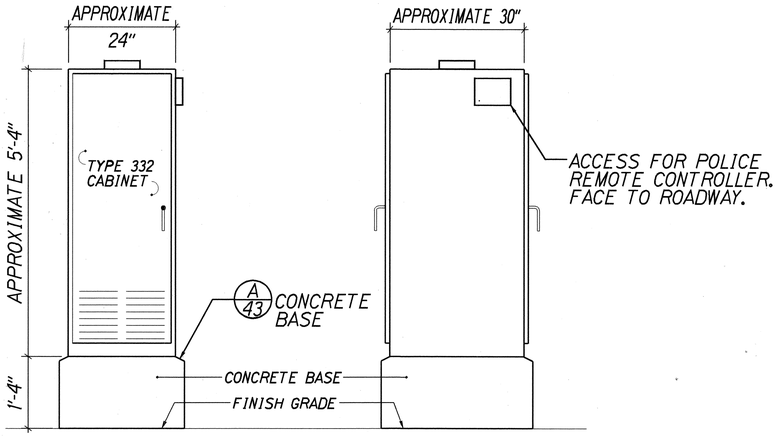
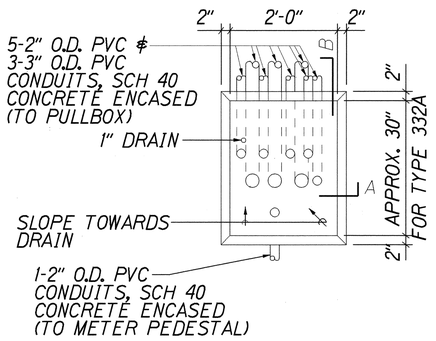
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	50E-01-98	1998	43	79

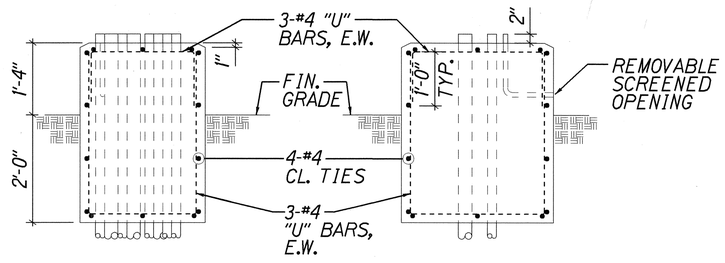


TYPE 332A TRAFFIC CONTROLLER CABINET

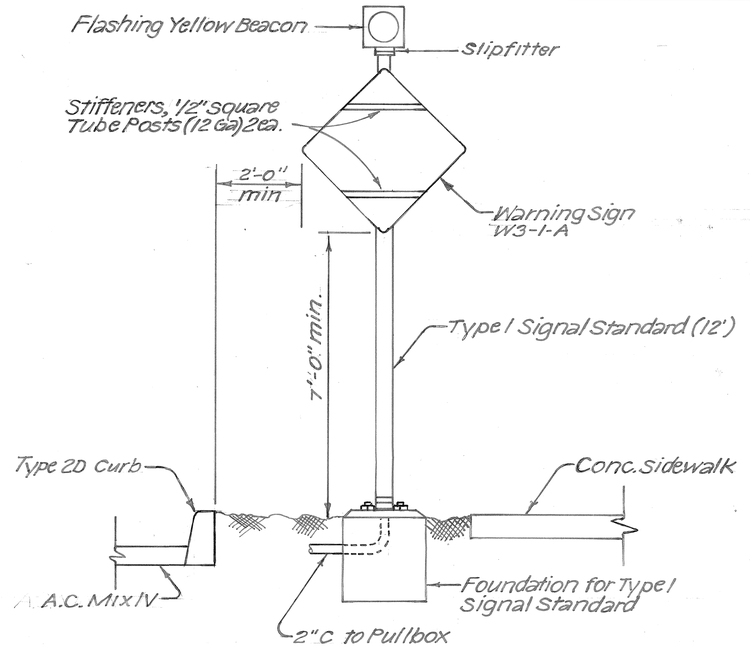


NOTES:

1. CONCRETE SHALL BE CLASS "B".
2. DIMENSIONS SHALL BE ALTERED TO SUIT CONTROLLER CABINED ACTUALLY FURNISHED.
3. CONDUITS BENDS AND DRAIN ARE INCIDENTAL TO CONCRETE BASE.
4. REFER TO CABINET MANUFACTURER'S SPECIFICATIONS FOR DETAILS OF ANCHOR BOLTS AND BASE SETTING.
5. ALL EXPOSED SURFACES OF CONCRETE BASE SHALL BE GIVEN A CLASS 2, RUBBED FINISH.



A/43 TYPE "D" CONCRETE BASE CONTROLLER CABINET



WARNING SIGN WITH FLASHING YELLOW BEACON
N.T.S.

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

HAROLD I. YOSHIZAKI LICENSED PROFESSIONAL ENGINEER No. 2091-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Harold I. Yoshizaki

SHIMABUKURO, ENDO & YOSHIZAKI, INC.
1126 12th Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONTROLLER FOUNDATION DETAILS

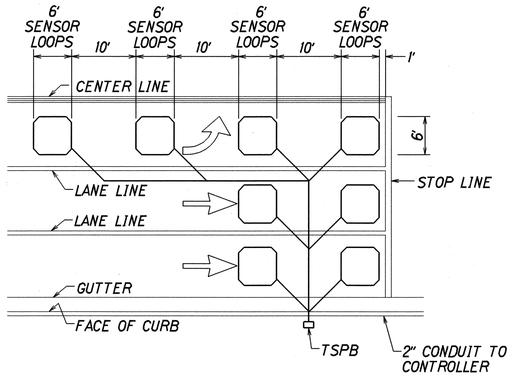
KAUMUALII HIGHWAY, KUHIO HIGHWAY & RICE STREET INTERSECTION IMPROVEMENTS
PROJECT NO. 50E-01-98

SCALE: Not To Scale DATE: / /1998

SHEET No. 1 OF 4 SHEETS

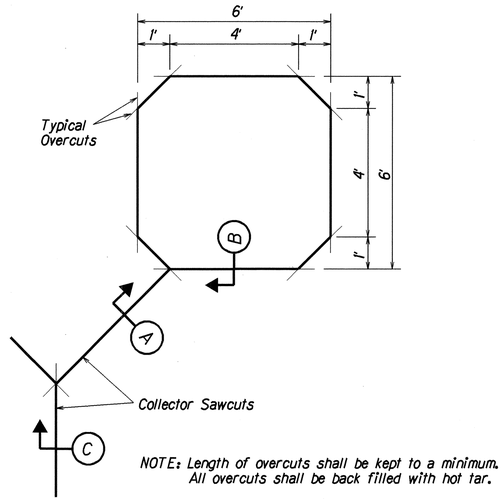
"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	50E-01-98	1998	44	79



NOTES:
1. Center sensor loops in lanes.
2. Collector cables shall be twisted 2 turns per foot.
3. Number of loops and locations vary. See project plans.
4. Number and locations of collector sawcuts may be varied in the field to suit.

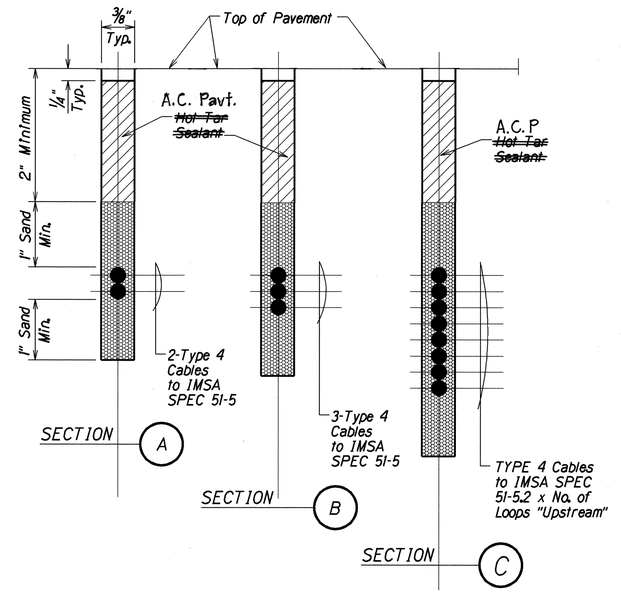
TYPICAL SENSOR LOOP LAYOUT



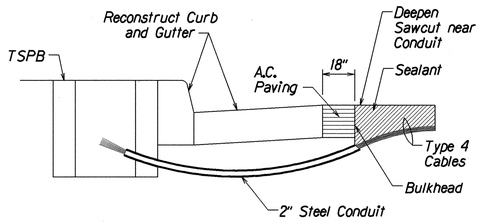
NOTE: Length of overcuts shall be kept to a minimum. All overcuts shall be back filled with hot tar.

TYPICAL SENSOR LOOP SAWCUT DETAIL

N.B.- ϕ Sawcuts Done



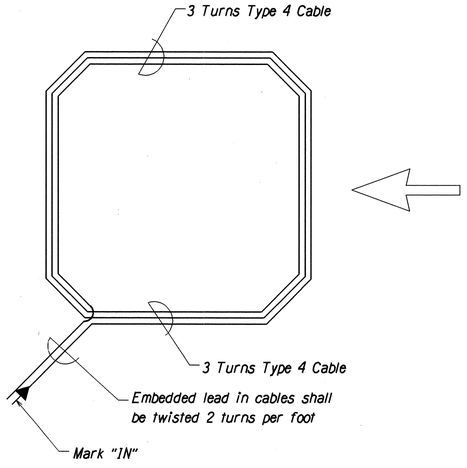
TYPICAL SECTION THROUGH SENSOR LOOP



NOTES ON CONSTRUCTION AT END OF SAWCUT

1. Seal roadway end of conduit after installation of conductors.
2. Install bulkhead across conduit trench.
3. Place hot tar in sawcut.
4. Backfill over conduit with new A.C.
5. Reconstruct curb and gutter as required.

DETAIL OF SENSOR LOOP INSTALLATION AT EDGE OF ROADWAY



Installed Pre-Formed Loops

TYPICAL SENSOR LOOP WIRING DIAGRAM

TYPES OF CABLES

TYPE 1	Signal Loop Cable: Stranded No. 14, 26 conductors
TYPE 2	Detector Lead-In Cable and Pedestrian Push Button Circuit Cable: Stranded, No. 14, 2 Conductors
TYPE 3	Interconnect Cable: Solid No. 20, 12 Pairs
TYPE 4	Loop Sensor Cable: Solid No. 12, Single Conductor to IMSA SPEC 51-5
TYPE 5	Cable from Signal Loop to Signal Head: Stranded, No. 14, Single Conductor
TYPE 6	Service Cable: Solid, No. 6, 3 Conductors

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LOOP DETECTOR DETAILS

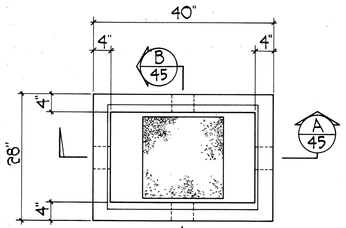
KAUMUALII HIGHWAY, KUHIO HIGHWAY & RICE STREET INTERSECTION IMPROVEMENTS
PROJECT NO. 50E-01-98
NOT TO SCALE DATE: / /1998

SHEET No. 2 OF 4 SHEETS

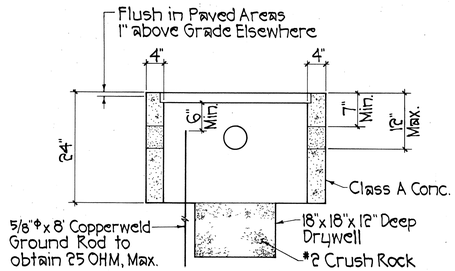
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

"AS-BUILT"

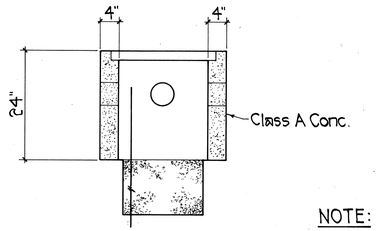
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	50E-01-98	1998	45	79



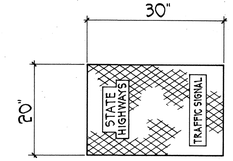
PLAN OF PULLBOX



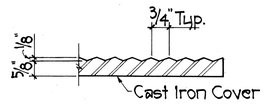
SECTION (A 45)



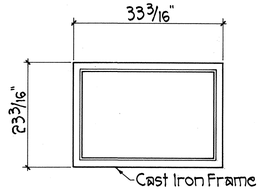
SECTION (B 45)



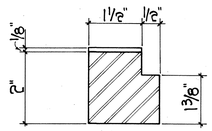
PLAN OF COVER



SECTION THROUGH COVER



PLAN OF FRAME

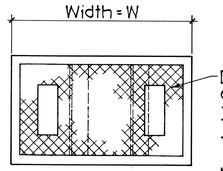


SECTION THROUGH FRAME

NOTE: Provide Ground Rod in all Pullboxes adjacent to Standards, Pedestals, Controllers, and other locations specified by the Engineer. Cost shall be incidental to the various traffic signal items.

TYPE "C" PULLBOX (C & C Type)

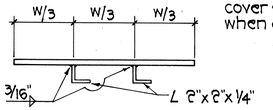
Not To Scale



TOP VIEW

Except where noted, details shall conform to cover details for Type "C" Pullbox (C & C Type)

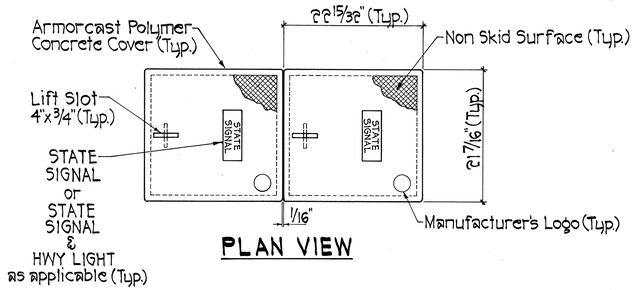
NOTE:
Hot dip galvanize after fabrication. Modified cover shall be furnished when called for on plans.



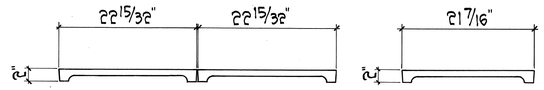
SIDE VIEW

MODIFIED COVER DETAIL

Not To Scale

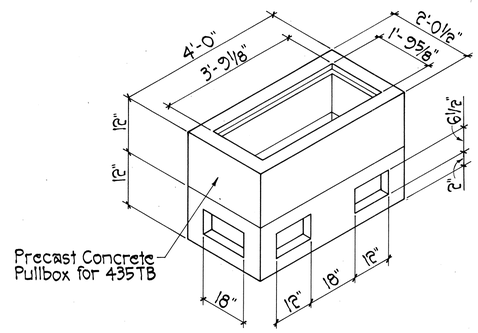


PLAN VIEW



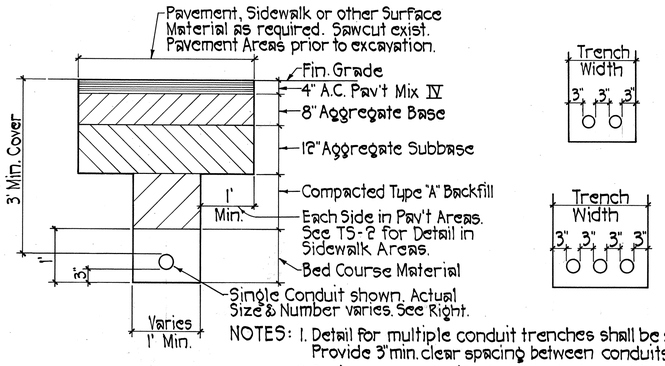
ELEVATION SIDE VIEW

NOTES:
1. Provide Armorcast Polymer Concrete Cover.
2. Install on 6" bed of #3 Crushed Rock.
3. Provide sufficient amount of 5/8"ϕx 8' Copperweld Ground Rods as directed by the Traffic Signal Inspector/Engineer. Cost shall be incidental to the various Traffic Signal Items.



TYPE "D" PULLBOX & COVER

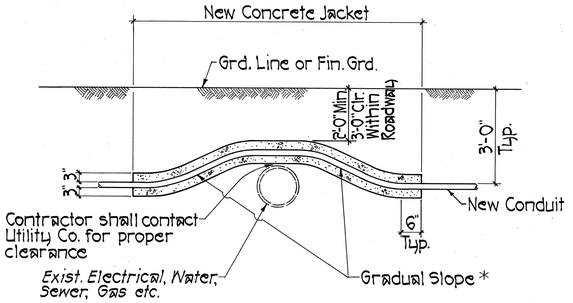
Not To Scale

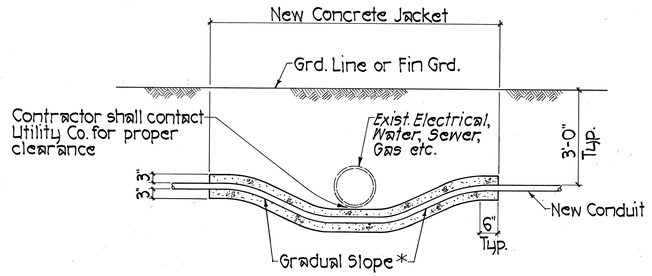


NOTES:
1. Detail for multiple conduit trenches shall be similar. Provide 3" min. clear spacing between conduits.
2. Bed course material shall be black sand, beach sand, crushed rock, or finely graded coral passing a 1/2" sieve.

TYPICAL TRENCH DETAIL

Not To Scale





* To be determined by County Electrical Inspector/Engineer.

CONDUIT BY-PASS DETAIL AT VARIOUS UTILITIES

Not To Scale

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

137218

HAROLD I. YOSHIZAKI LICENSED PROFESSIONAL ENGINEER No. 2091-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Harold I. Yoshizaki
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Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

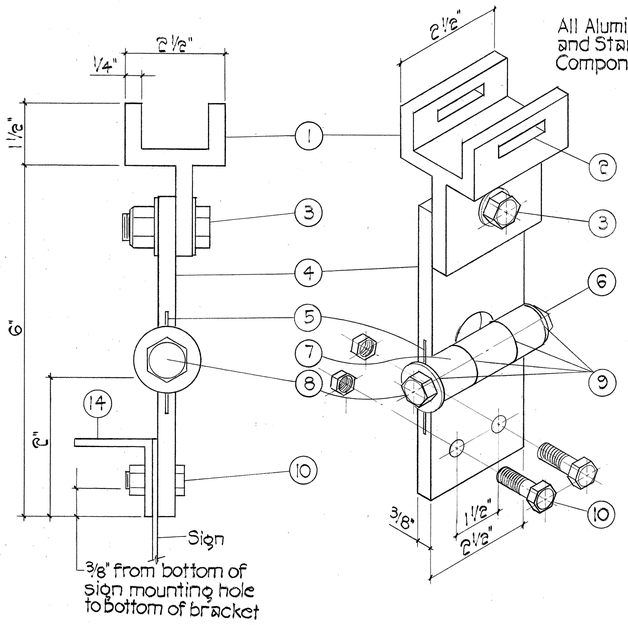
DETAILS

KAUMUALII HIGHWAY, KUHIO HIGHWAY & RICE STREET INTERSECTION IMPROVEMENTS
PROJECT NO. 50E-01-98

SCALE: AS SHOWN DATE:

SHEET No. 3 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	50E-01-98	1998	46	79



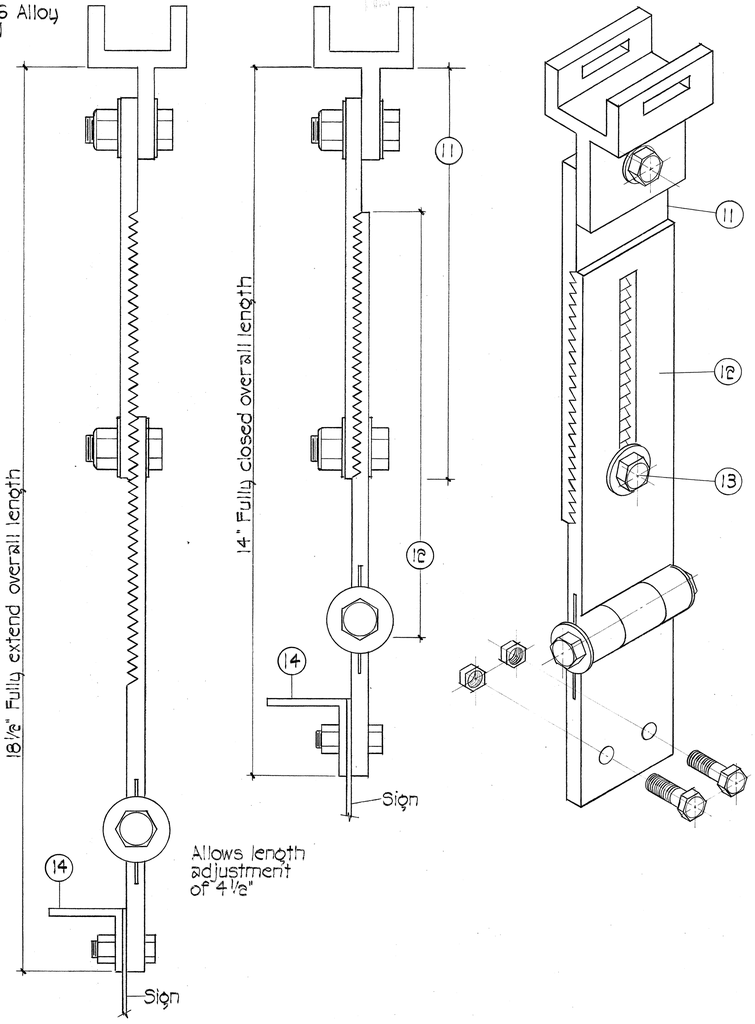
All Aluminum 6061T6 Alloy and Stainless Steel Components.

FIXED LENGTH NON-ADJUSTABLE SWING SIGN BRACKET

Not to Scale

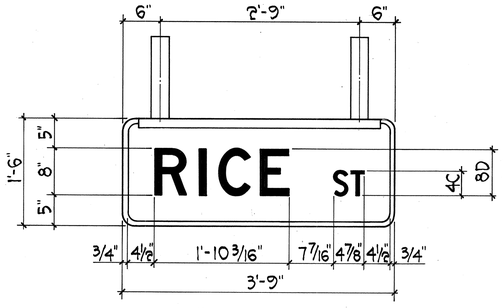
1. Pivotal Upper Bracket
2. 1 5/8" x 1/4" Slot for double strapping to electrolier mast arm. (MCG-345(HD) .030" x 3/4" heavy duty stainless steel strap with MCG-343(HD) buckle recommended.
3. 1/2" - 13 x 1 1/2" Stainless steel hex head bolt with stainless steel hex lock nut and 1/16" stainless steel washer (both sides). Allows upper bracket to pivot and align with electrolier mast arm.
4. 6" Overall drop with fixed length sign bracket.
5. Stainless steel dampener spring (removable).
6. Stainless steel hex lock nut with 1/16" stainless steel washer.
7. 1" O.D. Axle housing
8. 1/2" - 13 x 4" Stainless steel hex head bolt with 1/16" stainless steel washer.
9. Oilite bushing
10. Sign mounting sets, consisting of two each 5/16" - 18 x 1" stainless steel hex head bolt with stainless steel hex lock nut. Two holes on 1 1/2" centers provide positive lock sign mounting to bracket.
11. 8 1/4" overall length upper adjustable sign bracket section.
12. 9" overall length lower adjustable sign bracket section, including axle housing (6" overall length to top of axle housing).
13. 1/2" - 13 x 1 1/2" Stainless steel hex bolt with stainless steel hex lock nut and 1/16" stainless steel washers (both sides). Loosen lock nut, adjust bracket teeth to level sign.
14. 1 1/4" x 1 1/4" x 1/8" Aluminum angle.

Note: Dimension may vary slightly.



ADJUSTABLE LENGTH SWING SIGN BRACKET

Not to Scale

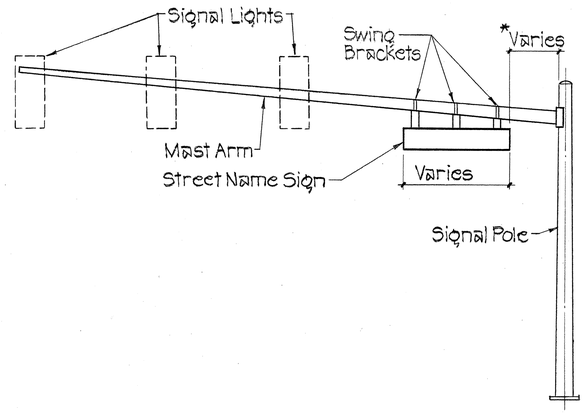


REAR VIEW

RICE STREET SIGN DETAIL

Not To Scale

*To be determined by the Engineer.



STREET NAME SIGN MOUNTING ON MAST ARM

Not to Scale

NOTES:

1. All Street Name Signs shall conform to Section 681 of the Standard Specifications and the latest editions and amendments of the follow FHWA publications:
   a. "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD).
   b. "Standard Highway Signs".
   c. "Standard Alphabets for Highway Signs"
2. Colors
   Legend - White (Reflectorized)
   Background - Green (Reflectorized)
3. All panel shall be reflectorized with Type B reflective sheeting in accordance with Section 718.20 of the Standard Specifications.
4. The Contractor shall provide the same message on the front and back side of the sign.
5. Borders and messages shall conform to details as shown on the Plans and as specified in the MUTCD.
6. Sign mounting brackets, aluminum angle, fixtures, fasteners and all necessary hardware and equipment, tools, labor materials and other incidentals for installation, will not be paid for separately but shall be considered incidental to the Street Name Sign installed complete.

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

137218

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STREET NAME SIGN & MOUNTING DETAIL

KAUMUALII HIGHWAY, KUHIO HIGHWAY & RICE STREET INTERSECTION IMPROVEMENTS
PROJECT NO. 50E-01-98

SCALE: AS NOTED DATE:

SHEET No. 4 OF 4 SHEETS