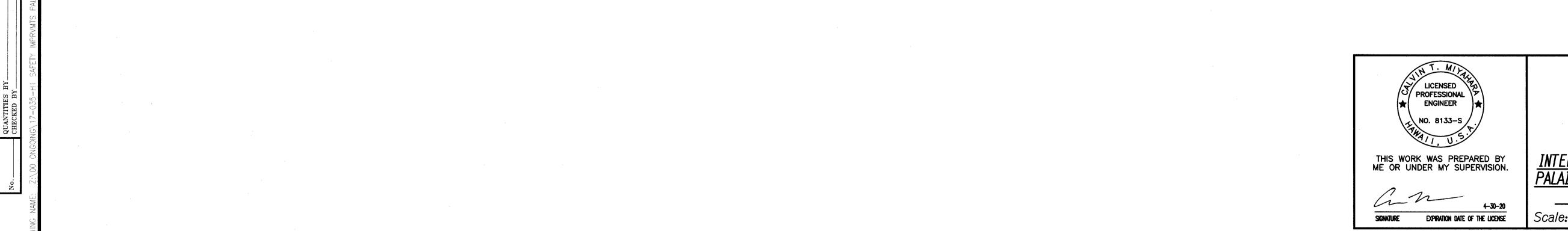


S2.2, S3.2, S4.2, S5.2, S6.2, S7.2, S8.2

NOTE:

See Sheet S1.5 for additional details.



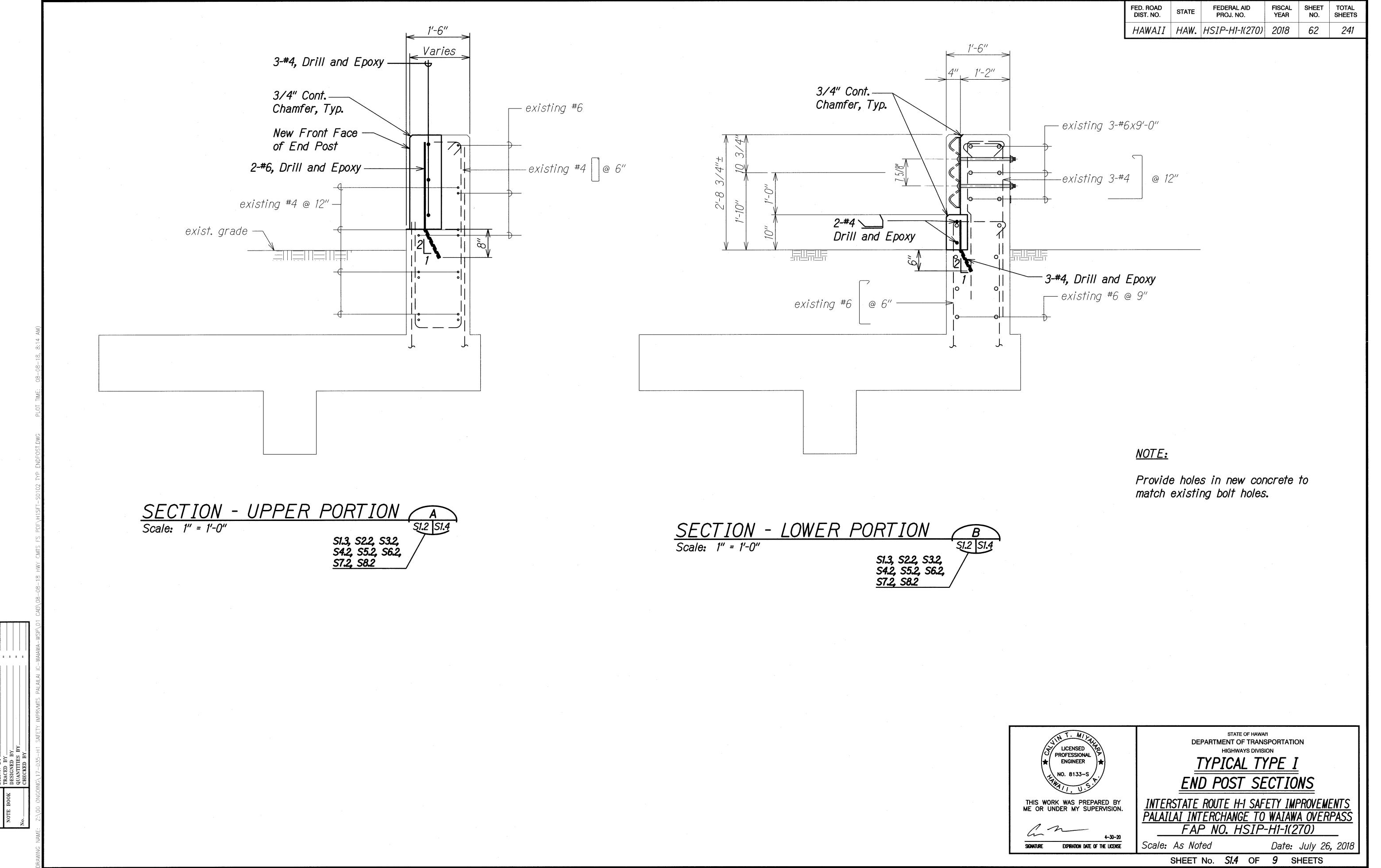
STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

TYPICAL TYPE I END POST ELEVATION

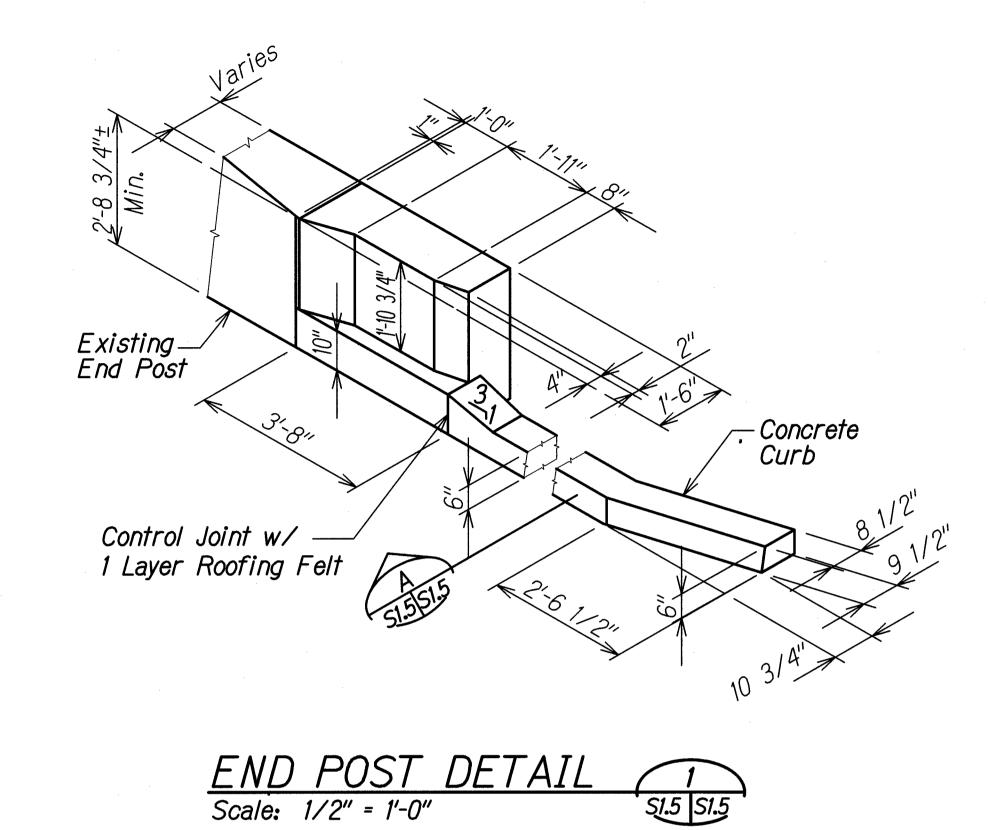
INTERSTATE ROUTE H-1 SAFETY IMPROVEMENTS
PALAILAI INTERCHANGE TO WAIAWA OVERPASS FAP NO. HSIP-H1-1(270)

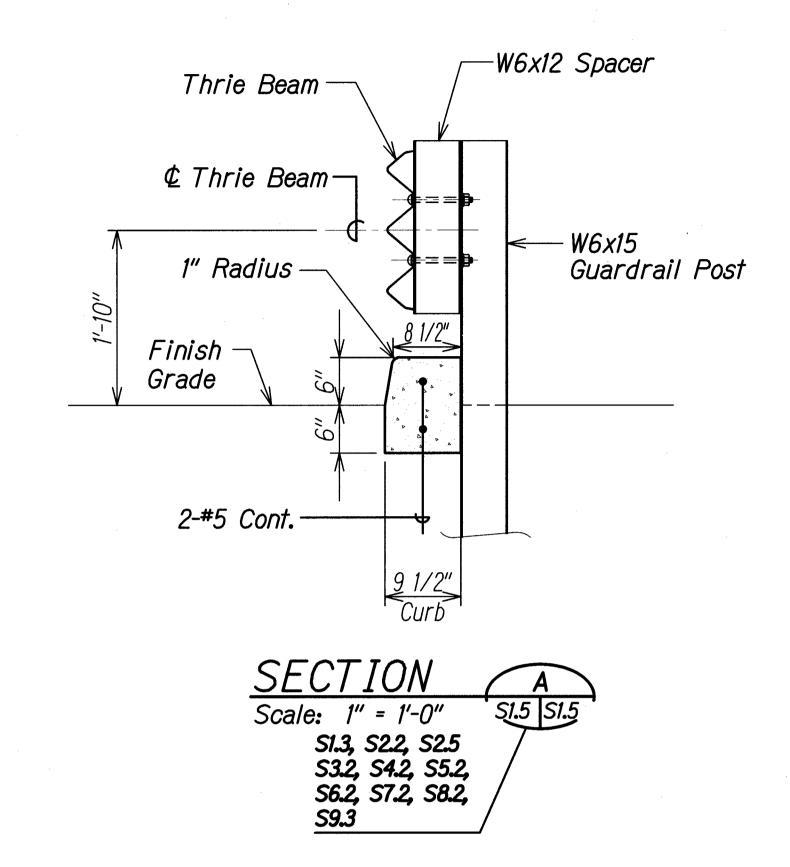
Scale: As Noted

Date: July 26, 2018 SHEET No. S1.3 OF 9 SHEETS

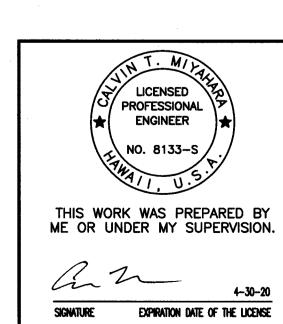


FED. ROAD	STATE	FEDERAL AID	FISCAL	SHEET	TOTAL
DIST. NO.		PROJ. NO.	YEAR	NO.	SHEETS
HAWAII	HAW.	HSIP-H1-1(270)	2018	63	241









STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

END POST AND GUARDRAIL

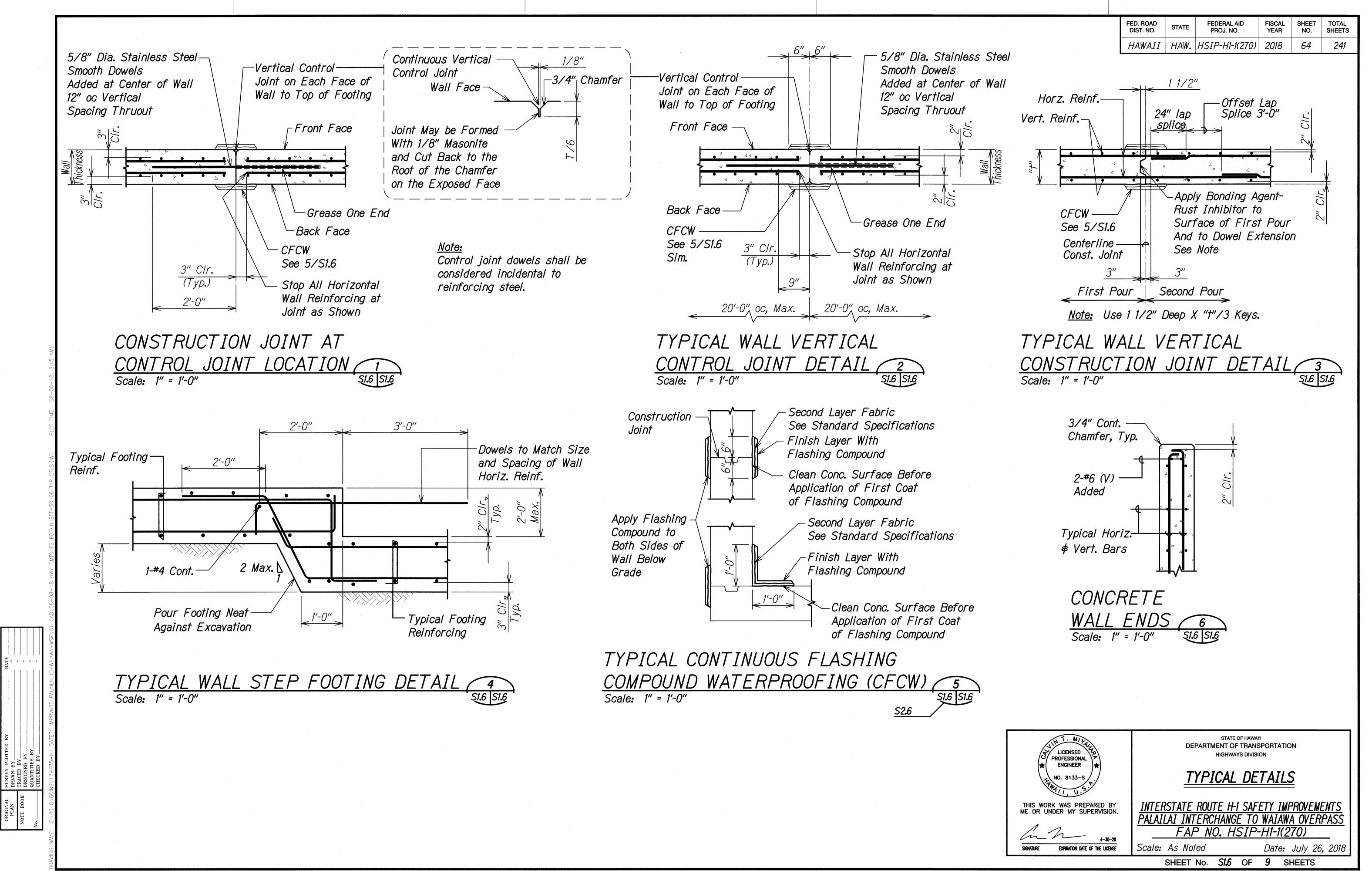
SECTION AND DETAIL

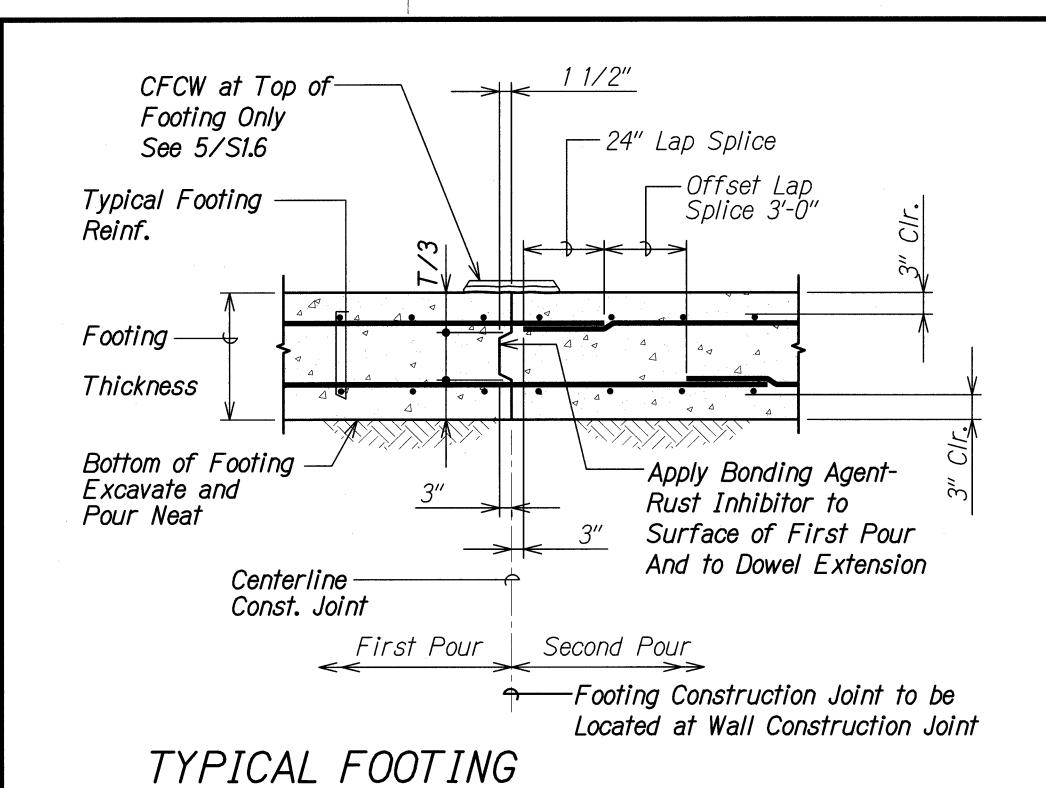
INTERSTATE ROUTE H-1 SAFETY IMPROVEMENTS
PALAILAI INTERCHANGE TO WAIAWA OVERPASS
FAP NO. HSIP-H1-1(270)

Scale: As Noted

Date: July 26, 2018

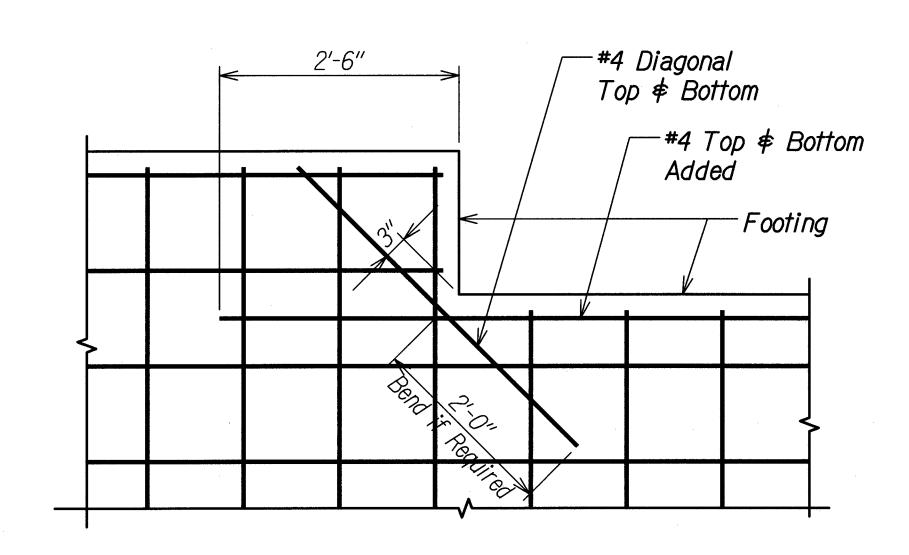
SHEET No. S1.5 OF 9 SHEETS



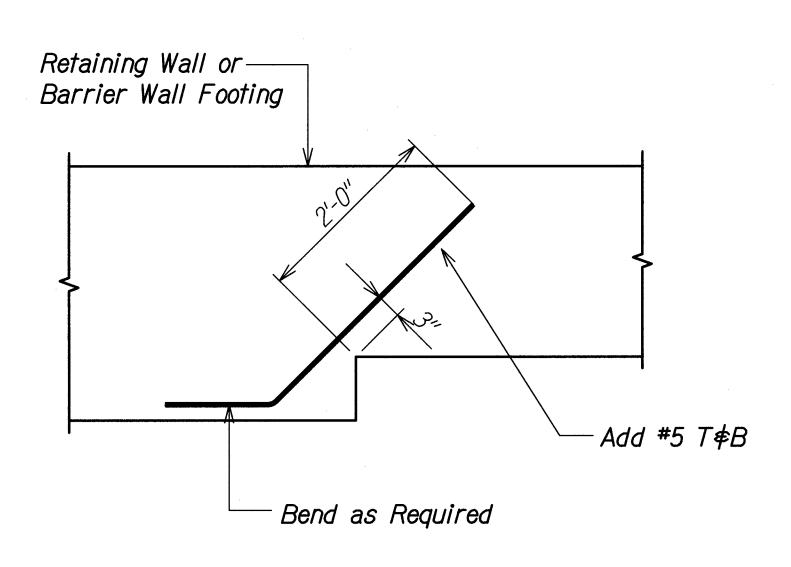


CONSTRUCTION JOINT DETAIL

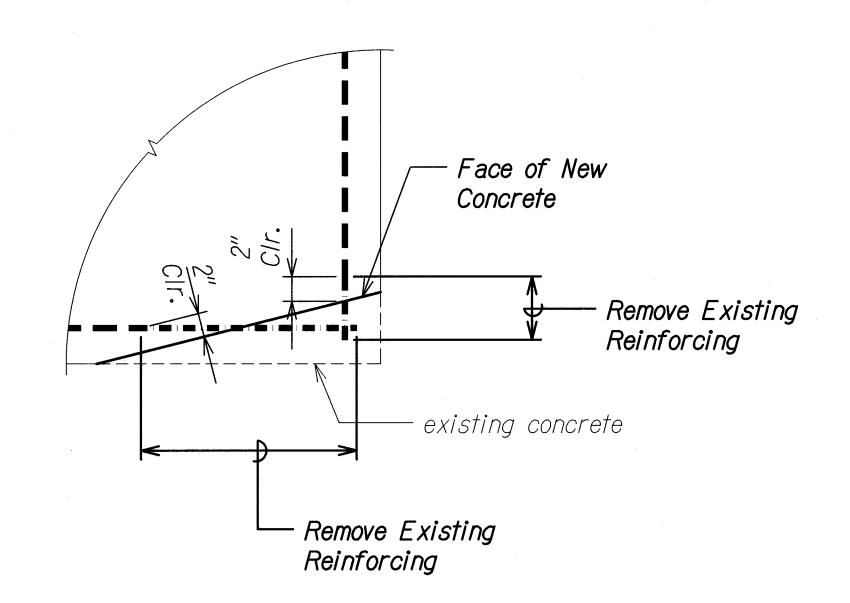
Scale: 1" = 1'-0"



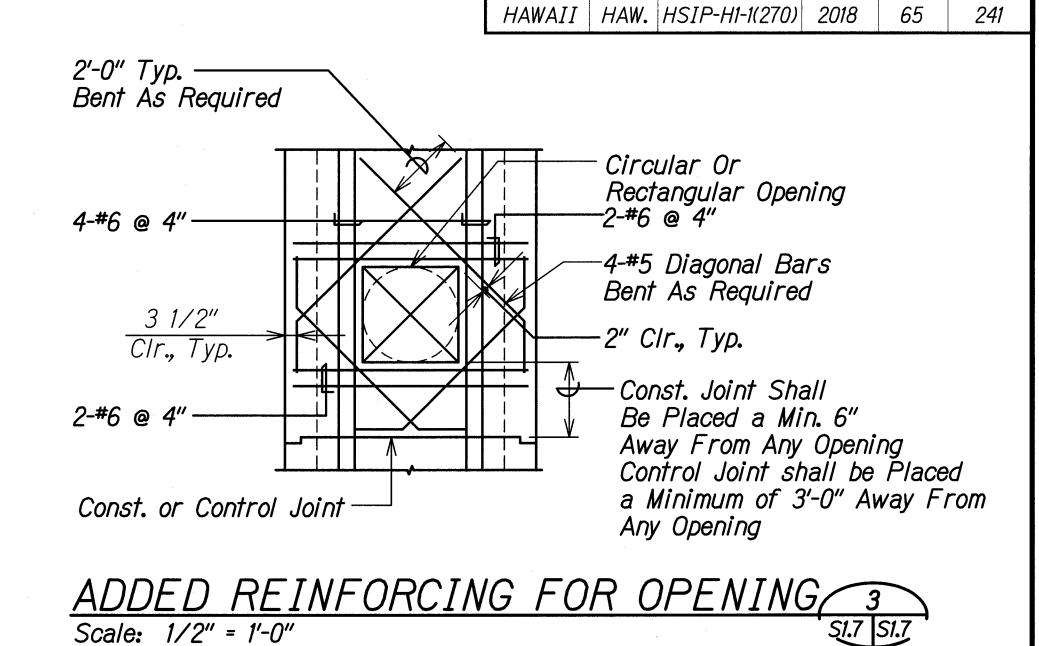
TYPICAL FOOTING CORNER 4



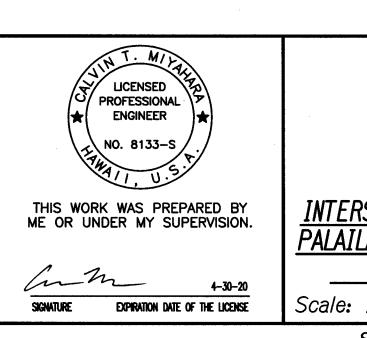








FED. ROAD DIST. NO.



STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS

INTERSTATE ROUTE H-1 SAFETY IMPROVEMENTS
PALAILAI INTERCHANGE TO WAIAWA OVERPASS
FAP NO. HSIP-H1-1(270)

Scale: As Noted

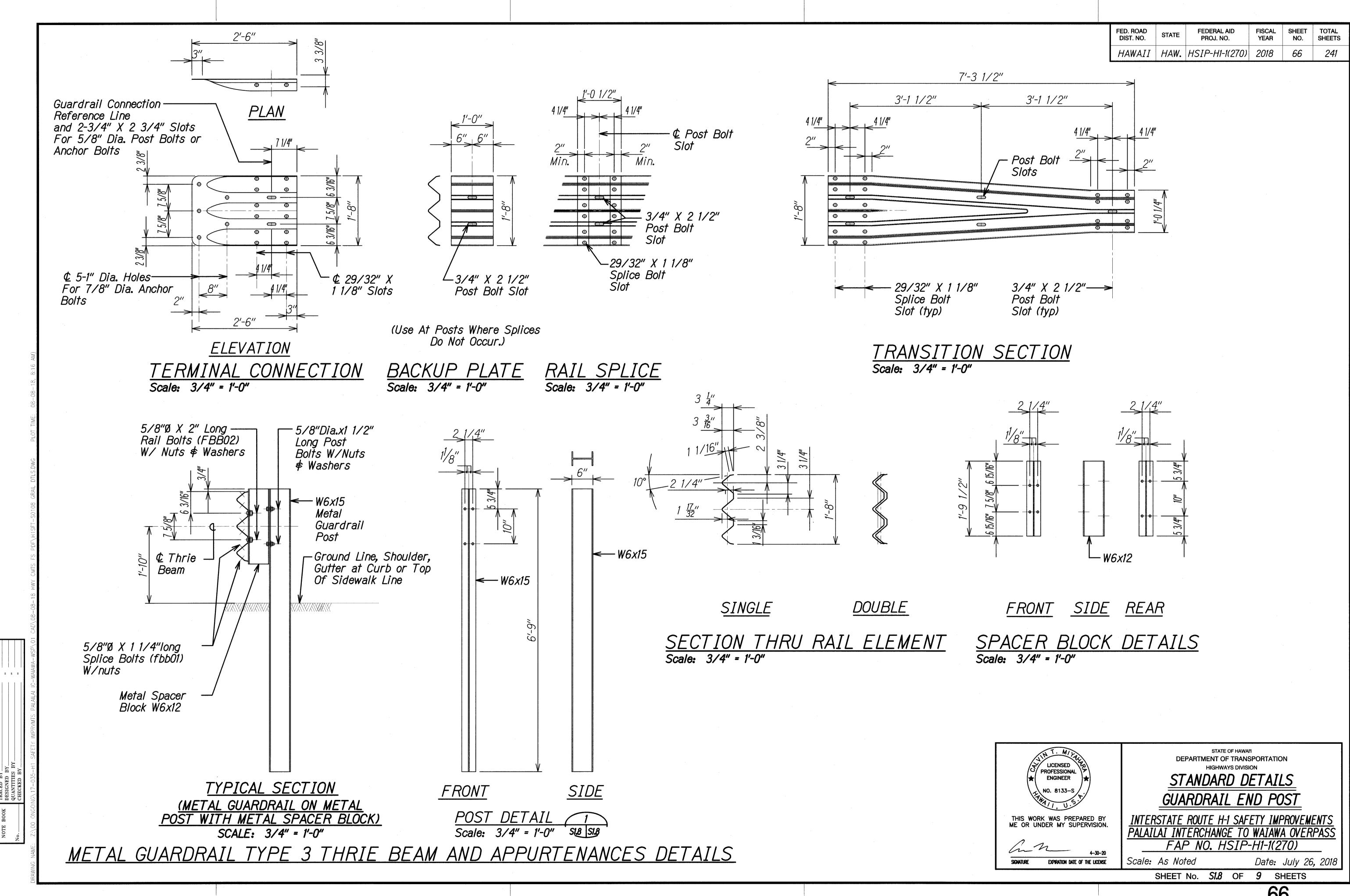
SHEET No. S1.7 OF 9 SHEETS

65

Date: July 26, 2018

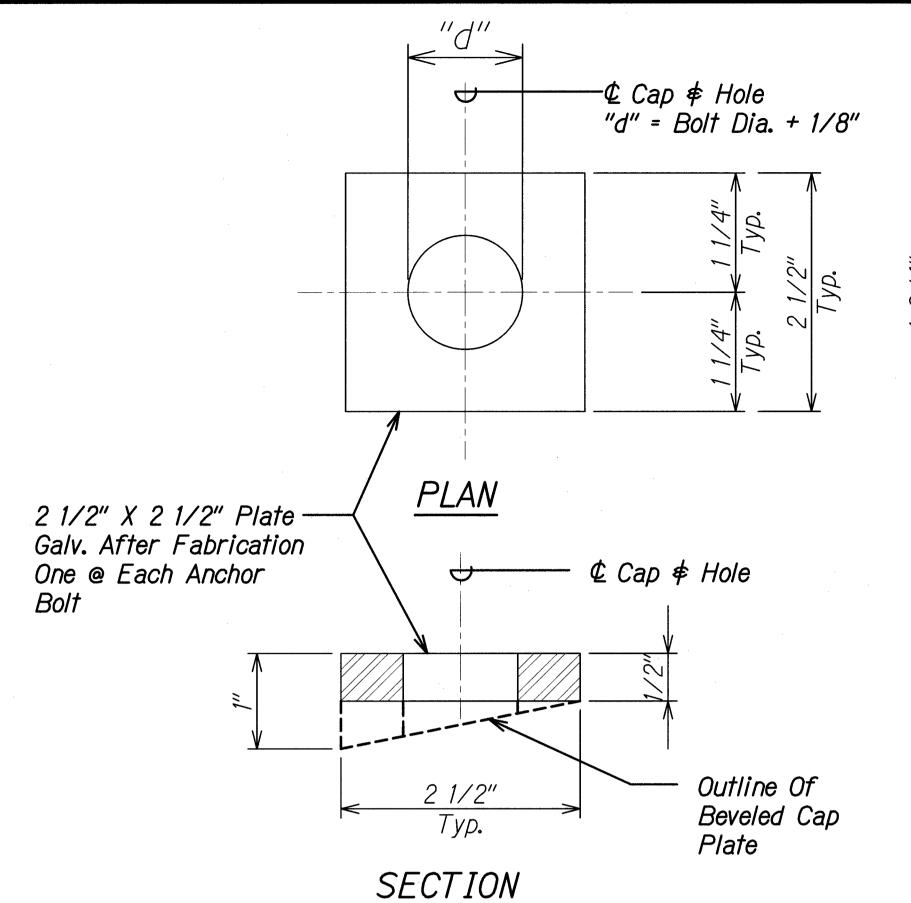
FISCAL SHEET TOTAL YEAR NO. SHEETS

FEDERAL AID PROJ. NO.



Notes:

- A. The work necessary to connect guardrail to concrete end post shall include all labor, materials, tools, equipment and incidentals necessary to complete the work and will not be paid for separately.
- B. Lap terminal connector and rail element in direction of traffic to prevent snagging.
- C. All anchor bolts shall be high strength bolts conforming to ASTM A325.
- D. Anchor bolt length shall be such that a snug fit of the elements and full thread engagement plus 1/4" (max) is attained.
- E. "terminal connector", "transition section" and thrie beam shall be fabricated from 10 gauge steel conforming to the requirements of AASHTO M 180, TYPE II, Class B.
- F. "terminal connector" and standard spacer, including all anchor bolts, cap plate, nuts and washers, shall be hot-dip galvanized after fabrication.
- G. Cap plate shall be fabricated from ASTM A 36.
- H. First 25'-0" of guardrail adjoining "terminal connector" shall be galvanized steel and supports spaced as shown on the detail drawings. This section of rail shall be placed on tangent to end post or parallel to roadway, unless conditions at site renders it impossible to do so. Flare point to be determined in field.
- I. Double (nest 1st panel) thrie beam elements at all end post connections, except on highways with one-way traffic pattern, use single thrie beam elements at end post on trailing end only.
- J. Where double (nested) beam occur, 12" "back-up plate" not required.
- K. Heads of through anchor bolts shall be placed on the traffic side of the rail.
- L. All steel shapes, rails and plates shall conform to ASTM A 36.



CAP (BEARING PLATE DETAIL

5/8"-11 HEX NUT

NOT TO SCALE

5/8"-11 HEX BOLT

_ 1 1/2"

FISCAL SHEET TOTAL YEAR NO. SHEETS

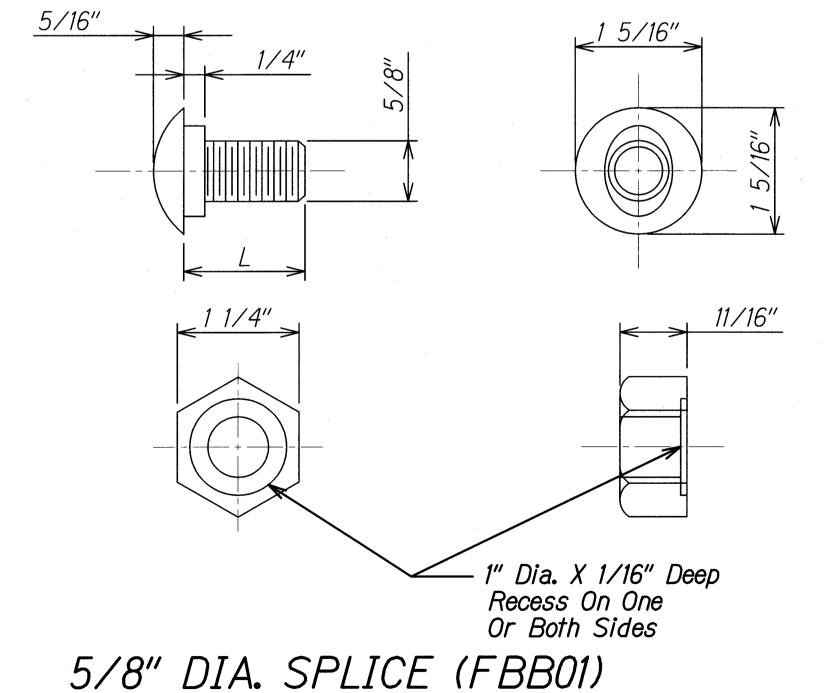
FEDERAL AID PROJ. NO.

HAWAII | HAW. | HSIP-H1-1(270) | 2018 | 67

5/8" DIA. POST HEX BOLT AND NUT NOT TO SCALE

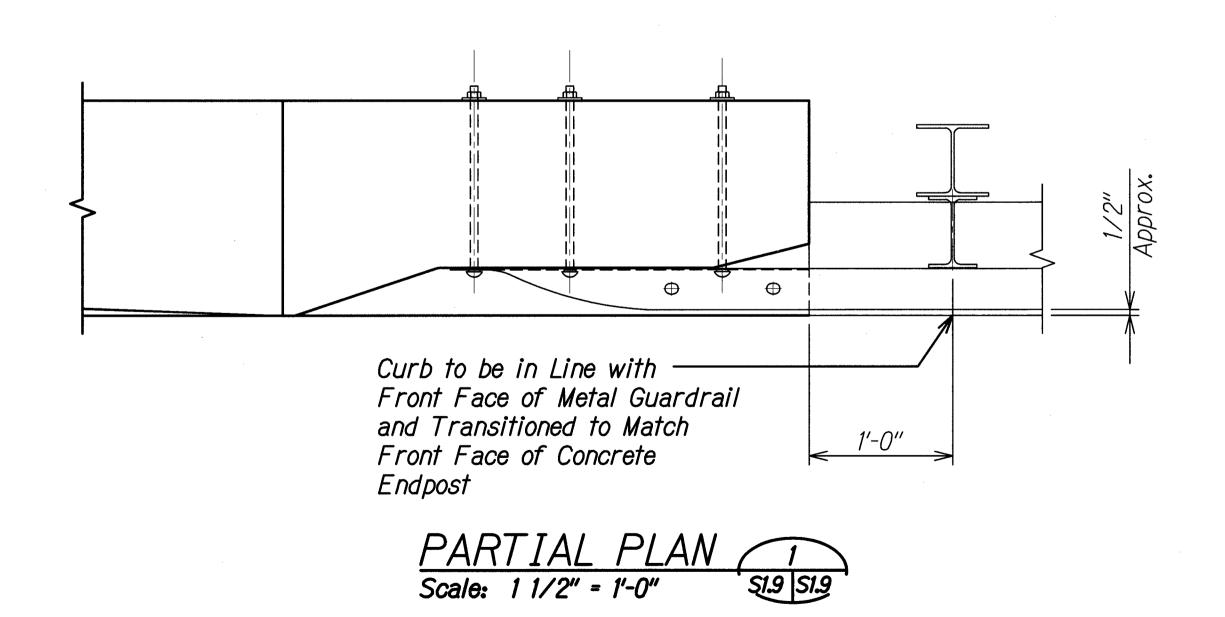
STEEL WASHER FOR 5/8' DIA. BOLT

METAL GUARDRAIL TYPE 3 THRIE BEAM AND APPURTENANCES DETAILS



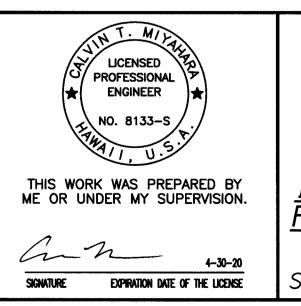
* RAIL (FBB02) BOLT * RECESS NUT

NOT TO SCALE



NOT TO SCALE

L	Thread Length
L	Full Thread
L	1 1/2" Min. Thread Length



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
GUARDRAIL END POST

TERSTATE ROUTE H-1 SAFETY IMPROVEMENT
NATION INTERCHANCE TO WATAWA OVERPAGE

INTERSTATE ROUTE H-1 SAFETY IMPROVEMENTS
PALAILAI INTERCHANGE TO WAIAWA OVERPASS
FAP NO. HSIP-H1-1(270)

Scale: As Noted Date: July 26, 2018

SHEET No. SI.9 OF 9 SHEETS

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