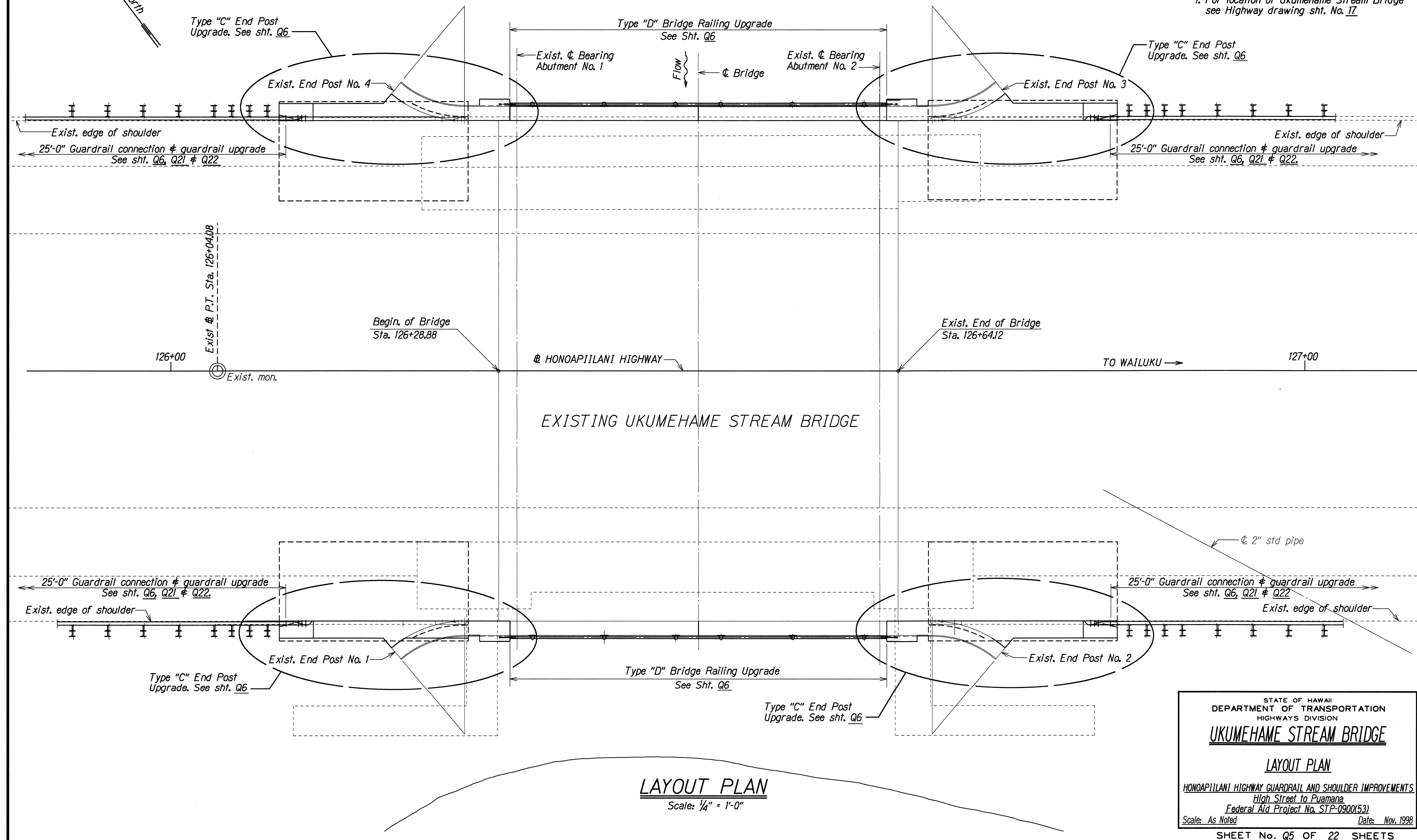


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0900(53)	2000	45	73

NOTE:
1. For location of Ukumehame Stream Bridge see Highway drawing sht. No. 17



ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	MAY 1992
DRAWN BY	LWA
TRACED BY	JFU
DESIGNED BY	JFU
CHECKED BY	JFU
NOTE BOOK	
QUANTITIES BY	JFU
CHECKED BY	JFU

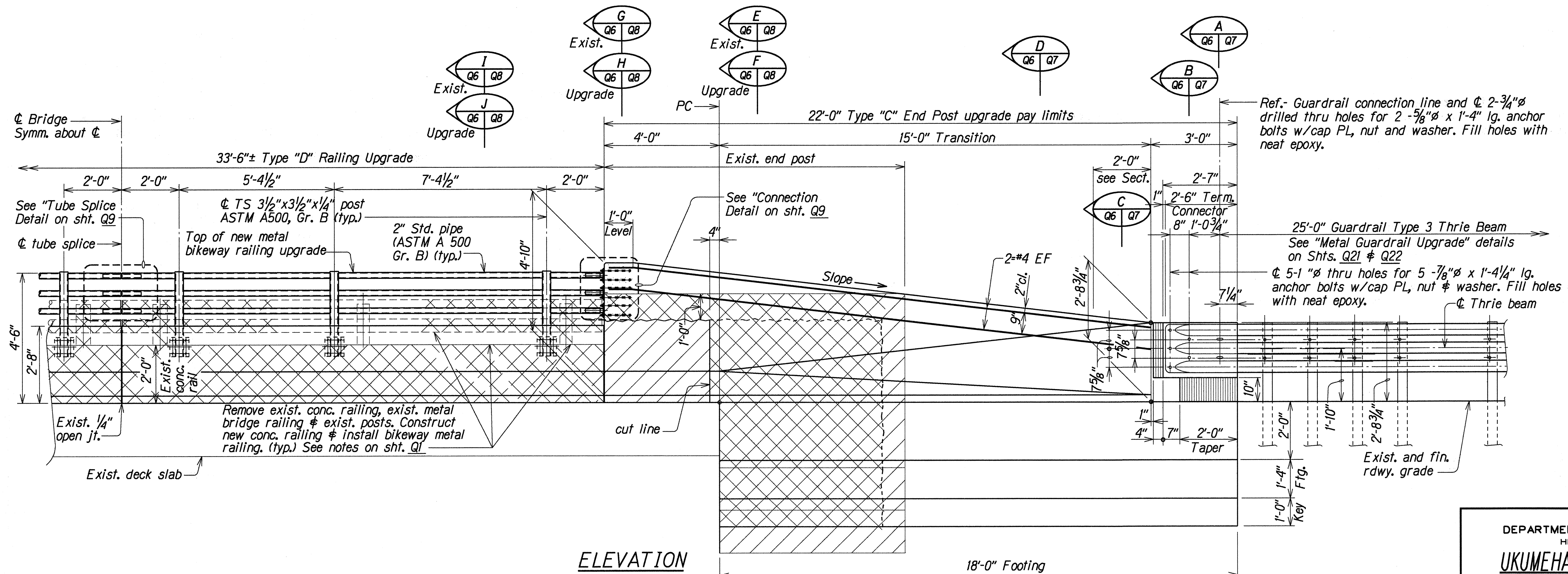
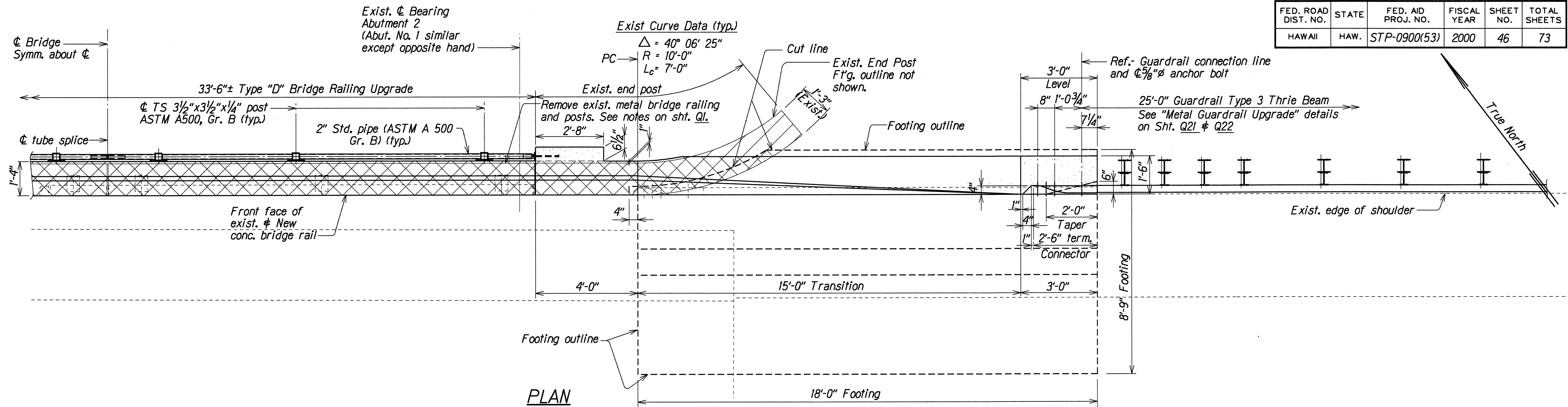
LAYOUT PLAN
Scale: 1/4" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UKUMEHAME STREAM BRIDGE
LAYOUT PLAN
HONOAPIILANI HIGHWAY GUARDRAIL AND SHOULDER IMPROVEMENTS
High Street to Puamana
Federal Aid Project No. STP-0900(53)
Scale: As Noted
Date: Nov. 1998

SHEET No. Q5 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0900(53)	2000	46	73



TYPE "C" END POST AND TYPE "D" BRIDGE RAILING UPGRADE

Scale: $\frac{1}{2}'' = 1'-0''$

ORIGINAL PLAN	DATE
DRAWN BY LMA	MAY 1999
DESIGNED BY JFU	MAY 1999
CHECKED BY JFU	MAY 1999
NOTED BY JFU	MAY 1999

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UKUMEHAME STREAM BRIDGE

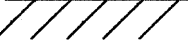
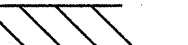
TYPE "C" END POST AND
TYPE "D" BRIDGE RAILING UPGRADES

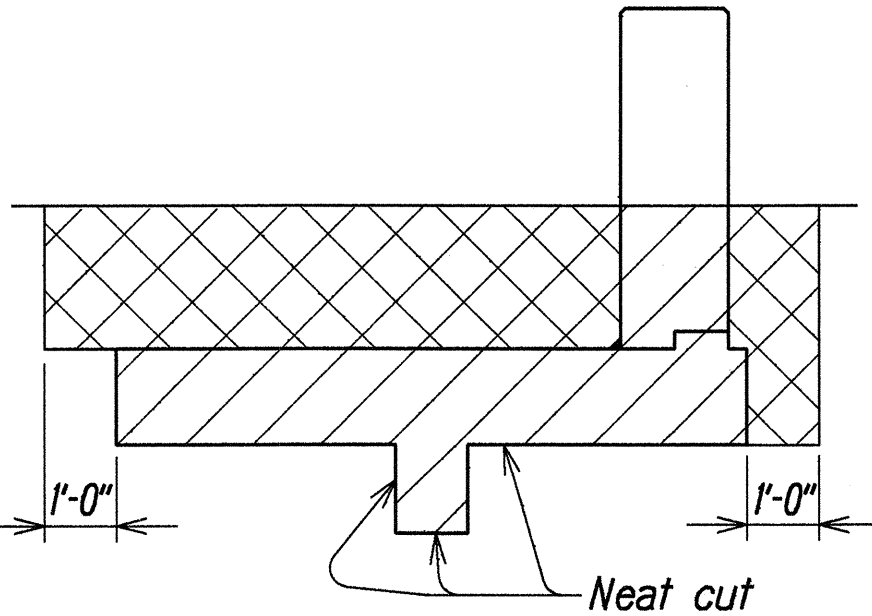
HONOAPIILANI HIGHWAY GUARDRAIL AND SHOULDER IMPROVEMENTS
High Street to Puamano
Federal Aid Project No. STP-0900(53)

Scale: As Noted Date: May 1999

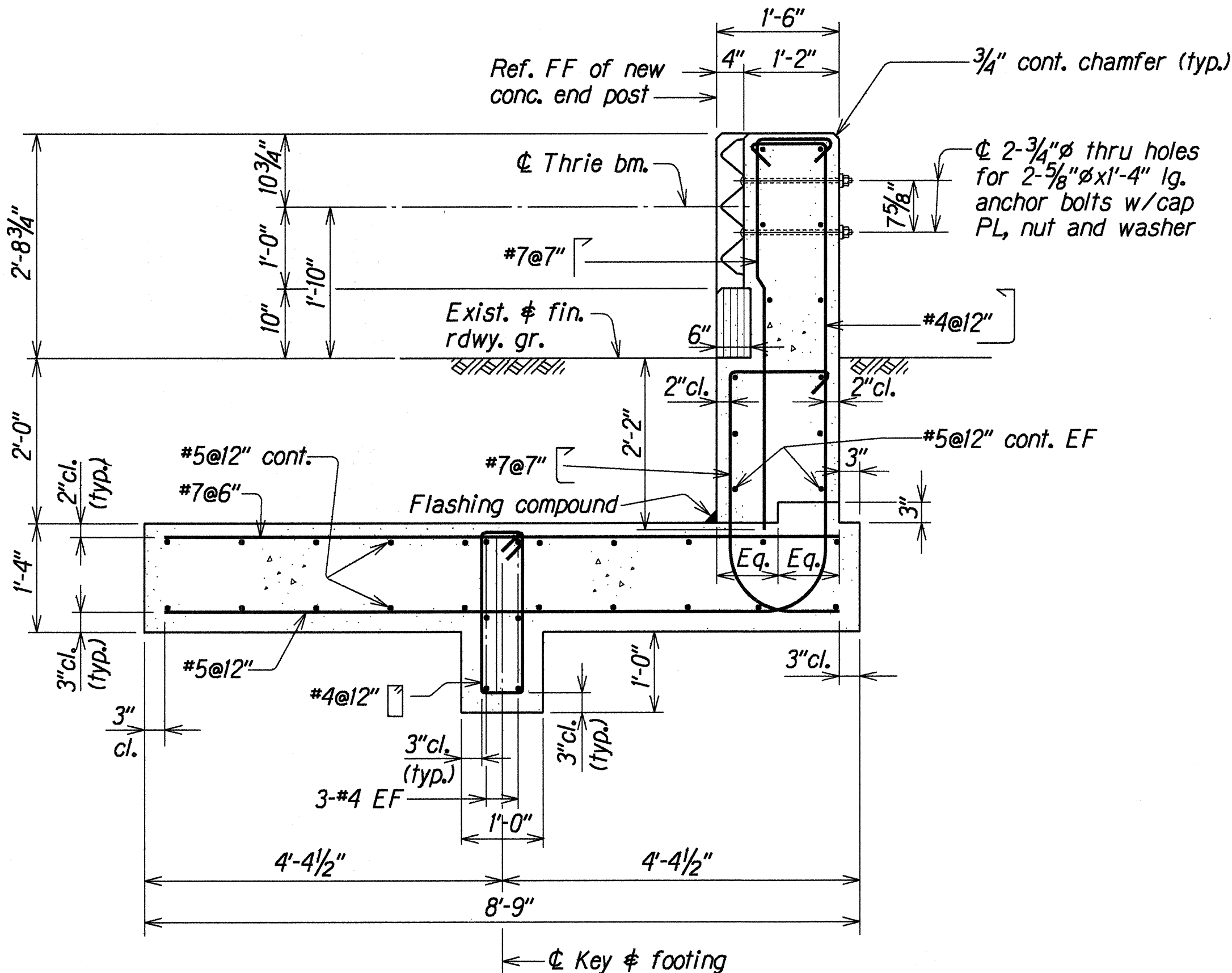
SHEET No. Q6 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0900(53)	2000	47	73

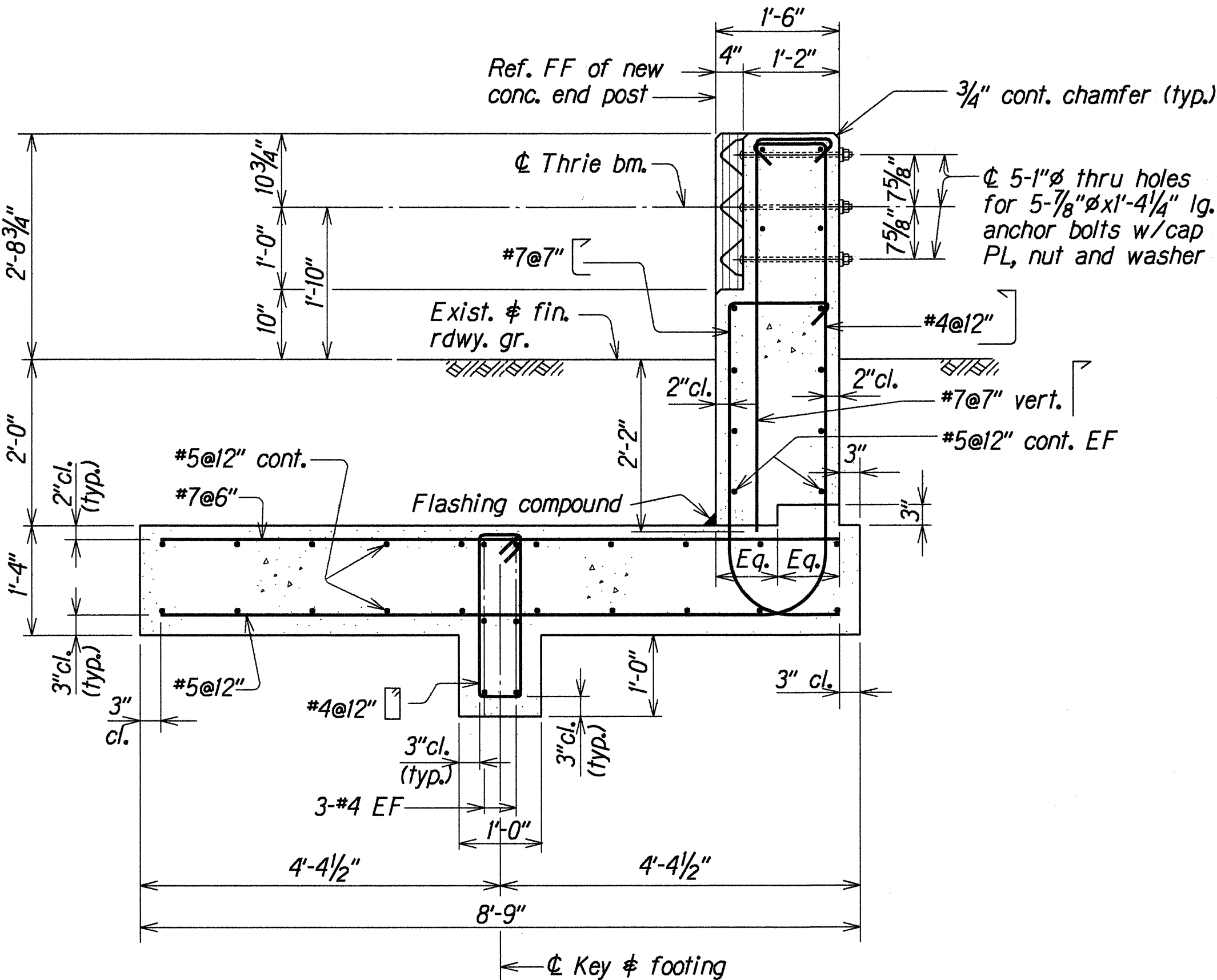
NOTE:
 Structure excavation shown thus 
 Structure backfill shown thus 
 Structure backfill material shall conform to glassphalt base course. See Section 312 of Standard Specifications.



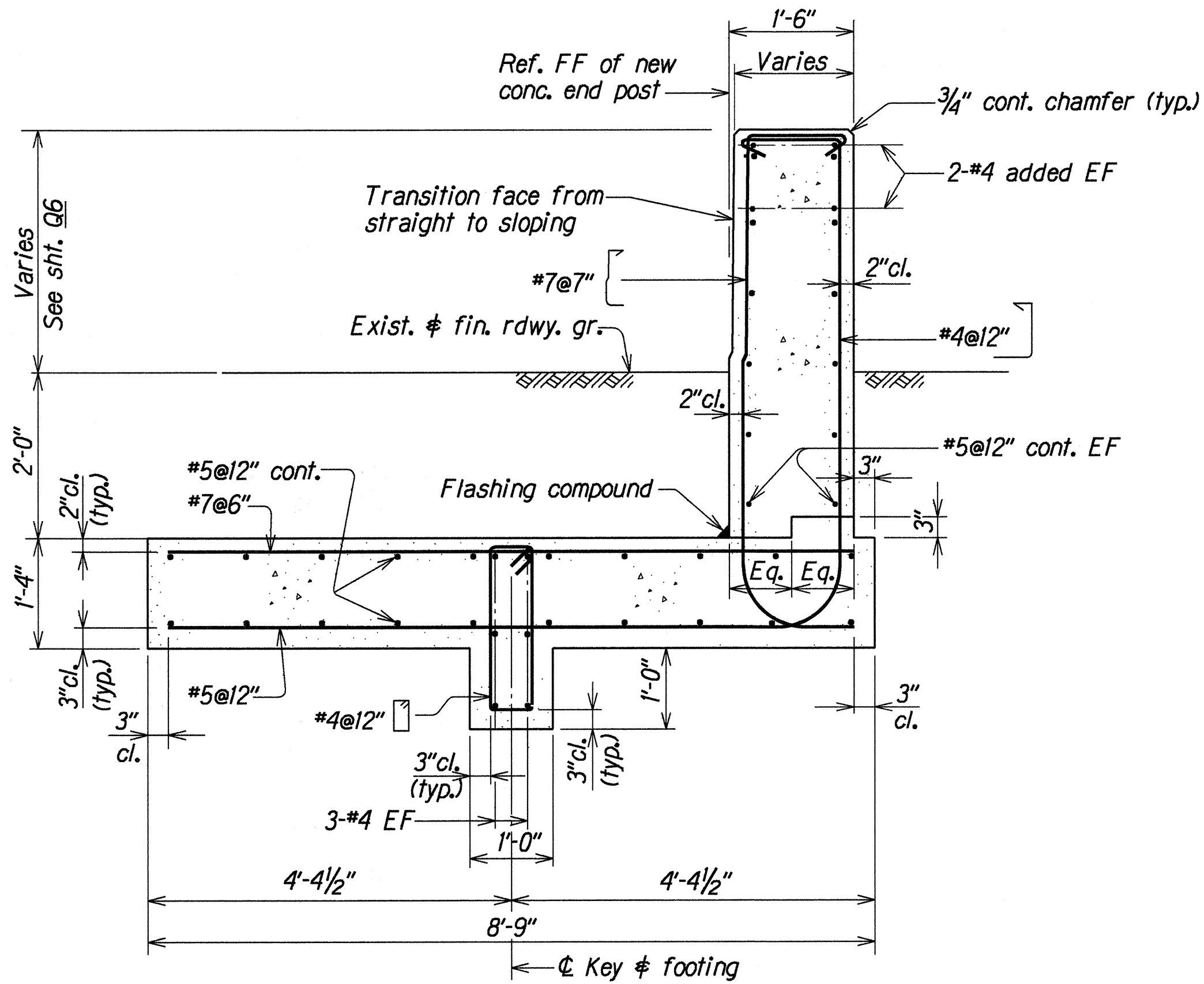
**TYPICAL STRUCTURE
 EXCAVATION AND BACKFILL**
 Not to Scale



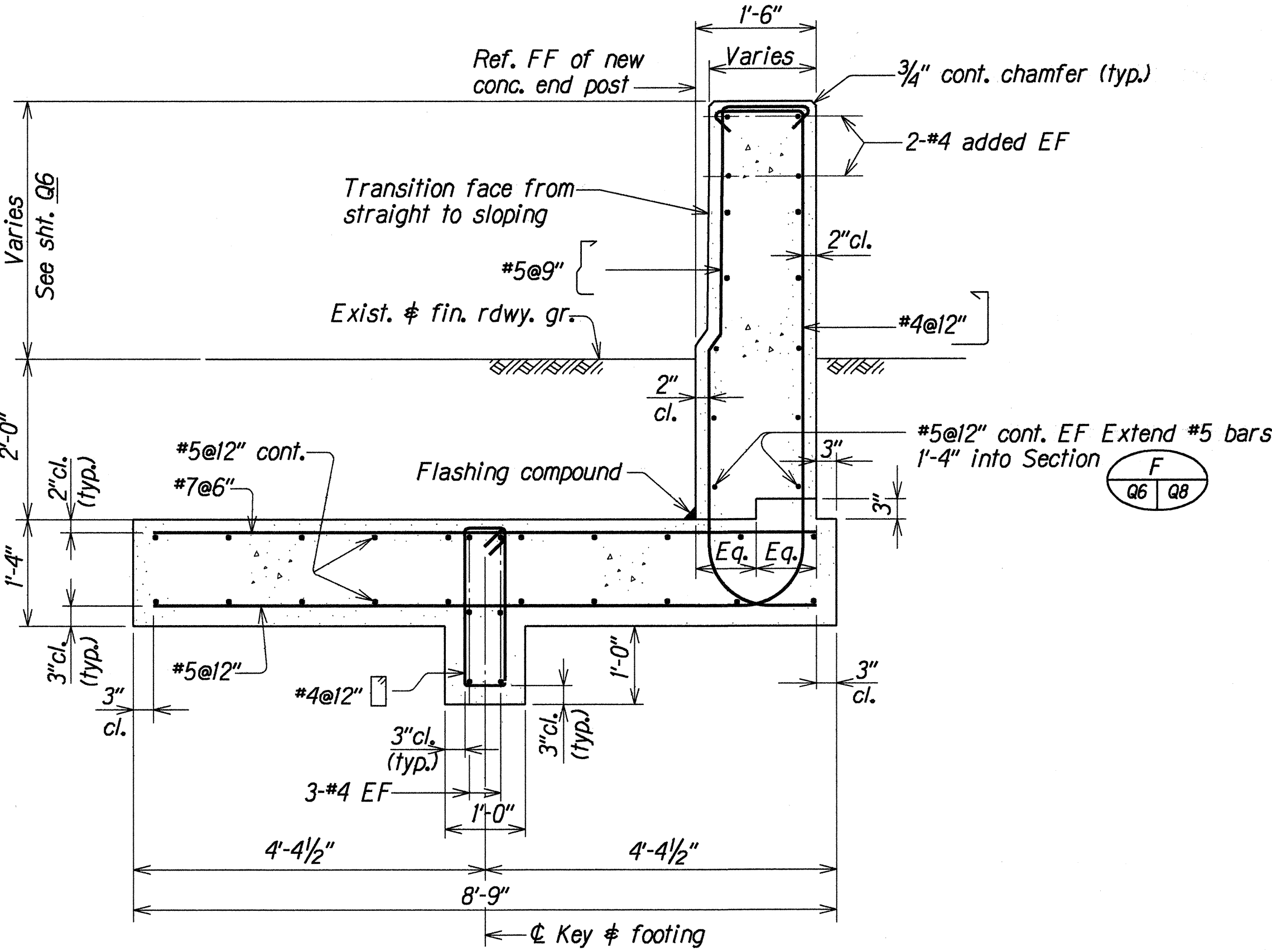
SECTION A
 Scale: 3/4"=1'-0"



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



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



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

SURVEY PLOTTED BY	DATE
DRAWN BY	MAY 1999
CHECKED BY	MAY 1999
NOTED BY	MAY 1999
QUANTITIES BY	MAY 1999
CHECKED BY	MAY 1999

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

UKUMEHAME STREAM BRIDGE
 TYPE "C" END POST UPGRADE
 TYPICAL STRUCTURE EXCAVATION & BACKFILL
 HONOAPIILANI HIGHWAY GUARDRAIL AND SHOULDER IMPROVEMENTS
 High Street to Puamana
 Federal Aid Project No. STP-0900(53)
 Scale: As Noted Date: May 1999

[illegible]

The drawing illustrates the typical tube splice details for a 16" sleeve, showing both an Elevation view and a Section view.

ELEVATION

Labels and dimensions for the Elevation view include:

- 2" std. pipe (ASTM A 500 Gr. B)
- 1/2" ϕ x 1 1/2" lg. Spring-wing toggle bolt w/ mushroom head & flat washer
- 1 1/2" X pipe (ASTM A 500 Gr. B). Wrap w/ neoprene
- 5/8" x 4 1/2" slotted hole in rail
- 4" (twice)
- 8"
- 16" Sleeve (typ.)
- 1/2" ϕ Hole in sleeve
- Note: Slotted hole and toggle bolt shall be located on underside of tube.

SECTION

Labels and dimensions for the Section view include:

- Splice
- End Rail
- 2" std. pipe (ASTM A 500 Gr. B)
- 1/4"
- 3 3/4"
- 8"
- 16" Sleeve (typ.)
- 1/2" (Typ. unless noted otherwise)
- 1/2" ϕ hole in sleeve

TYPICAL TUBE SPLICE DETAILS

[illegible]

TYPICAL SECTION
BIKEWAY METAL RAILING

ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE _____
	DRAWN BY <u>LMA</u>	<u>MAY 1999</u>
	TRACED BY _____	•
	DESIGNED BY <u>JFU</u>	<u>MAY 1999</u>
	QUANTITIES BY <u>JFU</u>	<u>MAY 1999</u>
	CHECKED BY <u>CCO</u>	<u>MAY 1999</u>