

ORIGINAL PLAN	No.	CHECKED BY	DESIGNED BY	DATE	SURVEY PLOTTED BY			
						NOTED BY		
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								DESIGNED BY

FED. ROAD DIST. NO.

HAWAII

STATE

HAW.

FED. AID PROJ. NO.

NH-H201(005) Ph2

FISCAL YEAR

2020

SHEET NO.

78

TOTAL SHEETS

140

MINIMUM SPLICE & EMBEDMENT LENGTHS

Bar Size	Lap Splice		Embedment		
	Top Bars	Other Bars	Straight		with Standard 90° Hook
			Top Bars	Other Bars	
#3, #4	30"	23"	23"	18"	10"
#5	37"	29"	29"	22"	12"
#6	44"	34"	34"	26"	14"
#7	56"	43"	43"	34"	16"
#8	74"	57"	57"	44"	19"

Notes:

1. "Top Bars" are horizontal bars with 12" or more of concrete cast below.

2. Splice and embedment lengths shown are for epoxy coated bars. For non epoxy coated bars, the lengths may be reduced by multiplying the tabulated values by 0.833.

TYPICAL REBAR SPLICE AND EMBEDMENT LENGTH SCHEDULE

Not to Scale

1

S0.1S0.1

90° Hook

180° Hook

6db

6db

12d b

4db or 2½"

6db or 3"

135°

6db or 3"

90°

Cross-Tie

Splice Length

1.5db Max or Place Bars in Contact Wire Together

Bar Lap

2

S0.1S0.1

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

STRUCTURAL GENERAL NOTES

AND TYPICAL DETAILS

MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS

Halawa Heights Off-ramp to Middle St. Overpass

FAP NO. NH-H201(005) PHASE 2

Scale: As Shown

Date: July 2020

SHEET No. S0.2 OF 25 SHEETS

KEI KAZUO HAYASHIDA

LICENSED PROFESSIONAL ENGINEER

No. 6818-S

HAWAII, U.S.A.

EXPIRATION DATE OF THE LICENSE 4/30/2022

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Structural Steel:

- A. Fabrication and erection of structural steel shall conform to the American Institute of Steel Construction Manual of Steel Construction, Thirteenth Edition.
- B. All structural steel in this section shall be hot-dip galvanized after fabrication.
- C. Zinc (Hot-Dip Galvanizing) Coatings for structural iron and steel products made from rolled, pressed and forged shapes, castings, bars and plates including unfabricated and fabricated products shall conform to ASTM A123 unless otherwise noted.
- D. Any damaged galvanized surface shall be repaired as follows:
 - 1. Prepare surface per SSPC-SPI, solvent cleaning.
 - 2. Apply two coats of cold applied galvanizing compound containing 95% metallic zinc content by weight in dry film and 52% solids content by volume.
 - 3. Application rate shall be 1.5 mils dry film thickness per coat.
- E. Structural steel shall conform to ASTM A36 unless otherwise noted.
- F. Stainless steel shall conform to ASTM A240, Type 316L.
- G. Steel wide flange sections shall conform to ASTM A992.
- H. Steel pipes shall conform to ASTM A53, Grade B.
- I. Steel tubes (HSS) shall conform to ASTM A500, Grade B
- J. Plates and bars shall conform to ASTM A36.
- K. Welds and welding procedures shall conform to the structural welding codes AWS D1.5 and D1.6 of the American Welding Society.
- L. Welding shall be performed by welders prequalified for welding procedures to be used.
- M. Welding electrodes shall be E70XX and E316.
- N. Fasteners:
 - 1. Bolts (Hex or Heavy Hex Bolts) shall conform to ASTM A307, Grade A unless otherwise specified and hot-dip galvanized in accordance with ASTM F2329.

Hex Nuts for ASTM A307 hex bolts shall conform to ASTM A563, Hex Grade A and hot-dip galvanized in accordance with ASTM F2329.

Heavy Hex Nuts for ASTM A307 heavy hex bolts shall conform to ASTM A563, Heavy Hex Grade DH and hot-dip galvanized in accordance with ASTM F2329.

Washers for ASTM A307 bolts shall conform to ASTM F844 and hot-dip galvanized in accordance with ASTM F2329.
 - 2. High Strength Bolts (Heavy Hex Structural Bolts) shall conform to ASTM F3125, Grade A325, Type 1 unless otherwise specified and hot-dip galvanized in accordance with ASTM F2329.

Nuts for ASTM F3125 bolts shall conform to ASTM A563, Grade DH and hot-dip galvanized in accordance with ASTM F2329.

Washers for ASTM F3125 bolts shall conform to ASTM F436, Type 1 and hot-dip galvanized in accordance to ASTM F2329.
 - 3. Stainless Steel Bolts shall conform to ASTM A193, Grade B8M or ASTM F593, Alloy Group 2, Condition A or CW unless otherwise specified.

Nuts for ASTM stainless steel bolts shall conform to ASTM A194, Grade 8M or ASTM F594, Alloy Group 2, Condition A or CW and shall match the corresponding bolt specification, grade, alloy group, and condition.

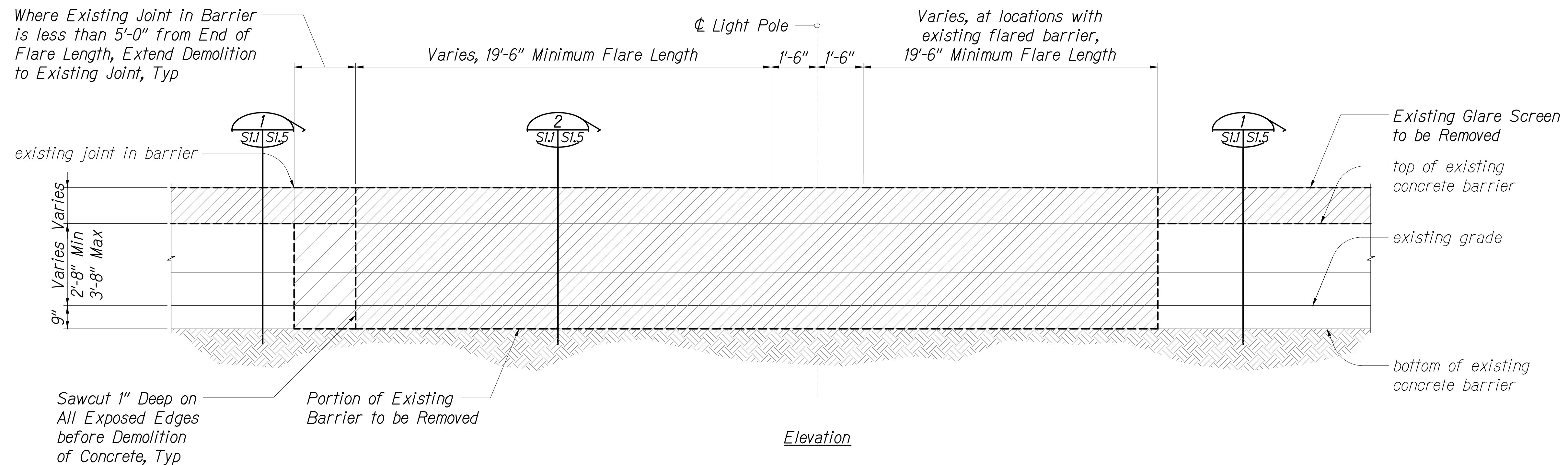
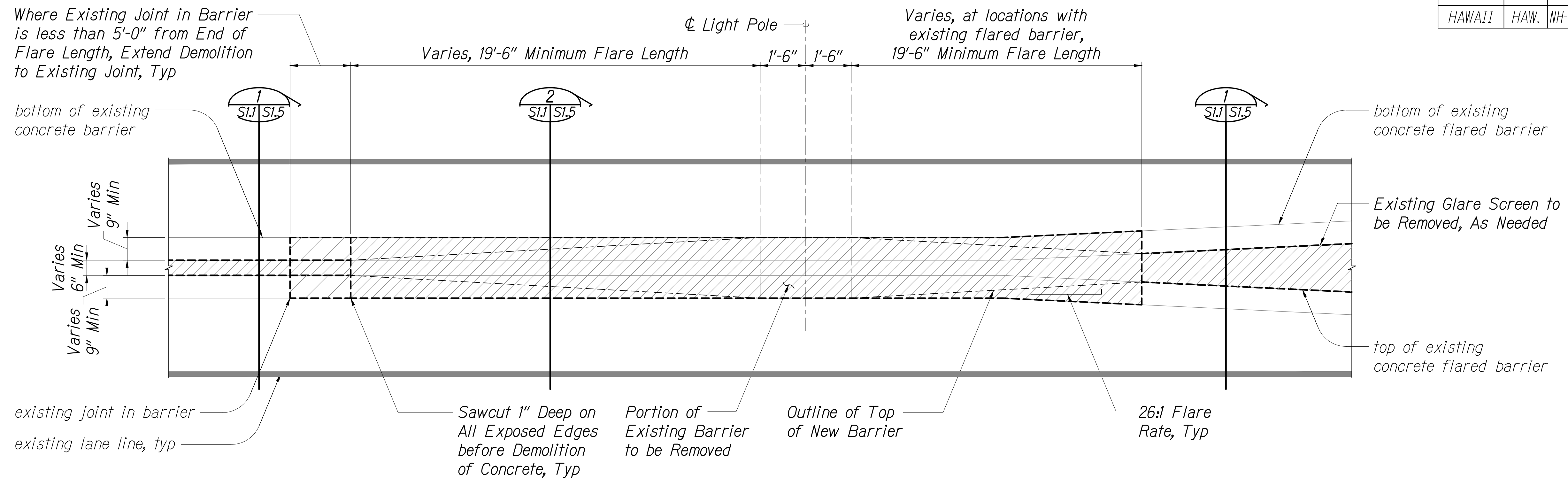
Washers for stainless steel bolts shall be Type 316 Stainless Steel.
- P. Installation of the high-strength bolts shall be assured by any of the following methods.
 - 1. Turn of nut method
 - 2. Direct tension indicator
 - 3. Calibrated wrench
 - 4. Alternative design bolt
- Q. Bolts and high strength bolts shall have sufficient length when installed to ensure that the bolt projects at least ⅛" beyond the nut but should not project more than ¼".
- R. Stainless steel shall not come into contact with carbon steel.

Miscellaneous Materials:

- A. Preformed Expansion Joint Filler for Concrete (Bituminous Type) shall conform to AASHTO M33-99 (2012), ASTM D994-11 (2016).
- B. GFRP reinforcing shall be deformed bars conforming to ASTM D7957.

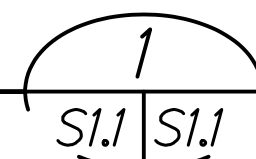
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005) Ph2	2020	79	140

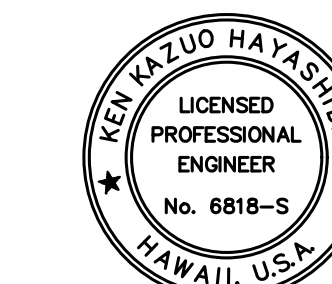


LIGHT POLE 2 TO 6, 8 TO 15, 54 TO 61,
65, 67, 69, 80, 82, 84, 86, AND 88
TYPE 4A MEDIAN BARRIER DEMOLITION

Not to Scale



Note:
Where there was an expansion joint in the existing section of wall that was removed, a new expansion joint shall be placed at the end of the new wall nearest the removed joint. See sheet SI.8 for joint details.



EXPIRATION DATE OF THE LICENSE 4/30/2022
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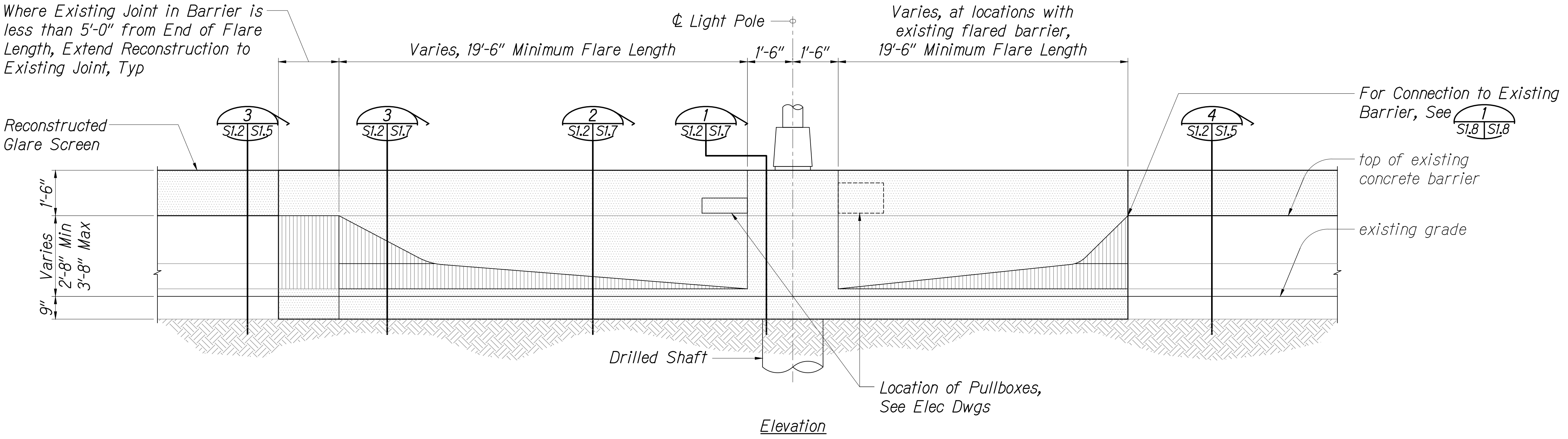
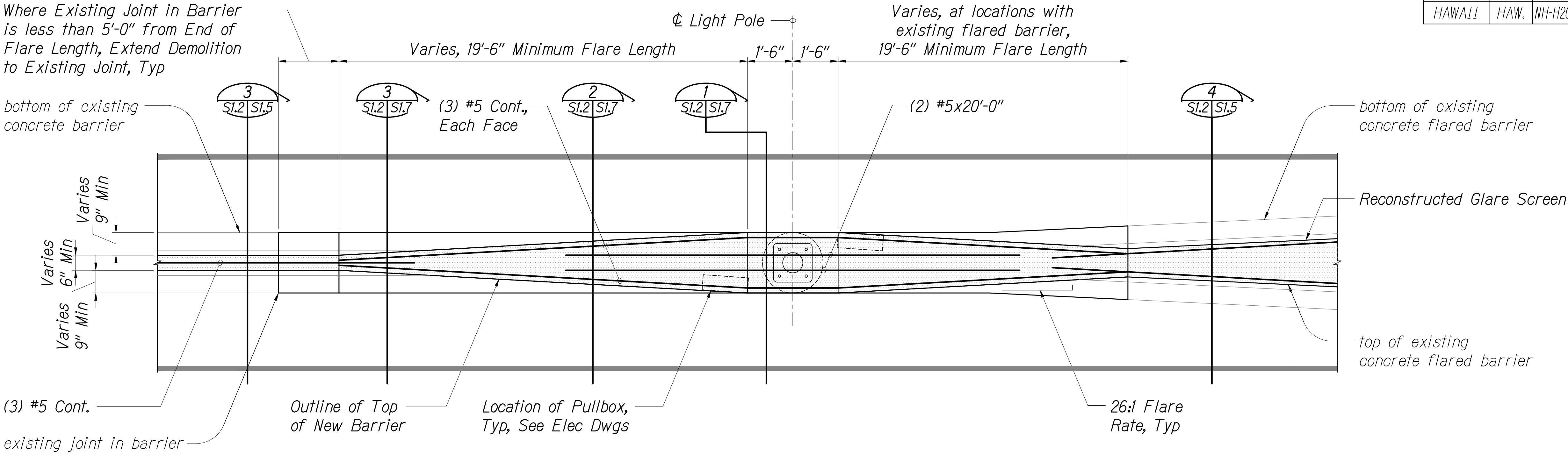
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**TYPE 4A MEDIAN
BARRIER DEMOLITION**
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005) PHASE 2

Scale: As Shown

Date: July 2020

SHEET No. SI.1 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H20(005) Ph2	2020	80	140



LIGHT POLE 2 TO 6, 8 TO 15, 54 TO 61, 65, 67, 69, 80, 82, 84, 86, AND 88

TYPE 4A MEDIAN BARRIER RECONSTRUCTION

Not to Scale

1
S1.2 | S1.2

Note:
Where there was an expansion joint in the existing section of wall that was removed, a new expansion joint shall be placed at the end of the new wall nearest the removed joint. See sheet S1.8 for joint details.



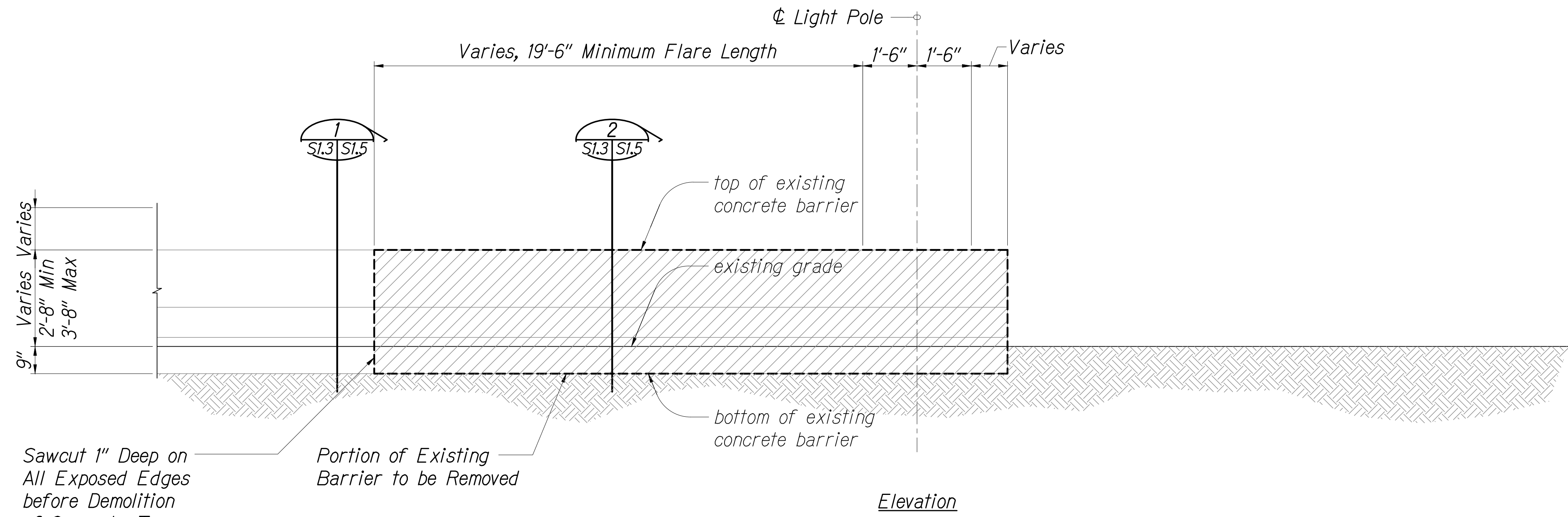
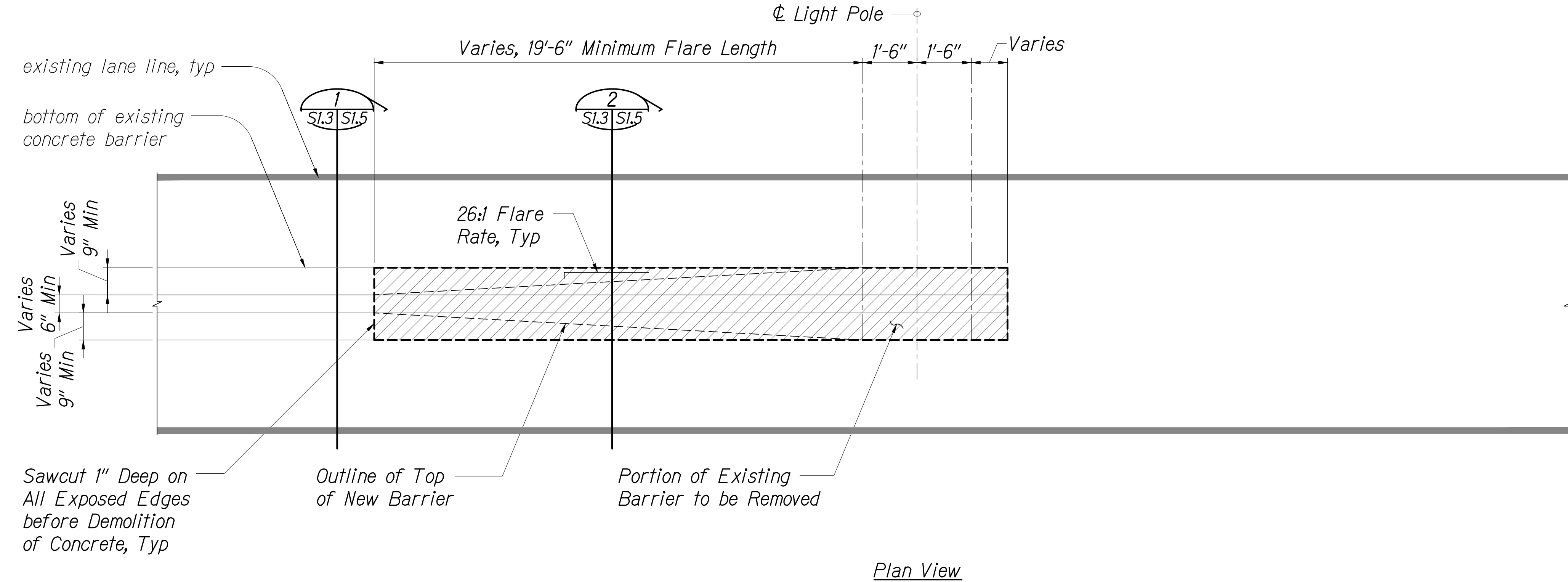
EXPIRATION DATE OF THE LICENSE 4/30/2022
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**TYPE 4A MEDIAN
BARRIER RECONSTRUCTION**
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H20(005) PHASE 2

Scale: As Shown
Date: July 2020
SHEET No. S1.2 OF 25 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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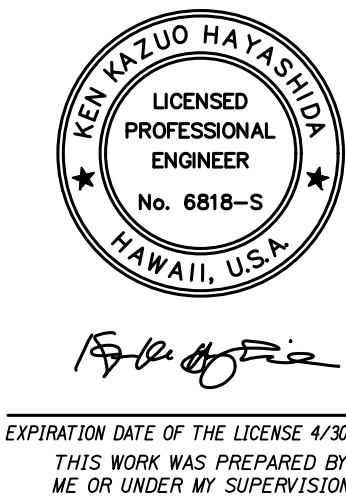
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HAWAII	HAW.	NH-H201(005) Ph2	2020	81	140



- Notes:
- Where there was an expansion joint in the existing section of wall that was removed, a new expansion joint shall be placed at the end of the new wall nearest the removed joint. See sheet S1.8 for joint details.
 - Where Existing Joint in Barrier is less than 5'-0" from End of Flare Length, Extend Demolition to Existing Joint. See Sheet S1.1 for details.

LIGHT POLE 65 AND 80
TYPE 4A MEDIAN BARRIER DEMOLITION
Not to Scale

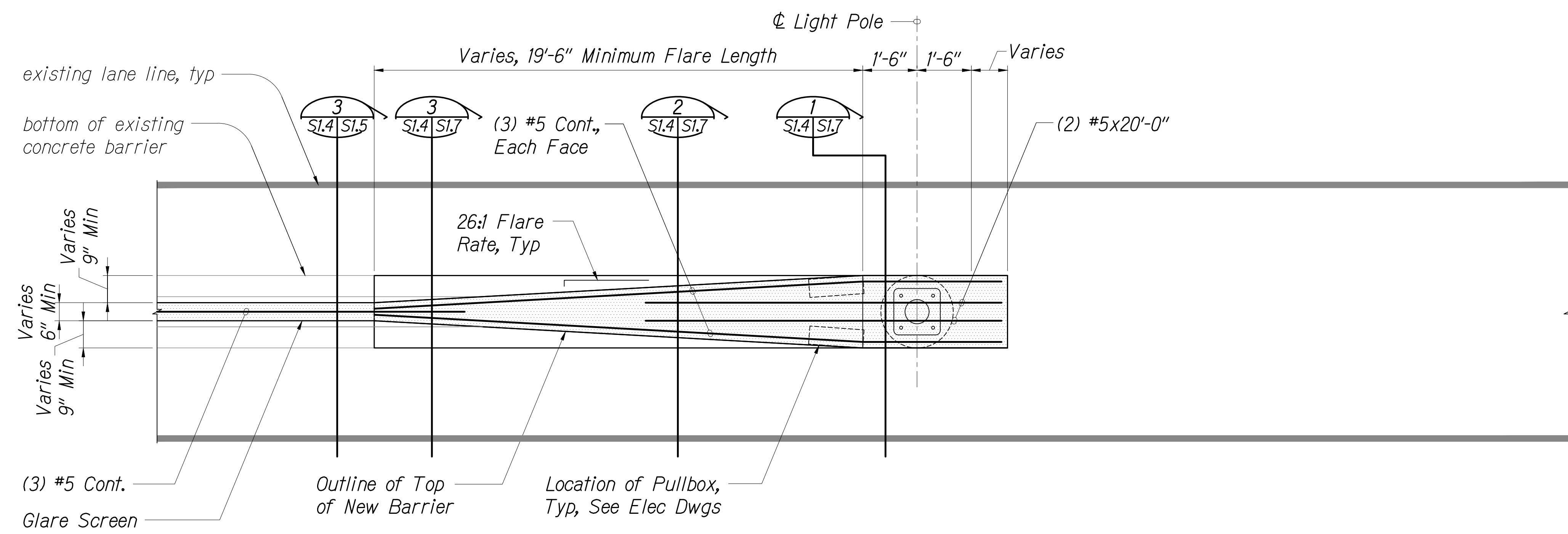
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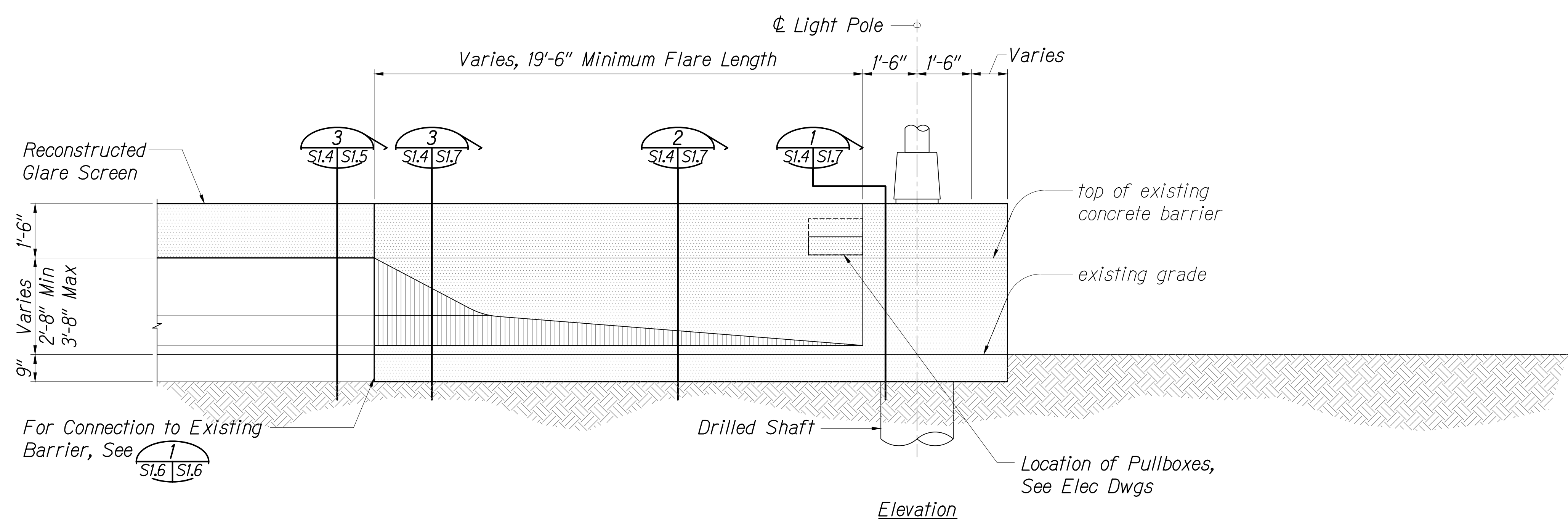
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TYPE 4A END OF MEDIAN BARRIER DEMOLITION
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005) PHASE 2

Scale: As Shown
Date: July 2020
SHEET No. S1.3 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005) Ph2	2020	82	140



Plan View



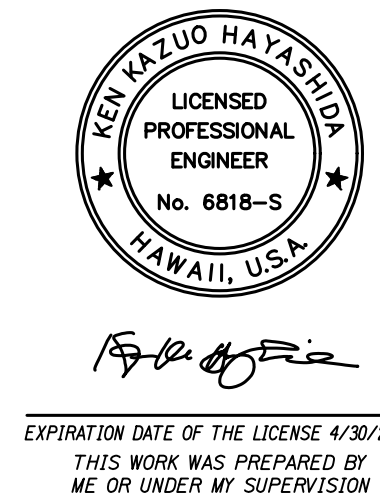
Elevation

- Notes:**
- Where there was an expansion joint in the existing section of wall that was removed, a new expansion joint shall be placed at the end of the new wall nearest the removed joint. See sheet S1.8 for joint details.
 - Where Existing Joint in Barrier is less than 5'-0" from End of Flare Length, Extend Demolition to Existing Joint. See Sheet S1.1 for details.

LIGHT POLE 65 AND 80
TYPE 4A MEDIAN BARRIER RECONSTRUCTION
 Not to Scale

1
S1.4 S1.4

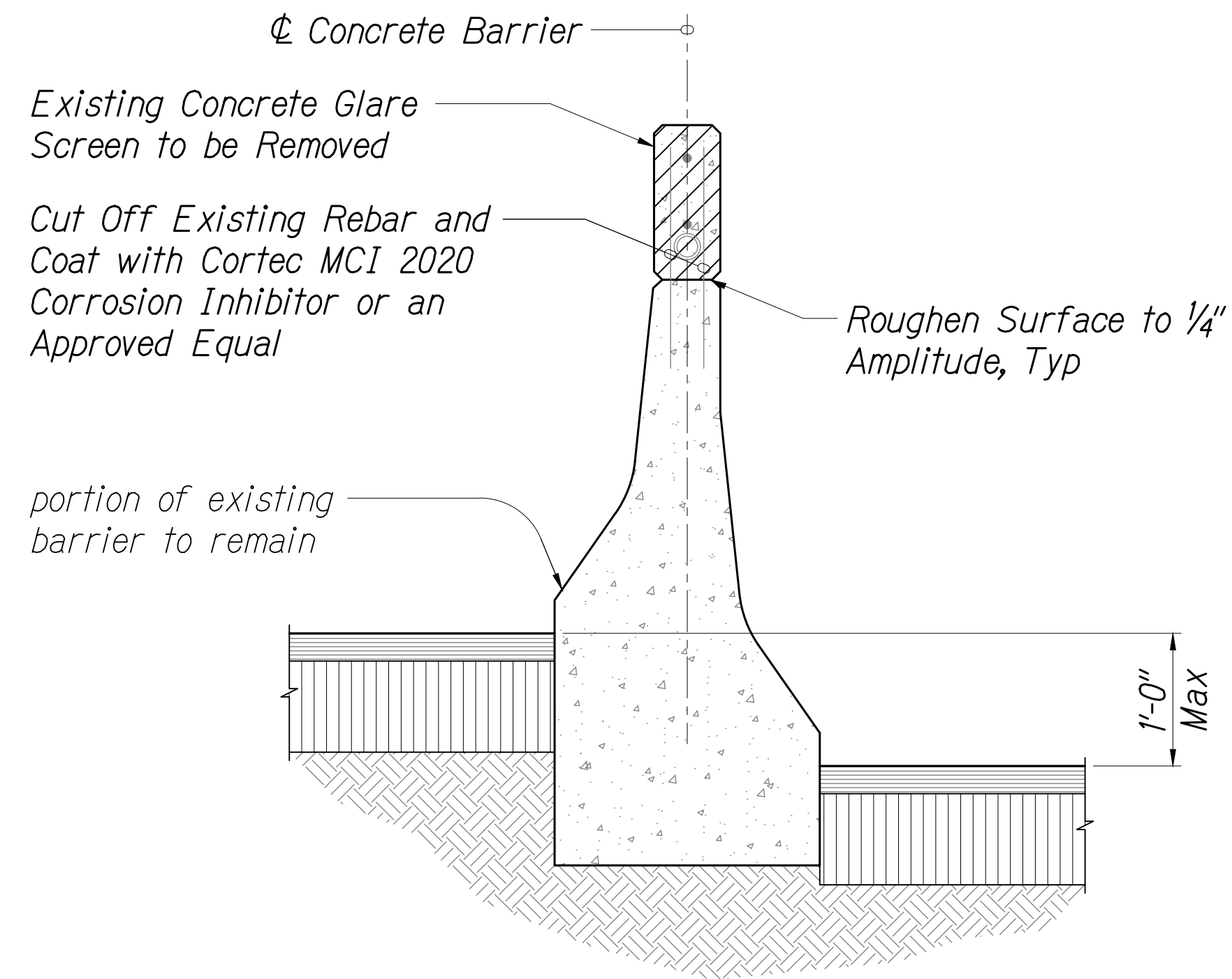
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**TYPE 4A END OF MEDIAN
BARRIER RECONSTRUCTION**
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005) PHASE 2

Scale: As Shown
Date: July 2020
SHEET No. S1.4 OF 25 SHEETS

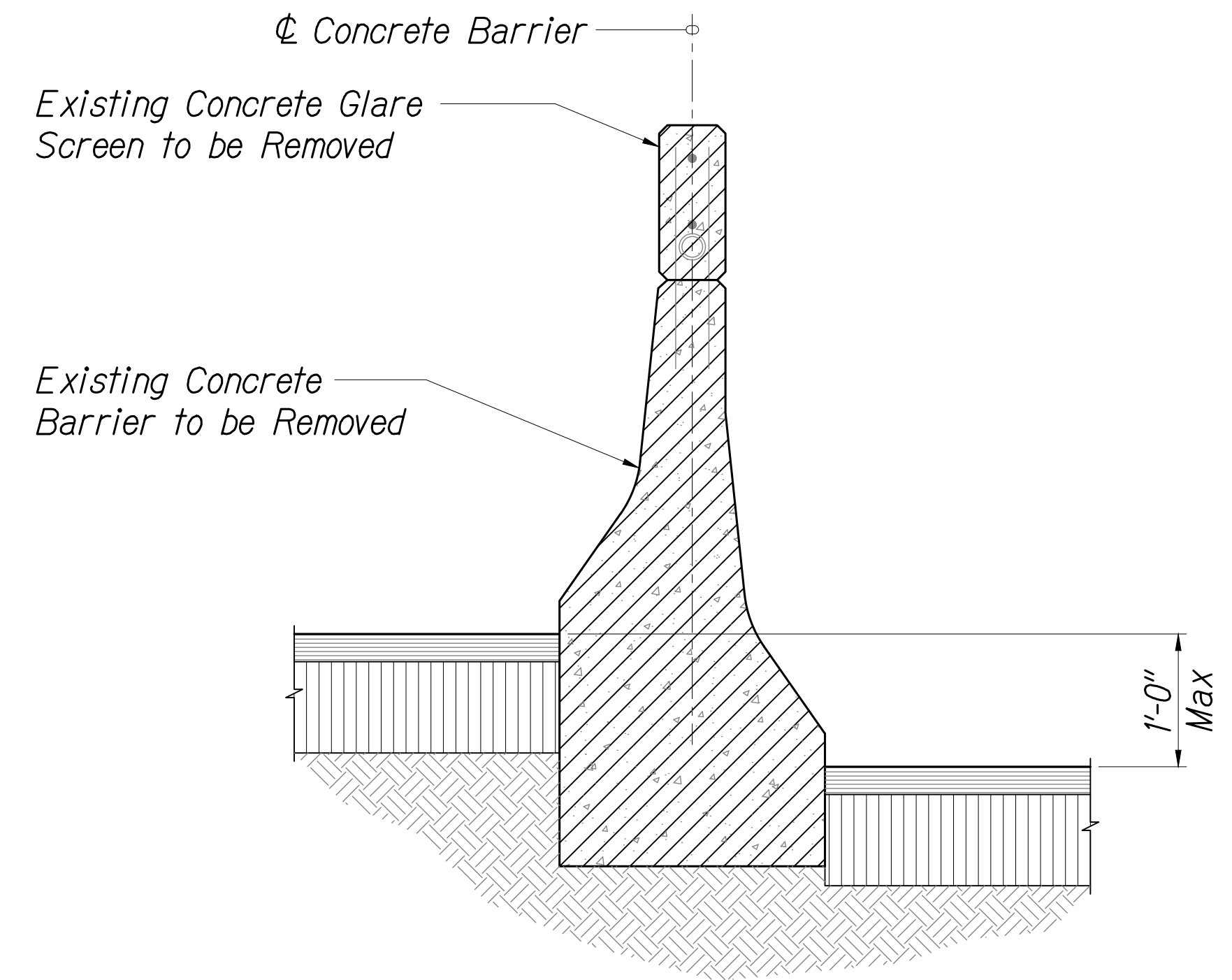
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005) Ph2	2020	83	140



TYPICAL GLARE SCREEN
DEMO SECTION

Scale: 1" = 1'-0"

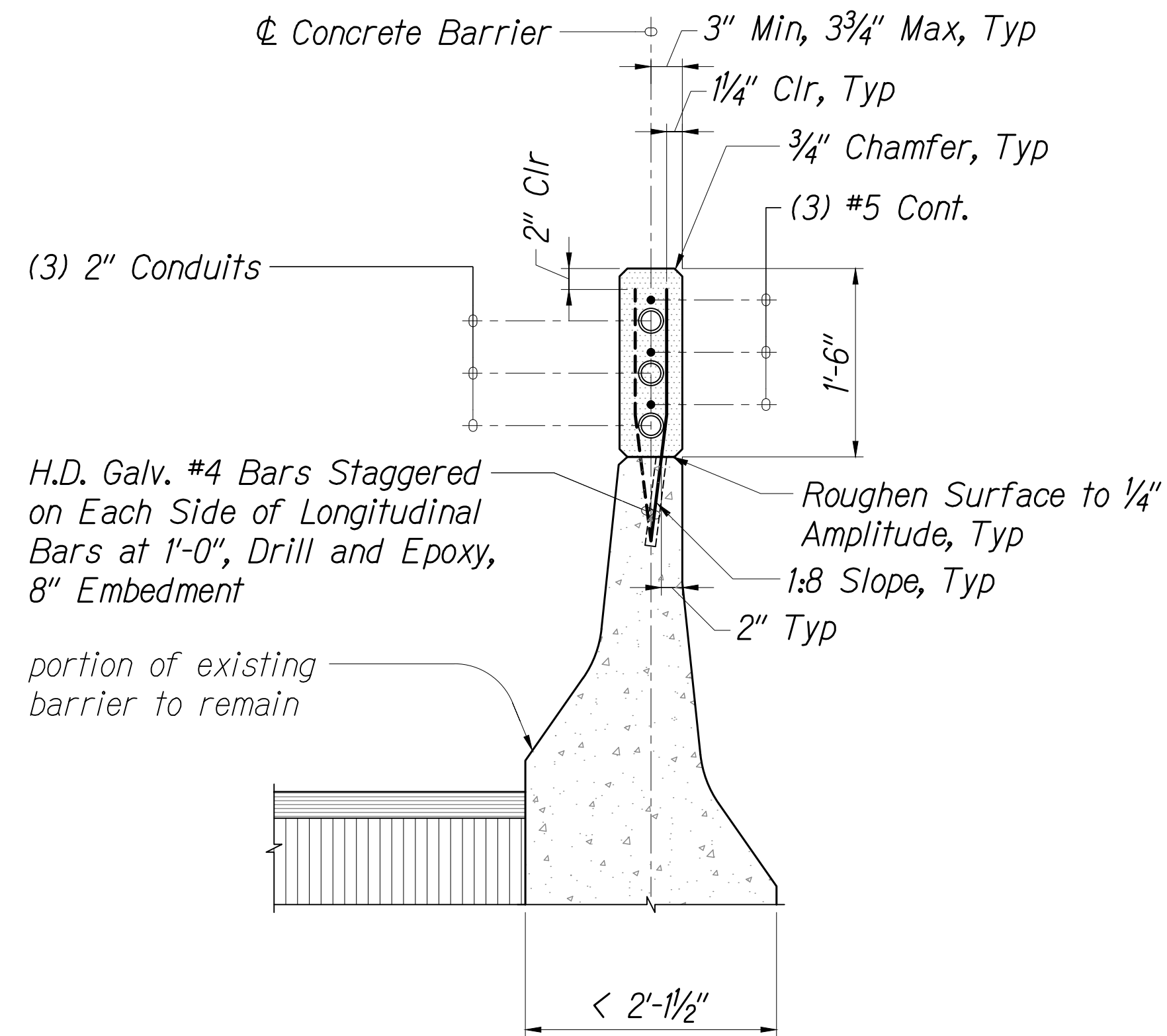
1
SI.1, SI.3 SI.5



TYPICAL MEDIAN BARRIER
DEMO SECTION

Scale: 1" = 1'-0"

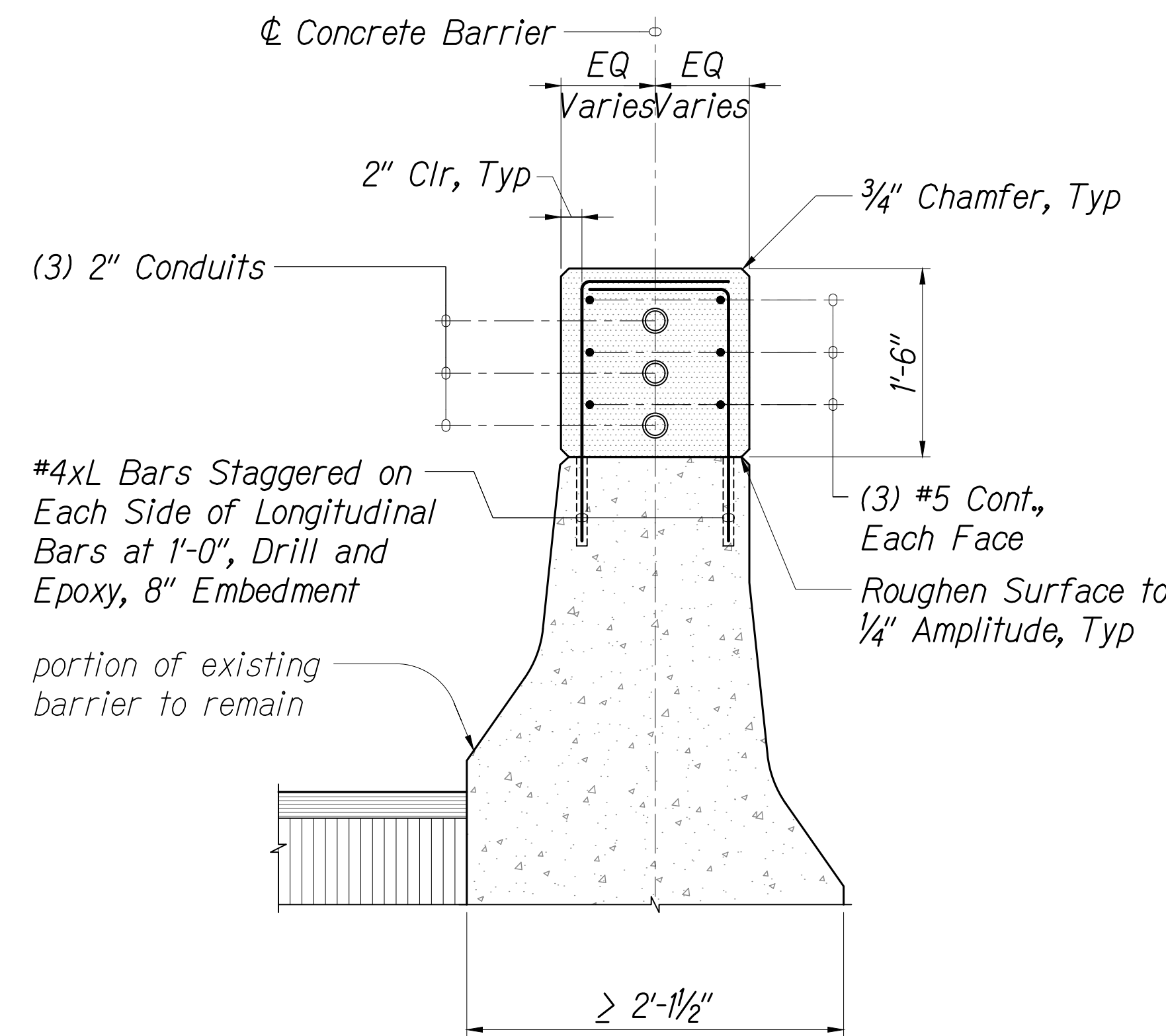
2
SI.1, SI.3 SI.5



TYPICAL GLARE SCREEN
RECONSTRUCTION SECTION

Scale: 1" = 1'-0"

3
SI.2, SI.4 SI.5



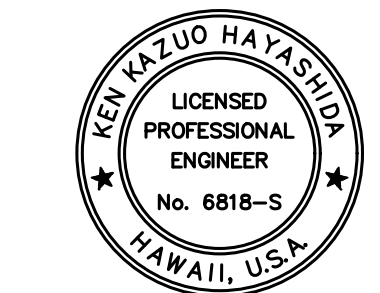
TYPICAL GLARE SCREEN
RECONSTRUCTION SECTION

Scale: 1" = 1'-0"

4
SI.2 SI.5

Note:
Locations and sizes of contraction and/or expansion joints shall match existing wall joints.

DATE	_____
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DESIGNED BY	_____
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NO.	_____

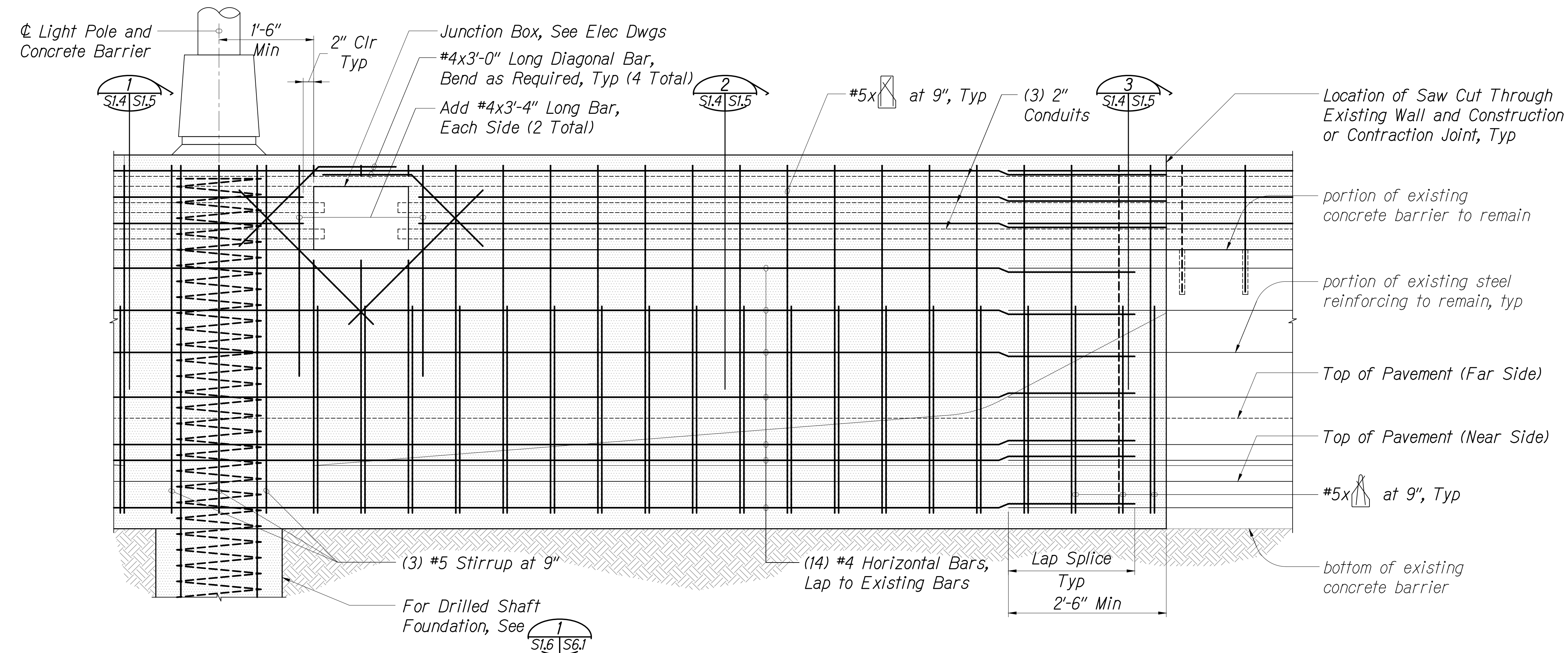


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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**TYPE 4A GLARE SCREEN
AND BARRIER SECTIONS**
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005) PHASE 2
Scale: As Shown
Date: July 2020
SHEET No. SI.5 OF 25 SHEETS

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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005) Ph2	2020	84	140



TYPE 4A
MEDIAN BARRIER ELEVATION 1
Scale: 1" = 1'-0" SL.6 SL.6

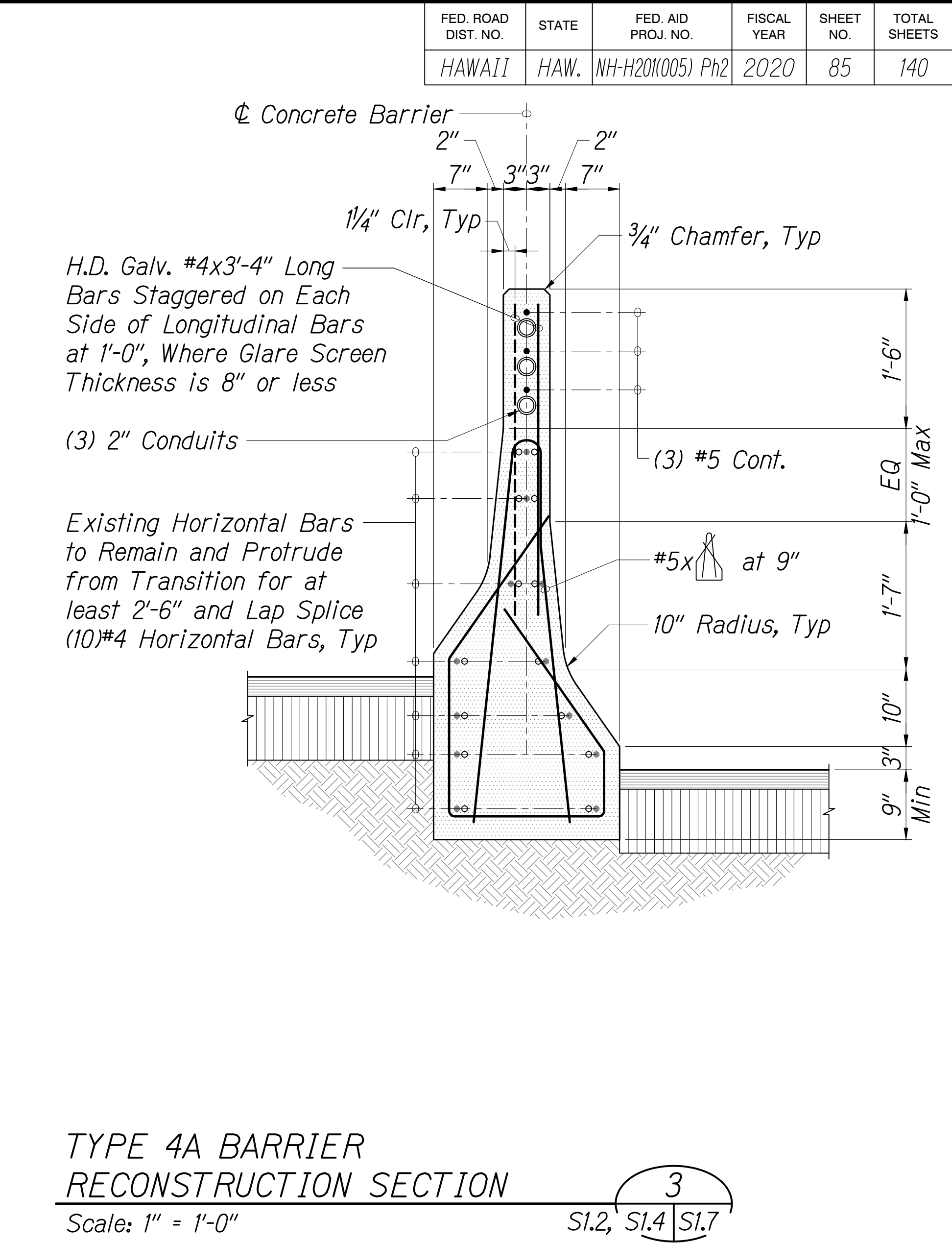
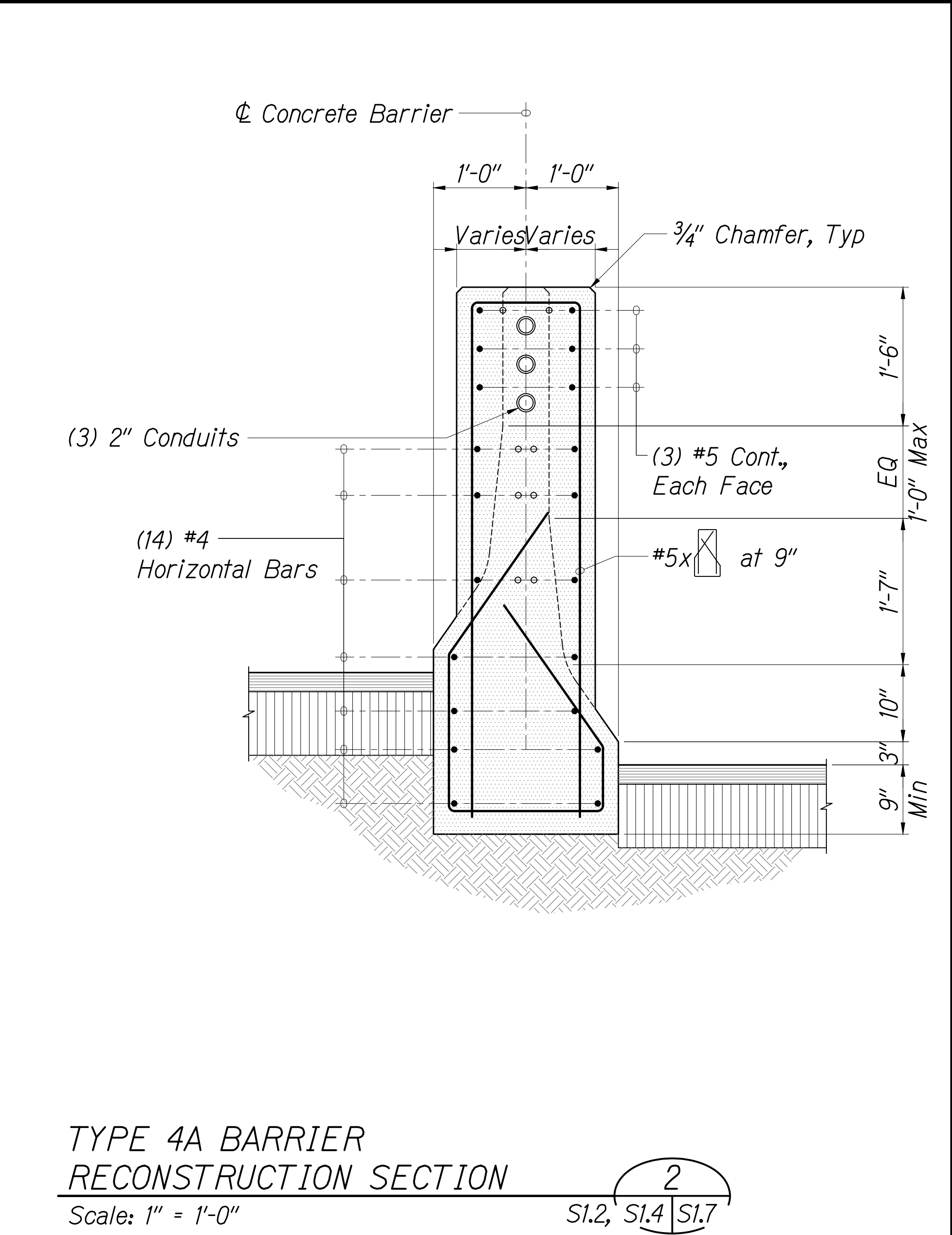
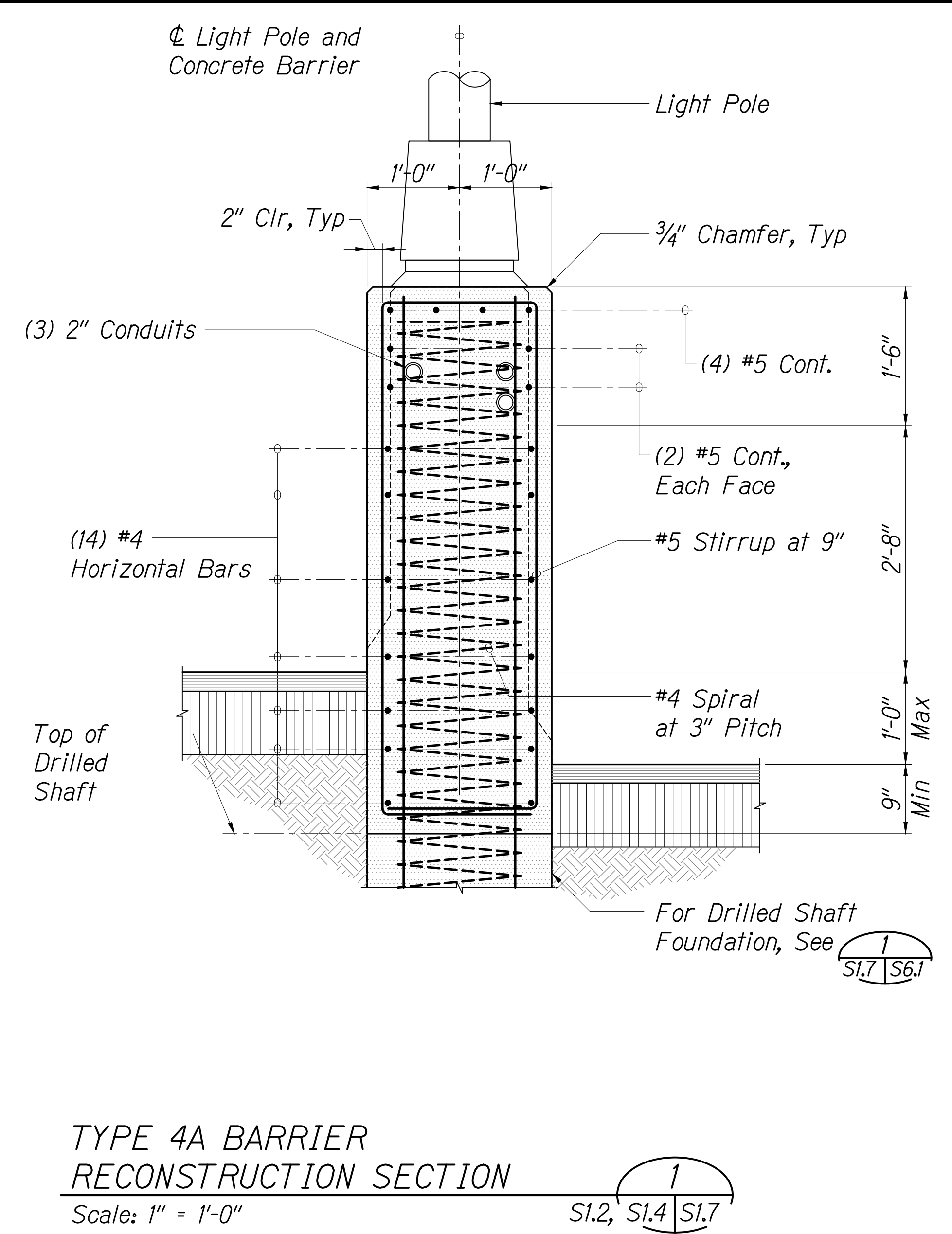
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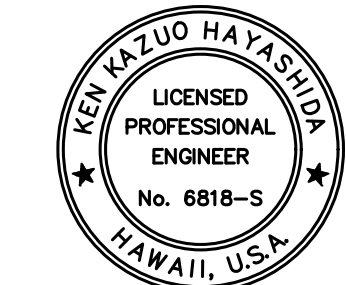
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**TYPE 4A MEDIAN
BARRIER ELEVATION**
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005) PHASE 2
Scale: As Shown Date: July 2020
SHEET No. SL.6 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H20(005) Ph2	2020	85	140



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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

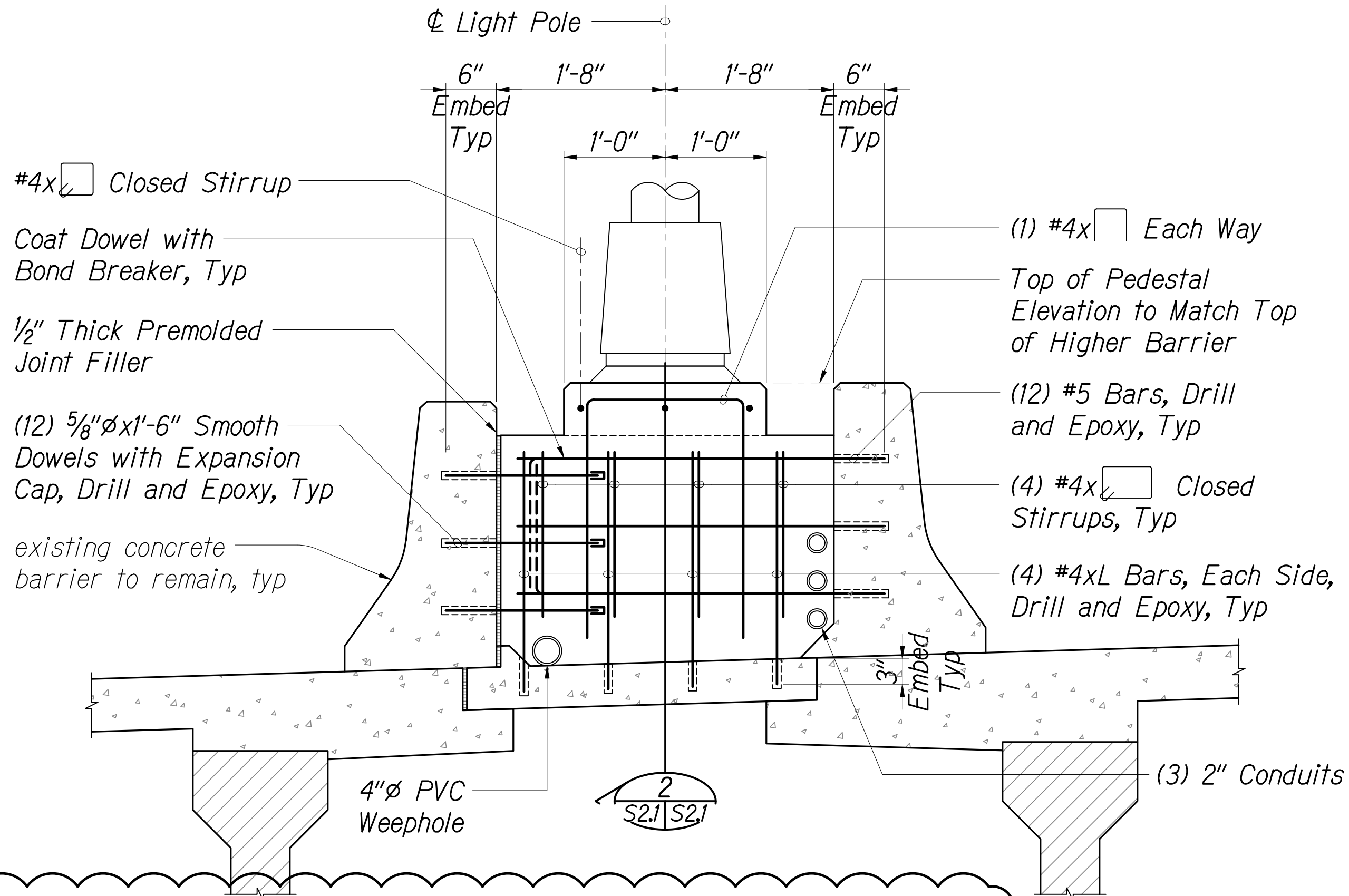
**TYPE 4A MEDIAN
BARRIER SECTIONS**

MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H20(005) PHASE 2

Scale: As Shown Date: July 2020

SHEET No. 51.7 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005) Ph2	2020	87	140

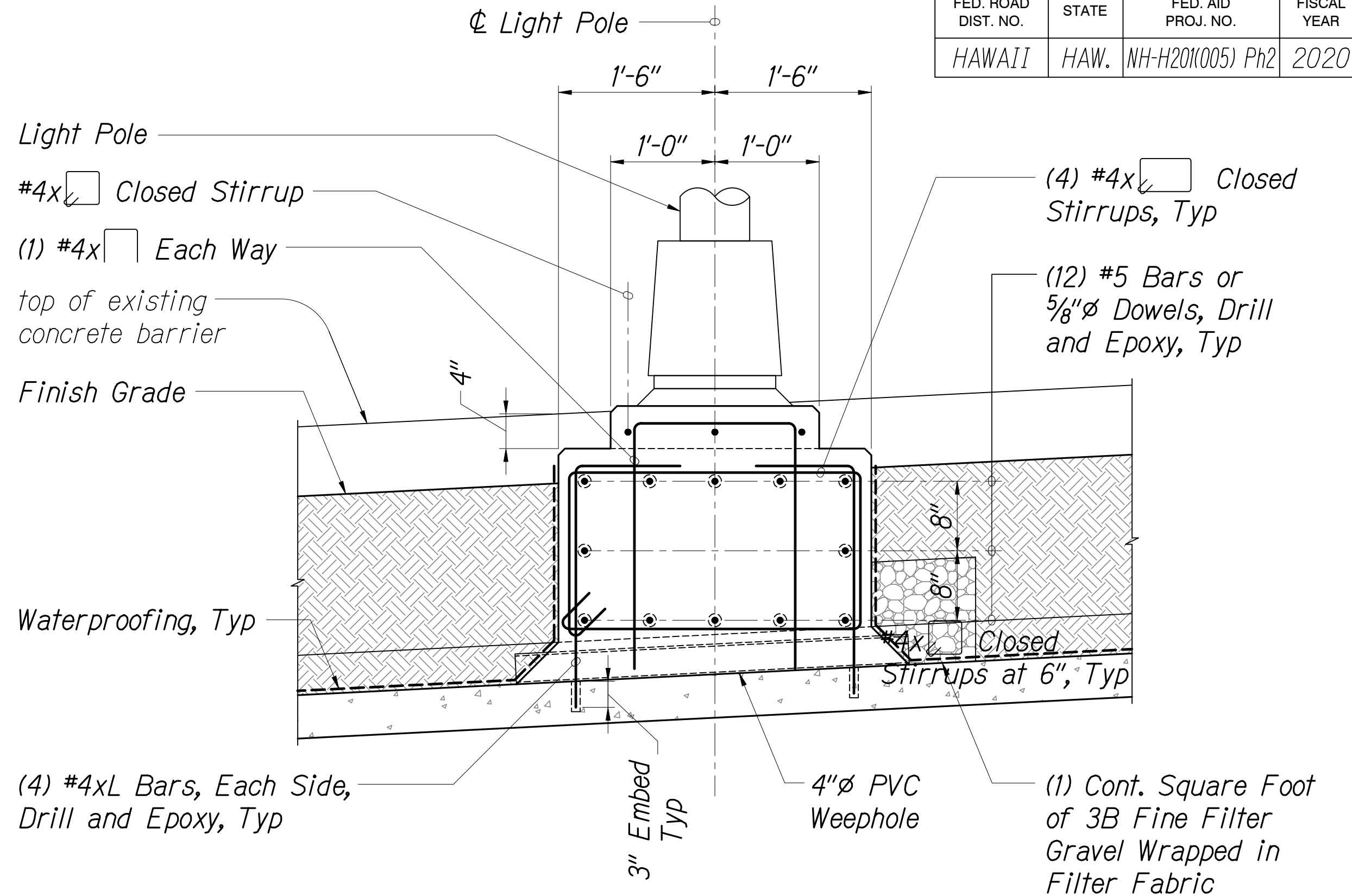


LIGHT POLE 36 SUPPORT SECTION

Scale: 1" = 1'-0"

1
S2.1 S2.1

1



LIGHT POLE 36 SUPPORT SECTION

Scale: 1" = 1'-0"

2
S2.1 S2.1

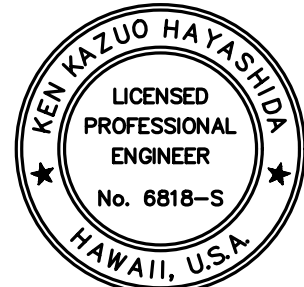
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CHECKED BY	DATE



02/18/21
DATE

Revised Light Pole 36 Support
REVISION



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**LIGHT POLE 36
SECTIONS**

MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005) PHASE 2

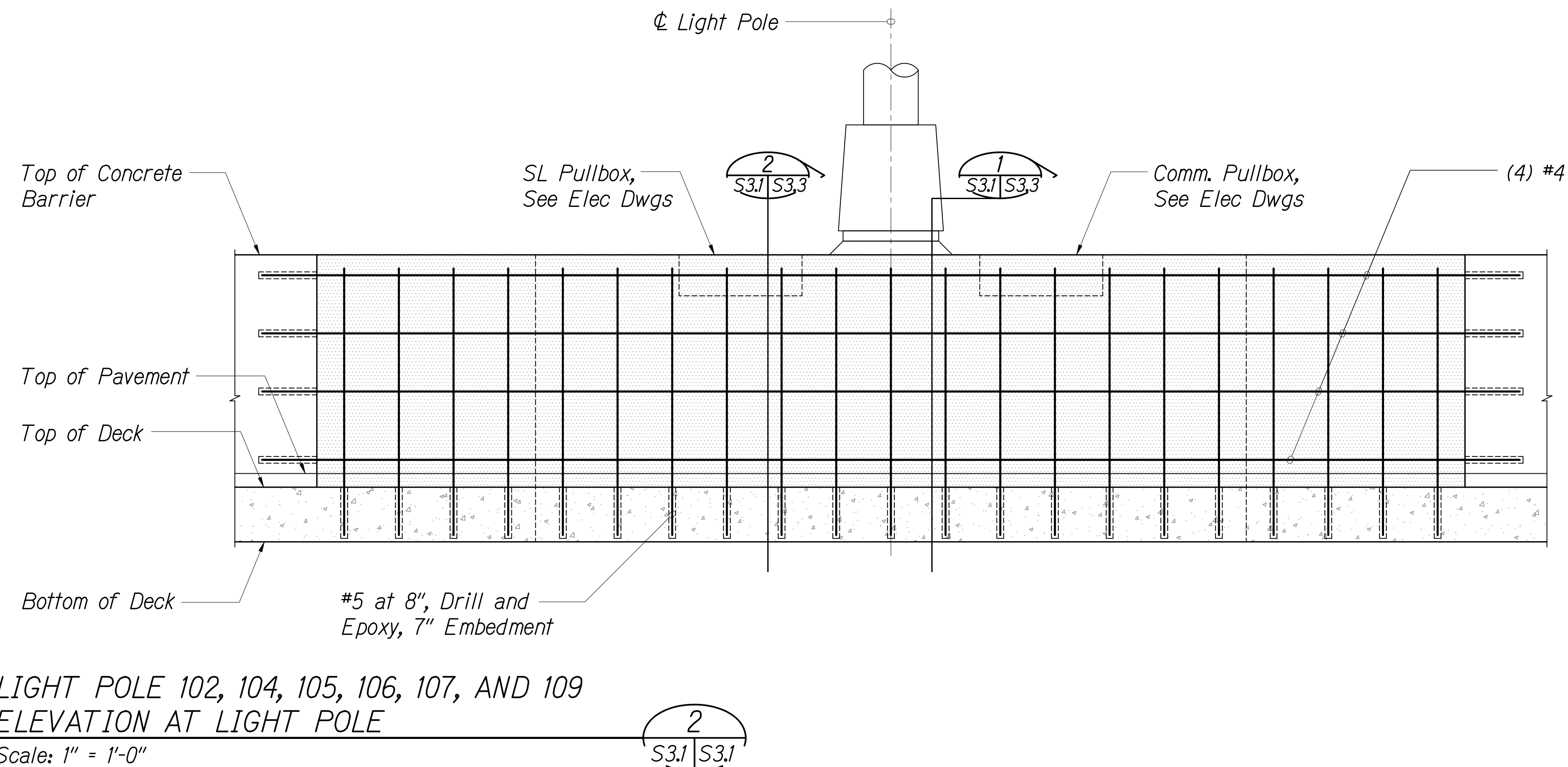
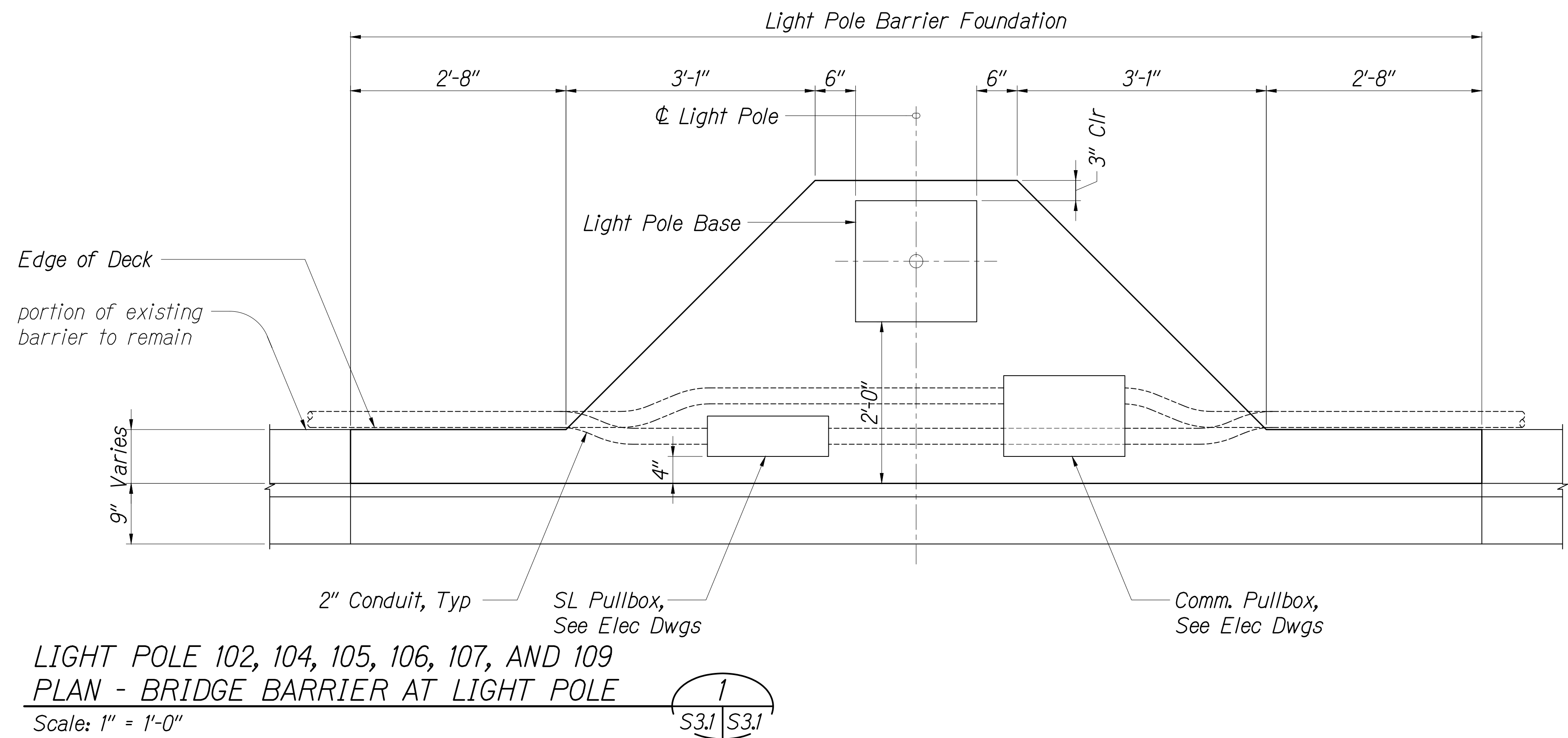
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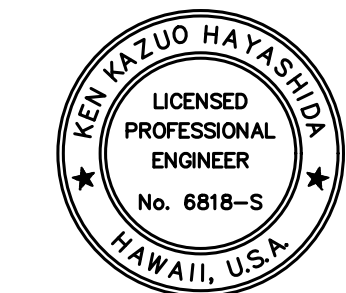
SHEET No. S2.1 OF 25 SHEETS

ADD. 87

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005) Ph2	2020	88	140



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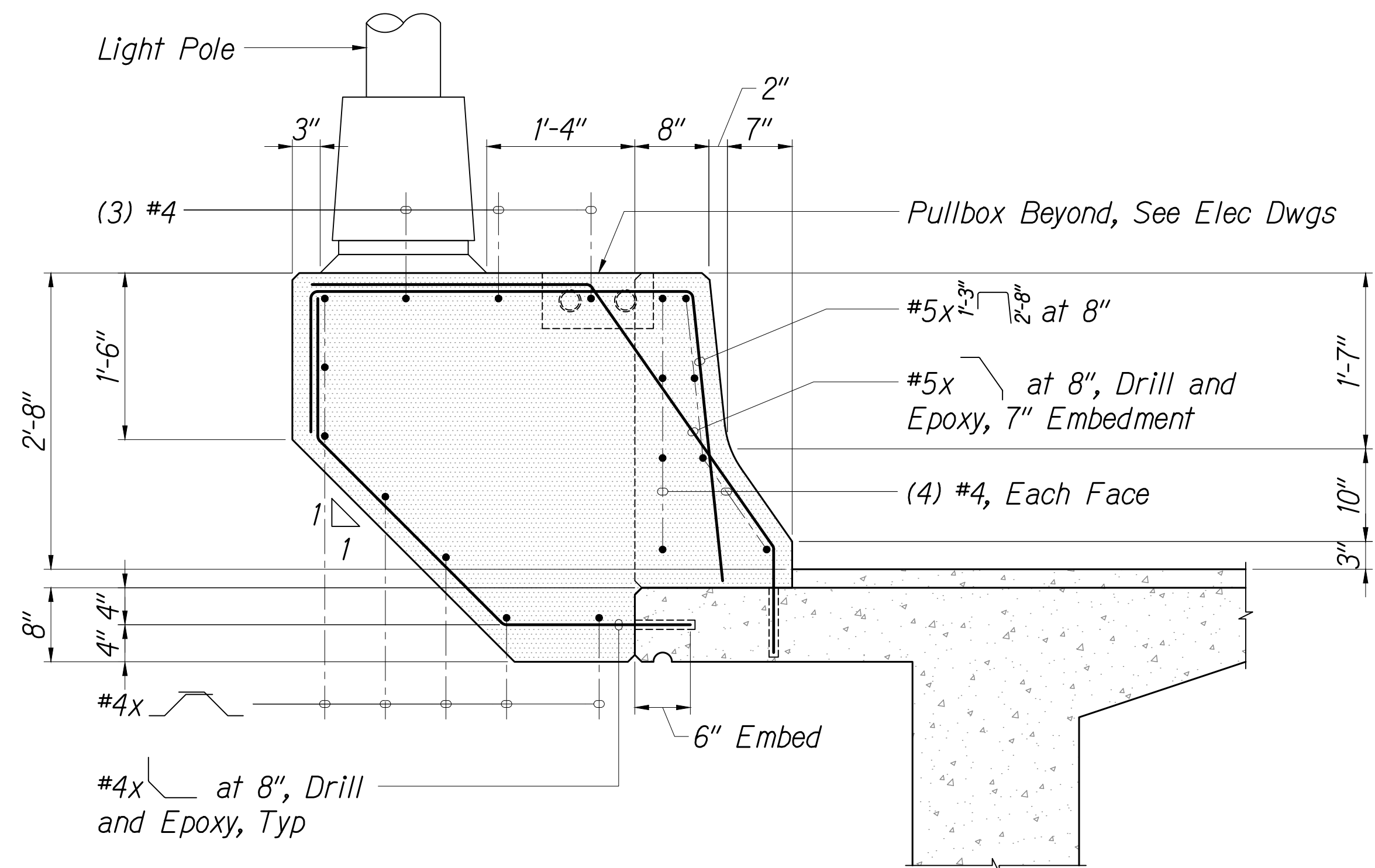
EXPIRATION DATE OF THE LICENSE 4/30/2022
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**TYPICAL BRIDGE BARRIER
SECTIONS AT LIGHT POLE**
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005) PHASE 2

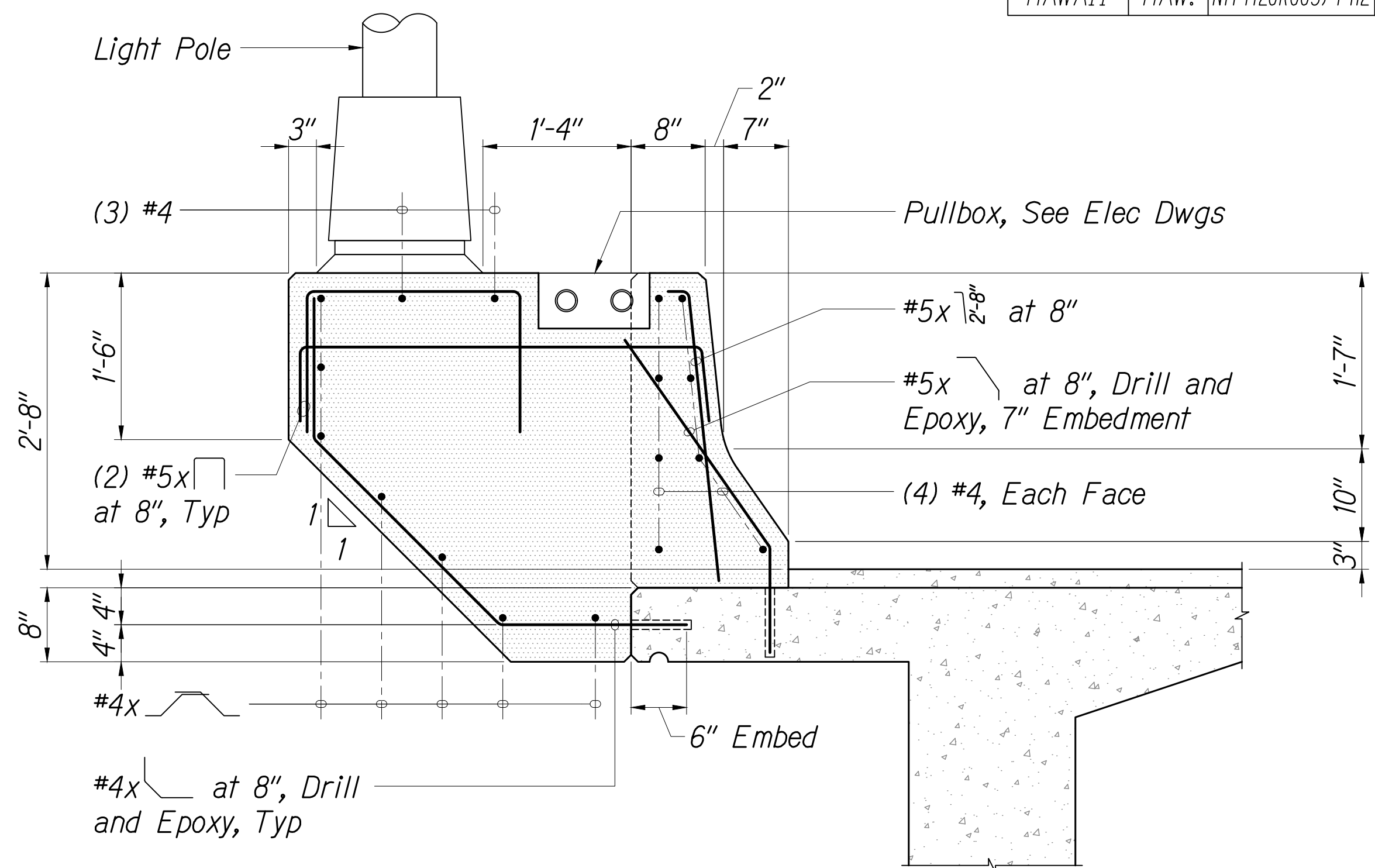
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Date: July 2020

SHEET No. S3.1 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H20(005) Ph2	2020	90	140

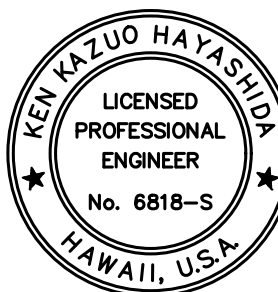


SECTION (HALAWA BRIDGE) 1
 Scale: 1" = 1'-0" S3.1, S3.2 S3.3



SECTION (HALAWA BRIDGE) 2
 Scale: 1" = 1'-0" S3.1, S3.2 S3.3

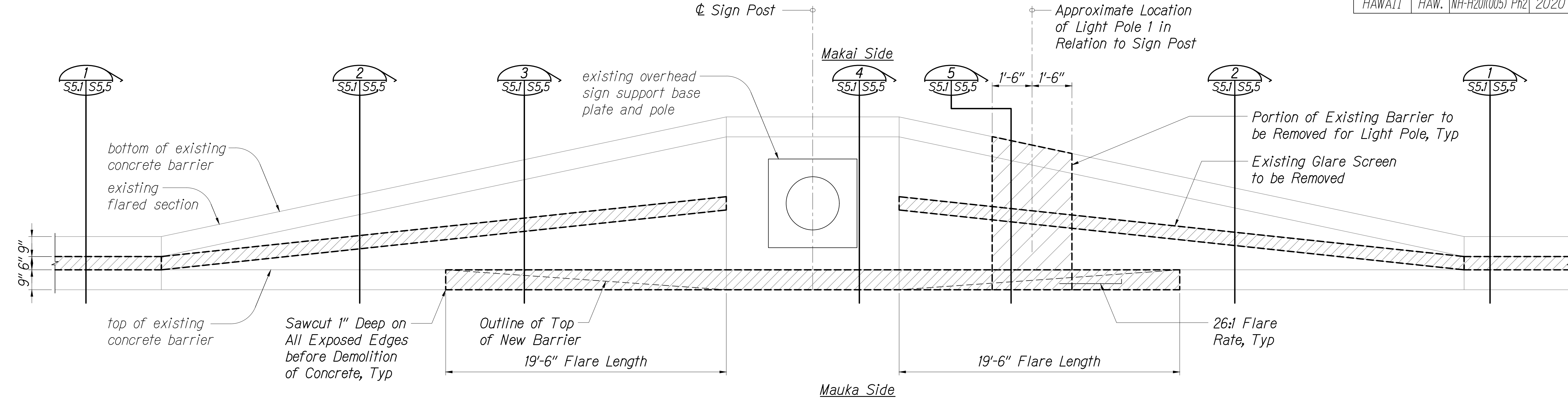
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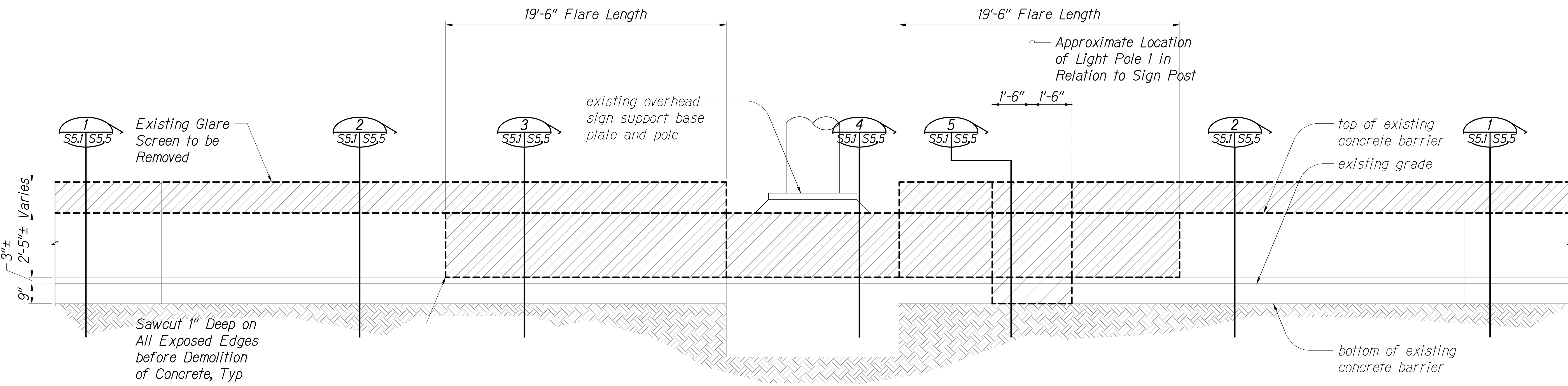
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
**TYPICAL BRIDGE BARRIER
 SECTIONS AT LIGHT POLE**
 MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
 Halawa Heights Off-ramp to Middle St. Overpass
 FAP NO. NH-H20(005) PHASE 2
 Scale: As Shown

Date: July 2020
 SHEET No. S3.3 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H20(005) Ph2	2020	92	140



Plan View



Elevation

- Notes:**
- Where there was an expansion joint in the existing section of wall that was removed, a new expansion joint shall be placed at the end of the new wall nearest the removed joint. See sheet S1.8 for joint details.
 - Where Existing Joint in Barrier is less than 5'-0" from End of Flare Length, Extend Demolition to Existing Joint. See Sheet S1.1 for details.

ORIGINAL PLAN NOTE BOOK No.	SURVEY PLOTTED BY	DATE
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	CHECKED BY	

**LIGHT POLE 1
MEDIAN BARRIER DEMOLITION**

Not to Scale

1
S5.1 S5.1

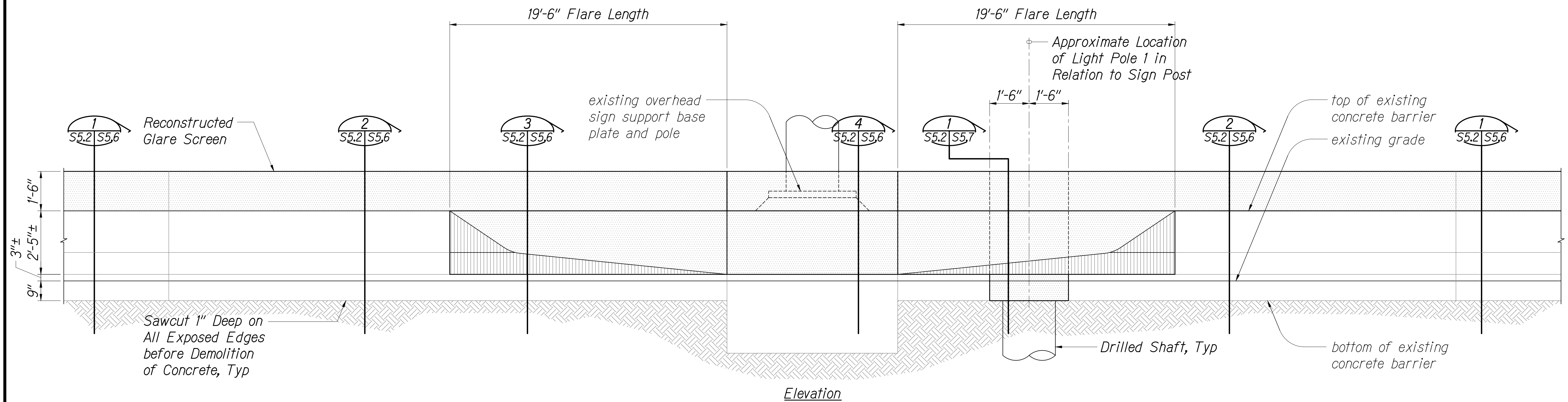
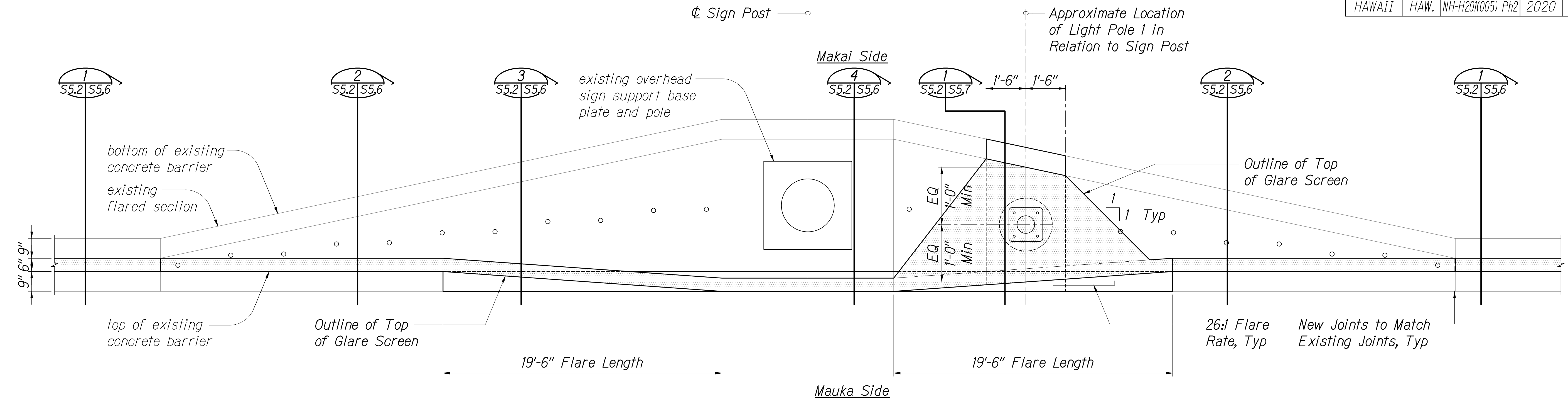


EXPIRATION DATE OF THE LICENSE 4/30/2022
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**SIGN POST MEDIAN
BARRIER DEMOLITION**
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H20(005) PHASE 2

Scale: As Shown
Date: July 2020
SHEET No. S5.1 OF 25 SHEETS

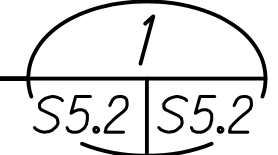
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005) Ph2	2020	93	140



Notes:

- Where there was an expansion joint in the existing section of wall that was removed, a new expansion joint shall be placed at the end of the new wall nearest the removed joint. See sheet S1.8 for joint details.
- Where Existing Joint in Barrier is less than 5'-0" from End of Flare Length, Extend Demolition to Existing Joint. See Sheet S1.1 for details.

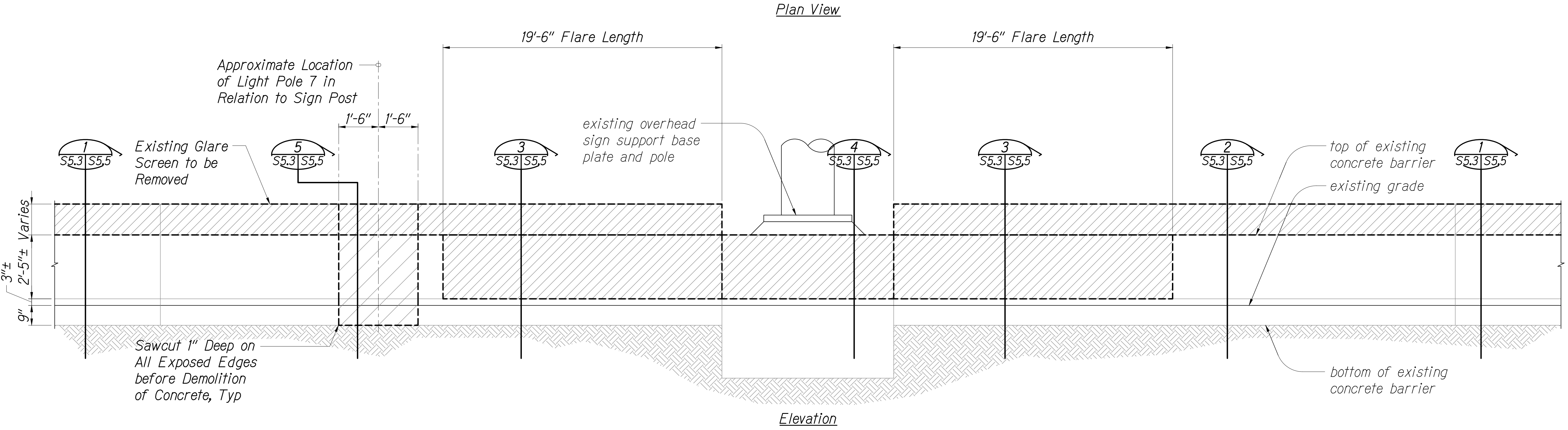
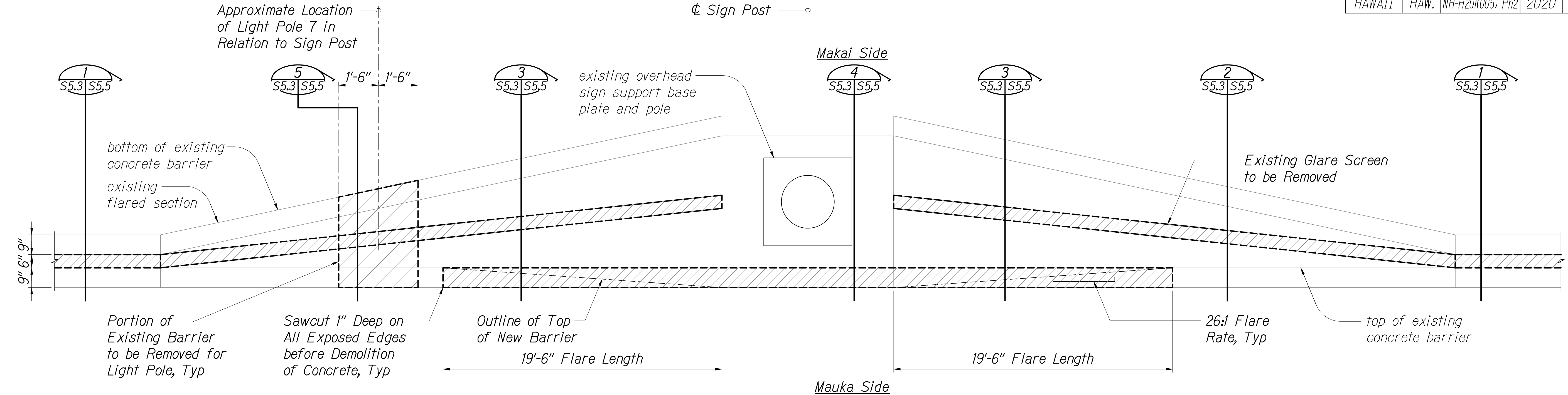
LIGHT POLE 1
MEDIAN BARRIER RECONSTRUCTION
Not to Scale



EXPIRATION DATE OF THE LICENSE 4/30/2022
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**SIGN POST MEDIAN
BARRIER RECONSTRUCTION**
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005) PHASE 2
Scale: As Shown Date: July 2020
SHEET No. S5.2 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H20(005) Ph2	2020	94	140



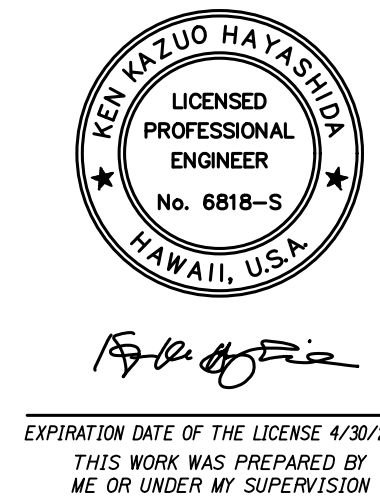
- Notes:**
- Where there was an expansion joint in the existing section of wall that was removed, a new expansion joint shall be placed at the end of the new wall nearest the removed joint. See sheet S1.8 for joint details.
 - Where Existing Joint in Barrier is less than 5'-0" from End of Flare Length, Extend Demolition to Existing Joint. See Sheet S1.1 for details.

DATE	____
DESIGNED BY	____
TRACED BY	____
DESIGNED BY	____
QUANTITIES BY	____
CHECKED BY	____
NO.	____

**LIGHT POLE 7
MEDIAN BARRIER DEMOLITION**

Not to Scale

1
S5.3 S5.3



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

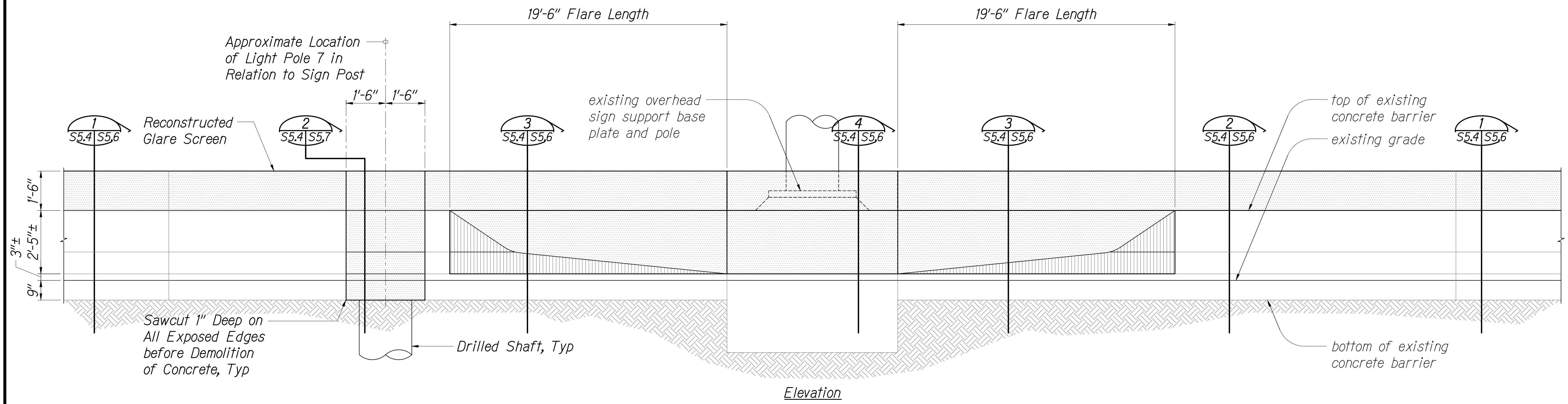
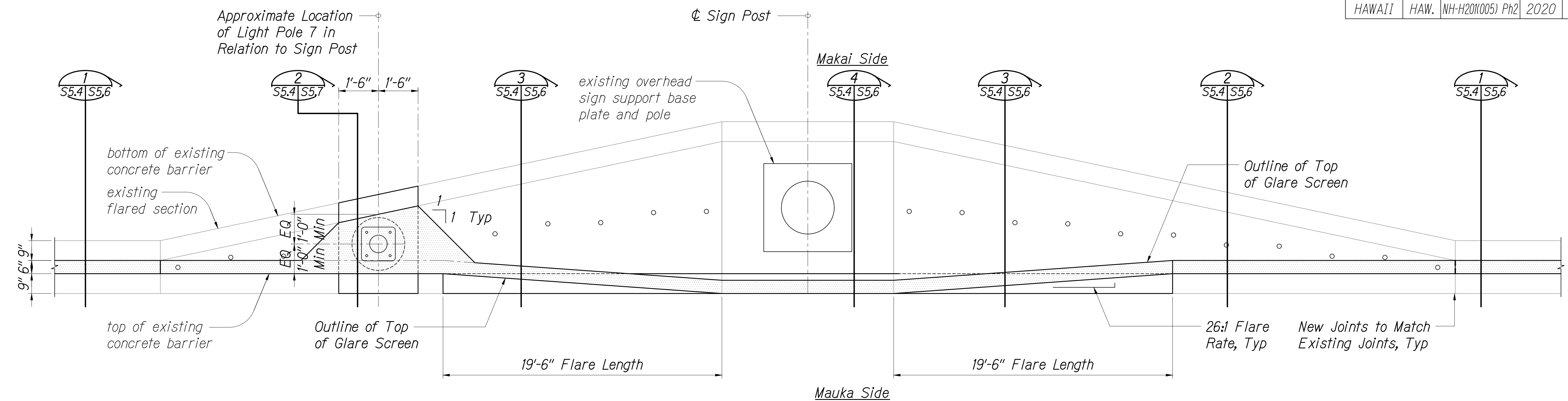
**SIGN POST MEDIAN
BARRIER DEMOLITION**

MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H20(005) PHASE 2

Scale: As Shown Date: July 2020

SHEET No. S5.3 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H20(005) Ph2	2020	95	140



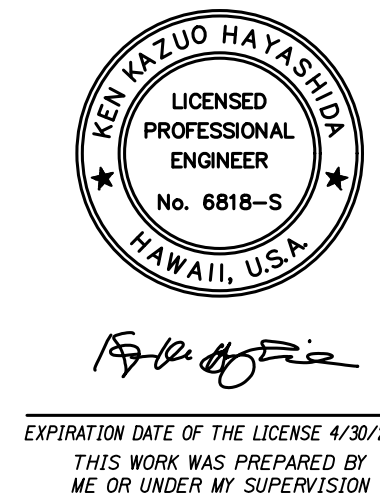
- Notes:
- Where there was an expansion joint in the existing section of wall that was removed, a new expansion joint shall be placed at the end of the new wall nearest the removed joint. See sheet S1.8 for joint details.
 - Where Existing Joint in Barrier is less than 5'-0" from End of Flare Length, Extend Demolition to Existing Joint. See Sheet S1.1 for details.

LIGHT POLE 7
MEDIAN BARRIER RECONSTRUCTION

Not to Scale

1
S5.4 S5.4

DATE	____
DESIGNED BY	____
TRACED BY	____
NOTED BY	____
QUANTITIES BY	____
CHECKED BY	____
NO.	____



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

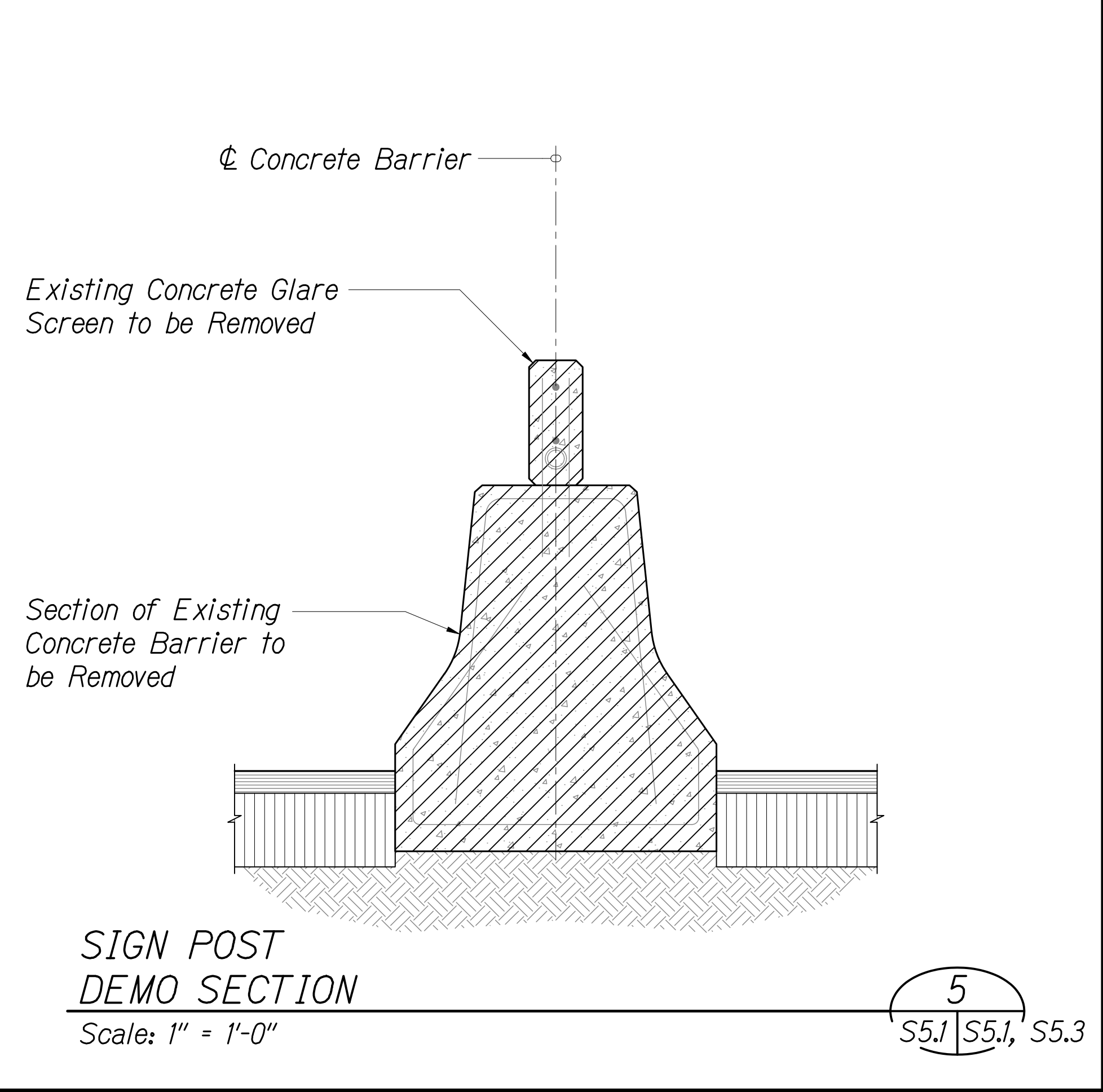
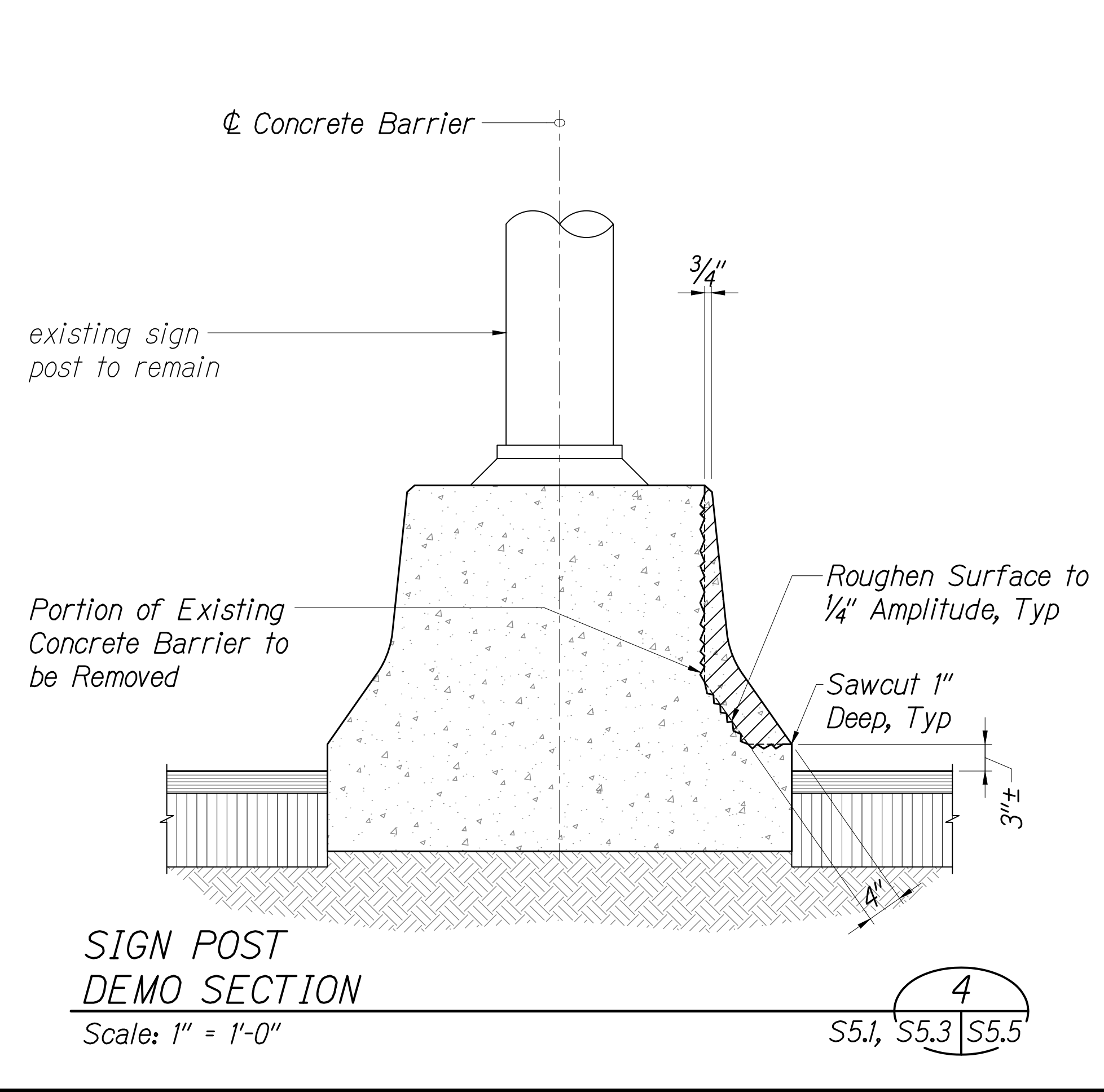
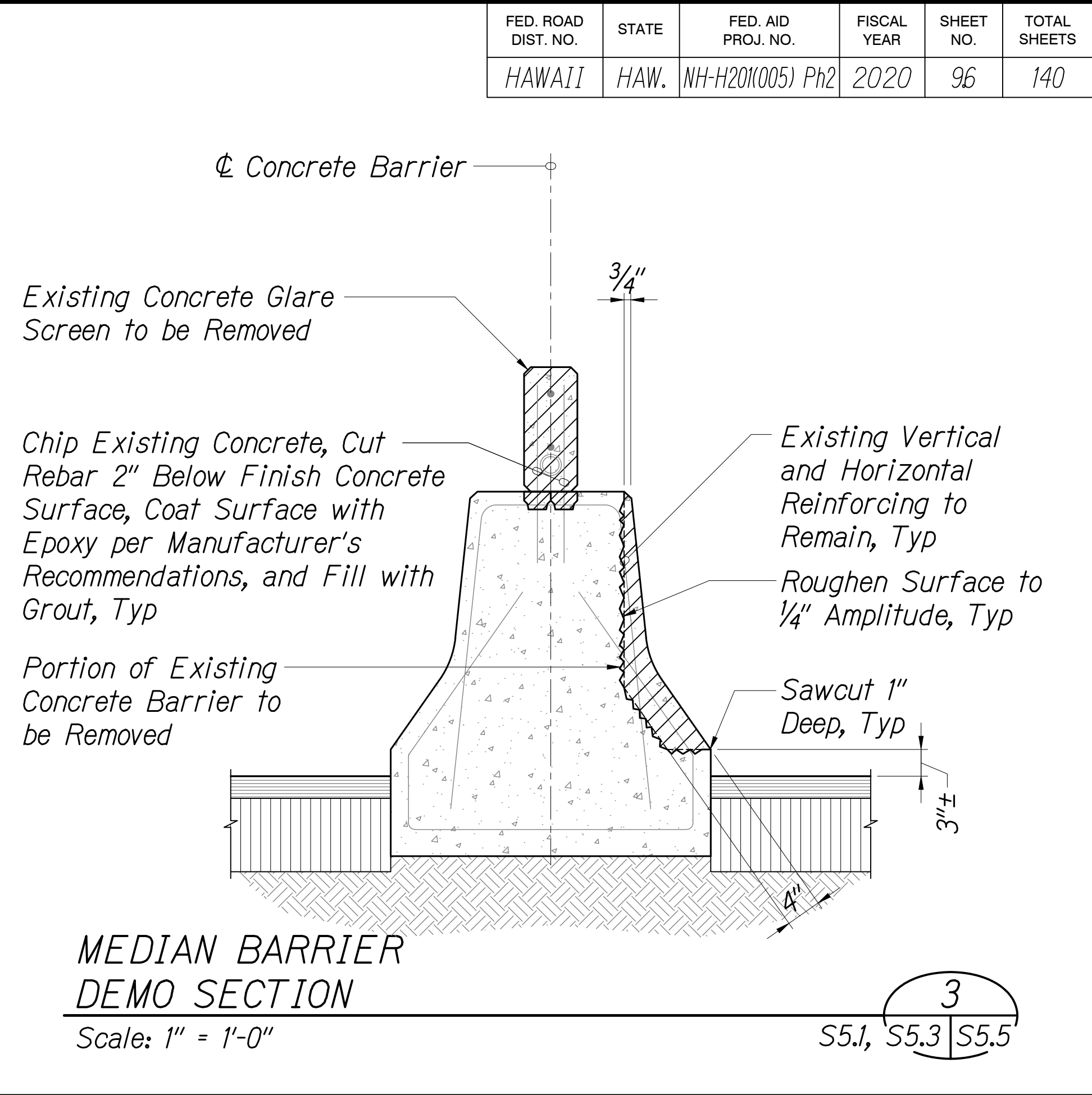
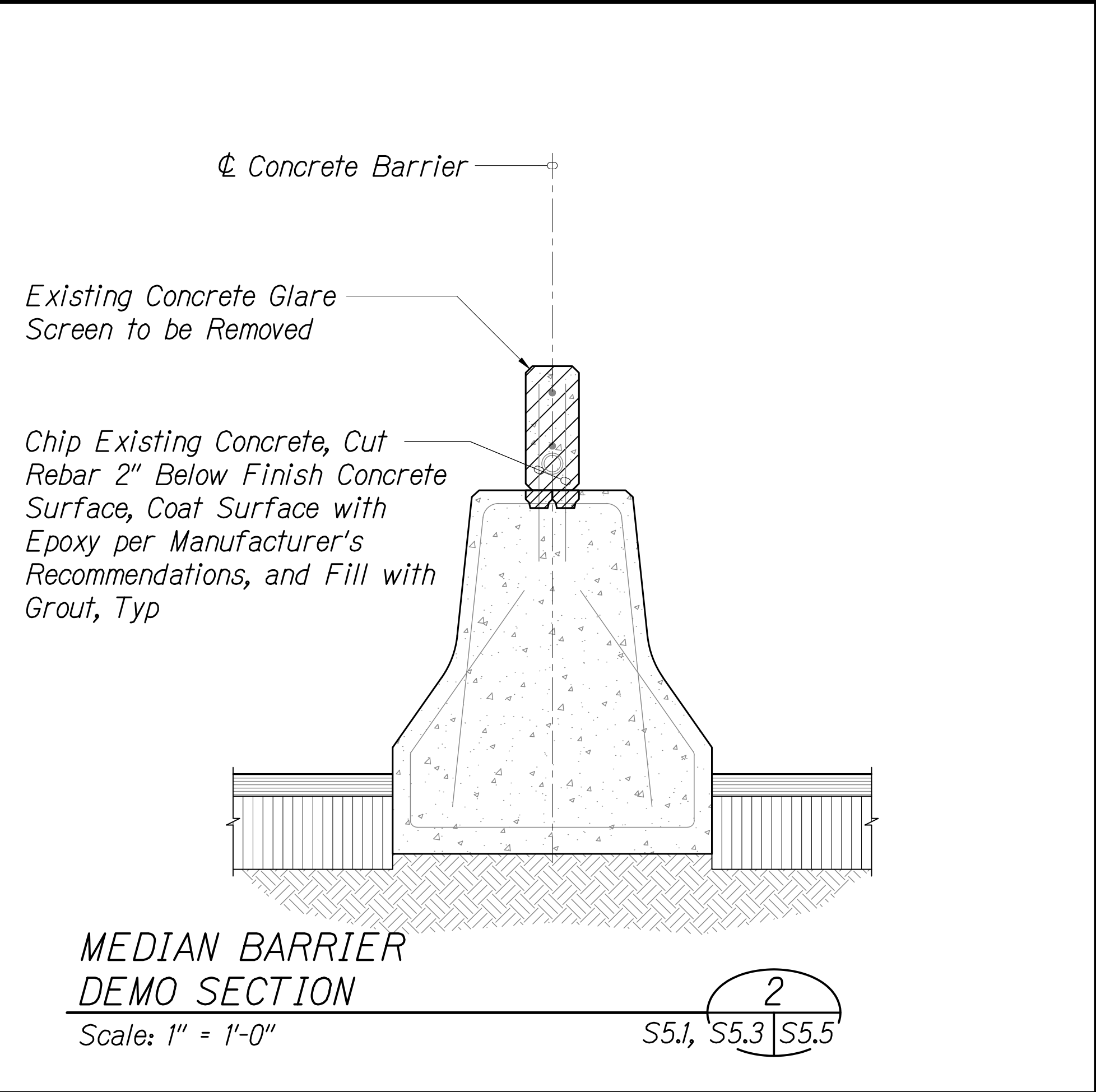
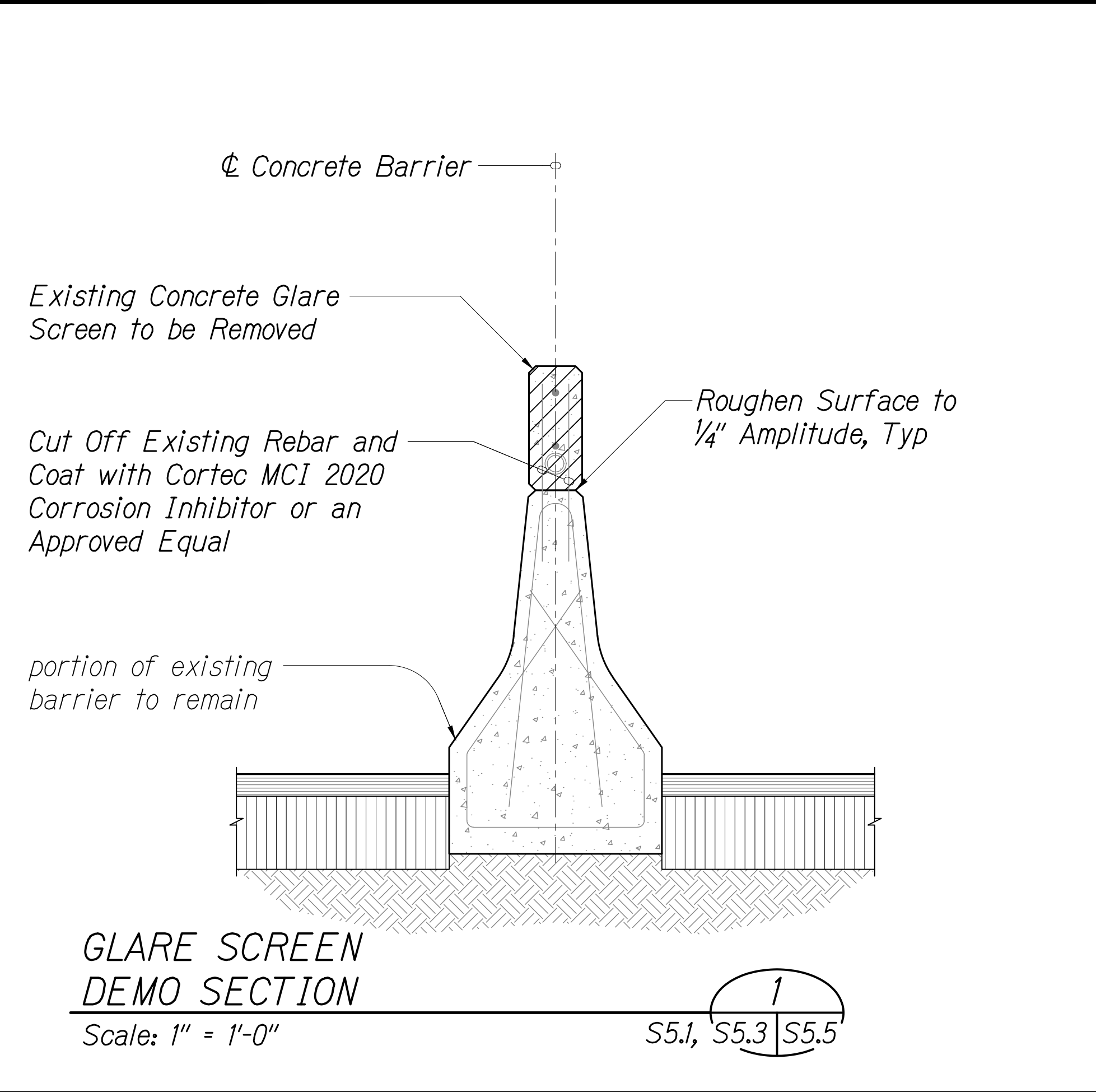
**SIGN POST MEDIAN
BARRIER RECONSTRUCTION**

MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H20(005) PHASE 2

Scale: As Shown Date: July 2020

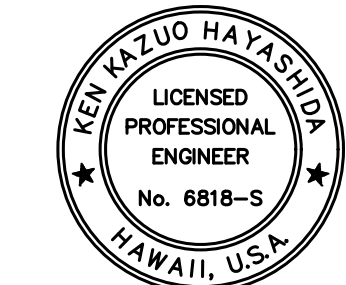
SHEET No. S5.4 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H20(005) Ph2	2020	96	140



Note:
Locations and sizes of contraction and/or expansion joints shall match existing wall joints.

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

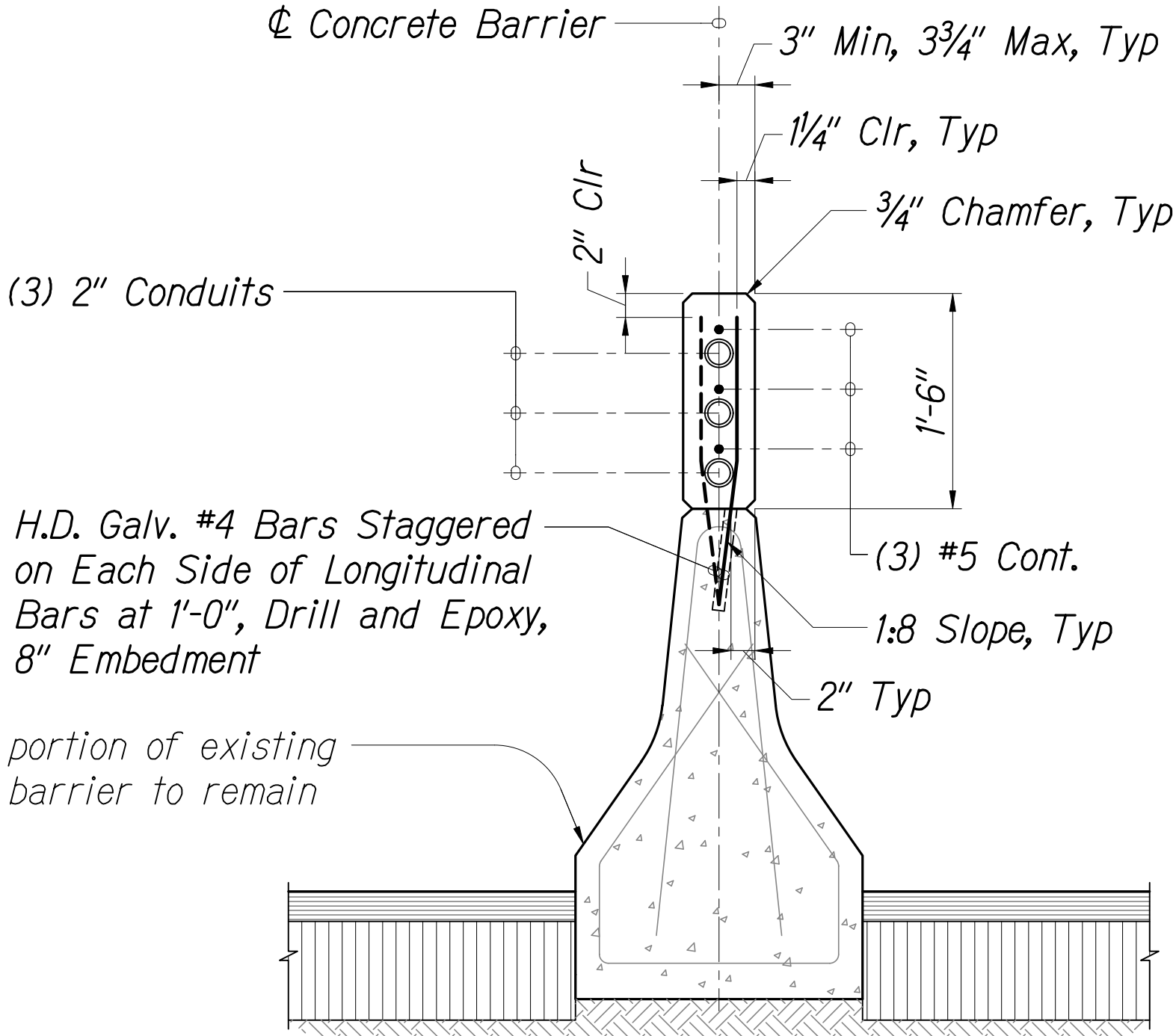


EXPIRATION DATE OF THE LICENSE: 4/30/2022
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

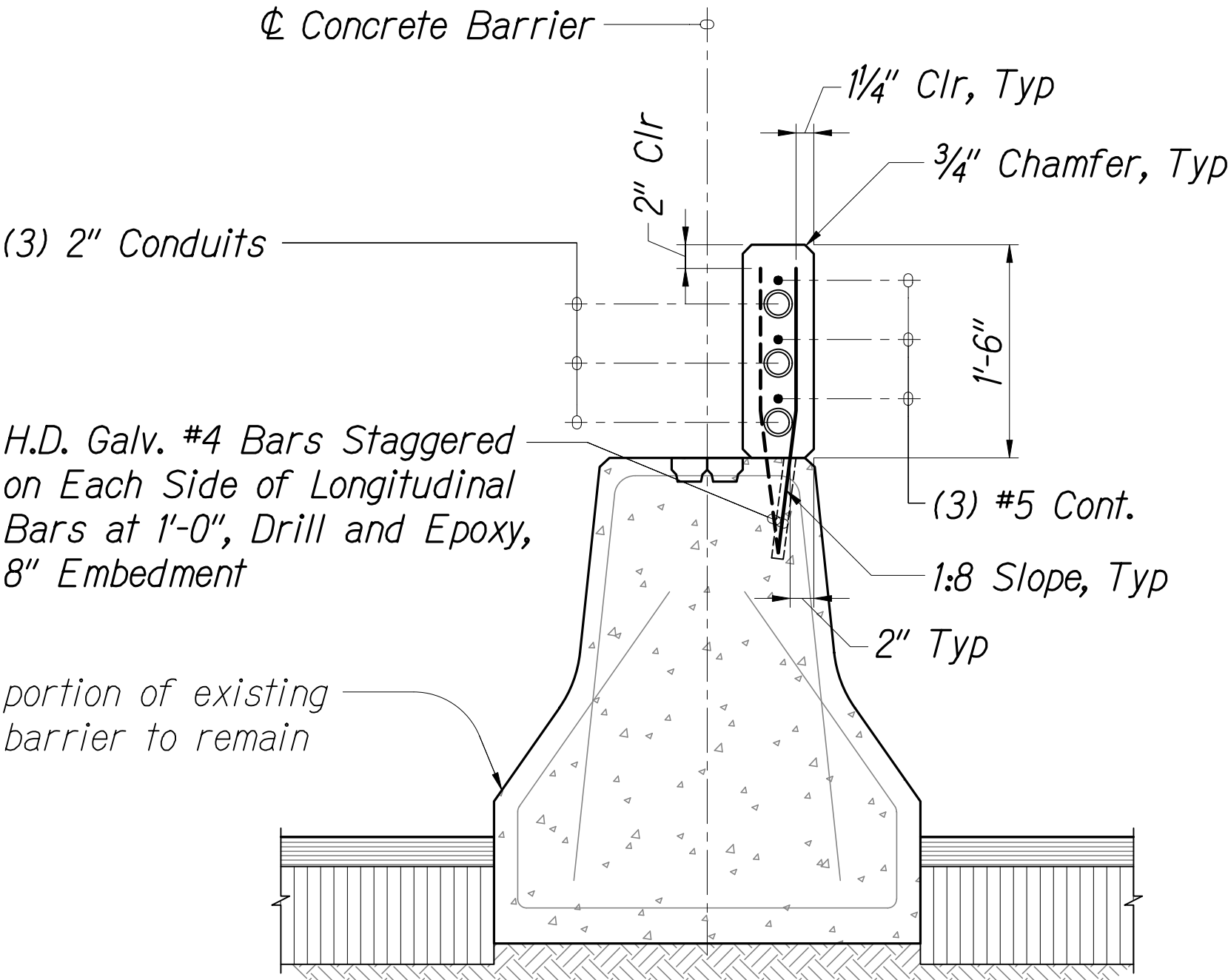
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**SIGN POST AND BARRIER
DEMO SECTIONS**
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H20(005) PHASE 2
Scale: As Shown
Date: July 2020
SHEET No. S5.5 OF 25 SHEETS

EXPIRATION DATE OF THE LICENSE: 4/30/2022
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

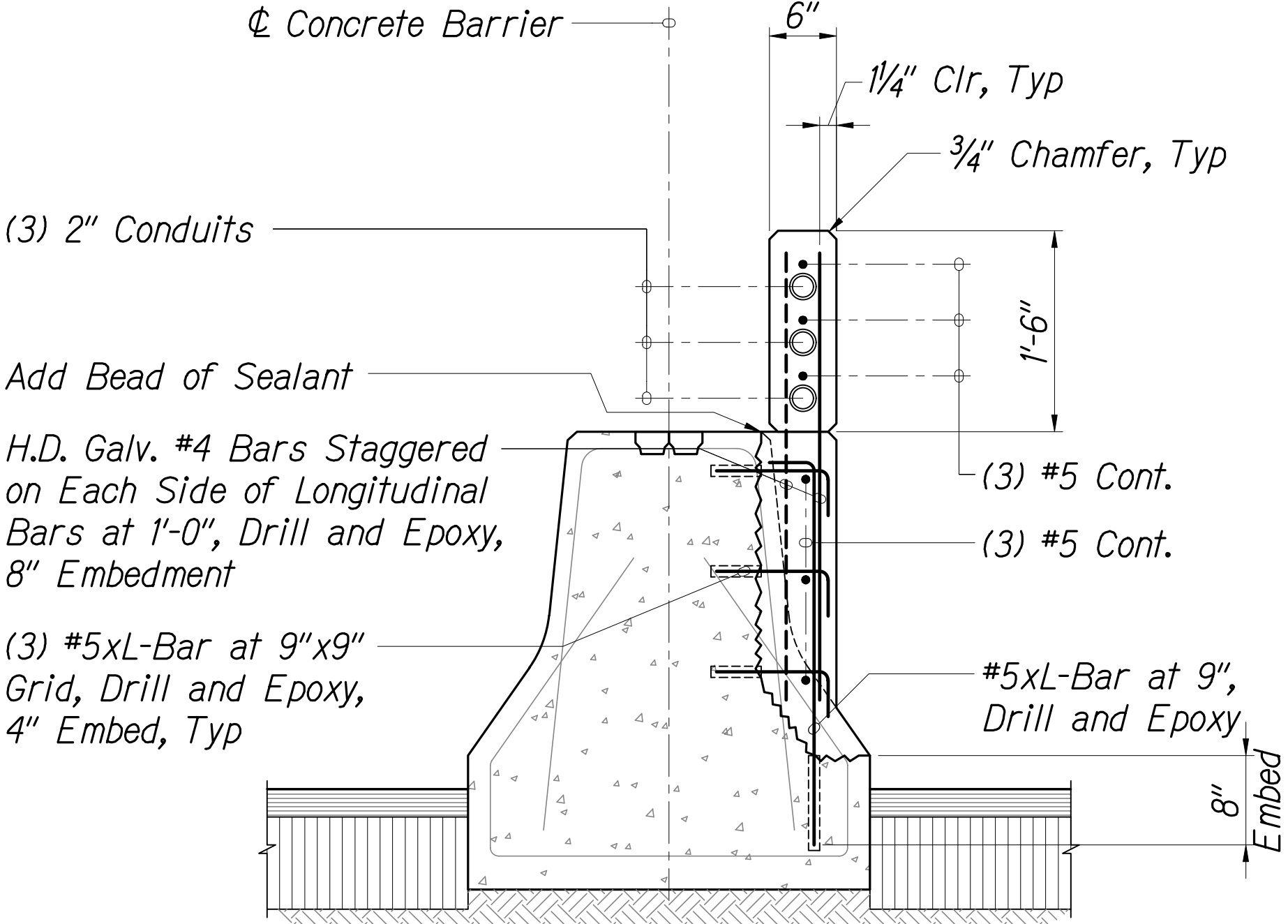
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H20(K005) Ph2	2020	97	140



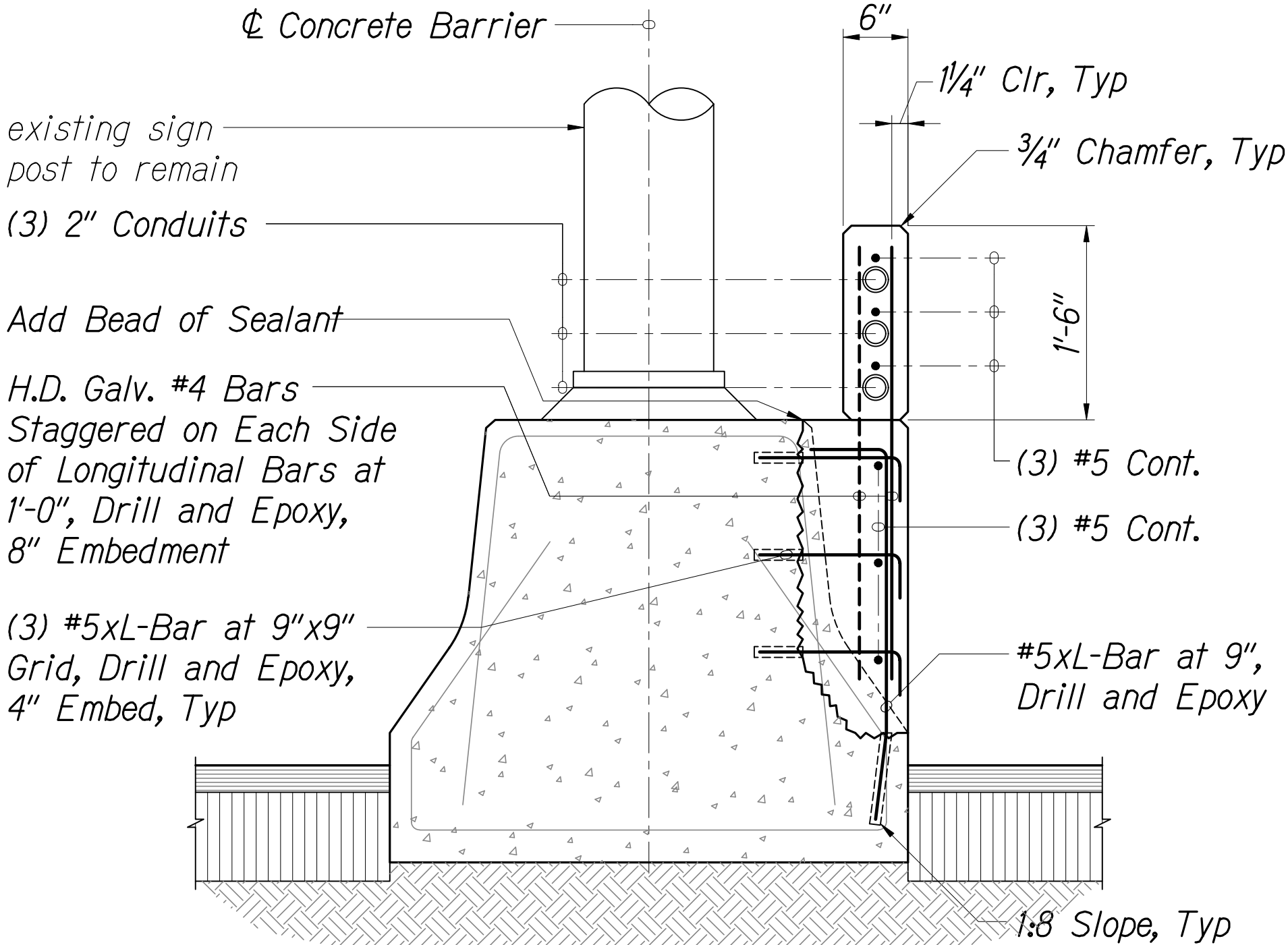
GLARE SCREEN
RECONSTRUCTION SECTION
Scale: 1" = 1'-0" S5.2, S5.4 S5.6



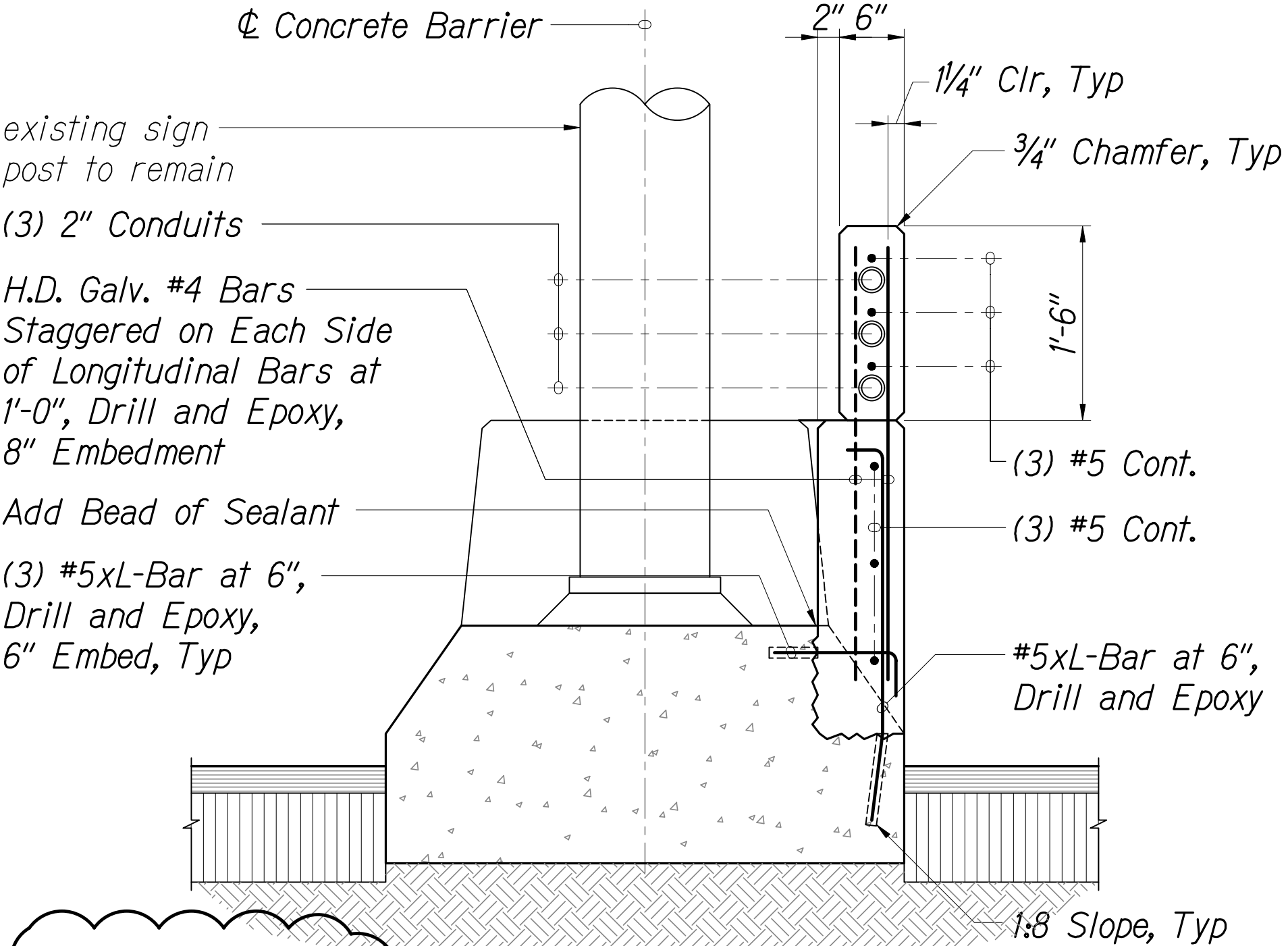
MEDIAN BARRIER
RECONSTRUCTION SECTION
Scale: 1" = 1'-0" S5.2, S5.4 S5.6



MEDIAN BARRIER
RECONSTRUCTION SECTION
Scale: 1" = 1'-0" S5.2, S5.4 S5.6



SIGN POST
RECONSTRUCTION SECTION
Scale: 1" = 1'-0" S5.2, S5.4 S5.6



SIGN POST
RECONSTRUCTION SECTION
Scale: 1" = 1'-0" S5.2, S5.4 S5.6

Note:
1. Locations and sizes of contraction and/or expansion joints shall match existing wall joints.
2. Roughen surface to 1/4"-inch amplitude Typ. (CSP 9) where concrete will be placed on existing.

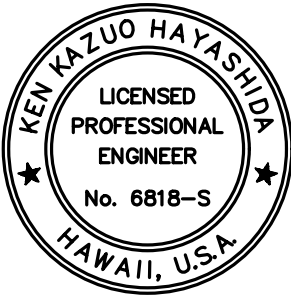
02/18/21

Added Section

DATE

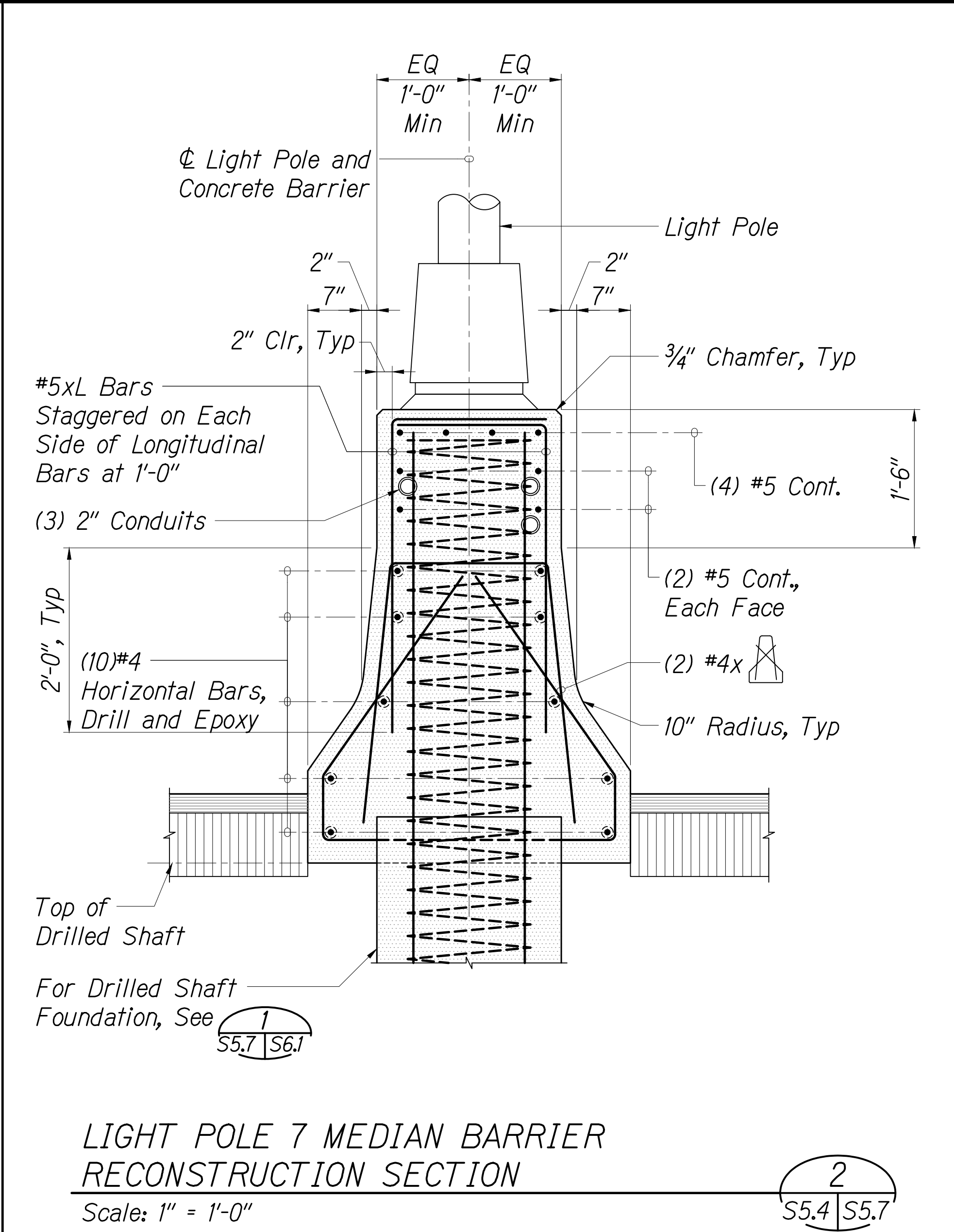
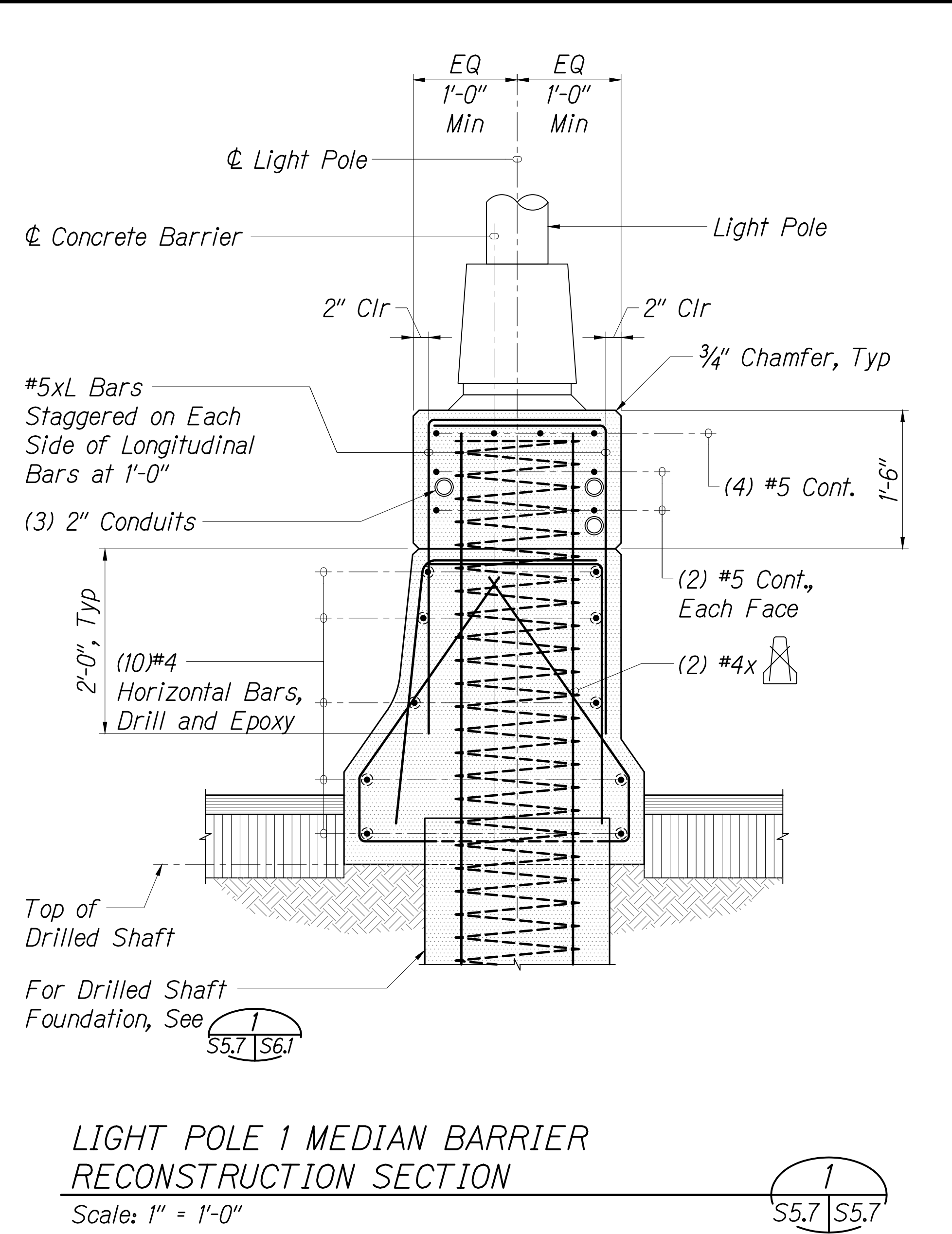
REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**SIGN POST MEDIAN
BARRIER SECTIONS - 1**
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H20(K005) PHASE 2
Scale: As Shown Date: July 2020
SHEET No. S5.6 OF 25 SHEETS

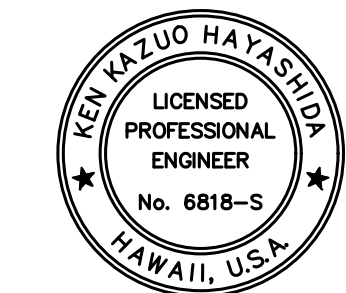


EXPIRATION DATE OF THE LICENSE 4/30/2022
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005) Ph2	2020	98	140



DESIGNED BY	DATE
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NO.	



EXPIRATION DATE OF THE LICENSE 4/30/2022
 THIS WORK WAS PREPARED BY
 ME OR UNDER MY SUPERVISION

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

SIGN POST MEDIAN BARRIER SECTIONS - 2

MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS

Halawa Heights Off-ramp to Middle St. Overpass

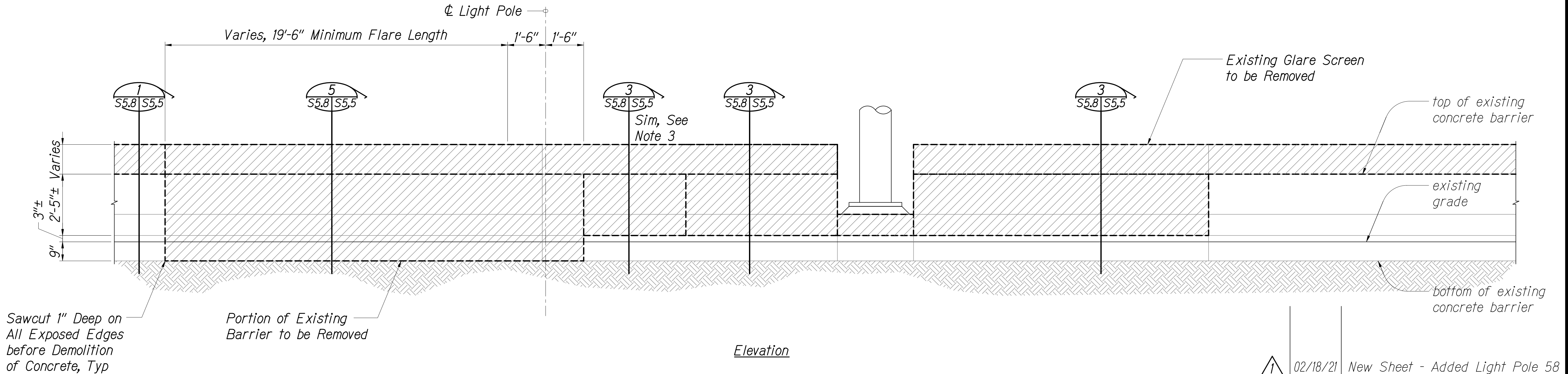
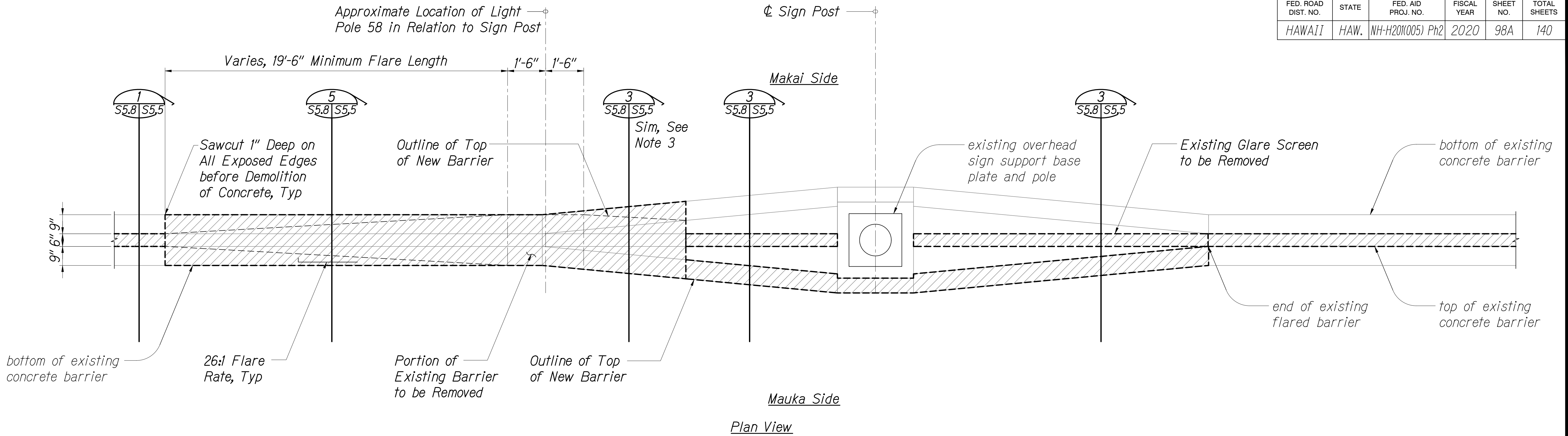
FAP NO. NH-H201(005) PHASE 2

Scale: As Shown

Date: July 2020

SHEET No. S5.7 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H20(K005) Ph2	2020	98A	140



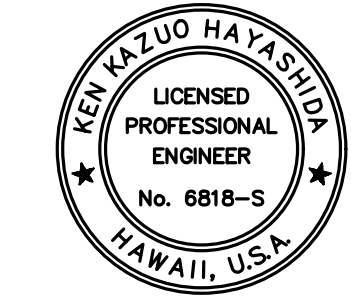
- Notes:
- Where there was an expansion joint in the existing section of wall that was removed, a new expansion joint shall be placed at the end of the new wall nearest the removed joint. See sheet S1.8 for joint details.
 - Where Existing Joint in Barrier is less than 5'-0" from End of Flare Length, Extend Demolition to Existing Joint. See Sheet S1.1 for details.
 - Demolition of sloped barrier face shall occur on both sides instead of just one side as shown on referenced detail.

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

LIGHT POLE 58
MEDIAN BARRIER DEMOLITION

Not to Scale

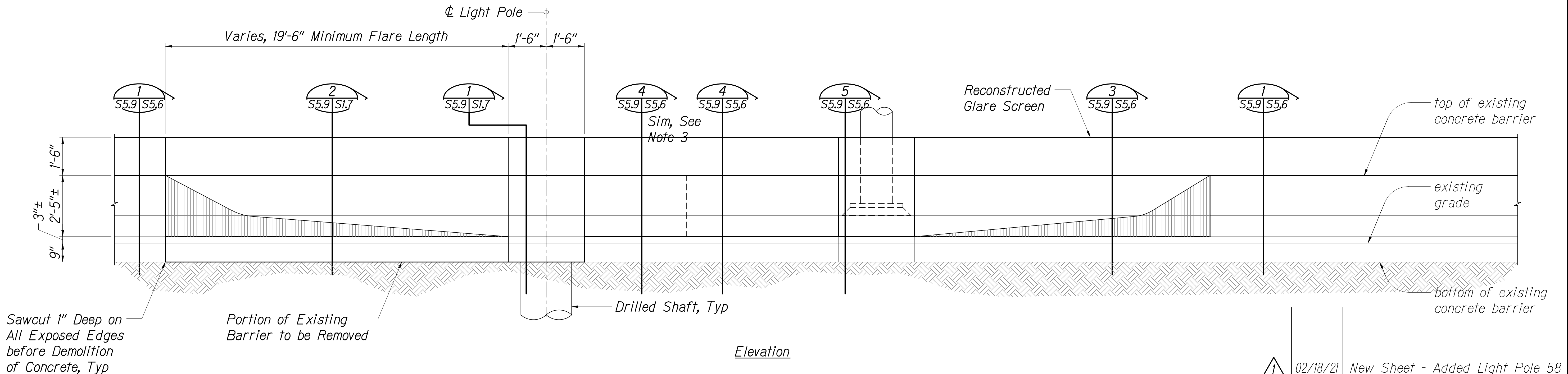
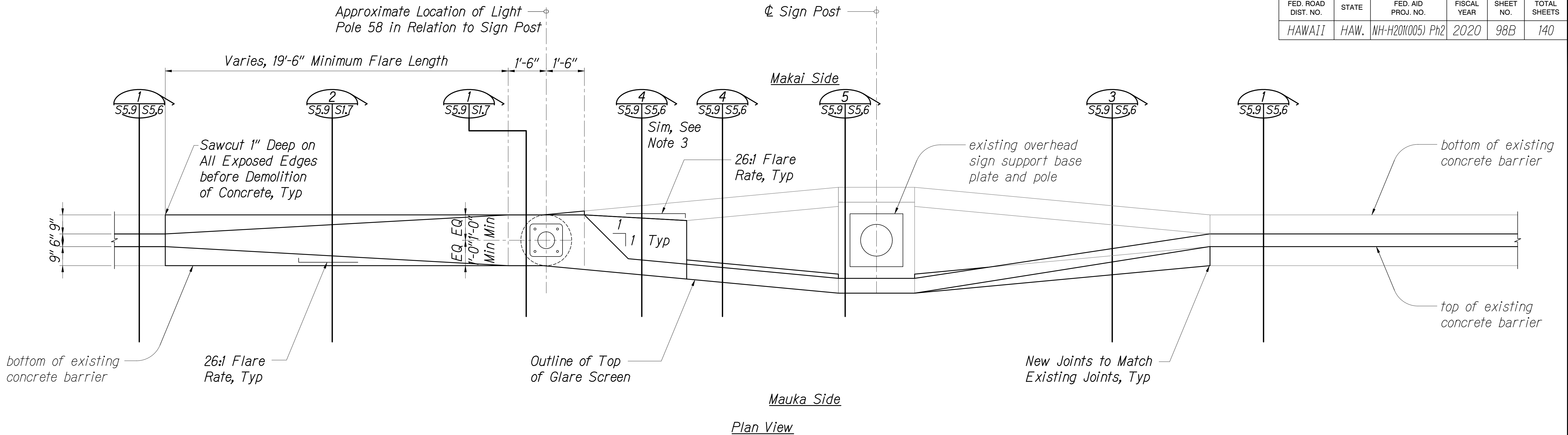
1 55.8 55.8



EXPIRATION DATE OF THE LICENSE 4/30/2022
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

02/18/21	New Sheet - Added Light Pole 58
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION SIGN POST MEDIAN BARRIER DEMOLITION MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS Halawa Heights Off-ramp to Middle St. Overpass FAP NO. NH-H20(K005) PHASE 2 Scale: As Shown Date: July 2020 SHEET No. S5.8 OF 25 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H20(K005) Ph2	2020	98B	140



- Notes:
- Where there was an expansion joint in the existing section of wall that was removed, a new expansion joint shall be placed at the end of the new wall nearest the removed joint. See sheet S1.8 for joint details.
 - Where Existing Joint in Barrier is less than 5'-0" from End of Flare Length, Extend Demolition to Existing Joint. See Sheet S1.1 for details.
 - Reconstruction of sloped barrier face shall occur on both sides instead of just one side as shown on referenced detail. Detail 3 55.9 | S5.6 shall be referenced for reconstruction on Makai Side and Detail 4 55.9 | S5.6 shall be referenced for reconstruction on Mauka Side.

LIGHT POLE 58
MEDIAN BARRIER RECONSTRUCTION

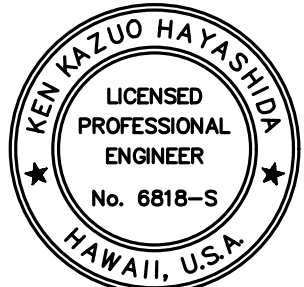
Not to Scale

1 55.9 | S5.9



02/18/21 New Sheet - Added Light Pole 58

DATE REVISION



EXPIRATION DATE OF THE LICENSE 4/30/2022
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

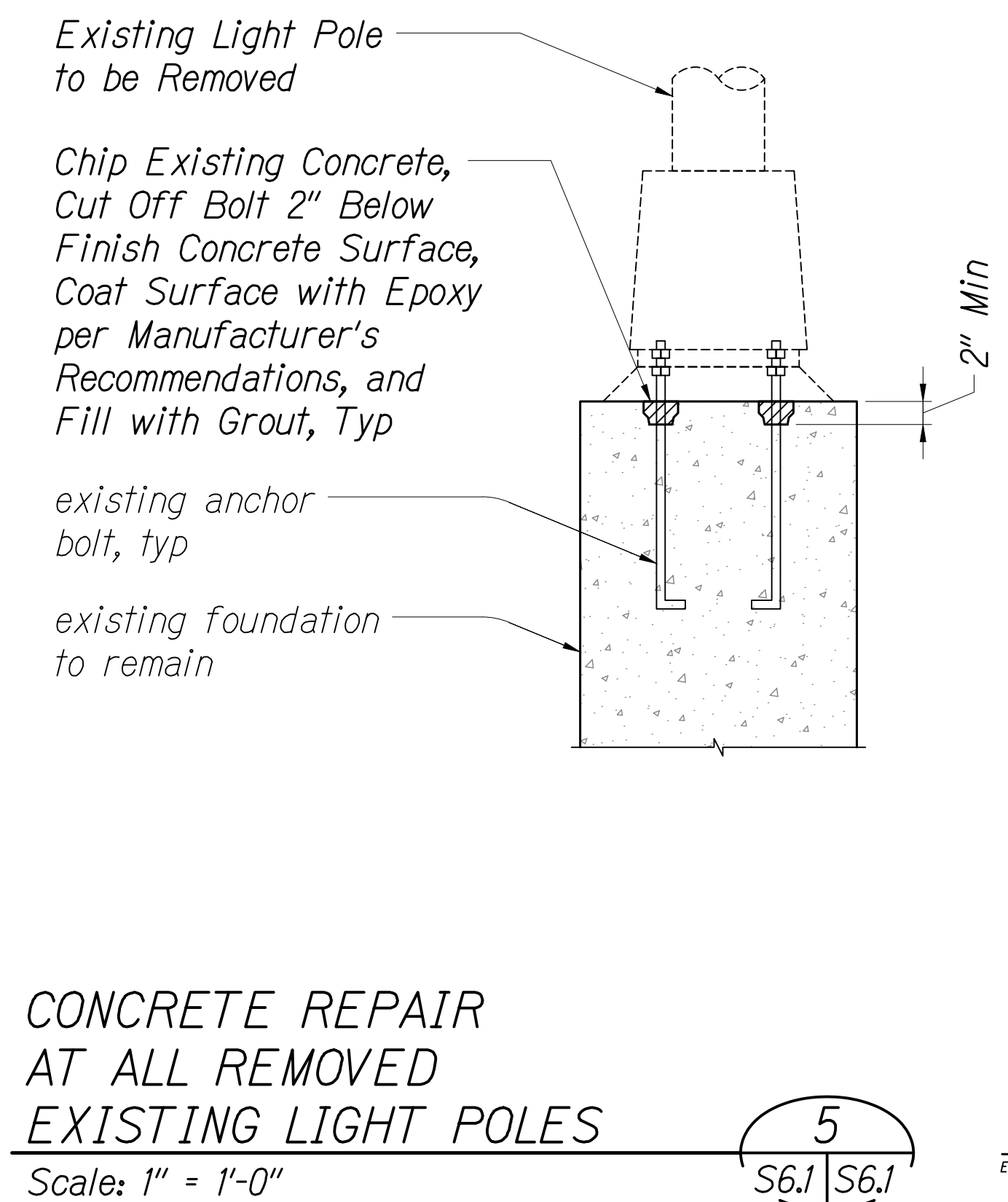
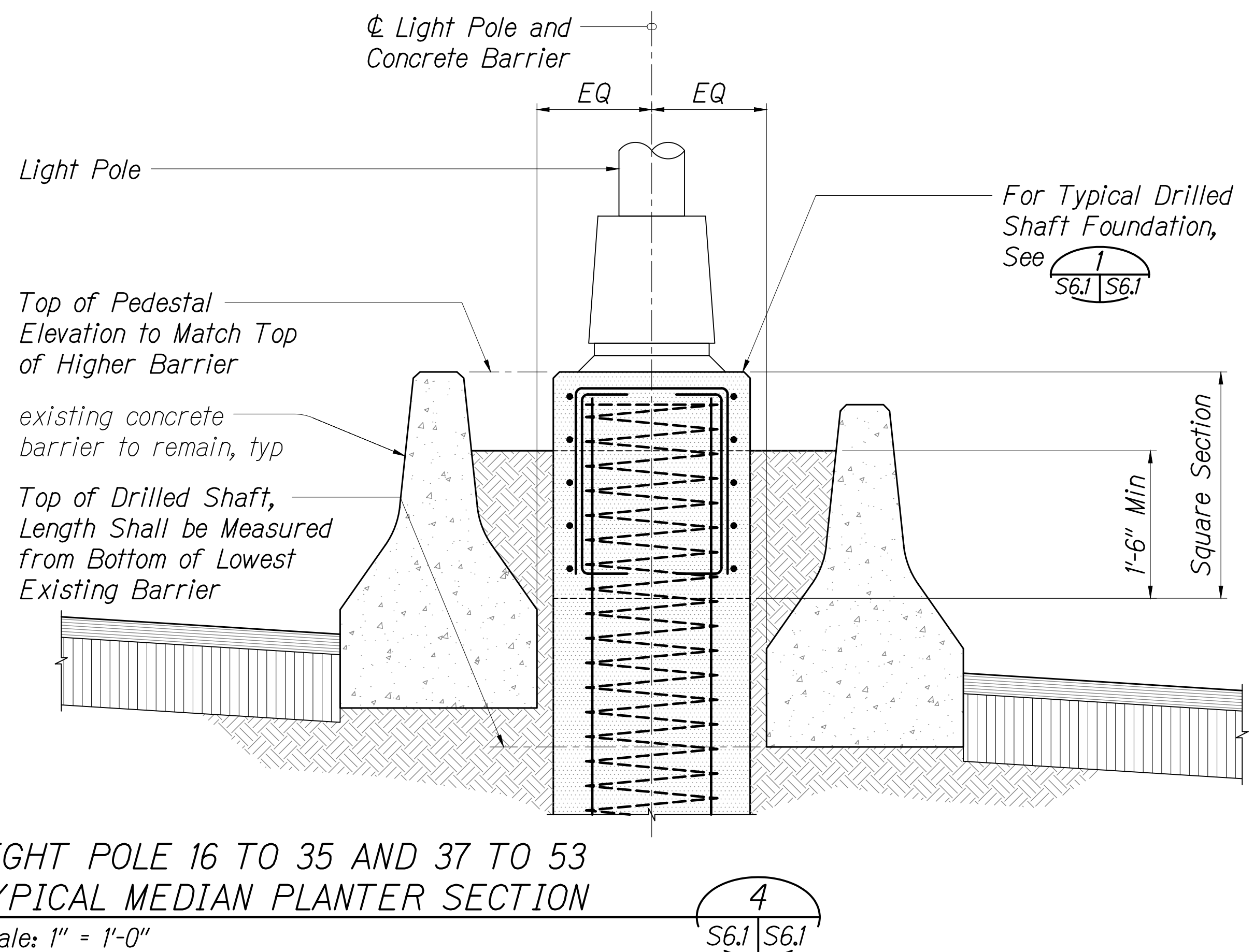
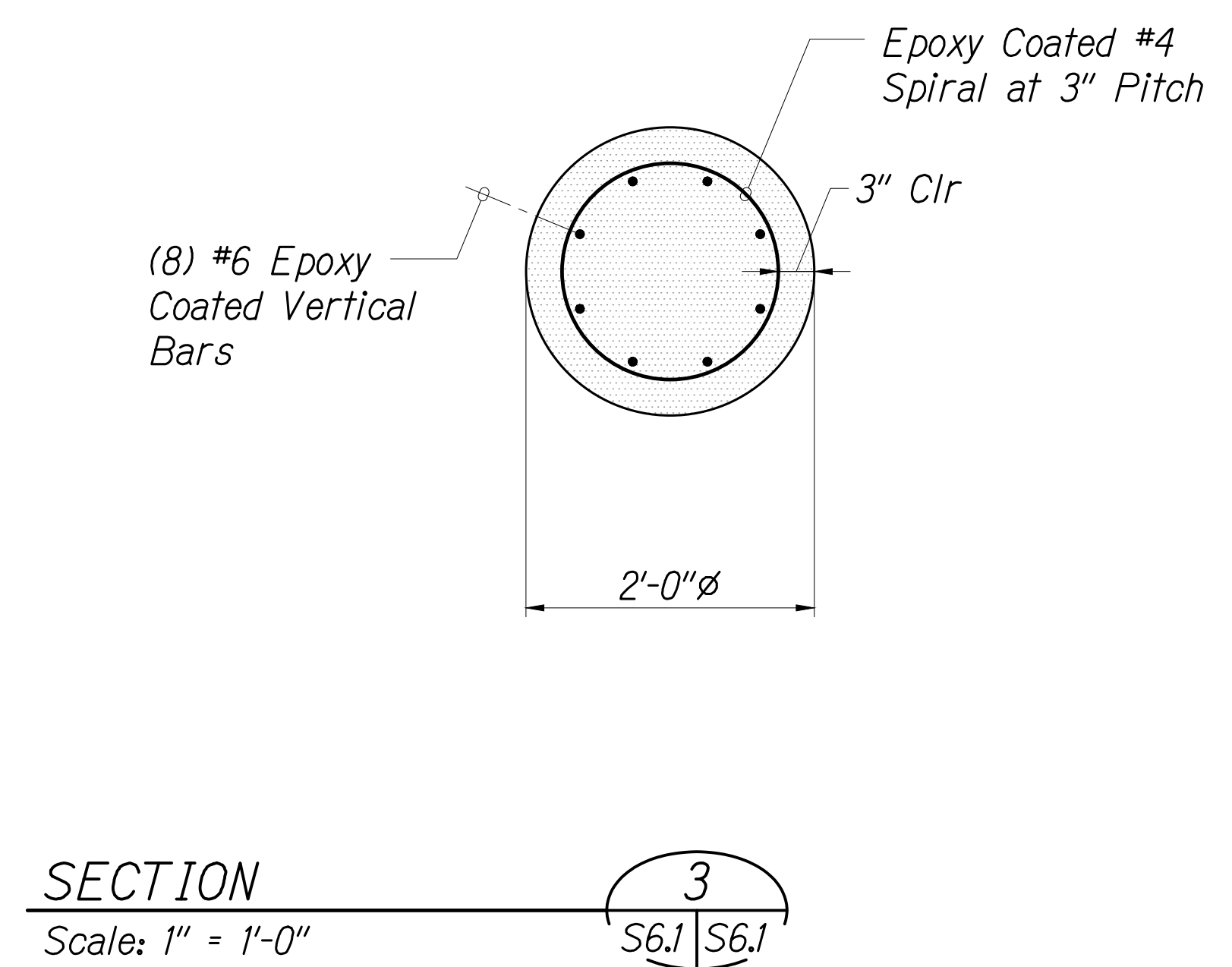
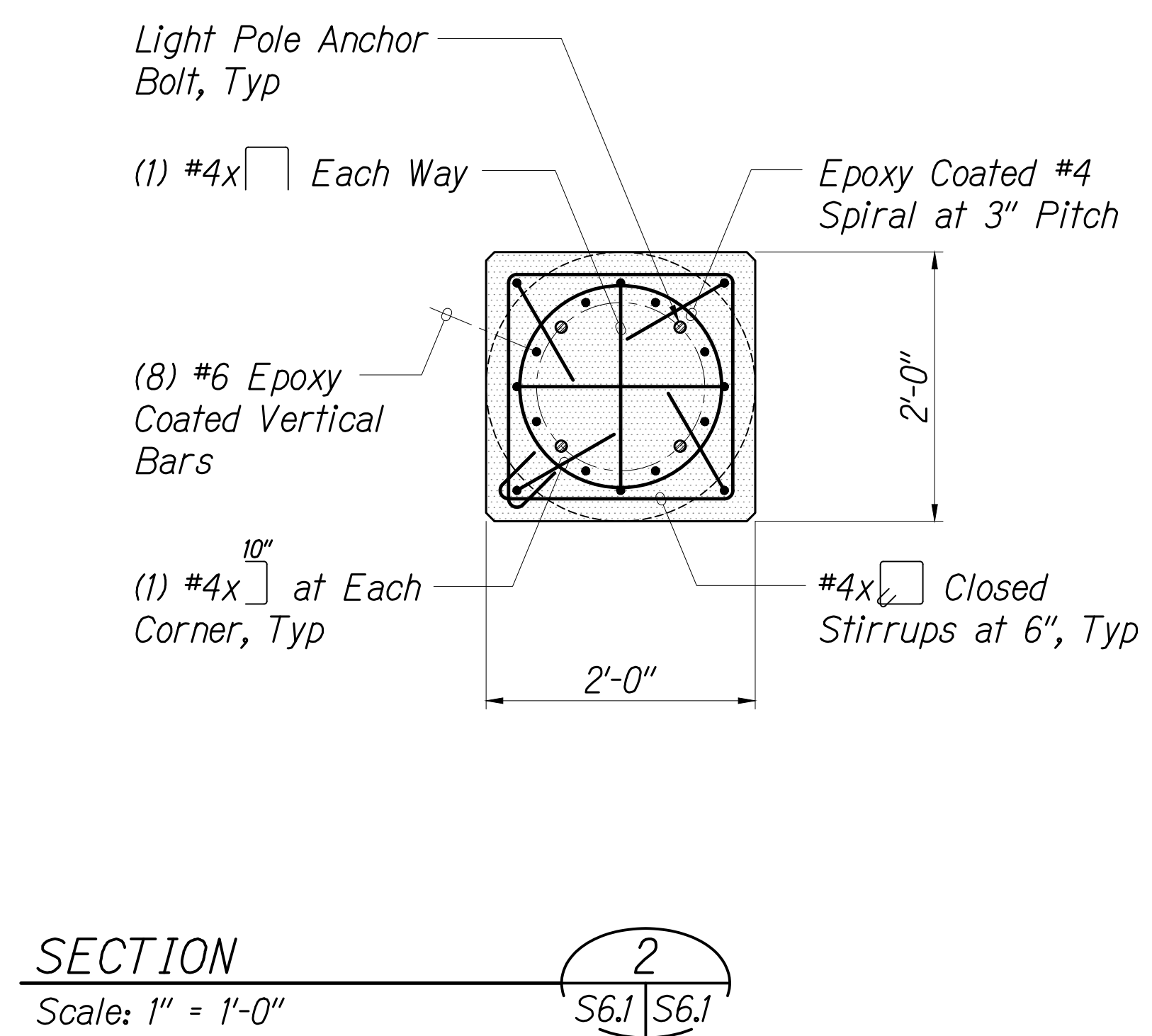
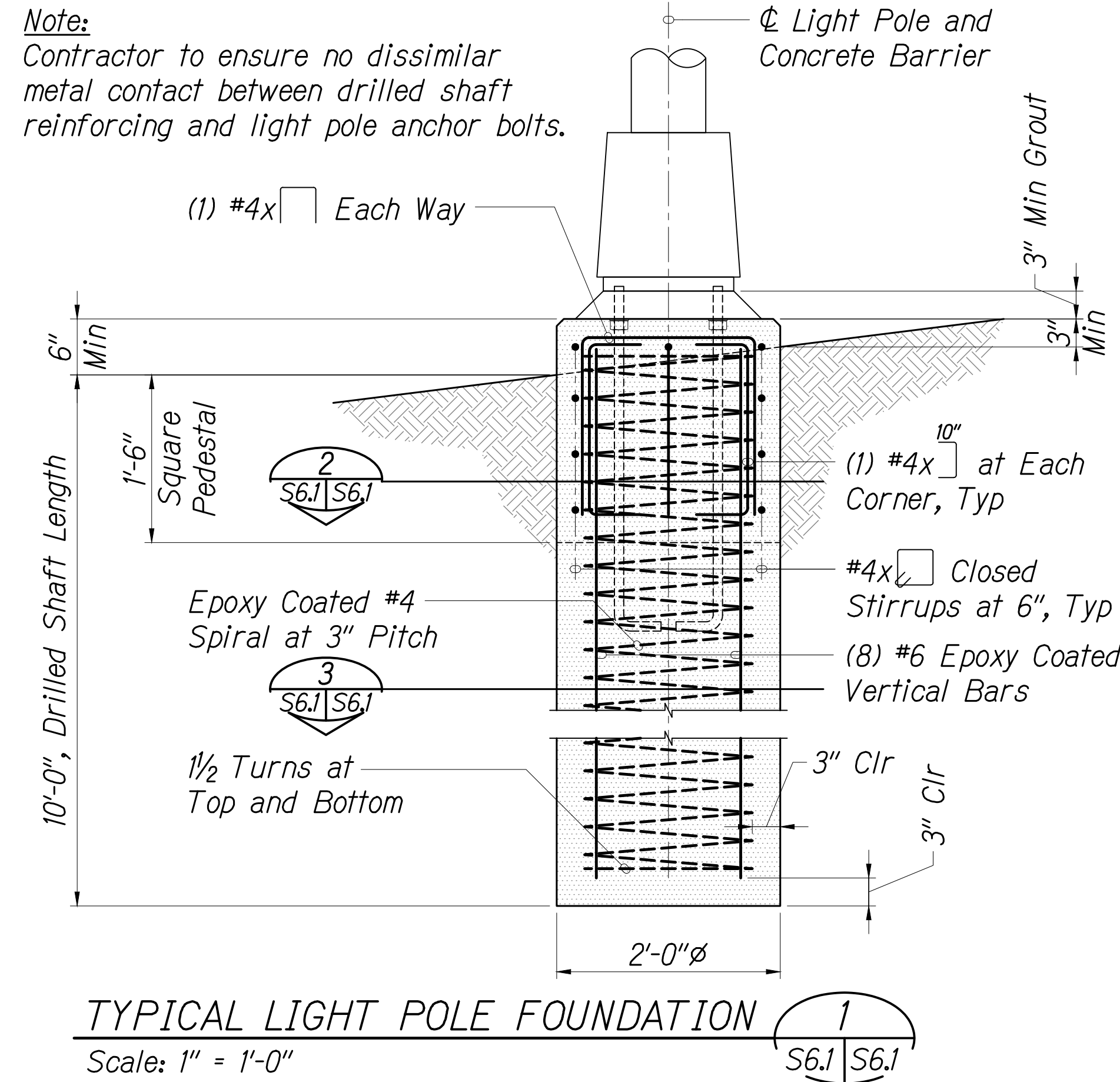
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**SIGN POST MEDIAN
BARRIER RECONSTRUCTION**
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H20(K005) PHASE 2

Scale: As Shown Date: July 2020

SHEET No. S5.9 OF 25 SHEETS

ADD. 98B

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H20(005) Ph2	2020	99	140



DATE	_____
DESIGNED BY	_____
CHECKED BY	_____
NOTED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
NO.	_____

KEN KAZUO HAYASHIDA
 LICENSED PROFESSIONAL ENGINEER
 No. 6818-S
 HAWAII, U.S.A.
 EXPIRATION DATE OF THE LICENSE 4/30/2022
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

TYPICAL DETAILS AND SECTIONS

MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS

Halawa Heights Off-ramp to Middle St. Overpass

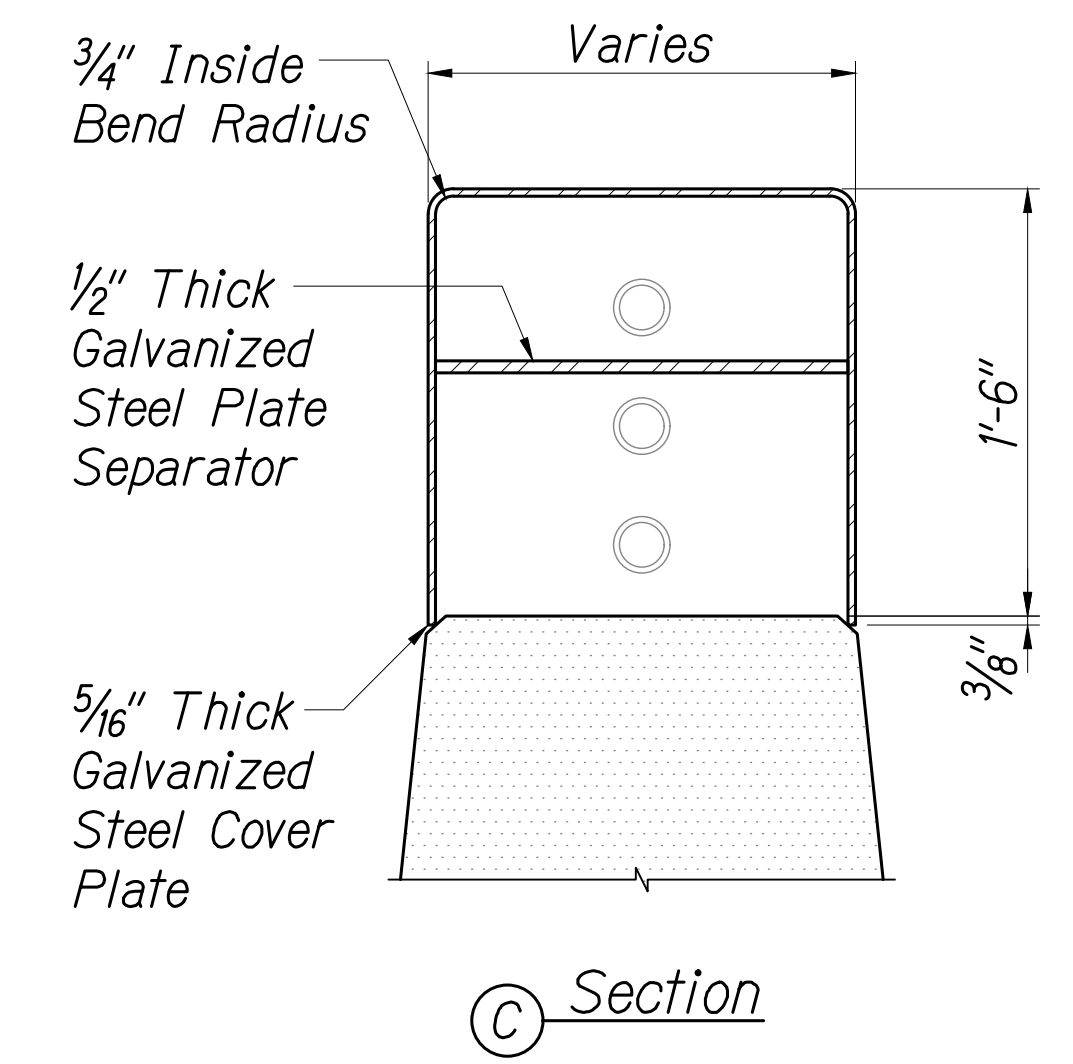
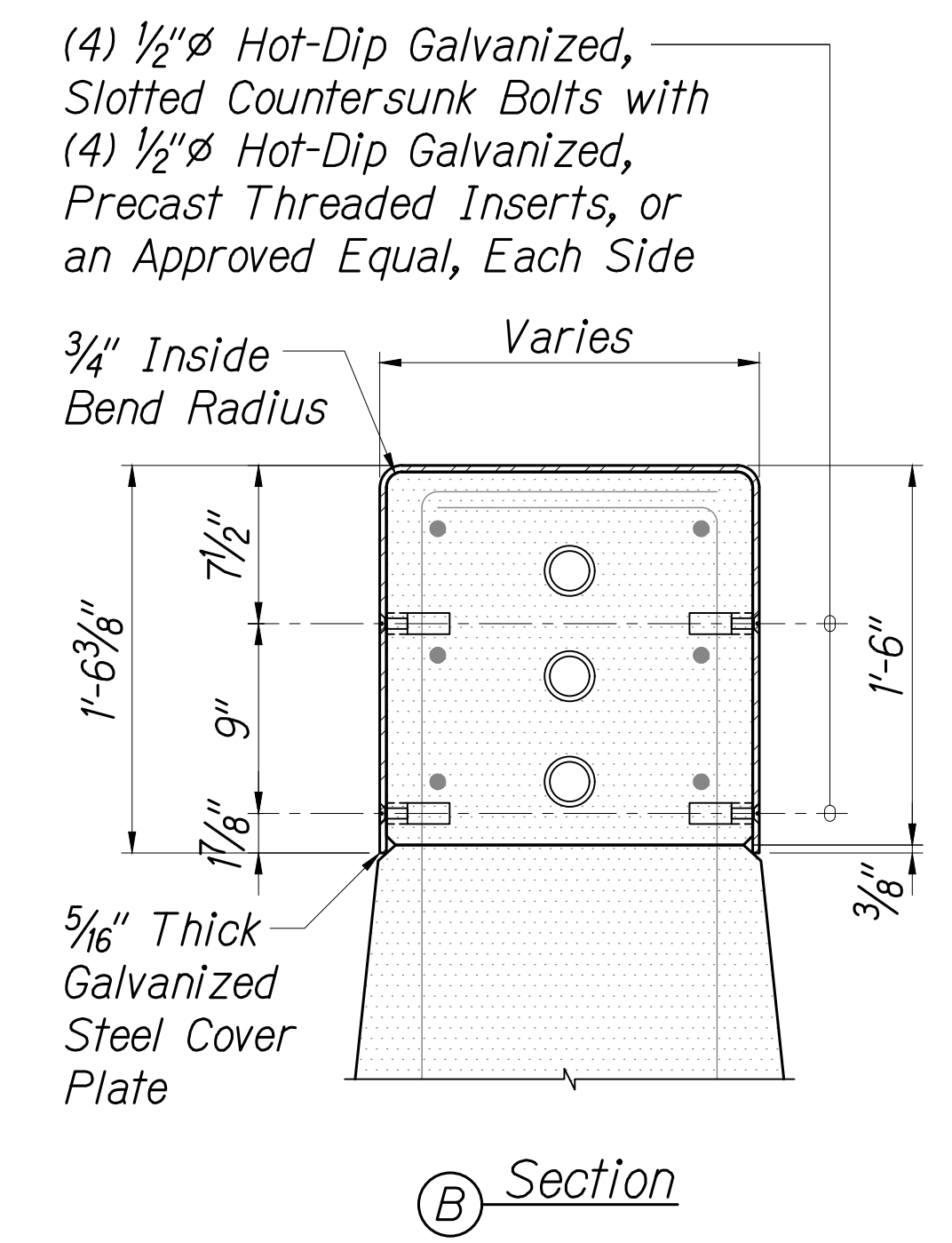
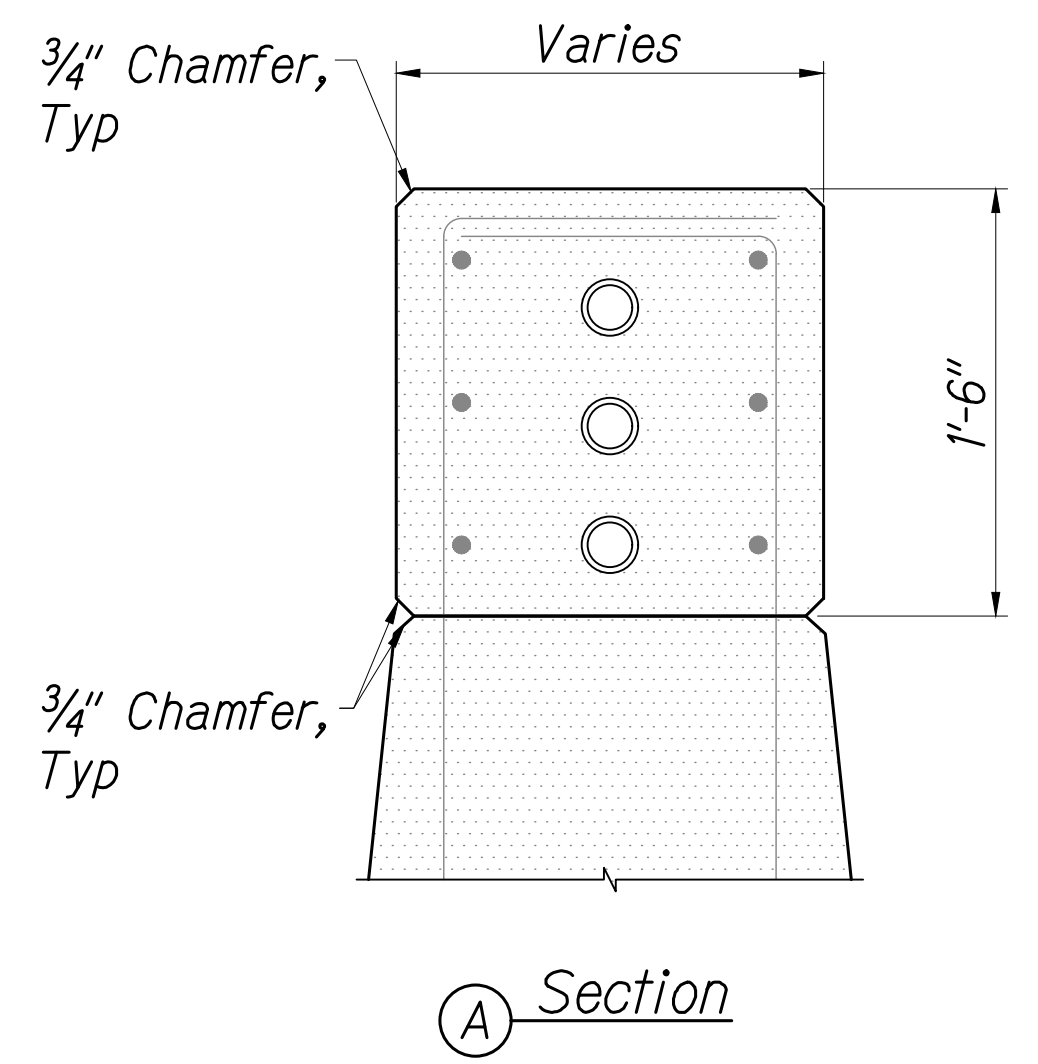
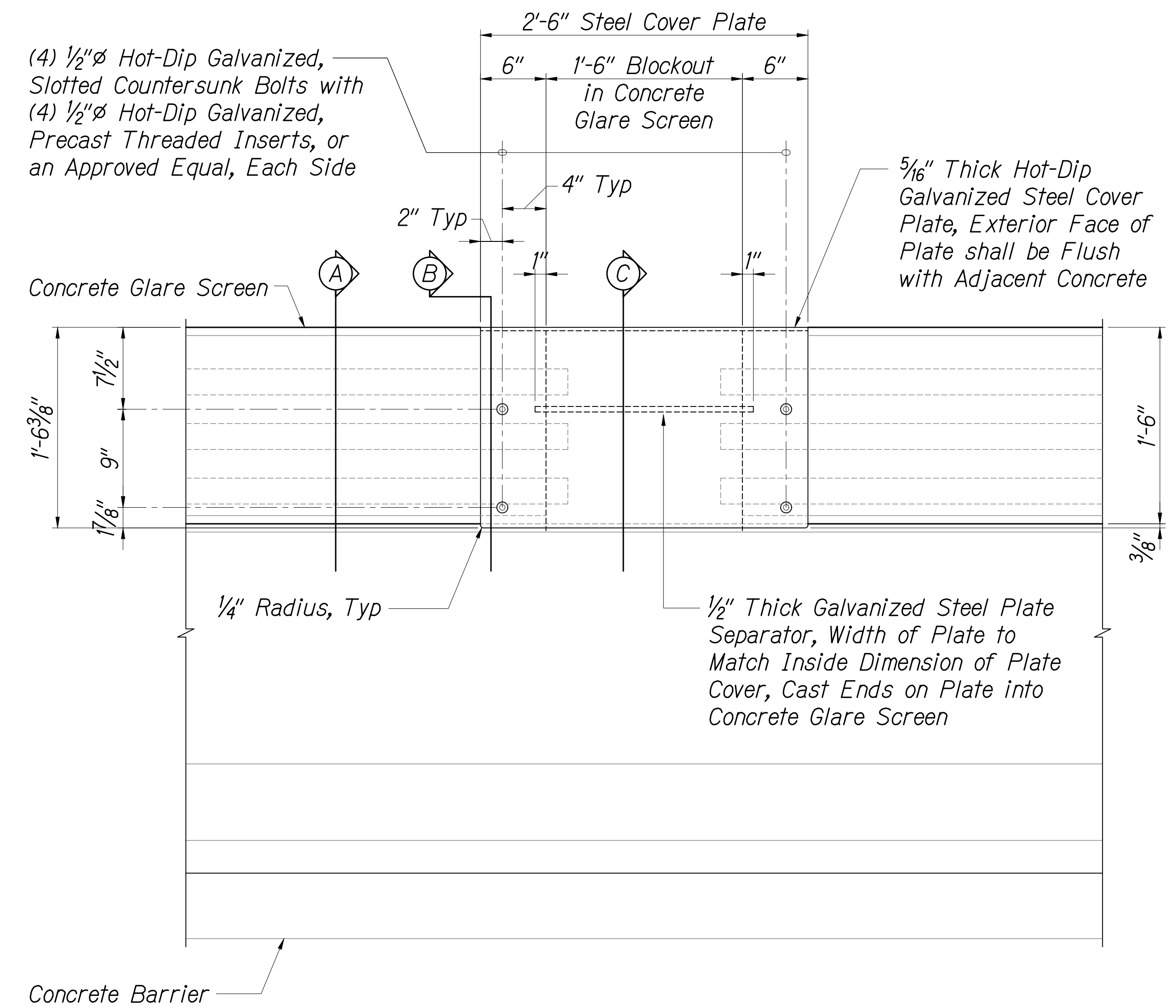
FAP NO. NH-H20(005) PHASE 2

Scale: As Shown

Date: July 2020

SHEET No. S6.1 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005) Ph2	2020	101	140



DESIGNED BY	DATE
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
No.	

BLOCKOUT COVER PLATE DETAIL

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

1
S8.1 S8.1

KEN KAZUO HAYASHIDA
LICENSED PROFESSIONAL ENGINEER
No. 6818-S
HAWAII, U.S.A.

EXPIRATION DATE OF THE LICENSE 4/30/2022
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**BLOCKOUT COVER PLATE
DETAIL AND SECTIONS**

MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005) PHASE 2

Scale: As Shown Date: July 2020

SHEET No. S8.1 OF 25 SHEETS