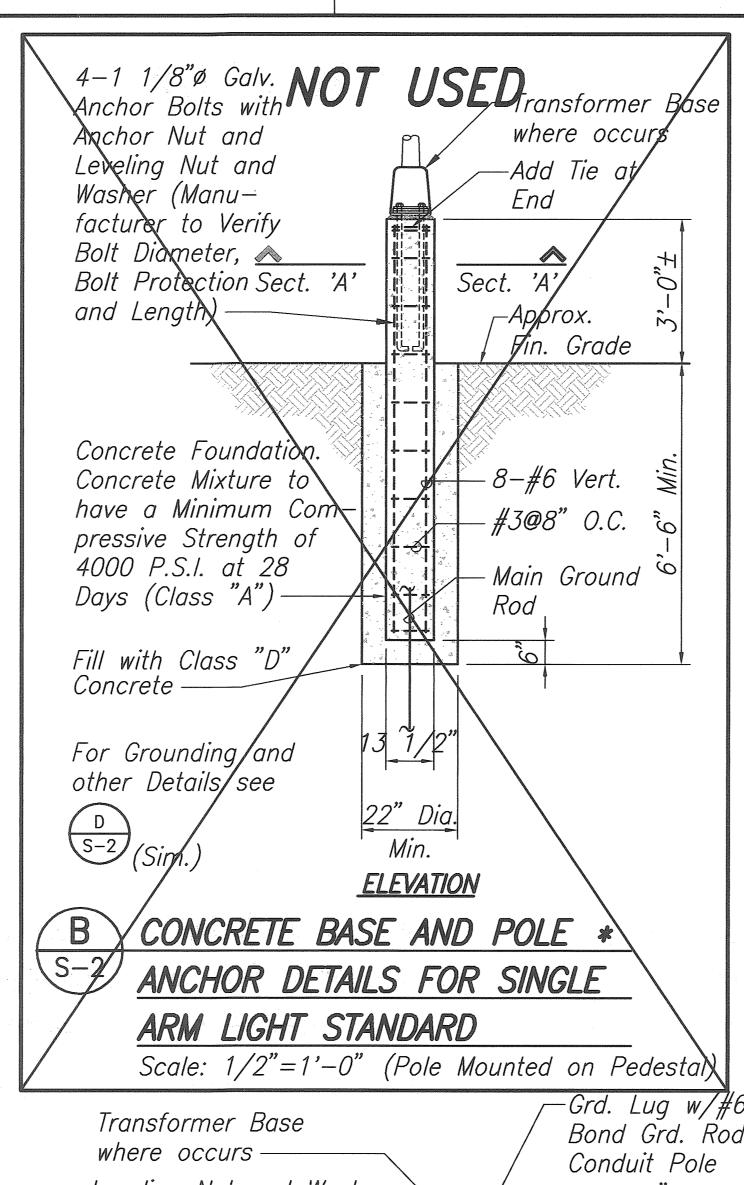


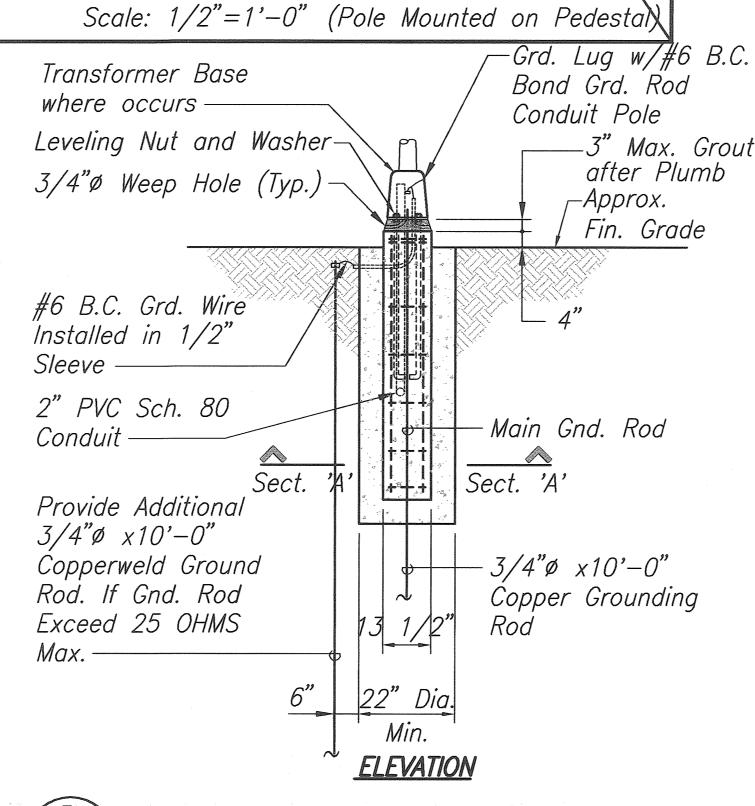
\* NOTE:

Where Pole is Located in Median,

install Guardrail and Posts in Accordance

with Details on Standard Plan TE-54.





TYPICAL CONCRETE BASE AND POLE MOUNTING DETAIL TRANSFORMER BASE Scale: 1/2"=1'-0"

4−1"Ø Galv. Anchor Bolts with Anchor Nut and Leveling Nut and Washer (Manufacturer to Verify -Add Tie at Bolt Diameter, Bolt Protection and Length)-Fin. Grade 4-#6 Vert. Concrete Foundation #4@8" O.C. Sect. Fill with Class "D" - Main Ground Concrete -For Grounding and other Details see 22" Dia. S-1 (Sim.)

CONCRETE BASE AND POLE ANCHOR DETAILS FOR SINGLE ARM LIGHT STANDARD Scale: 1/2"=1'-0"

NOTE:

ELEVATION

Details Represent Typical Components

with Various Mast Arm Configurations.

FED. ROAD DIST. NO. FISCAL HAW. STP-0300(66) 1998

# **GENERAL NOTES:**

DESIGN SPECIFICATIONS:

AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals (1994).

### GENERAL SPECIFICATIONS:

Hawaii Standard Specifications for Road, Bridge, and Public Works Construction, 1994.

DESIGN WIND LOAD: 100 mph Wind Velocity.

## **MATERIALS:**

Reinforced Concrete: Class A unless noted otherwise. Reinforced Steel: ASTM A615, Grade 60 unless otherwise noted, ASTM A615 GR 40 for Stirrups and Ties.

Anchor Bolts: ASTM A36 Hot Dip Galvanized

# **SOIL DESIGN VALUES:**

Assumed Allowable Foundation Pressure 2000 psf Assumed Lateral Bearing Pressure 200 #/sf/ft

#### REINFORCEMENT:

- 1. The minimum clear cover measured from the surface of the Concrete to the face of any Reinforcing Bar shall be as follows, except as otherwise noted.
- A. Concrete exposed to Earth or Weather: Primary Reinforcement 2" and Stirrups 1 1/2"
- B. Concrete cast against and permanently exposed to Earth = 3"
- 2. Reinforcing shall be detailed in accordance with the latest editions of CRSI "Placing Reinforcing Bars" and ACI "Manual of Strandard Practice" and the "Detailing Manual" unless noted otherwise.
- 3. All dimensions relating to Reinforcing (e.g. spacing of bars) are to center of bars unless noted otherwise.

# CONSTRUCTION METHODS:

- 1. Hawaii Standard Specifications for Road, Bridge, and Public Works Construction 1994 and Special Provisions.
- 2. Except as otherwise noted, all vertical dimensions are measured plumb.
- 3. Pole Foundations shall be excavated and poured neat against undisturbed ground. In case of over excavation, space between foundation and ground shall be filled with Concrete at the Contractors' expense and as directed by the Engineer. The minimum quality of the fill Concrete shall be Class D.



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DATE REVISION

> STATE OF HAWAII **DEPARTMENT OF TRANSPORTATION**

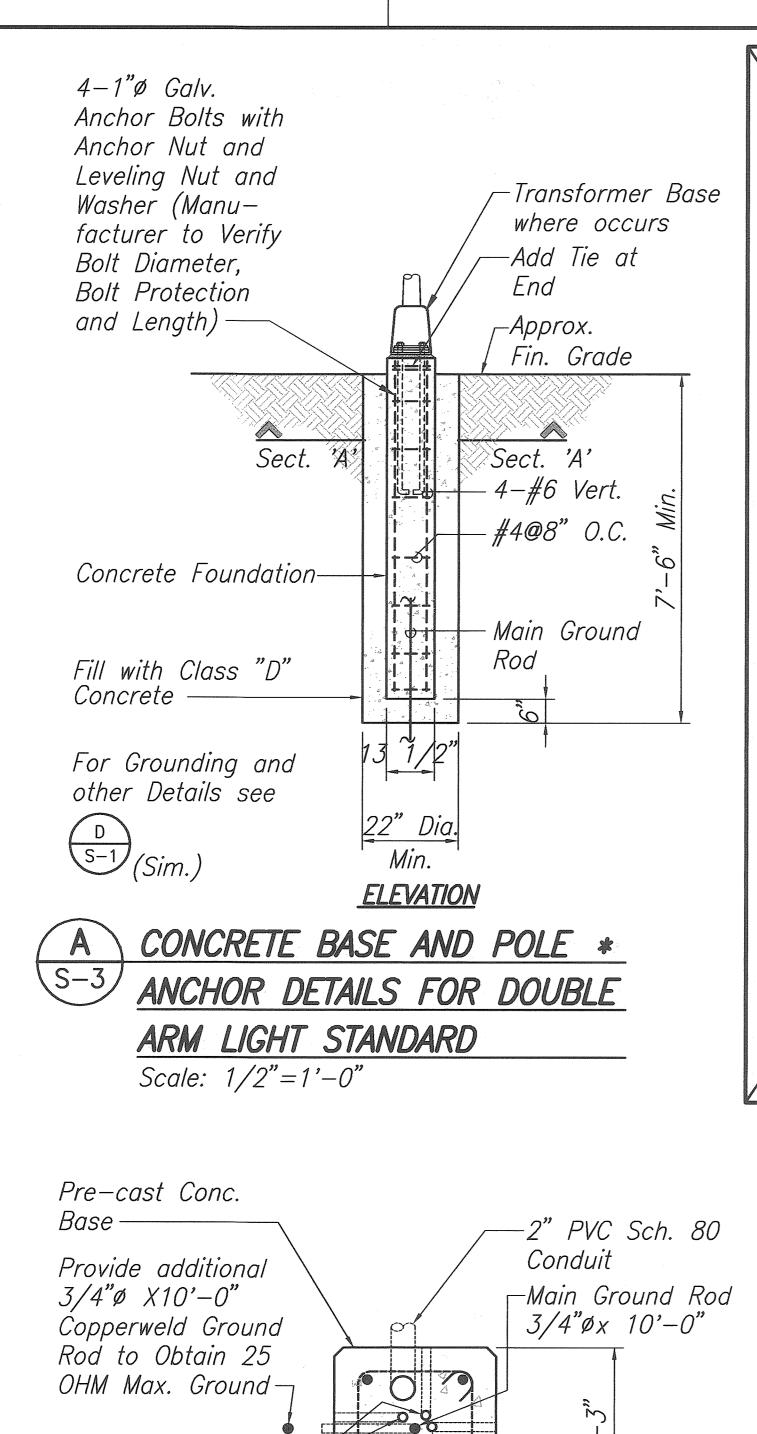
POLE MOUNTING DETAILS HIGHWAY LIGHTING SAFETY IMPROVEMENTS KALANIANAOLE HIGHWAY

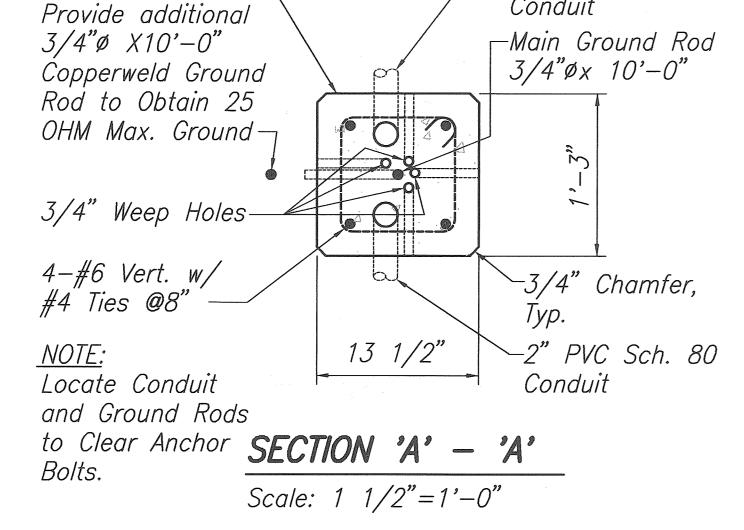
VICINITY OF CASTLE JUNCTION TO WAIMANALO JUNCTION PROJECT NO. STP-0300(66) Scale: As Noted Date: July 9, 1999

SHEET No. S-2 OF SHEETS

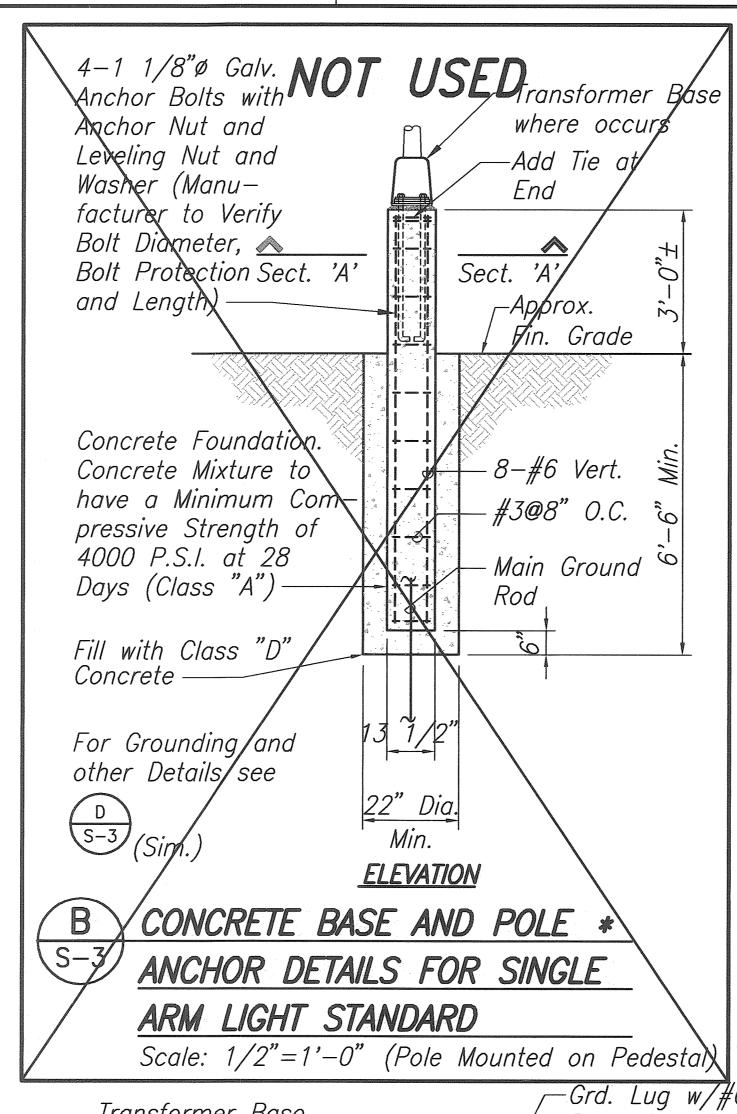
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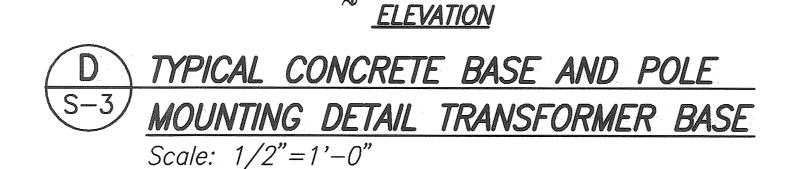




\* NOTE: Where Pole is Located in Median, install Guardrail and Posts in Accordance with Details on Standard Plan TE-54.



-Grd. Lug w/#6 B.C. Transformer Base Bond Grd. Rod where occurs -Conduit Pole Leveling Nut and Washer— -3" Max. Grout after Plumb 3/4"ø Weep Hole (Typ.) -Approx. Fin. Grade #6 B.C. Grd. Wire Installed in 1/2" Sleeve 2" PVC Sch. 80 — Main Gnd. Rod Conduit Sect. 'A' Sect. Provide Additional 3/4"ø x10'-0" 3/4"ø x10'-0" Copperweld Ground Rod. If Gnd. Rod Copper Grounding Exceed 25 OHMS Max. -



4−1"ø Galv. Anchor Bolts with Anchor Nut and Leveling Nut and Washer (Manufacturer to Verify -Add Tie at Bolt Diameter, Bolt Protection and Length) Fin. Grade 4-#6 Vert. Concrete Foundation #4**@**8" O.C. Sect. 'A Fill with Class "D" Main Ground Concrete For Grounding and other Details see  $\binom{D}{S-1}$  (Sim.) **ELEVATION** 

CONCRETE BASE AND POLE  $\sqrt{S-3}$ ANCHOR DETAILS FOR SINGLE ARM LIGHT STANDARD

FED. ROAD DIST. NO. FED. AID PROJ. NO. FISCAL YEAR HAW. STP-0300(66) 1998

# GENERAL NOTES:

**DESIGN SPECIFICATIONS:** 

AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals (1994).

### GENERAL SPECIFICATIONS:

Hawaii Standard Specifications for Road, Bridge, and Public Works Construction, 1994.

DESIGN WIND LOAD: 100 mph Wind Velocity.

## **MATERIALS:**

Reinforced Concrete: Class A unless noted otherwise. Reinforced Steel: ASTM A615, Grade 60 unless otherwise noted, ASTM A615 GR 40 for Stirrups and Ties.

Anchor Bolts: ASTM A36 Hot Dip Galvanized

# **SOIL DESIGN VALUES:**

Assumed Allowable Foundation Pressure 2000 psf Assumed Lateral Bearing Pressure 200 #/sf/ft

## **REINFORCEMENT:**

- 1. The minimum clear cover measured from the surface of the Concrete to the face of any Reinforcing Bar shall be as follows, except as otherwise noted.
- A. Concrete exposed to Earth or Weather: Primary Reinforcement 2", Stirrups 1 1/2"
- B. Concrete cast against and permanently exposed to Earth = 3"
- 2. Reinforcing shall be detailed in accordance with the latest editions of CRSI "Placing Reinforcing Bars" and ACI "Manual of Strandard Practice" and the "Detailing Manual" unless noted otherwise.
- 3. All dimensions relating to Reinforcing (e.g. spacing of bars) are to center of bars unless noted otherwise.

# **CONSTRUCTION METHODS:**

- 1. Hawaii Standard Specifications for Road, Bridge, and Public Works Construction 1994 and Special Provisions.
- 2. Except as otherwise noted, all vertical dimensions are measured plumb.

DATE

3. Pole Foundations shall be excavated and poured neat against undisturbed ground. In case of over excavation, space between foundation and ground shall be filled with Concrete at the Contractors' expense and as directed by the Engineer. The minimum quality of the fill Concrete shall be Class D.

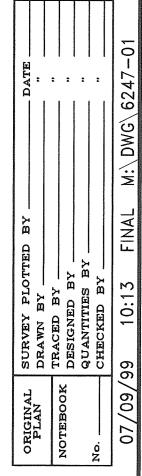
Scale: 1/2"=1'-0"

1. Details Represent Typical Components with Various Mast Arm Configurations.



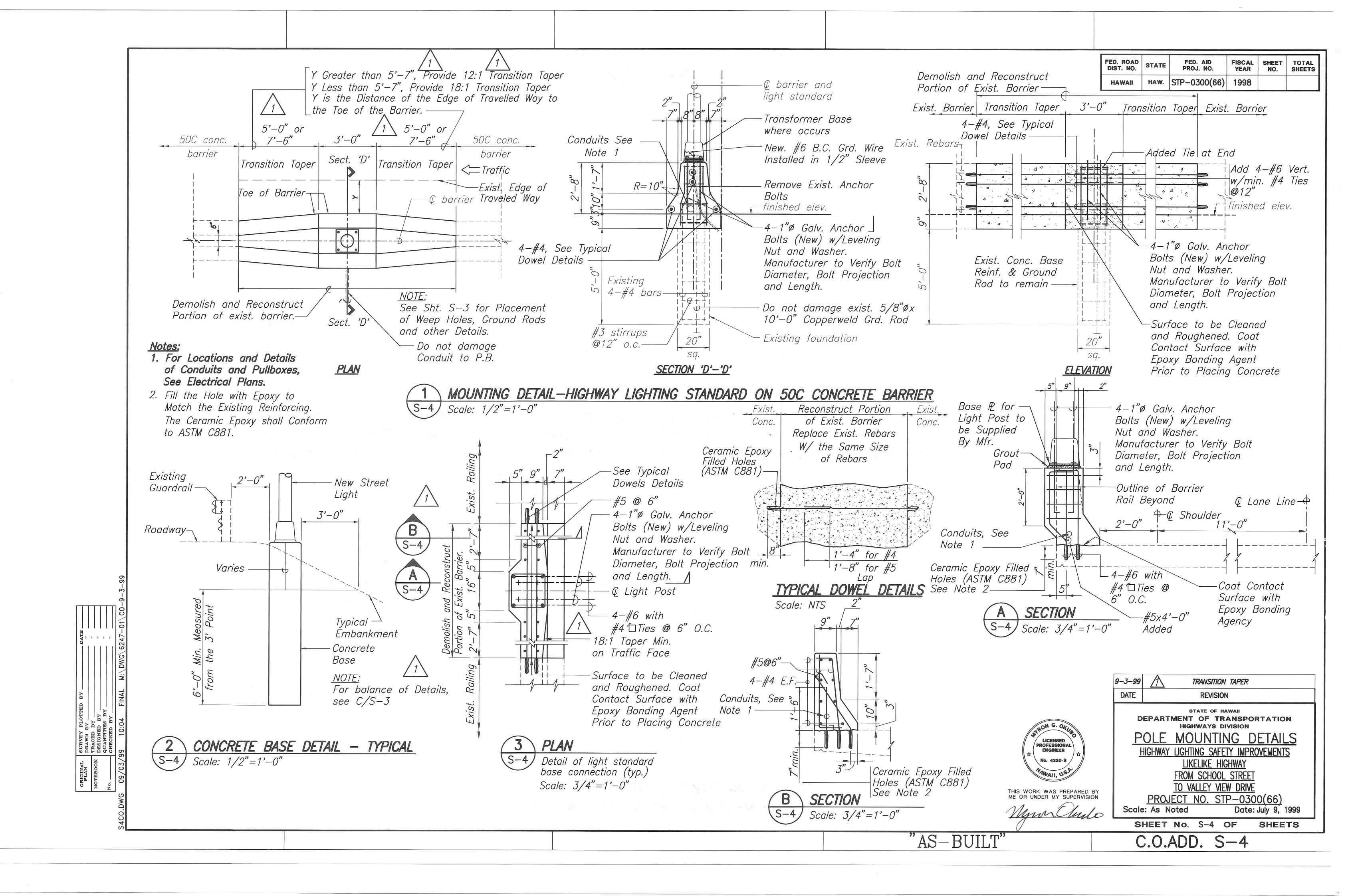
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

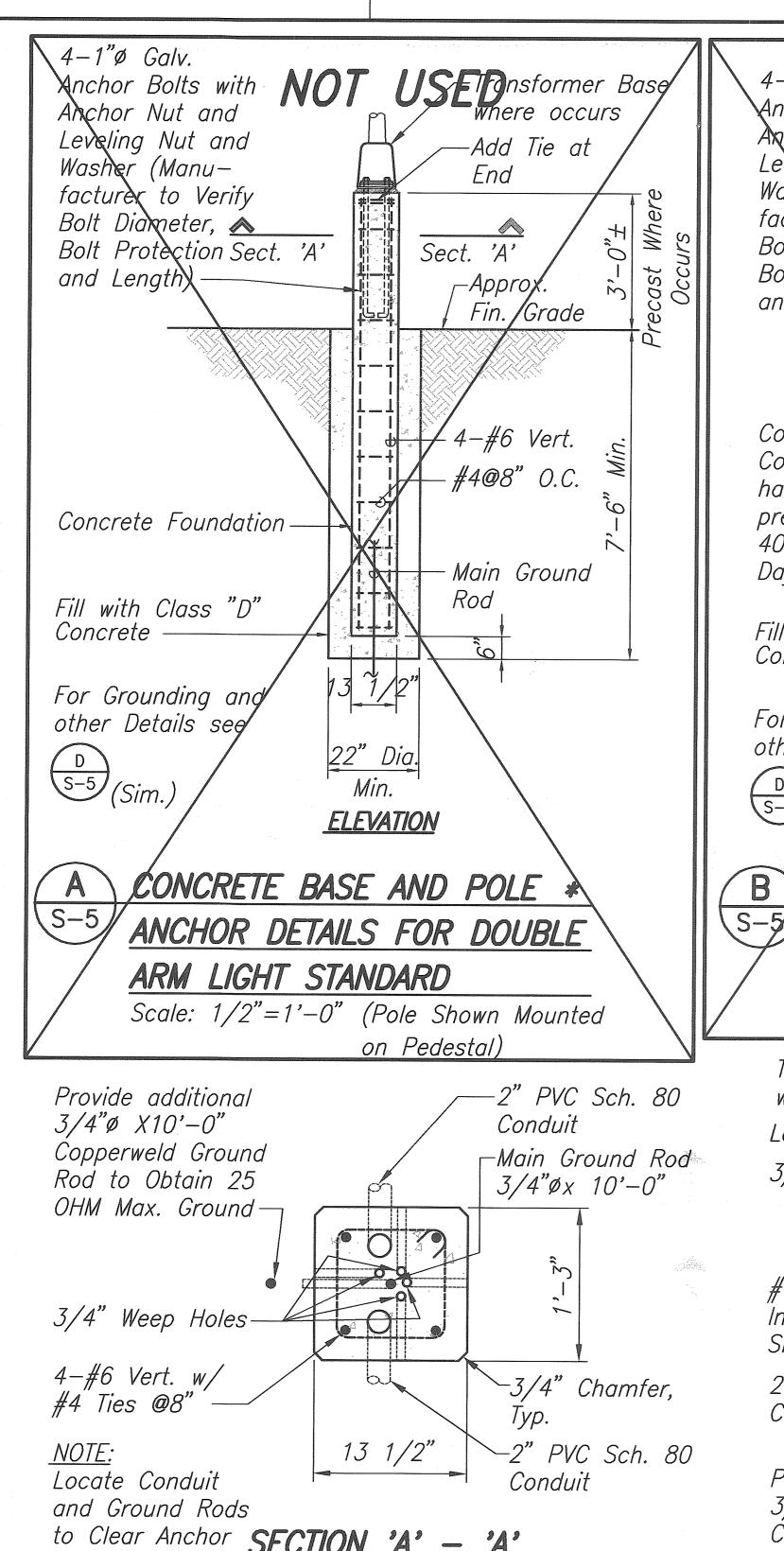
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STATE OF HAWAII **DEPARTMENT OF TRANSPORTATION** POLE MOUNTING DETAILS HIGHWAY LIGHTING SAFETY IMPROVEMENTS LIKELIKE HIGHWAY FROM SCHOOL STREET TO VALLEY VIEW DRIVE PROJECT NO. STP-0300(66) Date: July 9, 1999 Myn Olesto Scale: As Noted SHEET No. S-3 OF SHEETS

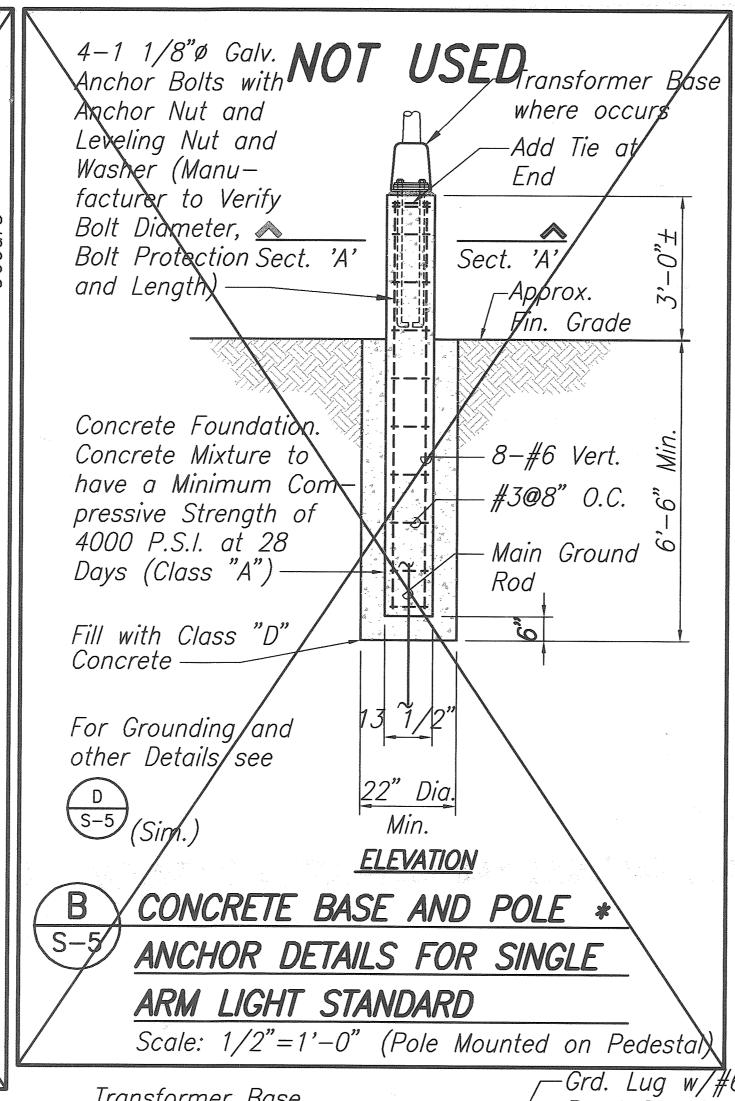
**REVISION** 

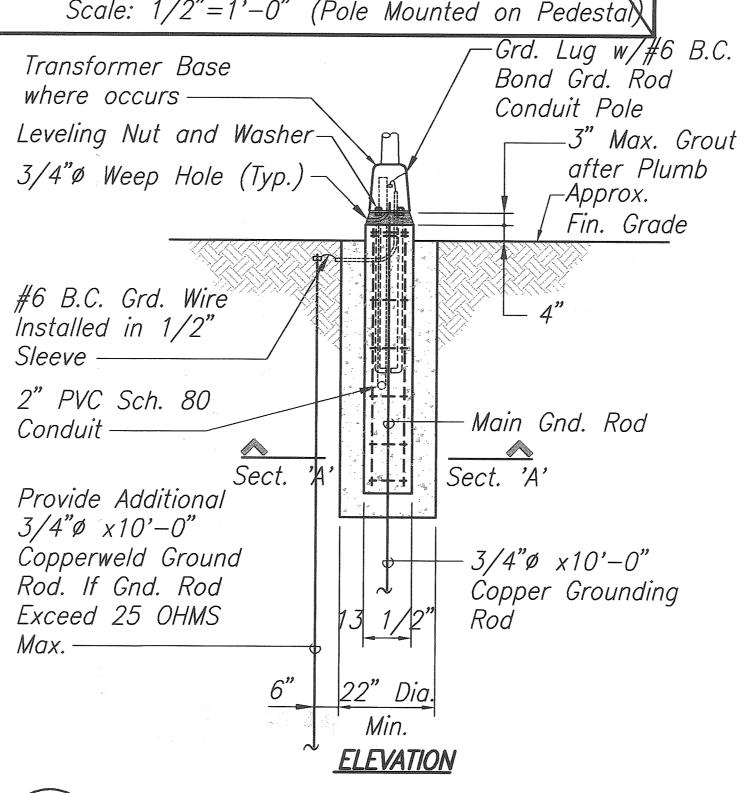




to Clear Anchor SECTION 'A' - 'A' Scale: 1 1/2"=1'-0" \* <u>NOTE:</u> Where Pole is Located in Median, install Guardrail and Posts in Accordance with Details on Standard Plan TE-54.

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TYPICAL CONCRETE BASE AND POLE MOUNTING DETAIL TRANSFORMER BASE Scale: 1/2"=1'-0"

4-1"Ø Galv. Anchor Bolts with Anchor Nut and Leveling Nut and Washer (Manufacturer to Verify -Add Tie at Bolt Diameter, Bolt Protection and Length) -Approx. Fin. Grade 4-#6 Vert. Concrete Foundation --#4@8" O.C. Sect. 'A Sect. (A' Fill with Class "D" Main Ground Concrete -For Grounding and other Details see 22" Dia. (Sim.)ELEVATION

CONCRETE BASE AND POLE ANCHOR DETAILS FOR SINGLE ARM LIGHT STANDARD

Details Represent Typical Components

with Various Mast Arm Configurations.

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

FED. ROAD DIST. NO. FED. AID PROJ. NO. FISCAL SHEET TOTAL HAW. STP-0300(66) 1998

# GENERAL NOTES:

DESIGN SPECIFICATIONS:

AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals (1994).

GENERAL SPECIFICATIONS:

Hawaii Standard Specifications for Road, Bridge, and Public Works Construction.

DESIGN WIND LOAD: 100 mph Wind Velocity.

## MATERIALS:

Reinforced Concrete: Class A unless noted otherwise. Reinforced Steel: ASTM A615, Grade 60 unless otherwise noted, ASTM A615 GR 40 for Stirrups and Ties.

Anchor Bolts: ASTM A36 Hot Dip Galvanized Structural Steel Shapes and Plates: ASTM A36 Hot Dipped Galvanized after Fabrication

## SOIL DESIGN VALUES:

Assumed Allowable Foundation Pressure 2000 psf Assumed Lateral Bearing Pressure 200 #/sf/ft

### **REINFORCEMENT:**

- The minimum clear cover measured from the surface of the Concrete to the face of any Reinforcing Bar shall be as follows, except as otherwise noted.
- A. Concrete exposed to Earth or Weather: Primary Reinforcement 2", Stirrup 1 1/2"
- B. Concrete cast against and permanently exposed to Earth = 3"
- 2. Reinforcing shall be detailed in accordance with the latest editions of CRSI "Placing Reinforcing Bars" and ACI "Manual of Strandard Practice" and the "Detailing Manual" unless noted otherwise.
- 3. All dimensions relating to Reinforcing (e.g. spacing of bars) are to center of bars unless noted otherwise.

# CONSTRUCTION METHODS:

- 1. Hawaii Standard Specifications for Road, Bridge, and Public Works Construction 1994 and Special Provisions.
- 2. Except as otherwise noted, all vertical dimensions are measured plumb.
- 3. Pole Foundations shall be excavated and poured neat against undisturbed ground. In case of over excavation, space between foundation and ground shall be filled with Concrete at the Contractors' expense and as directed by the Engineer. The minimum quality of the fill Concrete shall be Class D.

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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION POLE MOUNTING DETAILS

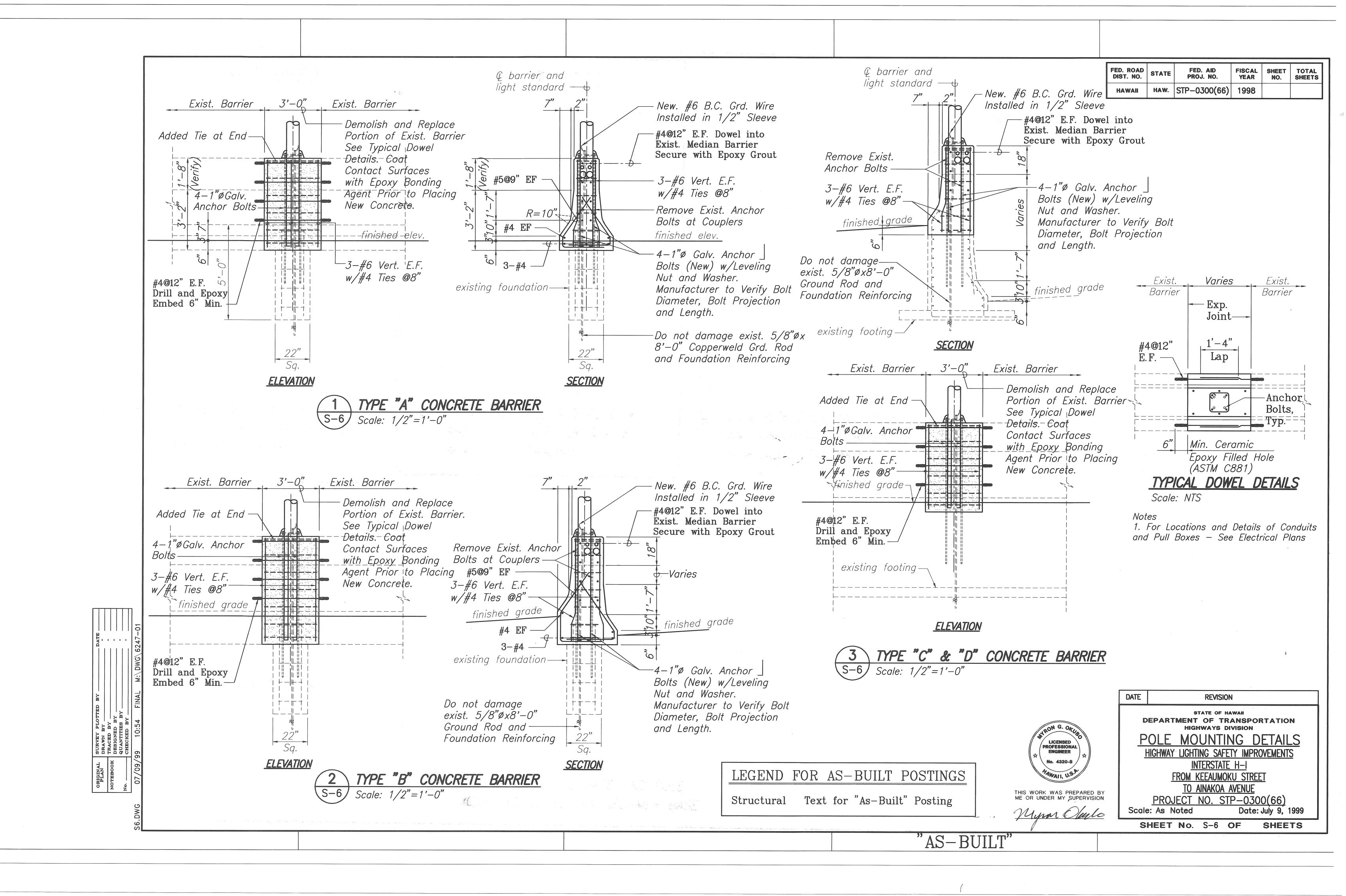
HIGHWAY LIGHTING SAFETY IMPROVEMENTS <u>INTERSTATE</u> H-I

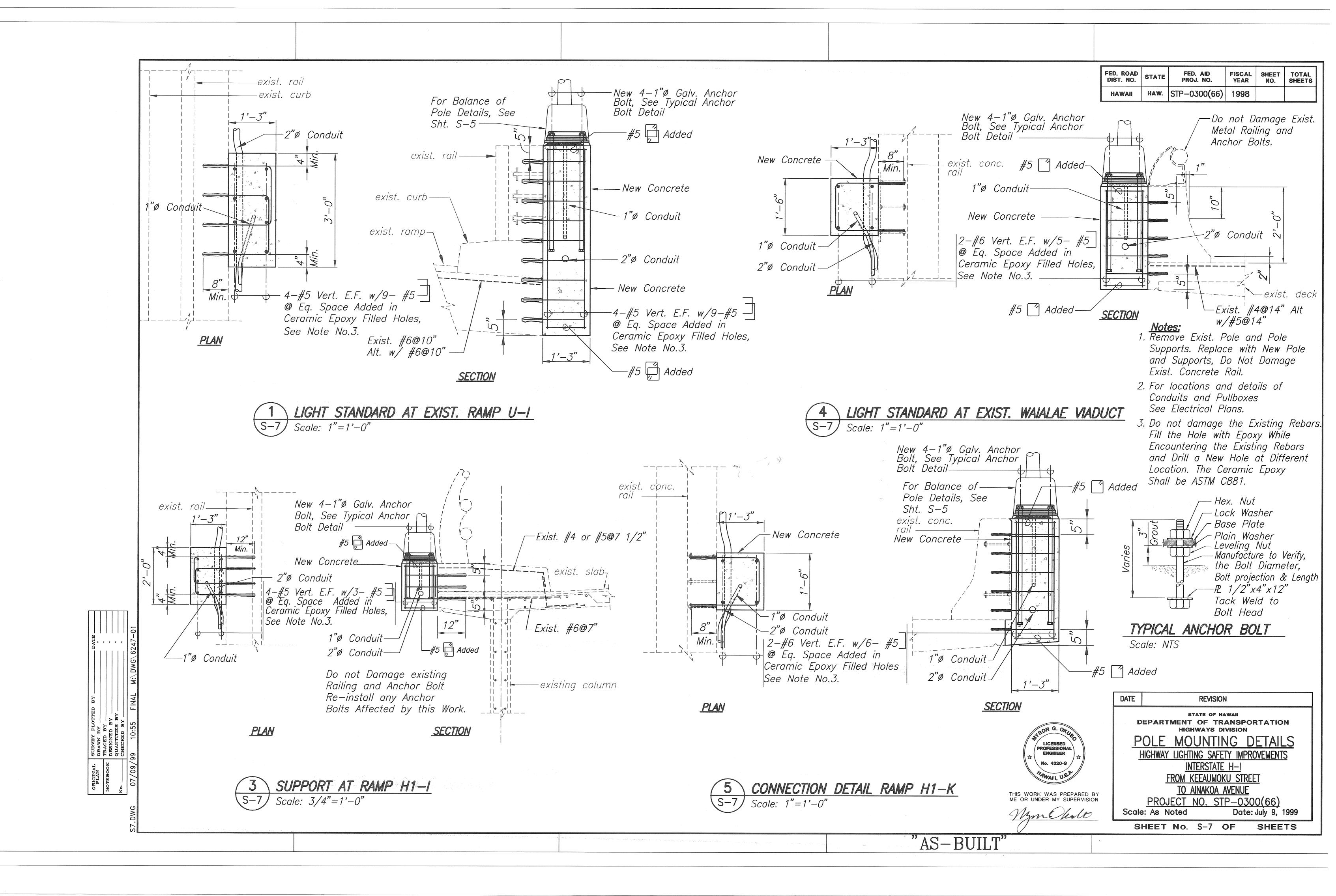
FROM KEEAUMOKU STREET TO AINAKOA AVENUE

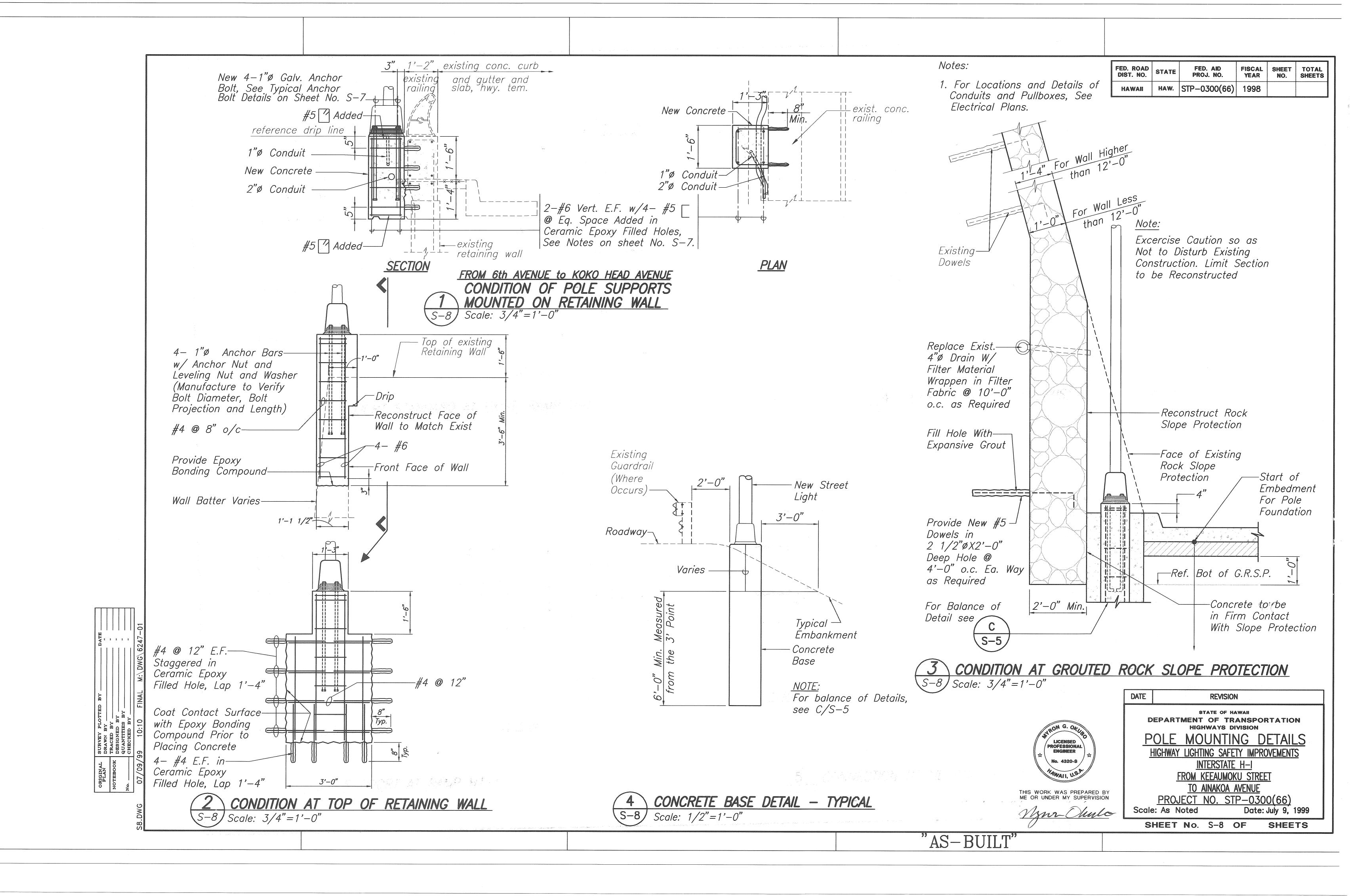
PROJECT NO. STP-0300(66) Scale: As Noted Date: July 9, 1999

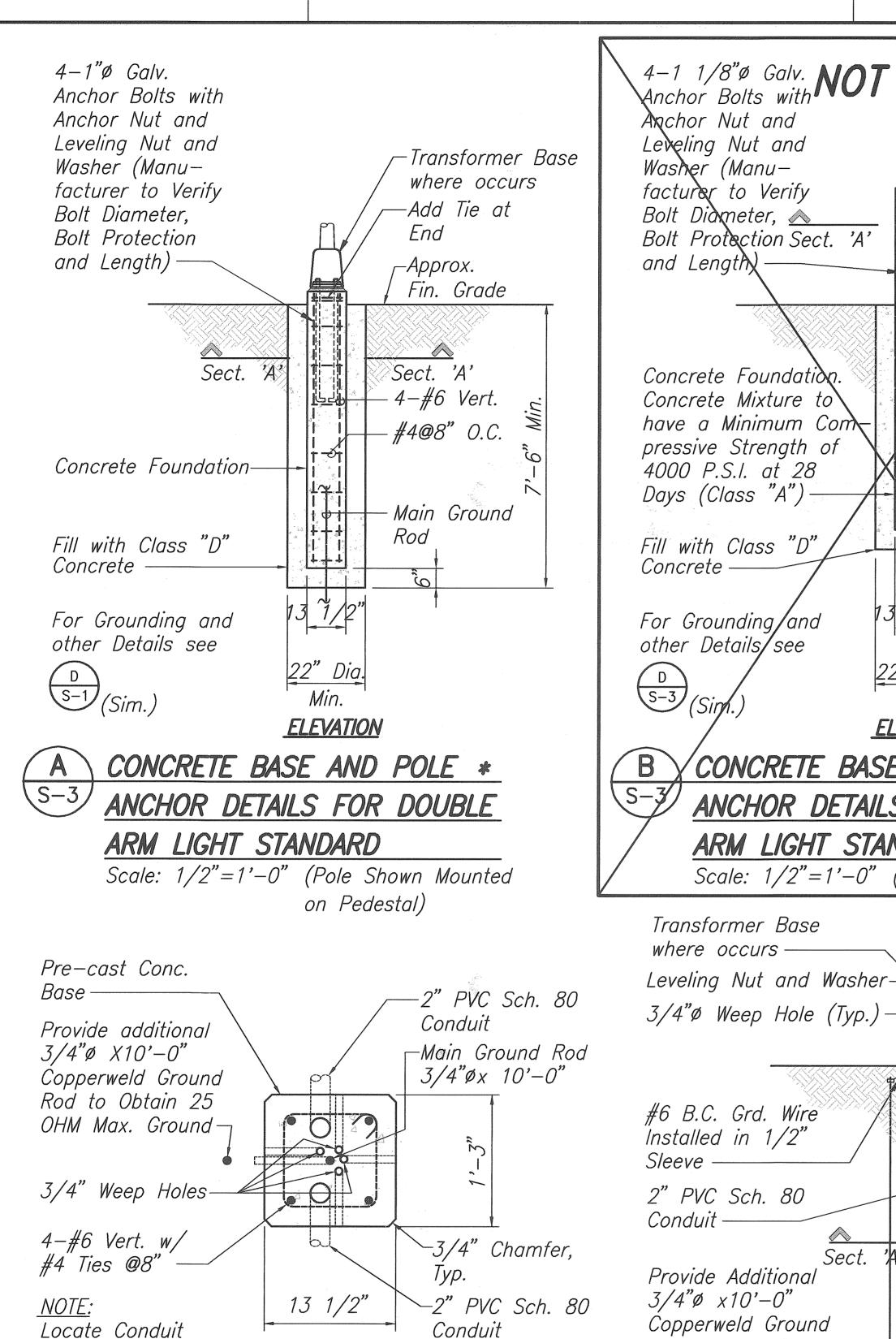
AS-BUILT'

SHEET No. S-5 OF SHEETS









and Ground Rods

Bolts.

\* <u>NOTE</u>:

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to Clear Anchor SECTION 'A' - 'A'

Where Pole is Located in Median,

install Guardrail and Posts in Accordance

with Details on Standard Plan TE-54.

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

Scale: 1/2"=1'-0" (Pole Mounted on Pedestal) -Grd. Lug w/#6 B.C. Transformer Base Bond Grd. Rod where occurs — Conduit Pole Leveling Nut and Washer-3/4"ø Weep Hole (Typ.) #6 B.C. Grd. Wire Installed in 1/2" Sleeve 2" PVC Sch. 80 - Main Gnd. Rod Conduit Sect. 'A' Provide Additional 3/4"ø x10'-0" Copperweld Ground -3/4"ø x10'-0" Rod. If Gnd. Rod Copper Grounding Exceed 25 OHMS 13 1/2" ELEVATION TYPICAL CONCRETE BASE AND POLE MOUNTING DETAIL TRANSFORMER BASE Scale: 1/2"=1'-0"

USED ransformer Base

-Add Tie a

Fin. Grade

-8-#6 Vert.

- #3@8" O.C.

Main Ground

—3" Max. Grout

after Plumb

Fin. Grade

\_Approx.

End

Sect. 'A'

22" Dia.

**ELEVATION** 

Y CONCRETE BASE AND POLE \*

ARM LIGHT STANDARD

ANCHOR DETAILS FOR SINGLE

where occur

4−1"ø Galv. Anchor Bolts with Anchor Nut and Leveling Nut and Washer (Manufacturer to Verify —Add Tie at Bolt Diameter, Bolt Protection and Length) Fin. Grade 4-#6 Vert. Concrete Foundation #4**@**8" O.C. Sect. 'A' Sect. A Fill with Class "D" Main Ground Concrete Rod For Grounding and other Details see 22" Dia.  $\binom{D}{S-1}$  (Sim.) **ELEVATION** 

CONCRETE BASE AND POLE ANCHOR DETAILS FOR SINGLE ARM LIGHT STANDARD

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

FED. ROAD DIST. NO. FED. AID PROJ. NO. FISCAL YEAR HAW. STP-0300(66) 1998

# GENERAL NOTES:

DESIGN SPECIFICATIONS:

AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals (1994).

### GENERAL SPECIFICATIONS:

Hawaii Standard Specifications for Road, Bridge, and Public Works Construction, 1994.

DESIGN WIND LOAD: 100 mph Wind Velocity.

## MATERIALS:

Reinforced Concrete: Class A unless noted otherwise. Reinforced Steel: ASTM A615, Grade 60 unless otherwise noted, ASTM A615 GR 40 for Stirrups and Ties.

Anchor Bolts: ASTM A36 Hot Dip Galvanized

## **SOIL DESIGN VALUES:**

Assumed Allowable Foundation Pressure 2000 psf Assumed Lateral Bearing Pressure 200 #/sf/ft

### **REINFORCEMENT:**

- 1. The minimum clear cover measured from the surface of the Concrete to the face of any Reinforcing Bar shall be as follows, except as otherwise noted.
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- 3. All dimensions relating to Reinforcing (e.g. spacing of bars) are to center of bars unless noted otherwise.

## CONSTRUCTION METHODS:

- 1. Hawaii Standard Specifications for Road, Bridge, and Public Works Construction 1994 and Special Provisions.
- 2. Except as otherwise noted, all vertical dimensions are measured plumb.
- 3. Pole Foundations shall be excavated and poured neat against undisturbed ground. In case of over excavation, space between foundation and ground shall be filled with Concrete at the Contractors' expense and as directed by the Engineer. The minimum quality of the fill Concrete shall be Class D.

Scale: As Noted

NOTE:

1. Details Represent Typical Components with Various Mast Arm Configurations.



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**DEPARTMENT OF TRANSPORTATION** POLE MOUNTING DETAILS HIGHWAY LIGHTING SAFETY IMPROVEMENTS PALI HIGHWAY VICINITY OF WYLLIE STREET TO JACK LANE PROJECT NO. STP-0300(66)

> SHEET No. S-9 OF SHEETS

Date: July 9, 1999

**REVISION** 

STATE OF HAWAII

"AS-BUILT

