

ORIGINAL PLAN

SURVEY PLOTTED BY

DRAWN BY

DESIGNED BY

NOTED BY

CHECKED BY

DATE

X

4/21/23

4/21/23

DATE

REVISION

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

STANDARD PLANS SUMMARY

KUHIO HIGHWAY RESURFACING

Waikaea Bridge to Mailihuna Road

Federal-Aid Project No. NH-056-1(063)

Date: April 2023

SHEET No. 1 OF 1 SHEETS

ADD.2

FED. ROAD DIST. NO.

STATE

FED. AID PROJ. NO.

FISCAL YEAR

SHEET NO.

TOTAL SHEETS

HAWAII

HAW.

NH-056-1(063)

2023

ADD.2

43

STANDARD PLAN NO.

TITLE

DATE

B-01

NOTES & MISCELLANEOUS DETAILS

05/31/07

B-03

BACKFILL DETAILS AT EARTH RETAINING STRUCTURES

05/31/07

B-12

PRESTRESSED CONCRETE PILES & COMPRESSION SPLICE CAN DETAILS

05/31/07

B-12A

PRESTRESSED CONCRETE PILES, PILE & COMPRESSION SPLICE CAN DETAILS & NOTES

05/31/07

B-12B

PILE INTERACTION DIAGRAM

05/31/07

B-13

PRESTRESSED CONCRETE PILE BUILD-UP DETAILS

05/31/07

D-01

CATTLE GATE

05/31/07

D-02

CHAIN LINK FENCE WITH TOPRAIL

05/31/07

D-03

CHAIN LINK FENCE WITHOUT TOPRAIL

05/31/07

D-04

WIRE FENCE WITH METAL POSTS

05/31/07

D-05

TYPICAL DETAILS OF CURBS AND/OR GUTTERS

05/31/07

D-06

TYPICAL DETAIL OF REINFORCED CONCRETE DROP DRIVEWAY

05/31/07

D-07

CENTERLINE AND REFERENCE SURVEY MONUMENTS

05/31/07

D-08

STREET SURVEY MONUMENT

05/31/07

D-15

CONCRETE SIDEWALK

05/31/07

D-16

P.C.C. BUS PAD

05/31/07

D-17

P.C.C. BUS PAD

05/31/07

D-18

P.C.C. PAVEMENT LAYOUT

05/31/07

D-19

P.C.C. PAVEMENT W/ PERMEABLE BASE JOINT DETAILS

05/31/07

D-20

P.C.C. PAVEMENT W/ PERMEABLE BASE JOINT DETAILS

05/31/07

D-21

P.C.C. LONGITUDINAL JOINT DETAILS

05/31/07

D-22

P.C.C. CONNECTION TO CURBS AND GUTTERS

05/31/07

D-23

JOINTS

05/31/07

L-01

TREE PLANTING

08/16/06

L-02

TREE PLANTING

08/16/06

L-03

TREE TRANSPLANTING

08/16/06

L-04

PALM PLANTING

08/16/06

L-05

SHRUB PLANTING

08/16/06

L-06

LANDSCAPE DETAILS

08/16/06

L-07

LANDSCAPE DETAILS

08/16/06

L-08

LANDSCAPE DETAILS

08/16/06

L-09

LANDSCAPE DETAILS

08/16/06

L-10

LANDSCAPE DETAILS

08/16/06

L-11

PLANTING NOTES

08/16/06

L-12

IRRIGATION DETAILS

08/16/06

L-13

IRRIGATION DETAILS

08/16/06

L-14

IRRIGATION DETAILS

08/16/06

L-15

IRRIGATION DETAILS

08/16/06

L-16

IRRIGATION DETAILS

08/16/06

L-17

IRRIGATION DETAILS

08/16/06

L-18

IRRIGATION DETAILS

08/16/06

L-19

IRRIGATION DETAILS

08/16/06

L-20

IRRIGATION DETAILS

08/16/06

L-21

IRRIGATION DETAILS

08/16/06

L-22

IRRIGATION DETAILS

08/16/06

L-23

IRRIGATION DETAILS

08/16/06

L-24

IRRIGATION NOTES

08/16/06

STANDARD PLAN NO.

TITLE

DATE

H-01A

TYPE A CATCH BASIN

05/31/07

H-01B

TYPE B CATCH BASIN

05/31/07

H-01C

TYPE C CATCH BASIN

05/31/07

H-01D

TYPE D CATCH BASIN

05/31/07

H-01E

CATCH BASIN SECTIONS

05/31/07

H-02A

TYPE A1 CATCH BASIN

05/31/07

H-02B

TYPE B2 CATCH BASIN

05/31/07

H-02C

TYPE C1 CATCH BASIN

05/31/07

H-02D

TYPE D1 CATCH BASIN

05/31/07

H-02E

CATCH BASIN SECTION

05/31/07

H-03

TYPE A+B, AND C STORM DRAIN MANHOLE

05/31/07

H-04

TYPE D STORM DRAIN MANHOLE

05/31/07

H-05

TYPICAL REINFORCING DETAILS FOR DRAINAGE STRUCTURES

05/31/07

H-06

TYPICAL REINFORCING DETAILS FOR DRAINAGE STRUCTURES

05/31/07

H-07

CATCH BASIN AND MANHOLE CASTINGS

05/31/07

H-08

TYPE 1A-9 AND 1A-9P GRATED DROP INLET

05/31/07

H-09

TYPE 2A-9 AND 2A-9P GRATED DROP INLET

05/31/07

H-10

TYPE A-9 OR A-9P STEEL FRAMES

05/31/07

H-11

TYPE A-9 AND A-9P STEEL GRATES

05/31/07

H-12

TYPE 61614P AND 1211214P GRATED DROP INLET

05/31/07

H-13

TYPE 61616P AND 1211216P GRATED DROP INLET

05/31/07

H-14

TYPE 61214P GRATED DROP INLET

05/31/07

H-15

TYPE 1211214, 1211214P, 1211216, 1211216P STEEL FRAME AND GRATES

05/31/07

H-16

TYPE 61614, 61614P, 61616, 61616P STEEL FRAME AND GRATES

05/31/07

H-17

TYPE 61214 STEEL FRAMES AND GRATES

05/31/07

H-18

TYPE 61214P STEEL GRATES

05/31/07

H-19

TYPE 61614B STEEL FRAME AND GRATES

05/31/07

H-20

CEMENT RUBBLE MASONRY STRUCTURES

05/31/07

H-21

CONCRETE AND CEMENT RUBBLE MASONRY STRUCTURES

05/31/07

H-22

INLET/OUTLET STRUCTURE

05/31/07

H-23

INLET/OUTLET STRUCTURE

05/31/07

H-24

FLARED END SECTION FOR CULVERTS

05/31/07

H-25

FLARED END SECTION FOR CULVERTS

05/31/07

H-26

CONCRETE SPILLWAY INLET

05/31/07

H-27

CAP COUPLING DETAILS STANDARD JOINT

05/31/07

H-28

REINFORCED CONCRETE COLLAR & JACKET

05/31/07

H-29

UNDERDRAIN CLEANOUT STEEL FRAME AND COVER

05/31/07

H-30

UNDERDRAIN CONNECTION TO DRAINAGE STRUCTURE

05/31/07

TE-01

SIGN HEIGHT AND LOCATION

07/11/08

TE-1A

SIGN INSTALLATION

07/11/08

TE-02A

GALVANIZED FLANGED CHANNEL SIGN POST MOUNTING

05/31/07

TE-02B

GALVANIZED FLANGED CHANNEL SIGN POST MOUNTING

05/31/07

TE-02C

GALVANIZED FLANGED CHANNEL SIGN POST MOUNTING

05/31/07

TE-03A

GALVANIZED SQUARE TUBE SIGN POST MOUNTING

05/31/07

TE-03B

GALVANIZED SQUARE TUBE SIGN POST MOUNTING

05/31/07

TE-04

REGULATORY SIGNS

07/11/08

TE-05

WARNING SIGNS

07/11/08

TE-06

MISCELLANEOUS SIGNS

07/11/08

TE-07

CONSTRUCTION SIGNS

07/11/08

TE-08

MISCELLANEOUS INTERSECTION SIGNS

07/11/08

STANDARD PLAN NO.

TITLE

DATE

TE-09

BIKE ROUTE SIGN & SUPPLEMENTARY PLATES

07/11/08

TE-10

INTERSTATE ROUTE MARKER

07/11/08

TE-11

STATE ROUTE MARKER AND AUXILIARY MARKERS

07/11/08

TE-12

STATE ROUTE MARKER AND BORDER DETAIL FOR GUIDE SIGNS

07/11/08

TE-12A

ROUTE SIGN ASSEMBLIES

07/11/08

TE-13

STREET NAME SIGN ON MAST ARM

07/11/08

TE-14

MISCELLANEOUS REFLECTOR MARKERS

07/11/08

TE-15

OBJECT MARKERS

07/11/08

TE-16

MILE POSTS

07/11/08

TE-17A

CANTILEVER OVERHEAD SIGN ELEVATION & DETAILS

05/31/07

TE-17B

CANTILEVER SIGN FRAME DETAIL AND SECTION

05/31/07

TE-17C

CANTILEVER SIGN FRAME DETAIL

05/31/07

TE-17D

CANTILEVER SIGN FRAME SECTION

05/31/07

TE-17E

CANTILEVER SIGN FRAME DETAILS

05/31/07

TE-18A

TWO POST OVERHEAD SIGN FRAME ELEVATIONS

05/31/07

TE-18B

TWO POST SIGN FRAMING PLAN SECTION

05/31/07

TE-18C

TWO POST SIGN FRAMING SECTIONS AND DETAILS

05/31/07

TE-18D

TWO POST SIGN FRAME DETAILS

05/31/07

TE-18E

TWO POST SIGN FRAME DETAILS

05/31/07

TE-19A

OVERHEAD SIGN FRAMING SCHEDULE

05/31/07

TE-19B

SIGN POST DRILLED SHAFT FOUNDATION

05/31/07

TE-19C

SPREAD FOOTING

05/31/07

TE-19D

SIGN FRAME FOUNDATION SCHEDULE

05/31/07

TE-19D.1

SIGN FRAME FOUNDATION SCHEDULE

05/31/07

TE-19D.2

SIGN FRAME FOUNDATION SCHEDULE

05/31/07

TE-19D.3

SIGN FRAME FOUNDATION SCHEDULE

05/31/07

TE-19D.4

SIGN FRAME FOUNDATION SCHEDULE

05/31/07

TE-19D.5

SIGN FRAME FOUNDATION SCHEDULE

05/31/07

TE-19E

ANCHORAGE DETAILS

05/31/07

TE-19F

ANCHORAGE DETAILS

05/31/07

TE-19G

MISCELLANEOUS SIGN FRAME DETAILS

05/31/07

TE-19H

LUMINAIRE WALKWAY SUPPORT

05/31/07

TE-19J

FIXED MESSAGE LUMINAIRE SUPPORT

05/31/07

TE-19K

MISCELLANEOUS SIGN DETAILS

05/31/07

TE-19L

MISCELLANEOUS SIGN DETAILS

05/31/07

TE-19M

MISCELLANEOUS SIGN FRAME DETAILS

05/31/07

TE-20

SUPPORTS FOR GROUND MOUNTED GUIDE SIGN

05/31/07

TE-20A

SUPPORTS FOR GROUND MOUNTED GUIDE SIGN

05/31/07

TE-20B

SUPPORTS FOR GROUND MOUNTED GUIDE SIGN

05/31/07

TE-20C

SUPPORTS FOR GROUND MOUNTED GUIDE SIGN

05/31/07

TE-21A

SIGN BREAKAWAY MOUNTS

05/31/07

TE-21B

SIGN BREAKAWAY MOUNTS

05/31/07

TE-22

LAMINATED ALUMINUM SIGN PANELS (OVERHEAD)

05/31/07

TE-23

LAMINATED ALUMINUM SIGN PANELS (GROUND MOUNTED)

07/11/08

TE-24

SOLID ALUMINUM EXTRUDED SIGN PANEL AND ACCESSORY DETAILS

05/31/07

TE-25

GUIDE SIGNS LUMINAIRE MOUNTINGS

05/31/07

TE-26

RAISED PAVEMENT MARKERS AND STRIPING

07/11/08

TE-27

RAISED PAVEMENT MARKERS AND STRIPING

07/11/08

TE-28

ENTRANCE AND EXIT PAVEMENT MARKINGS

07/11/08

TE-28A

MISCELLANEOUS PAVEMENT MARKINGS

07/11/08

TE-29

PAVEMENT ARROWS AND SYMBOLS

07/11/08

TE-30

PAVEMENT ALPHABETS, NUMBERS & SYMBOLS

07/11/08

STANDARD PLAN NO.

TITLE

DATE

TE-31

PAVEMENT ALPHABETS, NUMBERS & SYMBOLS

07/11/08

TE-32

TYPE I & II TRAFFIC SIGNAL SYSTEM MISC. DETAILS

05/31/07

TE-33

TYPE II TRAFFIC SIGNAL SYSTEM

08/16/06

TE-33A.1

TYPE II TRAFFIC SIGNAL STANDARD

05/31/07

TE-33A.2

TYPE II TRAFFIC SIGNAL STANDARD

05/31/07

TE-34

LOOP DETECTOR DETAILS

07/11/08

TE-35

LOOP DETECTORS & DUCT DETAILS

07/11/08

TE-36

TRAFFIC SIGNAL DETAILS

07/11/08

TE-37

PULLBOX & COVER DETAILS

07/11/08

TE-37A

TYPE "A" TRAFFIC PULLBOX

05/31/07

TE-37B

TYPE "A" TRAFFIC PULLBOX REINFORCING

05/31/07

TE-37C

TYPE "B" TRAFFIC PULLBOX

05/31/07

TE-37D

TYPE "B" TRAFFIC PULLBOX REINFORCING

05/31/07

TE-37E

TYPE "B" TRAFFIC PULLBOX FOUNDATION

05/31/07

TE-37F

TYPE "C" TRAFFIC PULLBOX

05/31/07

TE-37G

TYPE "C" TRAFFIC PULLBOX REINFORCING

05/31/07

TE-37H

TYPE "C" TRAFFIC PULLBOX FOUNDATION

05/31/07

TE-37J

TRAFFIC PULLBOX COVER AND DETAILS

05/31/07

TE-38

TYPE III TRAFFIC SIGNAL STANDARD

05/31/07

TE-38A.1

TYPE III TRAFFIC SIGNAL STANDARD

05/31/07

TE-38A.2

TYPE III TRAFFIC SIGNAL STANDARD

05/31/07

TE-39

METAL GUARDRAIL CONNECTION TO CONCRETE BARRIER

07/11/08

TE-40

CONCRETE BARRIER TRANSITION

05/31/07

TE-40A

CONCRETE BARRIER TRANSITION SECTIONS

05/31/07

TE-41

GUARDRAIL TYPE 4 (RIGID BARRIER)

05/31/07

TE-42

PORTABLE CONCRETE BARRIER

05/31/07

TE-43

PORTABLE CONCRETE BARRIER

05/31/07

TE-44

GUARDRAIL TYPE 4 MISCELLANEOUS DETAILS

07/11/08

TE-45

BARRICADES

07/11/08

TE-46

DELINEATION & PAVEMENT MARKINGS AT NARROW BRIDGES

07/11/08

TE-47

HIGHWAY LIGHT STANDARD

05/31/07

NOTE:

STANDARD PLANS APPLICABLE TO THIS PROJECT ARE INDICATED BY A "●" NEXT TO THE STANDARD PLAN NO. (FOR EXAMPLE: D-07 ●)

4/21/23

TE-03A Not in Use

4/21/23

TE-47 in Use

DATE

REVISION

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

STANDARD PLANS SUMMARY

KUHIO HIGHWAY RESURFACING

Waikaea Bridge to Mailihuna Road

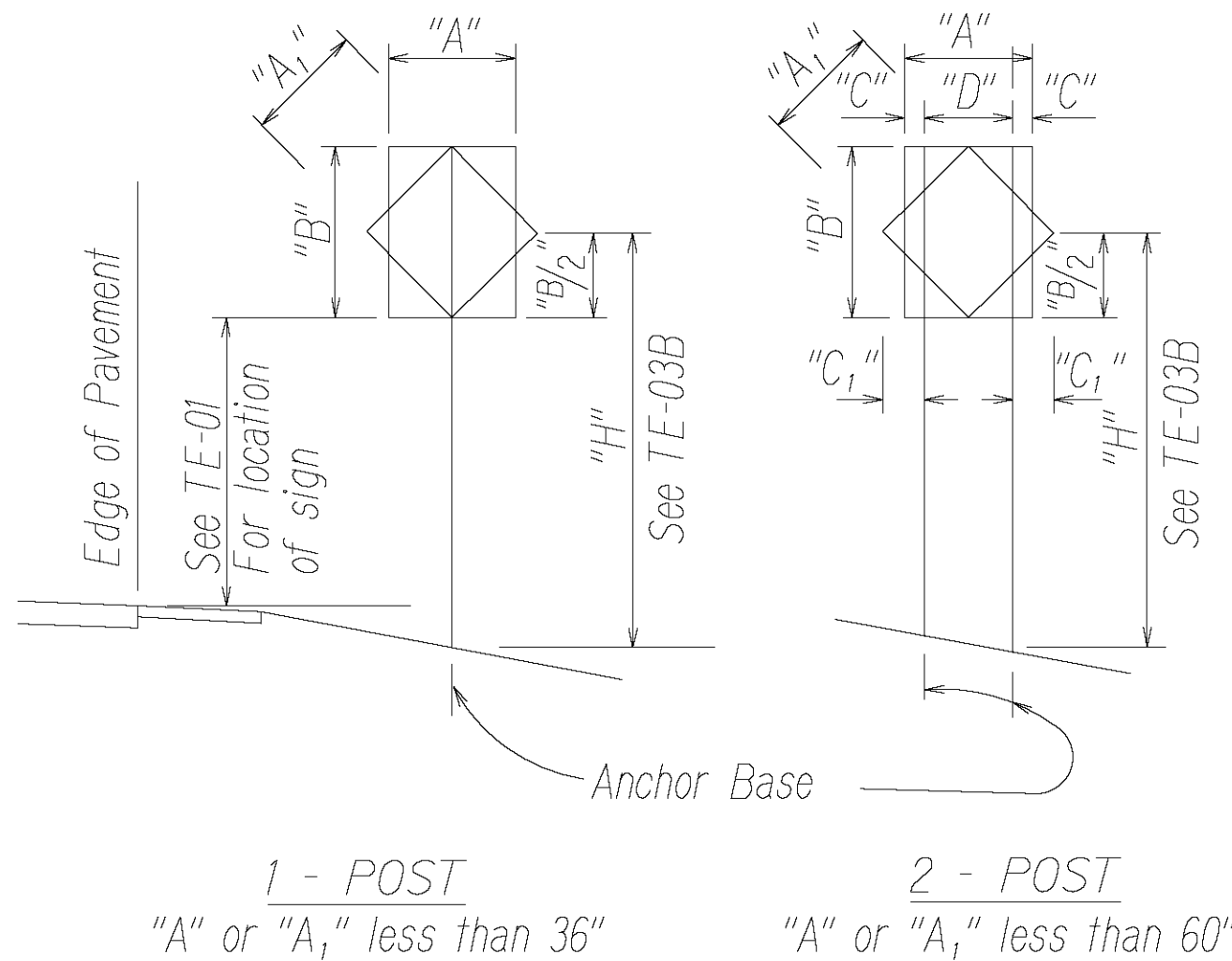
Federal-Aid Project No. NH-056-1(063)

Date: April 2023

SHEET No. 1 OF 1 SHEETS

ADD.2

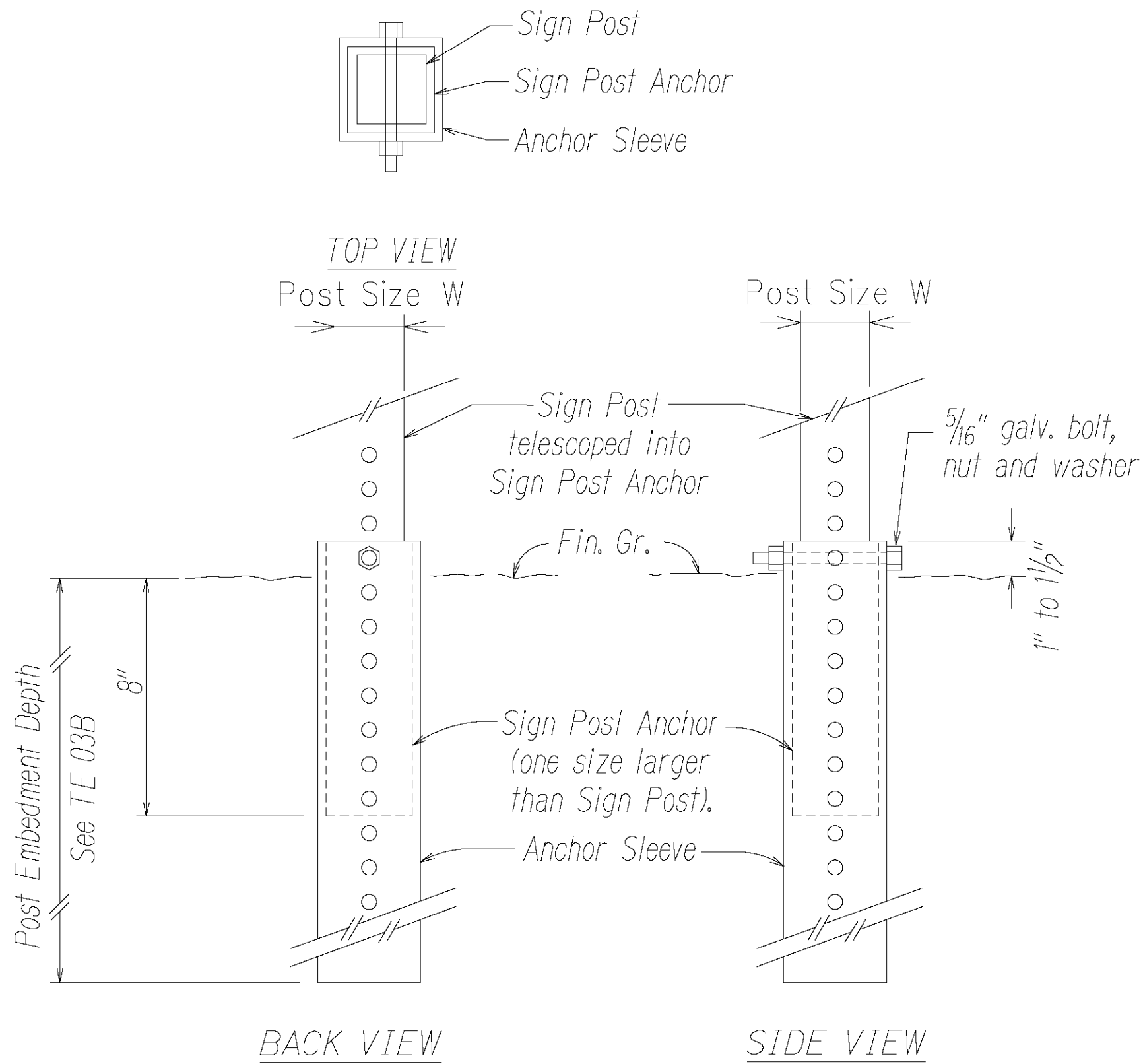
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-056-1(063)	2023	ADD.2S1	43



"A" or "A <sub>1</sub> "	"C"	"C <sub>1</sub> "
Less than 36"	6"	-
Greater than 36" and less than 48"	9"	19"
Greater than 48"	12"	24"

NOTE: Frame stiffeners are required when D is greater than 24" See General Notes.

TYPICAL INSTALLATION  
Not to Scale



ANCHOR BASE DETAIL  
Not to Scale

GENERAL NOTES

- Design Specifications:
  - Design shall conform w/ the latest AASHTO Standard Specifications for the Structural Supports for Highway Signs, Luminaires & Traffic Signals and its interim supplements and modifications by the Highways Division, Department of Transportation State of Hawaii.
  - Latest HDOT Memorandum with subject title "Design Criteria for Bridges and Structures."
- Loads:
  - Basic Wind Speed: 105 mph.
  - Recurrence Interval of 10 years.
- Materials:
  - Post shall conform to the Standard Specifications.
  - All connection bolts shall be AASHTO M164 bolts and anchor bolts shall be AASHTO M314-105 bolt.
  - Lap splice nuts and bolts shall be M180, with an ultimate tensile strength of 180 ksi, min.
  - Aluminum members and surfaces in contact with structural steel shall be isolated with neoprene material as approved by the Engineer.
- General:
  - See General Notes on B-01, TE-01, and TE-03B for additional information.
  - All posts shall be 12 gage unless otherwise specified or shown on the plans.
  - Square tube posts shall be perforated with 7/16"Ø holes, 1" o.c., 4 sides, along entire length of post.
  - All accessories, fittings and stiffener details (as required) shall be submitted to the Engineer for approval 20 days prior to installation.
  - Alternate designs in accordance with the plans and specifications shall use the Service Load Design Method and shall be stamped by a registered structural engineer of the State of Hawaii and submitted to the Engineer for approval.
  - All sign support posts shall be outside of the clear zone or shielded by an appropriate traffic barrier system. The traffic barrier system shall be submitted to the Engineer for his approval.
  - The Contractor shall use templates while installing the anchor bolts. Anchor bolts shall be vertical.
  - Excavation and backfill shall be considered incidental to the cost of the sign foundation.

SURVEY PLOTTED BY	DATE
DRAWN BY	X
DESIGNED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

3/22/12 ttd2may/stave/new del/yjs/tpmount

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
GALVANIZED SQUARE TUBE  
SIGN POST MOUNTING  
KUHIO HIGHWAY RESURFACING  
Waikaea Bridge to Mailihuna Road  
Federal-Aid Project No. NH-056-1(063)  
Scale: Not to Scale Date: April 2023  
SHEET No. 1 OF 1 SHEETS