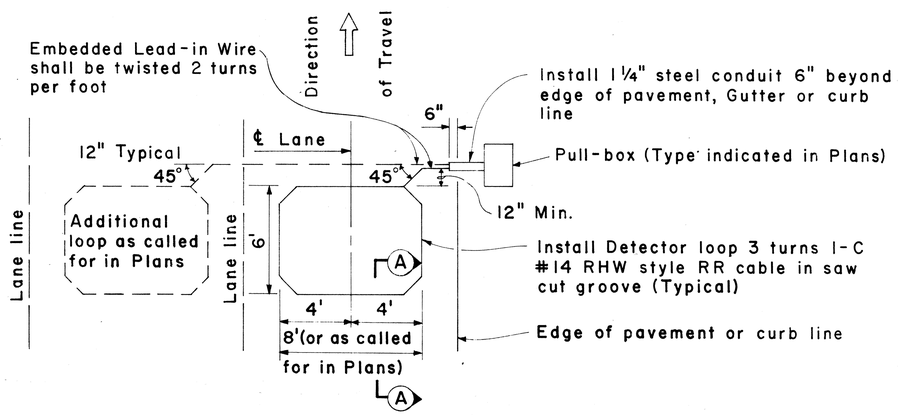

## WIRING FOR 6' x 50' LOOP DETECTOR
No Scale




## TYPICAL TRENCH SECTION FOR CONDUIT
Scale : 1 1/2" = 1' - 0"

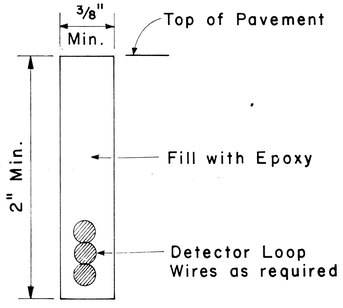
NOTE:

1. All conduits under roadways shall be steel or PVC schedule 80. All other conduits shall be steel or PVC schedule 40.




## PLAN - MULTIPLE LOOP LAYOUT
Scale : 1/4" = 1' - 0"

## DETECTION LOOP
Scale : As Shown




Detector Loop Saw-Cut
## SECTION A-A (TYPICAL)
No Scale

APPROVAL RECOMMENDED:
Eiichi Tanaka — TRAFFIC ENGINEER — 3/4/76 DATE

APPROVED:
Herbert S. Sakuda — ASSISTANT CHIEF, ENGINEERING — 3-5-76 DATE

| NO. | REVISION | APPROVED BY | DATE |
|---|---|---|---|
| 1 | Add dimensions to Loop Configurations | HT. | 9-22-76 |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

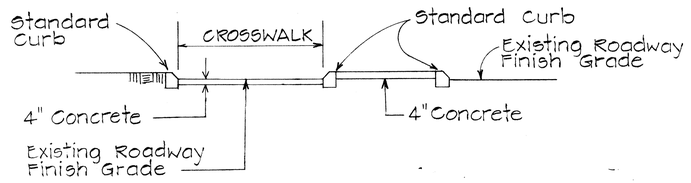
# TRAFFIC SIGNAL SYSTEM MISCELLANEOUS DETAILS

Scale : As Noted

SHEET No. 5 OF 7 SHEETS DT 405

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

| FED. ROAD DIST. NO. | STATE | ~~FED. AID~~ PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | 72A-01-78 | 1979 | 9 | 11 |

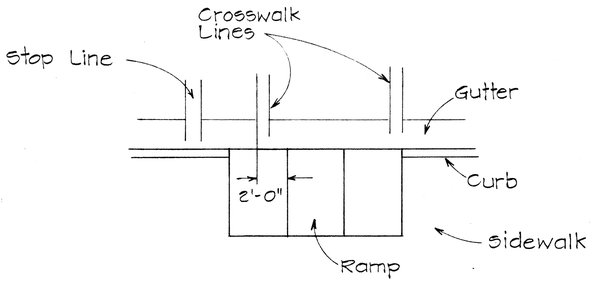



SECTION "A-A"

Use at Median Nose Crossings

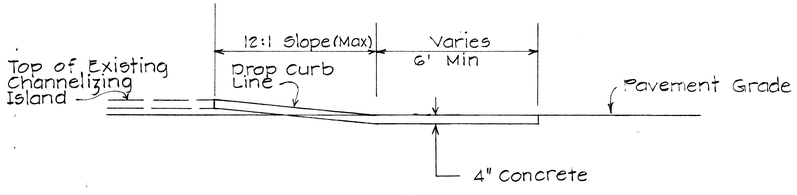
Scale: 1" = 5'

For Additional Details, See Type "C" Wheel Chair Ramp




TYPICAL INSTALLATION AT CROSSWALKS

Scale: 1" = 5'



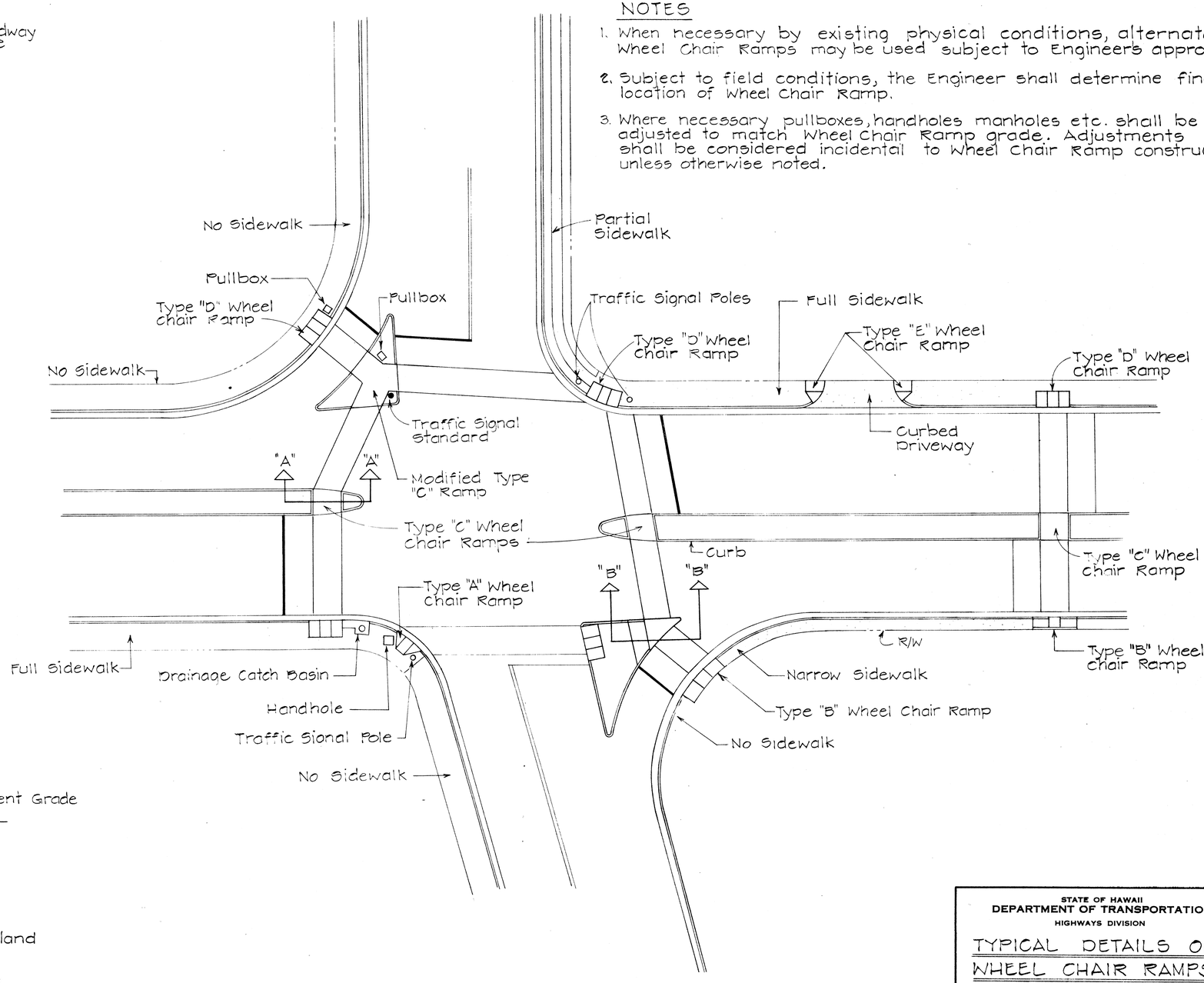

SECTION "B-B"

TYPE "B" MODIFIED WHEEL CHAIR RAMP

Use at Intersection of 2 Crosswalks On Channelizing Island

Scale: 3/8" = 1'

For Additional Details See Type "B" Wheelchair Ramp




TYPICAL WHEELCHAIR RAMPS

Scale: 1" = 20'

NOTES

1. When necessary by existing physical conditions, alternate Wheel Chair Ramps may be used subject to Engineer's approval.
2. Subject to field conditions, the Engineer shall determine final location of Wheel Chair Ramp.
3. Where necessary pullboxes, handholes manholes etc. shall be adjusted to match Wheel Chair Ramp grade. Adjustments shall be considered incidental to Wheel Chair Ramp construction, unless otherwise noted.

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

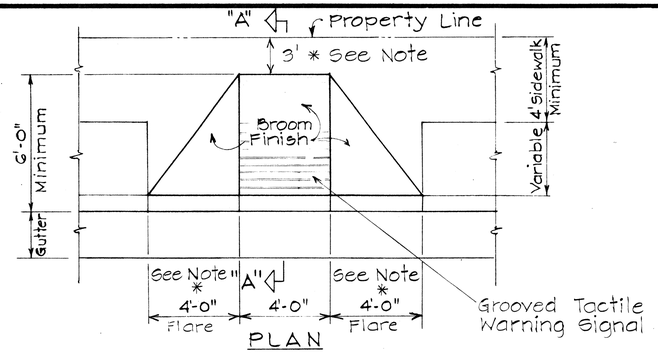
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS OF WHEEL CHAIR RAMPS

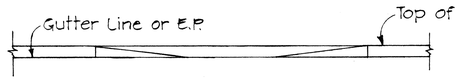
Scale: As Shown May, 1978

SHEET No. 6 OF 7 SHEETS

| FED. ROAD DIST. NO. | STATE | ~~FED. AID~~ PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | 72A-01-78 | 1979 | 10 | 11 |

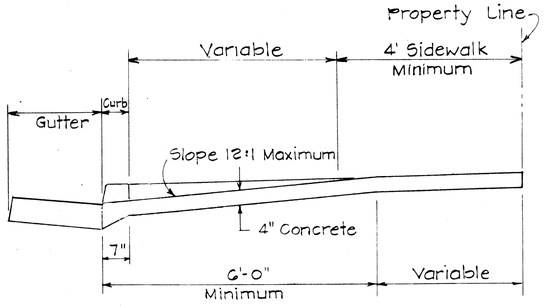



PLAN




ELEVATION

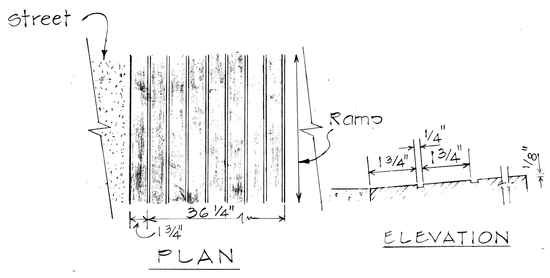
* Where dimension is less than 3', Flare width shall be 5'




SECTION "A-A"

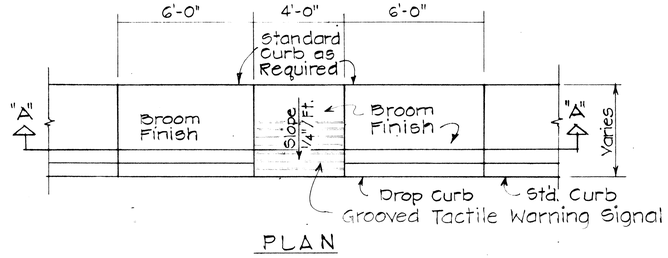
## WHEELCHAIR RAMP - TYPE "A"

USE WHERE OBSTRUCTIONS EXIST

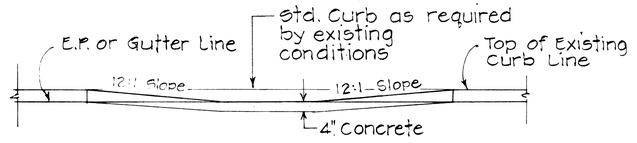



PLAN ELEVATION

## GROOVED TACTILE WARNING SIGNAL



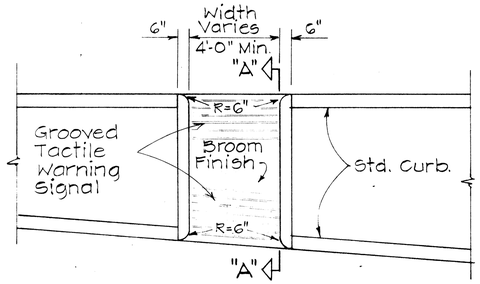

PLAN



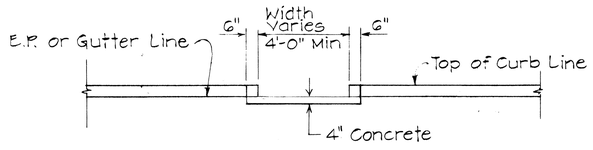

ELEVATION
SECTION "A-A"

## WHEELCHAIR RAMP - TYPE "B"

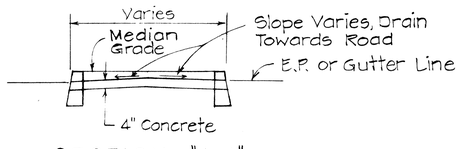
USE AT SIDEWALKS WITH LESS THAN 6'-0" WIDTH




PLAN



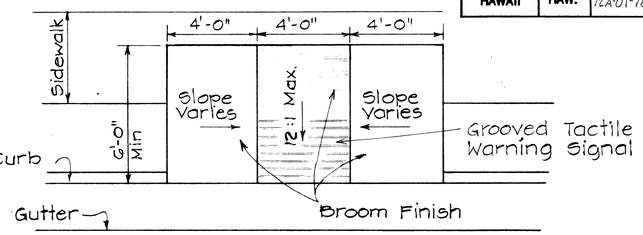

ELEVATION



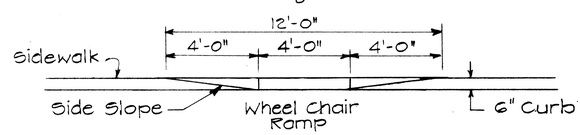

SECTION "A-A"

## WHEELCHAIR RAMP - TYPE "C"

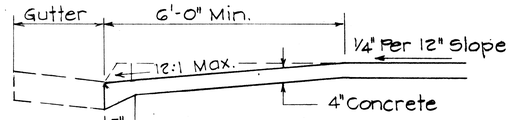
USE AT MEDIAN CROSSINGS, ISLANDS




PLAN
Scale: 3/8" = 1'-0"



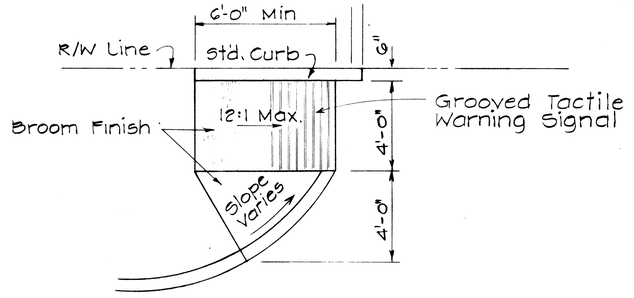

ELEVATION
Scale: 3/8" = 1'-0"




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

## WHEELCHAIR RAMP - TYPE "D"

USE WHEN IDEAL CONDITIONS EXIST




## WHEELCHAIR RAMP - TYPE "E"

USE AT CURBED DRIVEWAYS
Scale: 3/8" = 1'-0"

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

# TYPICAL DETAILS OF WHEEL CHAIR RAMPS

Scale: As Shown May, 1978

SHEET NO. 7 OF 7 SHEETS

10