GENERAL NOTES

1. All materials shall conform to the drawings, Hawaii Standard Specifications for Road, Bridge and Public Works Construction (2005 Edition) and Special Provisions for Federal Aid Project No. NH-0300(152) Freeway Management System Phase 3.

2. The Contractor shall verify the location of all existing utility lines and notify the respective owners before commencing with work. See Civil drawings for additional information.

3. Standard detail drawings refer to structures in general except for modifications as may be required for special conditions. For such modifications refer to corresponding detailed drawings.

4. The Contractor shall provide all measures necessary to protect the structure during construction. Such measures shall include, but not be limited to, bracing, shoring for loads due to construction be equipment, winds, seismic, etc.

5. The Contractor shall be solely responsible for all excavation and dewatering procedures including lagging, shoring and protection of streets and utilities, including treatment and discharge of pumped water.

6. The Contractor shall be solely responsible for coordinating the work of all trades and shall check all dimensions. All discrepancies shall be called to the attention of the Engineer and be resolved before proceeding with the work.

7. Shop drawings required by the standard specifications and special provisions shall be submitted to the Engineer for review prior to fabrication or ordering of materials. Shop drawings shall not be reproduction of contract drawings.

8. Notes and details on drawings shall take precedence over General Notes unless stricter requirements are noted in General Notes. Special provisions shall take precedence over Standard Specifications.

9. Except as otherwise noted, all vertical dimensions are measured plumb.

10. Design Criteria

   A. Codes:
   AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals, 2015, 1st Edition with 2017 Interim Revisions and AASHTO LRFD Bridge Design Specifications, 7th Edition, 2014

   Design Criteria for Bridges and Structures, August 8 2014 State of Hawaii Department of Transportation Highways Division w/ changes dated January 9, 2018

   B. Seismic:

Seismic Design Properties				
Location	Site Class	S_{DS}	S_{D1}	SDC
H-2 South CCTV	D	0.506	0.243	D
Waikele CCTV	C	0.476	0.158	C

   C. Wind:

Wind Design Properties			
Location	Pole Ht (Ft)	K_{ZT}	V_{ULT} (Mph)
H-2 South CCTV	50	1.30	145
Waikele CCTV	50	1.25	145

   D. Fatigue:
   Importance Factor, IF, shall be based on Fatigue Category I.

FOUNDATION NOTES

1. Foundation Design is based on Geotechnical report by Geolabs, Inc., dated February 5, 2021.

   Passive Pressure = 350 pcf

2. Contractor shall provide for design and installation of all cribbing, sheathing, and shoring necessary to safely retain excavations and earth banks.

3. All excavations shall be properly backfilled. Do not place backfill before concrete has attained full design strength.

4. Contractor shall submit drilled shaft construction installation procedure to Engineer for review.

STRUCTURAL STEEL

1. All structural steel shall be detailed, fabricated and erected in accordance with the AASHTO LRFD Bridge Design Specifications.

2. Structure Materials shall be as follows:

Steel Plates	AASHTO M270 (ASTM A572, Grade 50)
Bolts (except Anchor Bolts)	AASHTO M164 (ASTM F1852 and ASTM A325, Type 1)
Anchor Bolts	AASHTO M-314, Grade 55 ksi (ASTM F1554, Grade 55 ksi)
Nuts for Anchor Bolts	AASHTO M292 (ASTM A563, Grade A)
Washers for Anchor Bolts	AASHTO M293 (ASTM F436, Type 1)
Stainless Steel Screws	AISI, Type 316
Hollow Structural Sections (HSSx)	ASTM A500, Grade B
Poles	AASHTO M223 (ASTM A572, Grade 65)

3. All welding shall conform to American Welding Society Structural Welding Code (Steel) ANSI/AWS D1.1 (current edition). Electrodes shall be E70.

4. All Steel items shall be galvanized as follows:

All Nuts, Bolts and Washers	AASHTO M232 (ASTM F2329)
All other steel items (including Pole)	AASHTO M111 (ASTM A123)

5. Except for Anchor Bolts, all bolt hole diameters shall be equal to the bolt diameter plus 1/16 ", prior to galvanizing. Hole diameters for Anchor Bolts shall not exceed the bolt diameter plus 1/4 ".

6. All structural steel shall be hot dip zinc coated after fabrication.

7. All holes including bolt holes and drainage holes shall be pre-punched before coating steel.

8. All anchor bolts, threaded rods and other hardware, including nuts and washers, which connect steel to concrete shall conform to ASTM F1554 Grade 55 as noted and shall be hot dip galvanized.

9. All bolts which connect steel to steel shall be high-strength bolts conforming to AASHTO M164 (ASTM A325) and shall be "Twist off" typ ASTM F1852, unless otherwise noted. All bolts, nuts and washers shall be hot dip zinc coated. All bolts shall be pre-loaded to slip critical tension per special provisions Section 718 Steel Fasteners.

10. Paint per Special Provisions Section 708. Epoxy primer and intermediate coat with Fluorourethane top coats "Dark Green".

11. Stainless steel surfaces in contact with galvanized structural steel shall be isolated with neoprene material pre-reviewed by the Engineer or coated with epoxy. Aluminum shall be isolated from dissimilar metals per Standard Specification Section 715.02

12. All threaded rods shall be cut off clean between 3 and 6 threads past the nut and ground smooth. Threads shall be spoiled and all terminations shall be neat and consistent.

13. Anchors bolts shall be installed with misalignments of less than 1 : 40 from vertical. After installation, firm contact shall exist between the anchor bolt nuts, washers, and base plate on any bolt installed in a misaligned position.

LINE IS 2 INCHES AT FULL SIZE (if not 2 inches: scale accordingly)

GEORGE G. GUTIERREZ JR. LICENSED PROFESSIONAL ENGINEER NO. 12107-S HAWAII, U.S.A.

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APRIL 30, 2022
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURAL GENERAL NOTES

Freeway Management System, Phase 3, Unit 1
Federal Aid Project No. NH-0300(152)

Scale: As Shown   Date: June 25, 2021

SHEET No. S0-1 OF 8 SHEETS

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
OAHU	HAW.	NH-0300(152)	2021	164	170

CONCRETE

1. Schedule of Structural Concrete 28-Day strength and water cement ratio:

   Drilled Shafts and Pile Caps = 5,500 psi (W/C = 0.40)

2. Non-Shrink Grout shall have a minimum 28-day compressive strength of 9,000 psi and shall be nonmetallic and nonstaining. See Specification Table 712.04-02 for additional information. Grout at the base of uprights shall be installed a minimum of 7 days prior to the installation of signals or sign panels. The standoff distance (the distance between the bottom of the leveling nut and the top of the foundation) shall not exceed one anchor bolt diameter.

3. Concrete mix design shall be submitted to the Engineer for review.

4. Minimum clear coverage of concrete over outer reinforcing bars or ties shall be as follows, unless otherwise noted. See Standard Specification Table 602.03-2 for additional information.

Pile Caps and Drilled Shafts	3"
Concrete directly against Earth	3"
All other exterior concrete	2"

5. Concrete admixtures containing chloride salts shall not be used.

6. All roughened surfaces in concrete shall be made with a minimum amplitude of 1/4".

7. Unless otherwise noted on drawings, all exterior corners and re-entrant angles 90 degrees or less in concrete work shall be chamfered 3/4"x3/4".

REINFORCING STEEL

1. Reinforcing steel bars shall be ASTM A-615 Grade 60, typical unless otherwise noted.

2. Reinforcing steel bars shall be uncoated, unless otherwise noted.

3. Reinforcing steel splices shall be made only where indicated on the drawings.

4. All reinforcing steel bars, anchor bolts, dowels and other embedded items shall be securely tied in place before concrete pour.

5. All reinforcing steel bar bends shall be made cold.

6. Welding of reinforcing steel shall not be permitted unless otherwise shown on the drawings. Welding of reinforcing steel shall conform to AWS D1.4-05 "AWS Structural Welding Code - Reinforcing Steel" of the American Welding Society.

GENERAL NOTES FOR EPOXY GROUTED DOWELS & BOLTS

1. See Special Provisions Section 503 Concrete Structures and Standard Specifications Section 656 for reinforcing steel dowels.

2. Contractor shall locate existing reinforcing prior to drilling holes for new epoxy grouted reinforcing steel dowels and steel anchor bolts. Do not damage existing reinforcing.

3. Epoxy grout for reinforcing steel dowels and steel anchor bolts shall conform to Standards Specifications Section 712.04(B).

4. Clean holes of all dust and residue before filling holes with epoxy grout. The hole shall be prepared, cleaned, drilled at a diameter in accordance with the epoxy manufacturer's recommendations.

5. Where noted on drawings, installation of epoxy grout and reinforcing dowels and steel anchor bolts shall be inspected by the Engineer.

6. Epoxy grouted reinforcing steel dowels shall be incidental to Section 602 reinforcing steel and will not be paid for separately.

7. Epoxy grouted steel anchor bolts shall be incidental to Section 501 Steel Structures and will not be paid for separately.

8. All drilled holes shall be cleaned, filled with epoxy, and reinforcing dowels and anchor bolts installed prior to end of work day.

EXISTING & DEMOLITION GENERAL NOTES

1. Demolition work shall be coordinated with construction of new work. Contractor shall submit proposed schedule and sequence of demolition work for Engineer's review prior to commencing with demolition work.

2. Known existing conditions are shown on the drawings. Dimensions and member sizes where shown on the drawings are based on available as-built plans. Existing dimensions shown may not be exact and are provided for information only. Contractor shall field verify all existing dimensions prior to construction. All discrepancies shall be promptly called to the attention of the Engineer and shall be resolved prior to proceeding with the demolition work.

3. As-built plans are available for review from the State of Hawaii Department of Transportation, Highways Division, Design Branch, Kakuhihewa Building Room 609, 601 Kamokila Boulevard, Kapolei, Hawaii 96707, Phone no. 808-692-7585.

4. Protect from damage existing structures to remain. Protect from damage and clean existing reinforcing steel to be incorporated in new concrete work. See Standard Specifications Section 202 "Removal of Structures and Obstructions".

5. Where existing reinforcing steel is not required to be incorporated in new concrete work, cut ends of reinforcing steel shall be recessed 1-1/2" minimum below existing concrete surface. Resulting pockets in existing concrete shall be filled with non-shrink grout. This work shall be incidental to Section 202 "Removal of Structures and Obstructions".

INSPECTION REQUIREMENTS

1. Contractor shall refer to Standard Specifications Section 105.11 - "Inspection of the Work and Materials."

2. The work items that will require inspection by the Engineer shall be, but not be limited to, the following items:

   A. Reinforcing steel
   B. Concrete
   C. Epoxy grouted reinforcing dowels and steel anchor bolts
   D. Anchor bolts cast-in concrete
   E. High-strength bolting
   F. Field welding
   G. Drilled Shaft

   Contractor shall notify the Engineer at least 7 working days prior to the above inspections

ABBREVIATIONS

Bm	Beam	Jt	Joint
Bot	Bottom	Manu	Manufacturer
CC	Center to Center	Max	Maximum
Clr	Clear	MAC	Media Access Controls
Col	Column	Min	Minimum
Conc	Concrete	(N)	New
Cont	Continuous	NIC	Not In Contract
Dia	Diameter	Open'g	Opening
Diag	Diagonal	SS	Stainless Steel
DO	Ditto	Std	Standard
El	Elevation	T&B	Top and Bottom
(E), exist	Existing	Thk	Thick
ES	Each Side	Typ	Typical
Flr	Floor	UON	Unless Otherwise Noted
Ga	Gauge	Vert	Vertical
H	Height	W	Width
Horiz	Horizontal	W/	With

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURAL GENERAL NOTES

Freeway Management System, Phase 3, Unit 1
Federal Aid Project No. NH-0300(152)

Scale: As Shown Date: June 25, 2021

SHEET No. S0-2 OF 8 SHEETS

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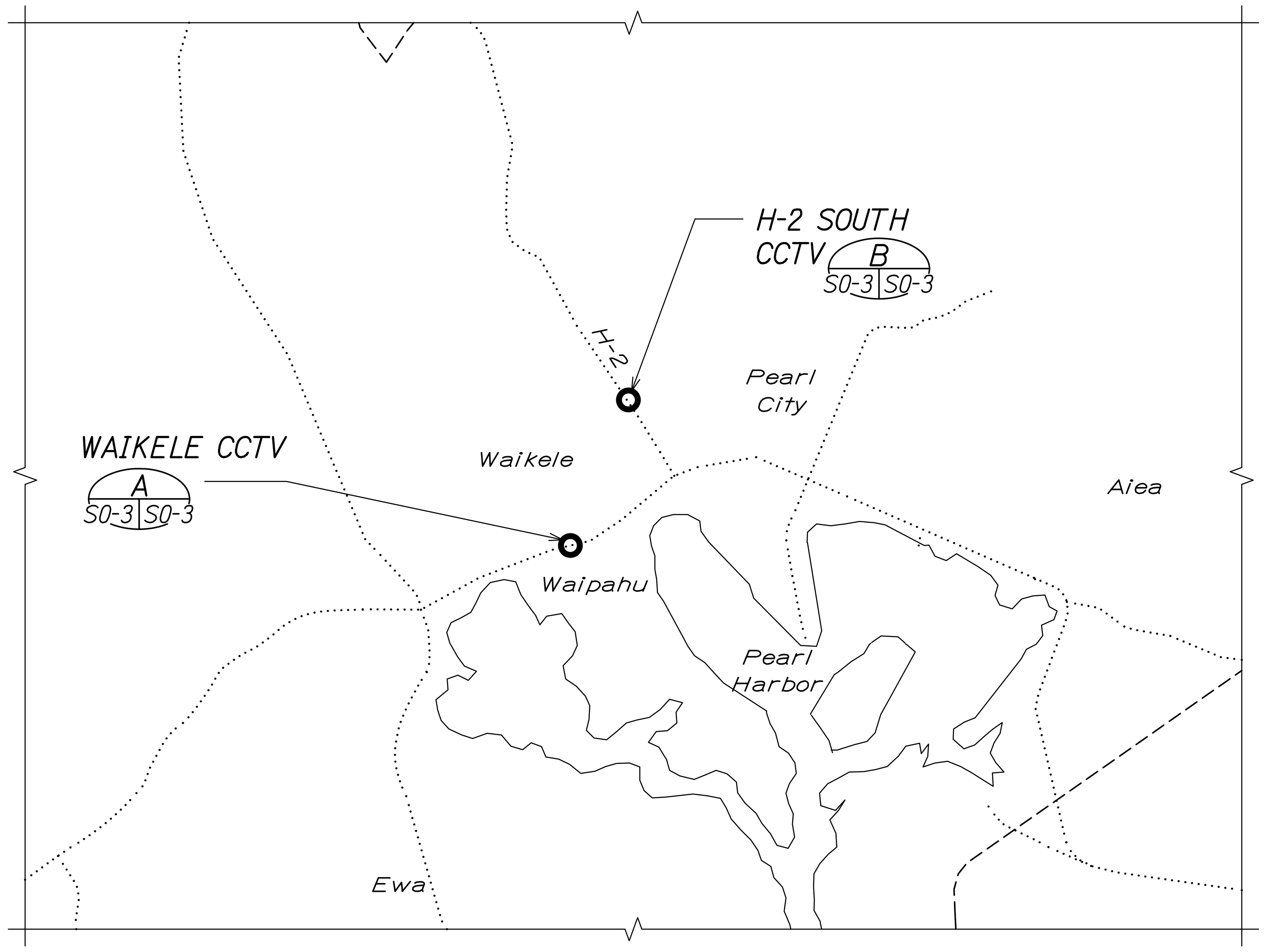
OAHU	HAW.	NH-0300(152)	2021	165	170



Note:

See Civil drawings for station and additional information.

(A) WAIKELE CCTV LOCATION MAP — NORTH

(B) H-2 SOUTH CCTV LOCATION MAP — NORTH

0 1 2
LINE IS 2 INCHES AT FULL SIZE
(if not 2 inches: scale accordingly)

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GENERAL SITE MAP

Freeway Management System, Phase 3, Unit 1
Federal Aid Project No. NH-0300(152)

Scale: As Shown   Date: June 25, 2021

SHEET No. S0-3 OF 8 SHEETS

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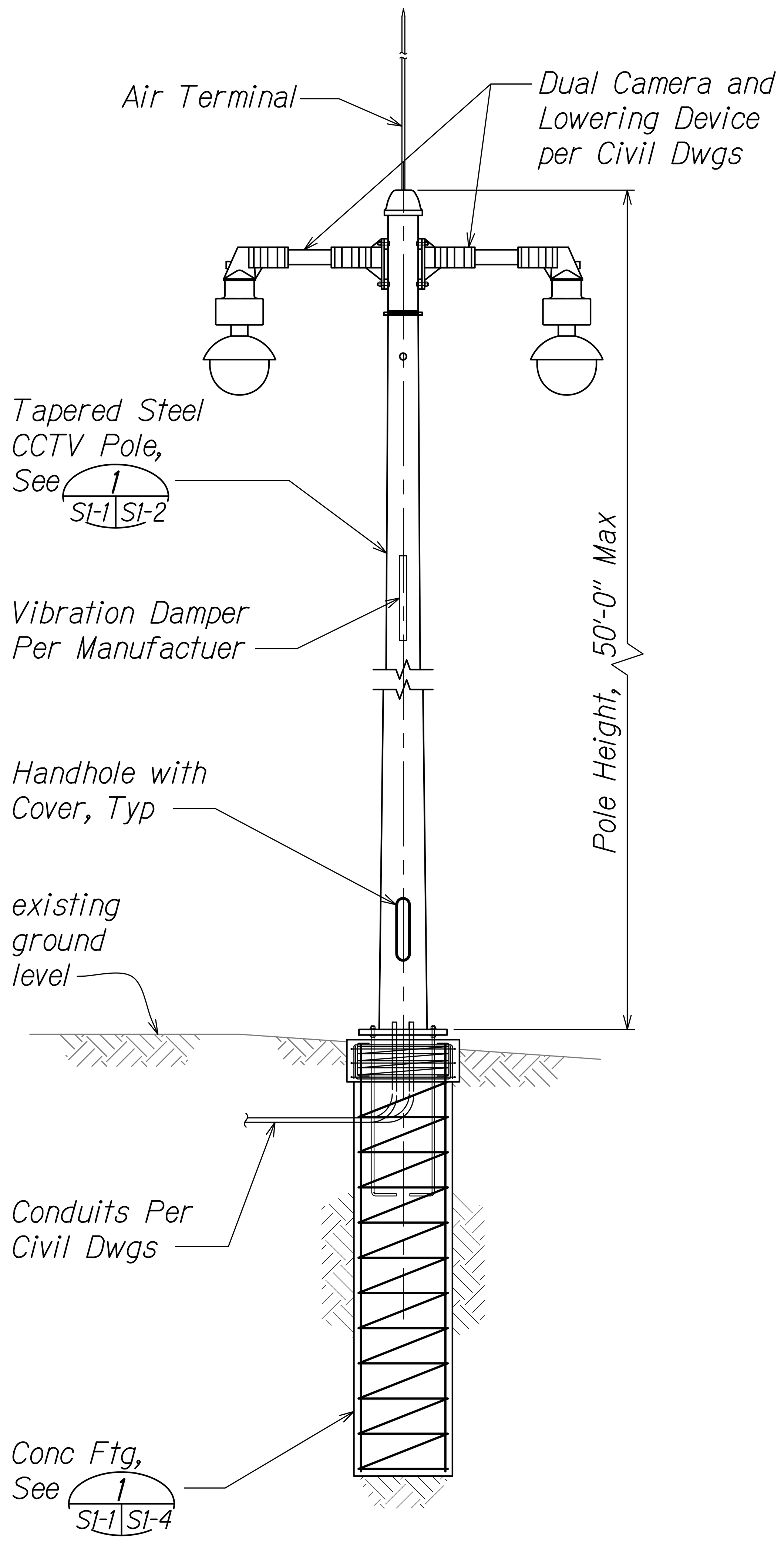

1 S1-1 S1-1 CCTV TYPICAL POLE DETAIL
Scale: 1/4" = 1'-0"

CCTV GENERAL NOTES

1. Galvanizing/Painting:

   A. Poles, plates and bases shall be hot dipped galvanized per AASHTO M 111 (ASTM A 123).

   B. Hardware and anchors bolts shall be per ASTM A307 and AASHTO M 314 (ASTM F1554, Gr 55), respectively, and hot dipped galvanized per AASHTO M 111 (ASTM A 123).

   C. CCTV Poles shall be painted per Special Provisions Section 708 - Paints. Color shall be "Aluminum" to match Aluminum light poles.

2. Materials

   A. 50' pole shall be ASTM A572 Grade 65 with a yield stress of 65 ksi.

   B. Base plates, shall be AASHTO M270 GR 50.

3. Welds:

   A. All welding shall conform to American Welding Society Structural Welding Code (Steel) ANSI/AWS D1.1 (Current Edition).

   B. Longitudinal seam welds by submerged arc at 75% penetration and circumferential butt welds at complete penetration shall conform to section 5.15 of the AASHTO Standard Specifications For Structural Supports For Highway Signs, Luminaries. and Traffic Signals (Latest Edition) and have optional back up rings. All exposed butt welds shall be ground flush.

   C. Deburr all sharp edges for wire protection.

4. All poles shall have first and/or second mode vibration dampers as required by manufacturer.

5. An internal camera lowering device and pole shall be used for each CCTV camera installation, unless otherwise noted. Camera installation details shall be provided by manufacturer. Details to be approved by the Engineer before installation.

6. Pole mounted details for cabinet shall be provided by manufacturer. Details to be approved by the Engineer before installation.

7. The contractor shall verify, in the field all dimensions, elevations, and details pertaining to the structures before proceeding with the work. Any discrepancies shall be brought to the attention of the Engineer.

8. Pole shall be located outside of roadway clear zone or protected behind barrier per AASHTO Roadside Design Guide (Latest Edition). Where potential for vehicle impact exists, and only VDS are mounted on pole, control cabinet shall be mounted downstream of traffic flow.

CCTV DESIGN DATA

Design is in accordance with the AASHTO "Standard Specifications For Structural Supports For Highway Signs, Luminaries and Traffic Signals." 1st Edition, 2015 with 2017 Interim Provisions.

Wind Velocity: : See Wind Table on S0-1
Gust Effect Factor, G : 1.14
Exp Cat : C

CCTV Camera Face Area = 2 Sq Ft
CCTV Camera Wind Drag Coefficient, C_d = 1.2
CCTV Camera Weight = 40 LBS
Cabinet Dimensions = 24" x 24" x 36"

Maximum Pole Deflection = 1" at 30 MPH, non-gust
Maximum Pole Deflection = 2" at 70 MPH, non-gust

Cabinet weight including equipment contents not to exceed 500 LBS.

Camera Lowering Device Design Data

Camera lowering device arm, disconnect, and camera caries weight of 96 LBS and EPA of 2.00 Sq Ft. This weight does not include the cable.

Camera Lowering Device Wind Drag Coefficient, C_d = 1.10

Vehicle Detection Unit Design Data

Face Area = 2 Sq Ft
Wind Drag Coefficient, C_d = 1.7
Weight = 35 LBS

GRAPHIC SCALE
0 1' 2' 4' 8' 12'
1/4"=1'-0"

0 1 2
LINE IS 2 INCHES AT FULL SIZE (if not 2 inches: scale accordingly)

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HIGHWAYS DIVISION

CCTV TYPICAL DETAIL GENERAL NOTES

Freeway Management System, Phase 3, Unit 1
Federal Aid Project No. NH-0300(152)

Scale: As Shown Date: June 25, 2021

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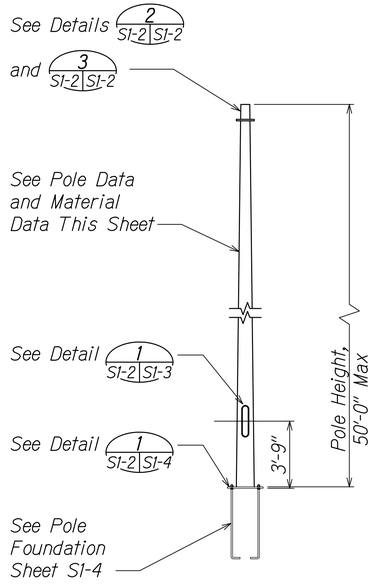
Notes:

1. See Civil drawings for camera orientation details.



POLE DATA				
Pole Height (Ft)	TUBE			
	Min Base Diameter O.D. (In)	Min Top Diameter O.D. (In)	Min Thickness (In)	Taper (In/Ft)
50	21	13.1	0.250	0.06

MATERIAL DATA		
Component	ASTM Designation	Min Yield (KSI)
Pole Shaft - 50'	A 572, Gr 65	65
Base Plates	M270 Gr 50	50
Pole Top Plate	M270 Gr 50	50
Tenon Tubing	M270 Gr 50	50
Anchor Bolts	F1554, Gr 55	55
Galvanizing - Structure	A 123	--
Galvanizing - Hardware	A 153	--

1 CCTV POLE = 50' AND LESS

S1-1, S1-2 S1-2, S1-6 Scale: 1/4" = 1'-0"

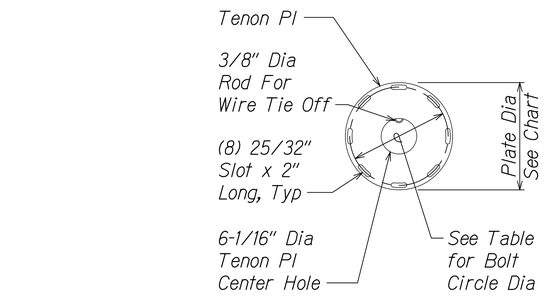
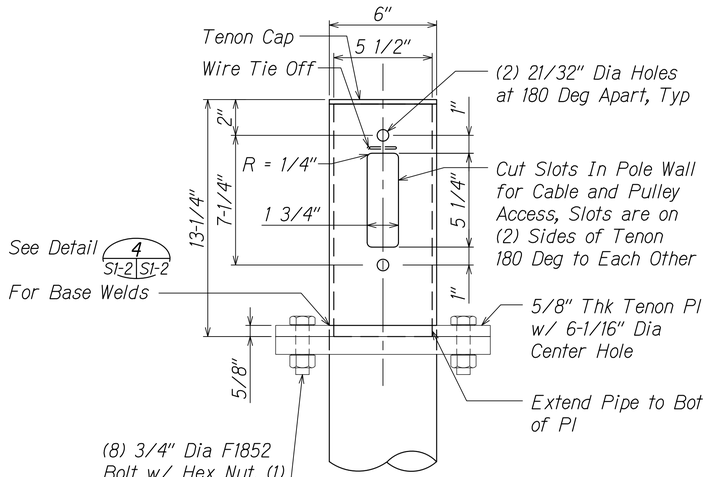
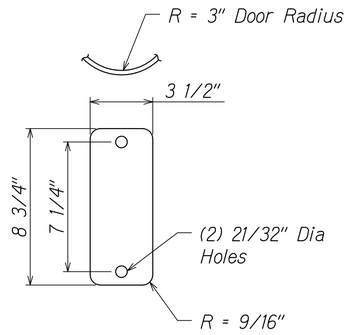


Table - Pole Top Plate Properties			
Pole Height (Ft)	Pole Top Diameter (In)	Plate Diameter (In)	Bolt Circle (In)
50	13.1	19	17





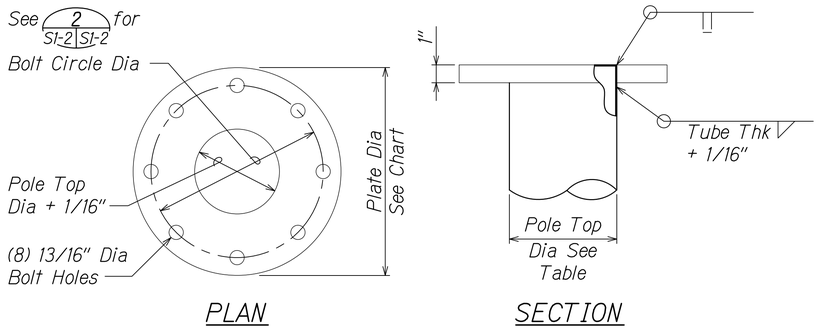
TENON DOOR DETAIL

Note:

One Door Required Per Tenon Plate. To Be Secured Using (2) 1/2" x 1-1/4" Galvanized Bolts and (2) Nuts and Lock Washers. Door Thickness No Greater than 1/4" or Less Than 1/16".

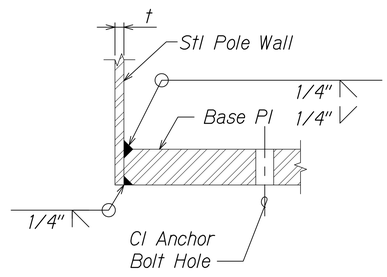
2 DETAIL - TENON ASSEMBLY

S1-2 S1-2 Scale: 3" = 1'-0"



3 DETAIL - POLE TOP PLATE

S1-2 S1-2 Scale: 3" = 1'-0"



4 DETAIL - BASE WELD DETAIL TOP PLATE (SIM)

S1-2, S1-4 S1-2 Not To Scale

GRAPHIC SCALE

0 1' 2' 4' 8' 12'

1/4"=1'-0"

0 1" 2" 4" 8" 1'

3"=1'-0"

0 1 2

LINE IS 2 INCHES AT FULL SIZE (if not 2 inches: scale accordingly)

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CCTV TYPICAL DETAILS

Freeway Management System, Phase 3, Unit 1
Federal Aid Project No. NH-0300(152)

Scale: As Shown Date: June 25, 2021

SHEET No. S1-2 OF 8 SHEETS

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QUANTITIES BY
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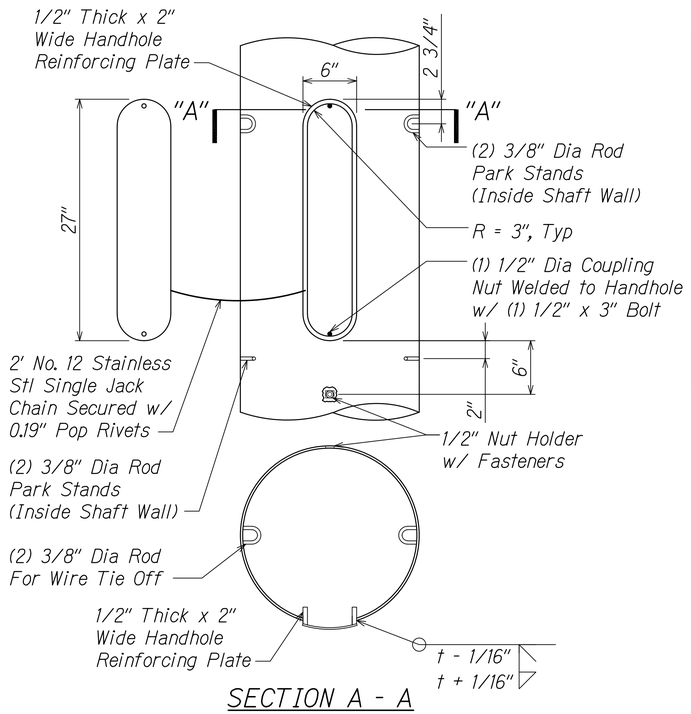
DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
OAHU	HAW.	NH-0300(152)	2021	168	170



SECTION A - A

HANDHOLE NOTES:

Handhole reinforcement shall be AASHTO M270 Grade 50.

Reinforcement shall be welded to the post shaft in the 90 degree location, prior to galvanizing pole shaft. Cover shall be fabricated from 3/16" steel. Steel Cover is galvanized according to ASTM A 153. Cover shall be equipped with two (2) AISI 304 stainless steel 1/4" - 20UNC x 3/4" LB hex cap screw and two (2) captive washers.

Provision for internal grounding shall be provided by a tapped hole.

1 SI-2 | SI-3 DETAIL - CAMERA LOWERING DEVICE HANDHOLE

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

GRAPHIC SCALE

0 1' 2'

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

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

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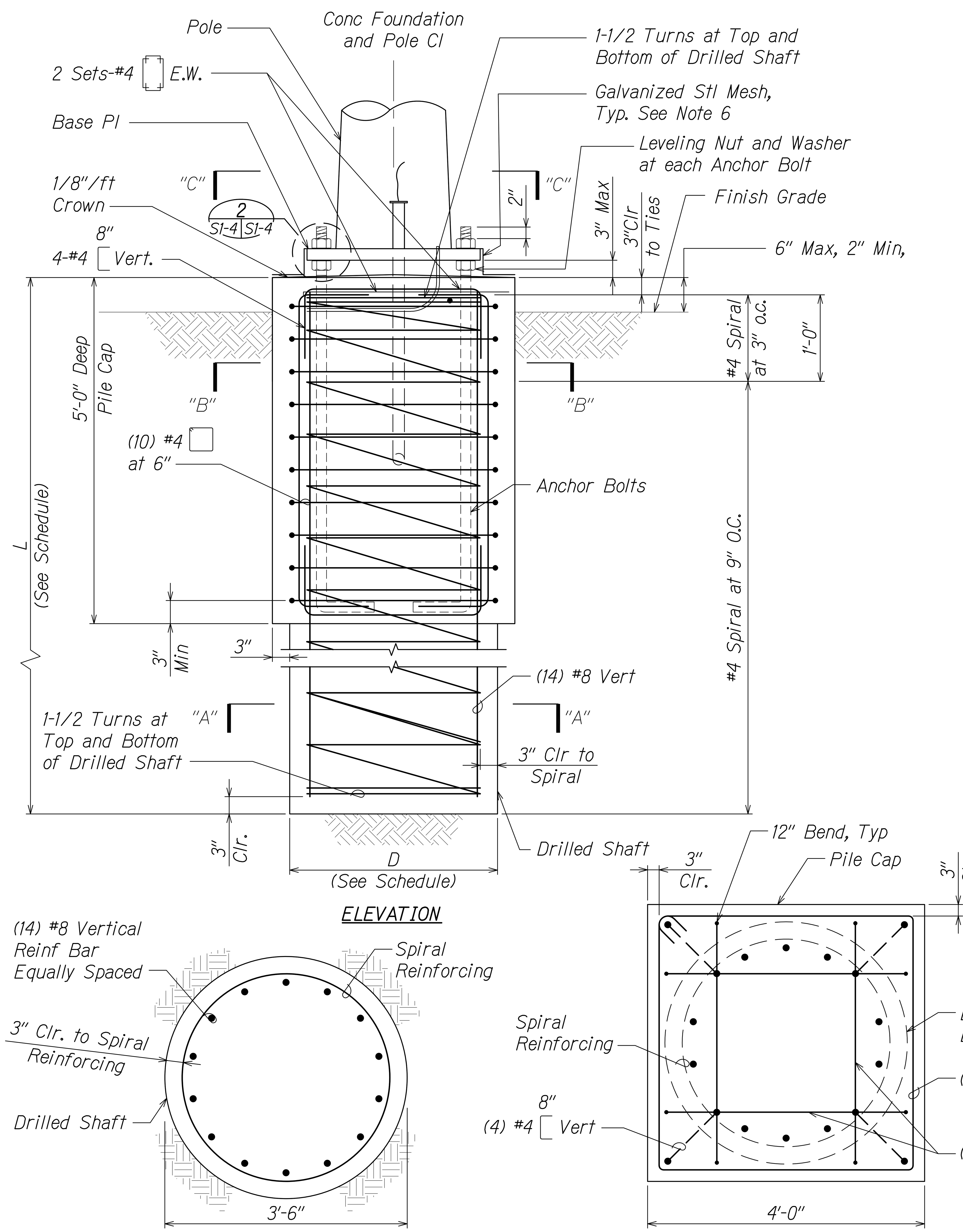
CCTV TYPICAL DETAILS

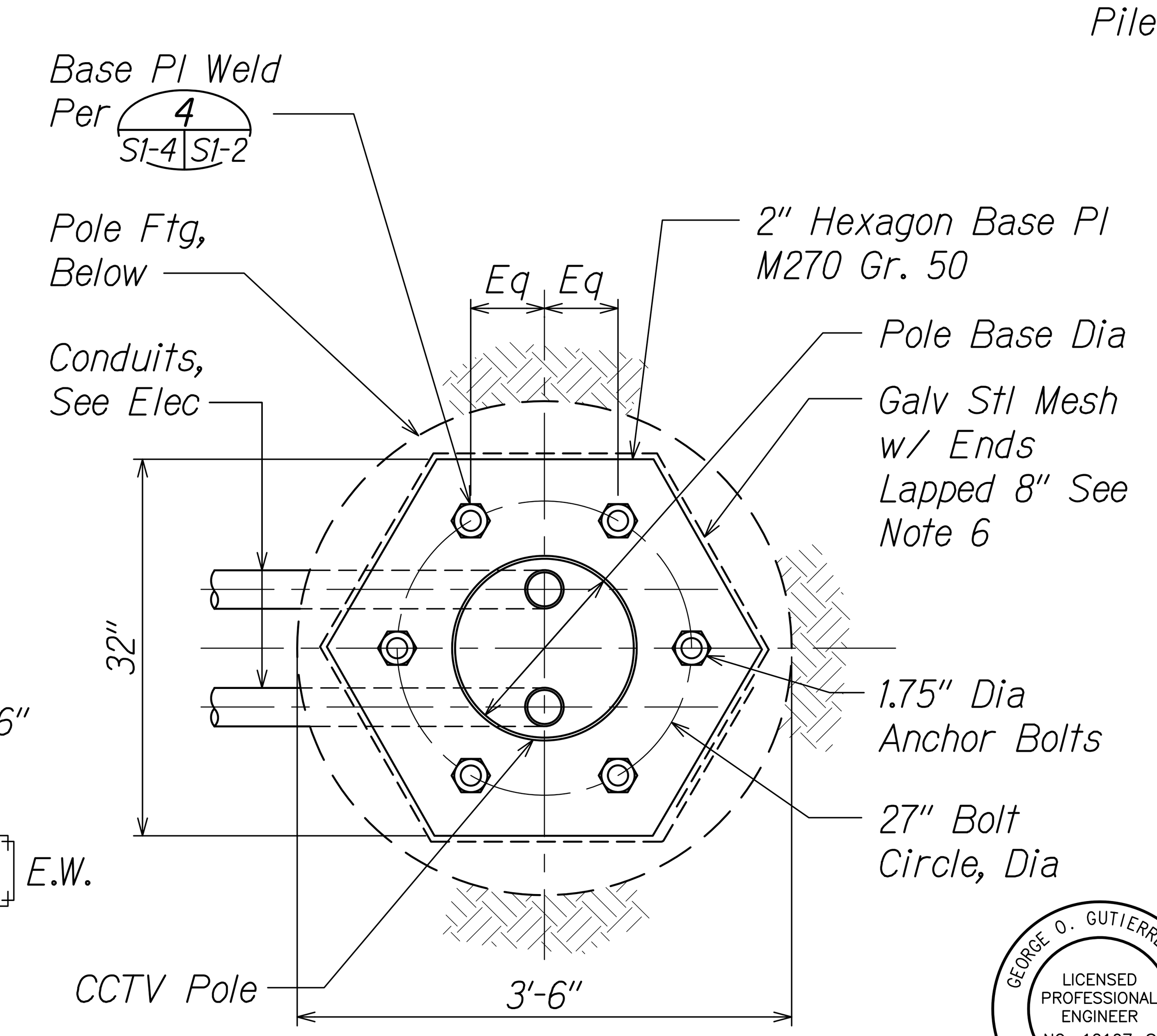
Freeway Management System, Phase 3, Unit 1
Federal Aid Project No. NH-0300(152)

Scale: As Shown Date: June 25, 2021

SHEET No. SI-3 OF 8 SHEETS

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
OAHU	HAW.	NH-0300(152)	2021	169	170





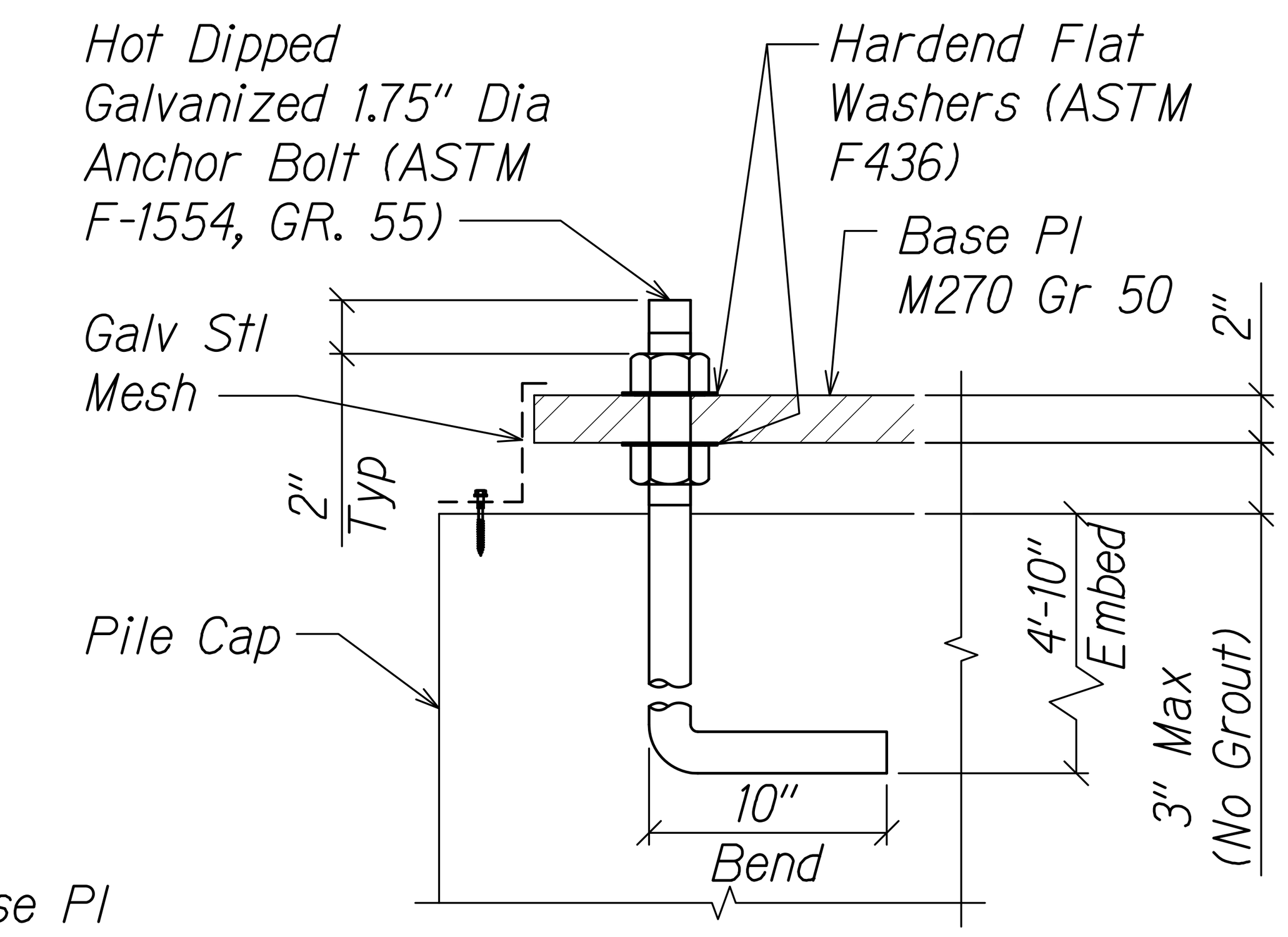
1 DETAIL - DRILLED SHAFT FOUNDATION FOR CCTV POLE (50' MAX)

S1-1, S1-2, S1-4 | S1-4 Not To Scale

CCTV AND MAC AND SPEED READER POLE FOUNDATION GENERAL NOTES:

1. Reinforcing steel (rebar) shall conform to AASHTO M 31 (ASTM A 615) Grade 60. Dimensions refer to the centerline of reinforcing steel unless otherwise noted on the plans. All reinforcing shall be incidental to concrete.
2. Anchor Bolts shall be ASTM F1554 Grade 55. Provide a top hex nut, bottom leveling nut, and 2 washers for each bolt at base plate. Bolts shall be galvanized.
3. Prior to tightening anchor bolts, leveling nuts shall be adjusted so that they bear uniformly against the base plates.
4. Tighten the anchor bolt nuts two or more times in the cross patterns (tightening nuts diametrically opposite) to ensure even tightening. The bolts shall be torqued according to the specifications.
5. After torquing, tack weld the top of nuts to the anchor bolts to ensure that the nuts will not loosen. Clean and provide two coats of cold galvanizing on surfaces damaged by tack welding.
6. Provide 2x2 galvanized steel mesh with 0.063" wire diameter. 1" lap on top of base plate, 3" bottom lap at concrete. Attached with 1/4" self tapping SS screws at 9" OC around perimeter of base plate. See Structural Steel Note 11 on S0-1.

CCTV Drilled Shaft Depths		
Location	Diameter, D (Ft)	Length, L (Ft)
H-2 South CCTV	3'-6"	13'-0" Min
Waiakele CCTV	3'-6"	15'-0" Min



2 ANCHOR BOLT DETAIL

S1-4 | S1-4 Scale: 1-1/2" = 1'-0"

GRAPHIC SCALE

0 3" 6" 1' 2'

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

LINE IS 2 INCHES AT FULL SIZE (if not 2 inches: scale accordingly)

GEORGE O. GUTIERREZ JR. LICENSED PROFESSIONAL ENGINEER NO. 12107-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAR TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS. STATE OF HAWAII

APRIL 30, 2022 LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CCTV FOUNDATION DETAILS

Freeway Management System, Phase 3, Unit 1

Federal Aid Project No. NH-0300(152)

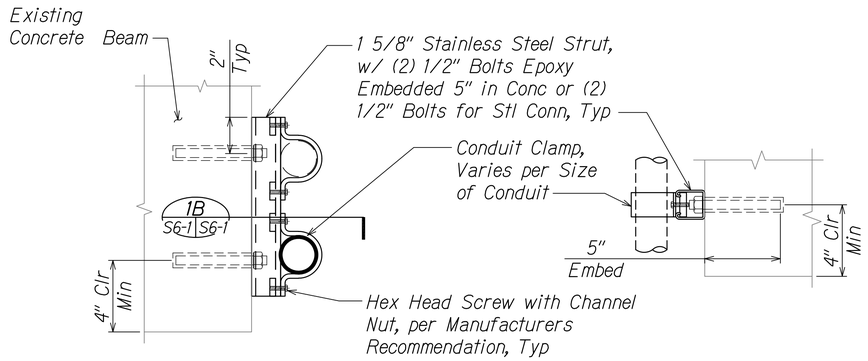
Scale: As Shown Date: June 25, 2021

SHEET No. S1-4 OF 8 SHEETS

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

FNF:\19JOB.DWG\19037 DOT FMS PH 3 CCTV & VMS\DWGS_19037\STRUCT_19037\UNIT 1_19037\UNIT 1 DWG\1_GNRL\UNIT 1_S1-4.DWG Jul 16, 2021-1:55 PM

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
OAHU	HAW.	NH-0300(152)	2021	170	170



1A S6-1 S6-1 CONDUIT SECTION (SIDE/BOT) 1B S6-1 S6-1 TOP VIEW

1 SX-X S6-1 CONDUIT ATTACHMENT - CONCRETE

Scale: 3" = 1'-0"

Notes:

1. Conduit attachments may be made to the side or bottom of existing concrete per Elec/Telcom drawings.
2. Contractor shall locate existing reinforcing in concrete using non-destructive testing.
3. Drilling equipment shall not consist of cutting bits capable of cutting reinforcing steel.
4. Threaded rods shall be extended 1/2" past nuts and be spoiled to prevent loosening.
5. Provide strut support at 5'-0" on center max. Provide strut support at 2'-0" max from conduit bands where occurs.

GRAPHIC SCALE

0 3" 6" 1' 2'

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

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

PW:C:\19-028.DWG\19037 DOT PMS PH 3 CCTV & WIS\DWGS_19037\DWGS_19037\STRUCT_19037\UNIT 1_19037\UNIT 1 DWG\6_DTLS\UNIT 1_S6-1.DWG Jul 16, 2021 - 1:55 PM

0 1 2

LINE IS 2 INCHES AT FULL SIZE (if not 2 inches: scale accordingly)

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APRIL 30, 2022
LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONDUIT DETAILS

Freeway Management System, Phase 3, Unit 1
Federal Aid Project No. NH-0300(152)

Scale: As Shown Date: June 25, 2021

SHEET No. S6-1 OF 8 SHEETS