

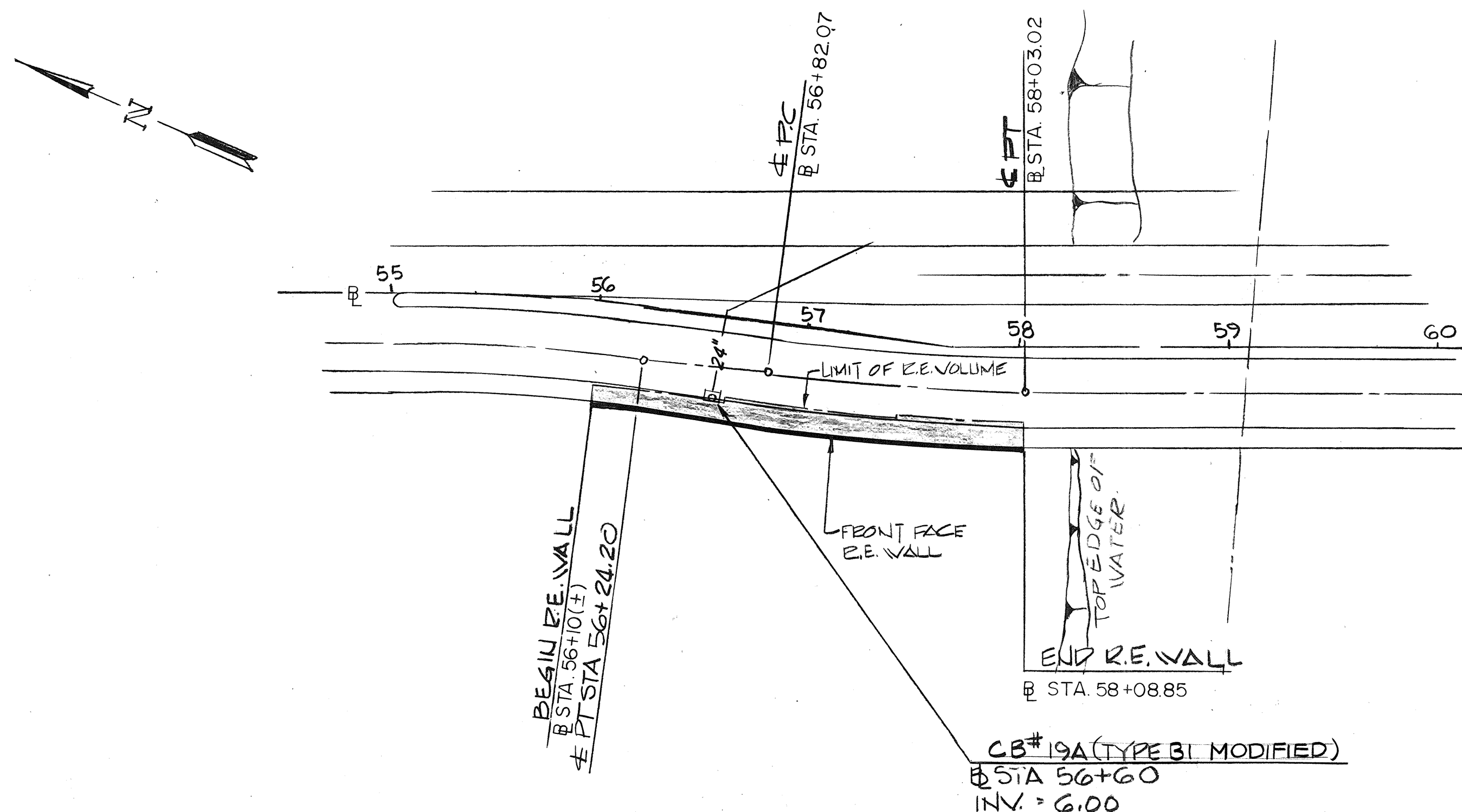
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-064-1(2)	1987	91	151

GENERAL NOTES:

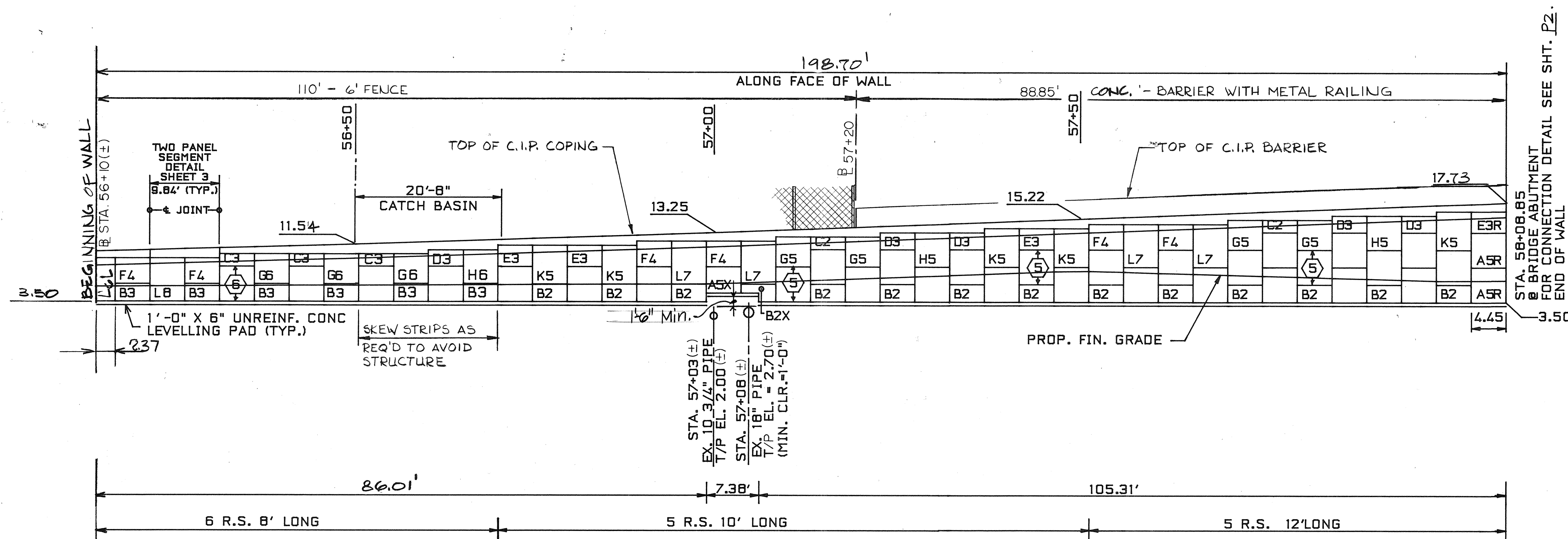
- FOR LOCATION AND ALIGNMENT OF R.E. WALLS SEE CONTRACT DRAWINGS.
- STATIONS SHOWN ARE ALONG BASELINE ROADWAY.
- R.E. WALL IN CURVE WILL FORM A SERIES OF SHORT CHORDS OF 4.92' EACH TO MATCH DESIRED WALL ALIGNMENT.
- ALL PANELS ARE TYPE 'A' UNLESS OTHERWISE NOTED.
- FOR TYPICAL SECTION THRU WALL SEE SHEET 2 OF 3 .
- DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE REINFORCED EARTH VOLUME, METHODS OF CONSTRUCTION AND QUALITY OF PREFABRICATED MATERIALS SHALL CONFORM TO THE MANUFACTURER'S SPECIFICATIONS.
- FOR STANDARD PANEL DETAILS SEE SHEET 3 OF 3 .
- SYMBOLS:

TYPE OF PANEL $\frac{H}{5}$ NO. OF TIE STRIPS
- REINFORCING STRIPS FOR REINFORCED EARTH® WALLS SHALL CONFORM TO THE PHYSICAL AND MECHANICAL PROPERTIES OF ASTM A-572, GRADE 65.
- ALL PANELS ARE P4 AND 7 $\frac{1}{16}$ ".
- REINFORCING STRIP DESIGN CRITERIA :
 - 100-YEAR DESIGN LIFE,
 - CORROSION RATE BASED ON SALINE ENVIRONMENT AS DEFINED IN FHWA REPORT FHWA/RD-83/105.
 - REINFORCING STRIPS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.

ESTIMATE QUANTITIES	
SELECT BACKFILL LS.	= (710.00)
SURFACE AREA (SQ. FT.)	= 1820.0
LEVELLING PAD (L.F.)	= 199.0
COPING (L.F.)	= 113.0



PLAN
SCALE 1" = 60'



THE NIMITZ WALL
ELEVATION - FRONT FACE
SCALE 1" = 10'

APPROVED: *W.W. Miller*
HAWAIIAN INDEPENDENT REFINERY, INC.

10/27/85
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

REINFORCED EARTH WALL

SAND ISLAND ROAD WIDENING
2ND BRIDGE AND APPROACHES

SCALE: NOTED DATE: JUN, 1986
SHEET No. P1 OF 5 SHEETS

THE DESIGN CONTAINED ON THESE DRAWINGS IS BASED ON INFORMATION PROVIDED BY THE OWNER. ON THE BASIS OF THIS INFORMATION, THE REINFORCED EARTH COMPANY HAS DESIGNED, AND IS RESPONSIBLE FOR THE INTERNAL STABILITY OF THE STRUCTURE ONLY. EXTERNAL STABILITY, INCLUDING FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER.

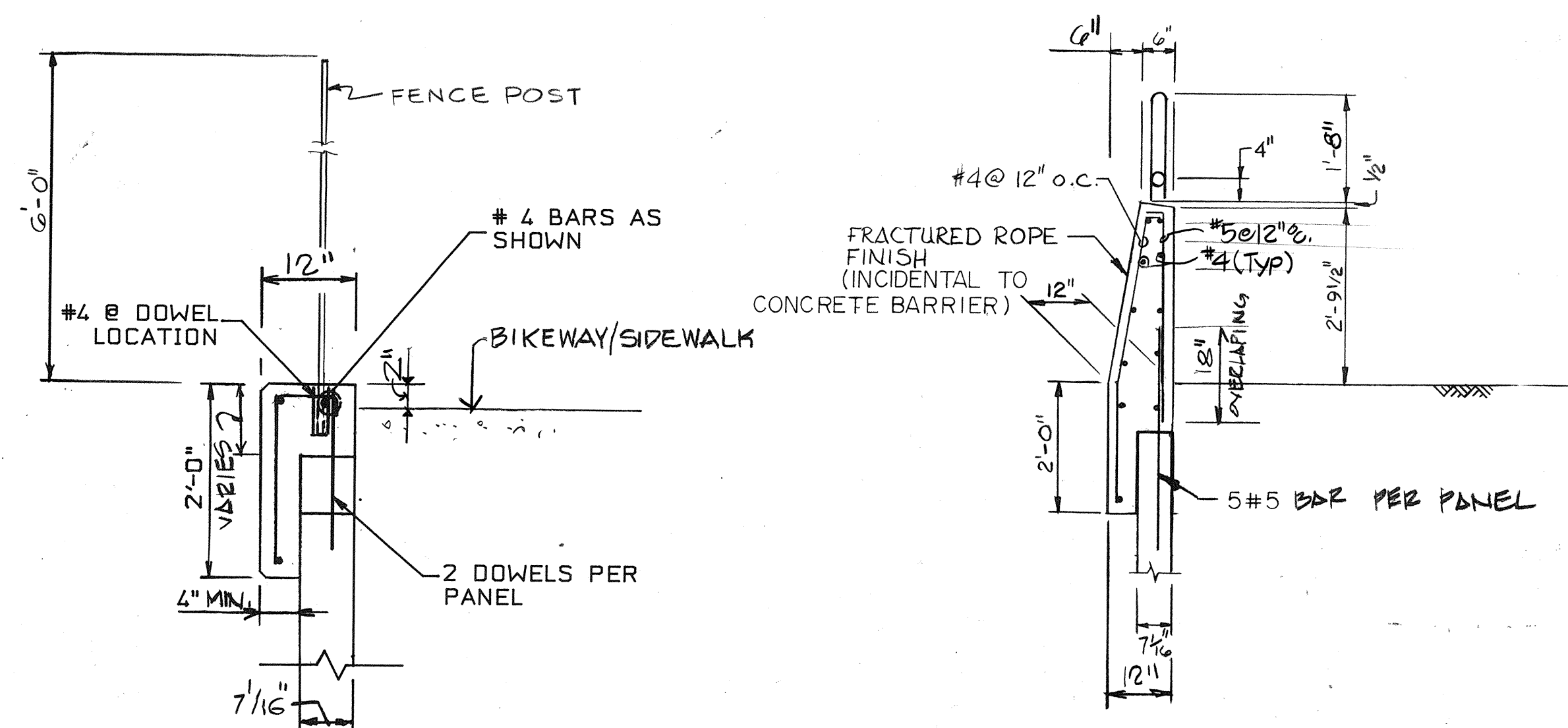
The Reinforced Earth Company

DESIGNED BY: RSH
PROJ. ENGR: RS
CHECKED BY: RS
DATE: 3/8/85

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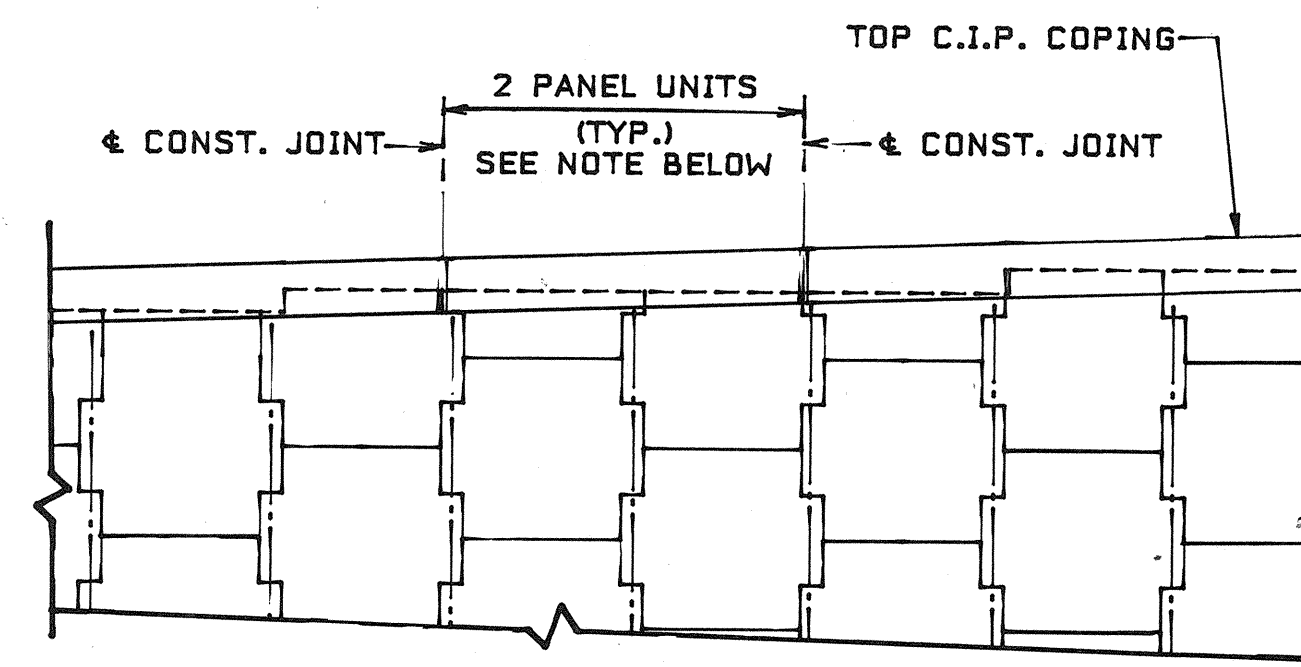
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-064-1(2)	1987	92	151



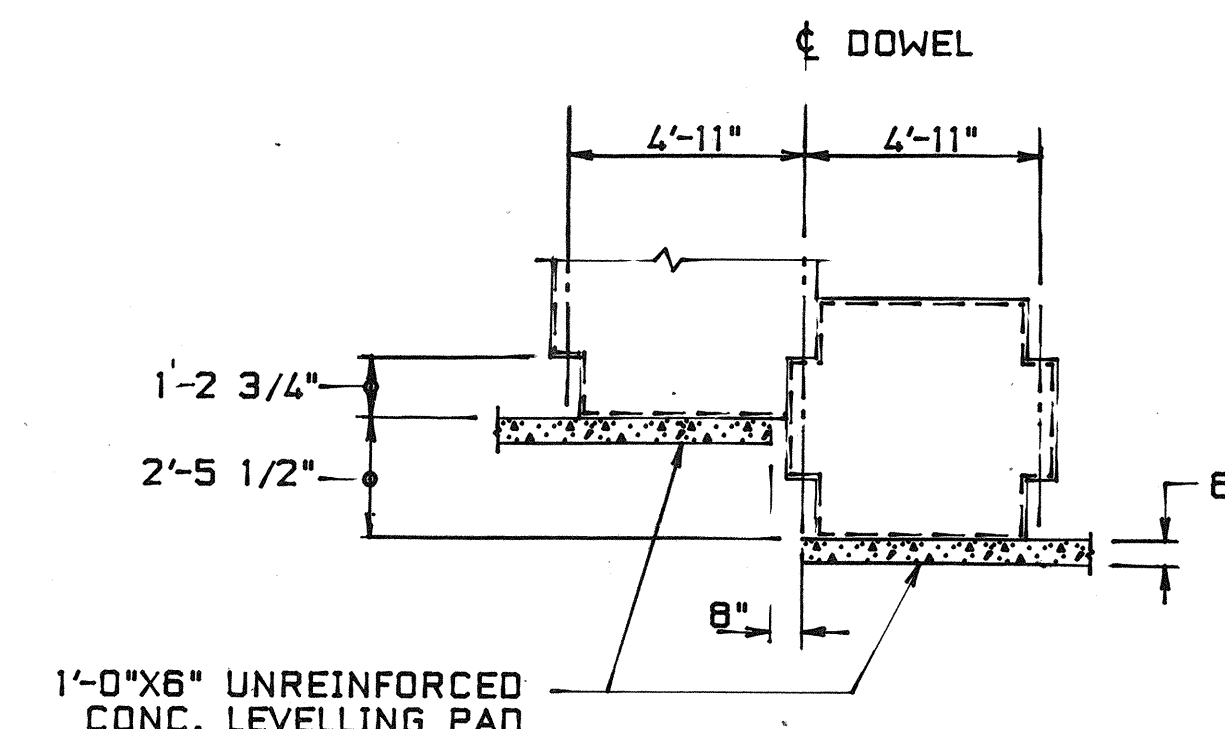
C.I.P. CONC. COPING DETAIL
SCALE: 3/4" = 1'-0"

C.I.P. CONC. BARRIER DETAIL
SCALE: 1/2" = 1'-0"

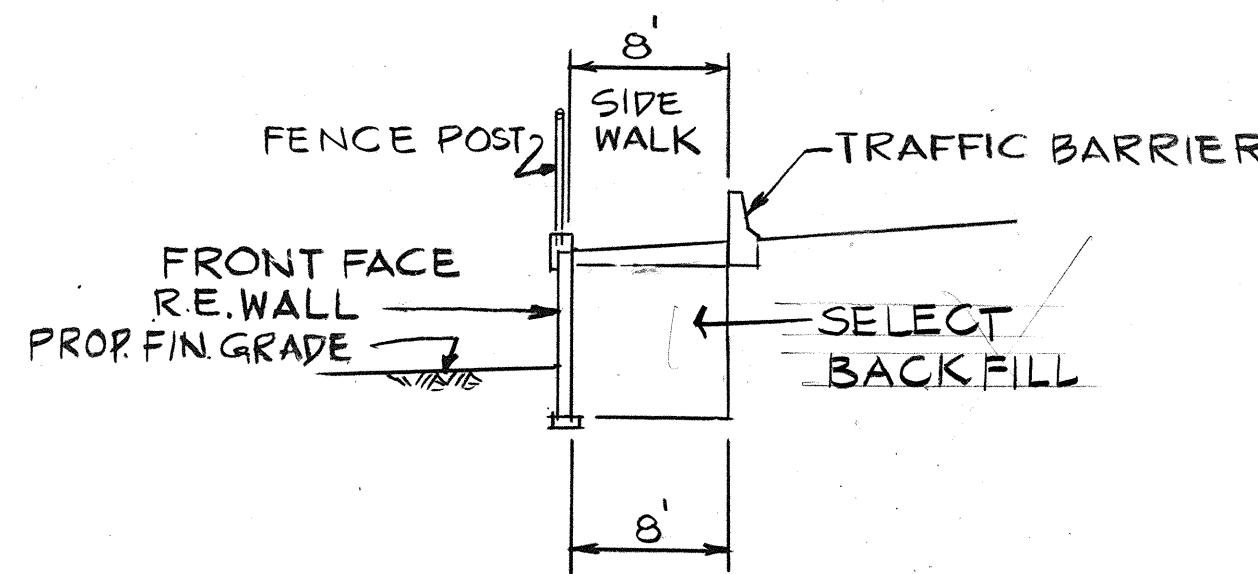


NOTE: JOINTS IN C.I.P. COPING SHALL BE AT 2 PANEL INTERVALS. JOINTS MUST COINCIDE WITH PANEL JOINTS ON FRONT FACE WHERE BOTTOM OF 4" LIP INTERSECTS WITH PANEL JOINT. REINFORCING STEEL IS NOT CONTINUOUS.

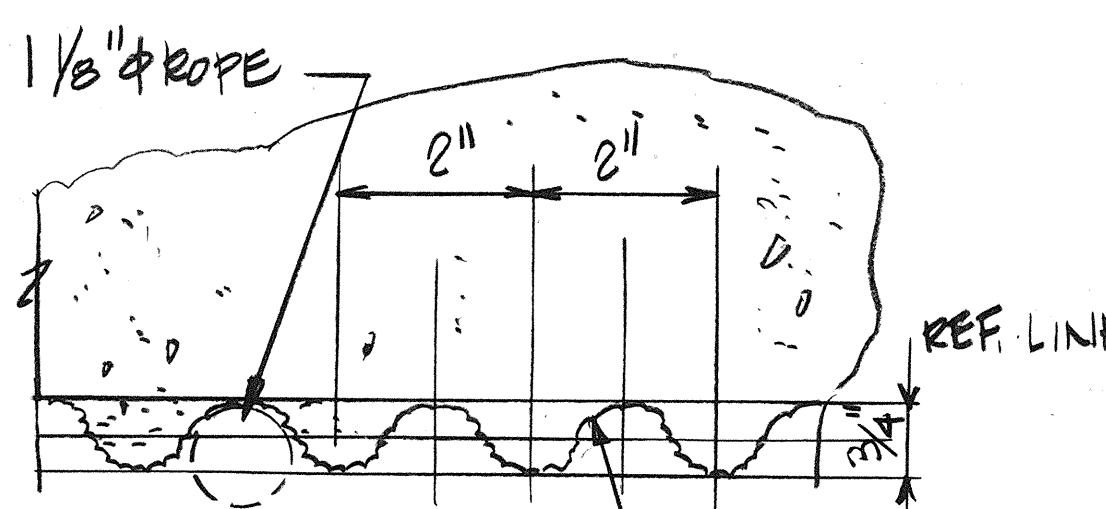
C.I.P. COPING
PARTIAL ELEVATION
SCALE: 3/16" = 1'



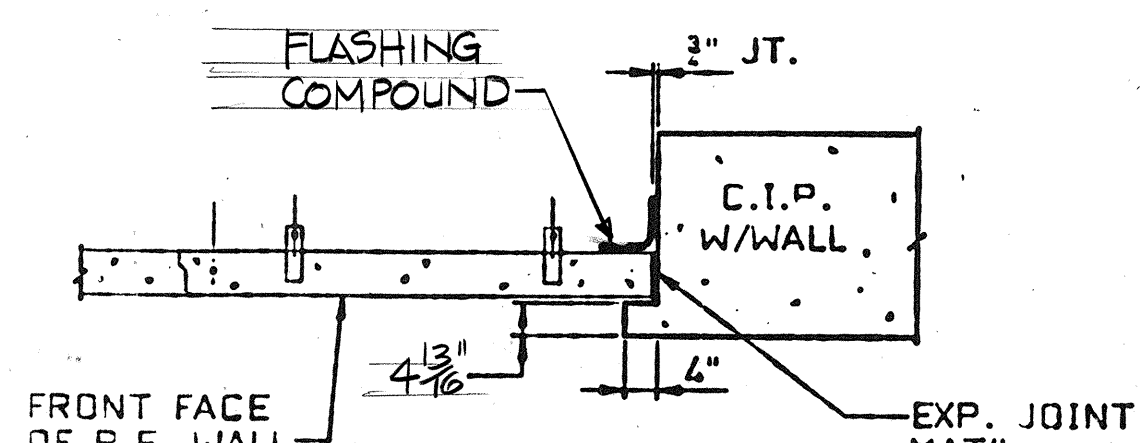
TYPICAL FOOTING DETAIL
SCALE: 1/4" = 1'-0"



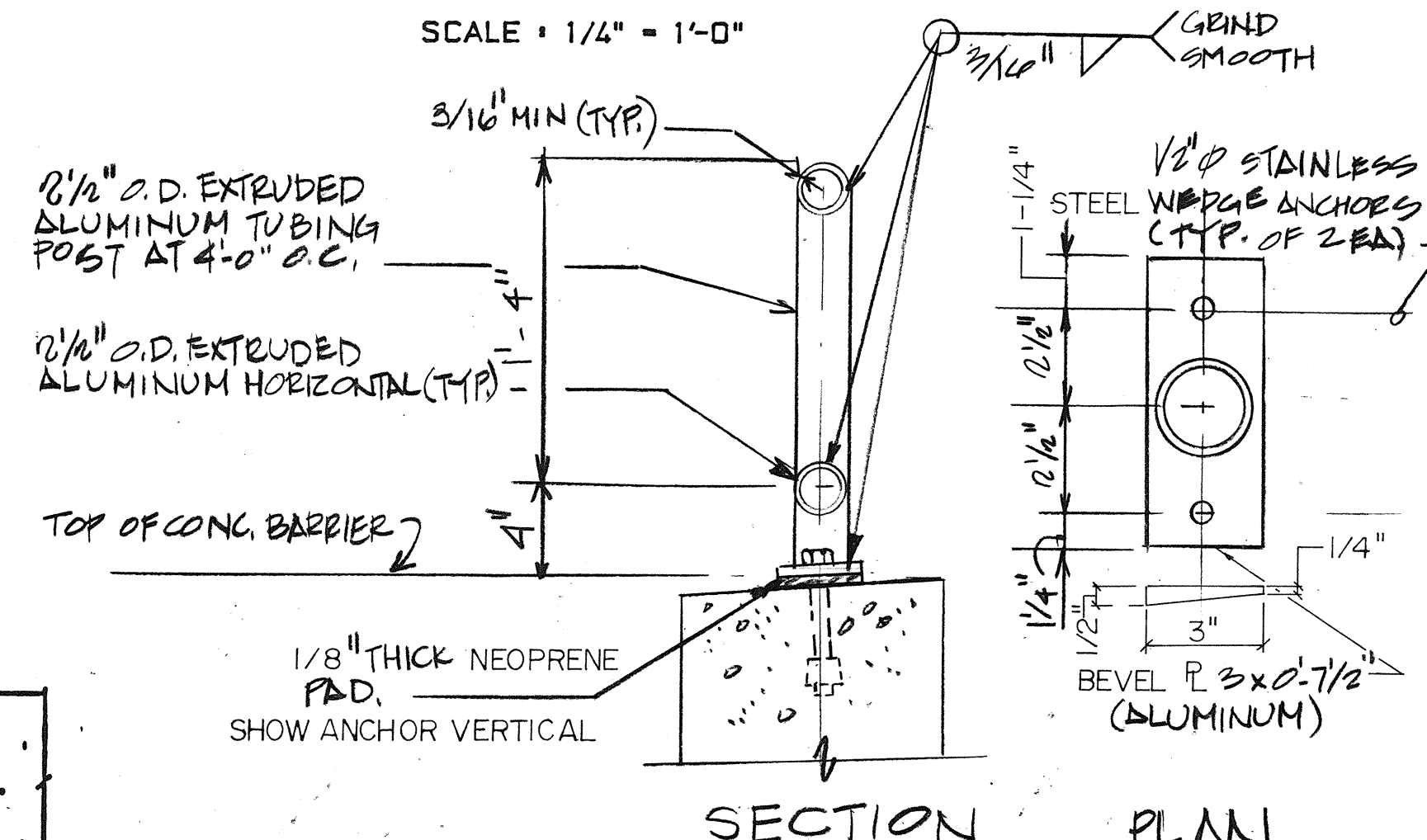
(TYPICAL)
SECTION AT STA. 56+50
SCALE: 1" = 10'



FORM LINER SIMULATING
FRACTURE ROPE TEXTURE FINISH
FACING FINISH DETAIL
N.T.S.

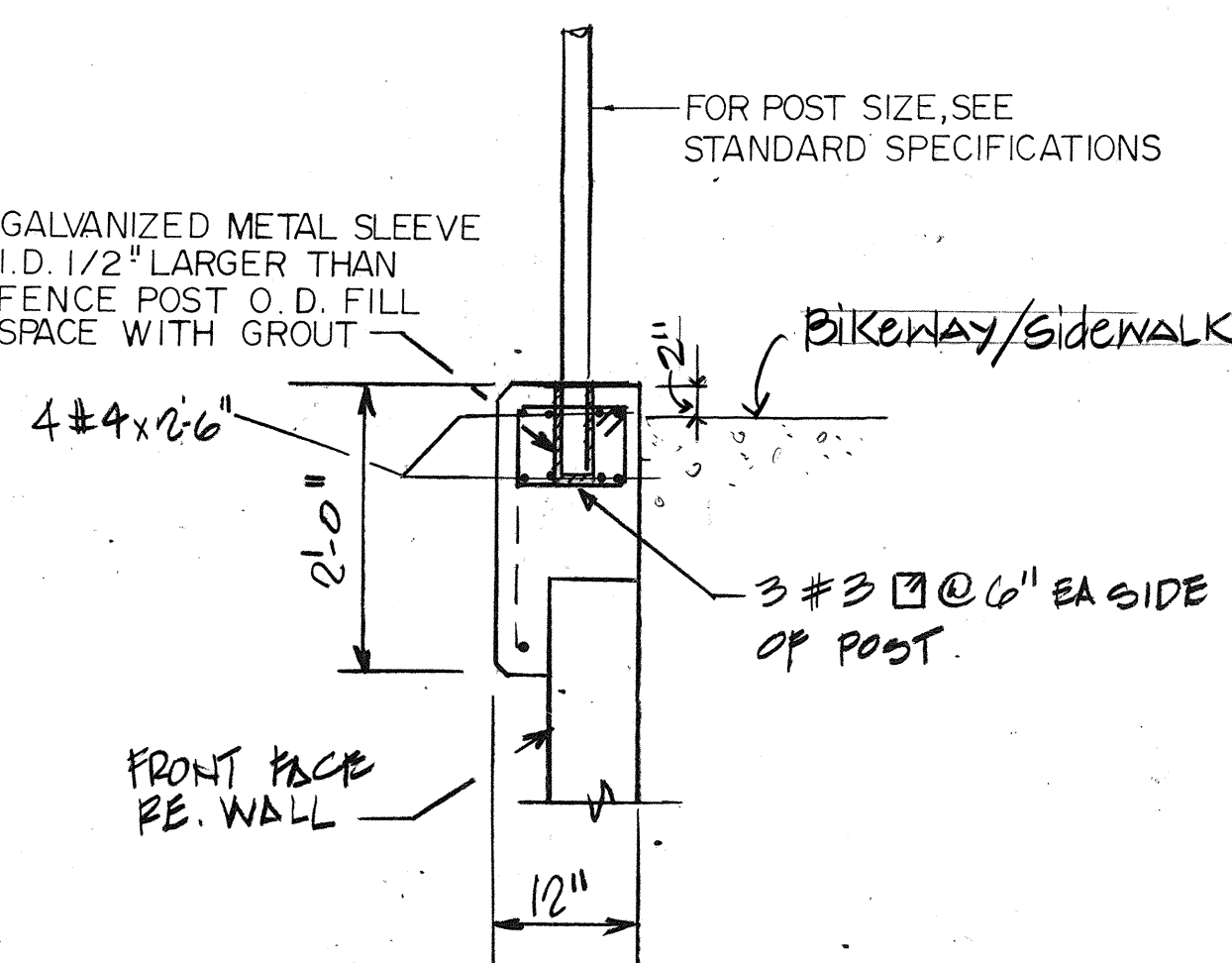


CONNECTION DETAIL
SCALE: 1/2" = 1'

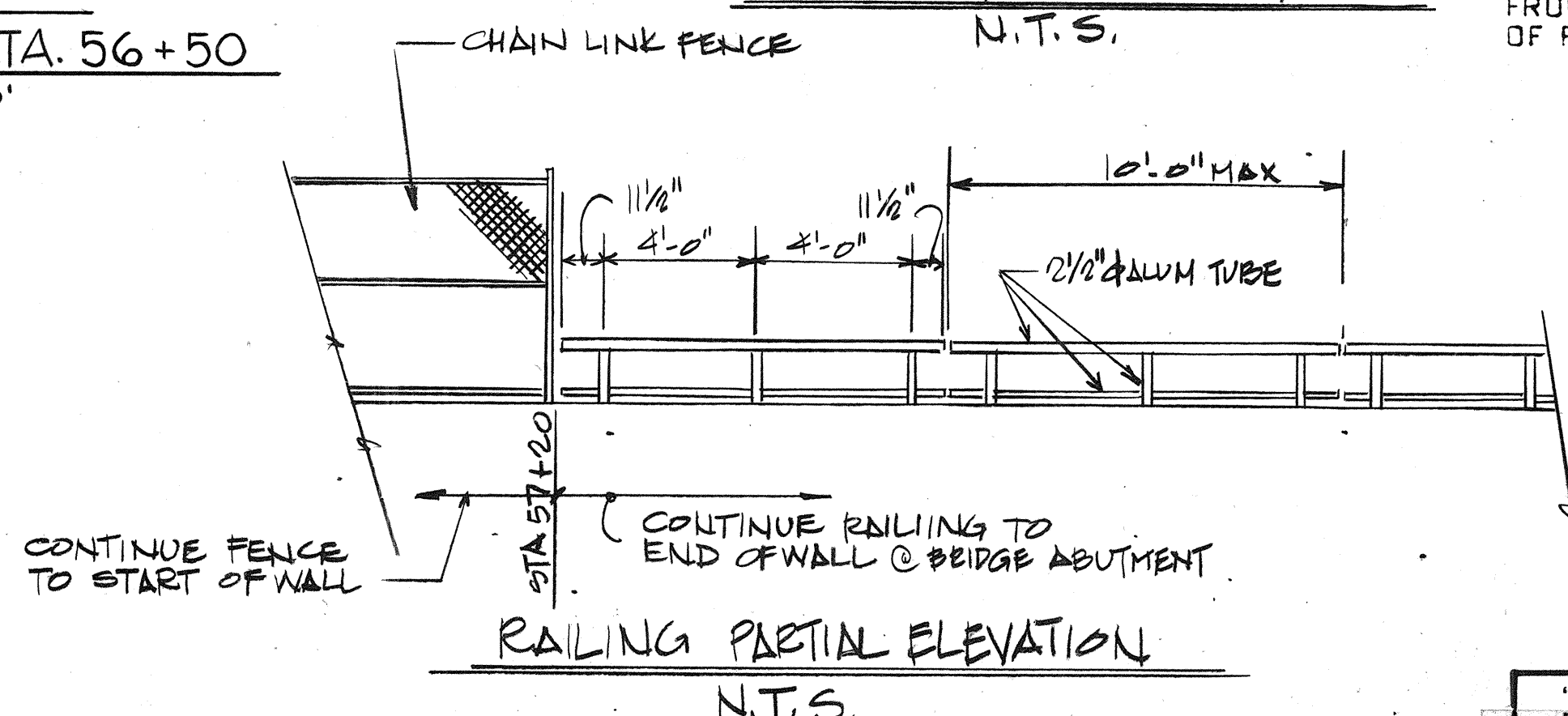


NOTE: ALL ALUMINUM TUBING AND SHAPES SHALL CONFORM TO ASTM B221, ALLOY 6061-T6

ALUMINUM RAILING DETAIL
N.T.S.



COPING DETAIL AT POST LOCATION
SCALE: 3/4" = 1'-0"



RAILING PARTIAL ELEVATION
N.T.S.

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REINFORCED EARTH
The Reinforced Earth Company

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

REINFORCED EARTH WALL

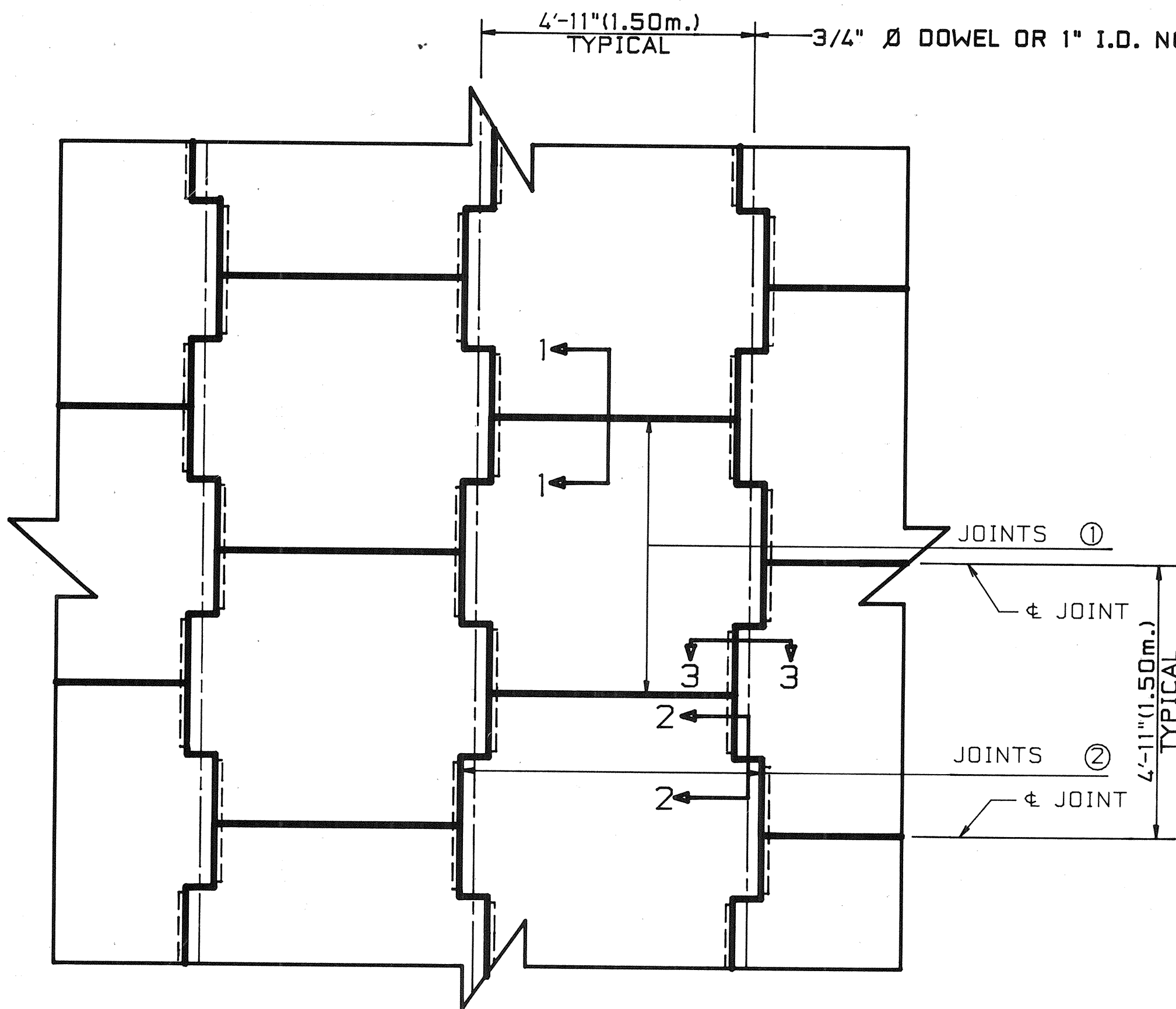
SAND ISLAND ROAD WIDENING
2ND BRIDGE AND APPROACHES

SCALE: NOTED
DATE: JUN, 1986

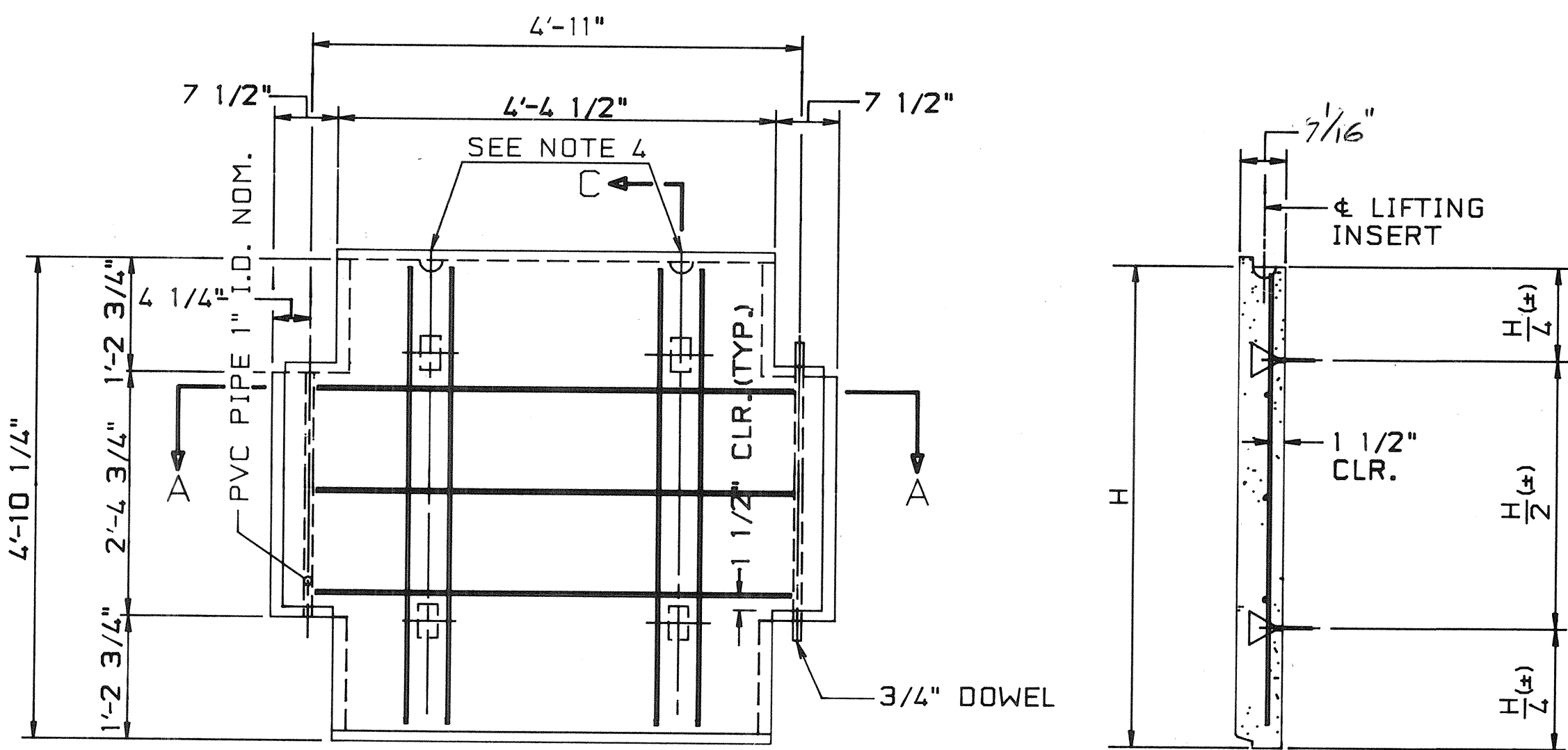
SHEET NO. P2 OF 5 SHEETS

DATE	DATE	DATE	DATE	DATE	DATE
DESIGNED BY	DESIGNED BY	DESIGNED BY	DESIGNED BY	DESIGNED BY	DESIGNED BY
CHECKED BY	CHECKED BY	CHECKED BY	CHECKED BY	CHECKED BY	CHECKED BY
NO.	NO.	NO.	NO.	NO.	NO.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-064-1(2)	1987	93	151

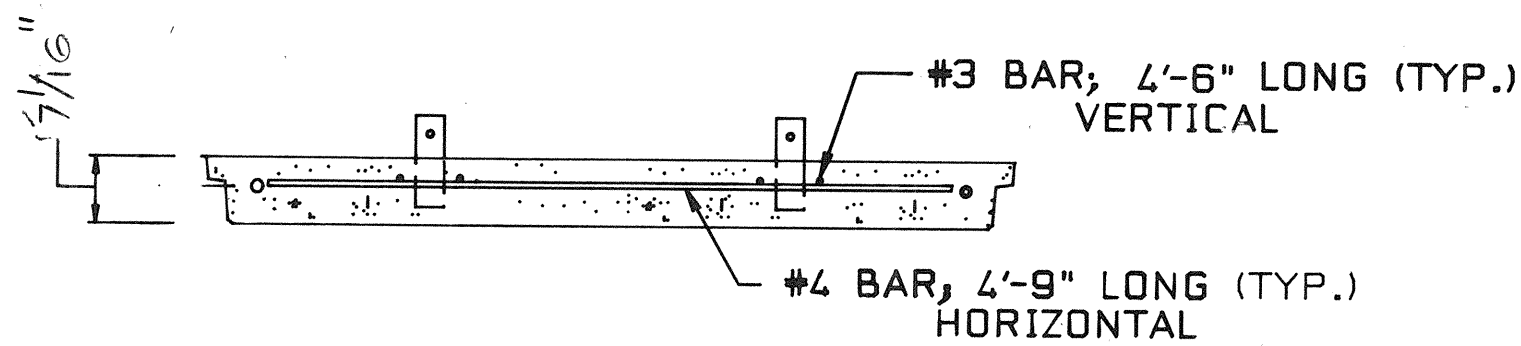


TYPICAL PANEL LAYOUT
SCALE: 1/2" = 1'-0"

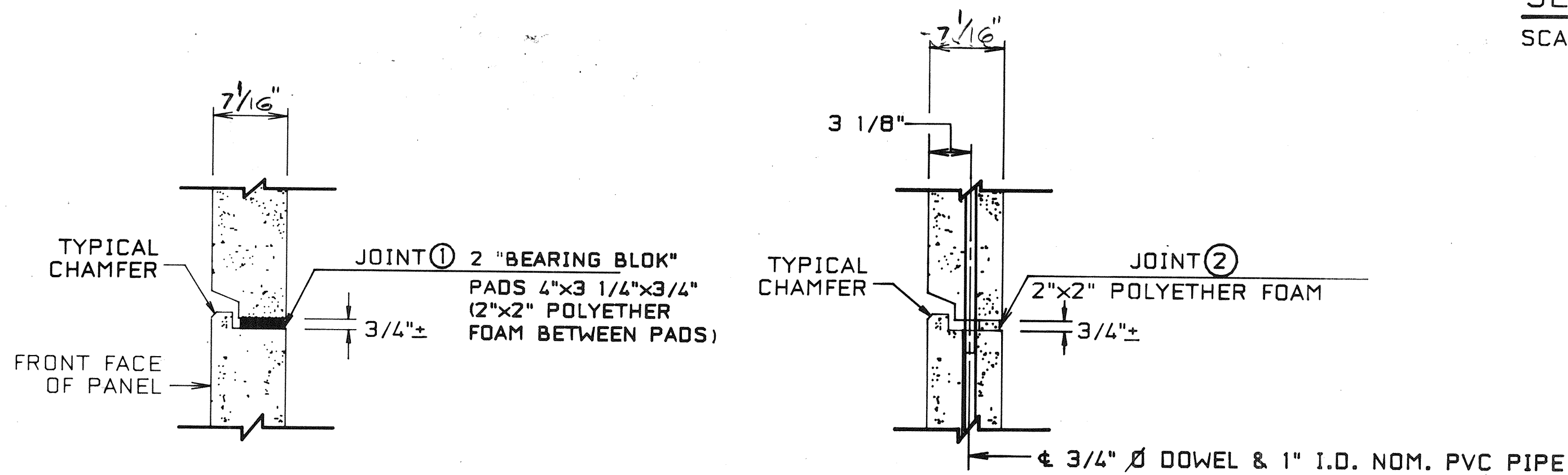


PANEL TYPE "A"
WITH P4 REINFORCEMENT
FRONT VIEW

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

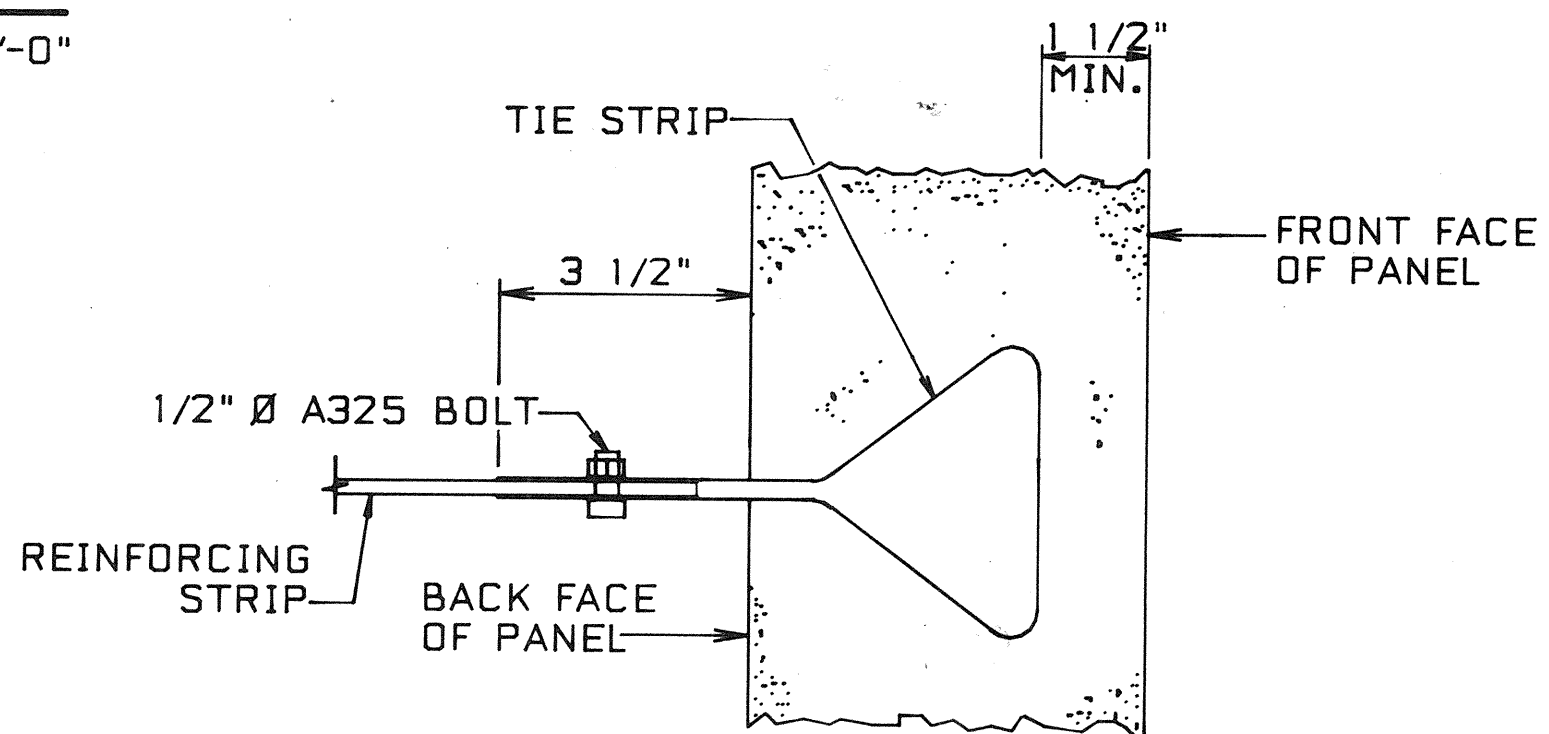


SECTION A-A
SCALE: 3/4" = 1'-0"

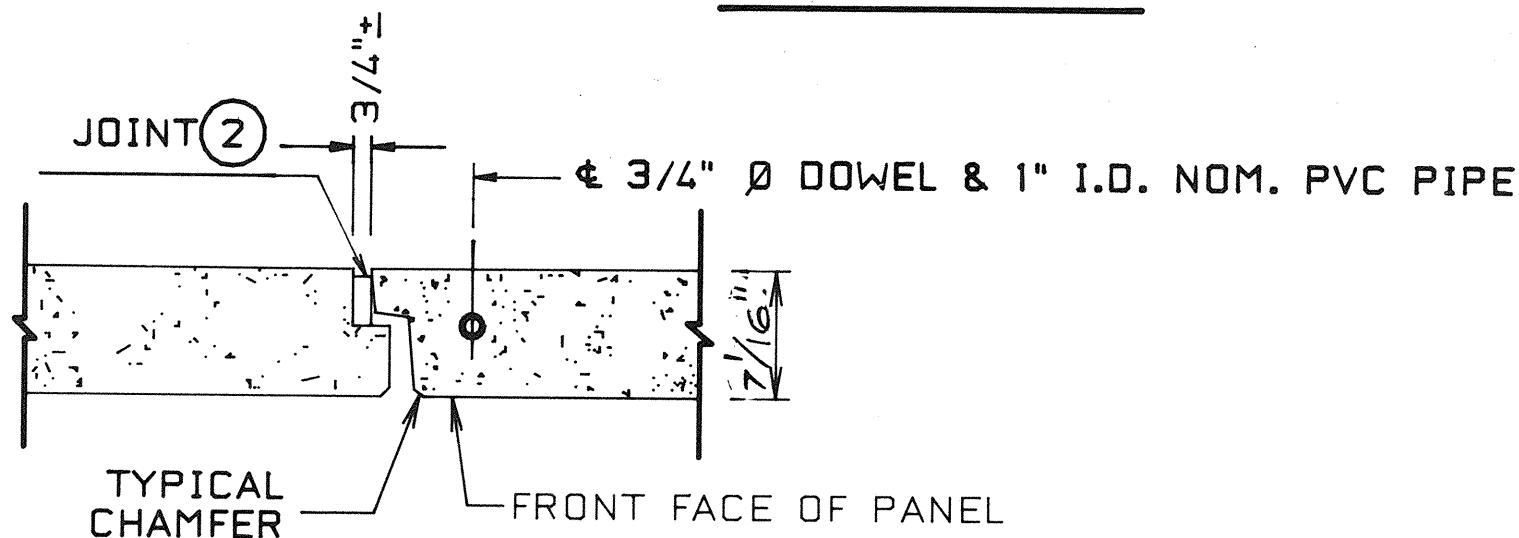


SECTION 1-1

SECTION 2-2



CONNECTION DETAIL
NO SCALE



SECTION 3-3
JOINT DETAILS
SCALE: 1-1/2" = 1'-0"

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PANEL THICKNESS	REINFORCEMENT DESIGNATION	PANEL REINFORCEMENT	MAXIMUM ALLOWABLE HORIZONTAL STRESS AT FACING (KSF)
7 1/16"	P0	UNREINFORCED	0.54
	P4	4 #3 VERTICAL 3 #4 HORIZONTAL	1.01
	P6	6 #3 VERTICAL 4 #4 HORIZONTAL	1.33
7 1/8"	P6	6 #3 VERTICAL 3 #4 HORIZONTAL	2.14
	P8	8 #3 VERTICAL 4 #4 HORIZONTAL	2.83

NOTES:

- REINFORCING STEEL TO BE A615 GRADE 60.
- 3/8" x 3/8" CHAMFER SHALL BE PROVIDED ON ALL EXPOSED EDGES (FRONT FACE ONLY).
- ALL PANEL TYPES AND OTHER RELATED ELEMENTS WILL BE DETAILED ON SHOP DRAWINGS.
- ALL PANELS SHALL HAVE TWO LIFTING INSERTS OF ONE TON CAPACITY EACH.
- PANEL DESIGN THICKNESS IS 7 1/16" QUANTITY OF CONCRETE WILL INCREASE TO ACCOMMODATE ANY ARCHITECTURAL SURFACE FINISH THAT MAY BE SPECIFIED.
- ACTUAL PANEL REINFORCEMENT FOR ALL PANEL TYPES IS DESIGNATED ON THE WALL ELEVATION DRAWINGS. P4 ILLUSTRATED FOR INFORMATION ONLY.
- HORIZONTAL STRESS AT THE FACING IS CALCULATED BASED ON STANDARD REINFORCED EARTH CALCULATION PROCEDURE.
- PANELS SUBJECT TO HORIZONTAL STRESS AT THE FACING IN EXCESS OF 2.83 KSF WILL BE DESIGNED ON AN INDIVIDUAL PROJECT BASIS.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

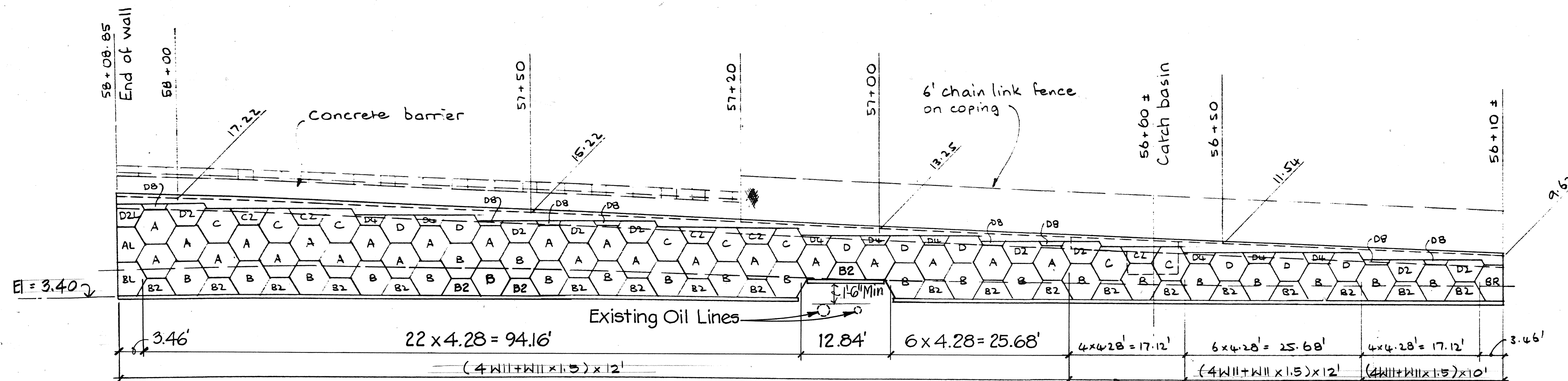
REINFORCED EARTH WALL

SAND ISLAND ROAD WIDENING
2ND BRIDGE AND APPROACHES

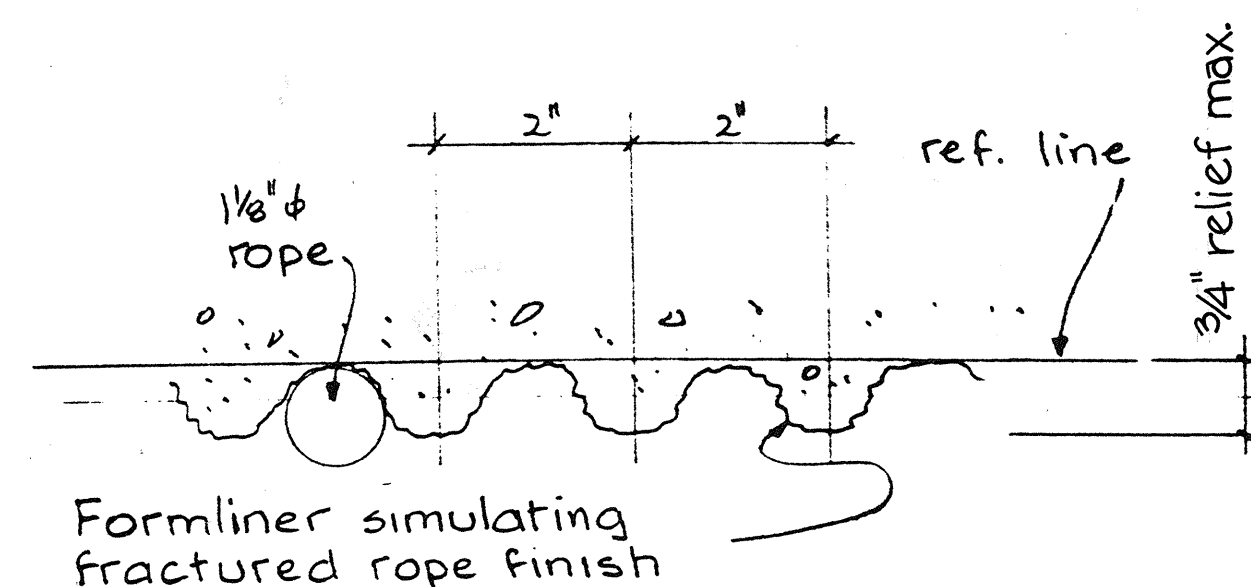
SCALE: _____ DATE: JUN, 1986

SHEET No. P3 OF 5 SHEETS

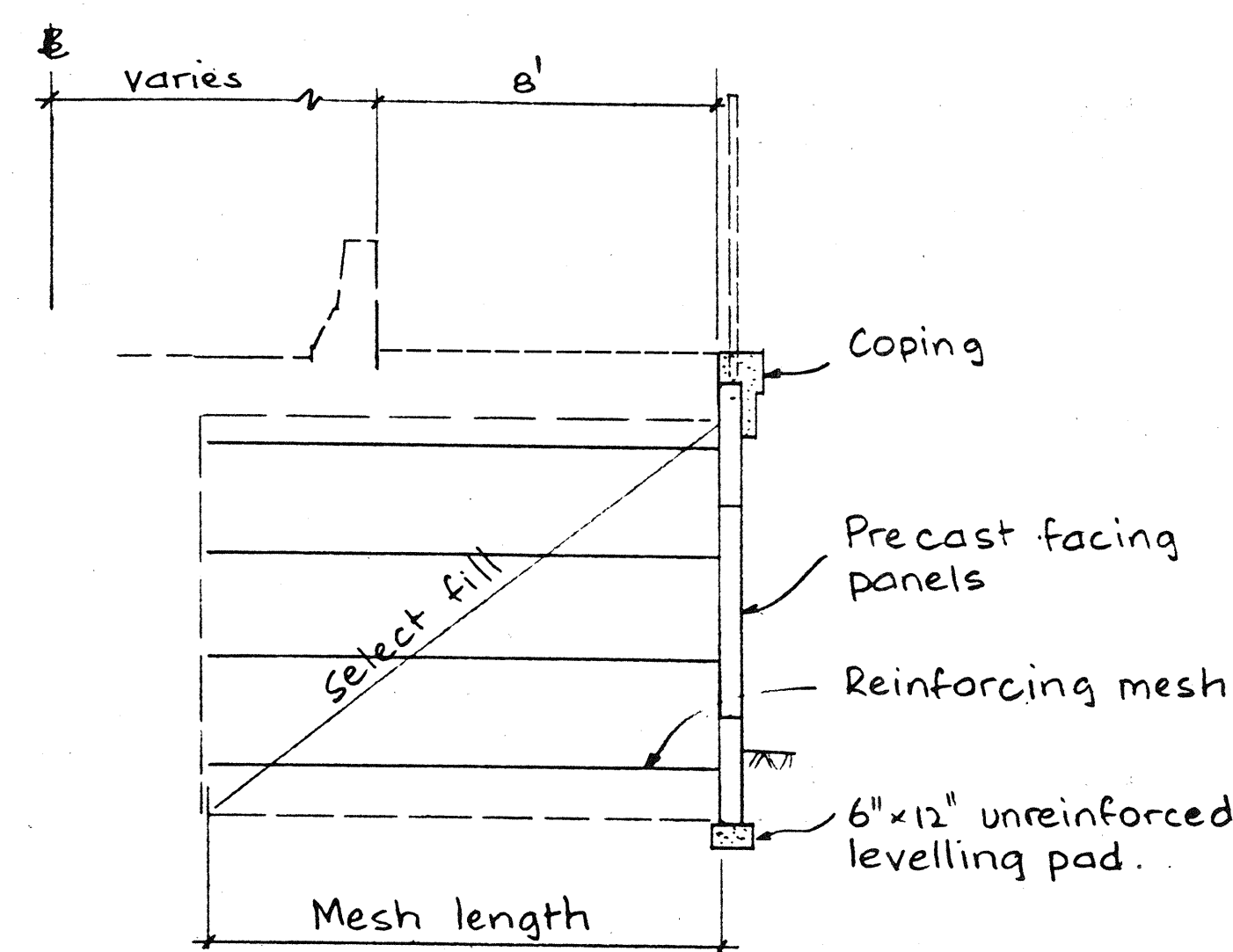
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-064-1(2)	1987	94	151



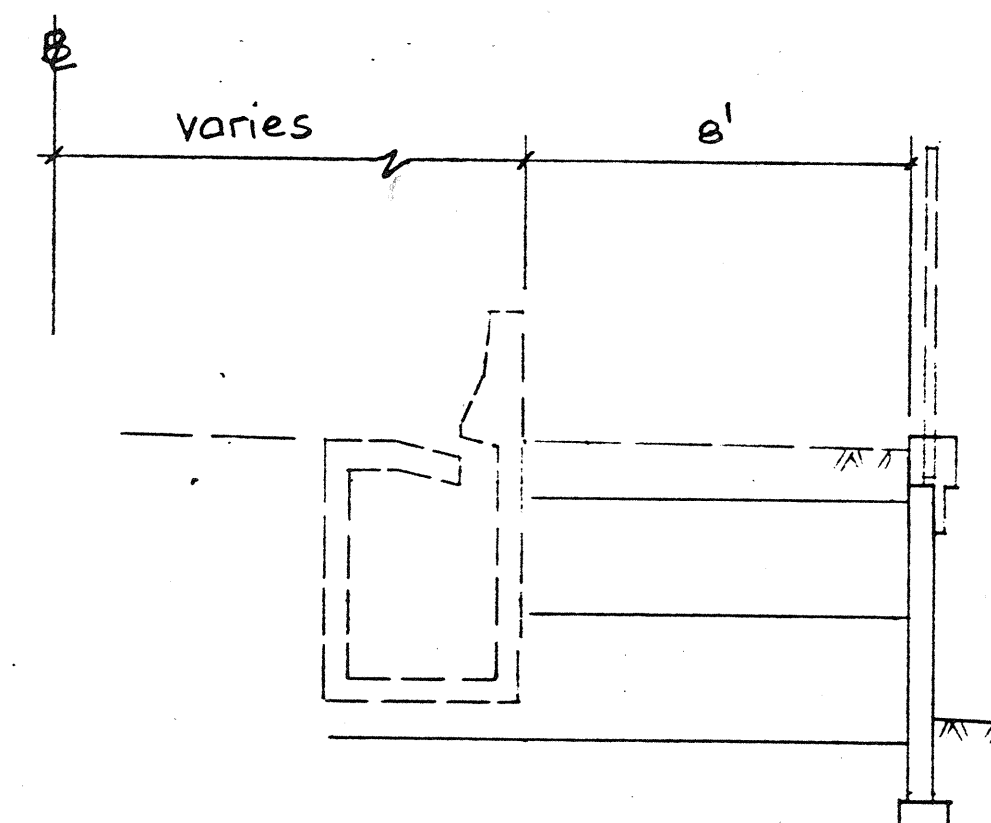
ELEVATION OF INSIDE FACE
Scale: 1" = 10'-0"



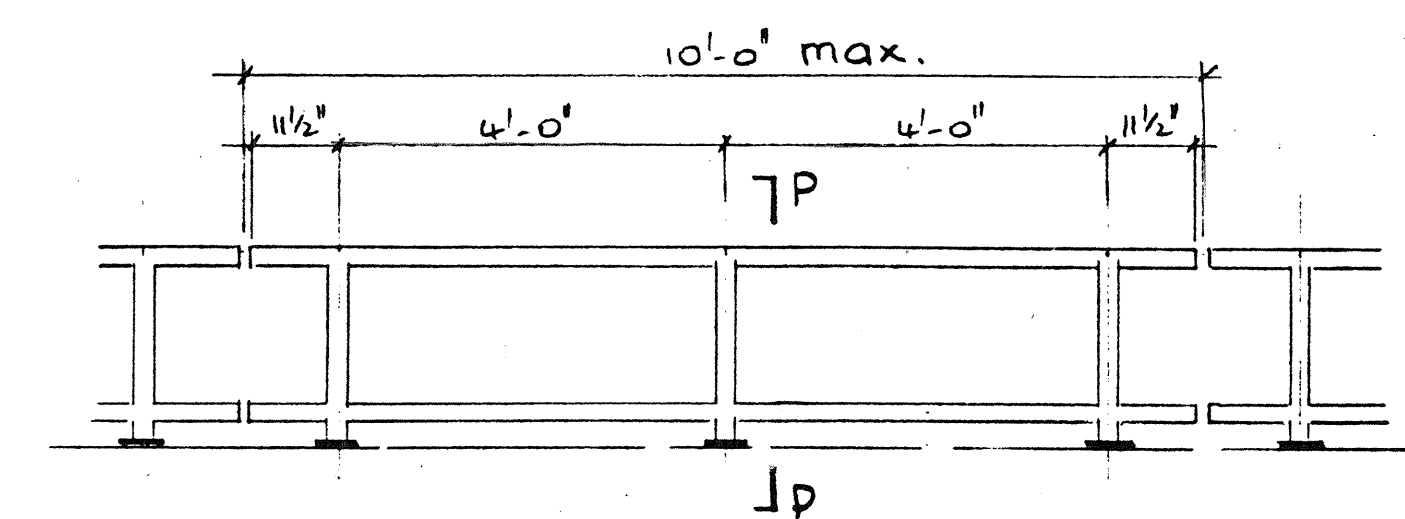
ROPE FINISH
Half Size



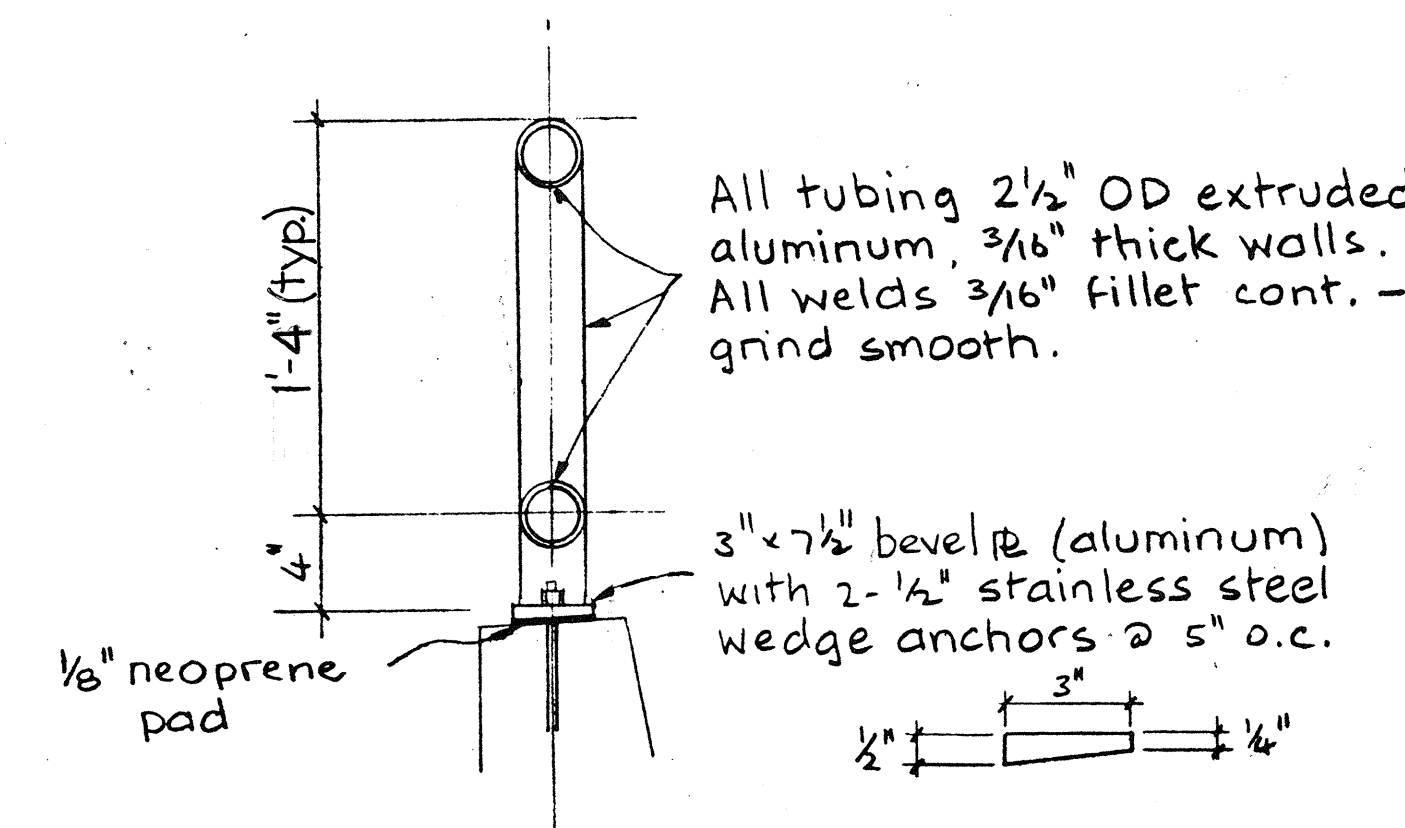
TYPICAL SECTION
Scale: 1/4" = 1'-0"



SECTION AT CATCH BASIN
Scale: 1/4" = 1'-0"



ALUMINUM RAILING ELEVATION
N.T.S.
Submit post spacing to Engineer for approval.



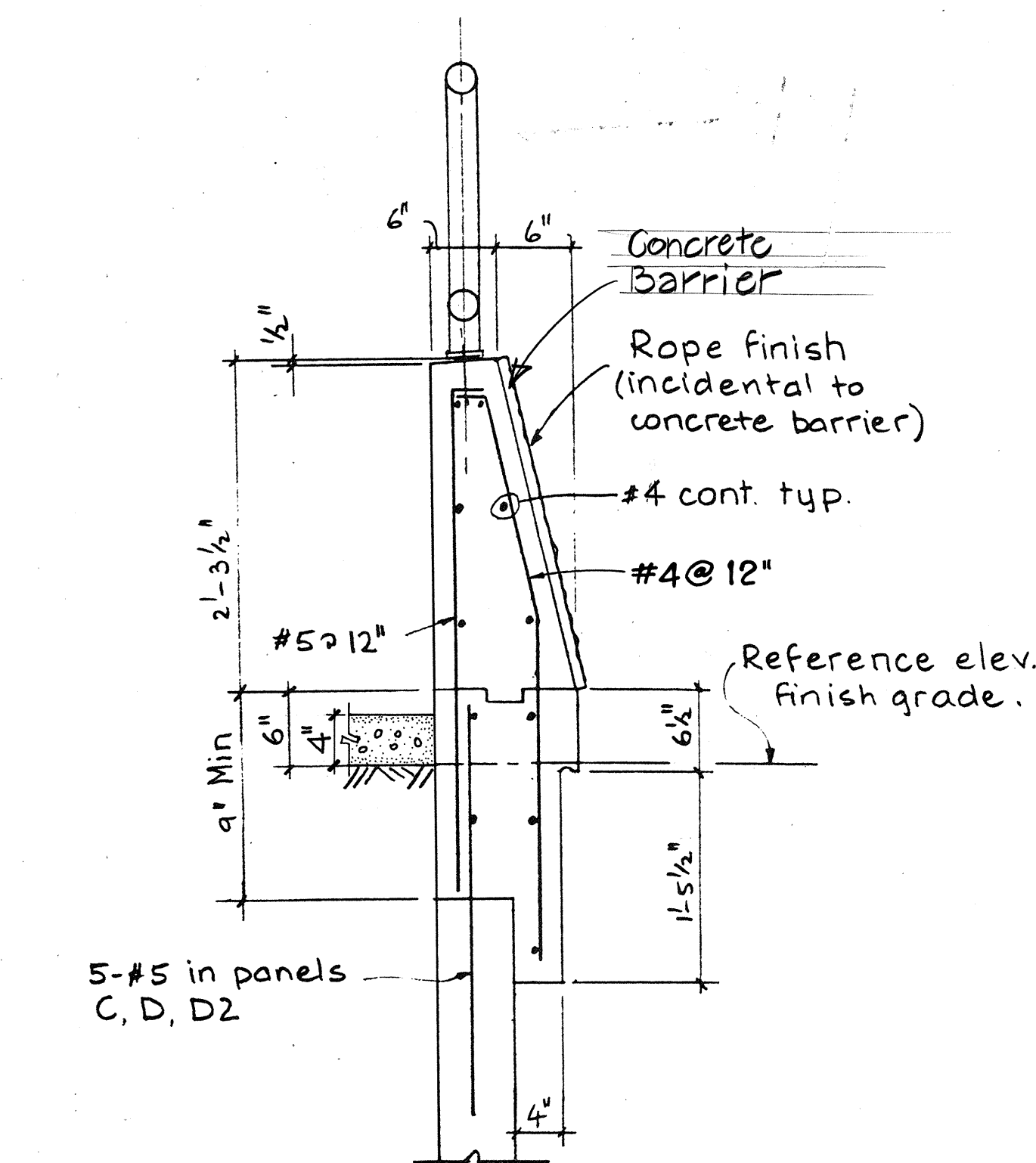
SECTION P-P
Scale: 1/2" = 1'-0"

Note:
Wall design based on $\gamma = 125$ pcf, select fill $\phi = 35^\circ$, base sliding friction angle 26.5° , random fill $\phi = 30^\circ$, 250 psf traffic surcharge.

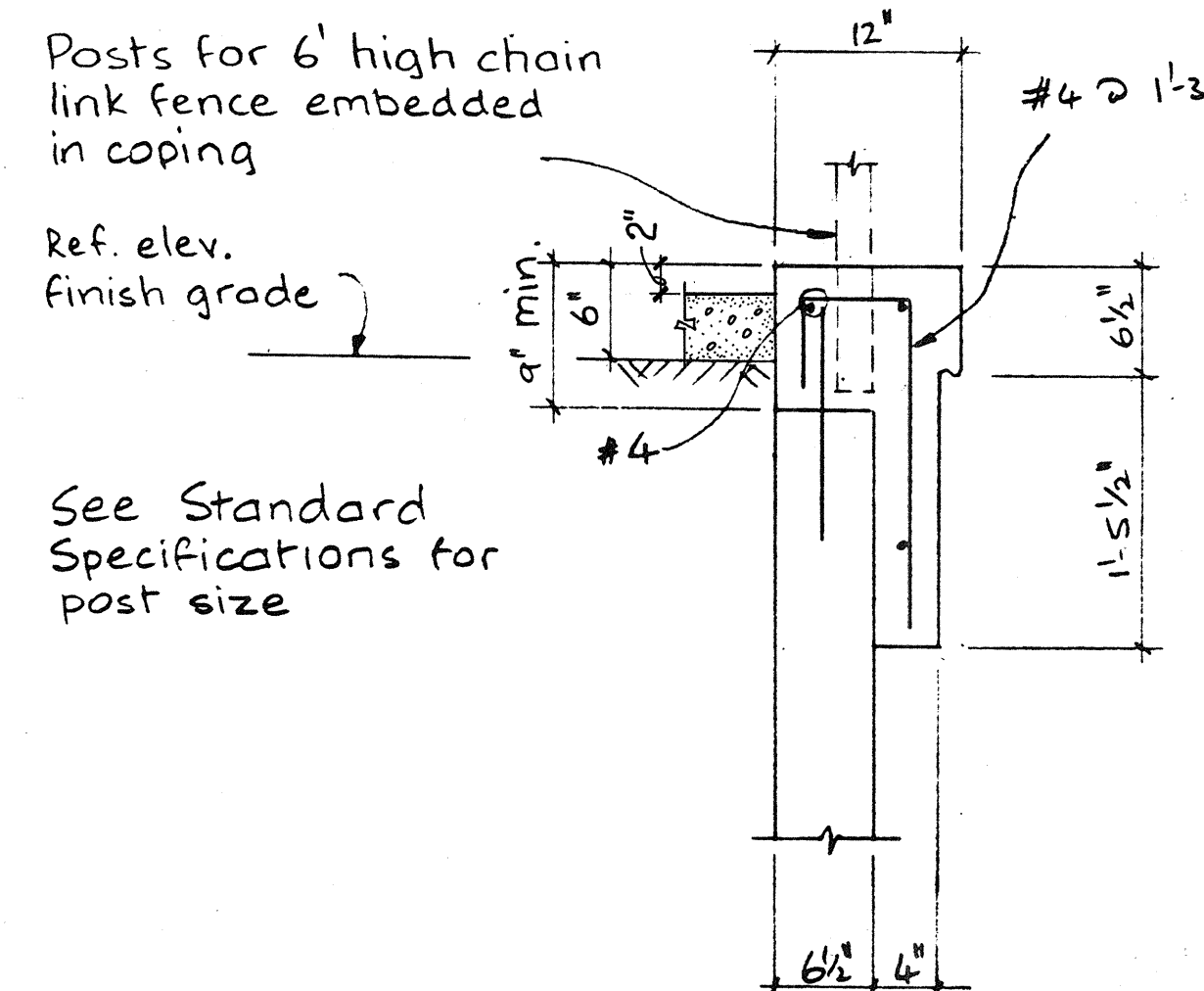
ESTIMATE OF QUANTITIES

Item	unit	quantity
Precast facing panels	Sq. ft.	1831
Levelling pad	l.f.	200
Coping	l.f.	110
Select backfill	L.S.	(810 cy)

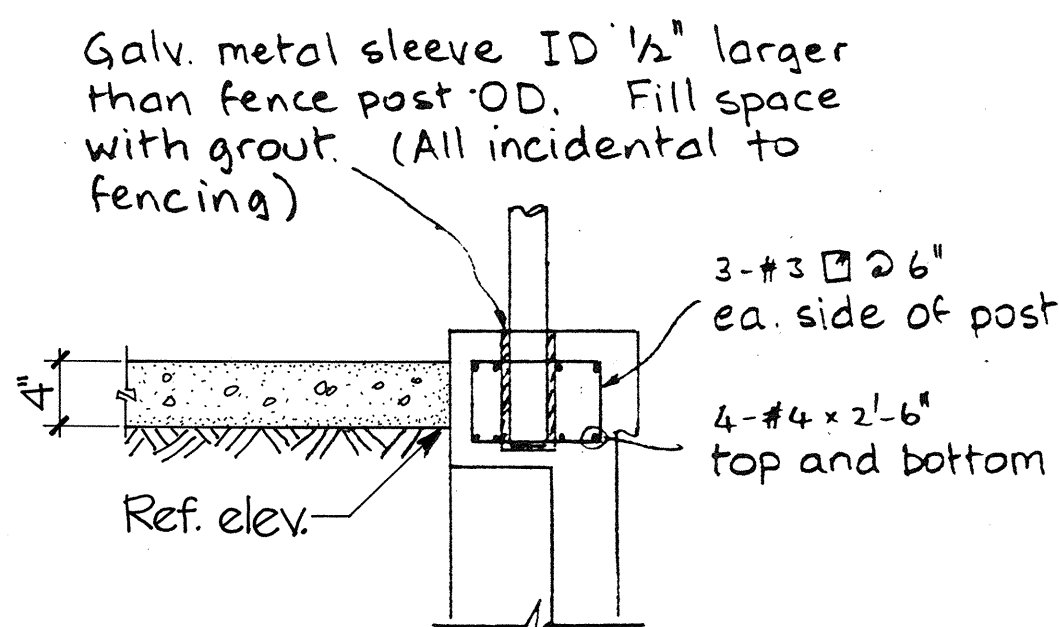
SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTE BOOK	
No.	



SECTION AT CONCRETE BARRIER
Scale: 1" = 1'-0"



SECTION AT COPING
Scale: 1" = 1'-0"



DETAIL AT FENCE POST

APPROVED: William W. Mill 9/25/89 DATE
HAWAIIAN INDEPENDENT REFINERY, INC.
JOHN W. PARKIN
CONSULTING CIVIL AND STRUCTURAL ENGINEER

VSL Corporation

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
RETAINED EARTH PRECAST FASCIA WALL	
SAND ISLAND ROAD WIDENING 2ND BRIDGE AND APPROACHES	
SCALE: AS NOTED	DATE: JUN, 1986
DATE	REVISION
SHEET NO. P4 OF 5 SHEETS	

