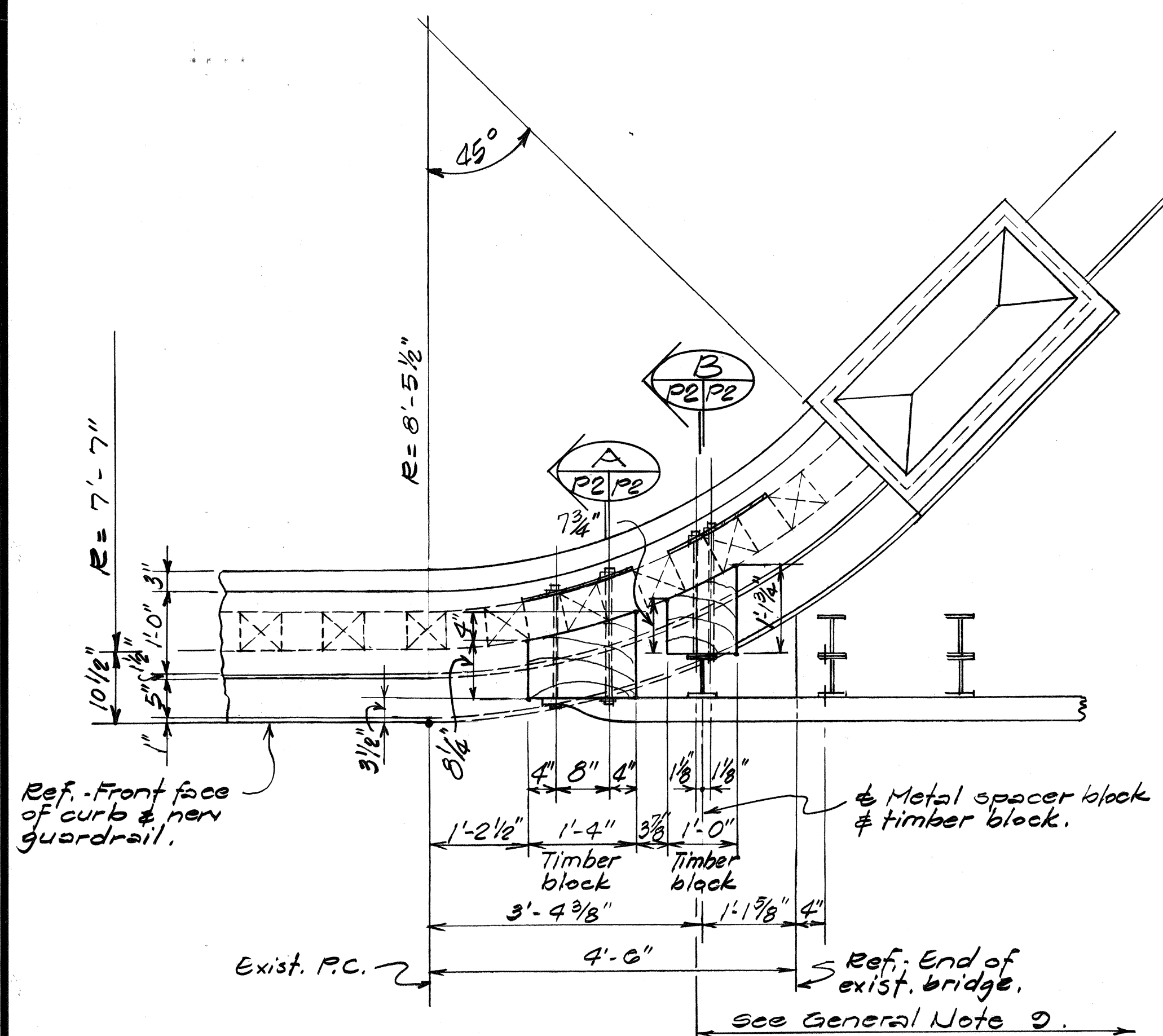


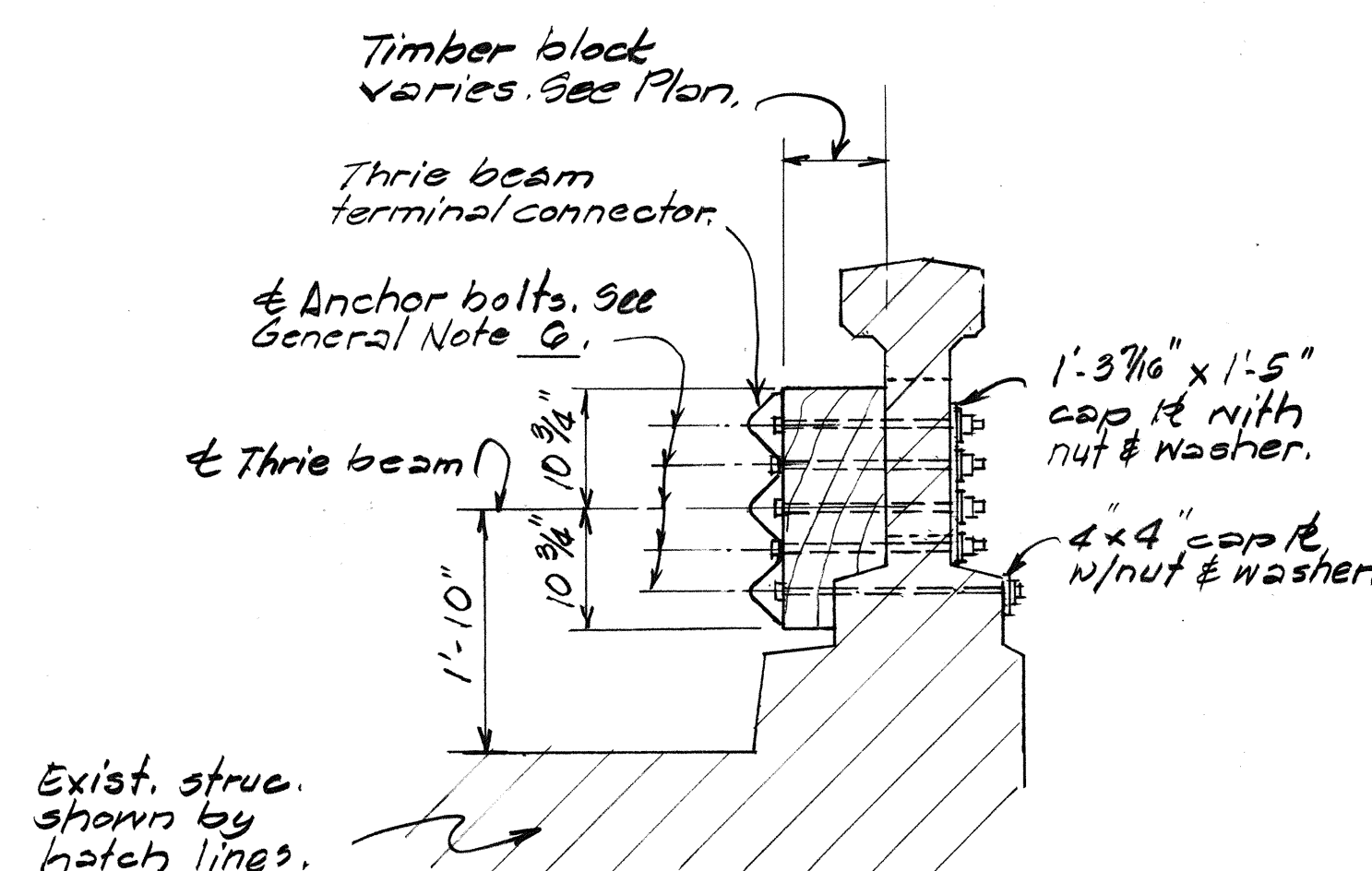
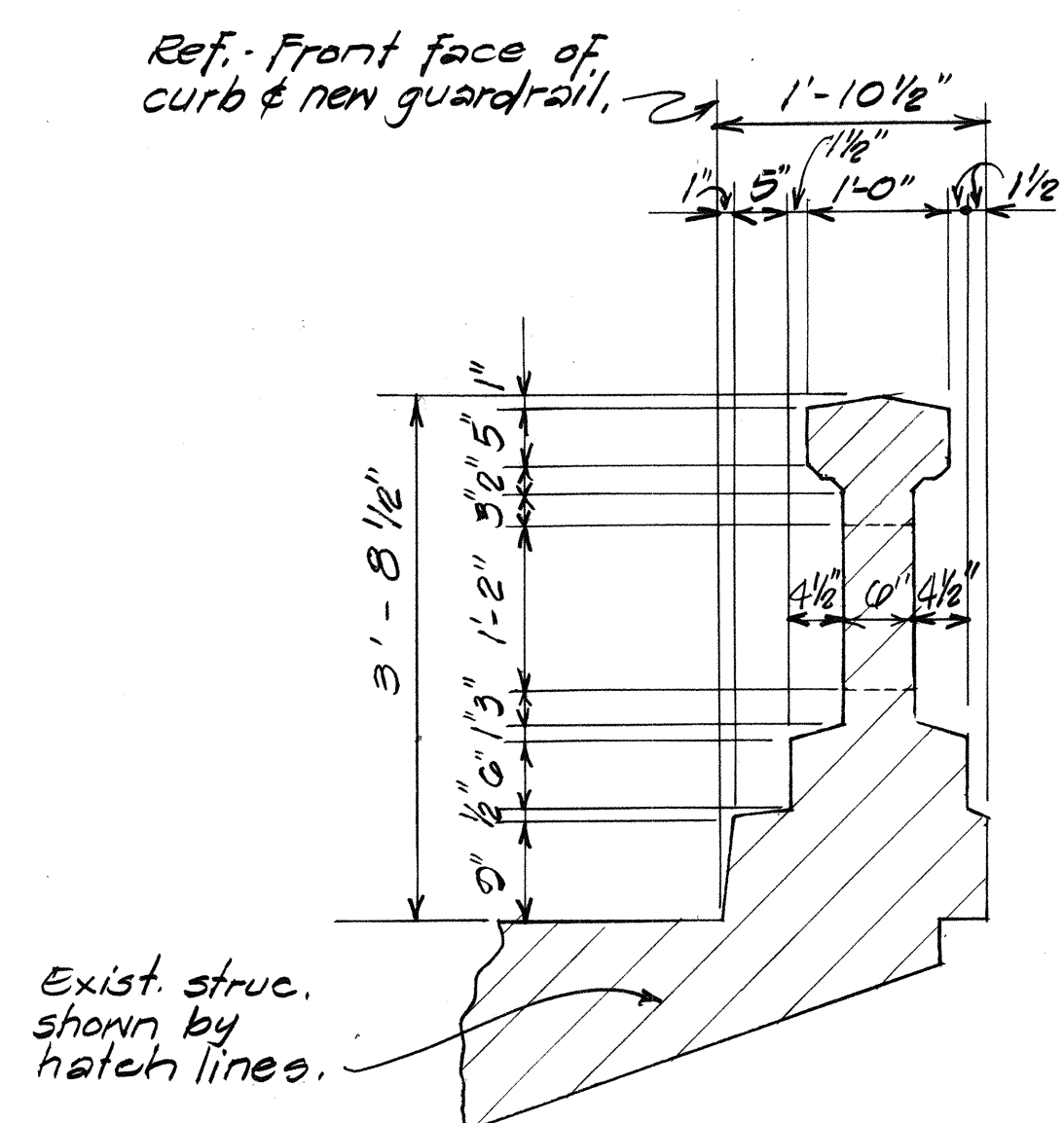
GENERAL NOTES

1. See Standard Specifications for Road & Bridge Construction Hawaii 1985
2. For: (a) Thrie Beam - See Standard Detail sht. # TE-57.
(b) Metal Guardrail - See Standard Detail sht # TE-50 & # TE-51.
3. Concrete shall be Class A.
4. Reinforcing steel shall be ASTM G15 Grade 40.
5. All anchor bolts shall be high strength bolts conforming to the requirement of ASTM A325, and shall be hot dipped galvanized.
6. Embedment of anchor bolts shall be such that a snug fit of the rail elements within the grip and full thread engagement plus 1/4 inch (max.) is attained, without any additional washers or fillers.
7. All terminal connector shall be fabricated from 10 gage steel conforming to the requirements of AASHTO M180 & shall be galvanized.
8. All structural steel shall be A36 steel and hot-dipped galvanized after fabrication.
9. First 25'-0" of guardrail adjoining terminal connector shall be of galvanized steel with supports spaced at 1'-6 3/4" for the first 6'-3" and at 3'-1 1/2" for the balance.
10. The face of the existing concrete surface to be epoxy bonded with the new concrete shall be thoroughly wetted with clean water and scrubbed with a solution of not more than one part hydrochloric (muriatic) acid to nine parts water followed immediately by thorough rinsing with clean water.
11. Large impacting or vibratory type of equipment will not be permitted in the removal operation of the designated items nor for drilling of holes.
12. Any damage to the existing structures due to the contractor's operation shall be repaired at his expense, to the satisfaction of the Engineer.
13. The Contractor shall verify all dimensions in field before commencing with work.
14. The Contractor shall verify the location of all existing utility lines near structures and notify their respective owners before commencing with work.
15. The work necessary to construct the end post and the connection of the guardrails to new or existing end post shall include all labor, materials, tools, equipment and incidentals necessary to complete the work. This work will be measured and paid for in units of one of each guardrail to end post connection.

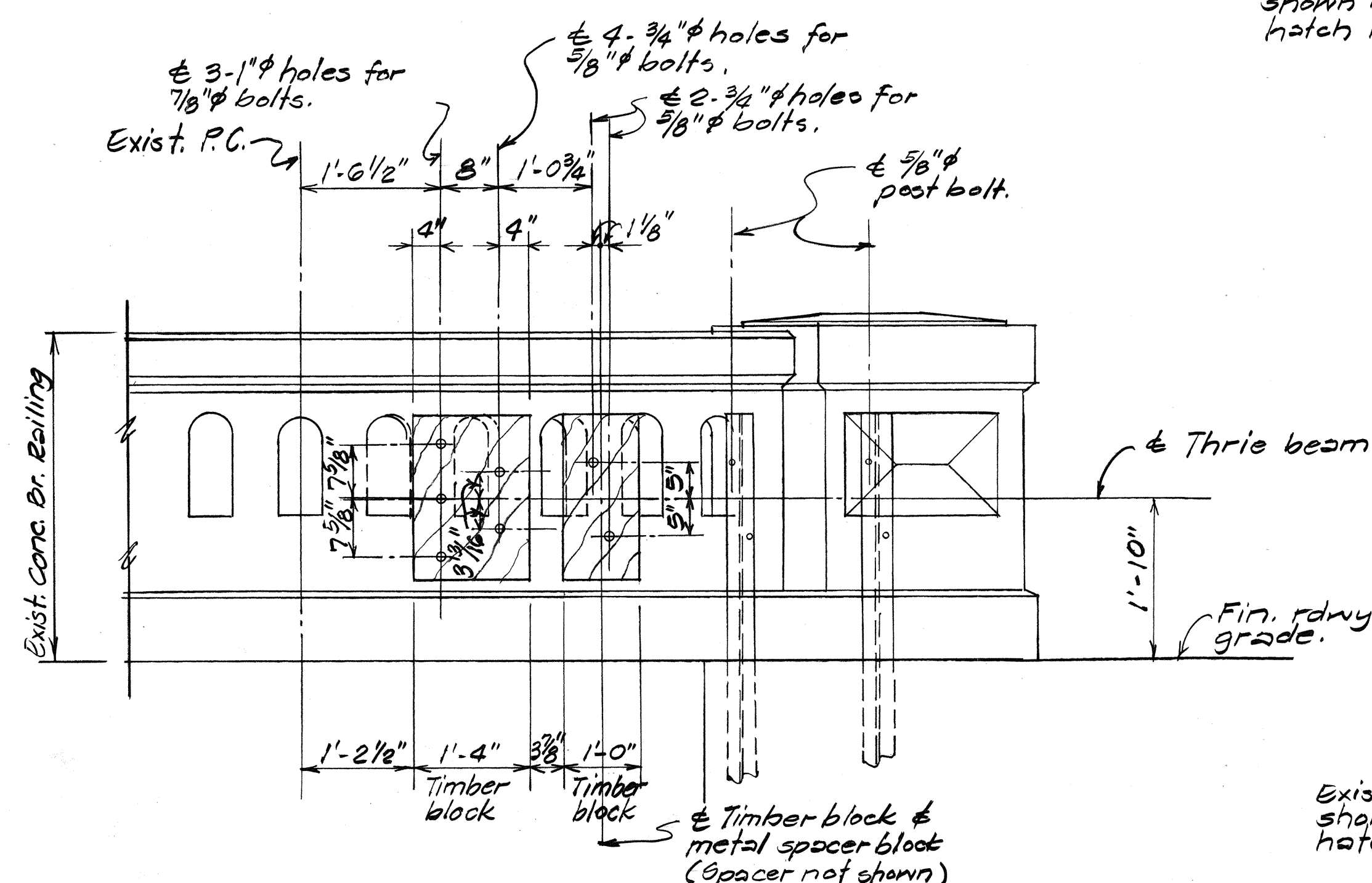
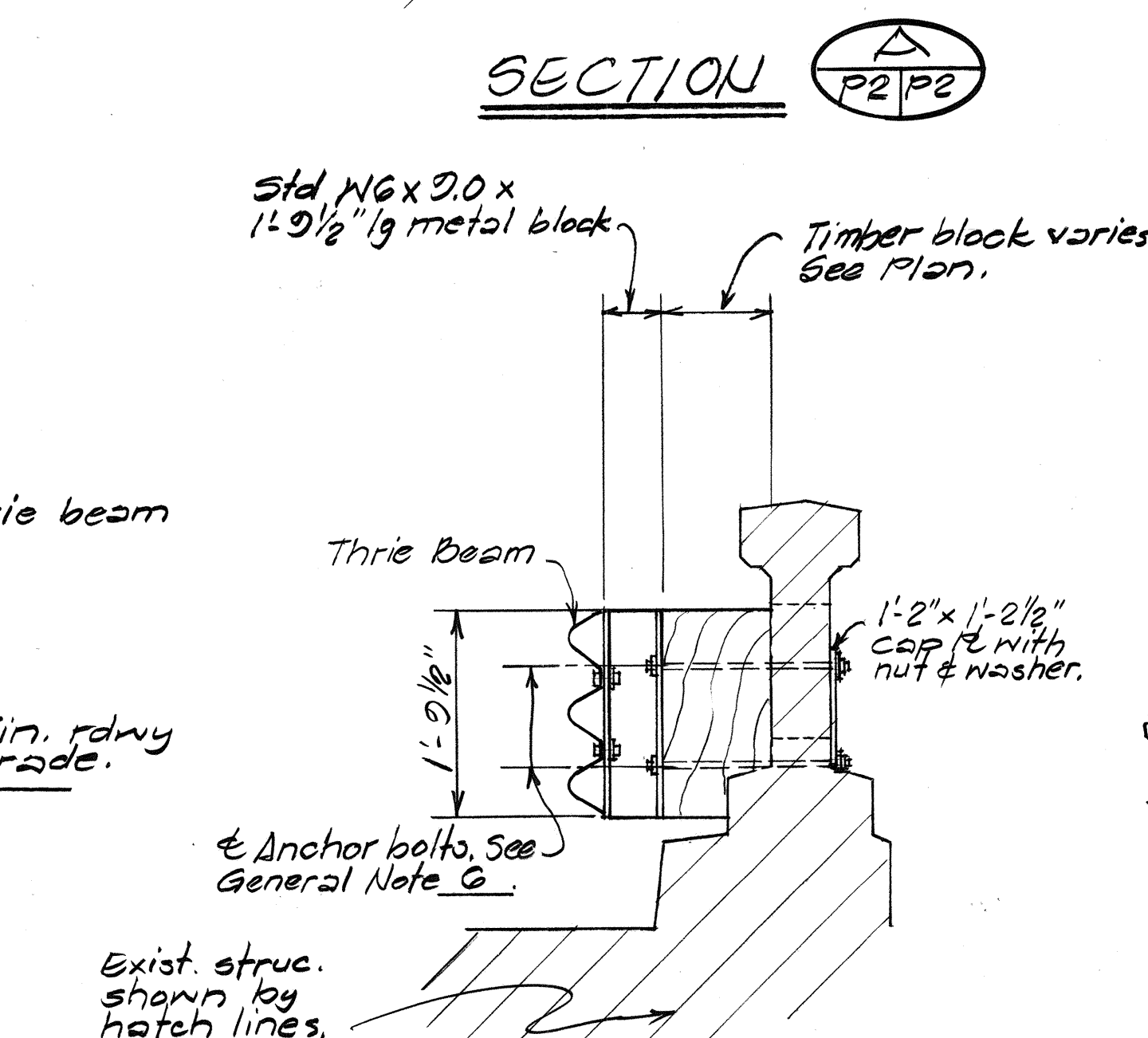
ITEM NO.	ITEM	UNIT	QUANTITY
606.8500	Type "A" Connection (Including New Concrete End Post)	Each	1
606.8510	Type "A1" Connection (Including New Concrete End Post)	Each	1
606.8520	Type "B" Connection	Each	2
606.8530	Type "D" Connection	Each	17
606.8540	Type "DM" Connection	Each	5
606.8550	Type "R" Connection (Including Replacement End Post)	Each	1
606.8560	Type "T" Connection	Each	1



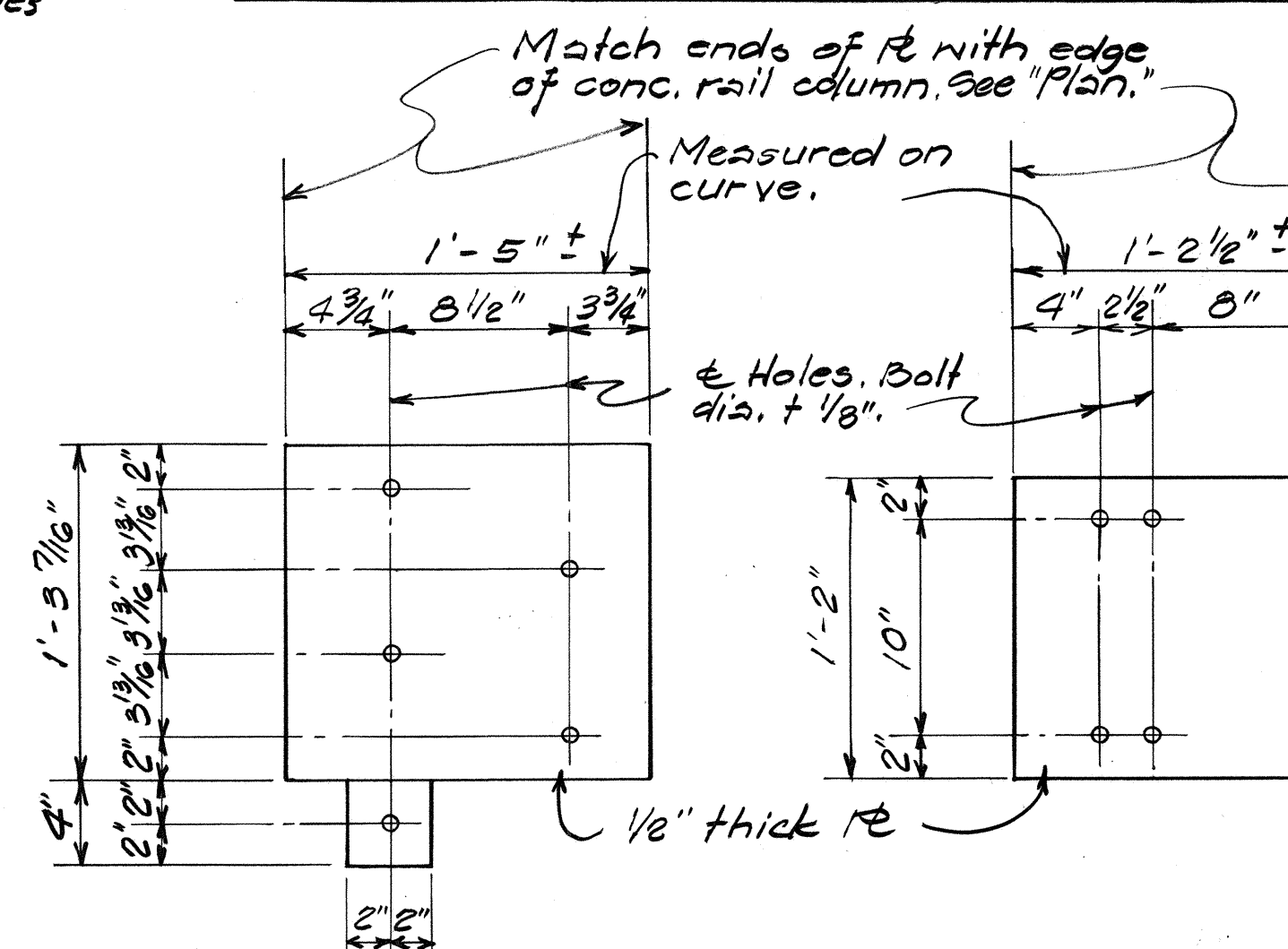
NORMAL SECTION



SECTION



SECTION



CAP & DETAIL

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

TYPE "T" CONNECTION, GENERAL NOTES

\$ ESTIMATED QUANTITIES

GUARDRAIL AND SHOULDER IMPROVEMENTS

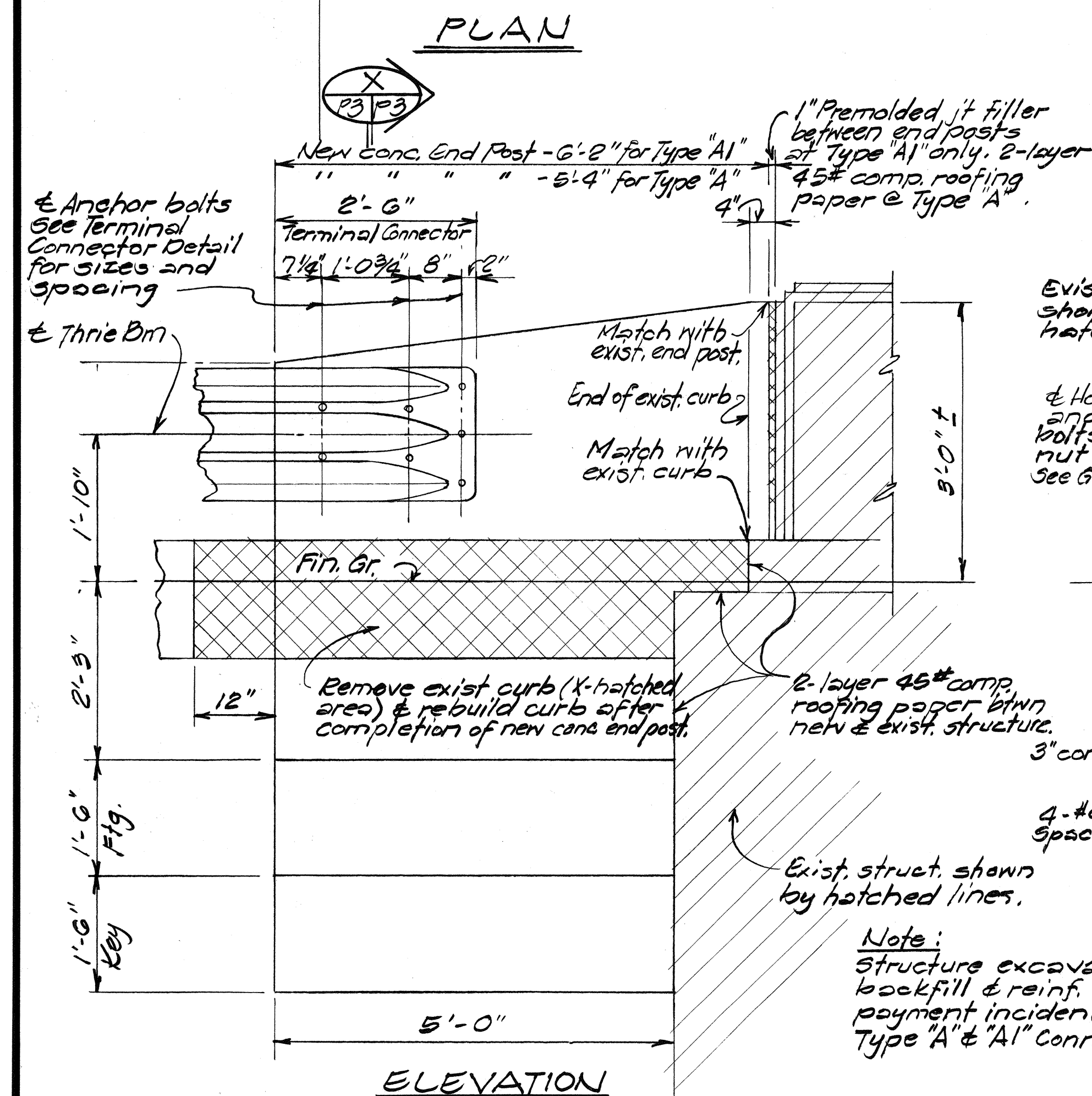
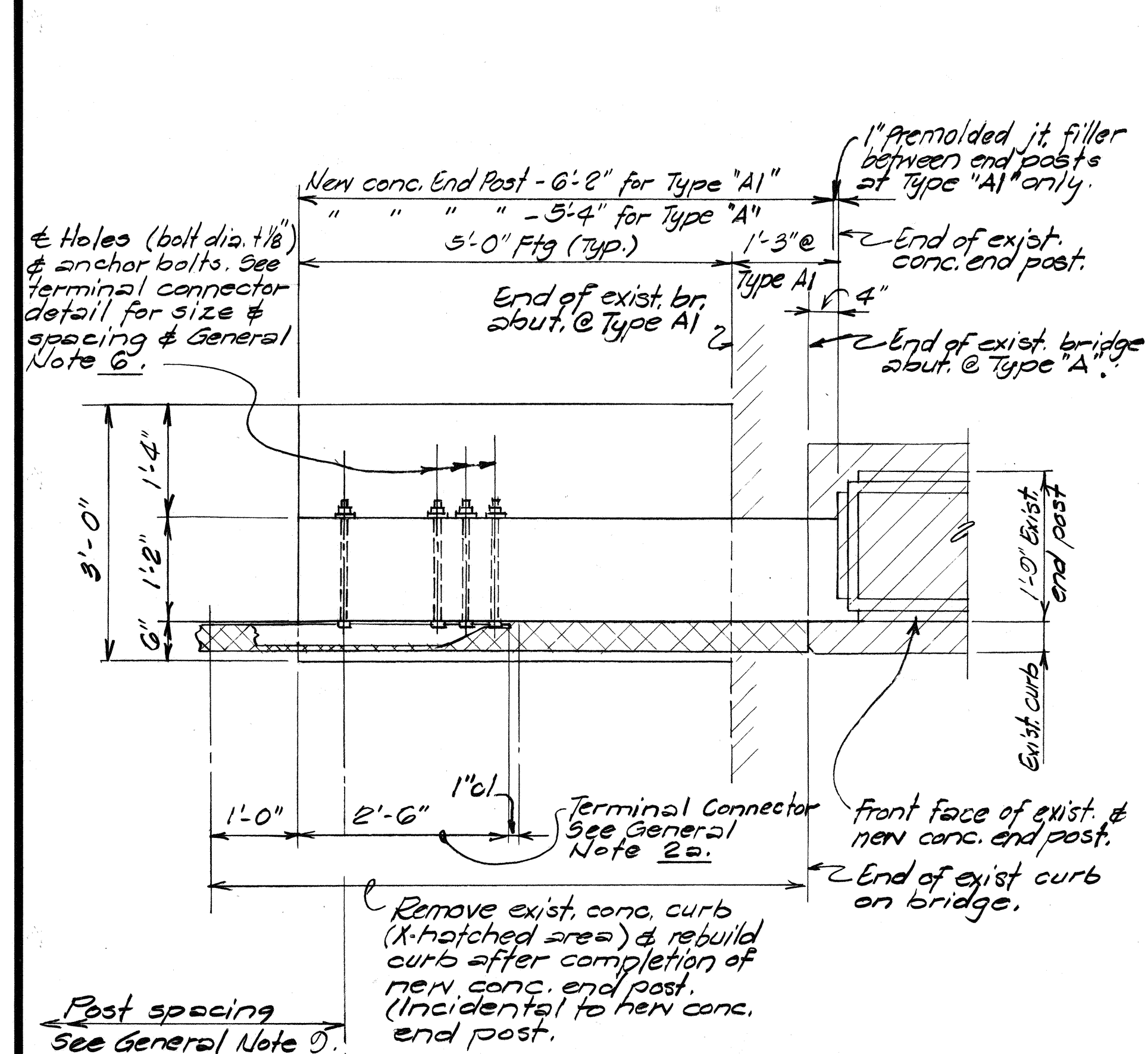
AT VARIOUS LOCATIONS ON OAHU

Project No. HWY-0-01-88

Scale: As Noted Date: Nov. 1987

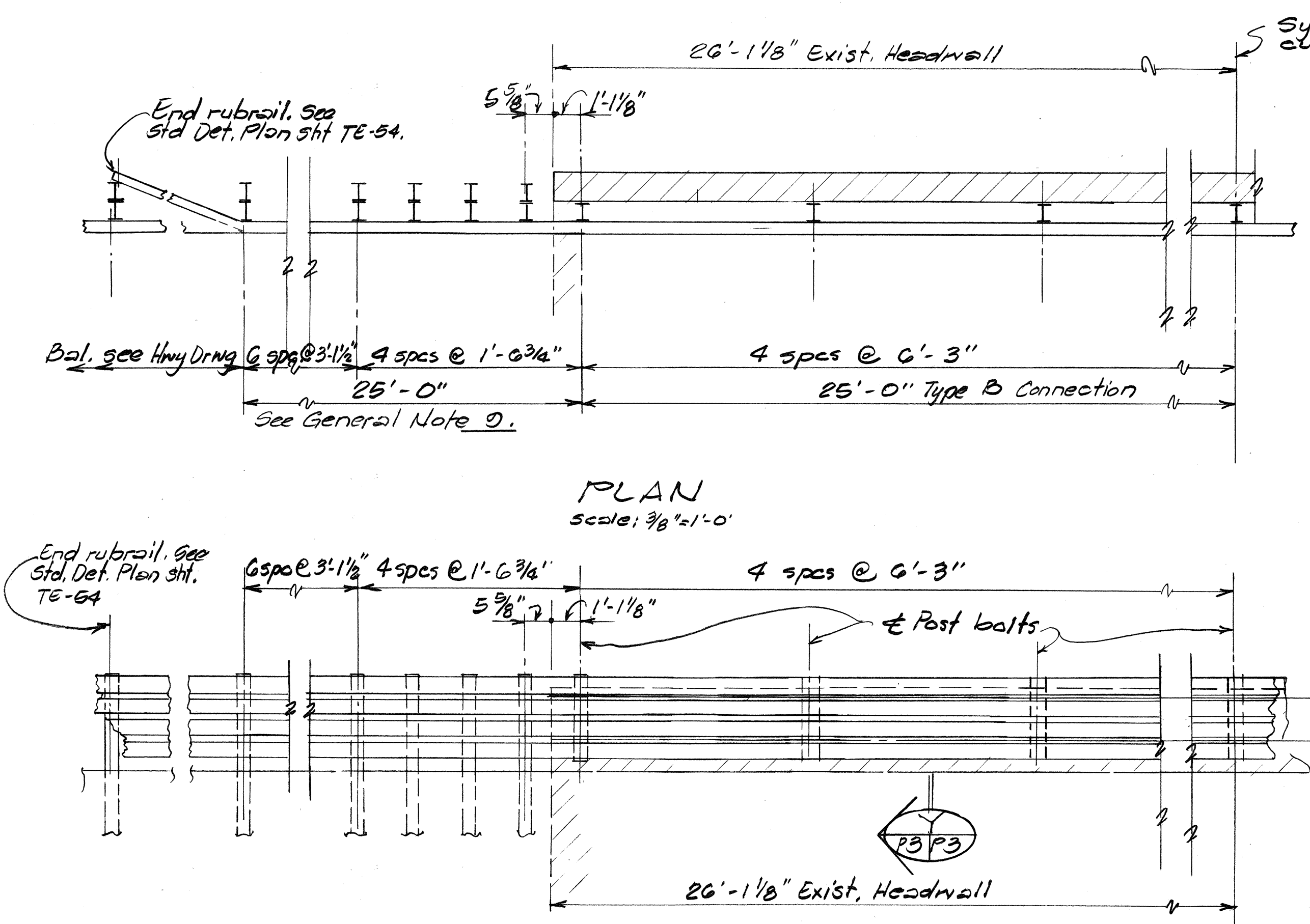
SHEET No. 92 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-88	1988	28	29



TYPE "A" & "A1" CONNECTION DETAILS (INCLUDING NEW CONCRETE END POST)

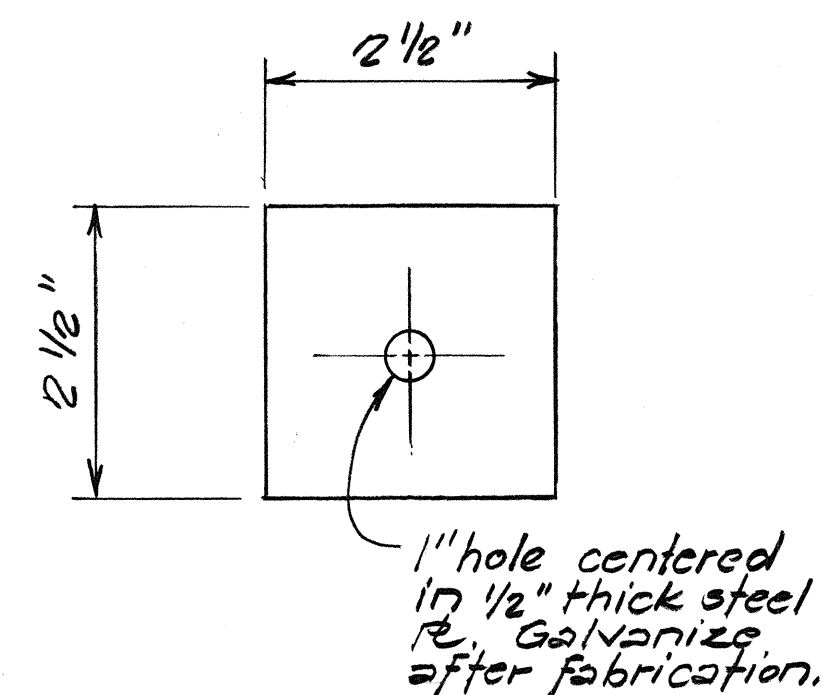
Scale: 3/4" = 1'-0"



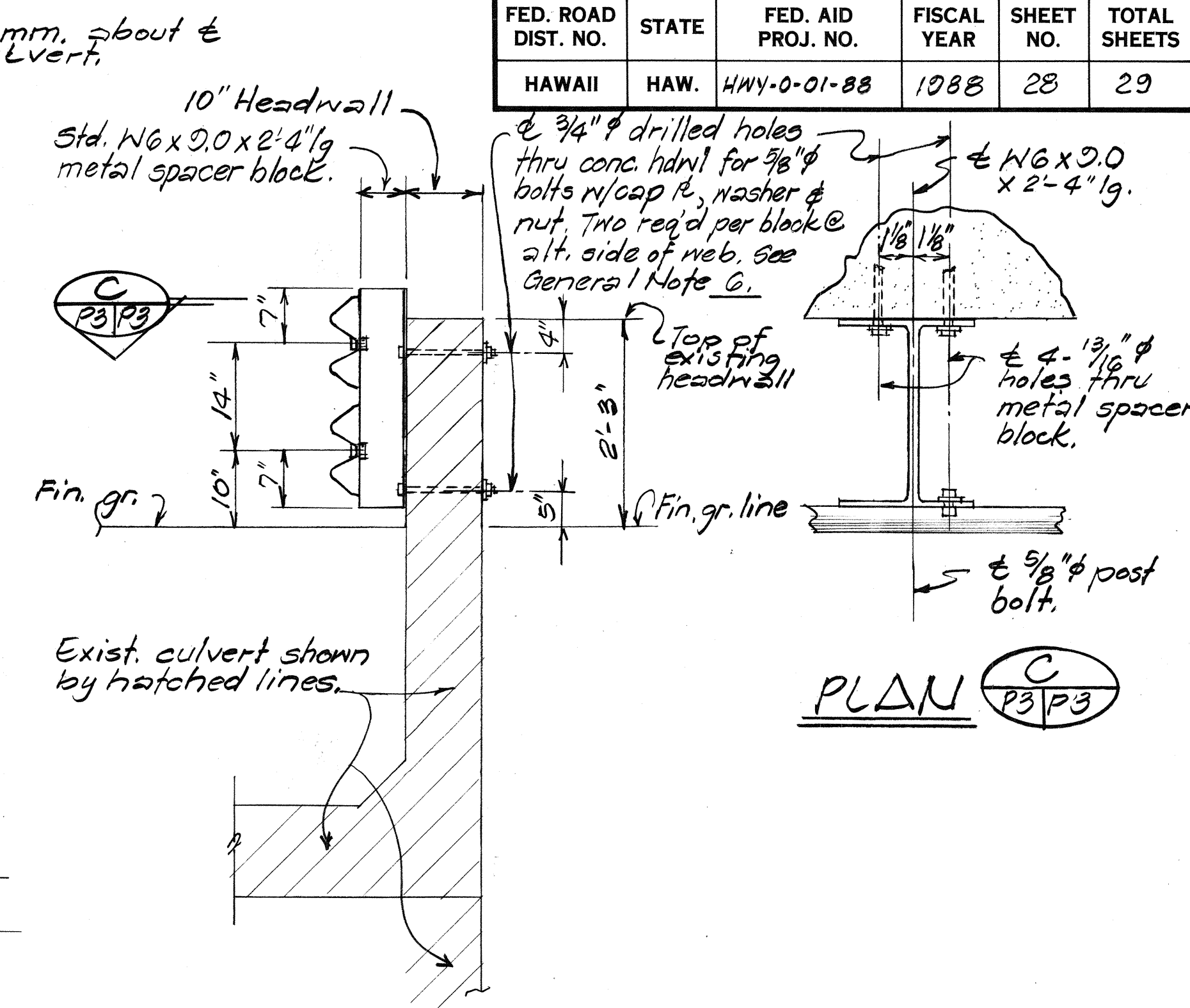
ELEVATION
Scale: 3/8" = 1'-0"

TYPE "B" CONNECTION DETAILS

Scale: As Noted

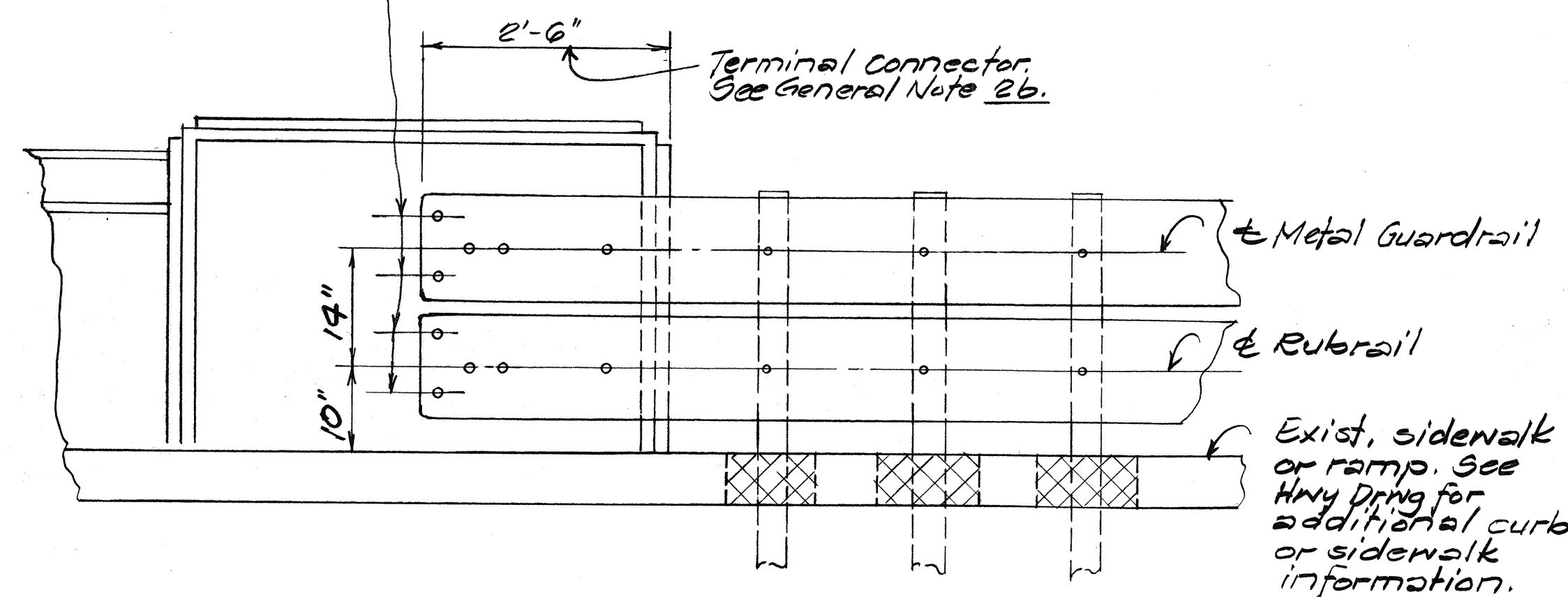
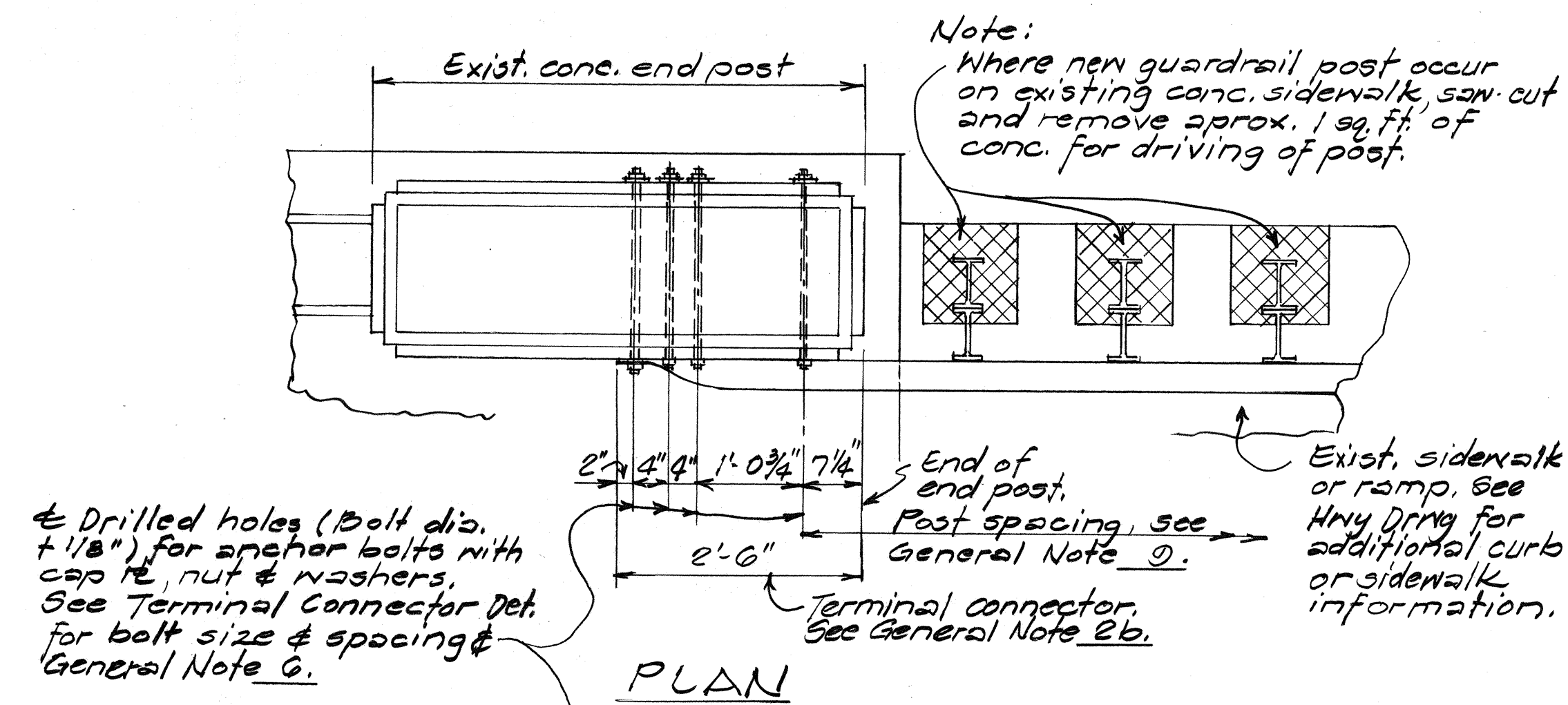


TYPICAL CAP & DETAIL
Not To Scale

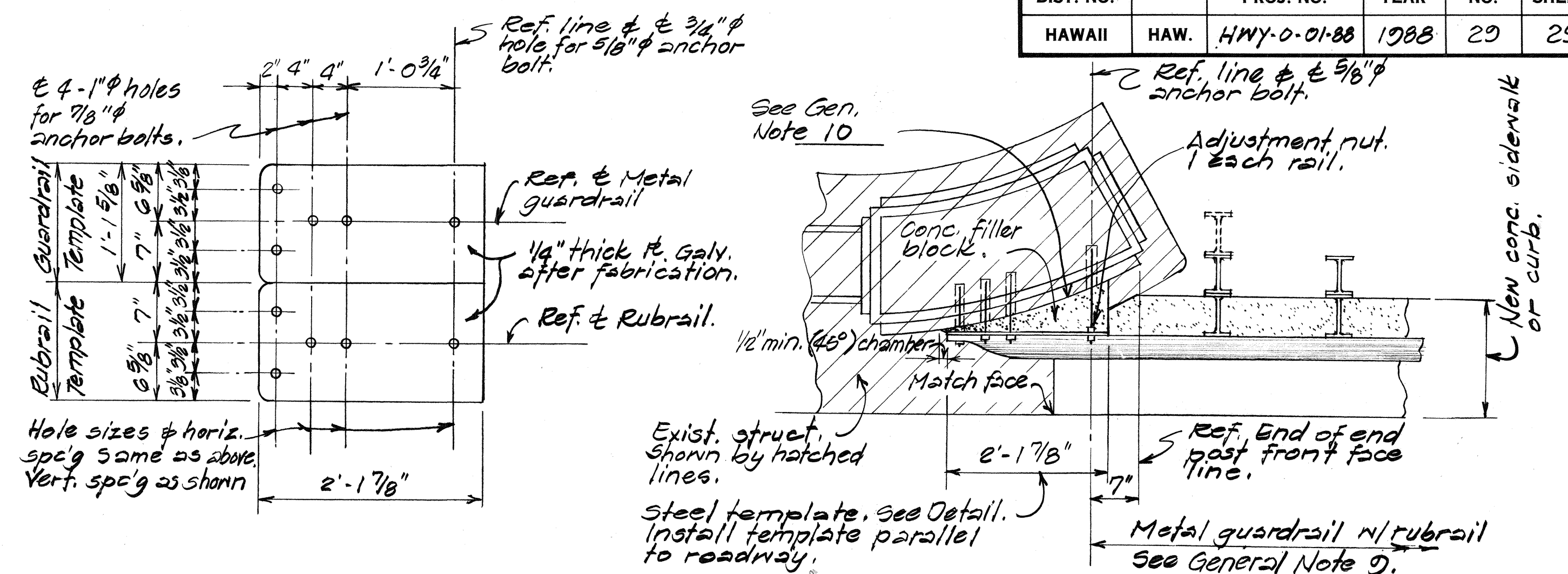


STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
TYPE "A," "A1," & "B" CONNECTIONS GUARDRAIL AND SHOULDER IMPROVEMENTS AT VARIOUS LOCATIONS ON OAHU
Project No. HWY-0-01-88
Scale: As Noted Date: Nov. 1987
SHEET NO. P3 OF 4 SHEETS

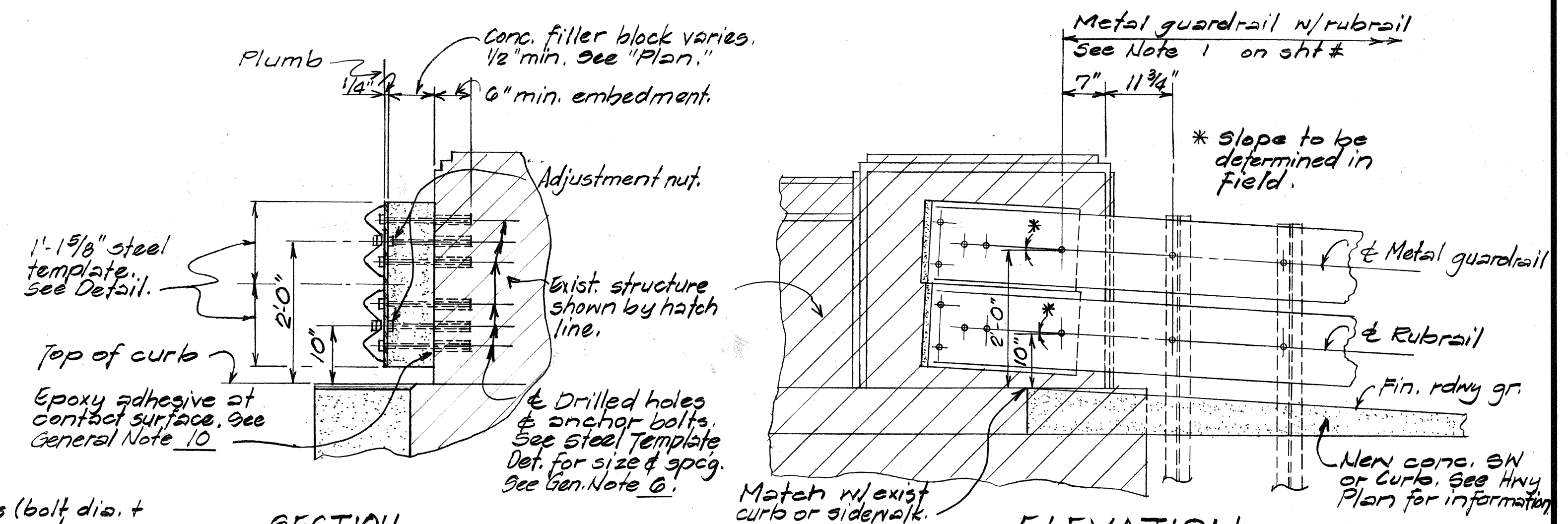
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	Hwy-0-01-88	1988	29	29



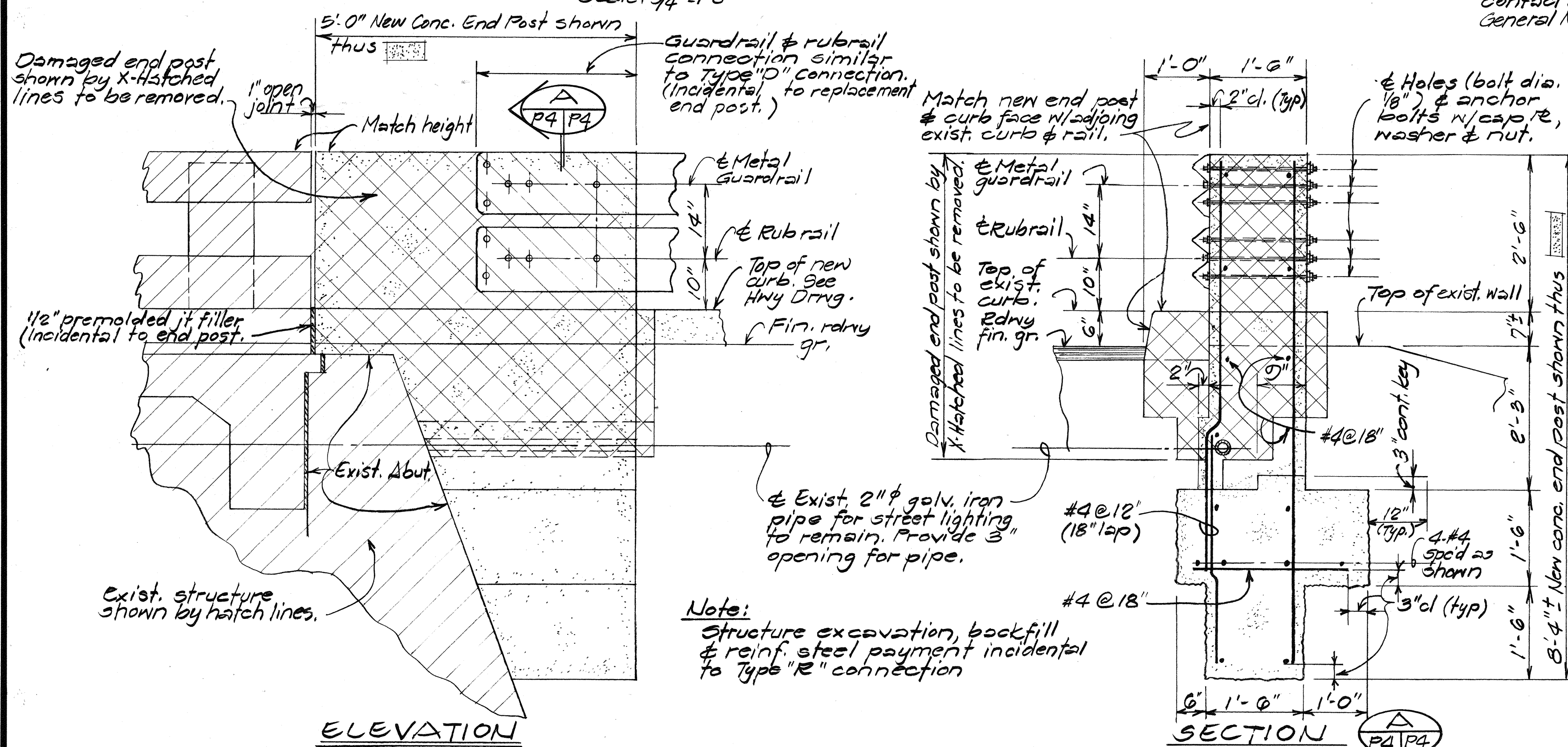
ELEVATION
TYPE "D" CONNECTION DETAILS
Scale: 3/4"=1'-0"



STEEL TEMPLATE DETAIL
Scale: 1" = 1'-0"

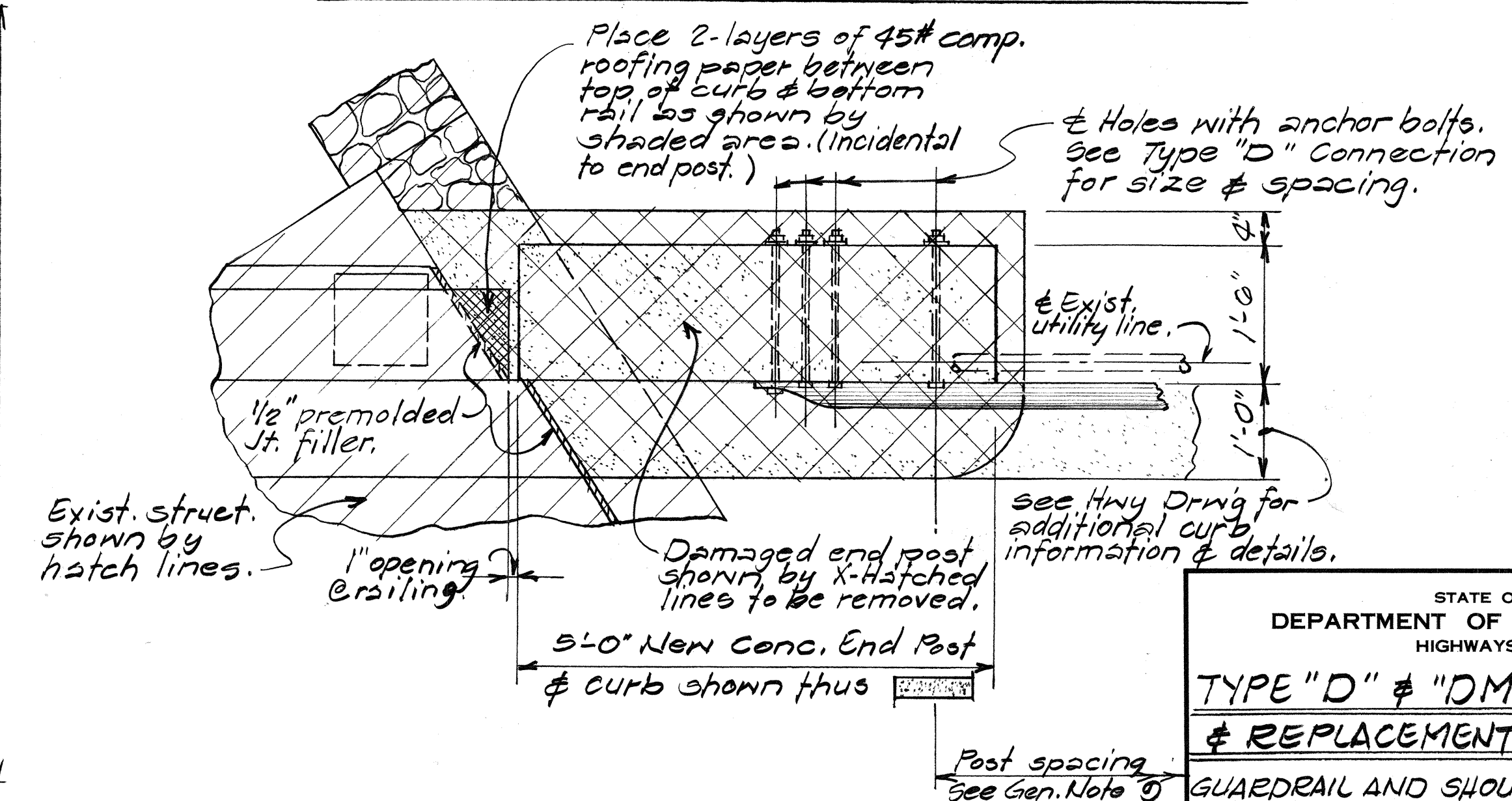


SECTION curb or sidewalk. ELEV
TYPE "DM" CONNECTION DETAILS



ELEVATION SECTION 

TYPE "R" CONNECTION DETAILS (INCLUDING REPLACEMENT END POST)
Scale: $\frac{3}{4}" = 1'-0"$



PLAN

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPE "D" & "DM" CONNECTIONS
& REPLACEMENT END POST DETAILS
GUARDRAIL AND SHOULDER IMPROVEMENTS
AT VARIOUS LOCATIONS ON OAHU
Project No. HNY-0-01-88

Scale: As Noted Date: Nov. 1987

SHEET No. 44 OF 4 SHEETS