

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	25-0450(3)	1981	3	18

GENERAL NOTES

Δ - DESIGN SPECIFICATIONS:

Standard Specification for Highway Bridges (12th Edition) with subsequent interim Specifications. (AASHTO)

B - DESIGN LOADS: HS-20-44

C- MATERIALS:

1. Reinforced Concrete - Class A.
2. Reinforcing steel - ASTM A615 Grade 40
3. Prestressed steel & concrete - See prestressed concrete notes.
4. Steel Shapes & Plates - ASTM A-36.
5. Anchor bolts - ASTM A325

D- CONSTRUCTION METHODS:

1. See Standard Specification for Road & Bridge Construction, 1976 Edition & Special Provisions.
2. Prefabricated fabric pads shall be securely fastened to the Abutments before placement of the prestressed planks.
3. All anchor bolts and structural steel shapes & plates shall be hot dip galvanized after fabrication.

E. GENERAL:

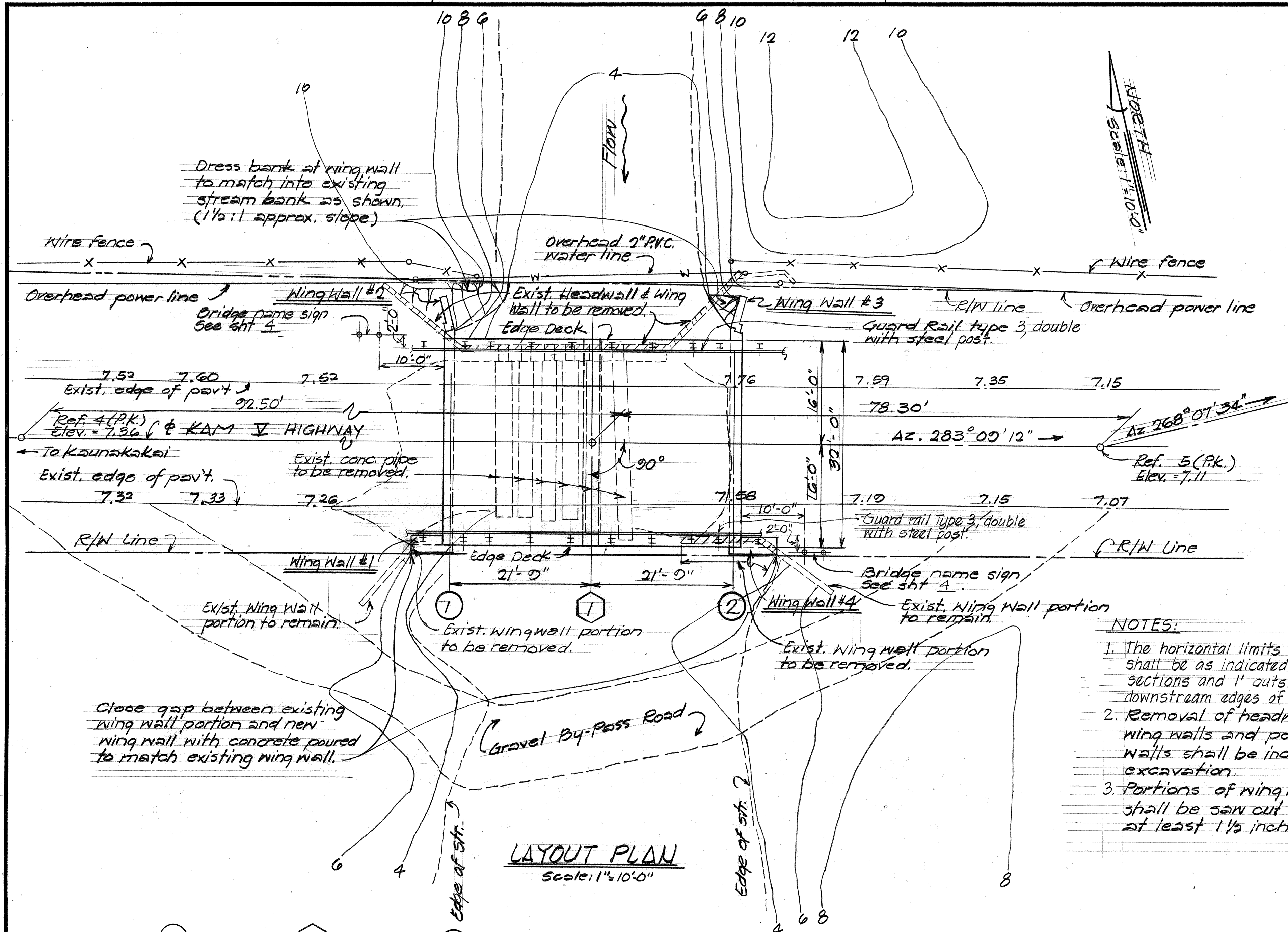
1. All items noted incidental will not be paid for separately.
2. The Contractor shall verify all dimensions in the field before commencing with the work.
3. The Contractor shall verify the location of all existing utilities near the bridge and notify their respective owners before commencing work.

F. PRESTRESSED CONCRETE NOTES:

1. Concrete shall have a 28 day compressive strength of $f'_c = 5,500 \text{ psi}$.
2. Concrete shall have a cement content of not less than 7.0 sacks, nor more than 8.5 sacks per cubic yard.
3. The concrete shall attain a compressive strength of $f_{ci} = 4,000 \text{ psi}$ before the strands are released.
4. Prestensioned strands shall be 7 wire, $\frac{1}{2}$ " ϕ , stress relieved steel strands (area = 1.33 sq. in.) with an ultimate strength of 270 ksi.
5. Total loss due to creep, shrinkage, elastic shortening and relaxation of steel = 45,000psi.
6. Strand pattern shall be symmetrical about longitudinal ϕ of the planks.
7. Strand release sequence shall not induce any lateral deflection of the planks.
8. Contractor shall submit his proposed strand pattern and releasing sequence to the Engineer for approval.
9. Lifting devices shall be placed as close as possible to the center line of the bearing of the plank.
10. Working force = 528k

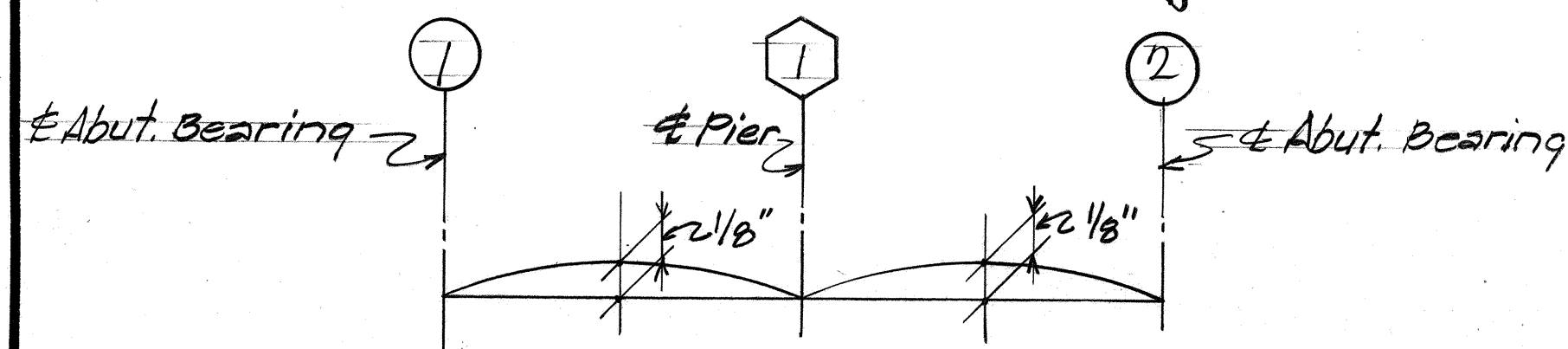
NOTES:

1. The horizontal limits of channel excavation shall be as indicated in the excavation sections and 1' outside the upstream & downstream edges of the structure.
2. Removal of headwall, conc. pipes, wing walls and portions of wing walls shall be incidental to channel excavation.
3. Portions of wing walls to remain shall be saw cut to a depth of at least 1 1/2 inches.

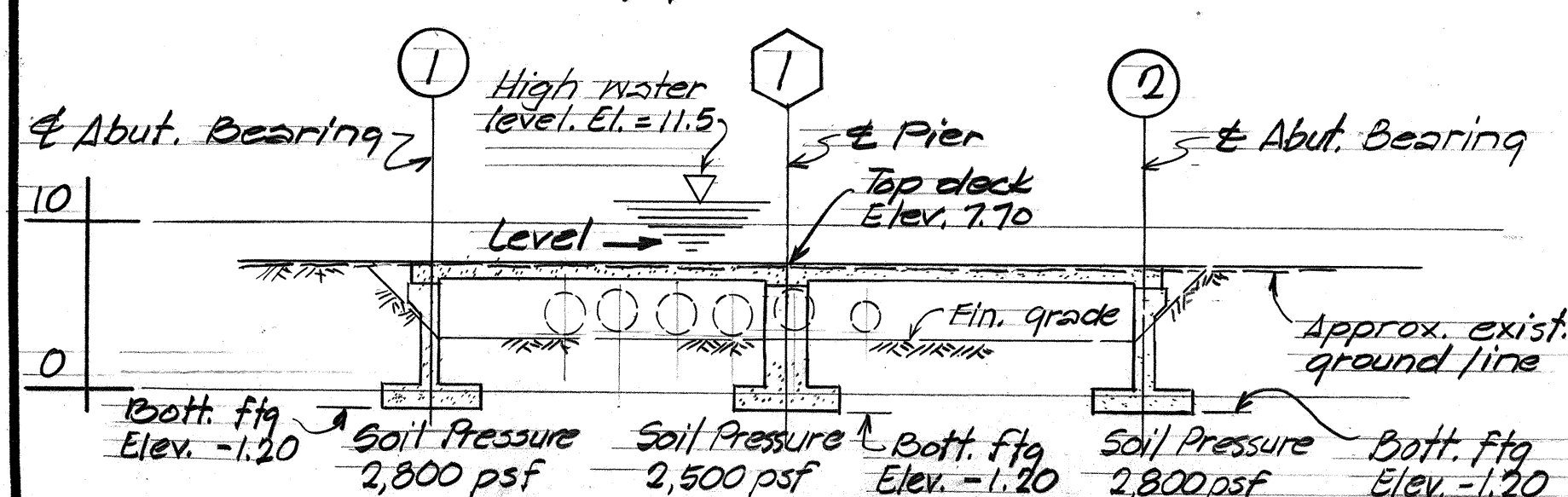


LAYOUT PLAN

Scale: 1" = 10'-0"



SLAB CAMBER DIAGRAM
Not to scale



LONGITUDINAL SECTION ALONG E BRIDGE
Scale: 1"=10'-0"

<u>ESTIMATED QUANTITIES</u>			
ITEM NUMBER	ITEM	UNIT	TOTAL
206.6100	STRUCTURE EXCAVATION FOR BRIDGE AND WING WALL	Cy	240
206.7201	STRUCTURE BACKFILL FOR BRIDGE ABUTMENTS AND WING WALLS	Cy	150
206.8200	FILTER MATERIAL FOR STRUCTURES	Cy	12
207.0200	CHANNEL EXCAVATION	Cy	240
503.1090	CONCRETE IN KAMALO BRIDGE (EXCEPT FOOTING)	L.S.	70
503.1092	CONCRETE IN FOOTING	L.S.	36
504.7410	PRESTRESSED CONCRETE PLANKS	SF	1,408
602.0090	REINFORCING STEEL IN KAMALO BRIDGE	L.S.	14,000
650.1000	BRIDGE NAME SIGN	EA.	2

SYMBOL & ABBREVIATIONS

shrt no. sect.
 is cut or det.
 location.

Detail or sect.
 designation.

Ftg - Footing
P.K. - Pk Nail
TSS - Top Slab Strip
W.P. - Working Point

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KAMEHAMEHA V HIGHWAY

REPLACEMENT OF KAMALO BRIDGE

LAYOUT PLAN, LONGITUDINAL SECTION

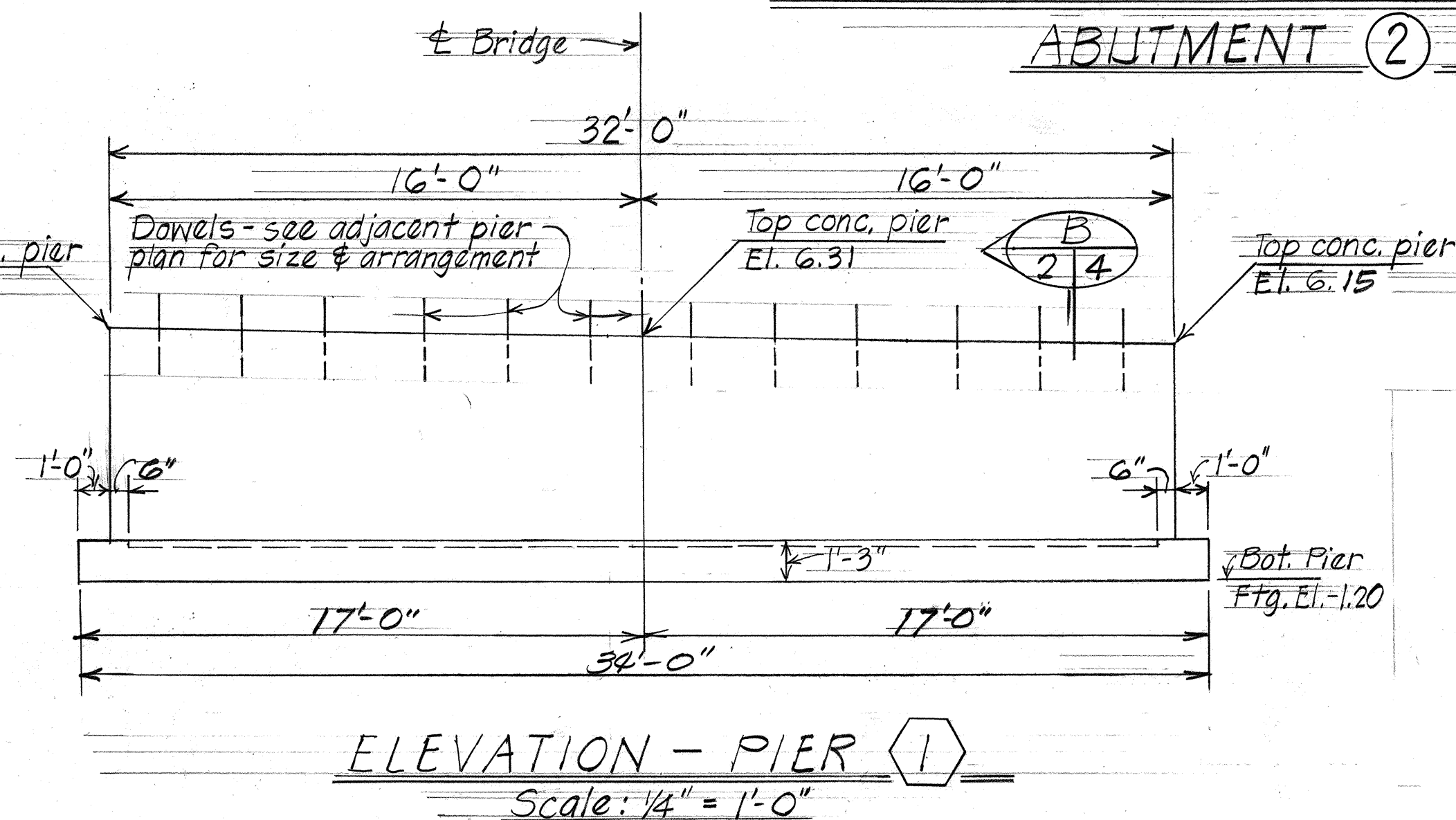
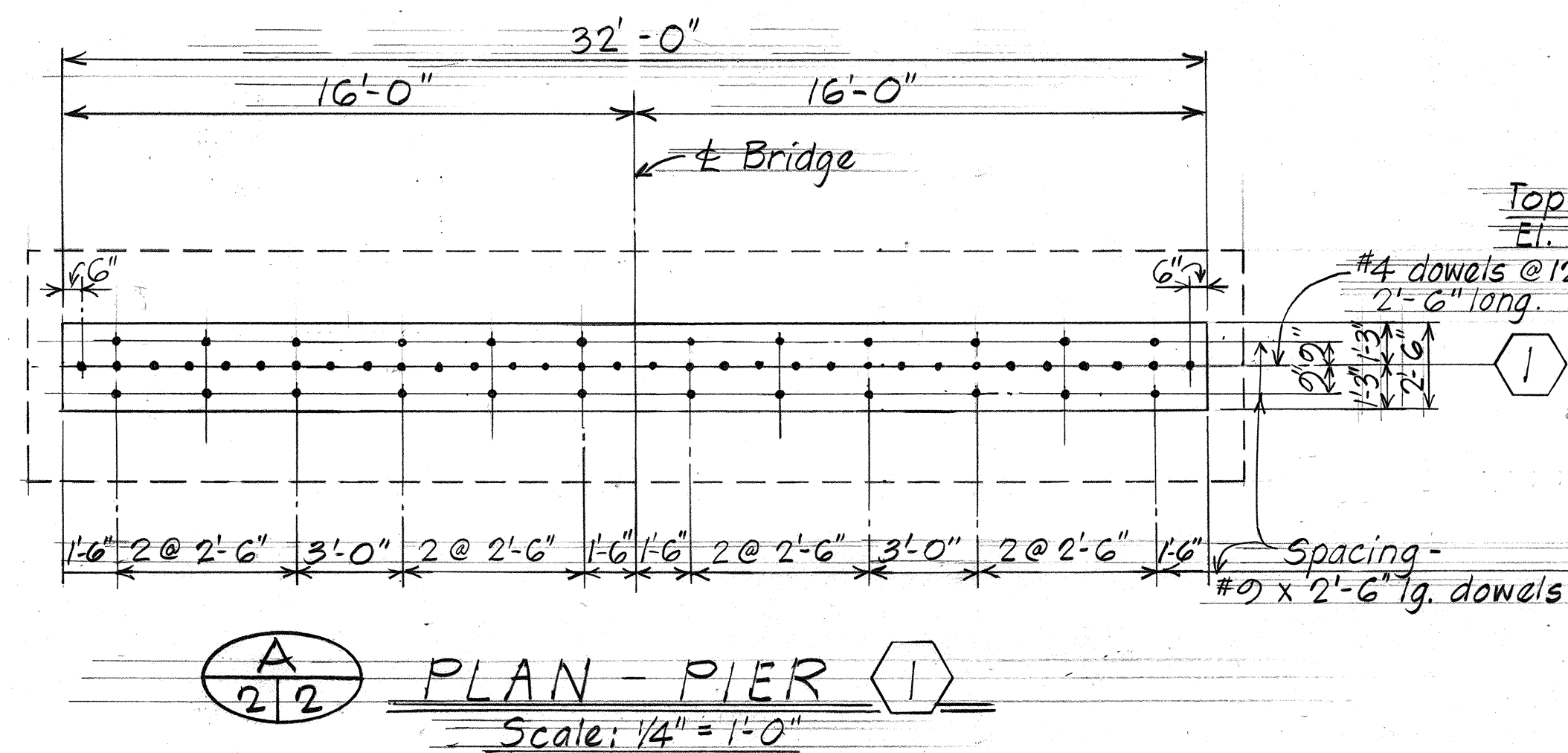
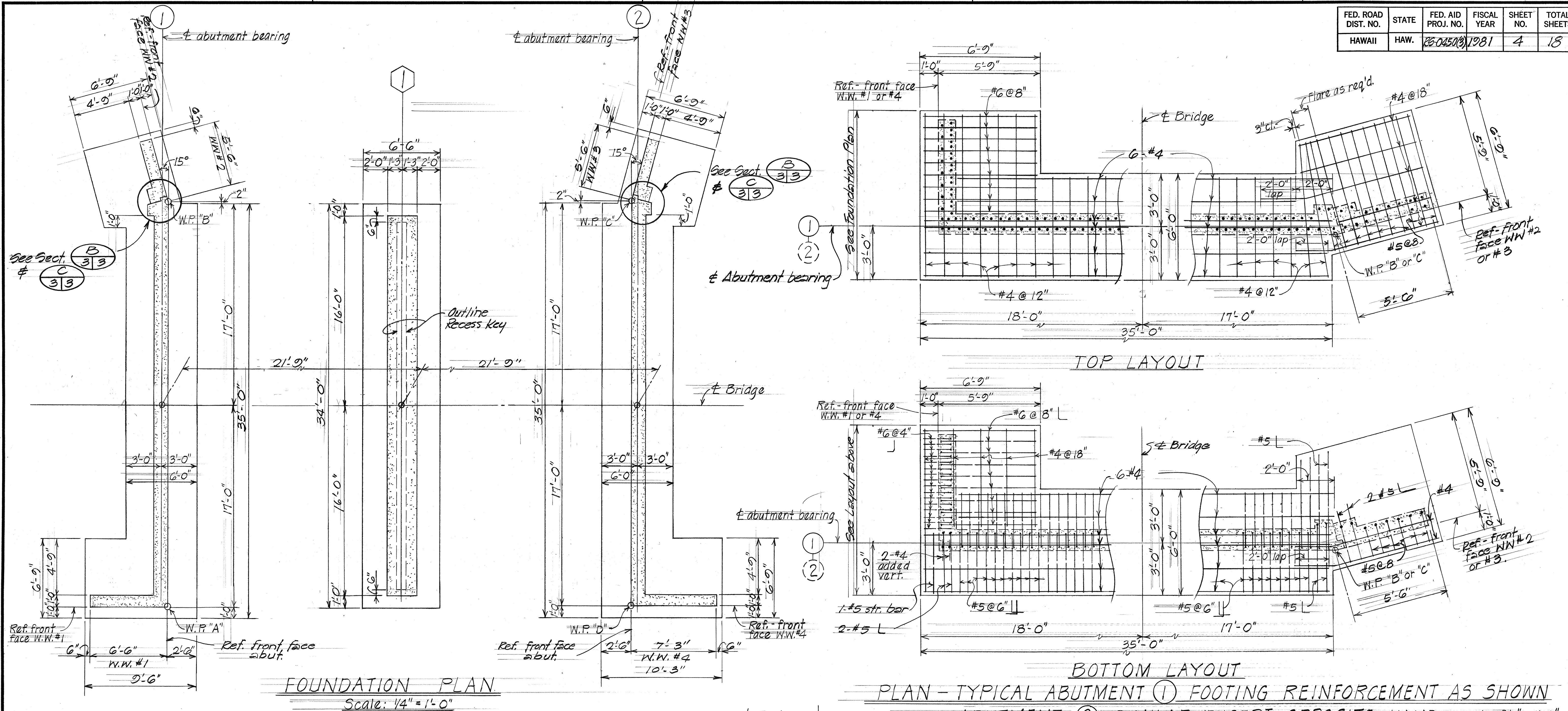
GENERAL NOTES & ESTIMATED QUANTITIES

Proj. No. RS-0450(3)

Scale: As Shown Date: Aug 1980

SHEET NO. 1 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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STATE OF HAWAII
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REPLACEMENT OF KAMALO BRIDGE

FOUNDATION PLAN, PIER DOWEL SRS'S

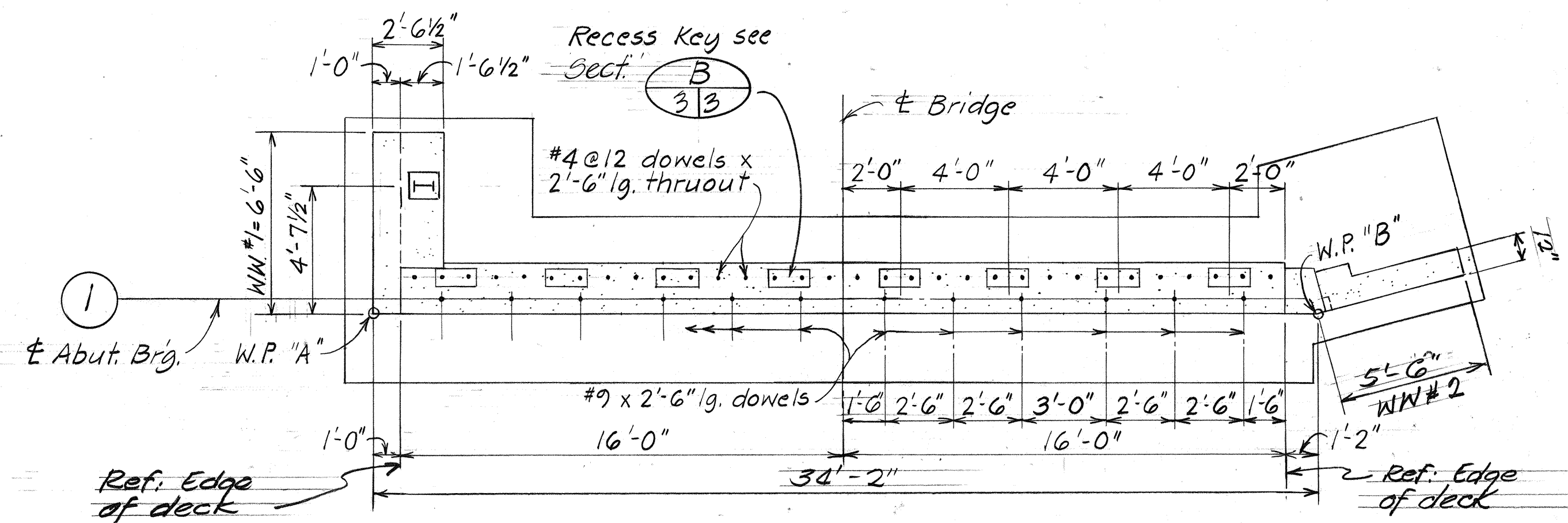
PLAN-TYPICAL ABUT. FIG REINFORCEMENT

Proj. No. RS-0450(3)

Scale: AS Shown Date: Aug 1980

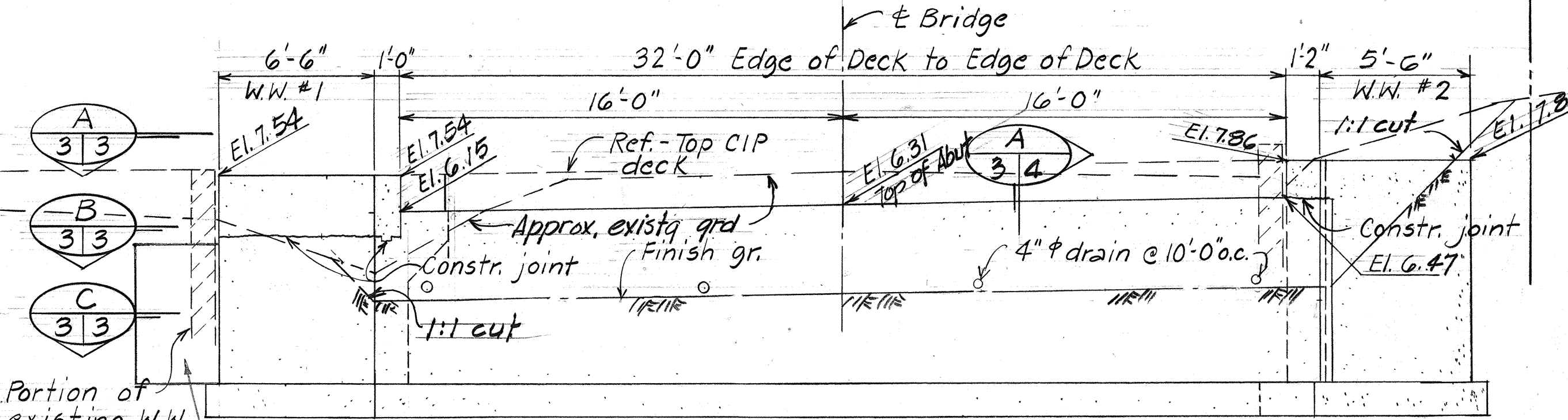
SHEET NO. 2 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0450(3)	1981	5	18



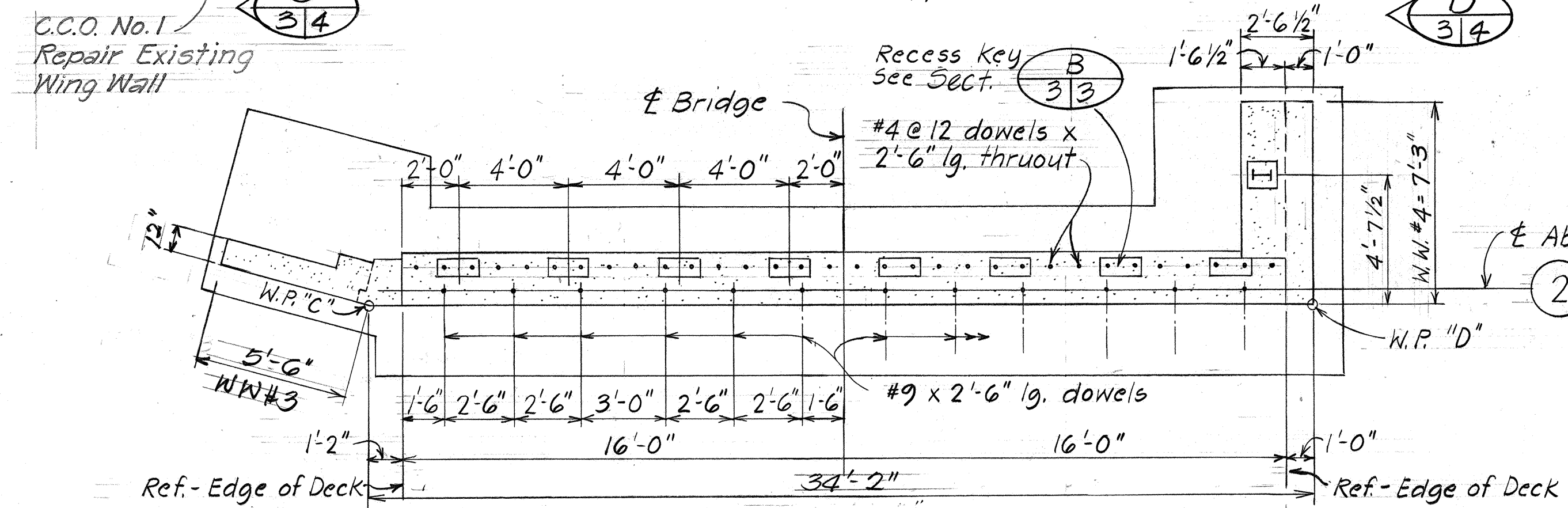
PLAN - ABUTMENT #1

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



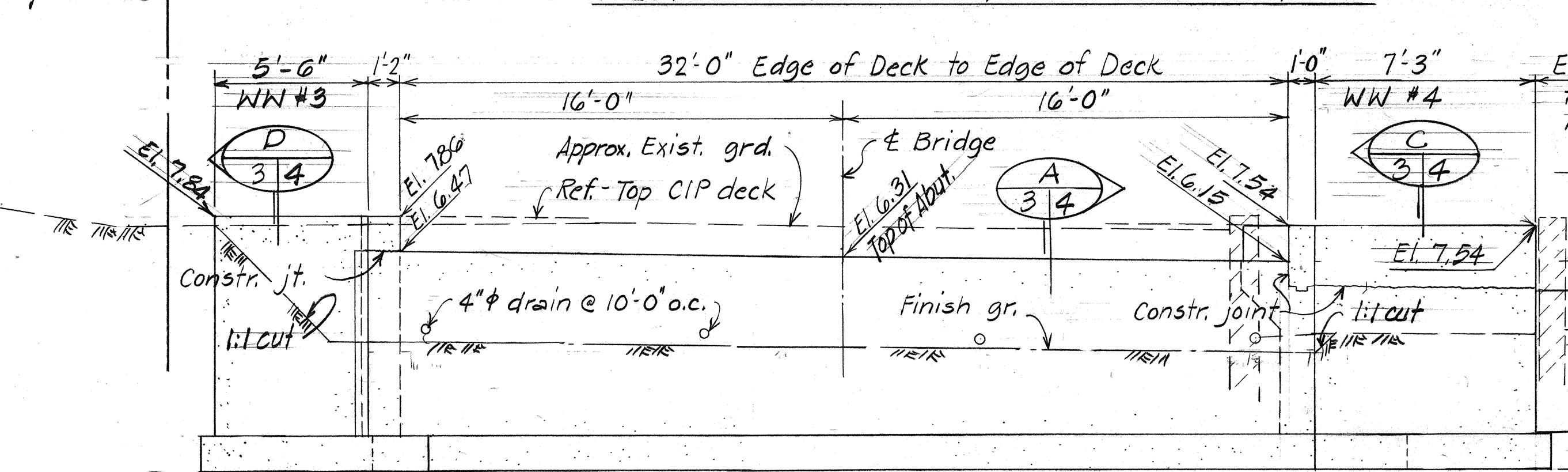
DEVELOPED ELEVATION - ABUTMENT #1

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



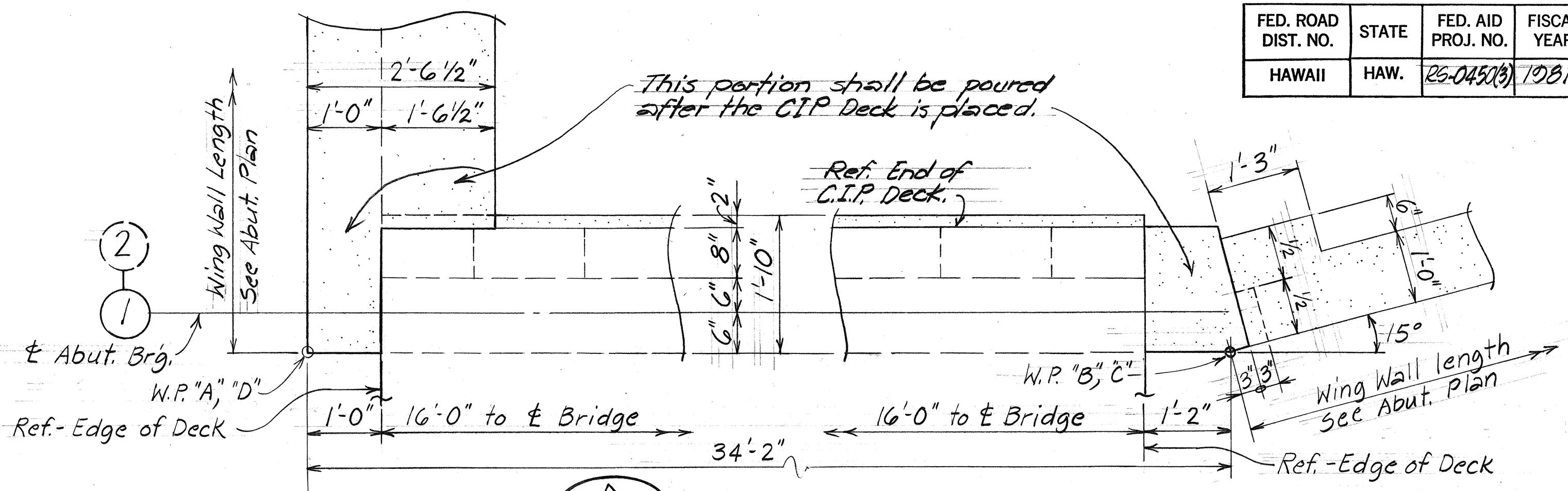
PLAN - ABUTMENT #2

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



DEVELOPED ELEVATION - ABUTMENT #2

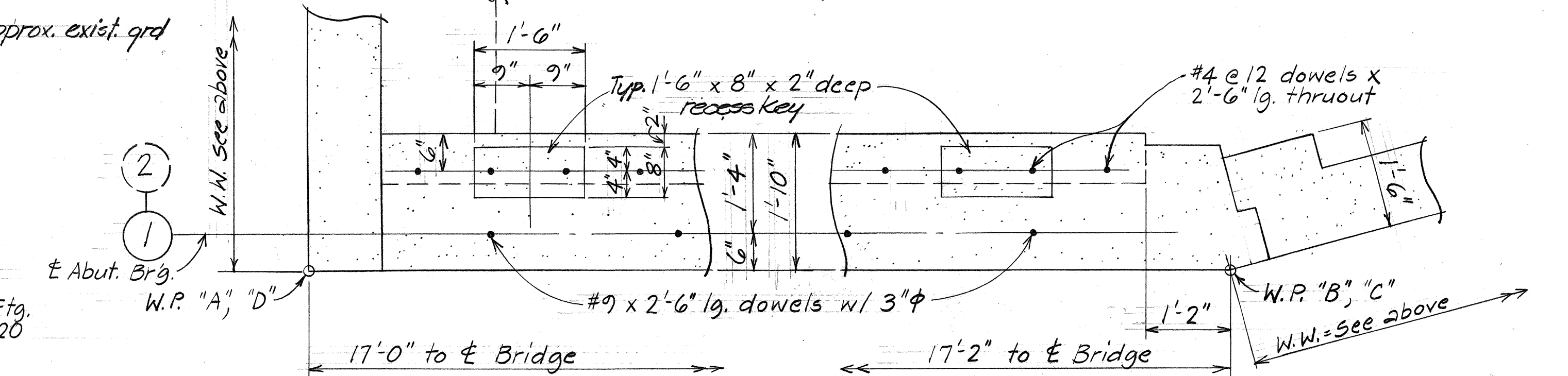
Scale: 1/4" = 1'-0"



SECTION A1 3/3

SECTION - SIMILAR EXCEPT OPPOSIT HAND

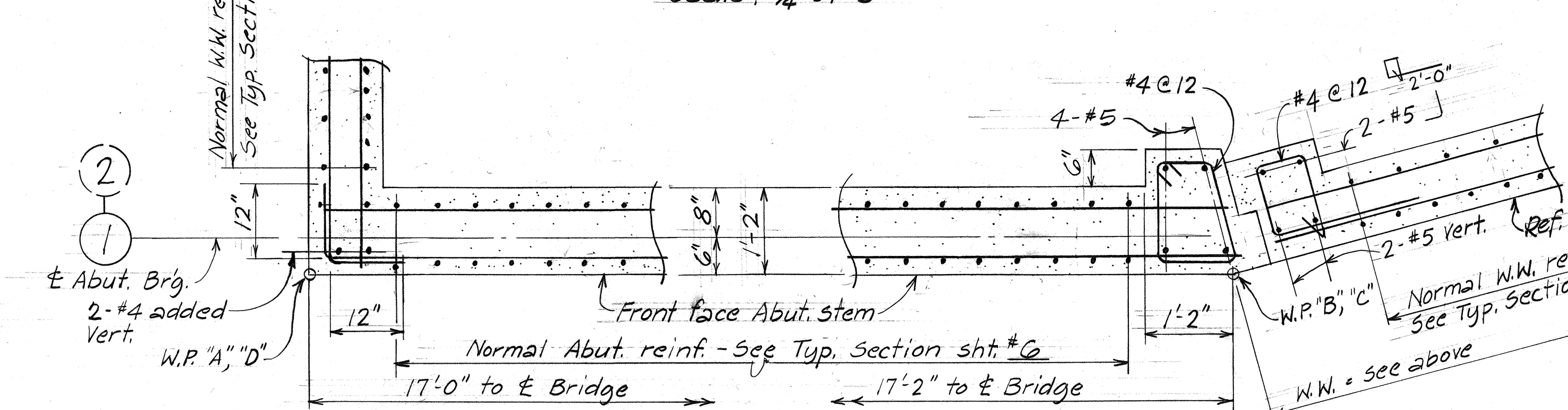
Scale: 3/4" = 1'-0"



SECTION B1 3/3

SECTION - SIMILAR EXCEPT OPPOSITE HAND

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



SECTION C1 3/3

SECTION - SIMILAR EXCEPT OPPOSITE HAND

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

STATE OF HAWAII
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KAMEHAMEHA V HIGHWAY

REPLACEMENT OF KAMALO BRIDGE

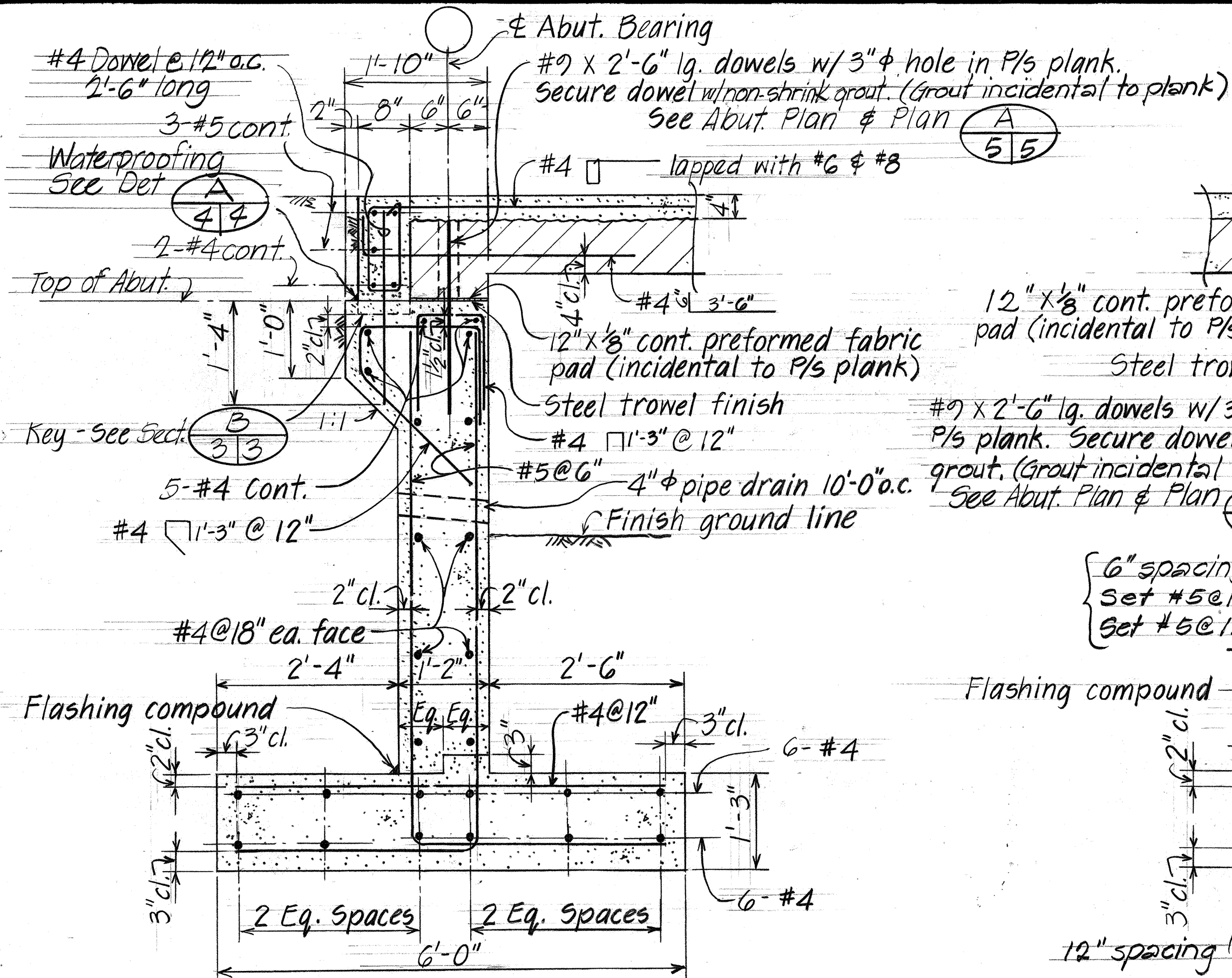
PLAN & ELEVATION - ABUTMENT ① ②

Proj. No. RS-0450(3)
Scale: As Shown Date: Aug. 1980

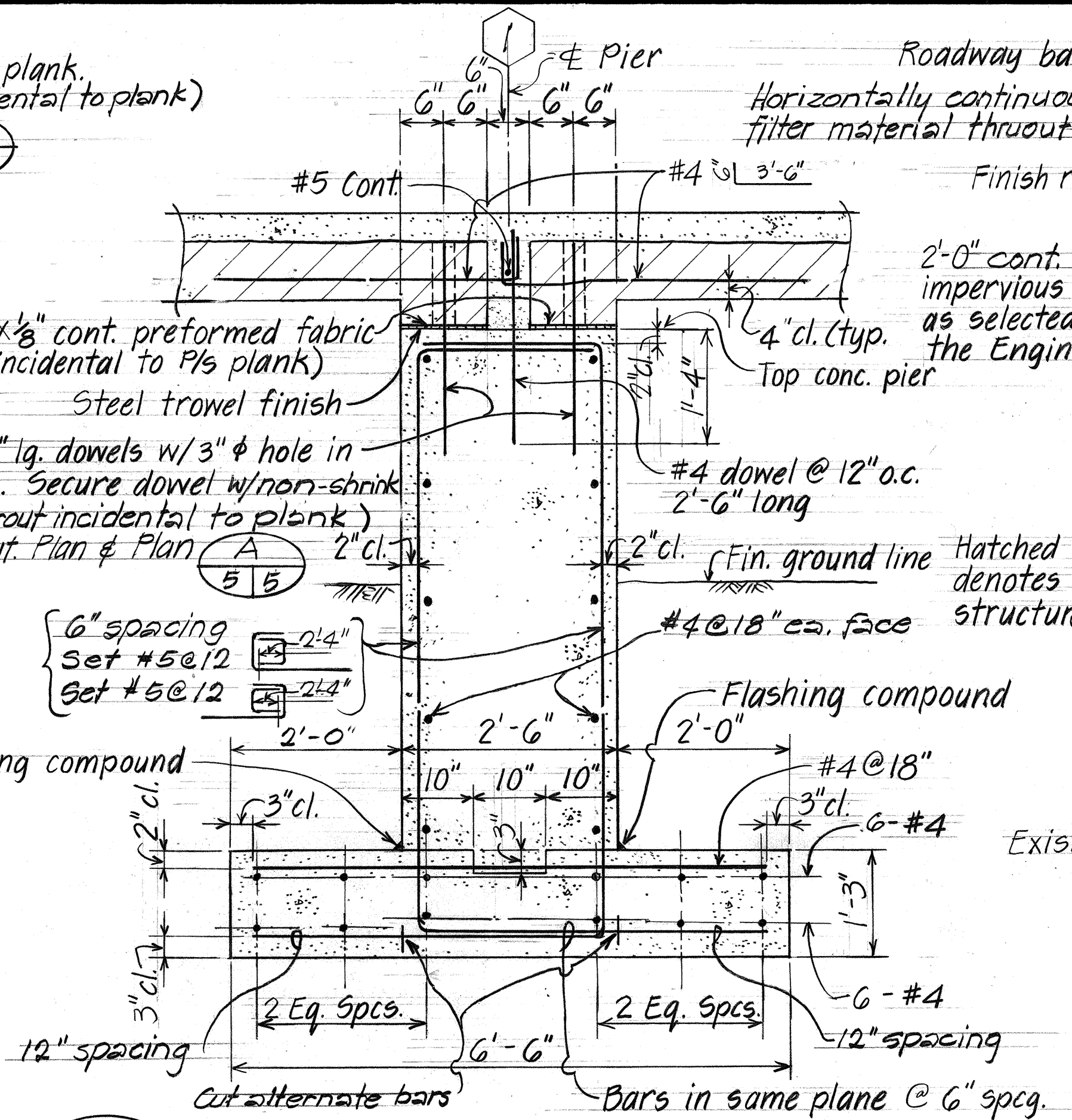
SHEET NO. 3 OF 6 SHEETS

ORIGINAL PLAN	DATE
DESIGNED BY	Aug 80
TRACED BY	Aug 80
NOTED BY	Aug 80
CHECKED BY	Aug 80

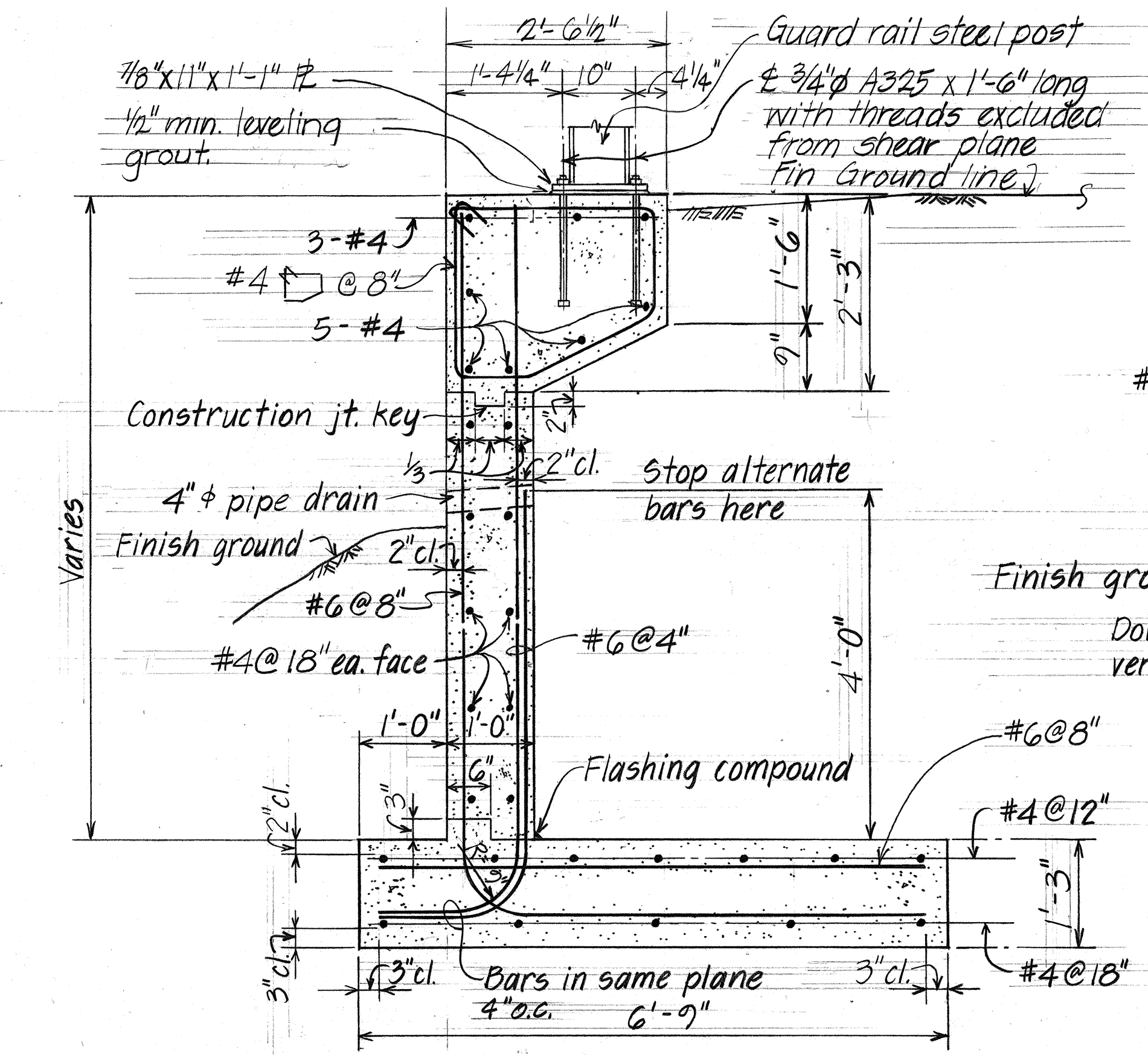
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0450(3)	1981	6	18



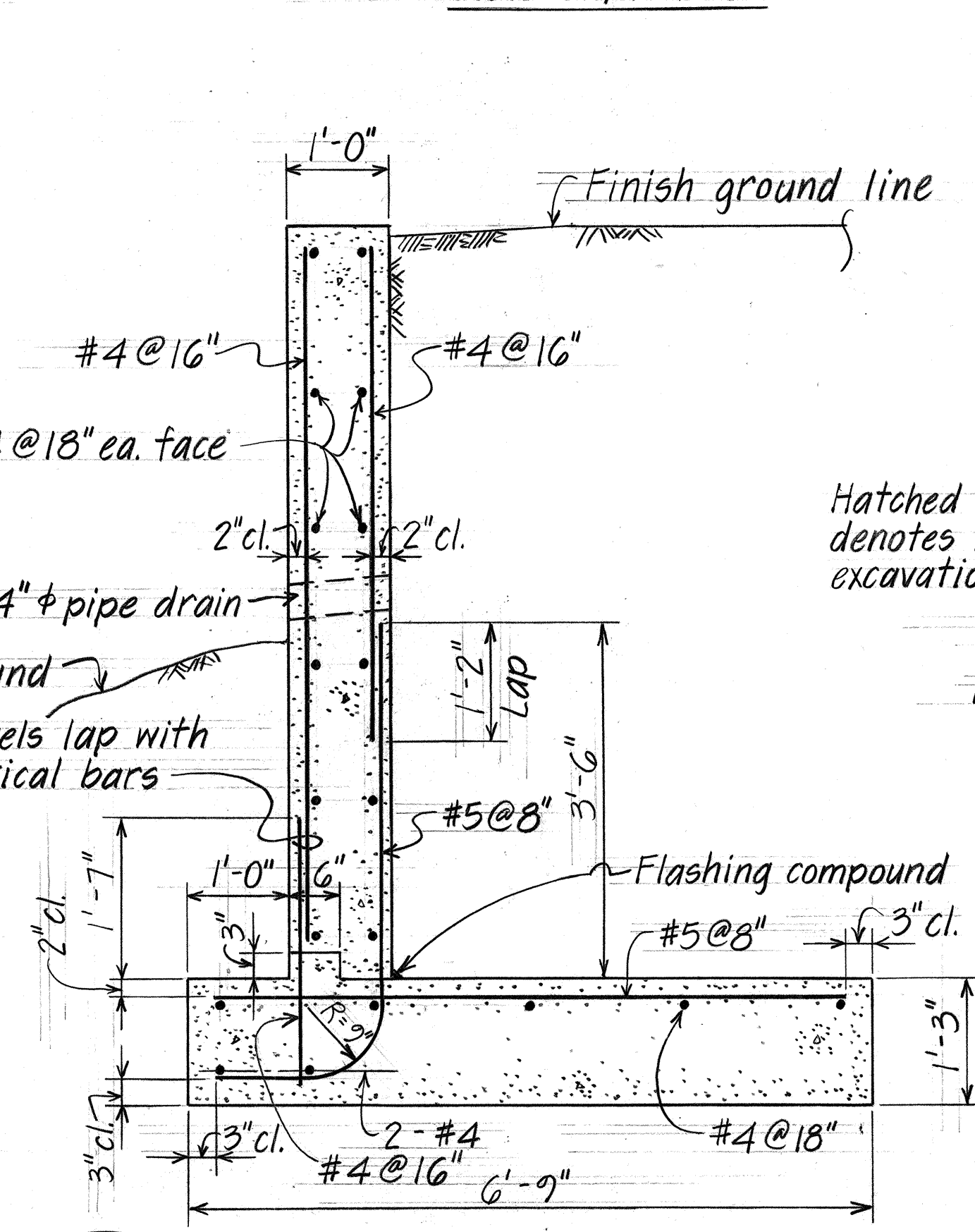
(A) 3/4 TYPICAL SECTION - ABUT. #1 & #2
Scale: 3/4" = 1'-0"



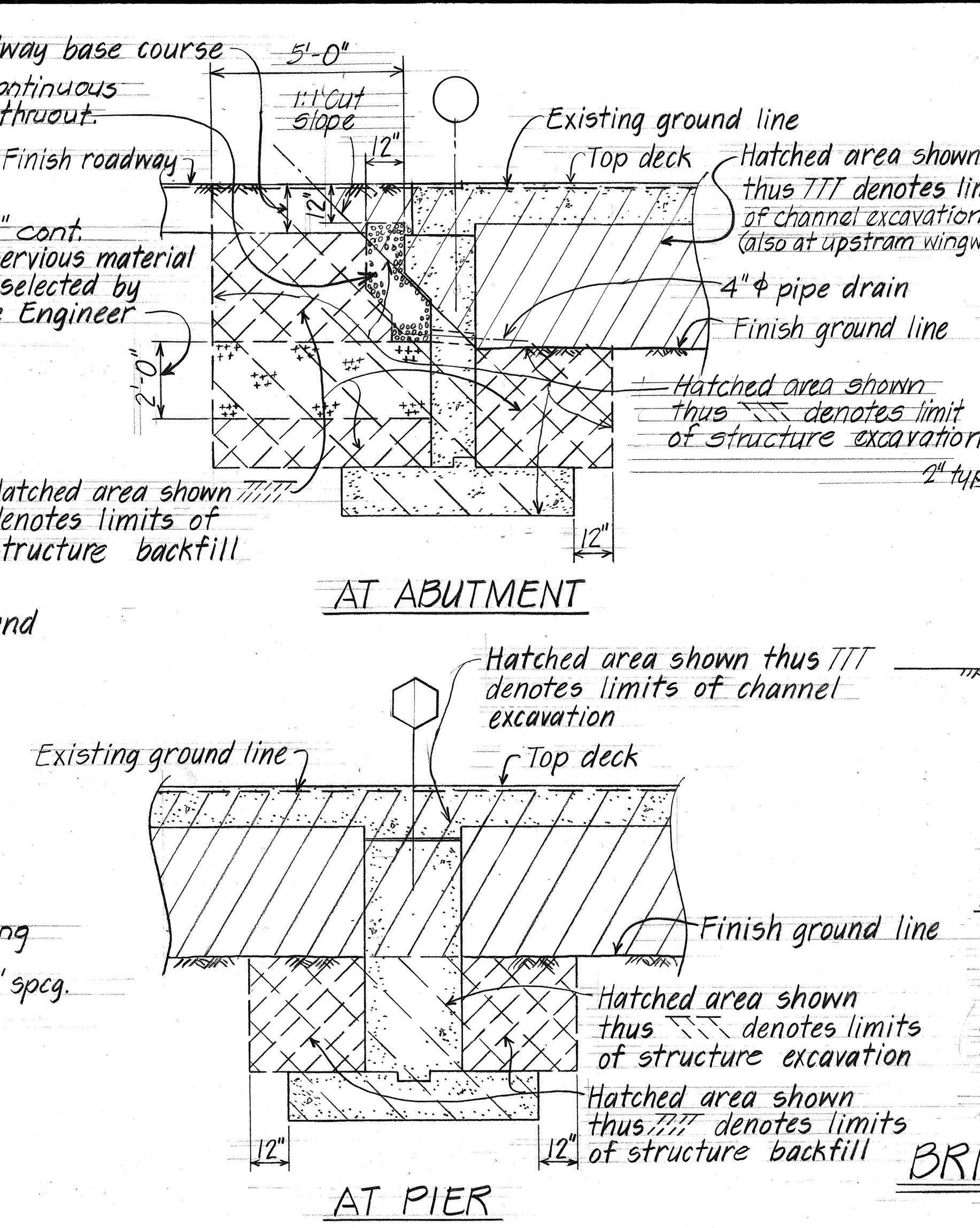
(B) 2/4 TYPICAL SECTION - PIER (1)
Scale: 3/4" = 1'-0"



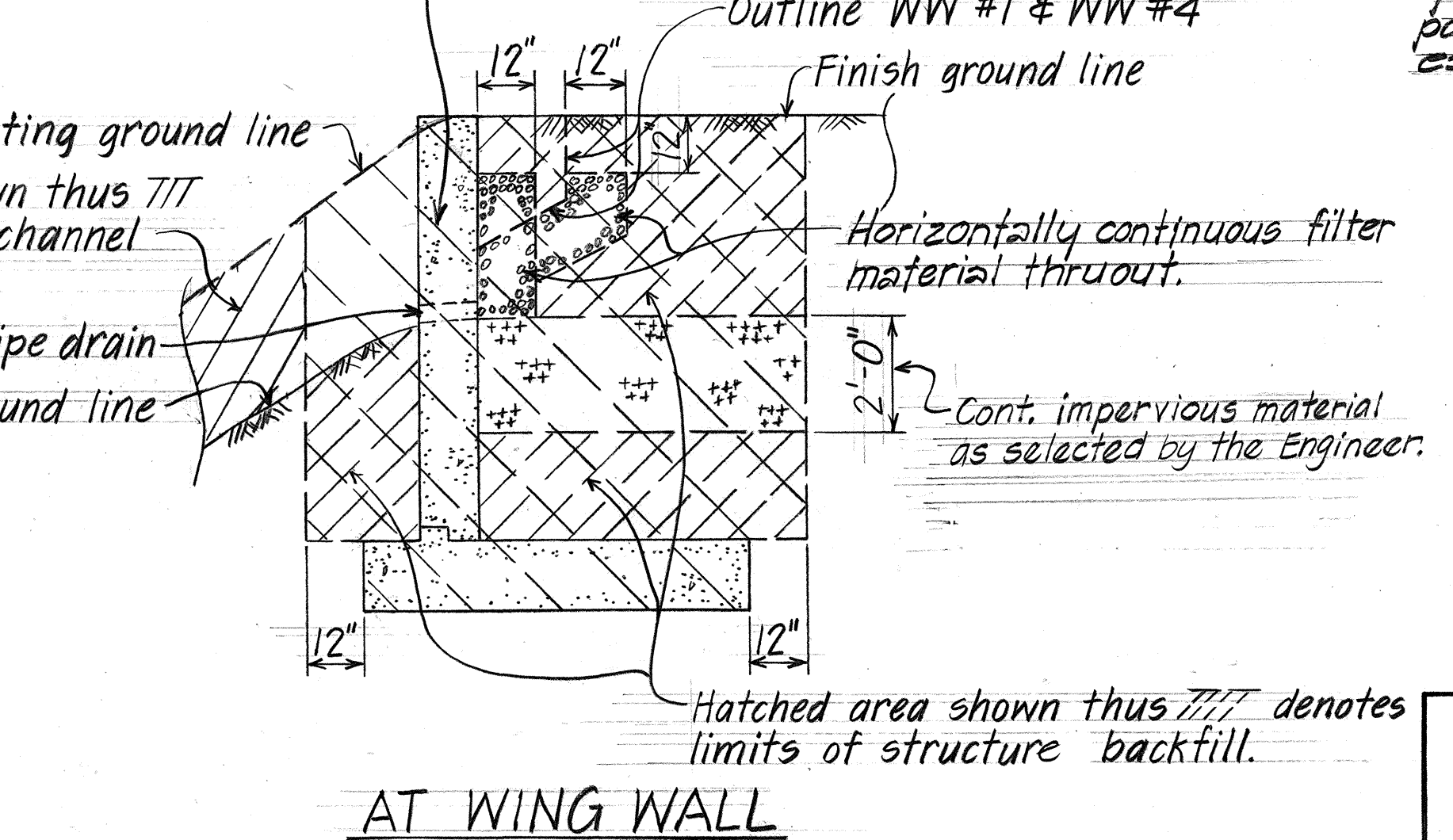
(C) 3/4 TYPICAL SECTION - WING WALL #1 & #4
Scale: 3/4" = 1'-0"



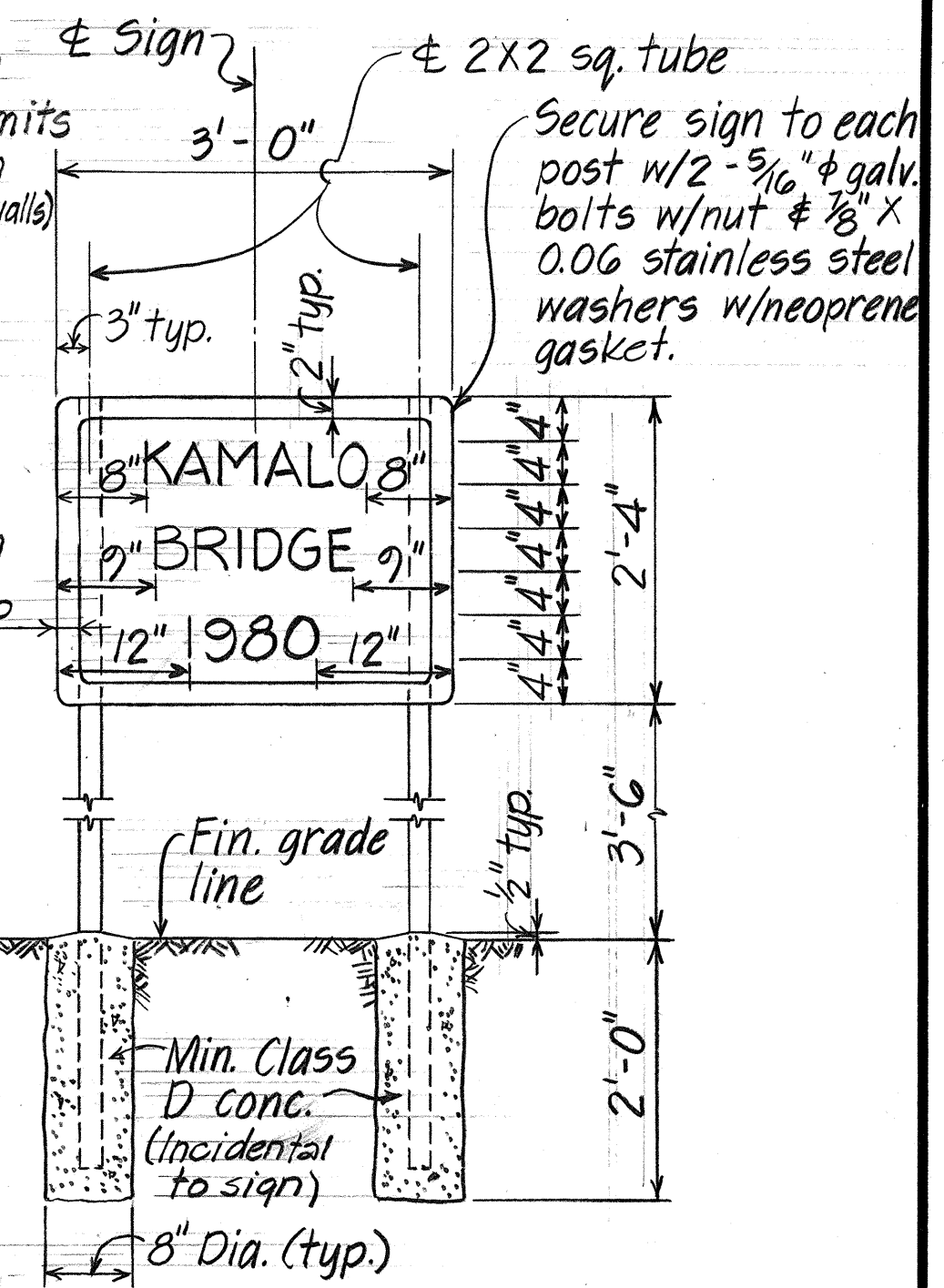
(D) 3/4 TYPICAL SECTION - WING WALL #2 & #3
Scale: 3/4" = 1'-0"



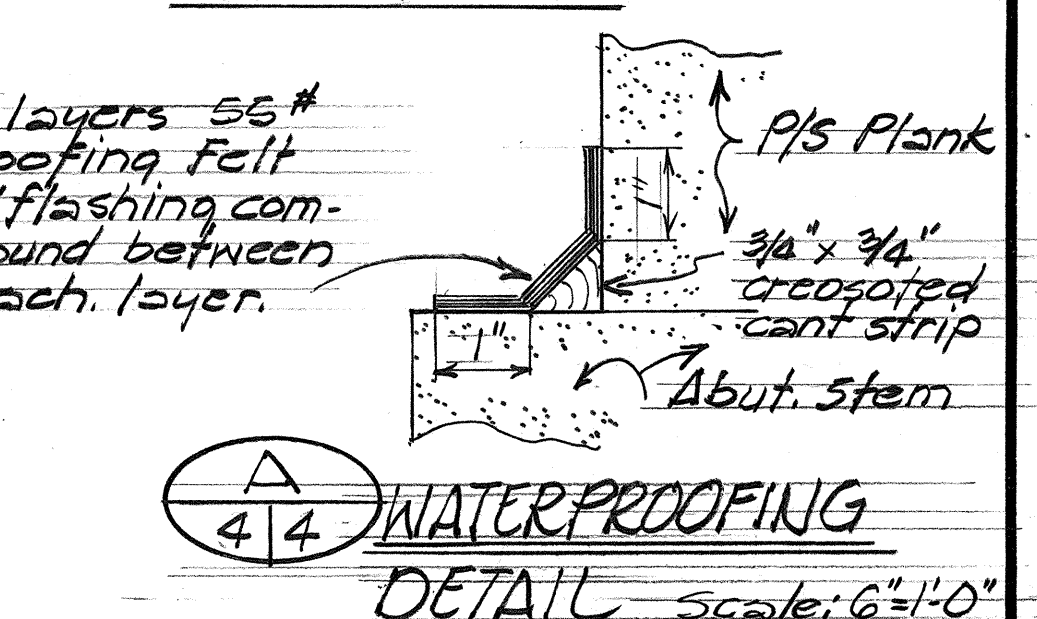
AT ABUTMENT
AT PIER



AT WING WALL
TYPICAL EXCAVATION & BACKFILL PAYLINE
Not to Scale



BRIDGE NAME SIGN DETAIL
Scale: 3/4" = 1'-0"



WATERPROOFING DETAIL
Scale: 6" = 1'-0"

STATE OF HAWAII
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HIGHWAYS DIVISION
KAMEHAMEHA V HIGHWAY
REPLACEMENT OF KAMALO BRIDGE
TYPICAL SECTION - ABUTMENT (1) & (2),
PIER (1) TYP. STRUCT. EXEC. & BACKFILL PAYLINE
Proj. No. RS-0450 (3)
Scale: As Shown Date: Aug. 1980
SHEET NO. 4 OF 6 SHEETS

ORIGINAL PLAN	DATE	DESIGNED BY	CHECKED BY
PLAN	8/1/80	LN	LN
NOTE BOOK	8/1/80	LN	LN
No.	8/1/80	LN	LN

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KAMEHAMEHA V HIGHWAY

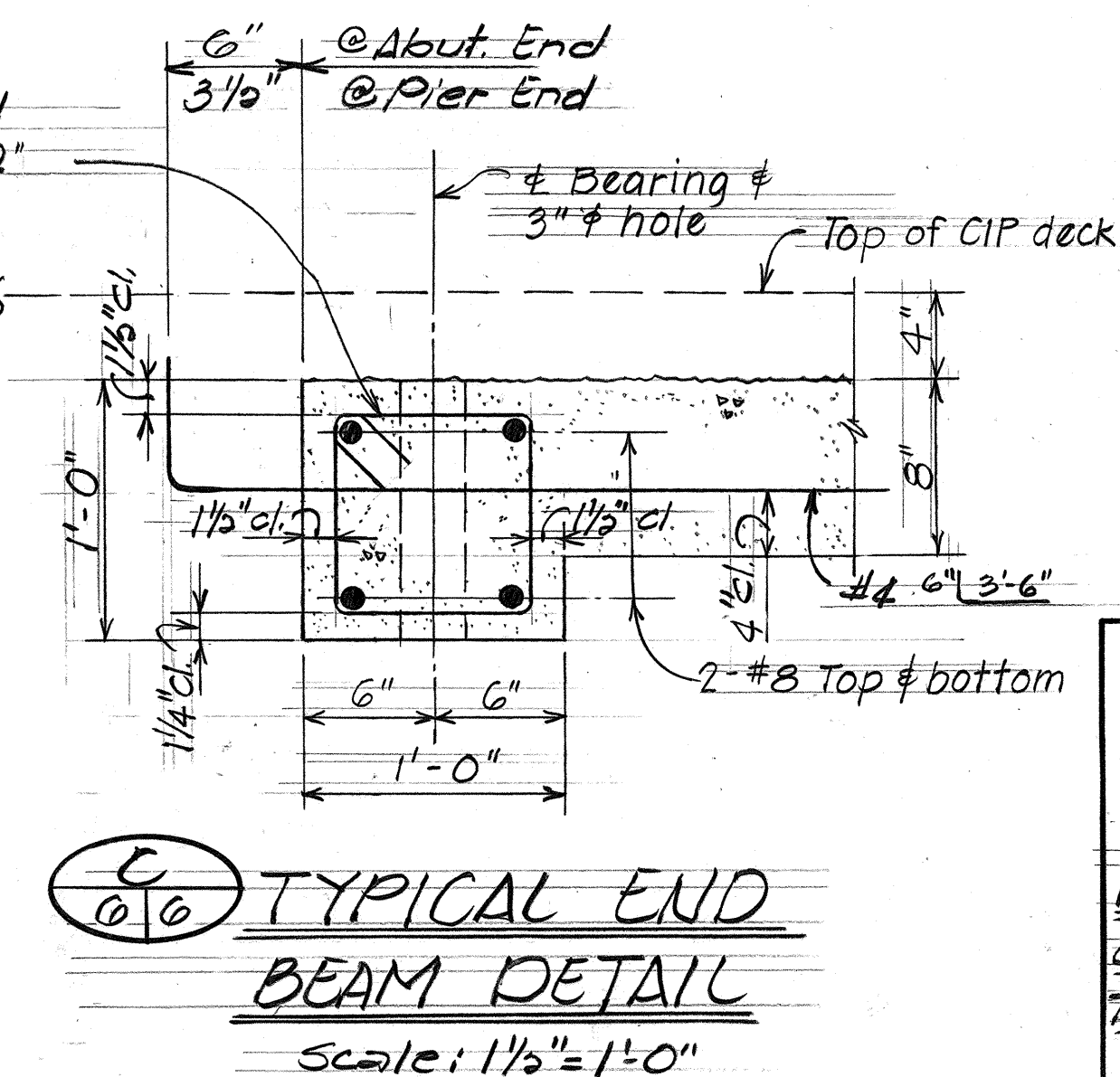
REPLACEMENT OF KAMALO BRIDGE

LAYOUT PLAN - PRESTRESSED CONC. PLANK & RAILING
YTD, PRESTRESSED CONC. SLAB PLANK & CONT. KEY DET.

Proj. No. RS-0450 (3)

Scale: As Shown Date: Aug 1980

SHEET NO. 6 OF 6 SHEETS



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY <i>LMA</i>	" <i>Aug 80</i>
	TRACED BY <i>LMA</i>	" <i>Aug 80</i>
NOTE BOOK	DESIGNED BY <i>MY</i>	" <i>Aug 80</i>
	QUANTITIES BY <i>LS</i>	" <i>Aug 80</i>
No.	CHECKED BY <i>SLY GT MY LA</i>	" <i>Aug 80</i>