

JOINTS LOCATION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-7241(002)	2012	47	81

- (A) begin exist. metal guardrail
@ Sta. 28+75.36'±, 58'± Lt.
- (B) exist. construction joint
@ Sta. 28+91.43'±, 58'± Lt.
- (C) exist. construction joint
@ Sta. 29+16.70'±, 58'± Lt.
- (D) exist. construction joint
@ Sta. 29+41.86'±, 58'± Lt.
- (E) exist. construction joint
@ Sta. 29+66.27'±, 58'± Lt.
- (F) exist. construction joint
@ Sta. 29+91.44'±, 58'± Lt.
- (G) exist. construction joint
@ Sta. 30+16.70'±, 58'± Lt.

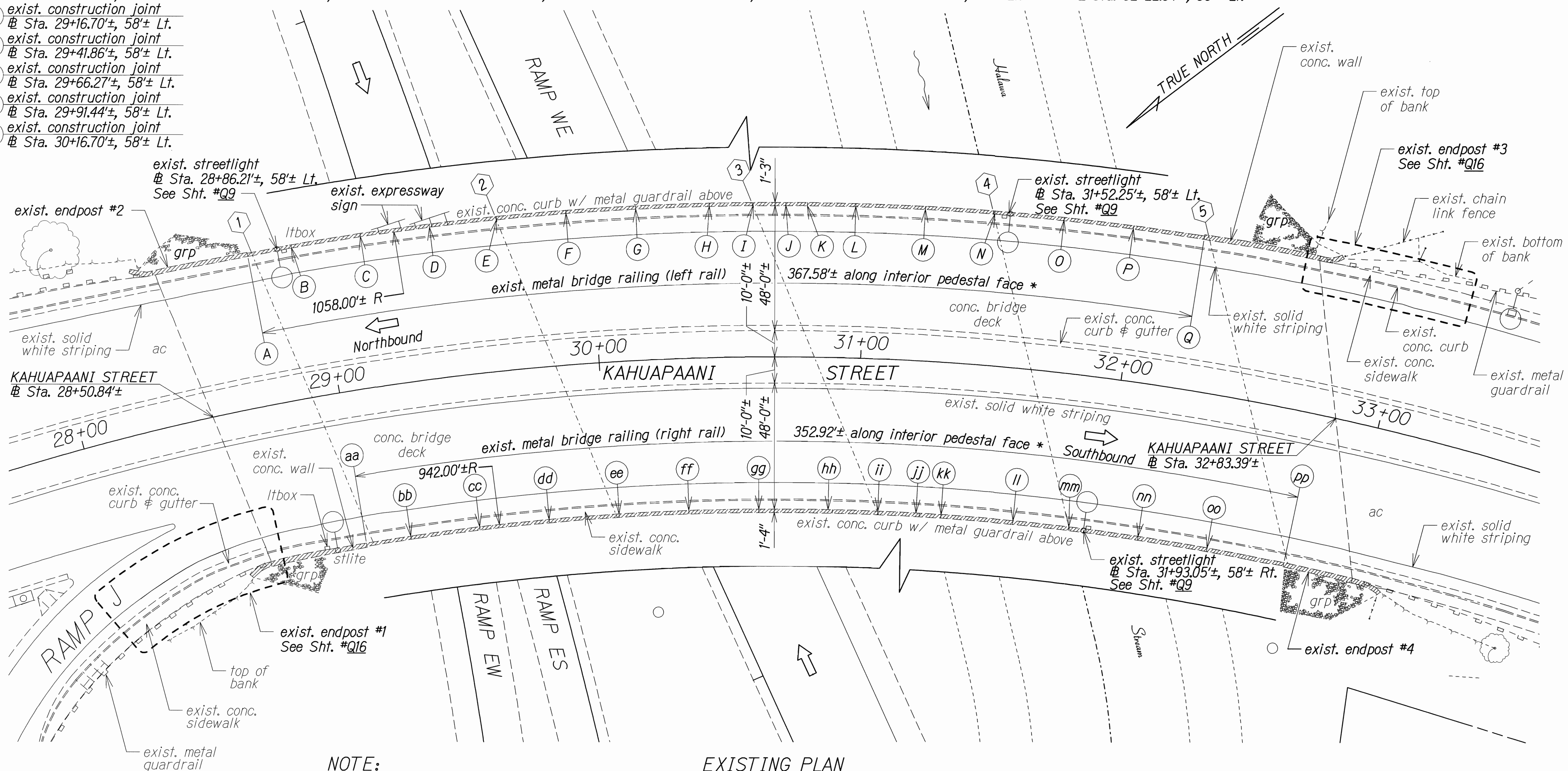
- (H) exist. construction joint
@ Sta. 30+41.96'±, 58'± Lt.
- (I) exist. construction joint
@ Sta. 30+59.19'±, 58'± Lt.

- (J) exist. construction joint
@ Sta. 30+71.03'±, 58'± Lt.
- (K) exist. construction joint
@ Sta. 30+77.48'±, 58'± Lt.

- (L) exist. construction joint
@ Sta. 30+96.32'±, 58'± Lt.
- (M) exist. construction joint
@ Sta. 31+21.48'±, 58'± Lt.

- (N) exist. construction joint
@ Sta. 31+46.65'±, 58'± Lt.
- (O) exist. construction joint
@ Sta. 31+71.75'±, 58'± Lt.

- (P) exist. construction joint
@ Sta. 31+97.01'±, 58'± Lt.
- (Q) end exist. metal guardrail
@ Sta. 32+22.84'±, 58'± Lt.



NOTE:

* Contractor to Verify Out in Field

EXISTING PLAN

Scale: 1" = 20'-0"

- (aa) begin exist. metal guardrail
@ Sta. 29+00.78'±, 58'± Rt.
- (bb) exist. construction joint
@ Sta. 29+18.99'±, 58'± Rt.
- (cc) exist. construction joint
@ Sta. 29+47.24'±, 58'± Rt.
- (dd) exist. construction joint
@ Sta. 29+75.60'±, 58'± Rt.
- (ee) exist. construction joint
@ Sta. 30+04.06'±, 58'± Rt.

- (ff) exist. construction joint
@ Sta. 30+32.42'±, 58'± Rt.
- (gg) exist. construction joint
@ Sta. 30+60.78'±, 58'± Rt.
- (hh) exist. expansion joint
@ Sta. 30+88.92'±, 58'± Rt.
- (ii) exist. construction joint
@ Sta. 31+09.11'±, 58'± Rt.
- (jj) exist. construction joint
@ Sta. 31+24.62'±, 58'± Rt.

- (kk) exist. construction joint
@ Sta. 31+34.83'±, 58'± Rt.
- (ll) exist. construction joint
@ Sta. 31+64.14'±, 58'± Rt.
- (mm) exist. construction joint
@ Sta. 31+86.98'±, 58'± Rt.

- (nn) exist. construction joint
@ Sta. 32+15.34'±, 58'± Rt.
- (oo) exist. construction joint
@ Sta. 32+43.69'±, 58'± Rt.
- (pp) end exist. metal guardrail
@ Sta. 32+75.45'±, 58'± Rt.

Pier Lines

- 1 @ Sta. 28+89.47'±
Az. 284°54'32.17"±
- 2 @ Sta. 29+83.34'±
Az. 284°54'83.34"±
- 3 @ Sta. 30+82.34'±
Az. 284°54'32.17"±
- 4 @ Sta. 31+65.34'±
Az. 293°30'24.1"±
- 5 @ Sta. 32+49.36'±
Az. 293°30'24.1"±

HALAWA INTERCHANGE STRUCTURE NO. 11

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HALAWA INTERCHANGE STRUCTURE NO. 11

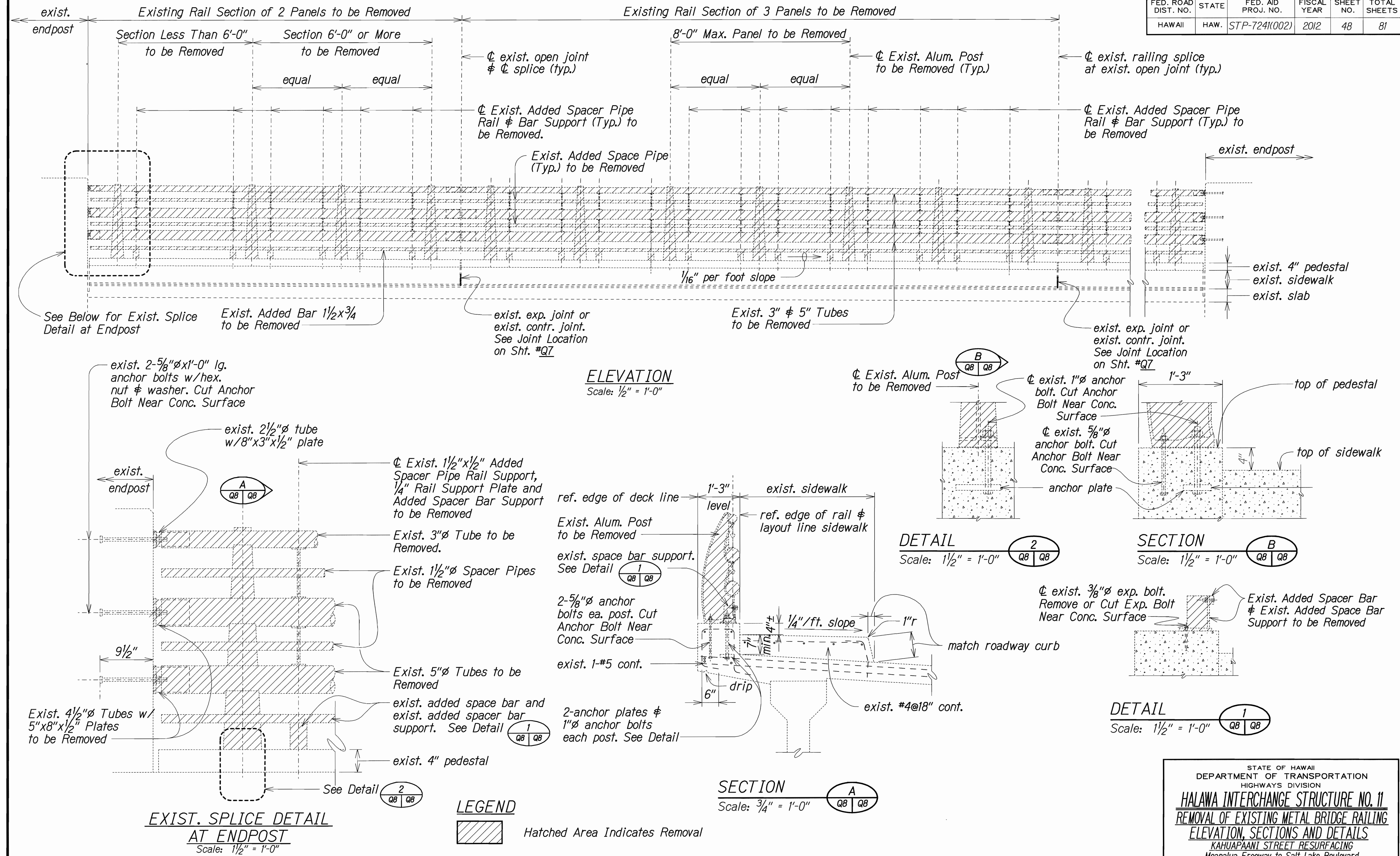
EXISTING PLAN

KAHUAPAANI STREET RESURFACING
Moanalua Freeway to Salt Lake Boulevard
Federal Aid Project No. STP-7241(002)

Scale: As Noted Date: May, 2012

SHEET No. Q7 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-724(002)	2012	48	81



SURVEY PLOTTED BY	DATE
DESIGNED BY	XXX 1999
TRACED BY	XXX 1999
NOTE BOOK	XXX 1999
QUANTITIES BY	XXX 1999
CHECKED BY	XXX 1999

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

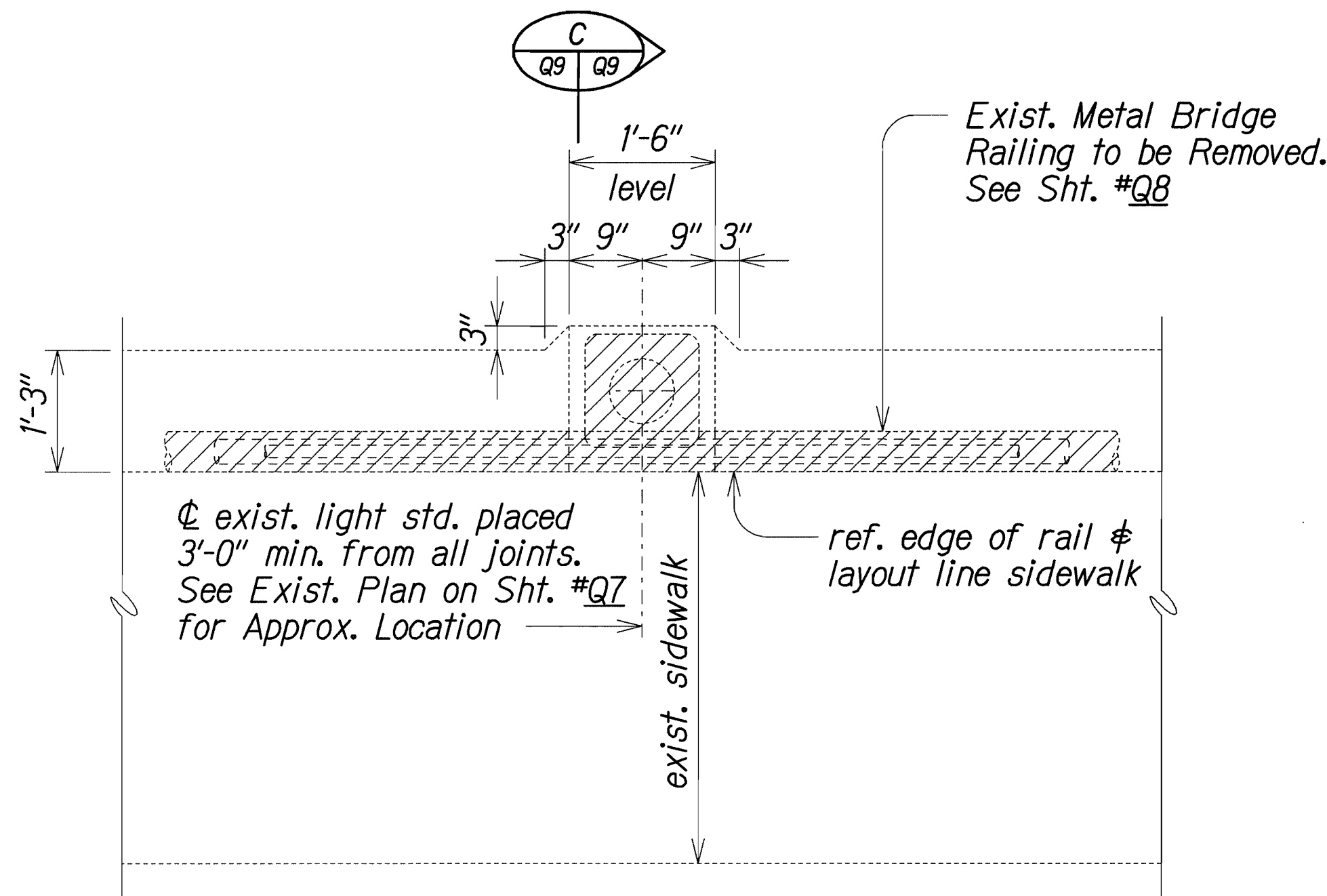
HALAWA INTERCHANGE STRUCTURE NO. 11
REMOVAL OF EXISTING METAL BRIDGE RAILING
ELEVATION, SECTIONS AND DETAILS

KAHUA PAANI STREET RESURFACING
Moanalua Freeway to Salt Lake Boulevard
Federal Aid Project No. STP-724(002)

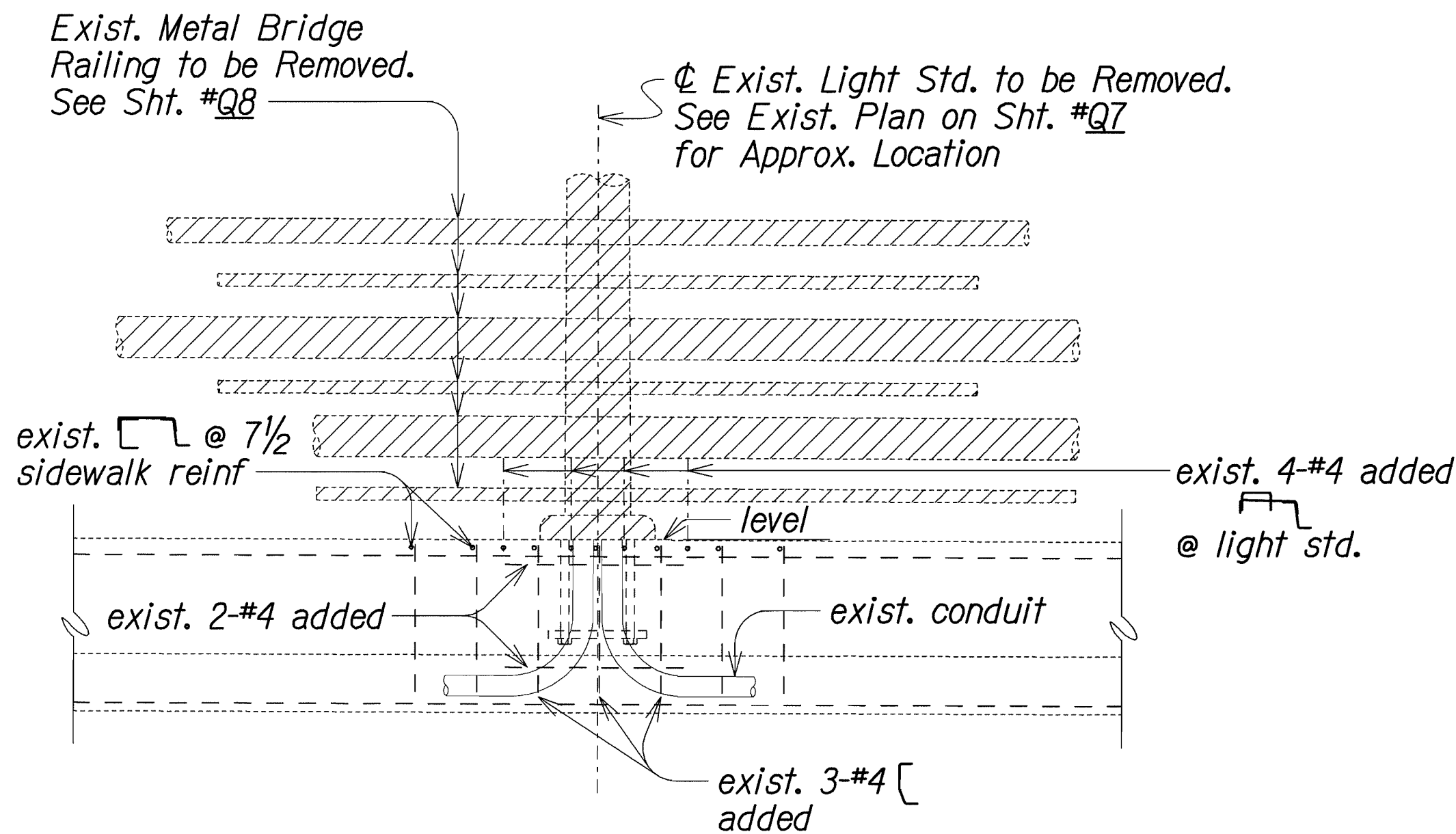
Scale: As Noted Date: May, 2012

SHEET No. 48 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-7241(002)	2012	49	81



PLAN



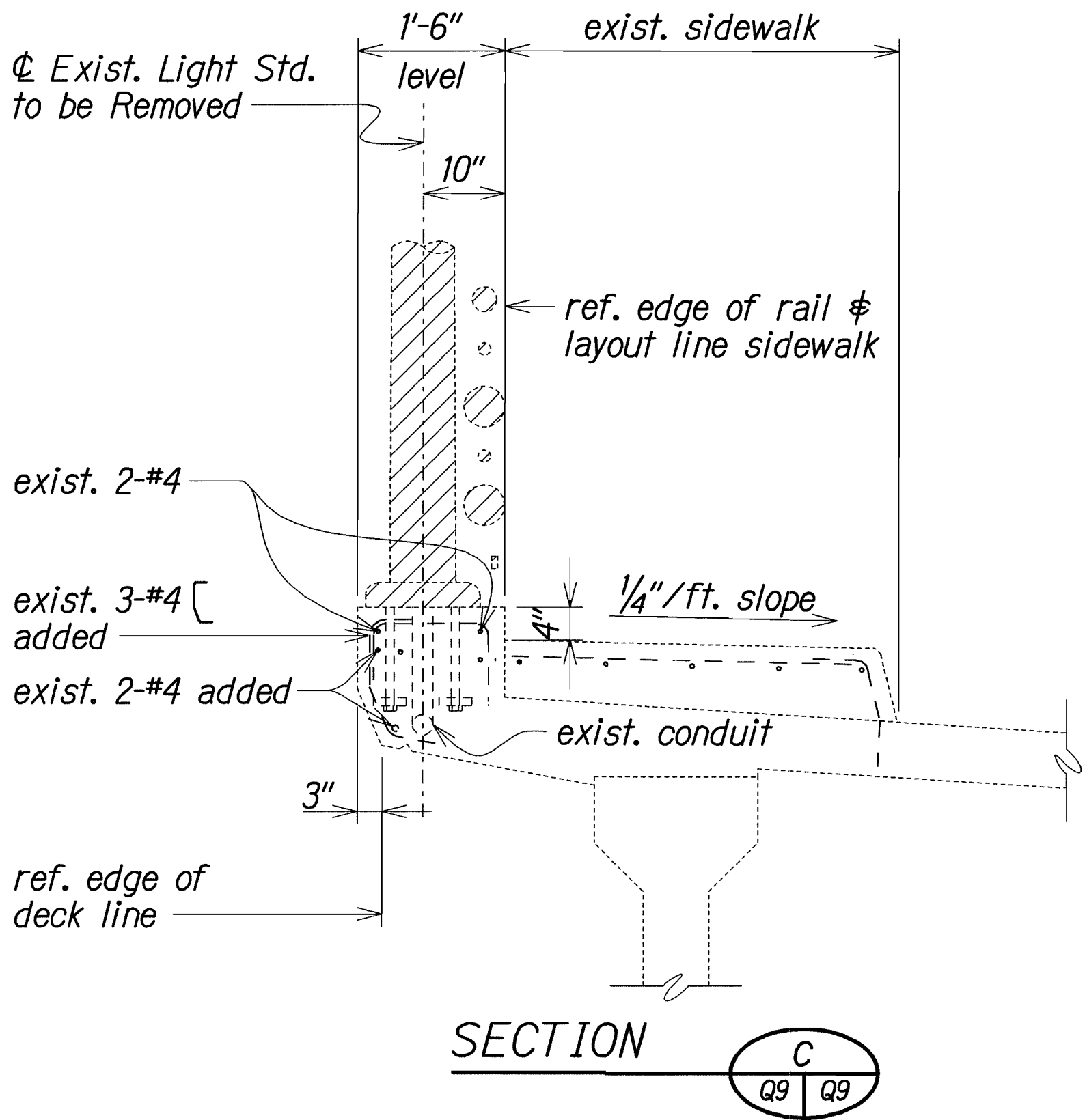
ELEVATION

LEGEND

 Hatched Area Indicates Removal

EXIST. TYPICAL LIGHT STANDARD AT BRIDGE

Scale: 3/4" = 1'-0"



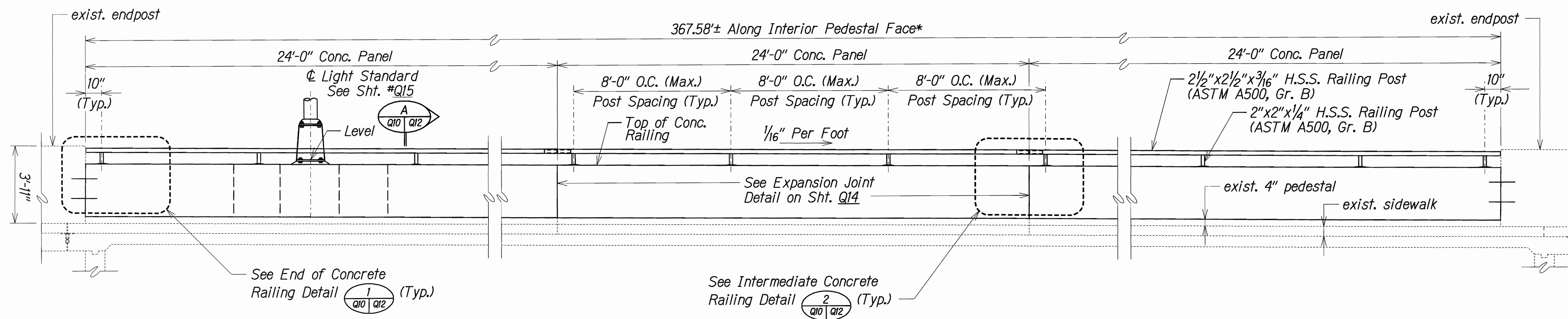
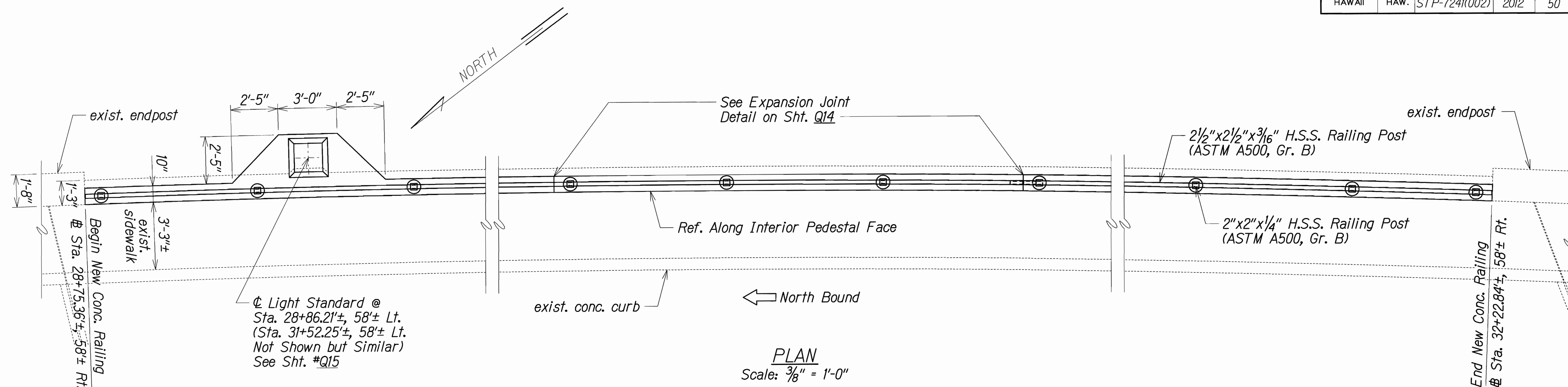
SECTION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HALAWA INTERCHANGE STRUCTURE NO. 11
EXISTING TYPICAL LIGHT STANDARD
AT BRIDGE
KAHUAPAANI STREET RESURFACING
Moanalua Freeway to Salt Lake Boulevard
Federal Aid Project No. STP-7241(002)

Scale: As Noted Date: May, 2012

SHEET No. Q9 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-724(002)	2012	50	81



NOTE:
* Contractor to verify out in field.

PARTIAL TYPE "A" CONCRETE BRIDGE RAILING UPGRADE (LEFT RAIL)

DATE	XXX 1991
DESIGNED BY	XXX 1991
TRACED BY	XXX 1991
NOTE BOOK	XXX 1991
QUANTITIES BY	XXX 1991
CHECKED BY	XXX 1991

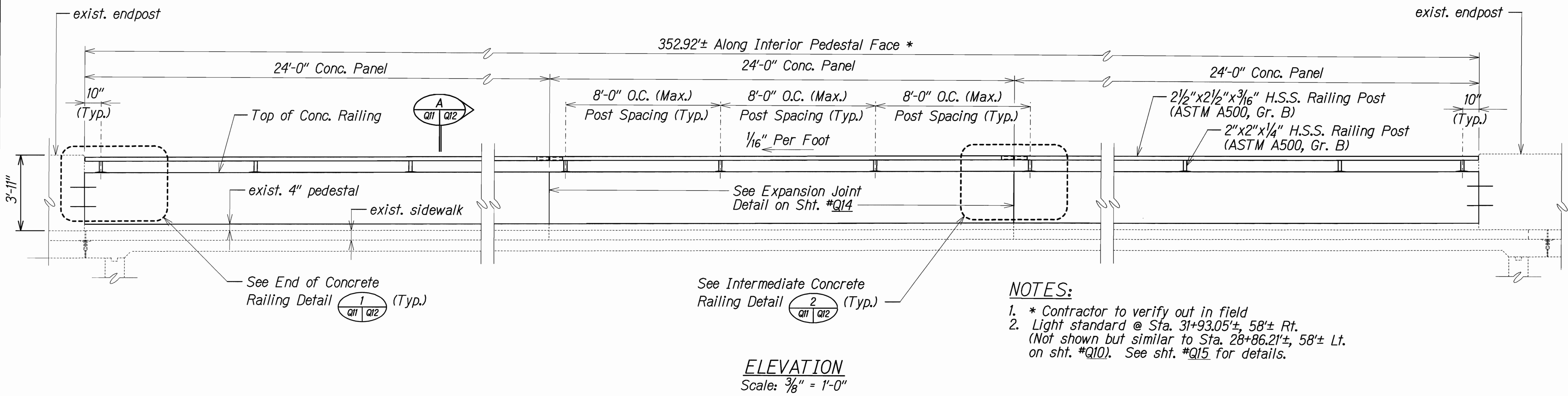
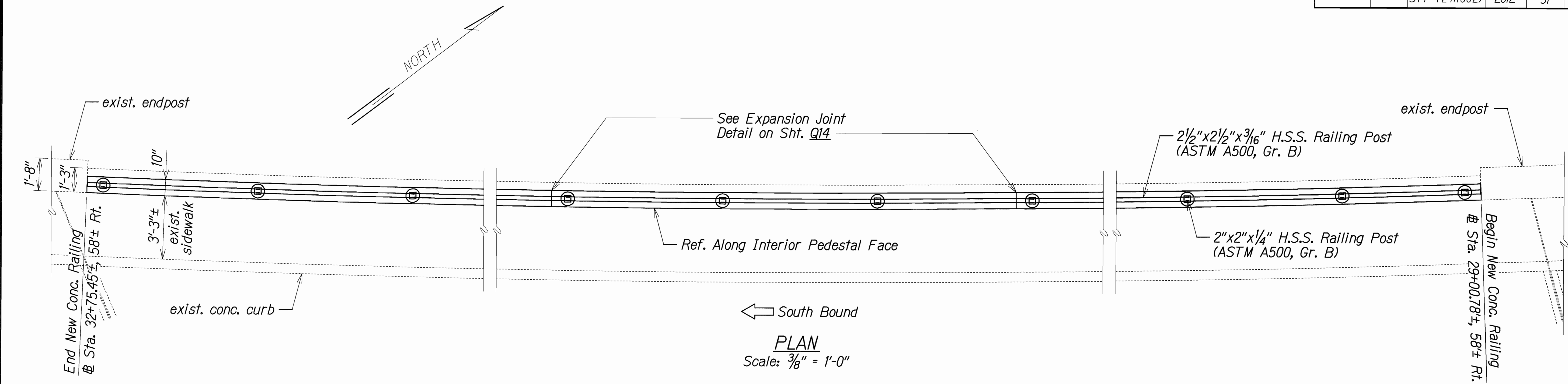
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HALAWA INTERCHANGE STRUCTURE NO. 11
PARTIAL TYPE "A" CONCRETE BRIDGE RAILING UPGRADE (LEFT RAIL)

PLAN AND ELEVATION
KAHUAAPAANI STREET RESURFACING
Moanalua Freeway to Salt Lake Boulevard
Federal Aid Project No. STP-724(002)

Scale: As Noted Date: May, 2012

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-7241(002)	2012	51	81



- NOTES:**
- * Contractor to verify out in field
 - Light standard @ Sta. 31+93.05±, 58± Rt. (Not shown but similar to Sta. 28+86.21±, 58± Lt. on sht. #Q10). See sht. #Q15 for details.

DESIGNED BY	DATE	XXX 09/
DRAWN BY		XXX 09/
CHECKED BY		XXX 09/
NOTED BY		XXX 09/
QUANTITIES BY		XXX 09/
DATE		XXX 09/

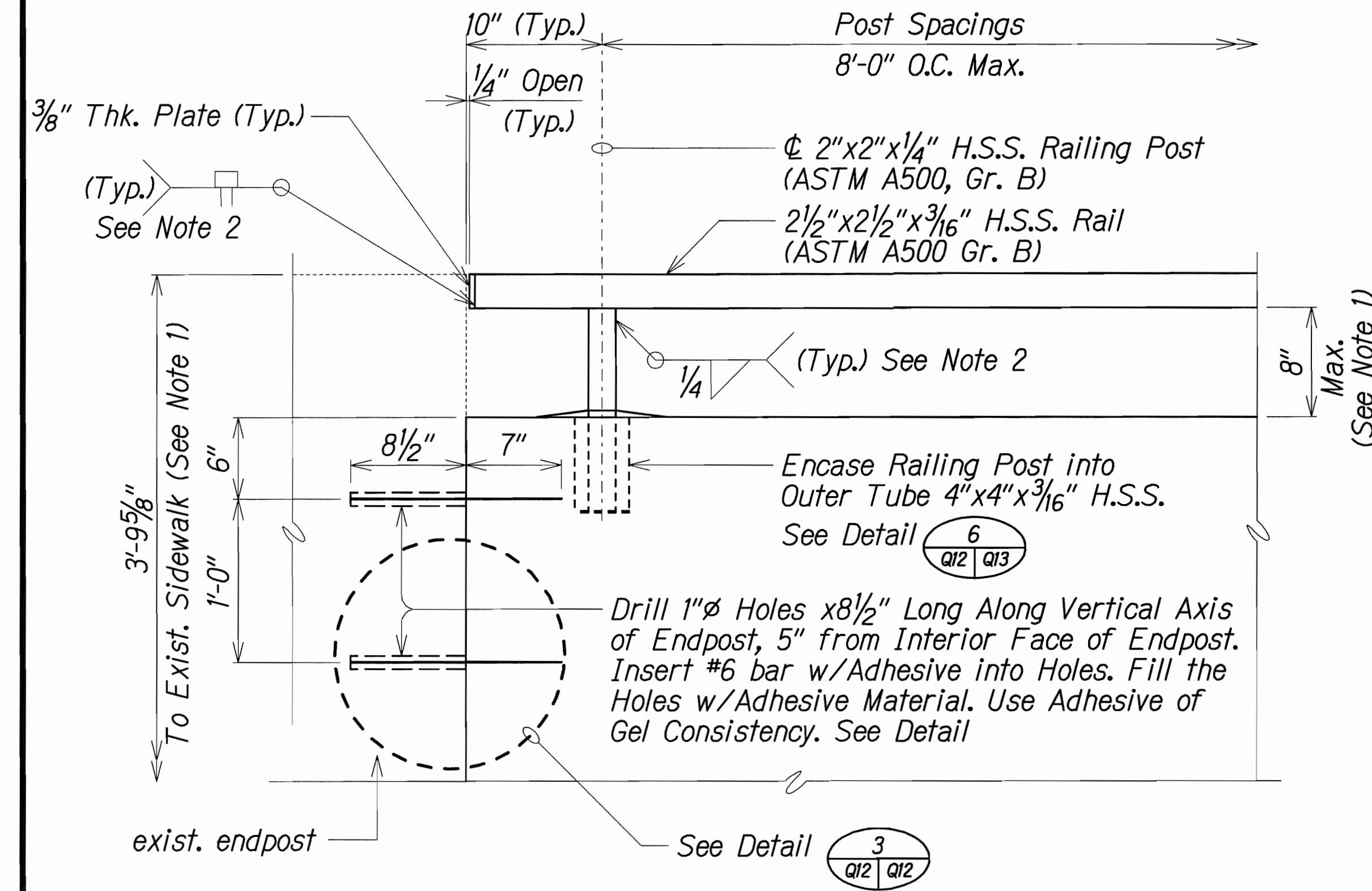
PARTIAL TYPE "A" CONCRETE BRIDGE RAILING UPGRADE (RIGHT RAIL)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

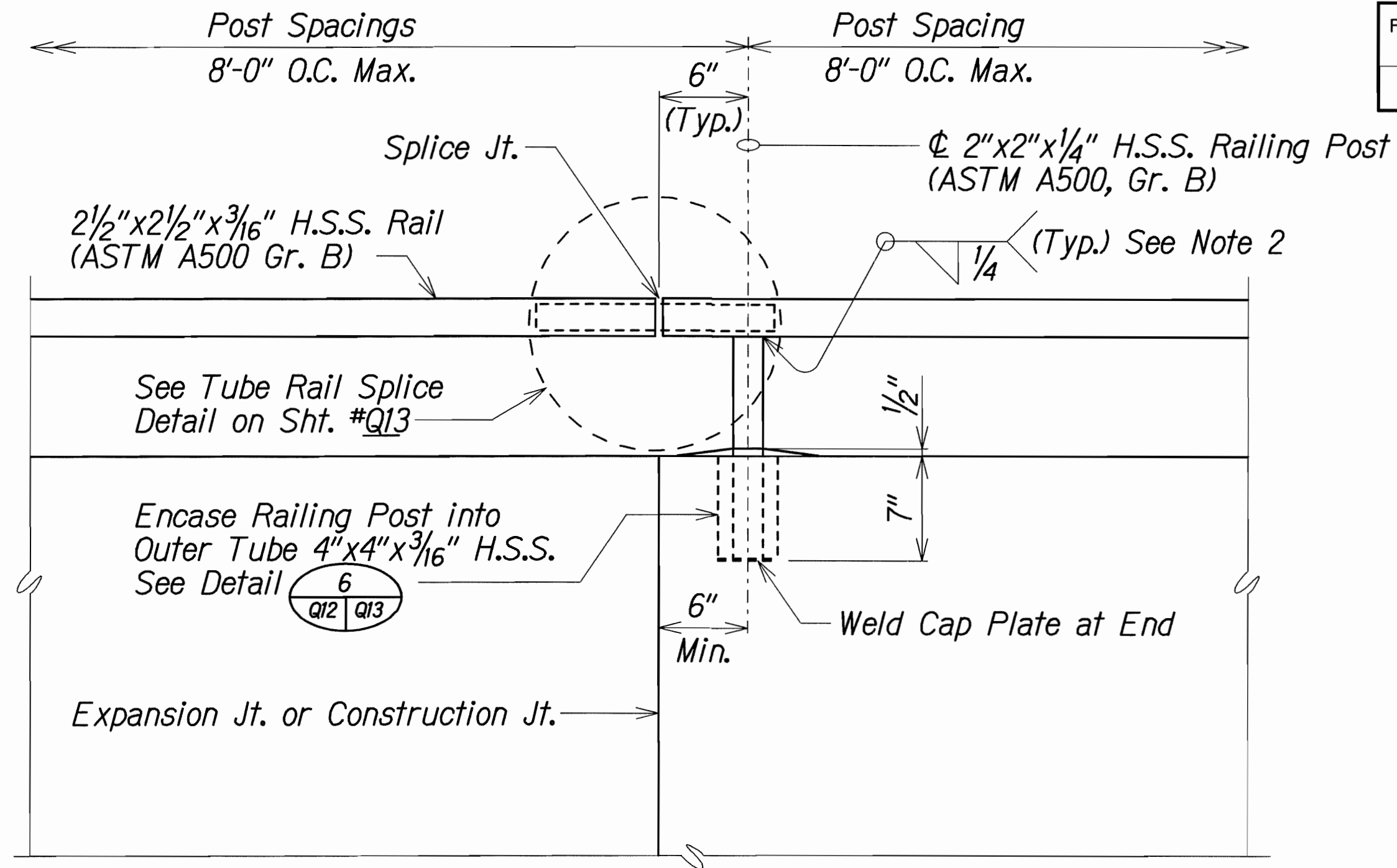
HALAWA INTERCHANGE STRUCTURE NO. 11
PARTIAL TYPE "A" CONCRETE BRIDGE RAILING UPGRADE (RIGHT RAIL)
PLAN AND ELEVATION
KAHUAPAANI STREET RESURFACING
Moanalua Freeway to Salt Lake Boulevard
Federal Aid Project No. STP-7241(002)

Scale: As Noted
Date: May, 2012

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-7241(002)	2012	52	81



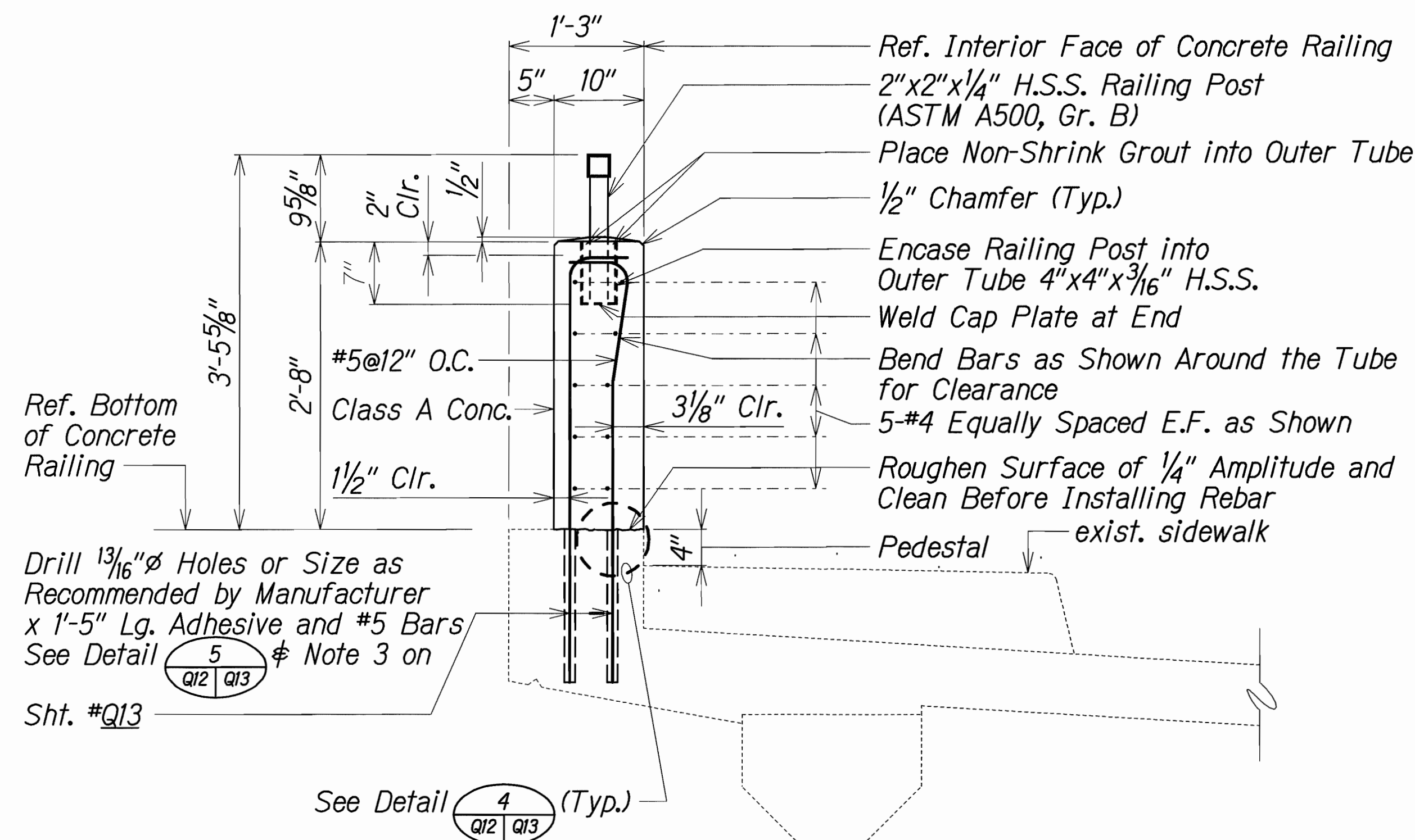
END OF CONCRETE RAILING DETAIL
Scale: 1 1/2" = 1'-0"



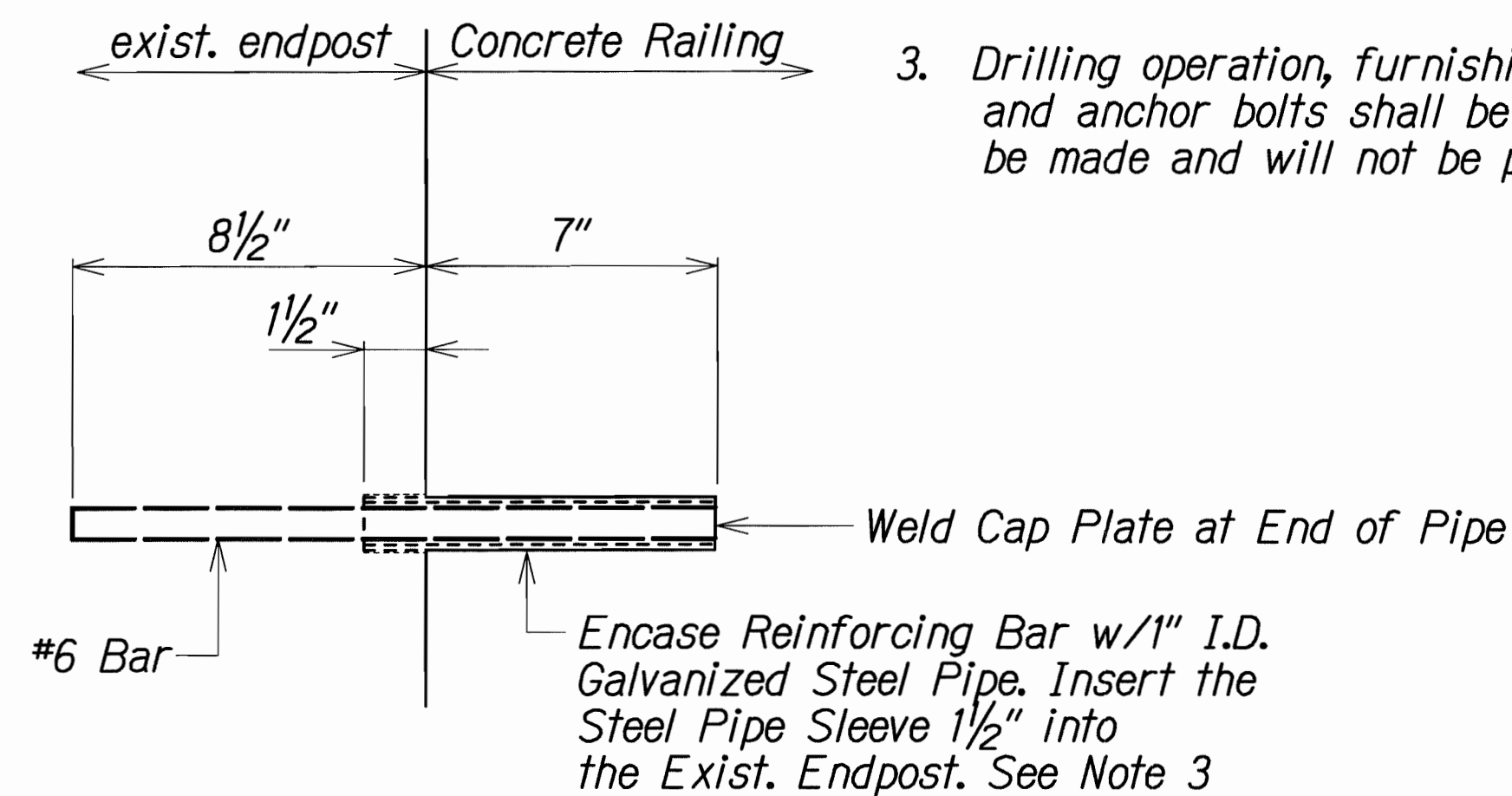
INTERMEDIATE DETAIL
Scale: 1 1/2" = 1'-0"

NOTES:

1. The Contractor shall verify and measure the height of exist. endpost prior to fabricating metal railings.
2. Rail and post shall be hot-dip galvanized after assembled together. Apply zinc rich coating over weld. Two coatings with min. 95% zinc by weight after galvanized. Remove weld residues thoroughly before galvanizing.
3. Drilling operation, furnishing materials, and installation of reinforcing bars, plates, and anchor bolts shall be incidental to metal railing. A separate pay item will not be made and will not be paid for separately.



SECTION A
Scale: 1" = 1'-0"

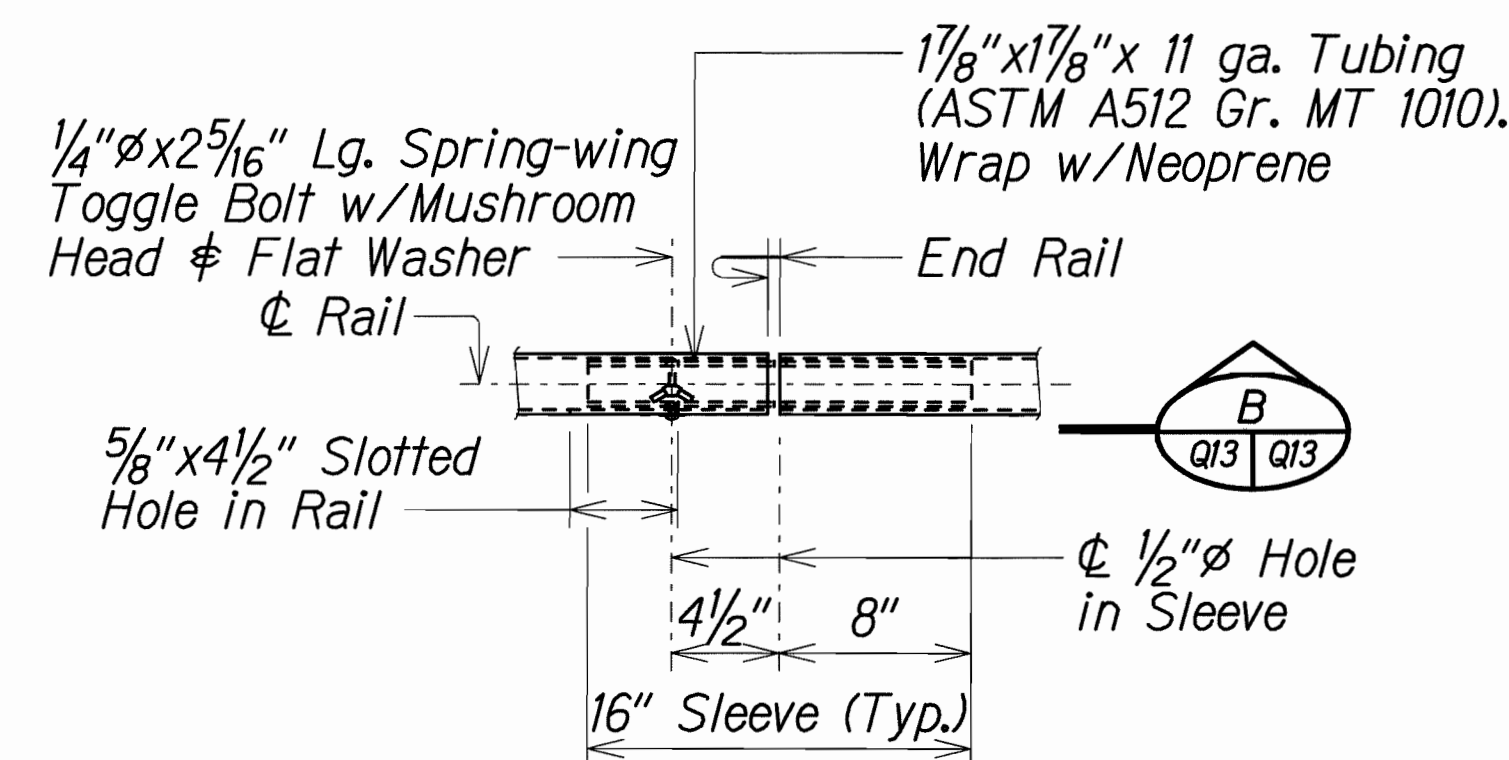


DETAIL 3
Scale: 3" = 1'-0"

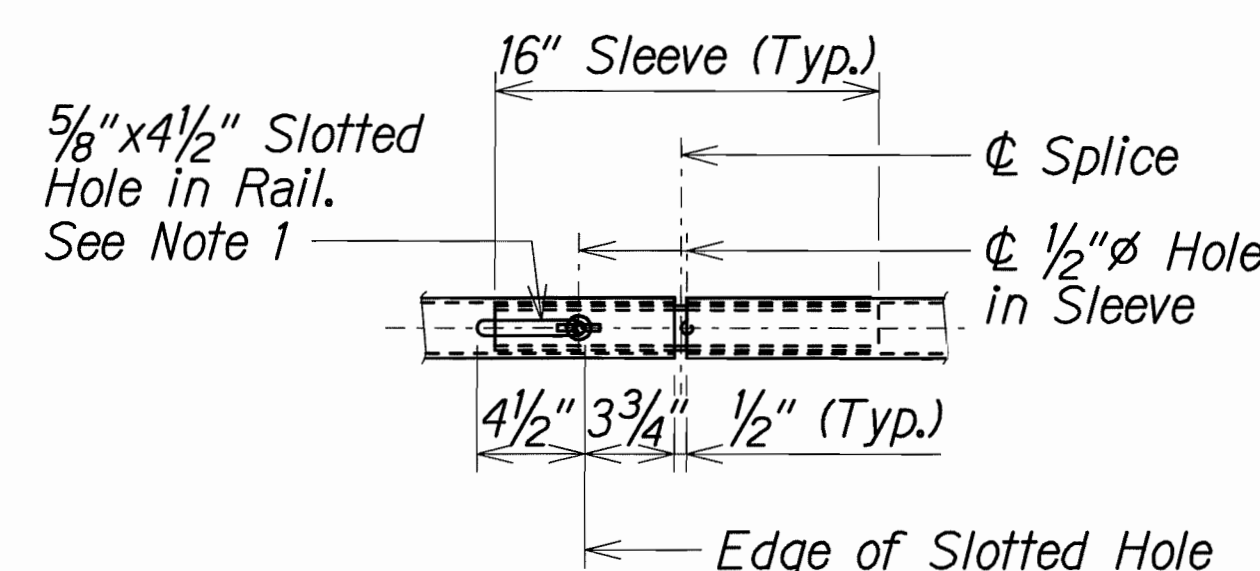
TYPE "A" CONCRETE BRIDGE RAILING DETAILS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HALAWA INTERCHANGE STRUCTURE NO. 11
TYPE "A" CONCRETE BRIDGE RAILING DETAILS
SECTION AND DETAILS
KAHUAAPAANI STREET RESURFACING
Moanalua Freeway to Salt Lake Boulevard
Federal Aid Project No. STP-7241(002)
Scale: As Noted Date: May, 2012
SHEET No. Q12 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-724(002)	2012	53	81



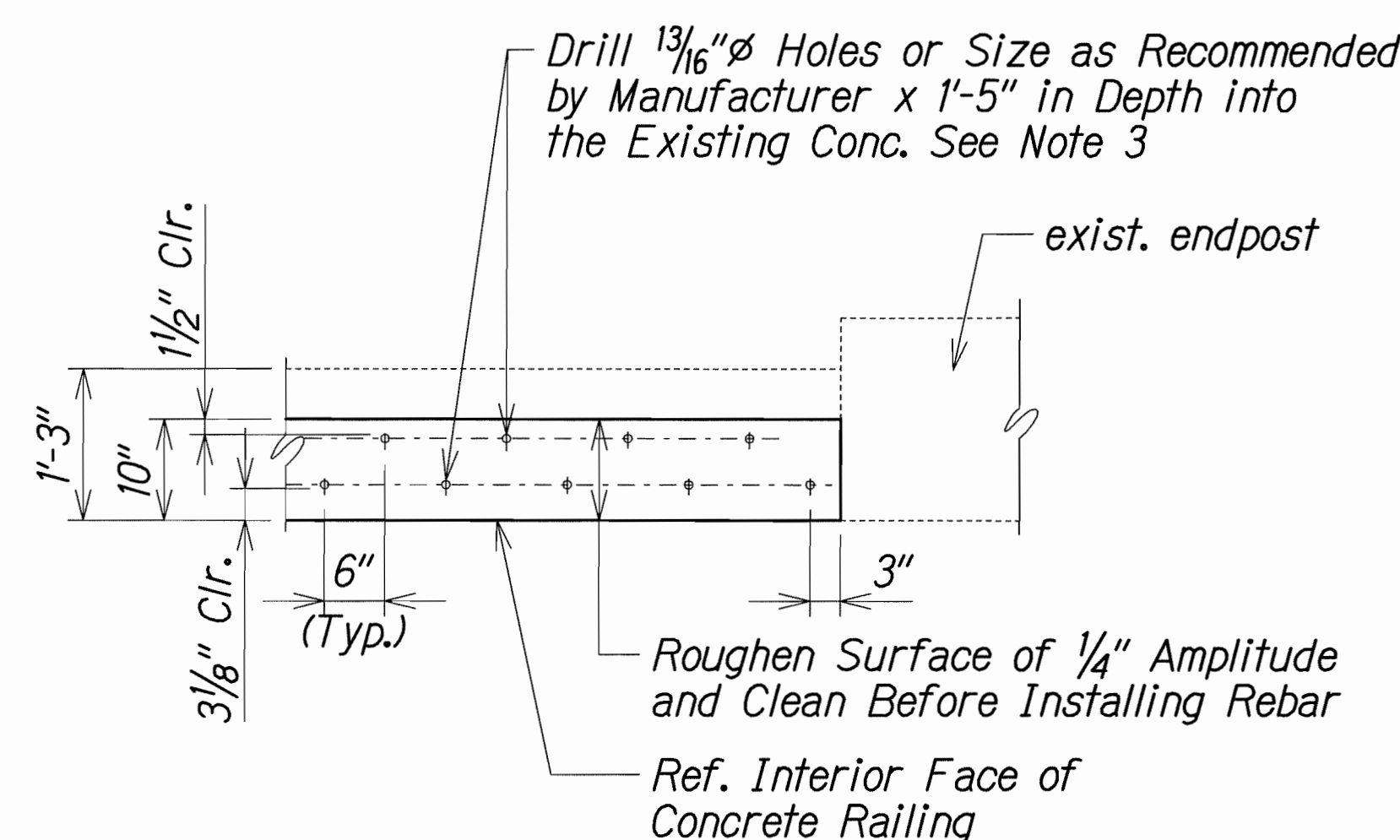
ELEVATION



SECTION

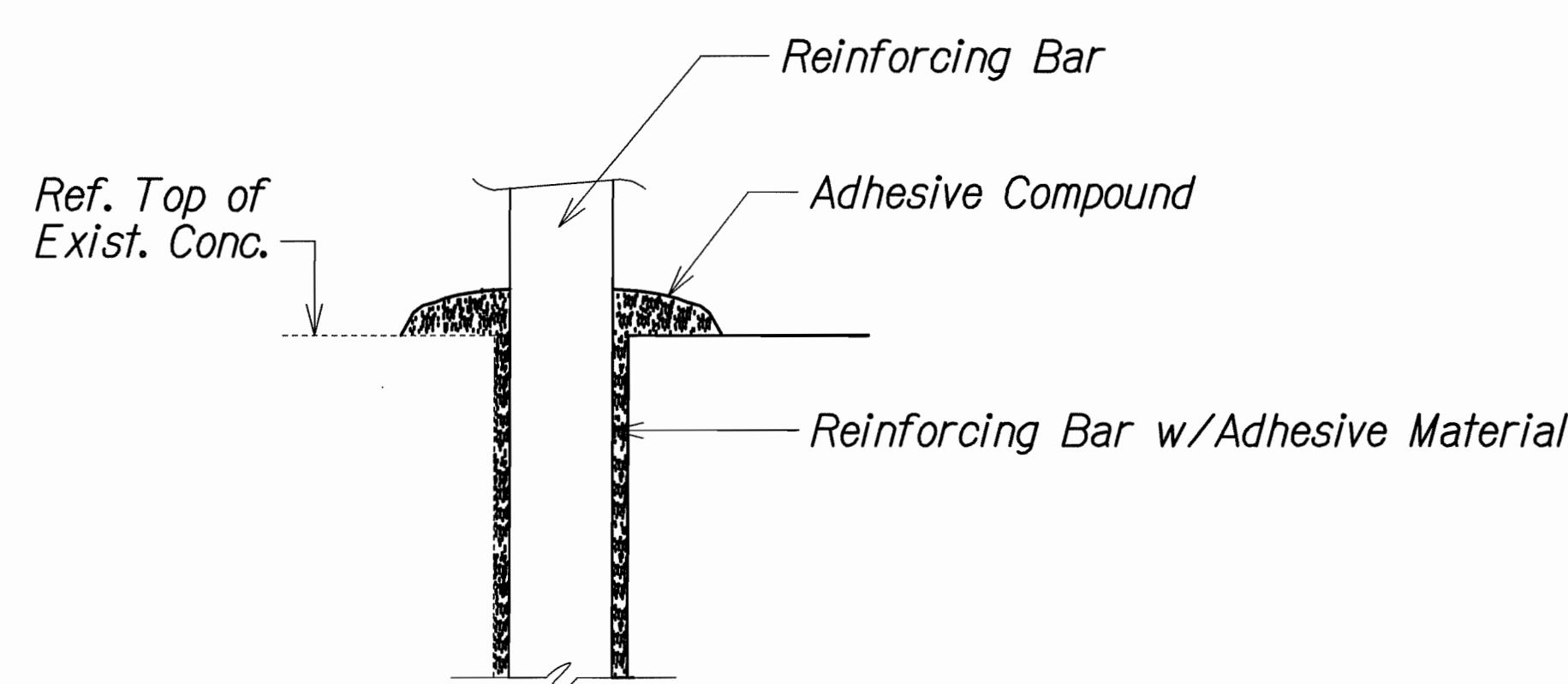
TUBE RAIL SPLICE DETAIL

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



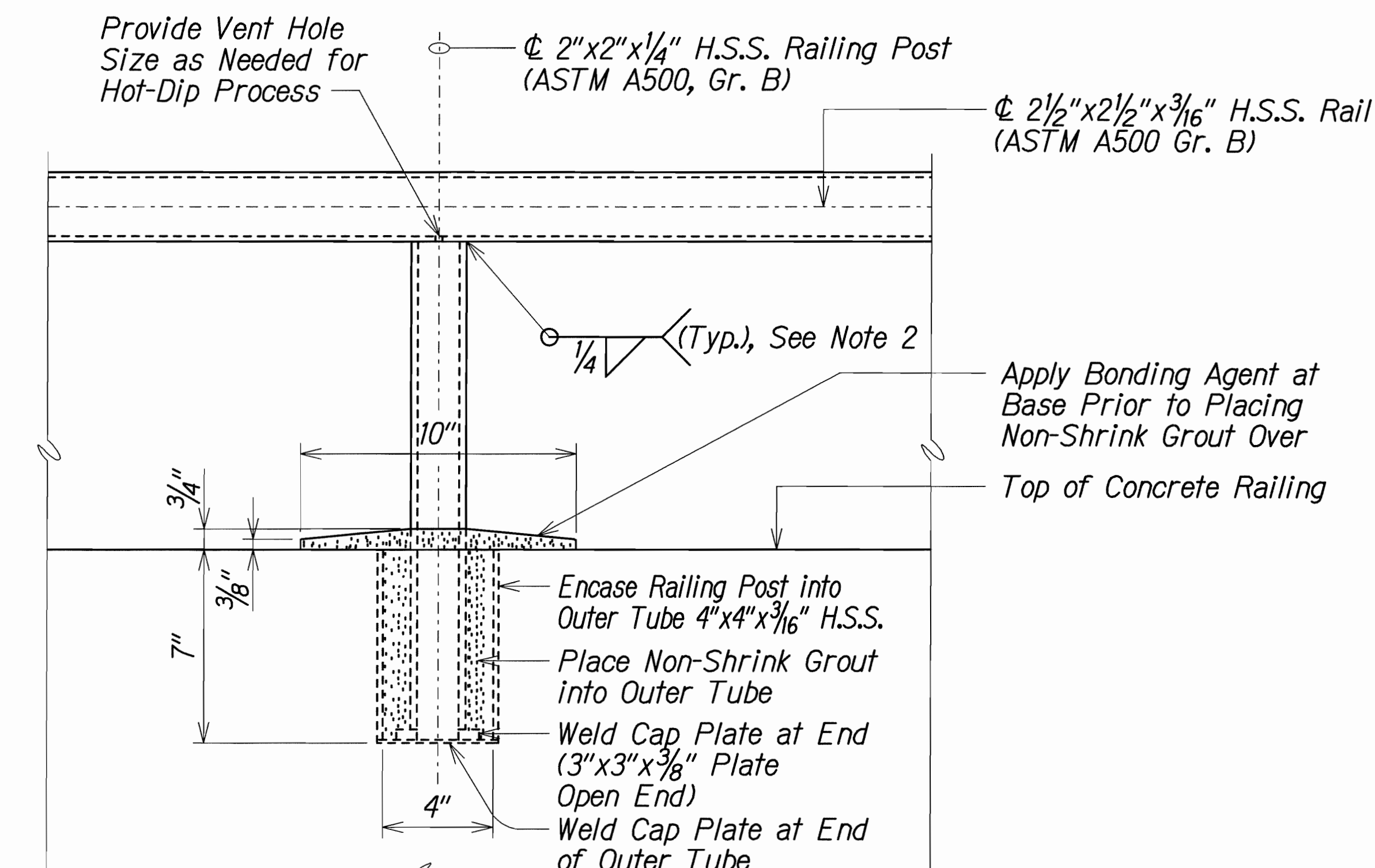
DETAIL

Scale: 3/4" = 1'-0"



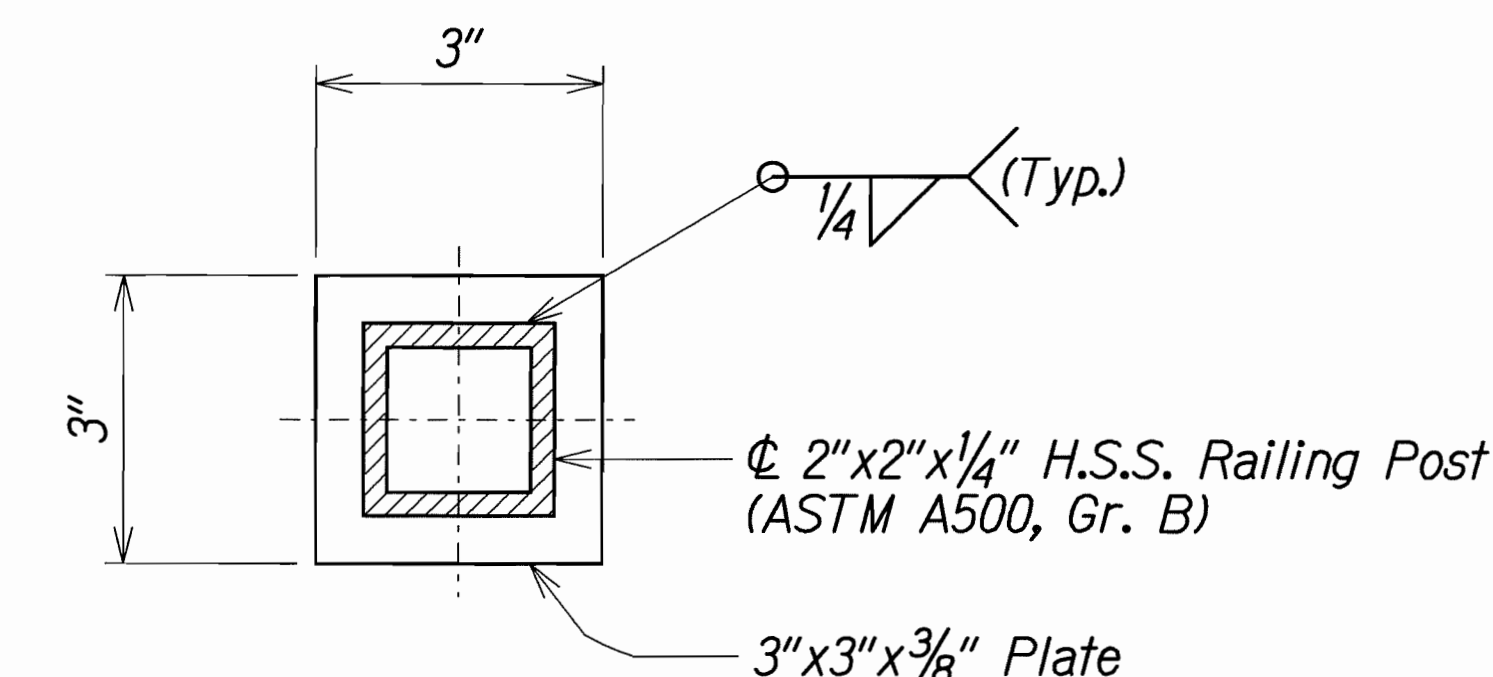
DETAIL

Scale: 12" = 1'-0"



DETAIL

Scale: 3" = 1'-0"



CAP PLATE PLAN

Scale: 6" = 1'-0"

NOTES:

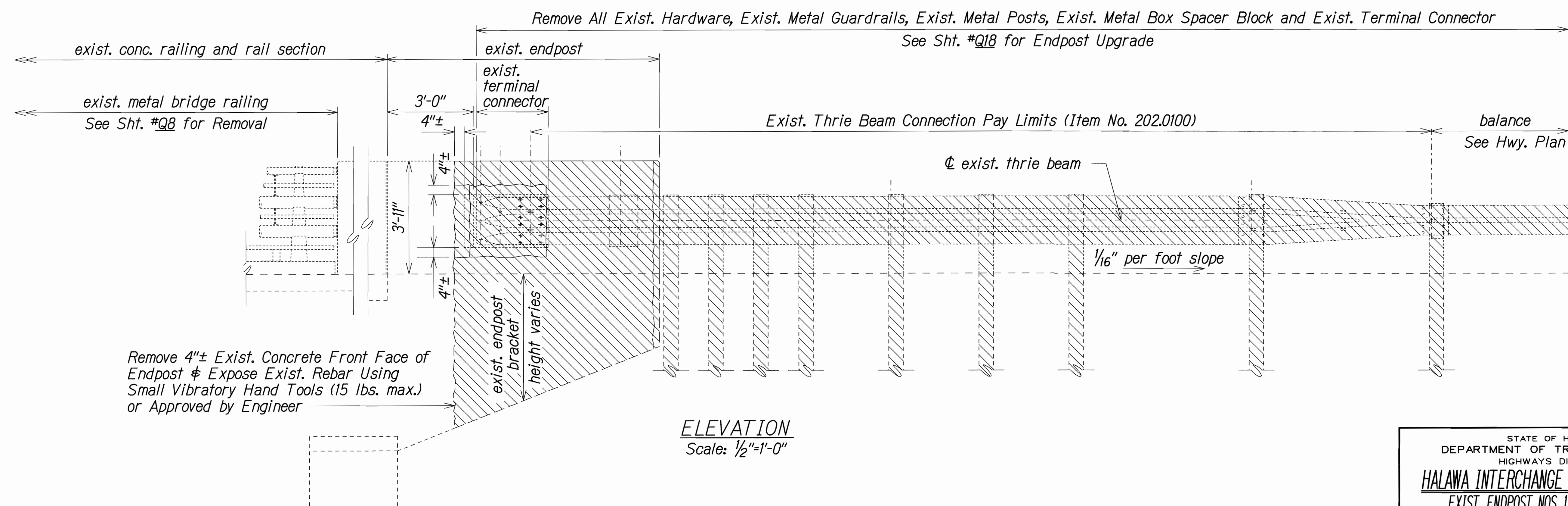
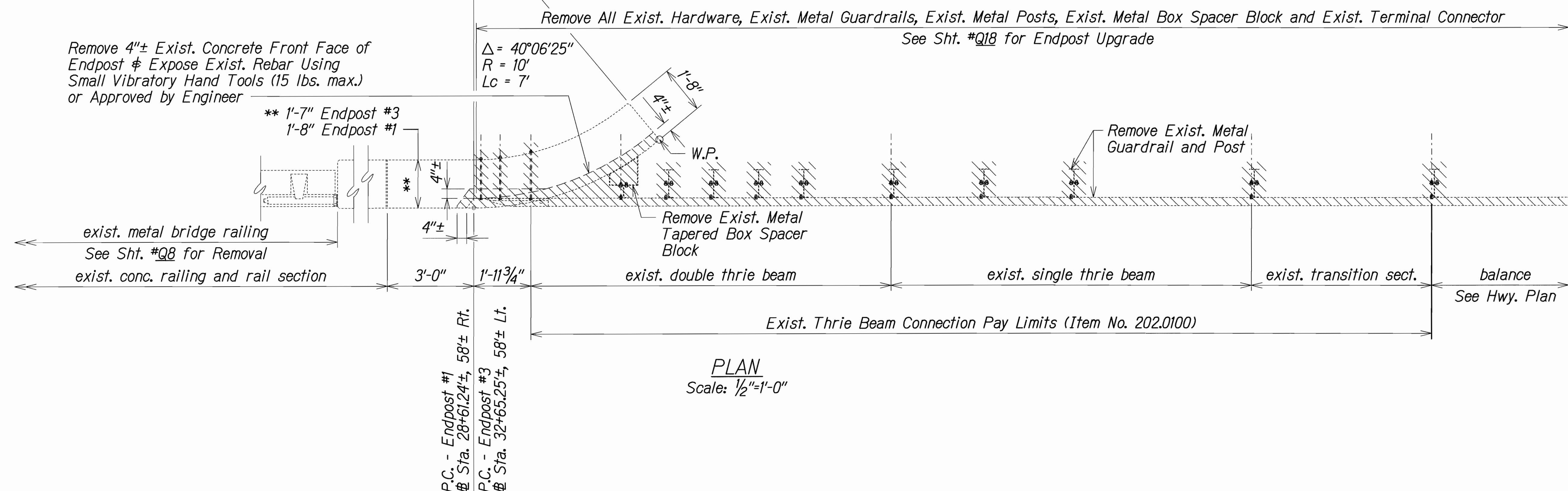
1. Slotted hole and toggle bolts shall be located on underside of tube.
2. Apply zinc rich coating over weld. Two coatings with min. 95% zinc by weight, after galvanized.
3. The Contractor shall drill holes at least 2 inches away from where exist. expansion joints occur, into the base concrete. Place reinforcing bars into the holes filled w/ adhesive compounds. All drilled holes shall be clean, dry and free of fine particles before injecting adhesive compounds into the holes. All holes shall be scrubbed with a suitable mechanical brush and cleaned out. Adhesive with vertical reinforcing bars (#5) near the exterior face of the concrete railing shall be cured and hardened first. After that, adhesive anchors (#5) in the holes near the interior face of the concrete railing shall be poured and hardened. All reinforcing bars shall be securely fastened and shall not be disturbed until the adhesive compounds has adequately cured and hardened. Concrete shall be poured into the form only when adhesive compound has gained adequate strengths. All reinforcing bars shall be installed as vertical as possible. The Contractor shall pay special attention to the applications, limitations, and handling of adhesive. The preparation and the execution of the work shall be done in accordance with manufacturer's recommendations, when dealing with adhesive compounds.
4. Drilling hole operation, furnishing adhesive material and reinforcing bar installation for concrete parapet shall be considered incidental to concrete parapet and will not be paid for separately.

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	XXX 1991
DRAWN BY	XXX 1991
DESIGNED BY	XXX 1991
CHECKED BY	XXX 1991
NOTED BY	XXX 1991
DATE	XXX 1991

TYPE "A" CONCRETE BRIDGE RAILING UPGRADE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
HALAWA INTERCHANGE STRUCTURE NO. 11
TYPE "A" CONCRETE BRIDGE RAILING UPGRADE
DETAILS, PLAN AND NOTES
KAHUPA'ANI STREET RESURFACING
Moanalua Freeway to Salt Lake Boulevard
Federal Aid Project No. STP-724(002)
Scale: As Noted
Date: May, 2012
SHEET No. Q13 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-724(002)	2012	57	81



EXIST. ENDPOST NOS. 1 & 3 - DEMOLITION

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	XXX 1991
N ₆ XXXXXX	DESIGNED BY	XXX 1991
	QUANTITIES BY	XXX 1991
	CHECKED BY	XXX 1991

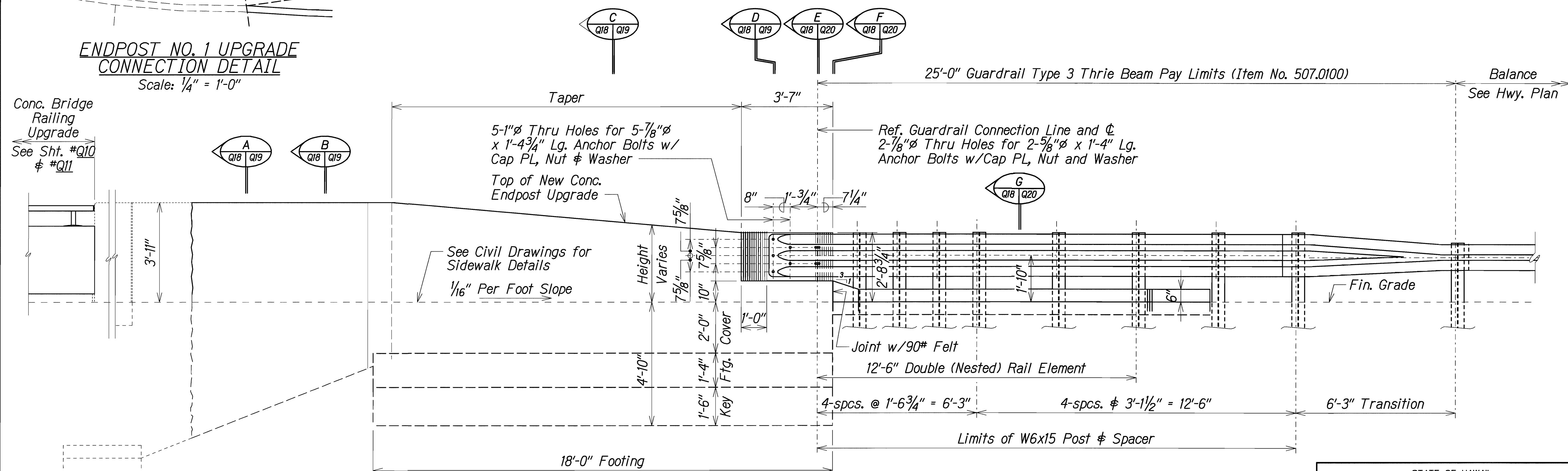
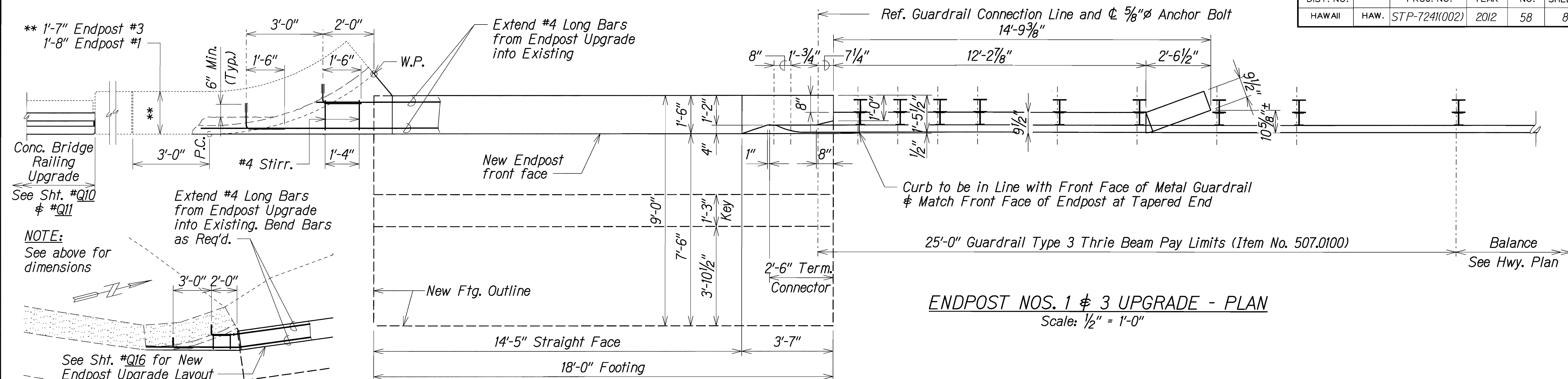
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

HALAWA INTERCHANGE STRUCTURE NO. 11
 EXIST. ENDPOST NOS. 1 & 3 DEMOLITION
 PLAN & ELEVATION
 KAHUAPAAHI STREET RESURFACING
 Moanalua Freeway to Salt Lake Boulevard
 Federal Aid Project No. STP-724(002)

Scale: As Noted Date: May, 2012

SHEET No. Q17 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-724(002)	2012	58	81



HALAWA INTERCHANGE STRUCTURE NO. 11

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HALAWA INTERCHANGE STRUCTURE NO. 11
ENDPOST NOS. 1 & 3 UPGRADE
PLAN, ELEVATION & DETAIL
KAHUAAPAANI STREET RESURFACING
Moanalua Freeway to Salt Lake Boulevard
Federal Aid Project No. STP-724(002)

Scale: As Noted Date: May, 2012
SHEET No. Q18 OF 21 SHEETS