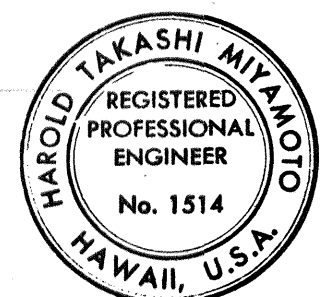


I N D E X

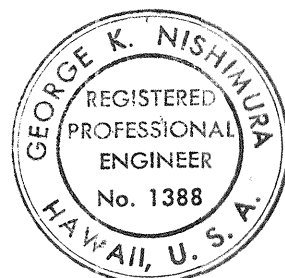
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1 (174)16	1982	18	70

SHEET No.	DESCRIPTION	SHEET No.	DESCRIPTION	ESTIMATED QUANTITY RAMP-IF			
				ITEM No.	ITEM	UNIT	QUANTITY
I-1	INDEX TO DRAWINGS	T-6	TYPICAL GRATING & FRAME DETAILS	206.600	STRUCTURAL EXCAVATION FOR BRIDGE	CU.YD.	1580 CU.YD.
I-2	GENERAL NOTES AND ABBREVIATIONS			503.180	CONCRETE IN STRUCTURE	CU.YD.	2070 CU.YD.
		S-1	STANDARD DETAILS	503.181	CONCRETE IN FOOTING FOR STRUCTURE	CU.YD.	610 CU.YD.
1	DECK FINISH GRID GRADE PLAN	S-2	STANDARD DETAILS	507.500	CONCRETE BRIDGE RAILING	LIN.FT.	1470 LIN.FT.
2	PROFILE AND SUPER ELEVATIONS	S-3	STANDARD DETAILS	602.080	REINFORCING STEEL IN STRUCTURE	L.S.	821,000 #
3	DECK LAYOUT PLAN	S-4	STANDARD DETAILS	634.020	EXPLORATORY DRILLING AT STRUCTURE FTG.	LIN.FT.	60 FT.
4	LONGITUDINAL SECTIONS						
5	DECK CAMBER DIAGRAMS	B-1	BORING LOGS				
6	FOUNDATION PLAN						
7	COLUMN & FOOTING SCHEDULE & DETAILS						
8	COLUMN & FOOTING DETAIL						
9	LIMITS OF STRUCTURAL EXCAVATION & BACKFILL						
10	DECK FRAMING PLAN						
11	DECK FRAMING PLAN						
12	NORMAL DECK SECTION & BEAM "B" DETAIL						
13	HINGED BEARING DETAIL						
14	HINGED BEARING DETAIL						
15	HINGED BEARING DETAIL						
16	HINGED RESTRAINER DETAIL						
17	PARTIAL PLAN-EXISTING ABUTMENT & BEAM "A" ELEV.						
18	GIRDER STIRRUP SPACING DIAGRAM						
19	TOP SLAB MAIN REINFORCEMENT PLAN - SPAN No. 1 & 2						
20	BOTTOM SLAB MAIN REINFORCEMENT PLAN - SPAN No. 1 & 2						
21	TOP SLAB MAIN REINFORCEMENT PLAN - SPAN No. 3 & 4						
22	BOTTOM SLAB MAIN REINFORCEMENT PLAN - SPAN No. 3 & 4						
23	TOP SLAB MAIN REINFORCEMENT PLAN - SPAN No. 4, 5 & 6.						
24	BOTTOM SLAB MAIN REINFORCEMENT PLAN - SPAN No. 4 & 5						
25	TOP SLAB MAIN REINFORCEMENT PLAN - SPAN No. 6 & 7						
26	BOTTOM SLAB MAIN REINFORCEMENT PLAN - SPAN No. 6 & 7						
27	PIER CAP ELEVATIONS - 29F to 34F						
28	EXISTING PLANTER PLAN, SECTION & DETAILS						
29	MISCELLANEOUS DETAILS						
T-1	TYPICAL CONCRETE RAIL DETAILS						
T-2	TYPICAL EXPANSION JOINT DETAILS						
T-3	TYPICAL DECK DRAIN DETAILS						
T-4	TYPICAL DECK DRAIN DETAILS						
T-5	TYPICAL DECK DRAIN DETAILS						

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
TRACED BY	_____
DESIGNED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____



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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
INDEX TO DRAWINGS	
RAMP-IF	
STA: 78+17.13 TO STA: 85+37.69	
AIRPORT INTERCHANGE	
F.A.I. PROJECT No. I-HI-1 (174)16	
SCALE: N.T.S.	DATE: SEPT. 1982
SHEET No. I-1 OF 42 SHEETS	

GENERAL NOTES

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	1-HI-1(174)16	1982	19	70

DESIGN SPECIFICATION AASHTO

Standard specification for Highway bridges (12th Edition)
1978 to 1981 interim specifications.

DESIGN LOADS: HS-20-44 or Interstate loading

DESIGN STRESSES:

Reinforced concrete beams and slabs. See AASHTO specs. and special provisions unless otherwise noted

Class A	Other concrete
$f'_c = 3,000$ psi	$f'_c = 4,000$ psi
$f_c = 1,200$ psi	$f_c = 1,600$ psi
$n = 10$	$n = 8$
$f_s = \text{ASTM A615 - See standard specification}$	

MATERIALS:

- All columns shall be 4,000 p.s.i. concrete.
- All top slab, bottom slab, pier caps, girders and beams shall be 4,000 p.s.i. concrete.
- All footings shall be Class A concrete.
- All other concrete shall be Class A unless otherwise noted on plans.
- Concrete clear cover for reinforcing bars shall be as follows, unless otherwise noted.
 - 1 1/2" for stirrups on side of beams
 - 2 1/2" to main reinforcing of pier caps
 - For column main reinforcing - See column sections
 - 2" for formed walls
 - 3" for footings
 - 1 1/2" for slabs
- All reinforcing steel to be ASTM designation A615 grade 60 unless otherwise noted. Stirrups and ties shall be grade 40.
- All elastomeric bearing pad shall be 60 hardness pads.
- All structural steel shall be ASTM A36 steel and galvanized after fabrication, except otherwise noted.

CONSTRUCTION METHODS:

- See Standard Specification and Special Provisions
- Column footings shall be excavated & poured neat against undisturbed ground. In case of over excavation, space between footing and ground shall be filled with concrete at the contractors expense and as directed by the Engineer. The minimum quality of the fill concrete shall be class D.
- In general, top of concrete deck of structure shall be constructed to follow the finish roadway vertical and horizontal curves & grades.
- Obtain camber by forming and shoring concrete surfaces above profile grades amount shown in camber diagram and as indicated on detailed drawings.
- Except as otherwise noted, all vertical dimensions are measured plumb.
- For concrete finish - See Standard Specification
- For location of rail lighting - see highway lighting drawings. Rail light mounting shall be as per manufacturer's recommendation. Exact method shall be approved by the Engineer.

CONSTRUCTION METHODS (CONT.)

GENERAL:

- All items noted incidental will not be paid for separately
- The contractor shall verify the locations of all existing utility lines and notify the respective owners before commencing work.
- The following items shall be considered as incidental to concrete.
 - Anchor bolts, nuts & P's for rail lighting
 - Expansion Hinged Bearing assembly
 - 2-angle rolled sections deck expansion joint protective nosing
 - Deck drain frame & grate assembly.
 - Hinged restrainer.
- Exact location of bars shall be arranged so that no interference will occur between vertical column reinforcement and bottom pier cap horizontal reinforcement.
- Refer to utility plans for various additional conduits in deck and pier caps.
- The contractor shall furnish shop placement and detail drawings for all structural steel work including frame & grating assemblies of each drain

REFERENCE:

- Refer to Standard Detailed Drawing for additional box girder details not covered by drawings.

SYMBOLS AND ABBREVIATION

(A) Detail or section designation	⊕ Boring location & designation
(8) Sht. no. detail is drawn	
(1A) Pier number	Deck drain
F-1 Footing type	○ Box girder drain & vents
G-1 Girder numbers	"pd" Proof drill

A.	Approx. Approximate
Adj.	Adjacent
Alt.	Alternate
Az.	Azimuth
C.	
Cont.	Continuous
Cant.	Cantilever
C.J.	Construction Joint
Col.	Column
Cl, Cir	Clear
±	Center line

B.	
Bott, Bot.	Bottom
Bal.	Balance
Brg.	Bearing
Bm.	Beam
B	Baseline

D.	
d, dia.	Diameter
Dwg.	Drawing
Det.	Detail

E.	
Exist.	Existing
El, Elev.	Elevation
Exp.	Expansion
Ext.	Exterior
Eq.	Equal
E.F.	Each Face
Ea.	Each

F.	
Ftg.	Footing
H.	
Horiz.	Horizontal
Hwy.	Highway

G.	
I.	
Int.	Interior

J.	
Jt.	Joint
L.	
Lt.	Left
Longit.	Longitudinal
M.	
Min.	Minimum
Max.	Maximum

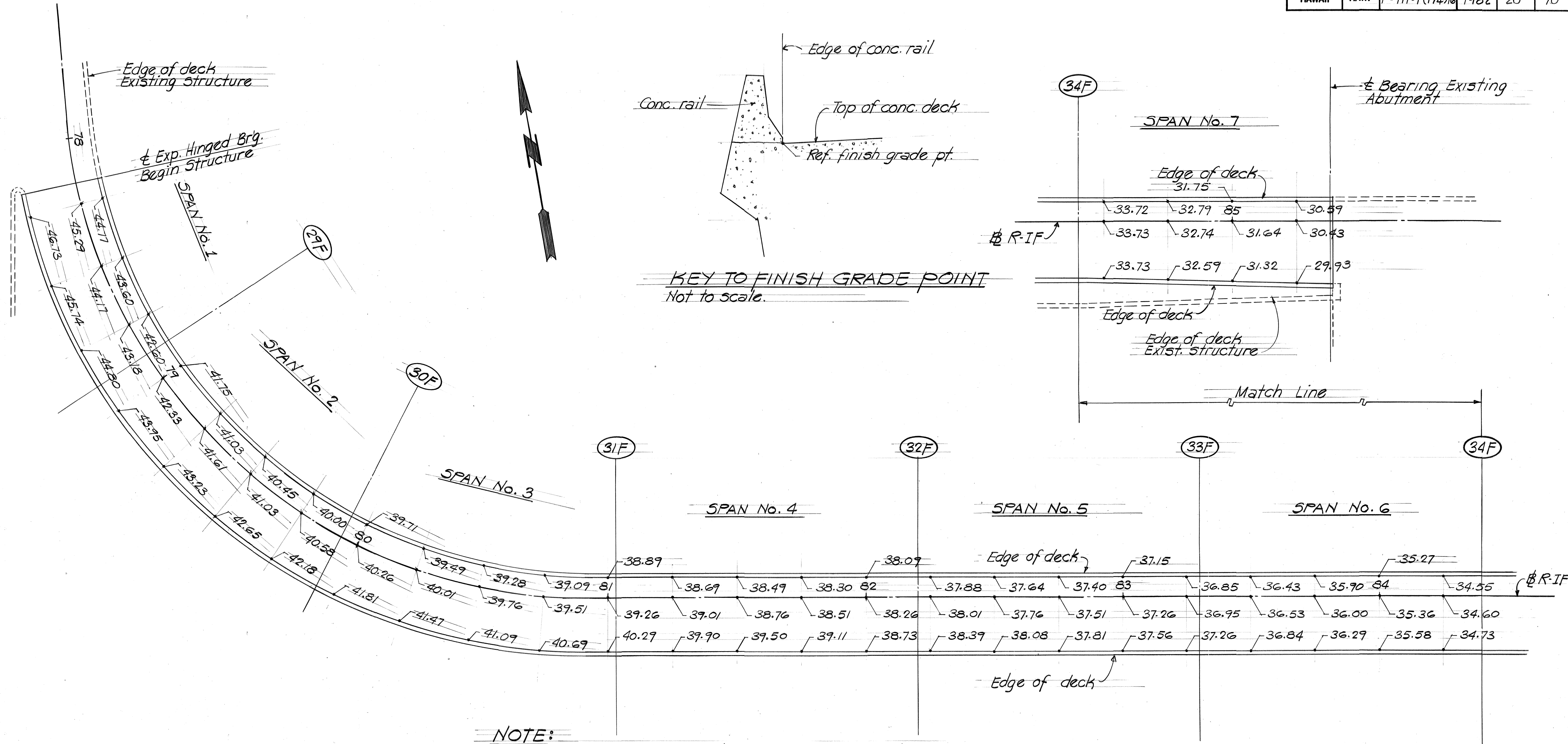
K.	
----	--

W.	
W.P.	Working point

N.		O.		P.	
Nos, No., #	Number	O.C., c	On center	P.I.	Point of intersection
		Opng	Opening	Pt.	Point
				Part.	Partial
Q.		R.		S.	
		Reinf.	Reinforcing	Symm.	Symmetrical
		Ref.	Reference	Sect.	Section
		Req, Req'd	Required	Stirr.	Stirrup
		R.	Ramp, Radius	Sht.	Sheet
		Rt.	Right	Std.	Standard
				Spa.	Spacing
				Sta.	Station
T.		U.		V.	
Typ.	Typical			Vert.	Vertical
T & B	Top and bot.				
X.		Y.		Z.	

STATE OF HAWAII	
DEPARTMENT OF TRANSPORTATION	
HIGHWAYS DIVISION	
GENERAL NOTES, SYMBOLS AND ABBREVIATIONS	
RAMP - IF	
STA: 78+13.17 To STA: 85+37.69	
AIRPORT INTERCHANGE	
F.A.I. PROJECT No. 1-HI-1(174)-16	
SCALE: N.T.S.	DATE: SEPT 1982
SHEET NO. 12 OF 42 SHEET	

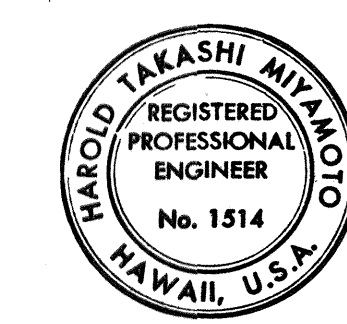
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(174)16	1982	20	70



NOTE:
Finish deck grades are given in 25'-0" increments.

DECK FINISH GRID GRADE PLAN R-IF
Scale 1"=20'-0"

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	



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HIGHWAYS DIVISION

DECK FINISH GRID GRADE PLAN

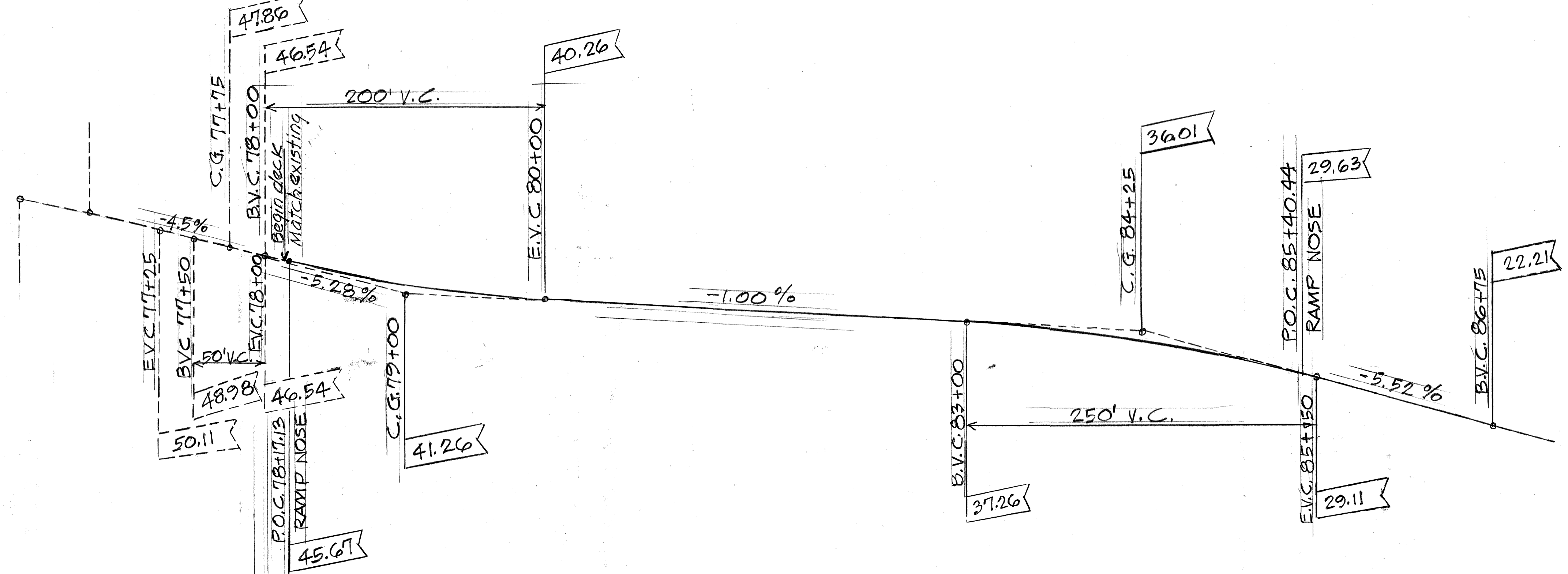
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STA: 78+17.13 TO STA: 85+37.69

AIRPORT INTERCHANGE
F.A.I. PROJECT NO. 1-HI-1(174):16

SCALE: 1"=20'-0" DATE: SEPT 1982

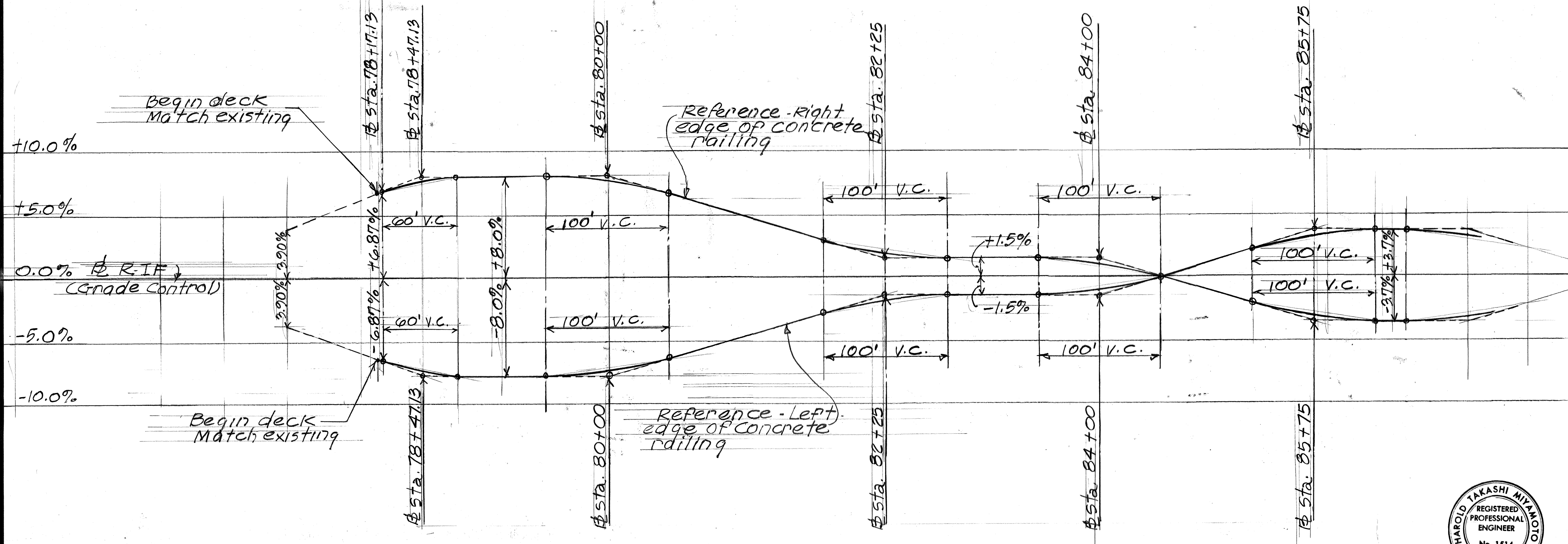
SHEET NO. 1 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1 (174) 16	1982	21	70



PROFILE ALONG RAMP R-IF

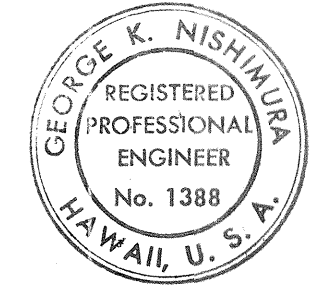
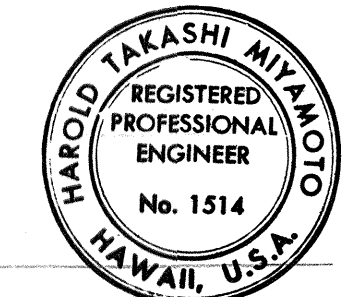
Scale: Horiz 1" = 50'
Vert. 1" = 10'



DECK SUPERELEVATION DIAGRAM

NOT TO SCALE

DATE	_____
DESIGNED BY	_____
NOTED BY	_____
CHECKED BY	_____



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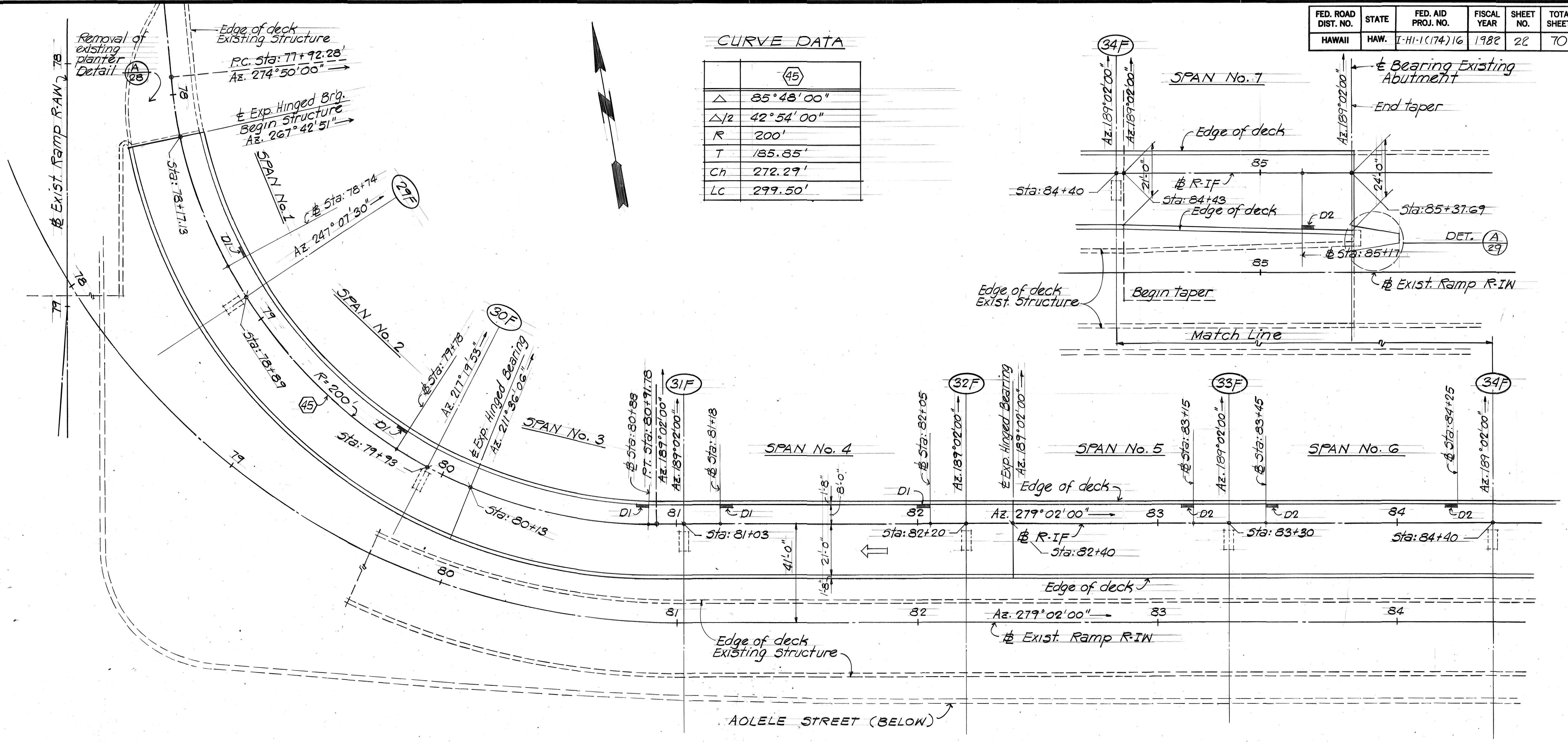
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STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
**PROFILE AND SUPERELEVATION
 DIAGRAMS**
RAMP - IF
 STA. 78+17.13 TO STA. 85+37.69
 AIRPORT INTERCHANGE
 F.A.I. PROJ. NO. I-HI-1 (174) 16
 SCALE: _____ DATE: SEPT 1982

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(174)16	1982	22	70

CURVE DATA

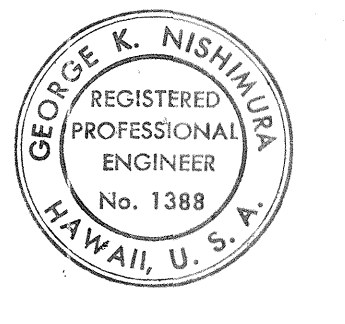
Δ	85°48'00"
$\Delta/2$	42°54'00"
R	200'
T	185.85'
Ch	272.29'
LC	299.50'



NOTE:
 Denotes deck drains - see details on shts. T-3 thru T-6.

DECK LAYOUT PLAN R-IF Scale 1"=20'-0"

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	



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HIGHWAYS DIVISION

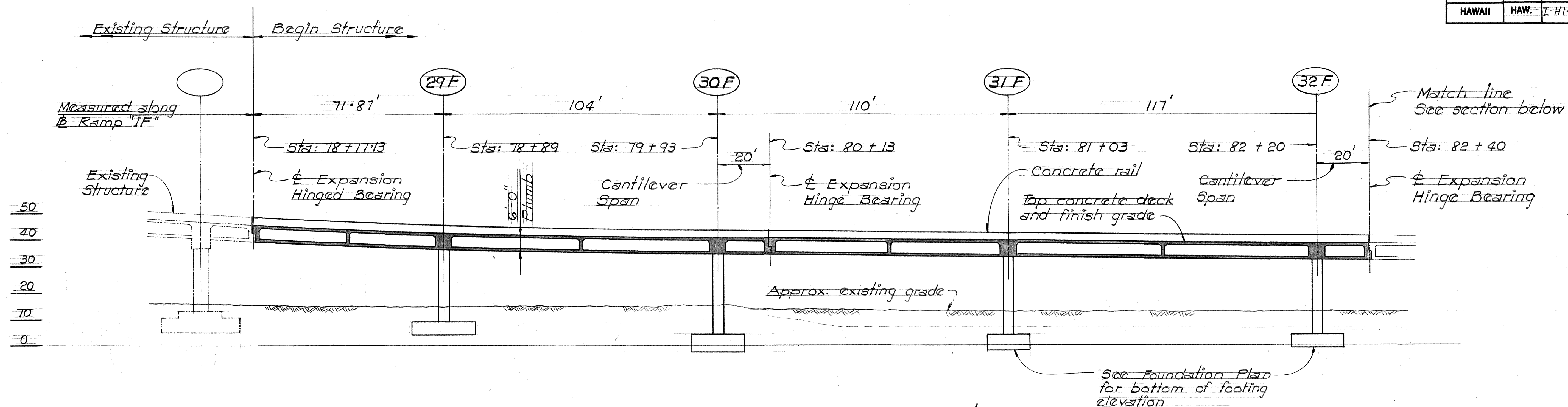
DECK LAYOUT PLAN

RAMP-IF
STA: 78+17.13 TO STA: 85+37.69

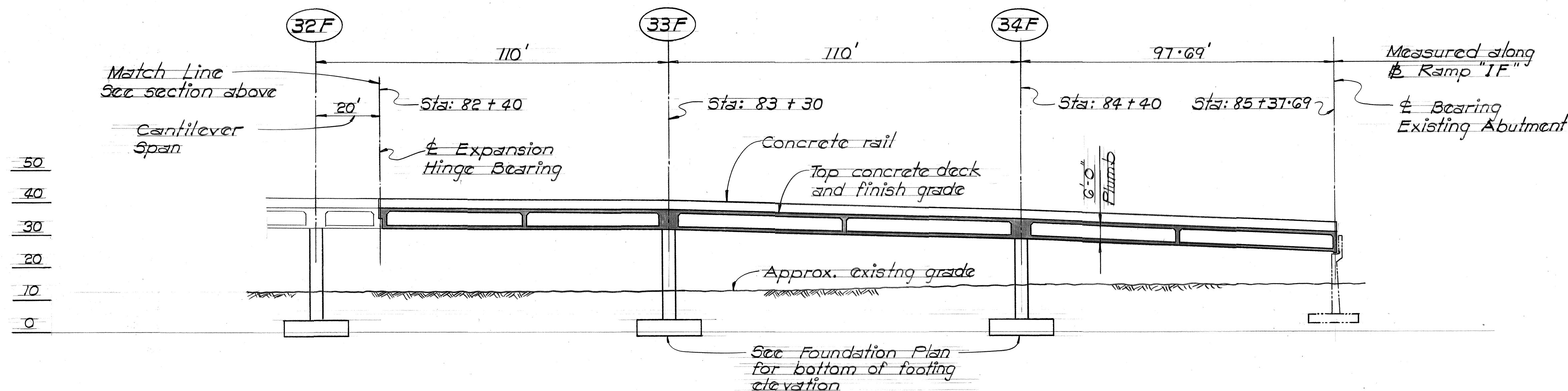
AIRPORT INTERCHANGE
F.A.I. PROJECT NO. I-HI-1(174)16
SCALE: 1"=20'-0" DATE: SEPT 1982

SHEET No. 3 OF 42 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(174)16	1982	23	70

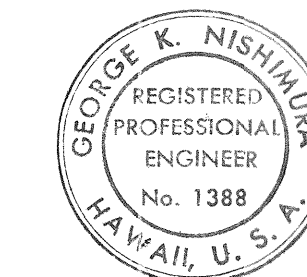
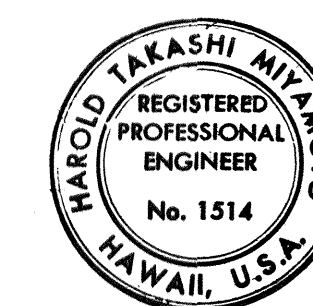


LONGITUDINAL SECTION ALONG $\frac{1}{2}$
Scale: 1" = 20'



LONGITUDINAL SECTION ALONG $\frac{1}{2}$
Scale: 1" = 20'

ORIGINAL PLAN	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
NO.	

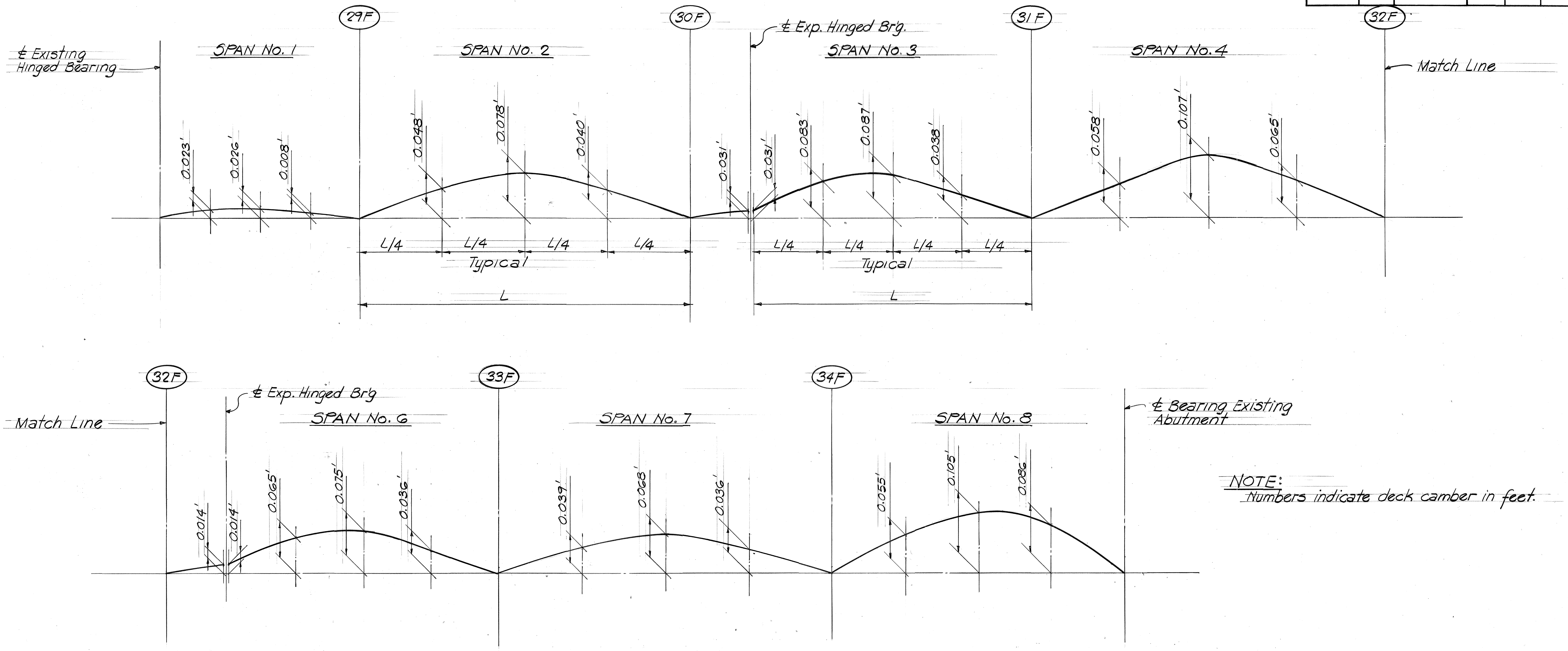


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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
LONGITUDINAL SECTION
RAMP-IF
STA: 78+17.13 TO STA: 85+37.69
AIRPORT INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (174) 16
SCALE: 1" = 20'-0" DATE: SEPT. 1982
SHEET NO. 4 OF 42 SHEETS

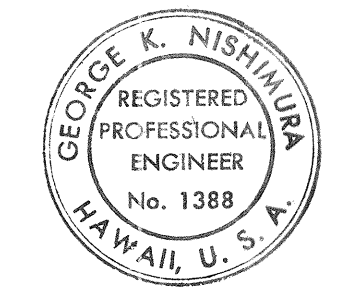
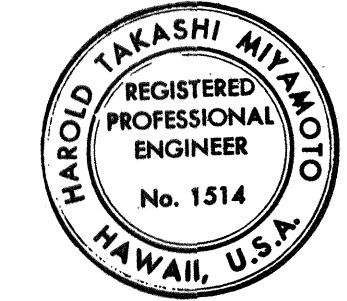
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1-1(174)16	1982	24	70



NOTE:
Numbers indicate deck camber in feet.

DECK CAMBER DIAGRAM - RAMP R-IF
Not to scale

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	



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HIGHWAYS DIVISION

DECK CAMBER DIAGRAM

RAMP - IF

STA: 78+17.13 TO STA: 85+37.69

AIRPORT INTERCHANGE
F.A.I. PROJECT NO. I-H-1-1(174):16

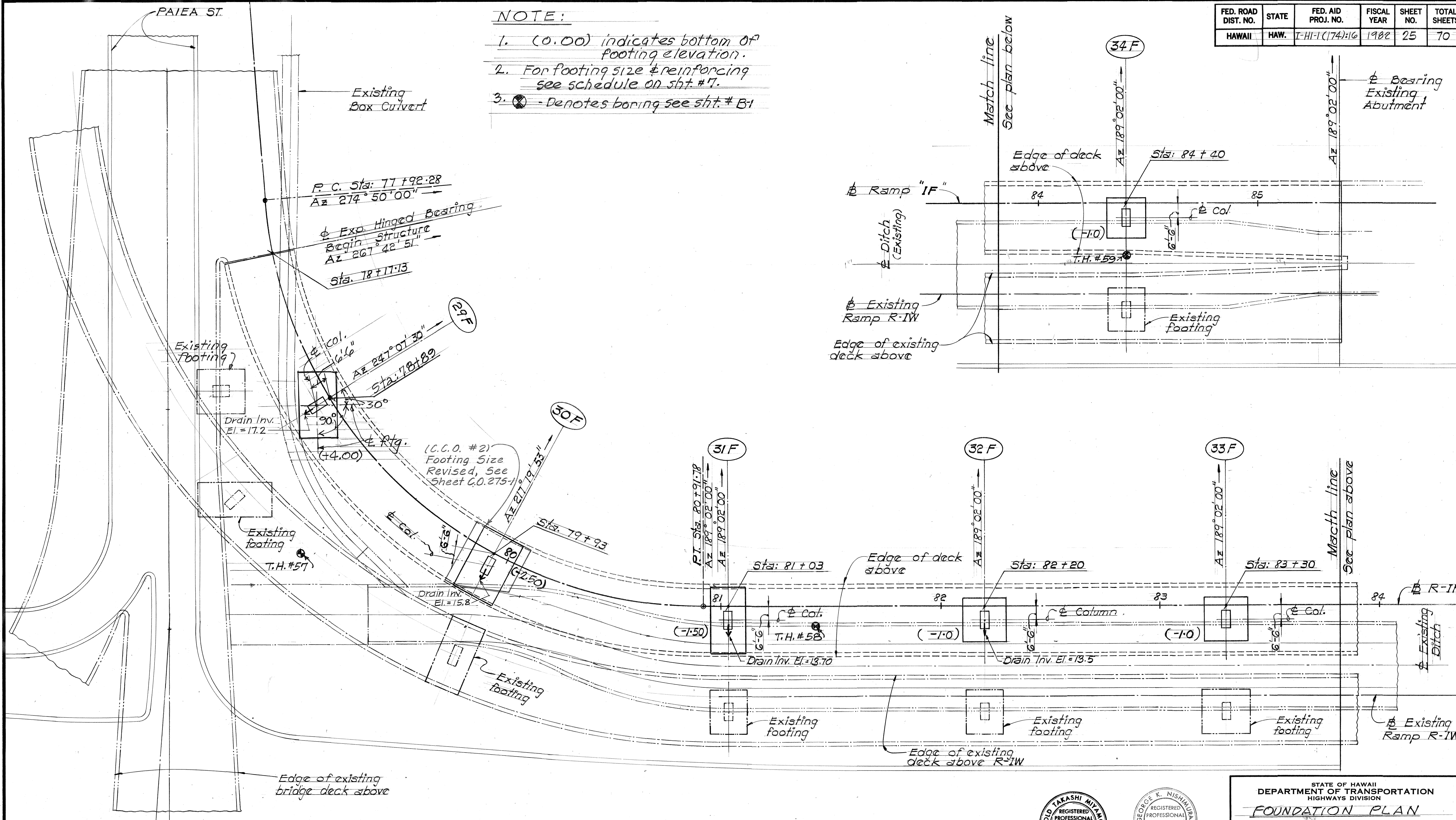
SCALE: N.T.S. DATE: SEPT 1982

SHEET NO. 5 OF 42 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1 (174):16	1982	25	70

NOTE:

1. (0.00) indicates bottom of footing elevation.
2. For footing size & reinforcing see schedule on sh.t. #7.
3.  - Denotes boring see sh.t. # B-1

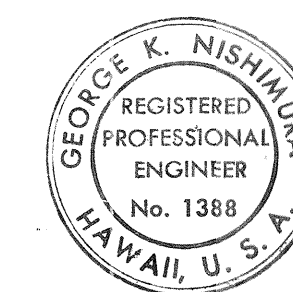


FOUNDATION PLAN

Scale: 1" = 20'



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
FOUNDATION PLAN

RAMP-IF

STA: 78+17.13 TO STA: 85+37.69

AIRPORT INTERCHANGE

F.A.I. PROJ. NO. 1-HI-1 (174) 16

SCALE: 1" = 20' DATE: SEPT. 1982

SHEET No. 6 OF 42 SHEETS

Reference
Pier line numeral



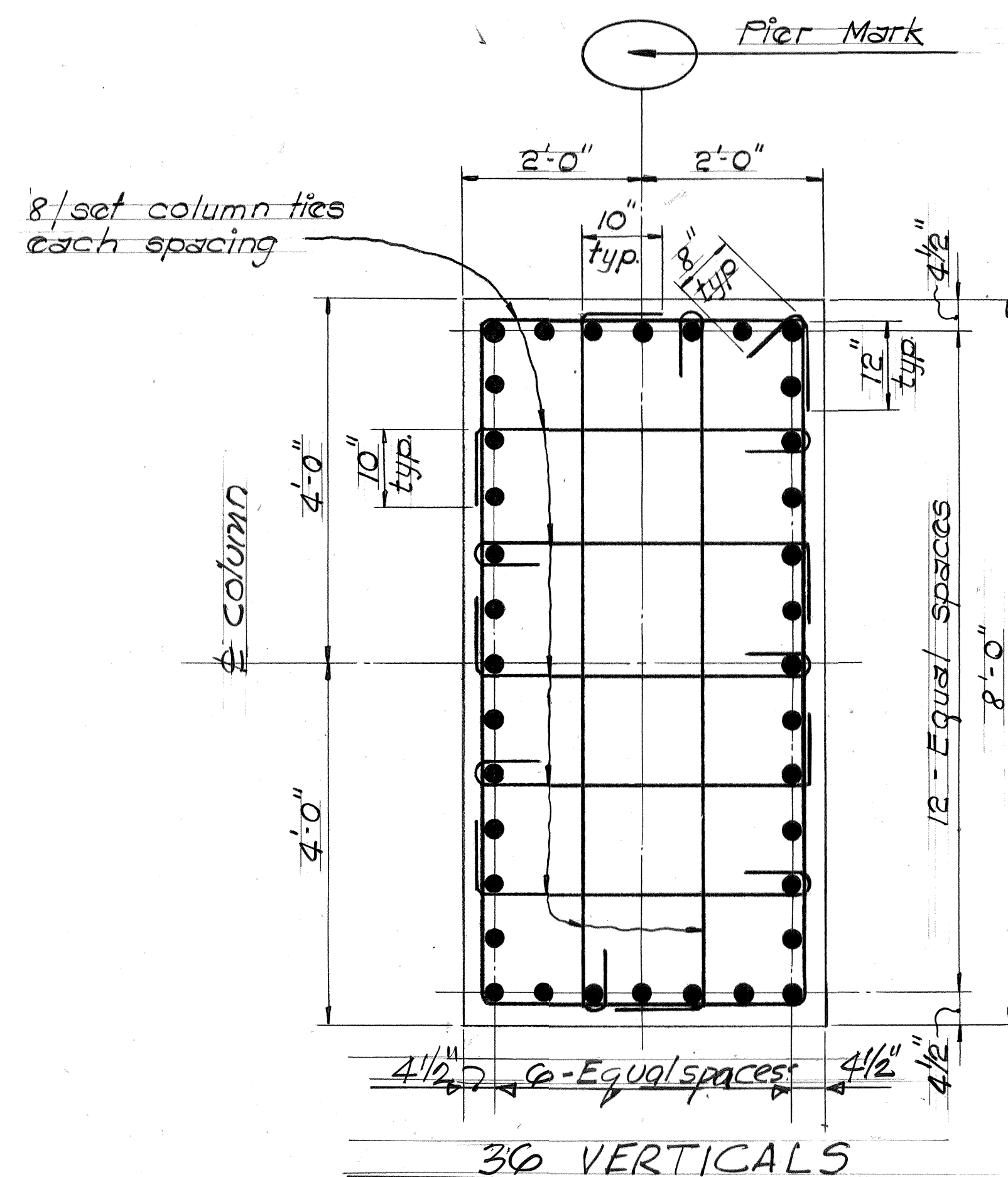
PIER NO. 29 F

Scale: $3/16" = 1'-0"$

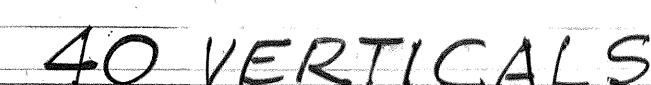


PIER NO. 29F

Scale $\frac{3}{16}'' = 1'-0''$

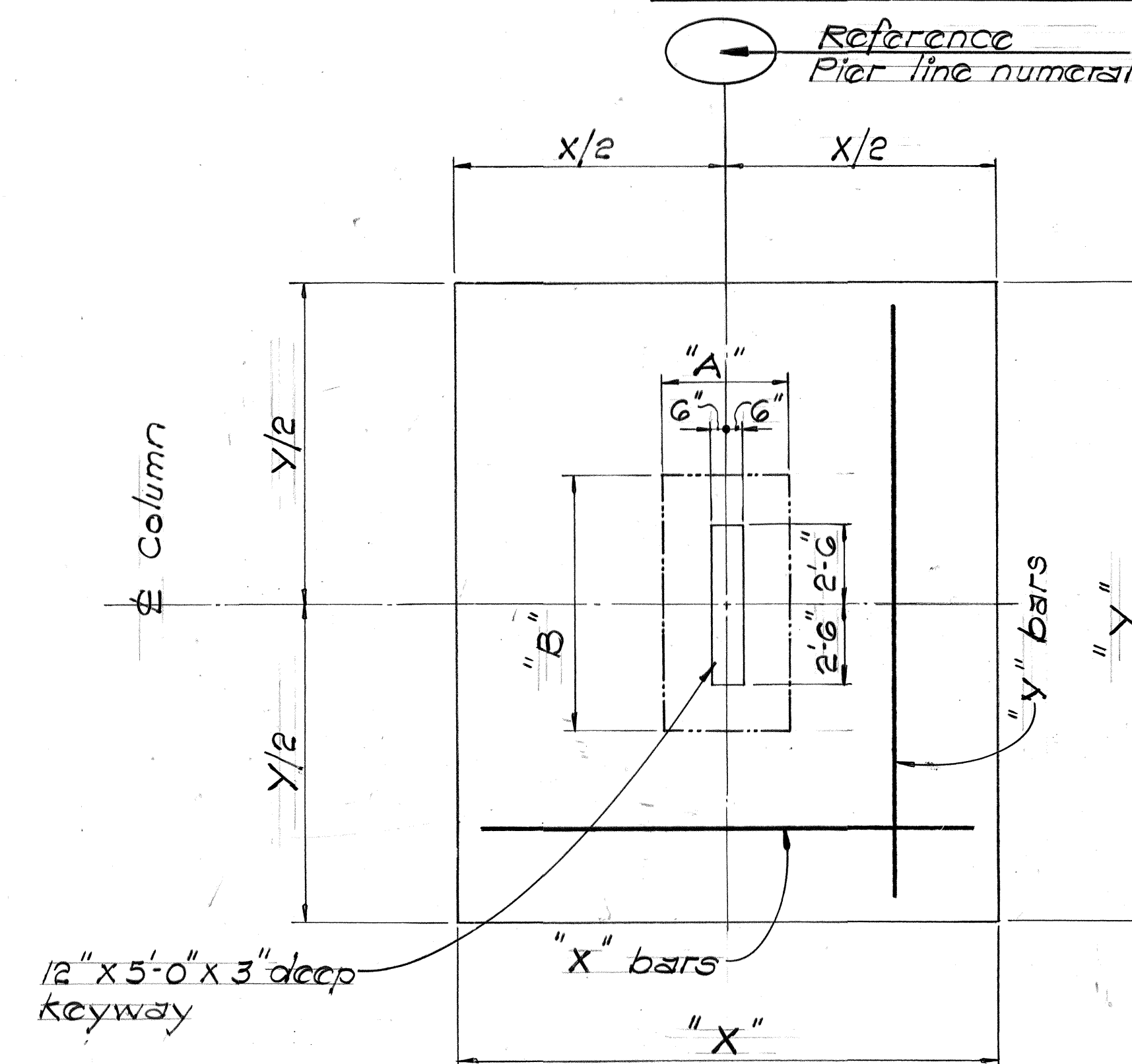


36 VERTICALS

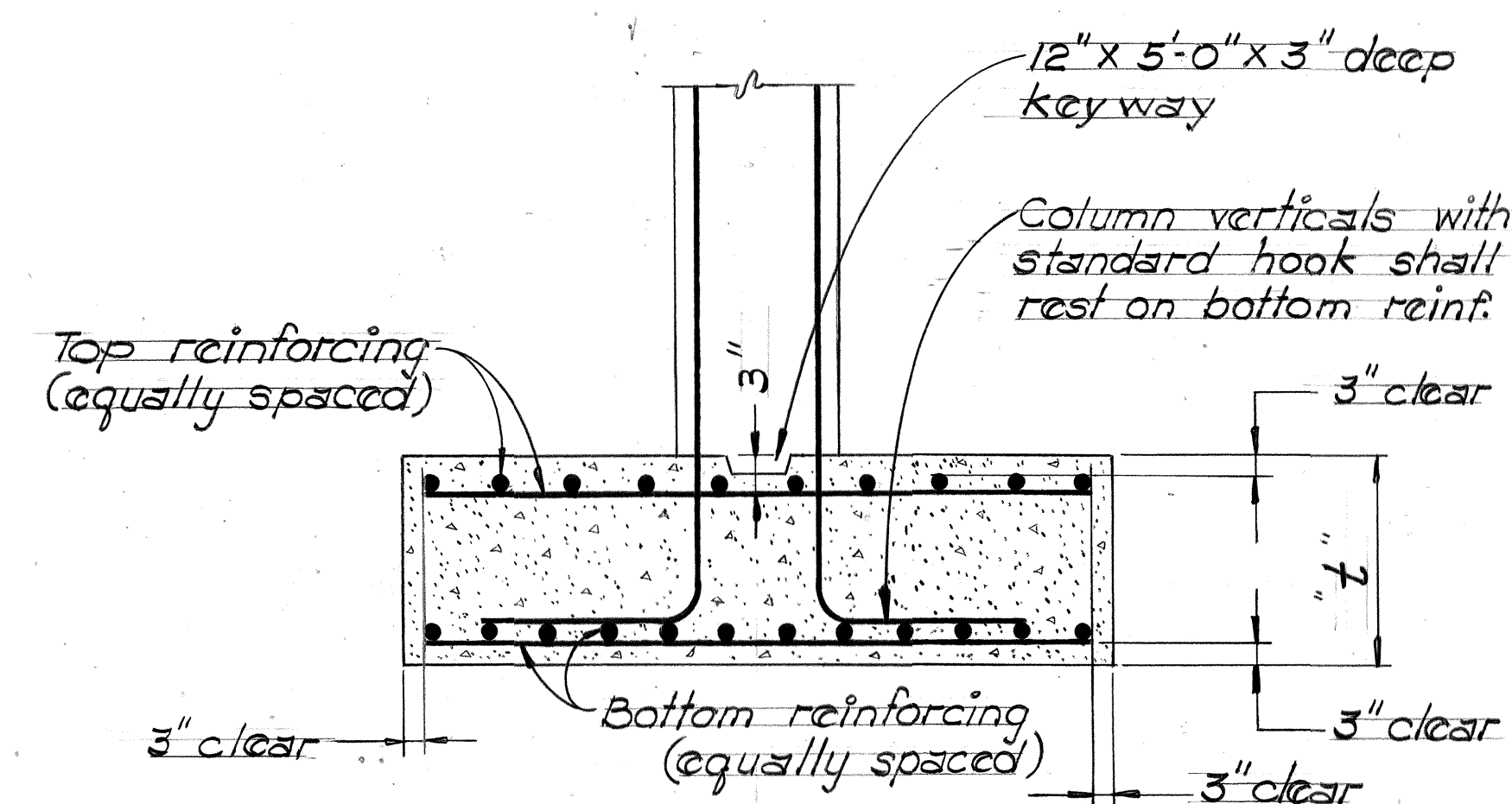


TYPICAL COLUMN SECTIONS

SCALE: $3/4" = 1'-0"$

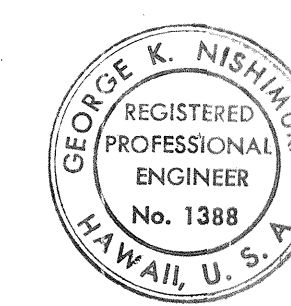


PLAN



ELEVATION

TYPICAL FOOTING DETAIL



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COLUMN AND FOOTING DETAILS

RAMP-IF

STA: 78+17.13 TO STA: 85+37.69

AIRPORT INTERCHANGE

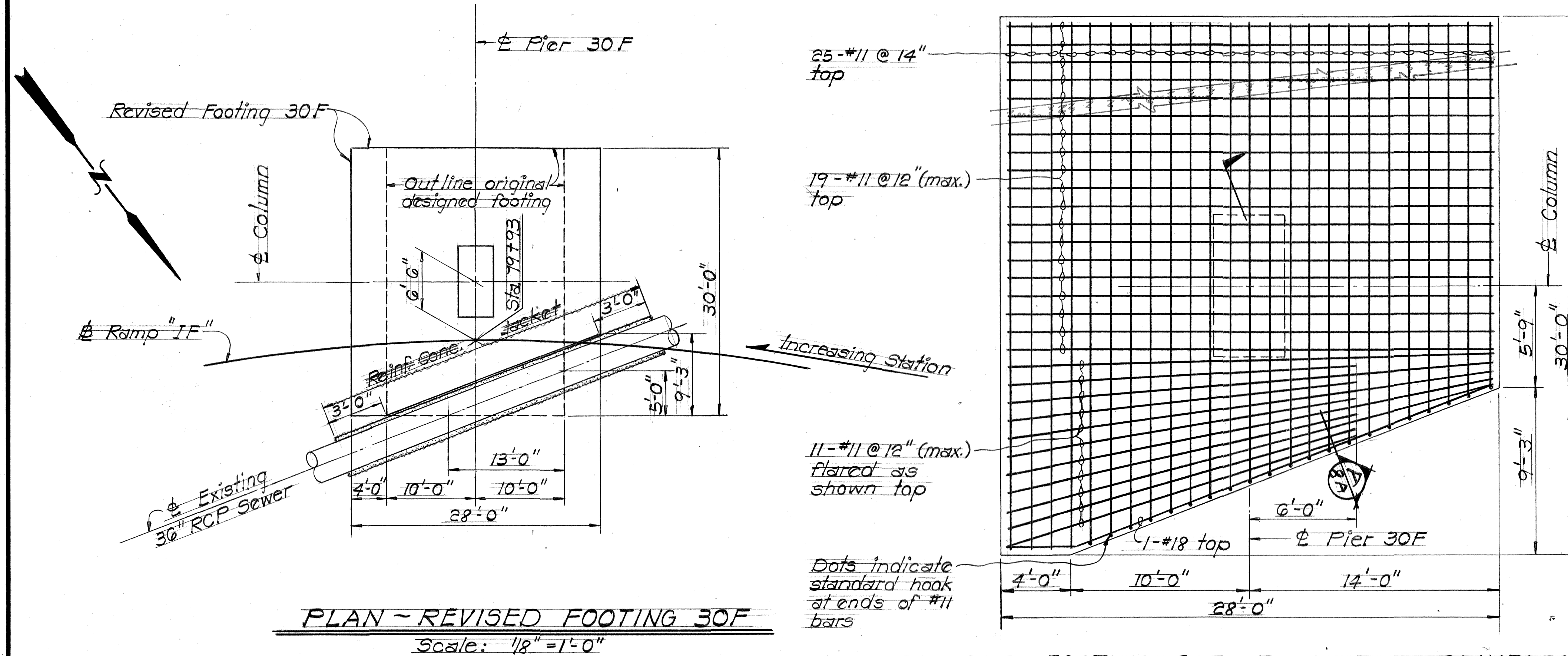
F.A.I. PROJ. NO. 1-HI-1 (174) 16

SCALE: AS NOTED DATE: SEPT. 1982

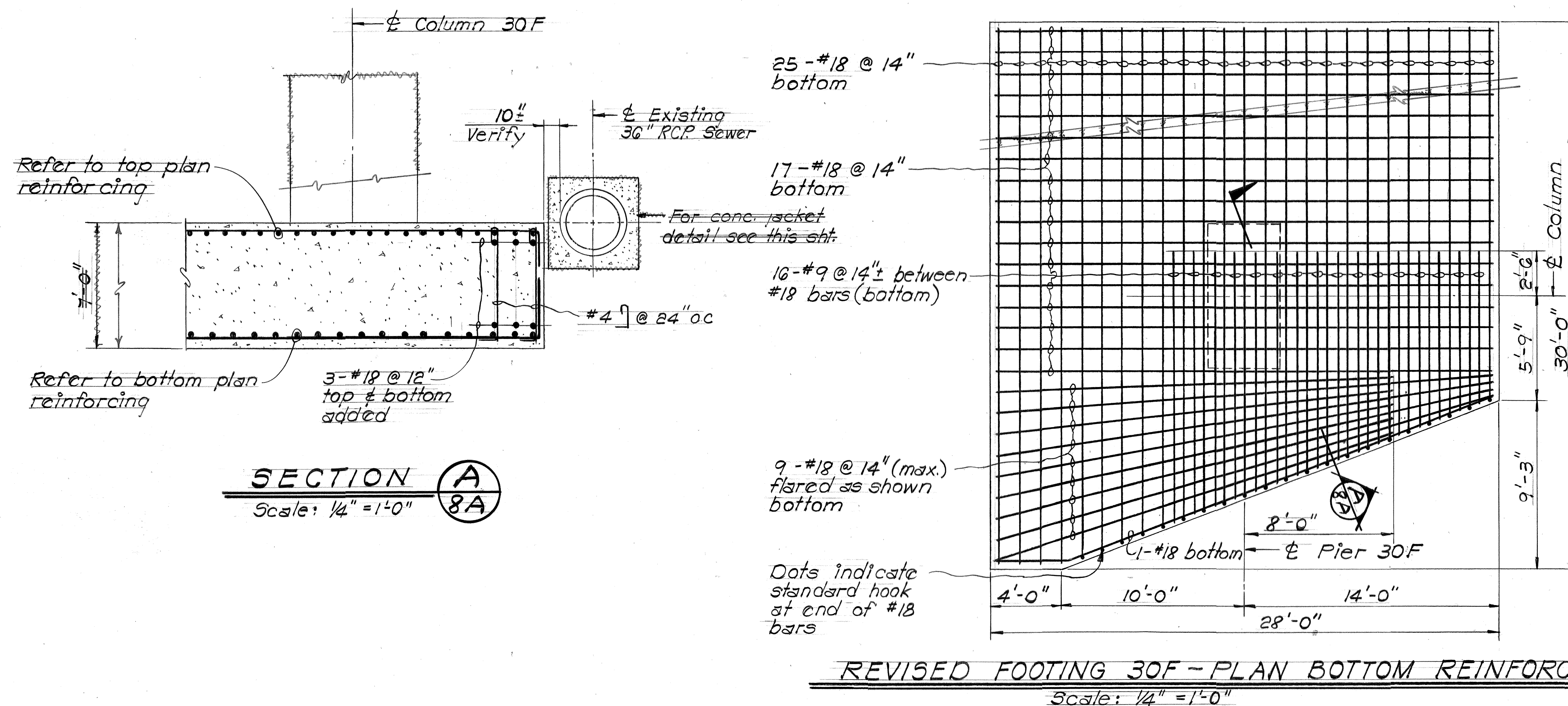
SHEET No. 8 OF 42 SHEETS

Contract Change Order No. 2 - Footing 30F Revision

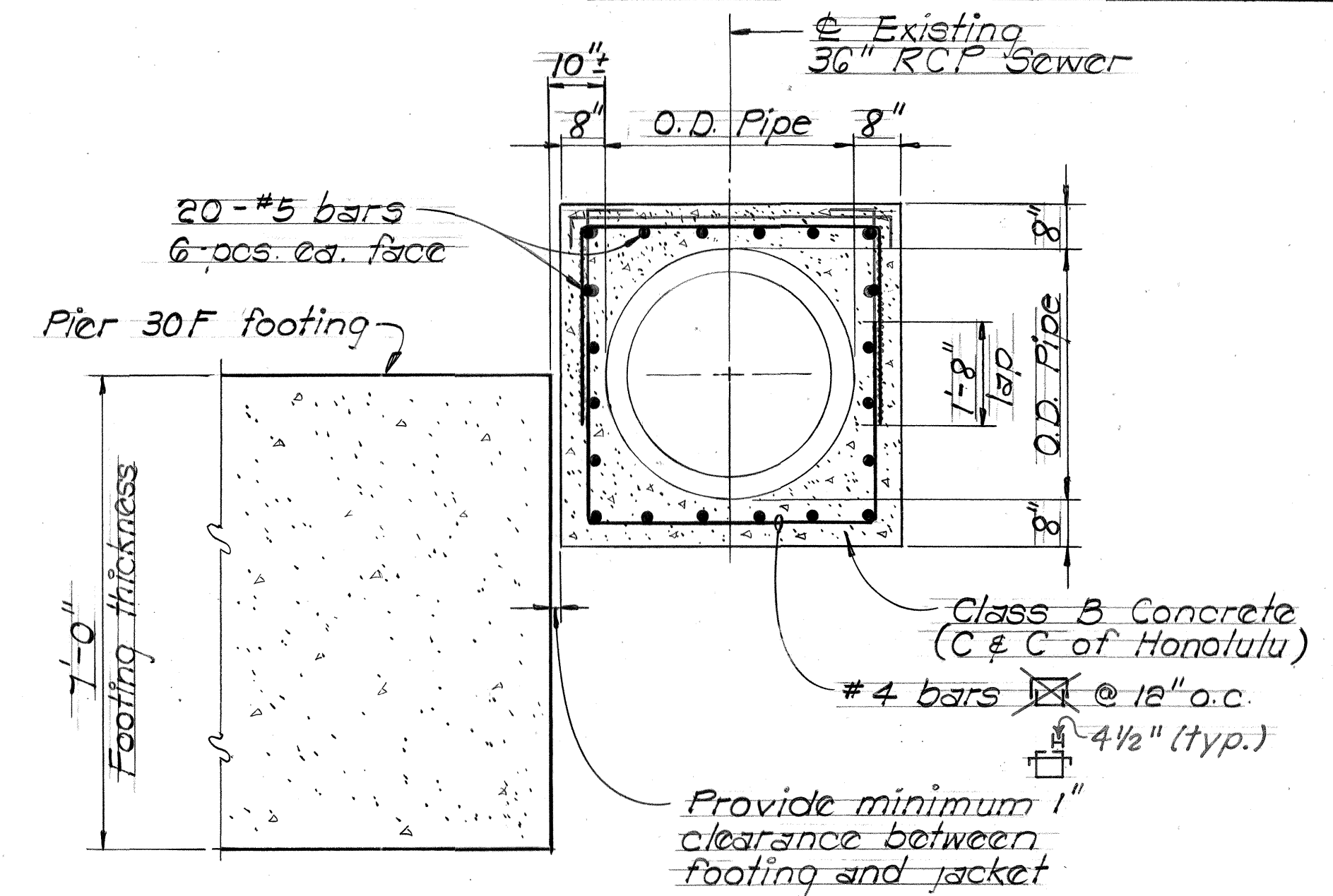
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1 (174) 16	1982	275-1	



REVISED FOOTING 30F - PLAN TOP REINFORCING
Scale: 1/4" = 1'-0"



REVISED FOOTING 30F - PLAN BOTTOM REINFORCING
Scale: 1/4" = 1'-0"



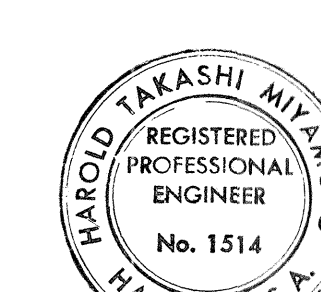
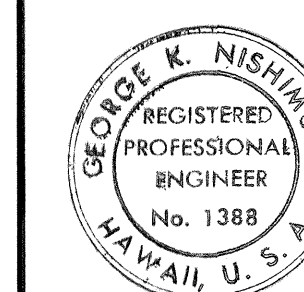
REINFORCED CONCRETE JACKET DETAIL FOR EXISTING 36" SEWER MAIN
Scale: 1/2" = 1'-0"
Contract Change Order No. 4

NOTES

- Sewer construction shall be performed in accordance with the City Standard Specifications dated May, 1975 and the latest Dept. of Public Works Standard Details, August, 1978 & current City practices of the revised ordinances of the City of Honolulu, 1978 as amended.
- Contractor shall notify Division of Wastewater Management seven days prior to commencement of sewer work and submit four sets of approved construction plan.
- Prior to installation of the reinf. concrete jacket, approval of the repair to the existing sewer line must be made to the satisfaction of the Division of Wastewater Management, C & C of Honolulu, cost of the inspectional services by the City will be borne by the contractor.

APPROVED

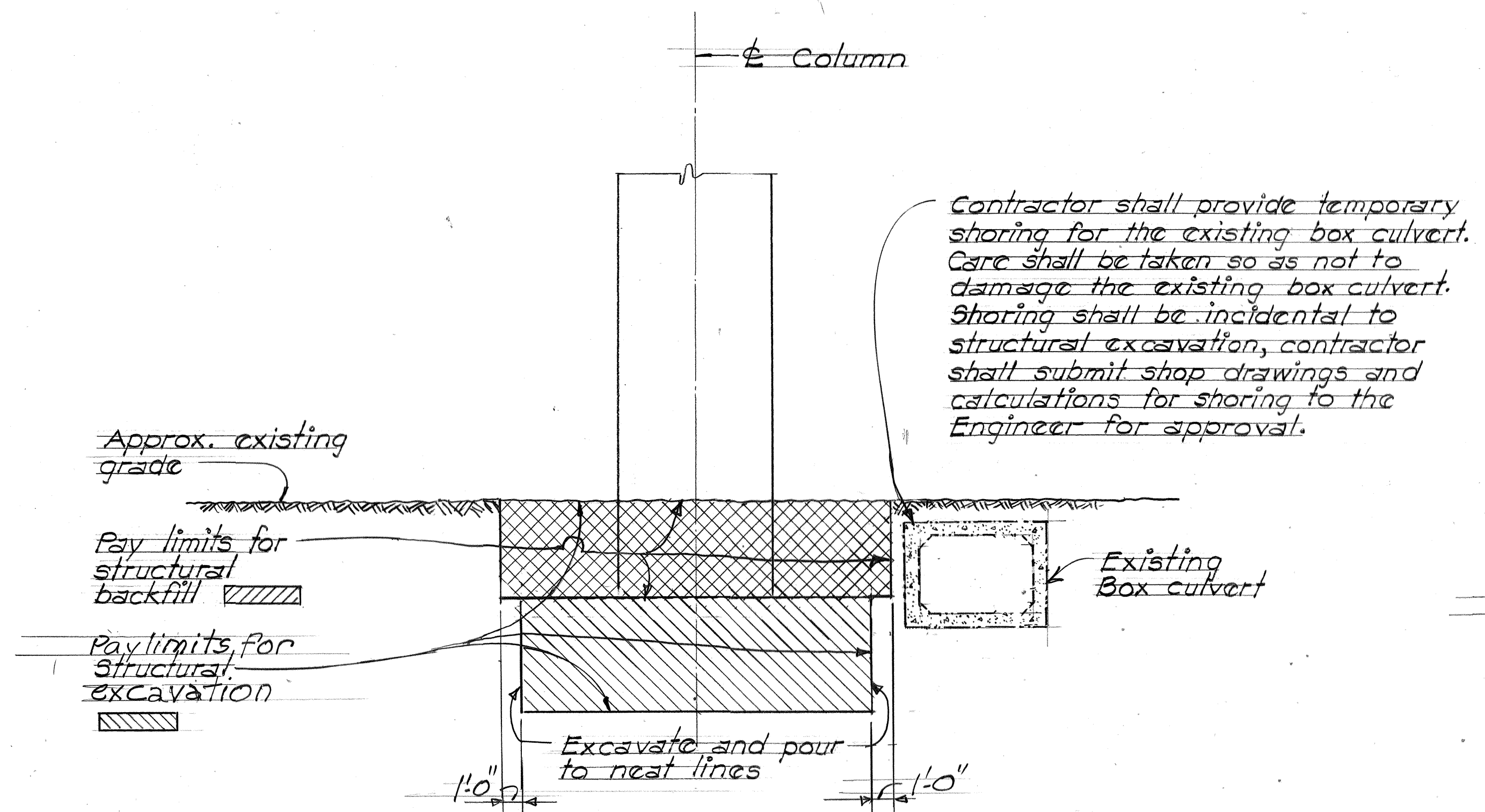
G. Uyama 7/11/83
Division of Wastewater Management
City & County of Honolulu



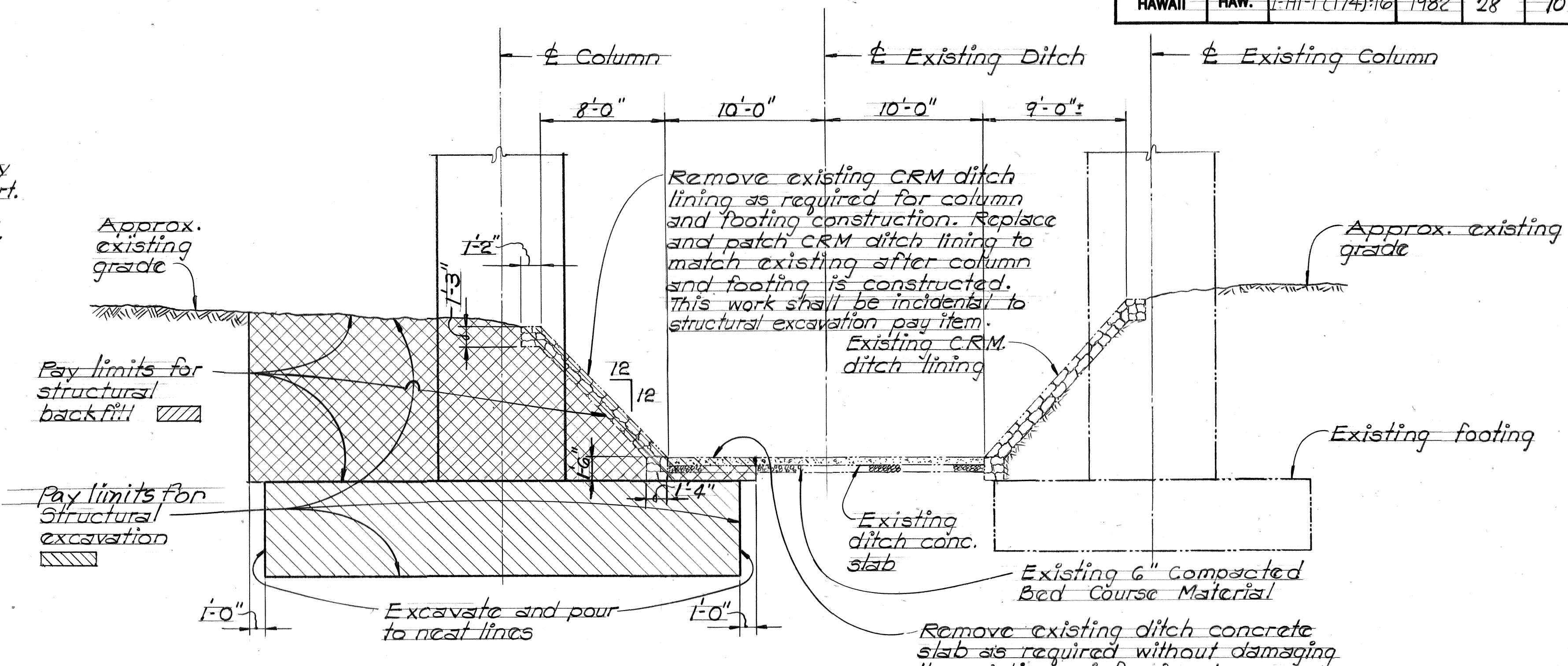
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
REVISED FOOTING 30F DETAIL	
RAMP IF	
AIRPORT INTERCHANGE E.A.I. PROJ. NO. I-HI-1 (174) 16	
SCALE: AS SHOWN	DATE: JULY, 1983
SHEET NO. 8A OF SHEETS	

CO 275-1

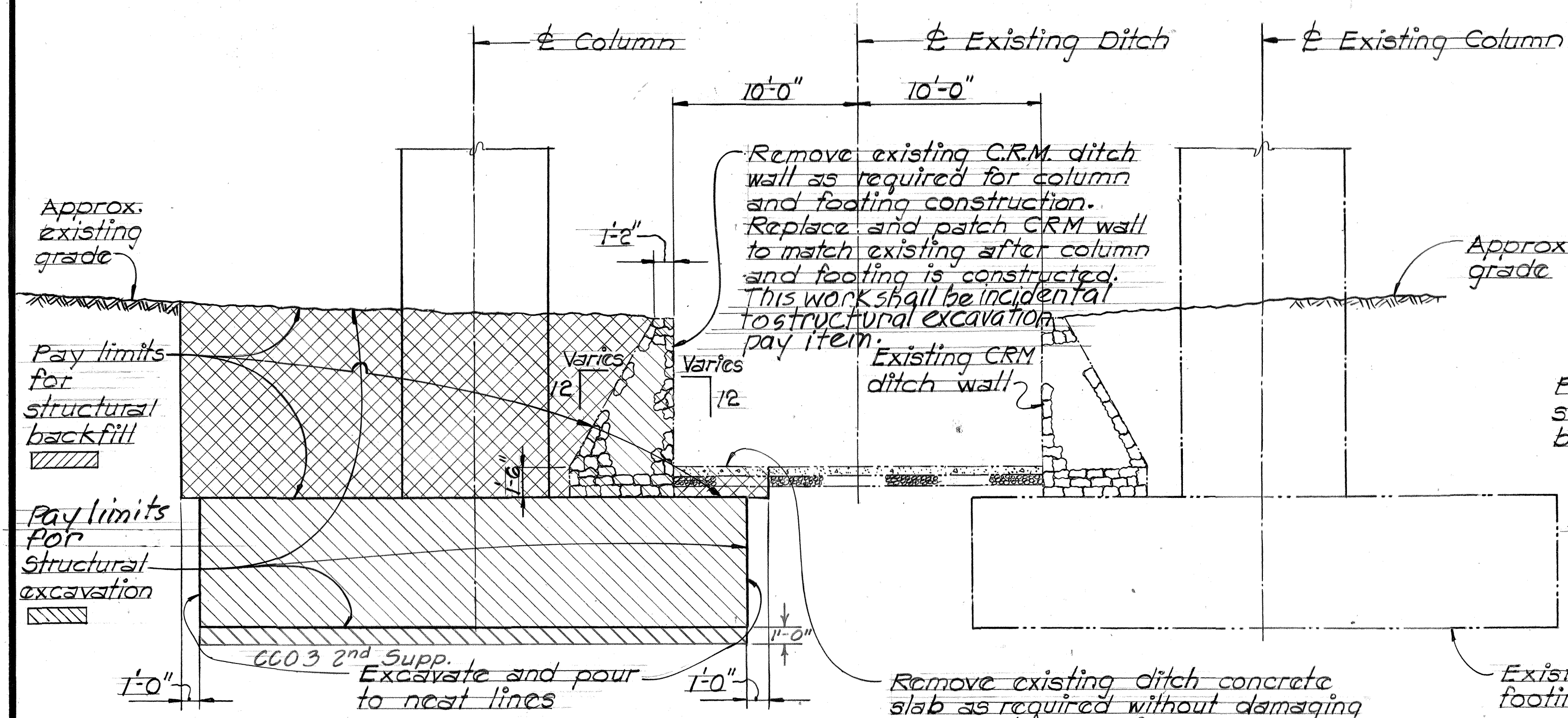
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1 (174) 16	1982	28	70



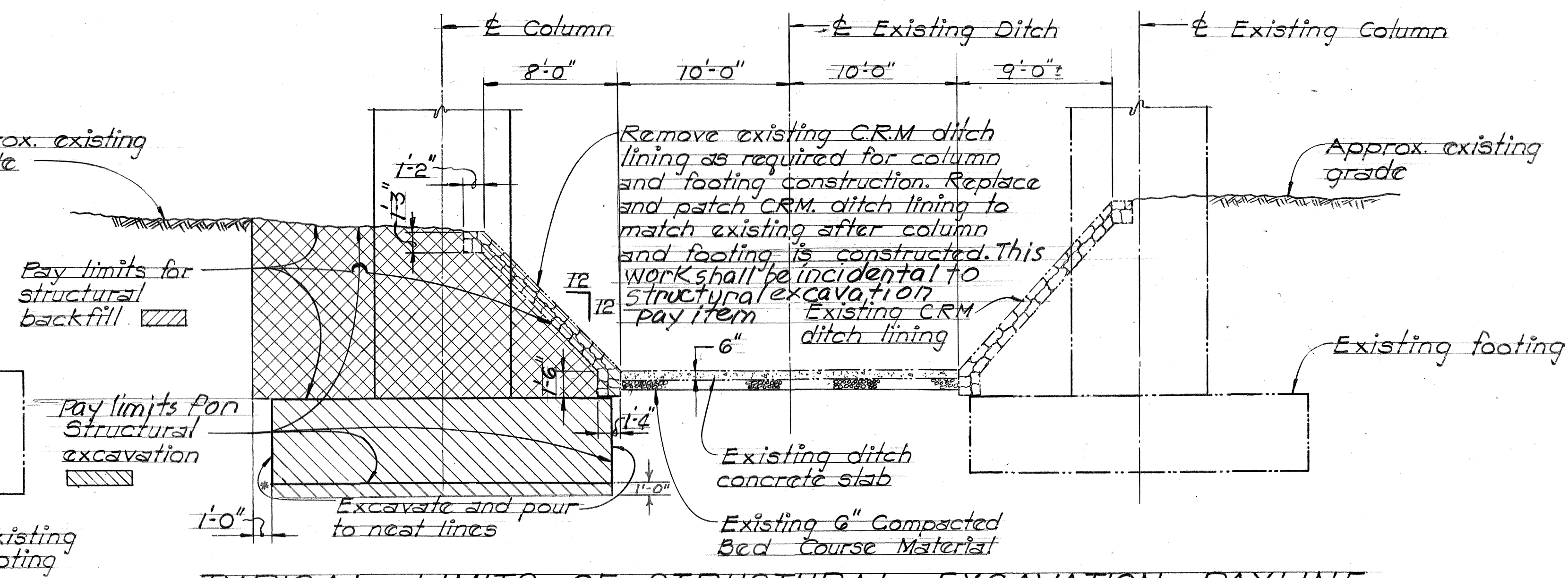
LIMITS OF STRUCTURAL EXCAVATION PAYLINE PIER NO. 29F
Not to scale



LIMITS OF STRUCTURAL EXCAVATION PAYLINE PIER NO. 31F
Not to scale



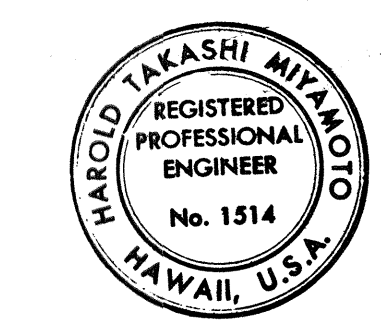
LIMITS OF STRUCTURAL EXCAVATION PAYLINE PIER NO. 30F
Not to scale



TYPICAL LIMITS OF STRUCTURAL EXCAVATION PAYLINE AT PIER NO. 32F, 33F AND 34F
Not to scale

DATE	
SURVEY PLOTTED BY	
DESIGNED BY	
CHECKED BY	
NO.	

*CCO 3 For No. 32
CCO 3 1st Supp. For No. 33



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Harold Miyakono

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George K. Nishimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIMITS OF STRUCTURAL EXCAVATION AND BACKFILL

RAMP - IF

STA: 78+17.13 TO STA: 85+37.69

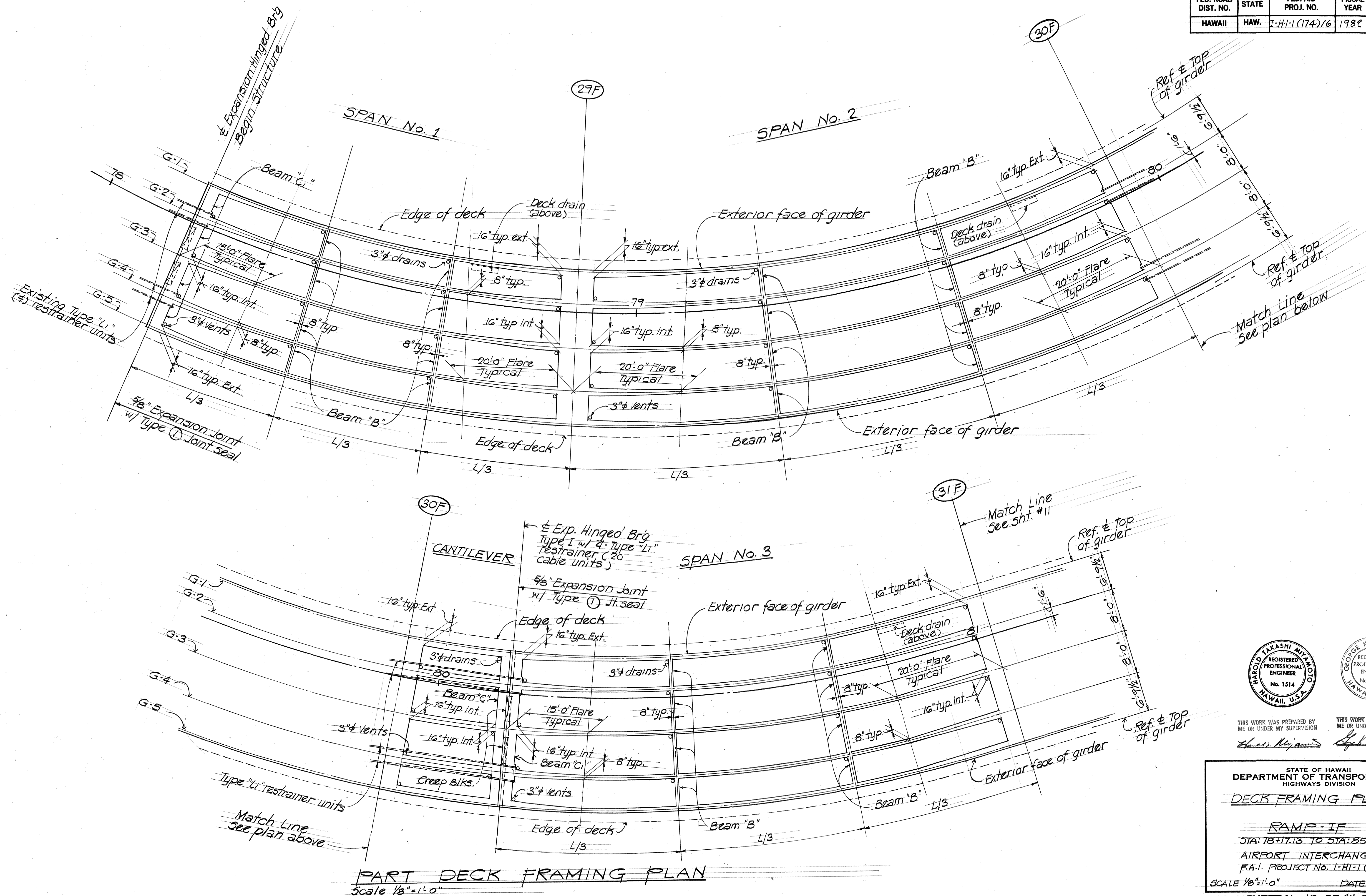
AIRPORT INTERCHANGE

F.A.L. PROJ. NO. I-HI-1 (174) 16

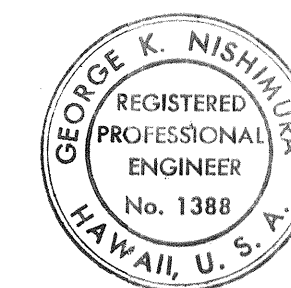
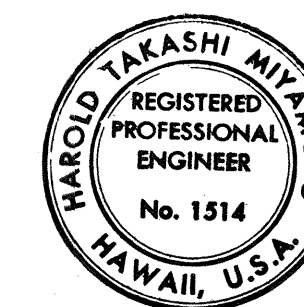
SCALE: AS NOTED DATE: SEPT. 1982

SHEET NO. 28 OF 42 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1 (174) 16	1982	29	70



ORIGINAL	SURVEY PLOTTED BY	DATE
PLAN	DRAWN BY	"
	TRACED BY	"
NOTE BOOK	DESIGNED BY	"
	QUANTITIES BY	"
No.	CHECKED BY	"



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Spencer, My dear

E. K. Vukobratovic

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DECK FRAMING PLAN

RAMP-IF

STA: 78+17.13 TO STA: 85+37.69

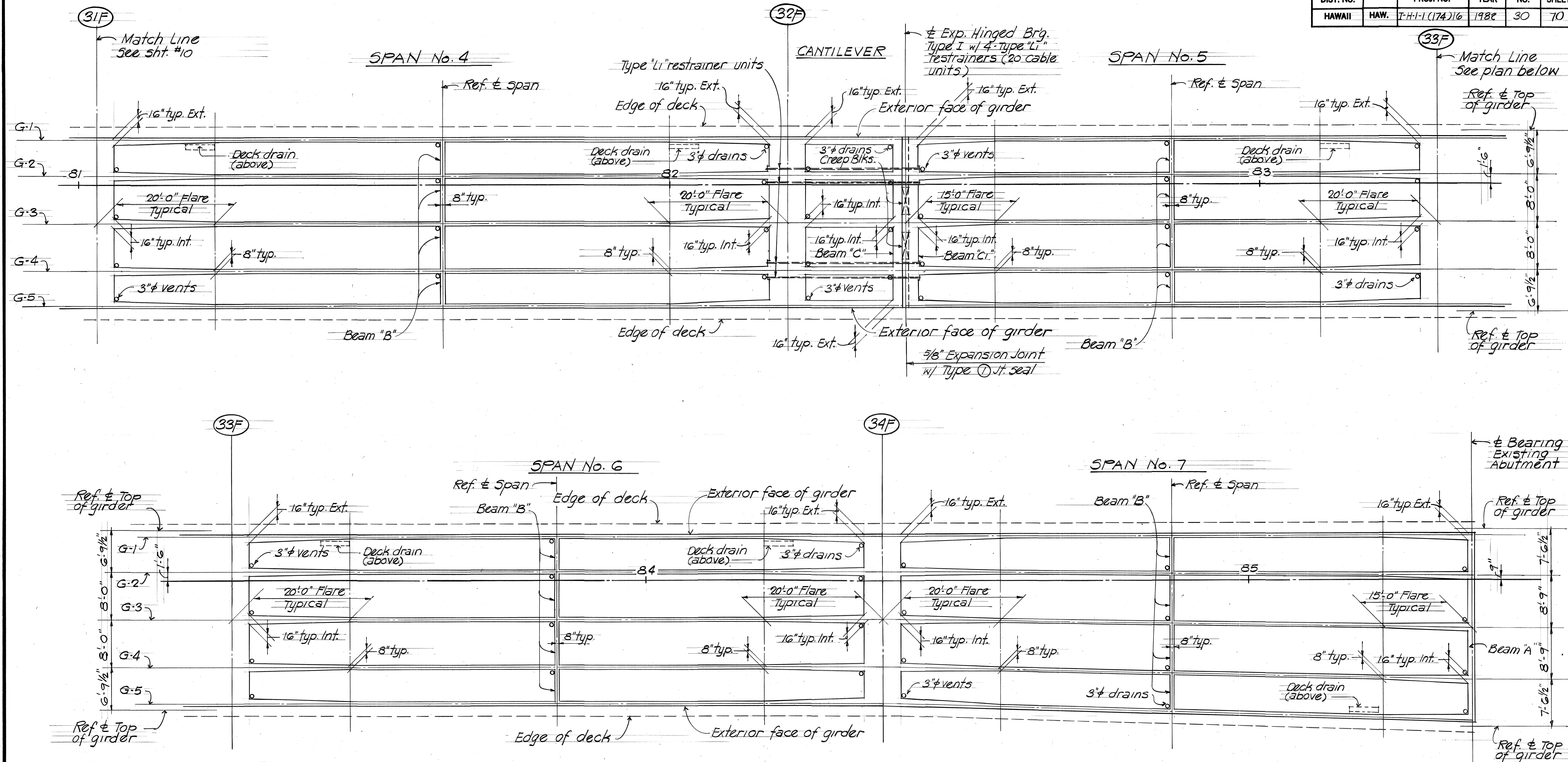
AIRPORT INTERCHANGE

F.A.I. PROJECT No. 1-HI-1 (174): 16

SCALE $\frac{1}{8}" = 1'-0"$ DATE: SEPT. 1982

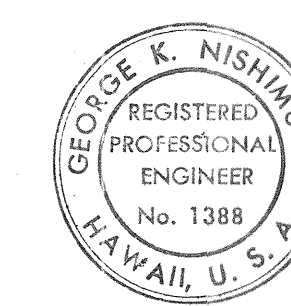
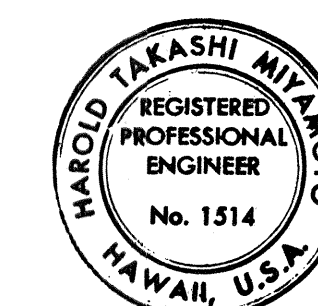
SHEET No. 10 OF 42 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-H-1-1 (174) 16	1982	30	70



PART DECK FRAMING PLAN
 Scale 1/8" = 1'-0"

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
NOTED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____



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STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

DECK FRAMING PLAN

RAMP-IF
 STA: 78+7.13 TO STA: 85+37.67

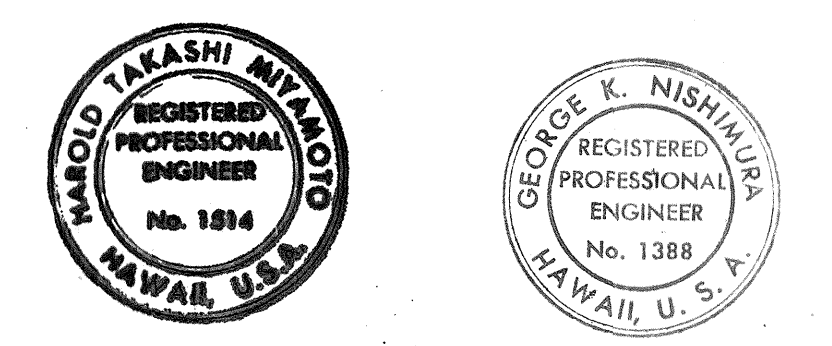
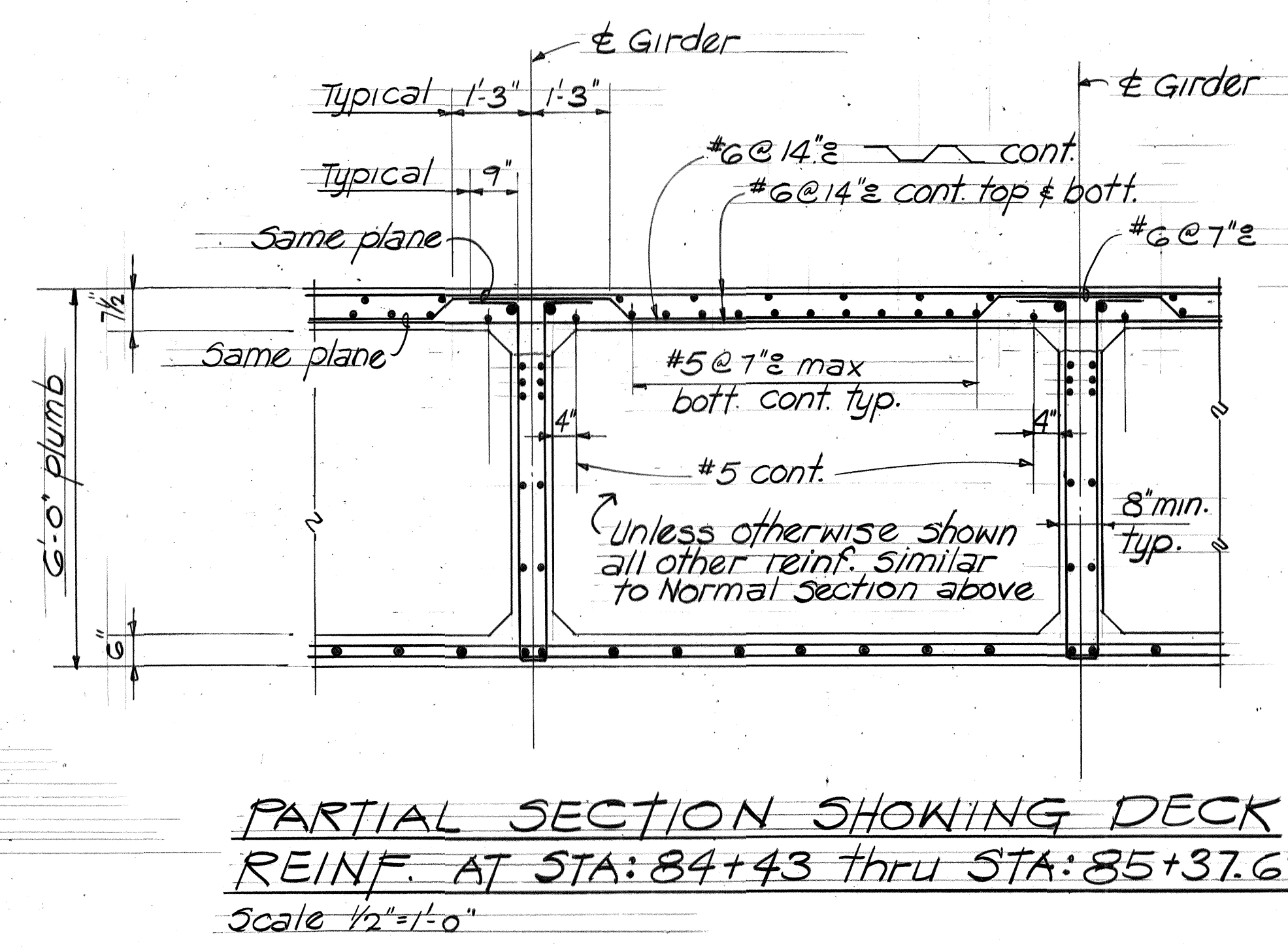
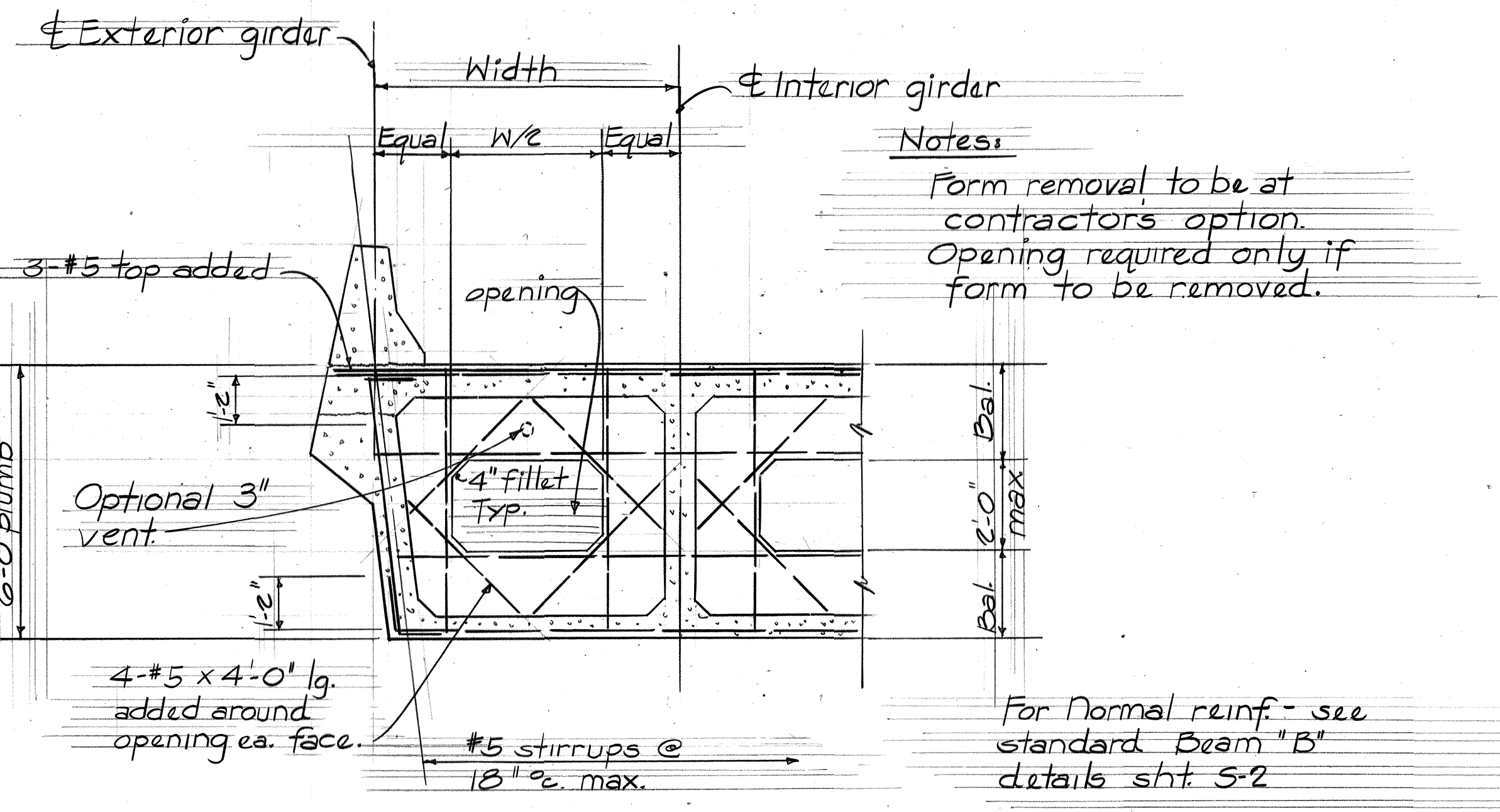
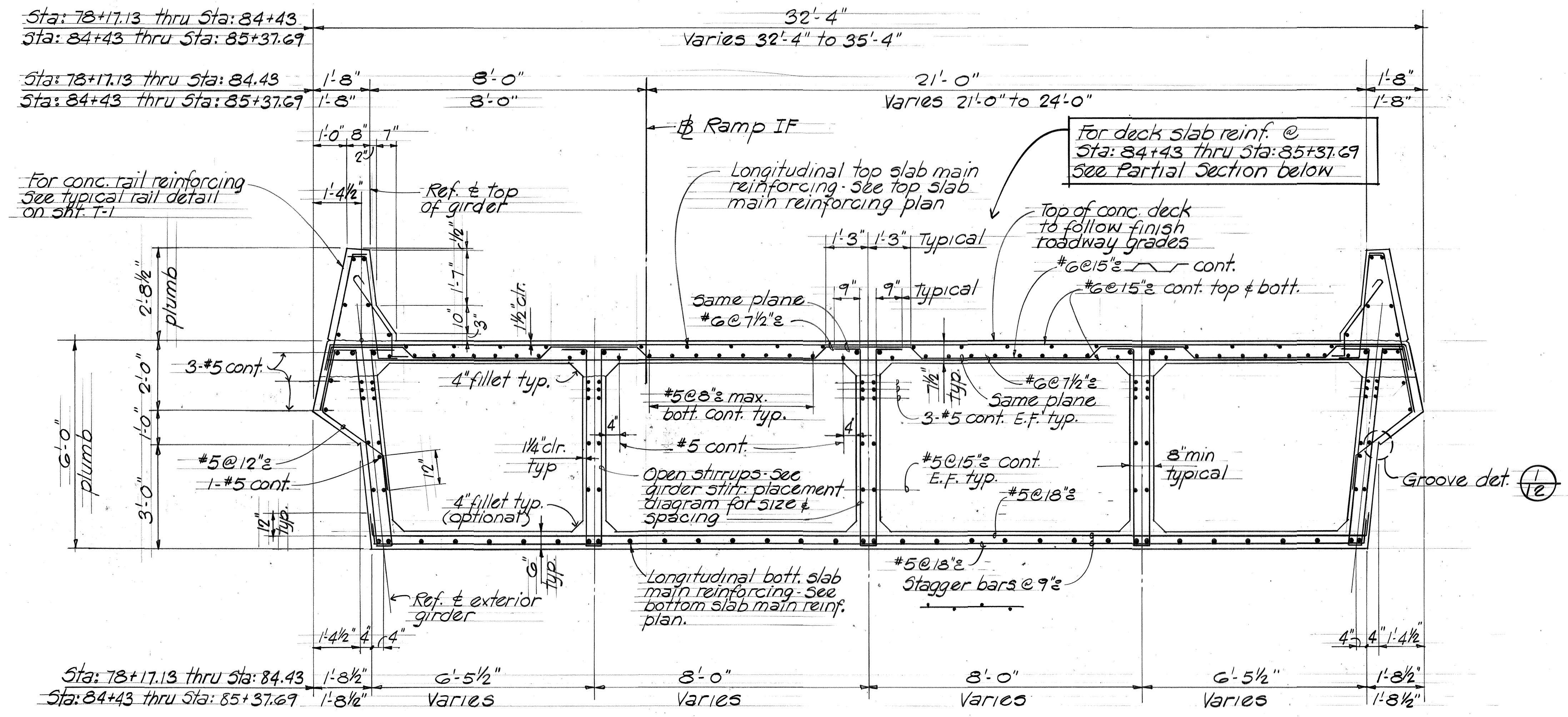
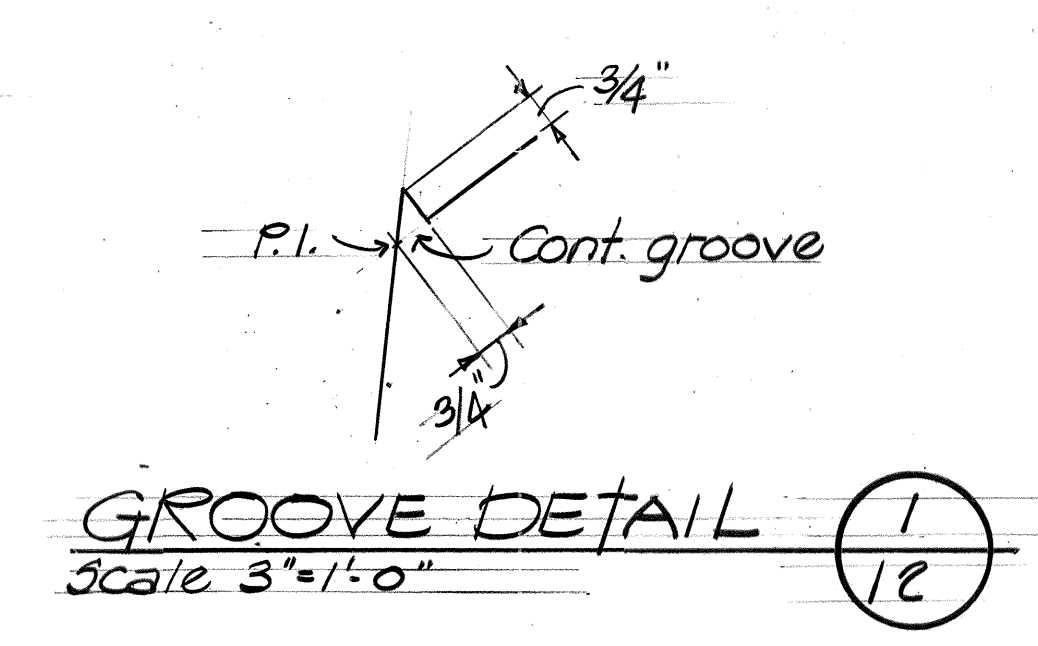
AIRPORT INTERCHANGE
 F.A.I. PROJECT NO. T-H-1-1 (174) 16

SCALE: 1/8" = 1'-0" DATE: SEPT 1982

SHEET NO. 11 OF 42 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1-1 (174)16	1982	31	70

- NOTE:**
- For additional box girder details, Refer to standard detail drawings shfs. #s-1 thru s-4
 - In general all deck transverse bars shall be placed normal to the Baseline.
 - For deck top & bottom slab main reinforcing, refer to top & bottom slab main reinforcing plans.
 - For additional reinforcing at deck drains refer to shfs. #T-4 & T-5
 - All vertical dimensions are measured plumb.



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NORMAL DECK SECTION & BEAM "B" DETAIL

RAMP IF
STA: 78+17.13 TO STA: 85+37.69

AIRPORT INTERCHANGE
F.A.I. PROJECT NO. I-H-1-1 (174)16

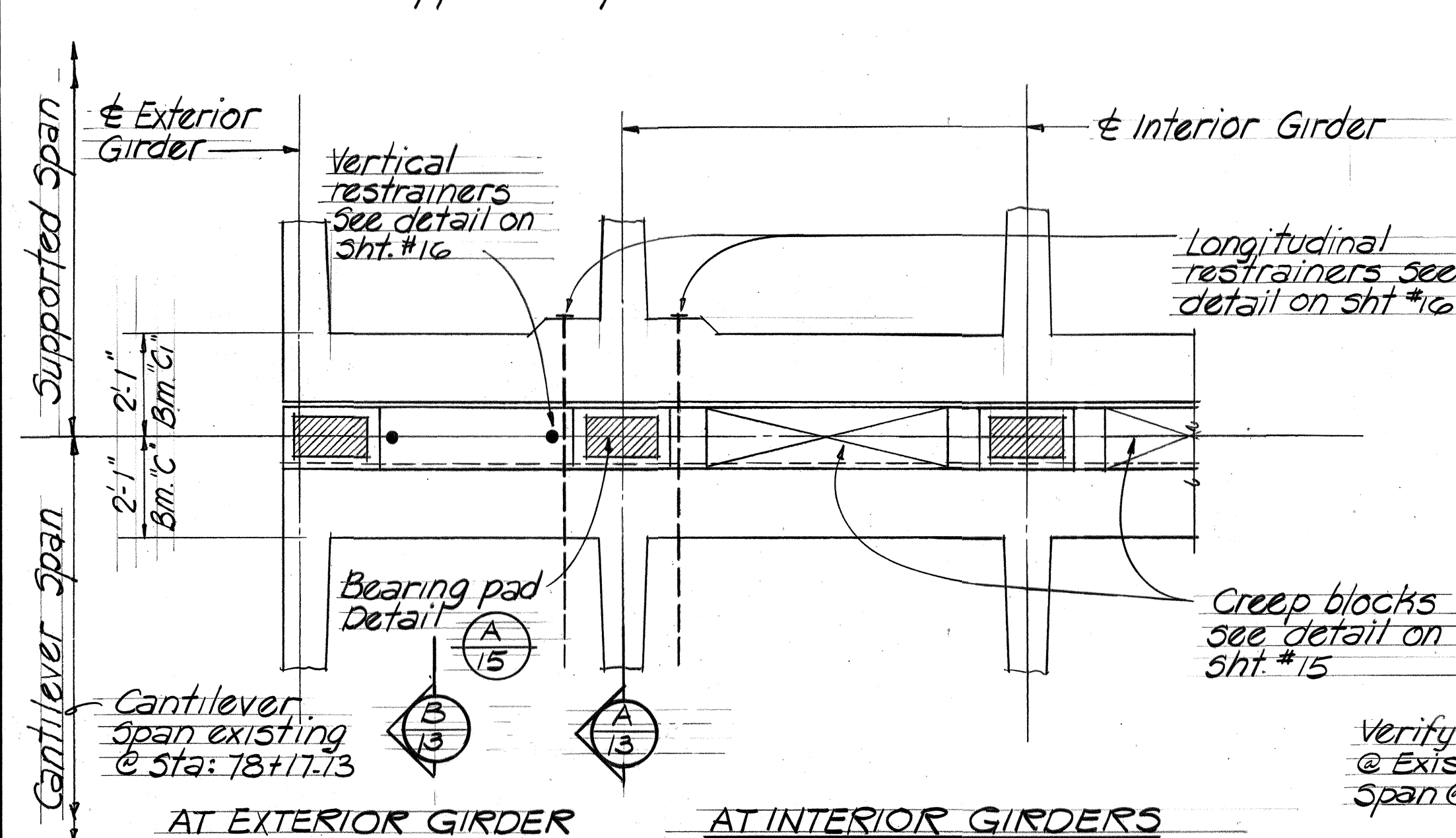
SCALE: AS NOTED DATE: *SEP 7/1982*

SHEET NO. 12 OF 42 SHEETS

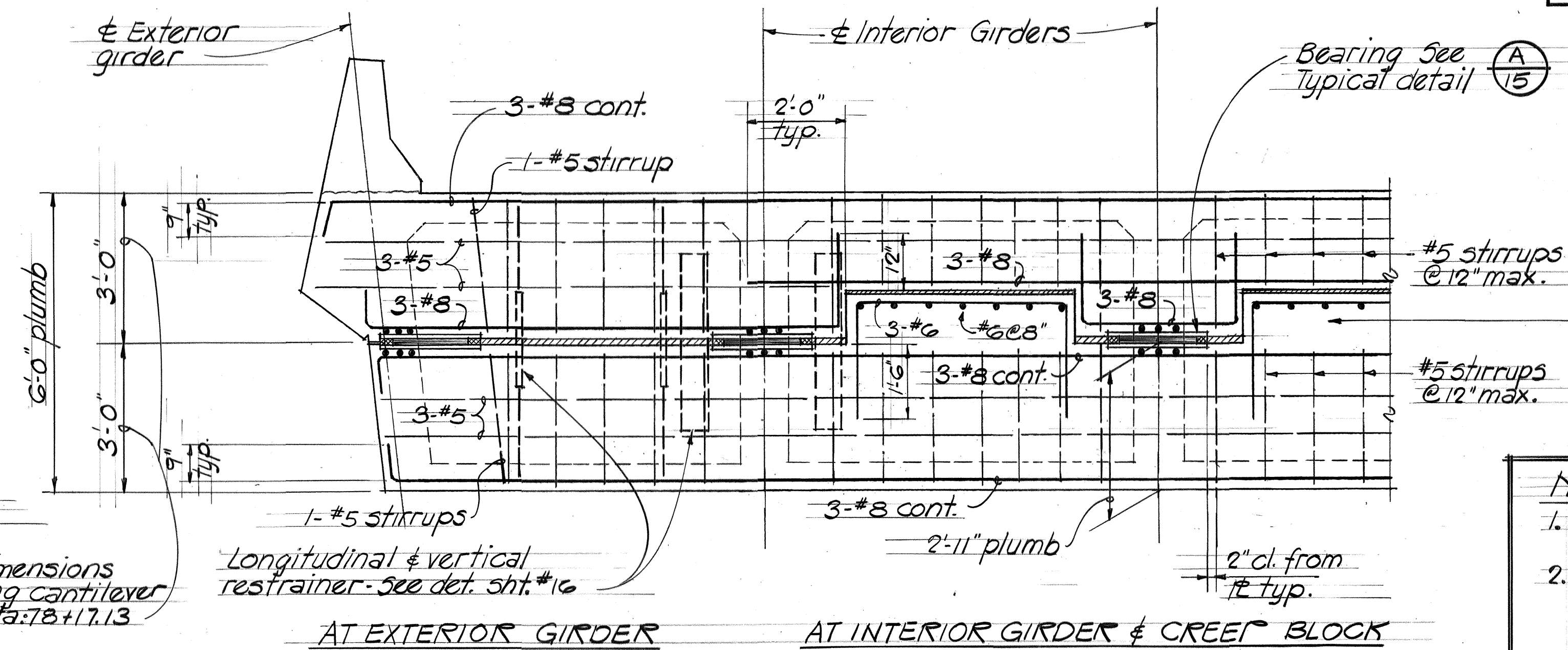
SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(174)16	1982	32	70

NOTE: For girder exact location - See Framing plans. All interior bearing pads shall be centered on supported span.

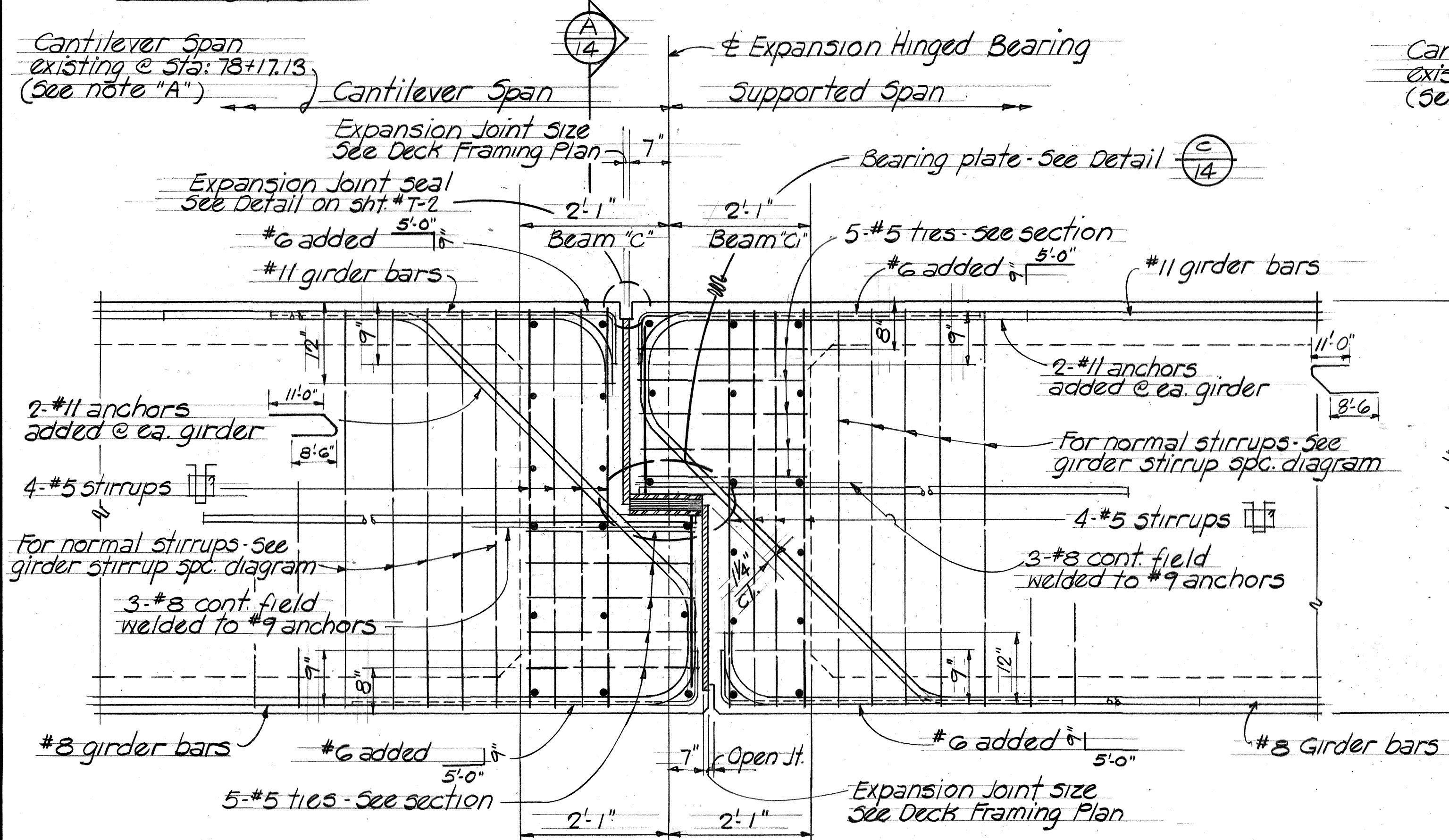


TYPICAL PLAN @ HINGED BEARING
Scale: 3/8" = 1'-0"

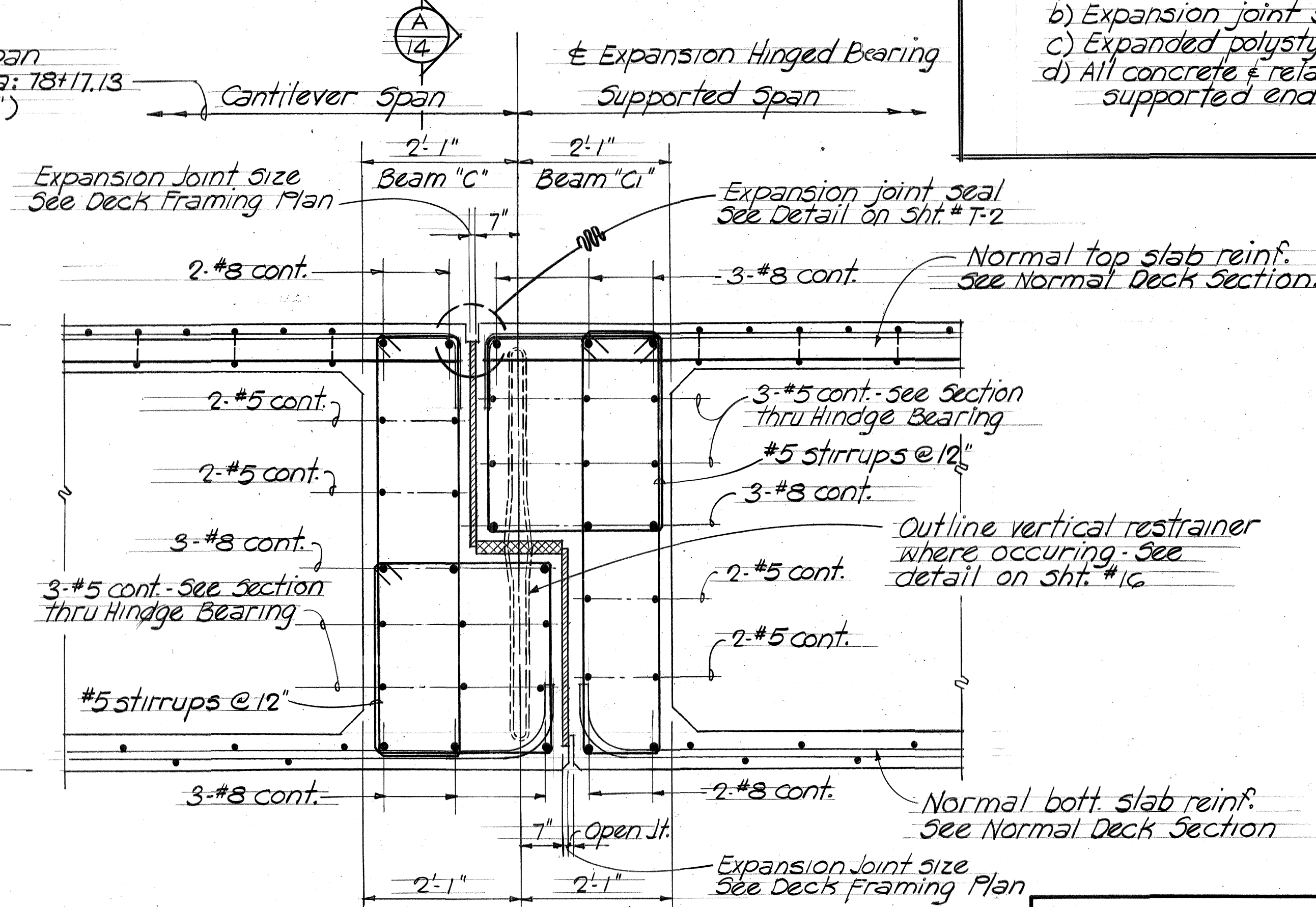


TYPICAL SECTION THRU HINGED BEARING
Scale: 1/2" = 1'-0"

- NOTE: "A"**
- Expansion hinged bearing cantilever end existing at Sta: 78+17.13.
 - Existing items:
 - Concrete work on cantilever end.
 - Steel bearing plate on cantilever end.
 - Vertical and horizontal restrainers.
 - Items in contract:
 - Elastomeric bearing pads
 - Expansion joint seal.
 - Expanded polystyrene filler.
 - All concrete & related work on supported end.



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

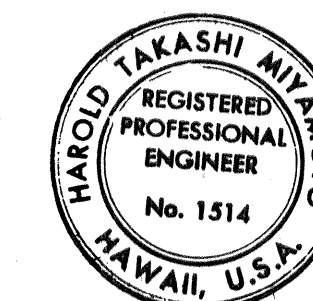


SECTION B
Scale: 3/4" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HINGED BEARING DETAIL
RAMP-1F
STA: 78+17.13 TO STA: 85+37.69

AIRPORT INTERCHANGE
F.A.I. PROJECT NO. 1-HI-1(174)16
SCALE: AS NOTED DATE: SEPT 1982
SHEET NO. 13 OF 42 SHEETS



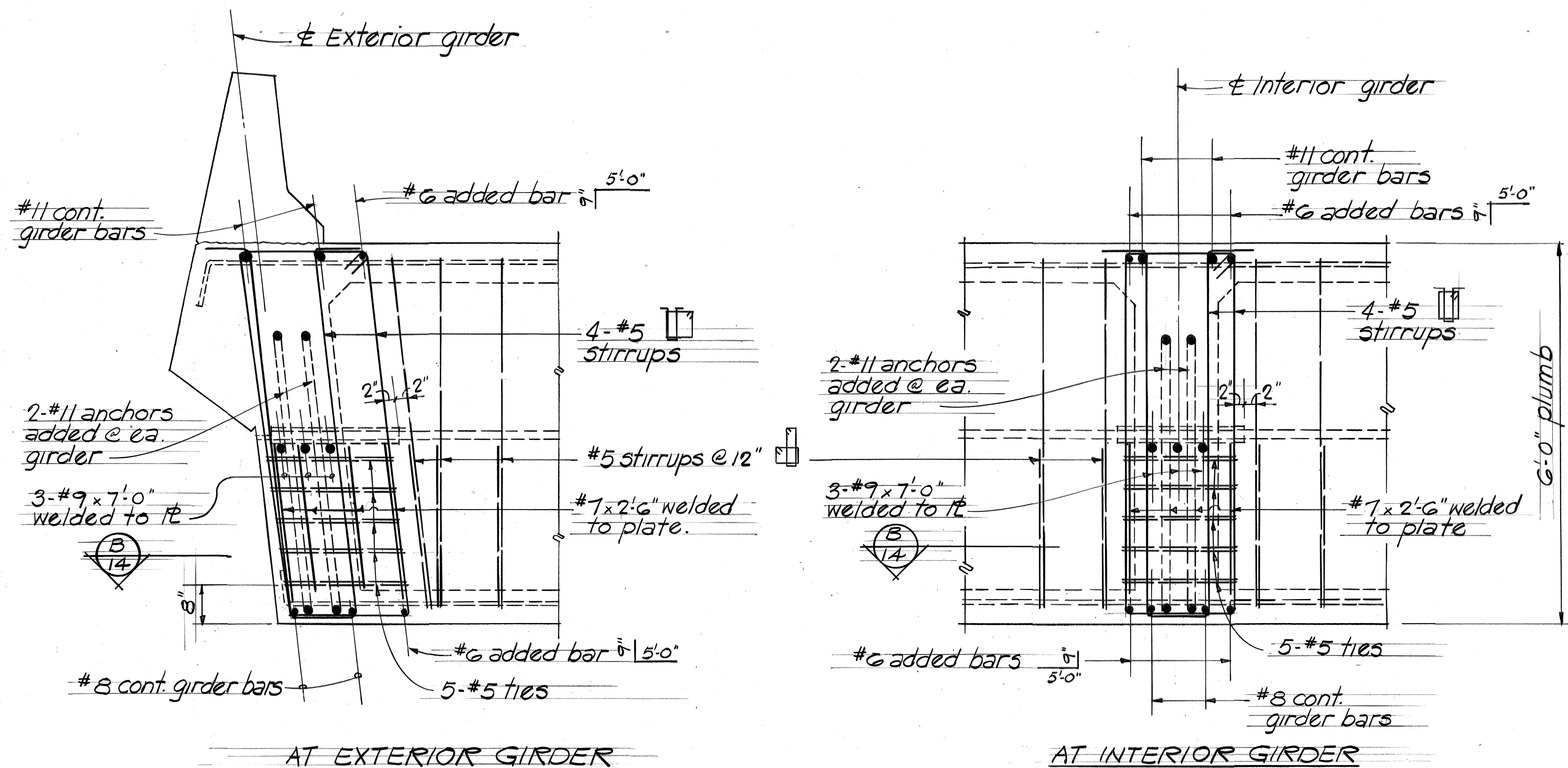
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Harold Miyamoto



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George K. Nishimura

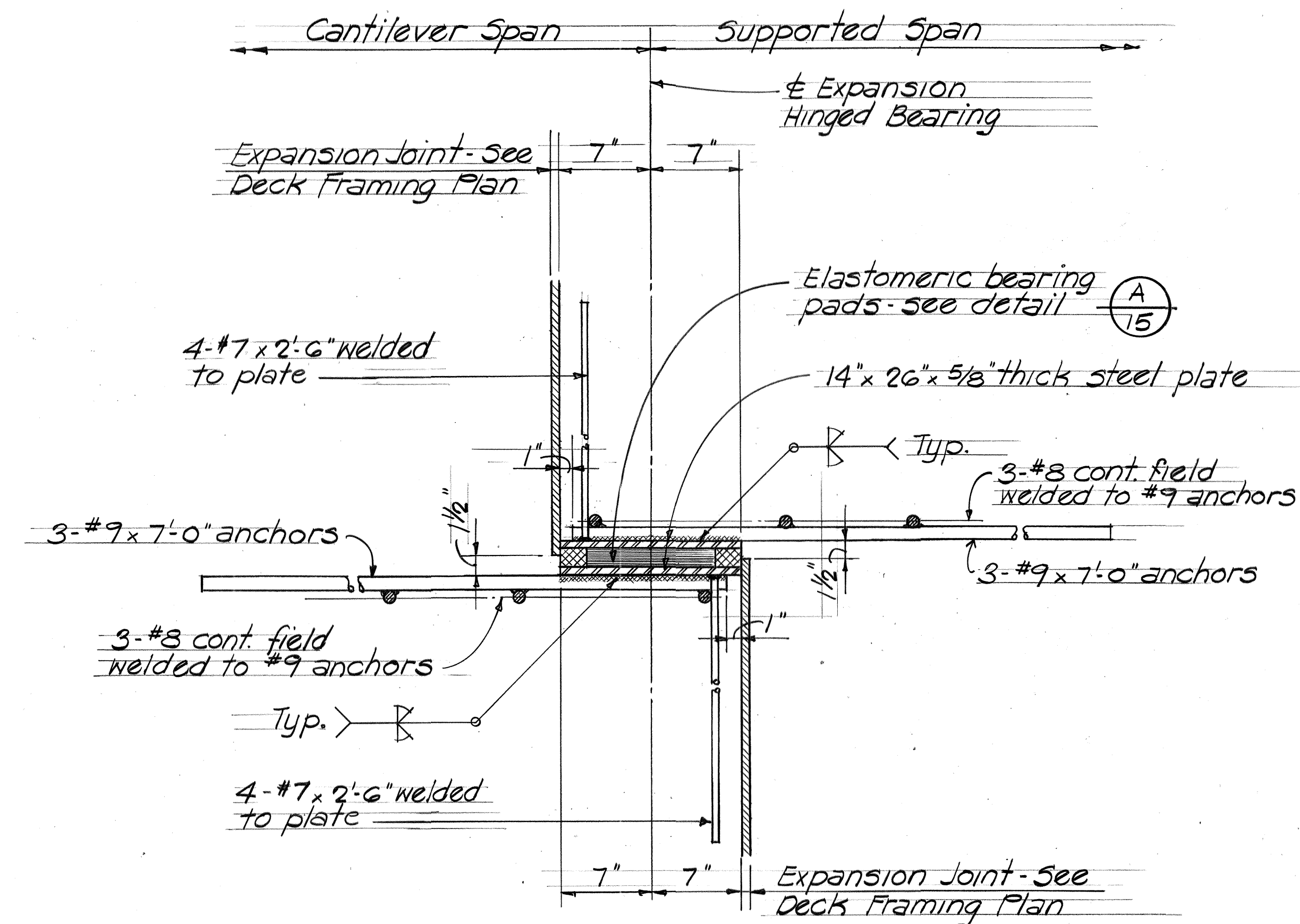
See C.C.O. No. 5 on Sht. 33.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(174)16	1982	33	70



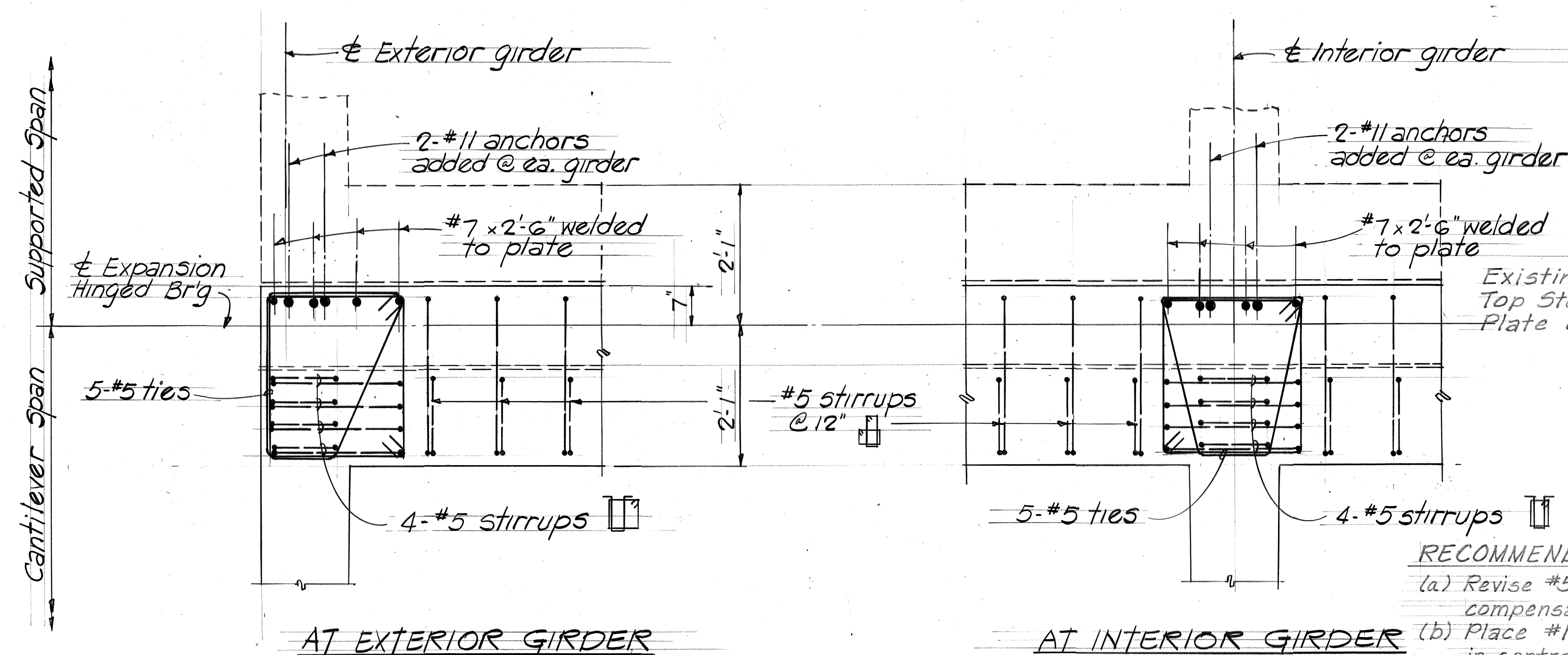
SECTION
Scale 3/4"=1'-0"

A
14



C BEARING PLATE DETAIL
Scale 1 1/2"=1'-0"

14

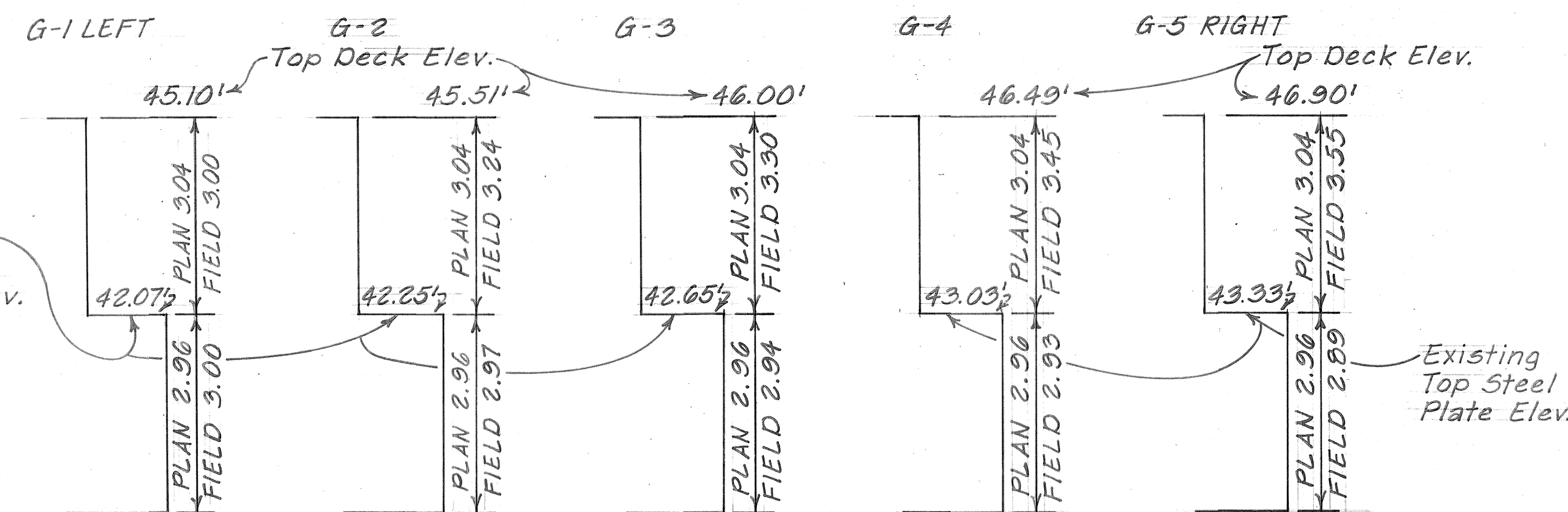


AT EXTERIOR GIRDER

AT INTERIOR GIRDER

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

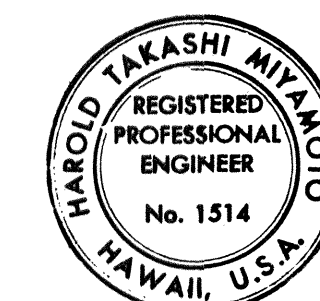
B
14



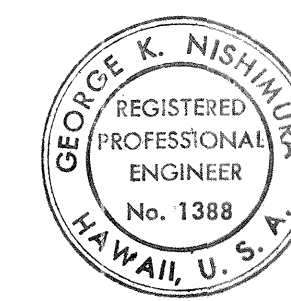
RECOMMENDED REVISIONS:

- Revise #5 stirrups (fabricate longer) to compensate for deeper webs.
- Place #11 using original cover as shown in contract plans at bottom slab and vertical face. Let top slab take up the balance.

CONTRACT CHANGE ORDER NO. 5



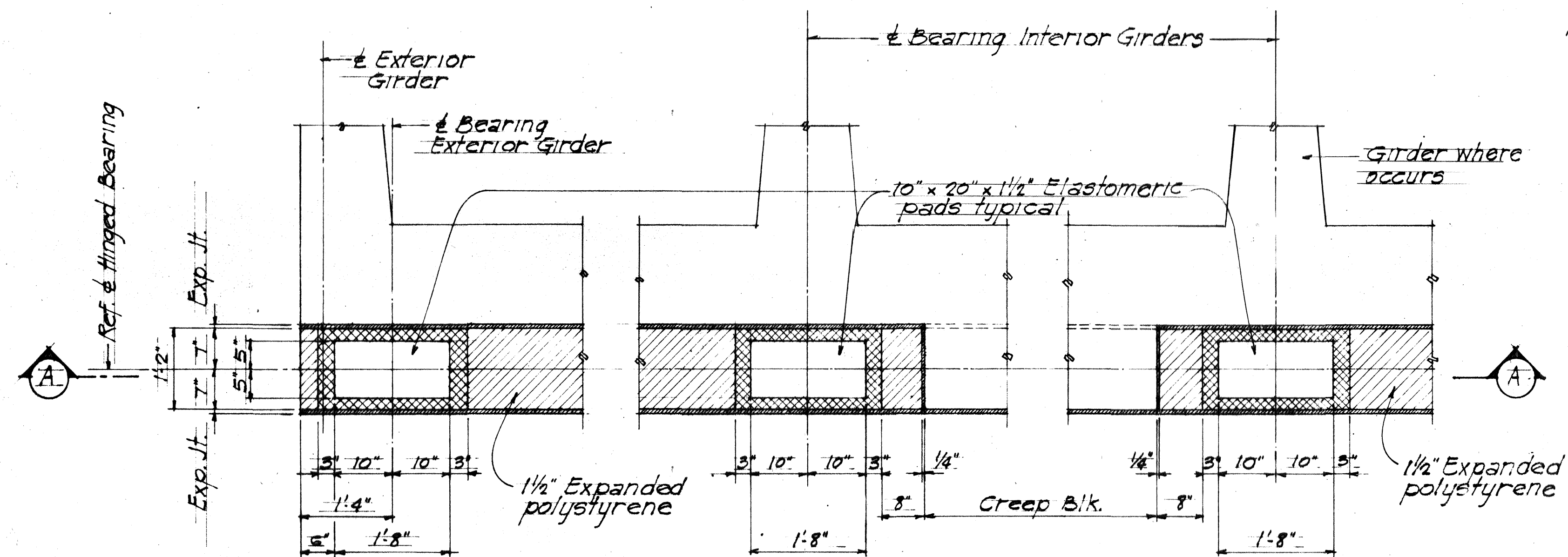
THIS WORK WAS PREPARED BY
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Harold Miyako



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ME OR UNDER MY SUPERVISION
George Nishimura

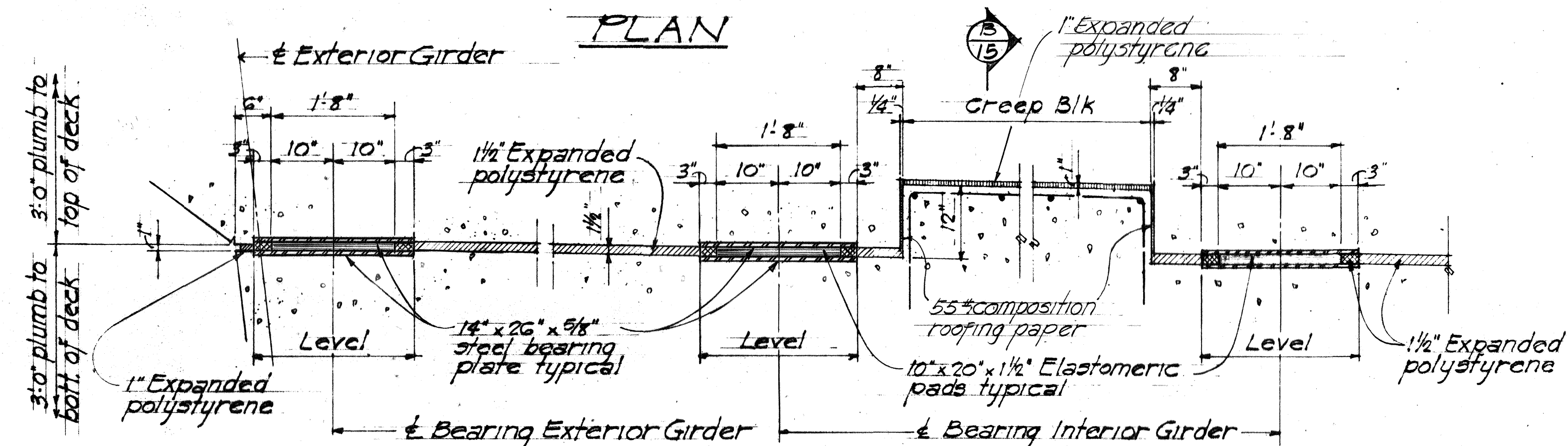
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
HINGED BEARING DETAIL	
RAMP-IF	
STA: 78+17.13 TO STA: 85+37.69	
AIRPORT INTERCHANGE	
F.A.I. PROJECT NO. I-HI-1(174)16	
SCALE: AS NOTED	DATE: SEPT 1982
SHEET No. 14 OF 42 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(74)16	1980	34	70



AT EXTERIOR GIRDERS

AT INTERIOR GIRDERS



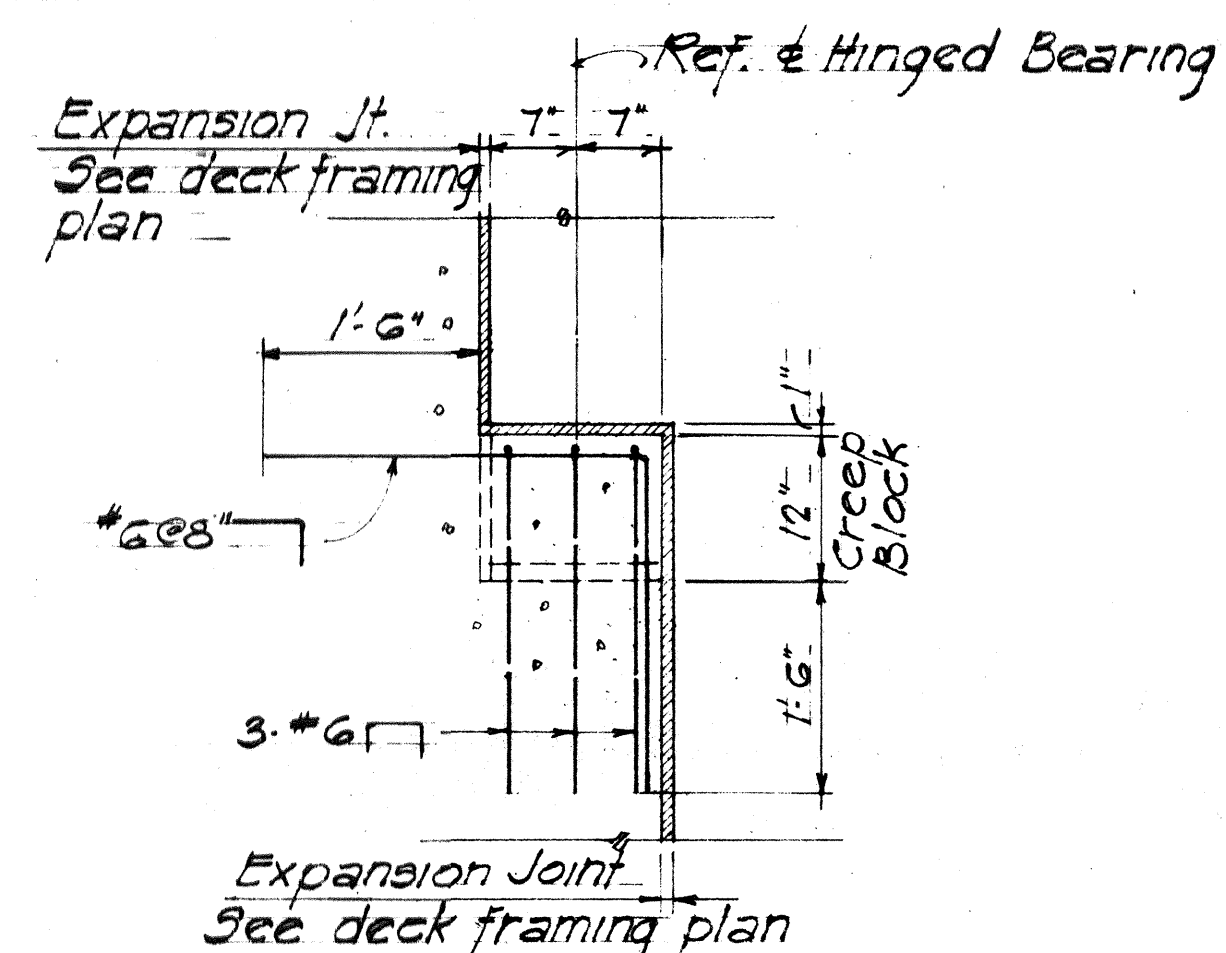
AT EXTERIOR GIRDER

AT INTERIOR GIRDER

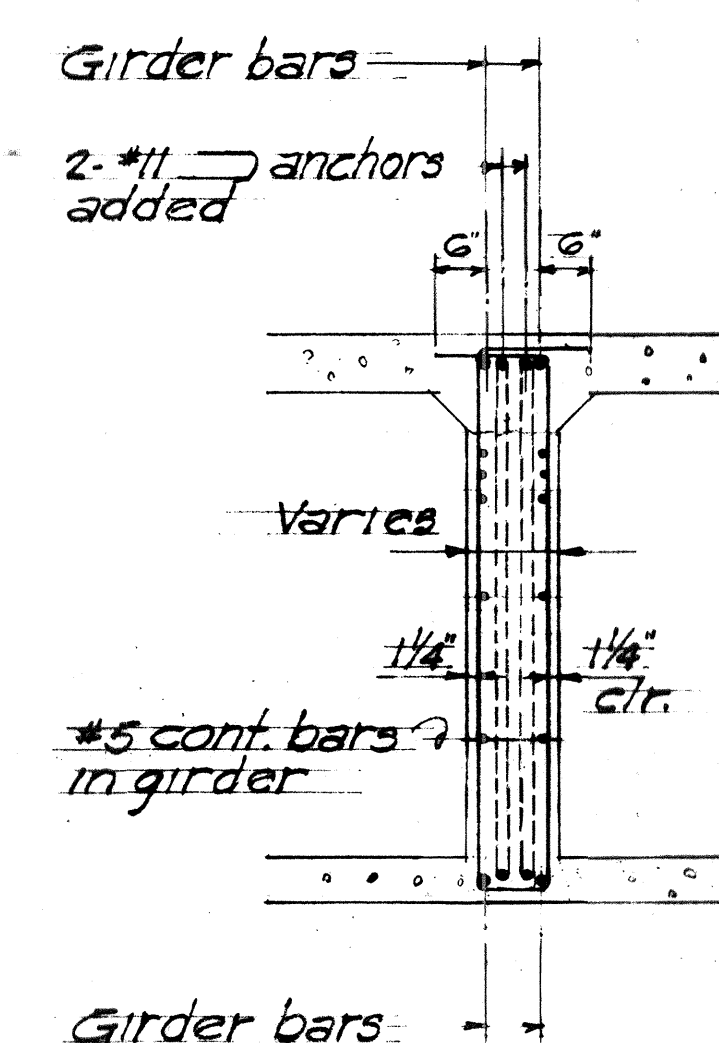
SECTION A-A

TYPICAL BEARING DETAIL

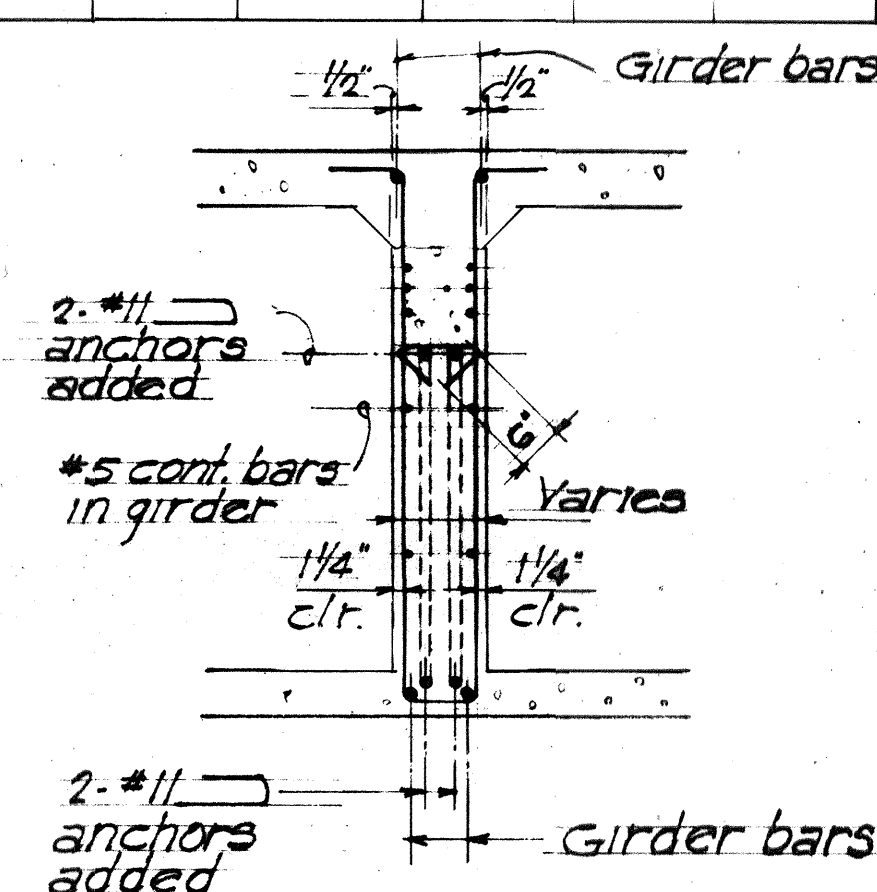
Scale 3/4" = 1'-0"



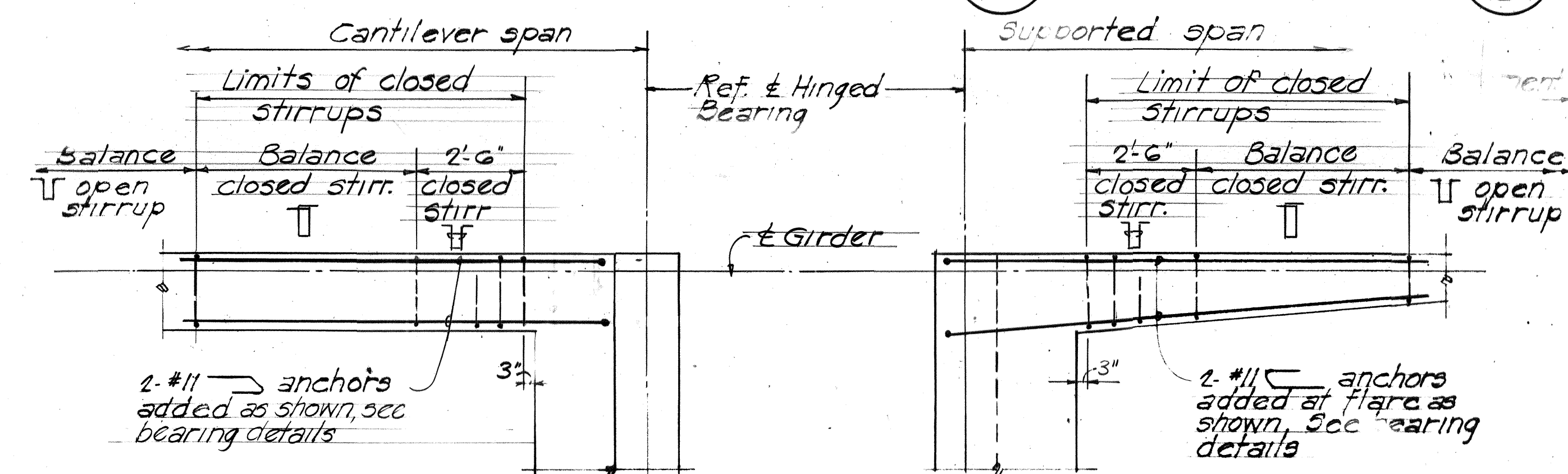
SECTION 3
Scale $\frac{3}{4}'' = 1'-0''$ 15



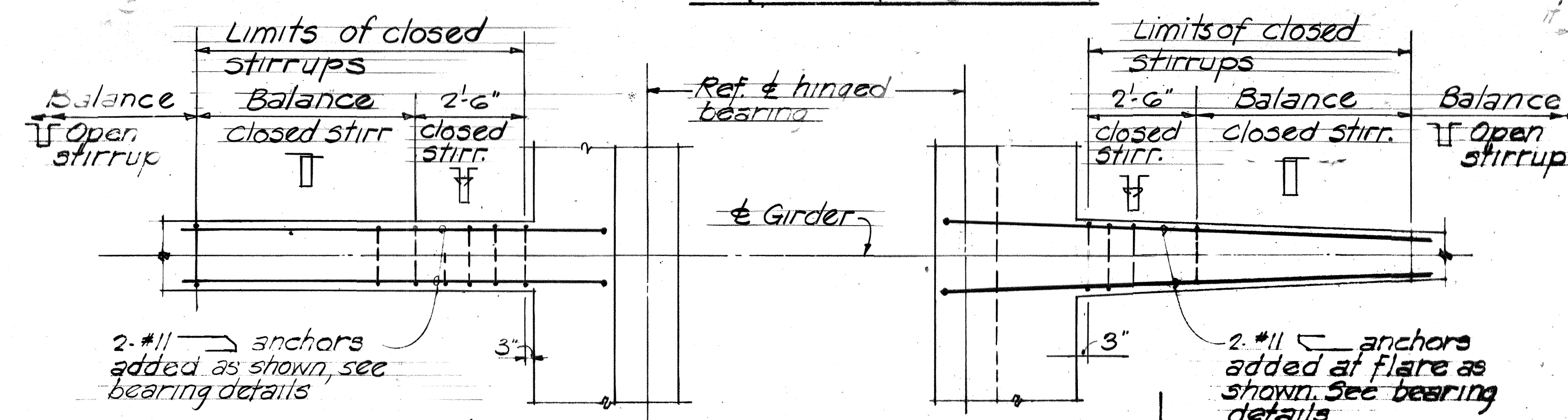
SECTION H
15
Scale 1/2"=1'-0"



SECTION G
15
Scale 1/2" = 1'-0"



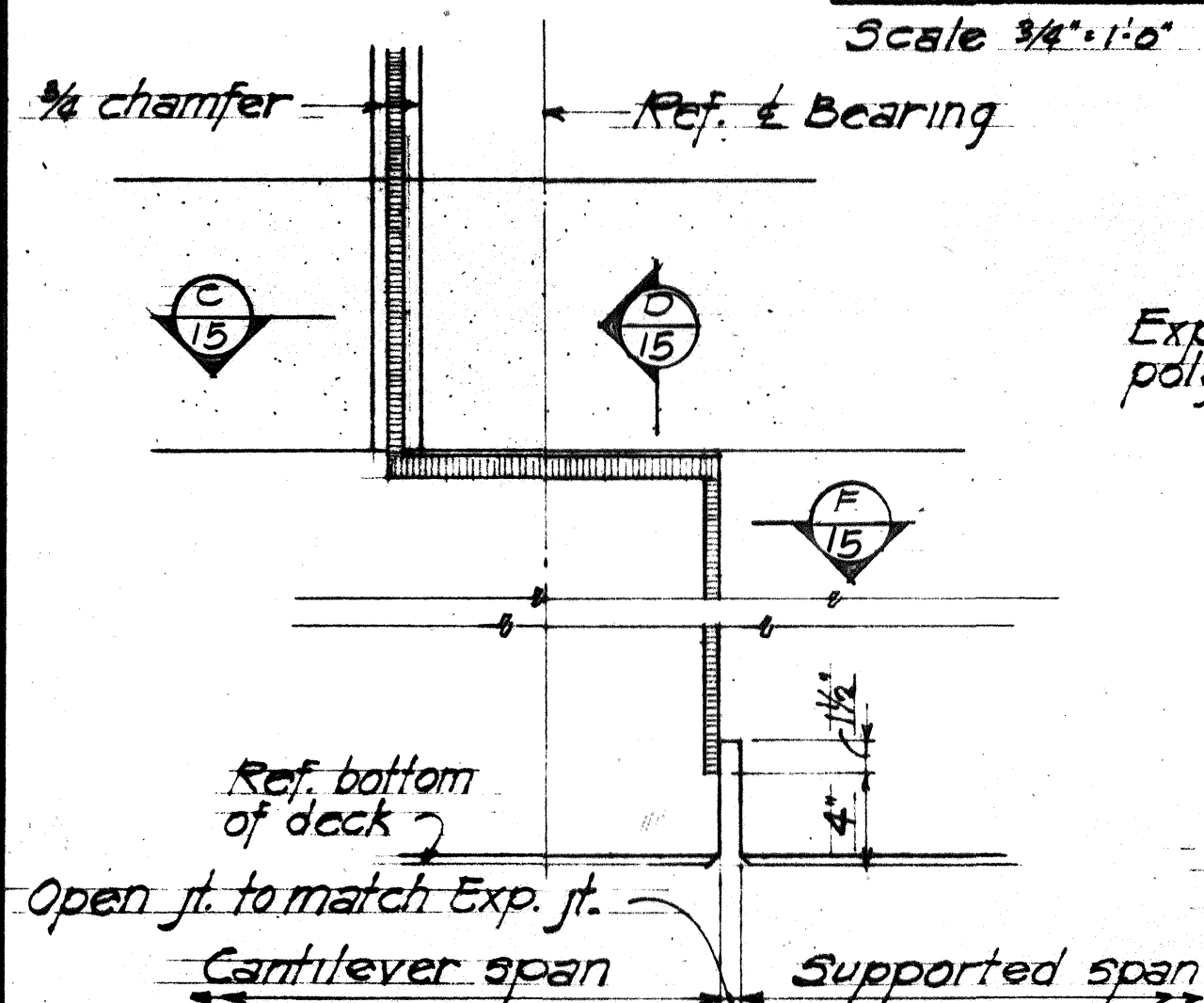
EXTERIOR GIRDER



INTERIOR GIRDER

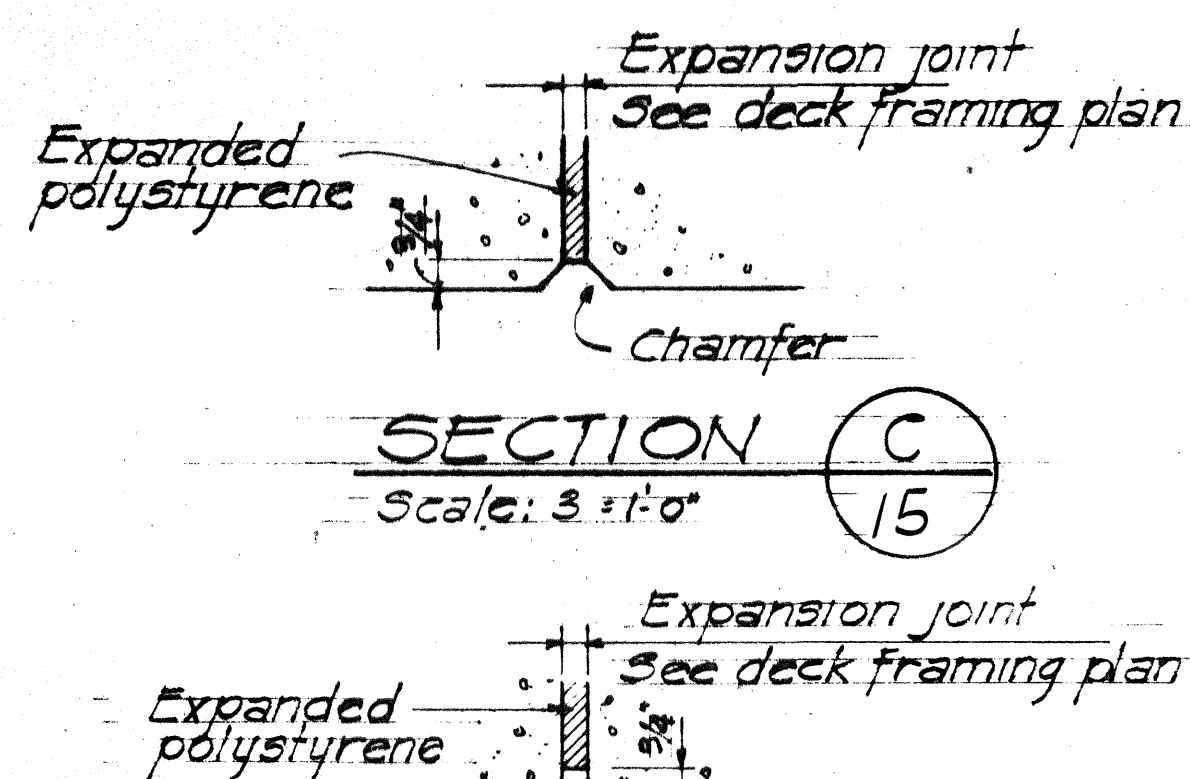
F GIRDER STIRRUPS DETAIL AT HINGED BEARING

(15) Not to scale

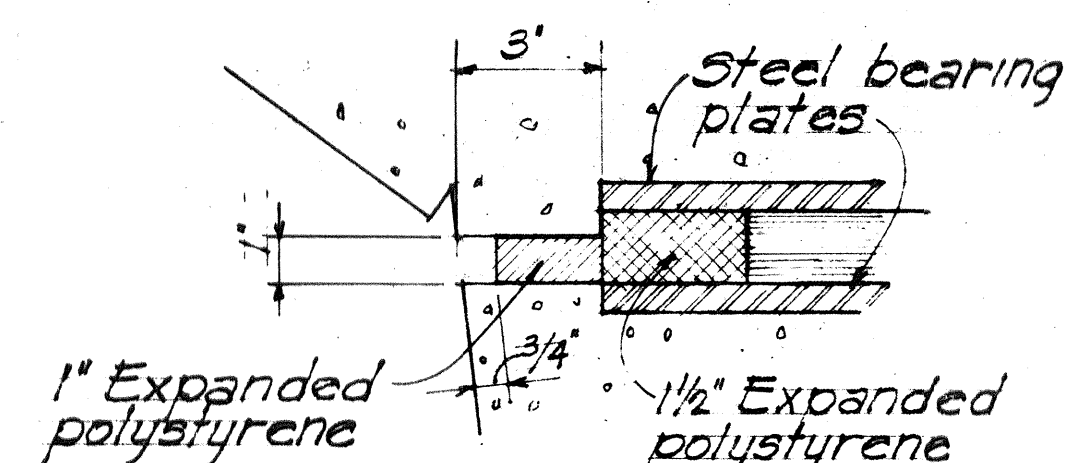


END ELEVATION @ HINGED BEAR'G

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



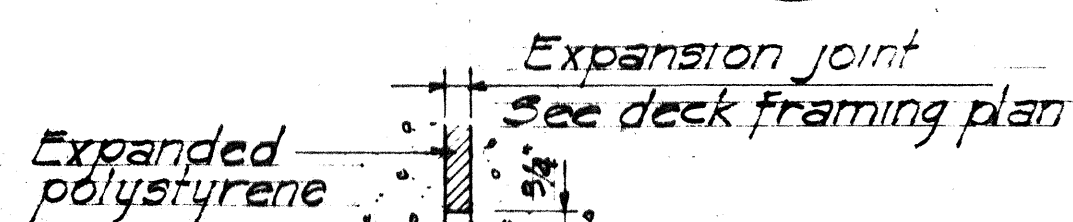
SECTION C
Scale: 3" = 1'-0"



SECTION D
Scale 3" = 1'-0" 15

NOTE:

All elastomeric pad, composition roofing paper, expanded polystyrene and bearing plates incidental to concrete.



SECTION E
Scale: 3" = 1'-0" 15

3524/6: 3 = 1-0



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HINGED BEARING DETAIL

RAMP-IF

STA: 78+17.13 TO STA: 85+37.69

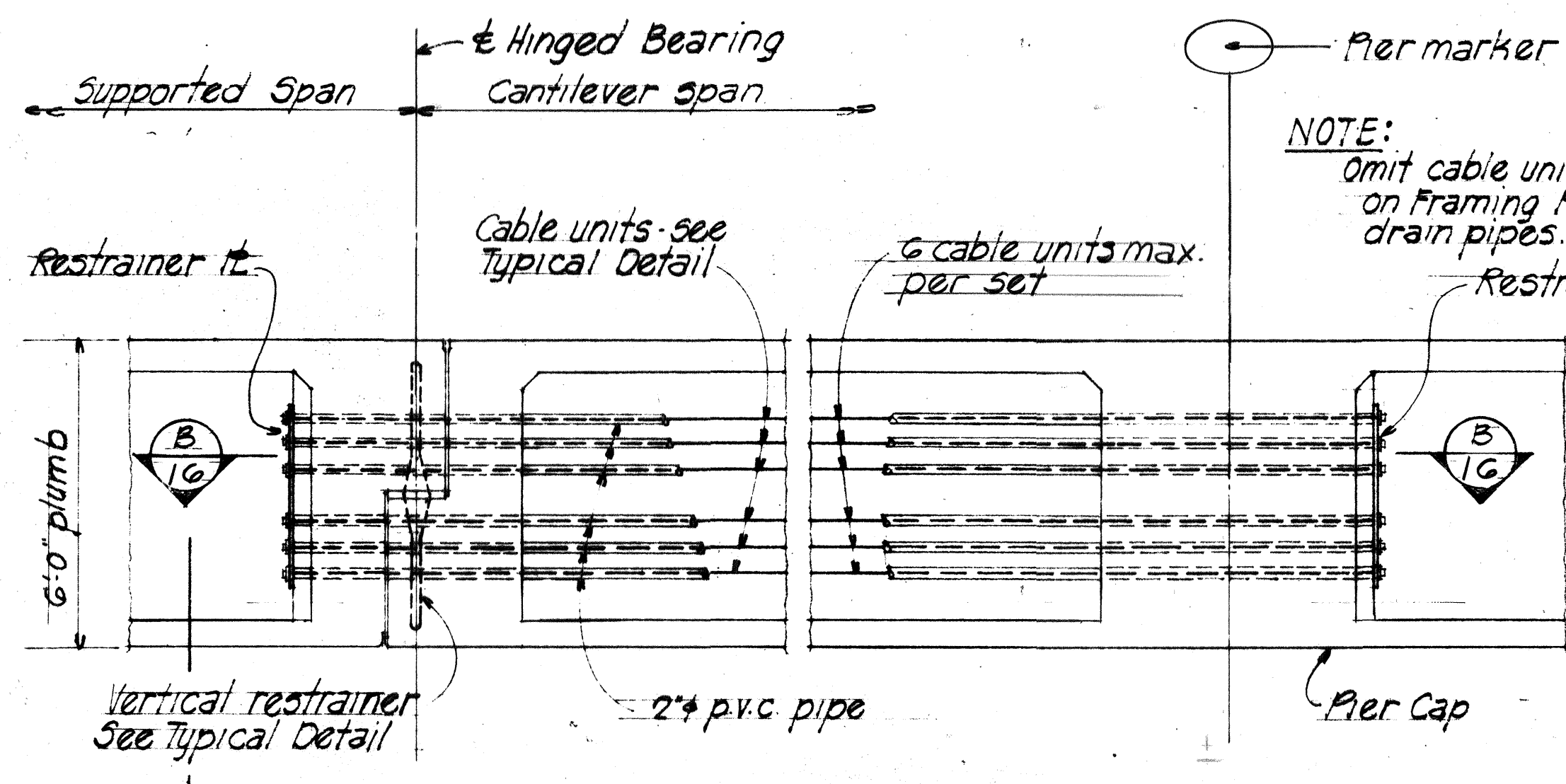
AIRPORT INTERCHANGE

F.A.I. PROJECT NO. 1-HI-1(174):16

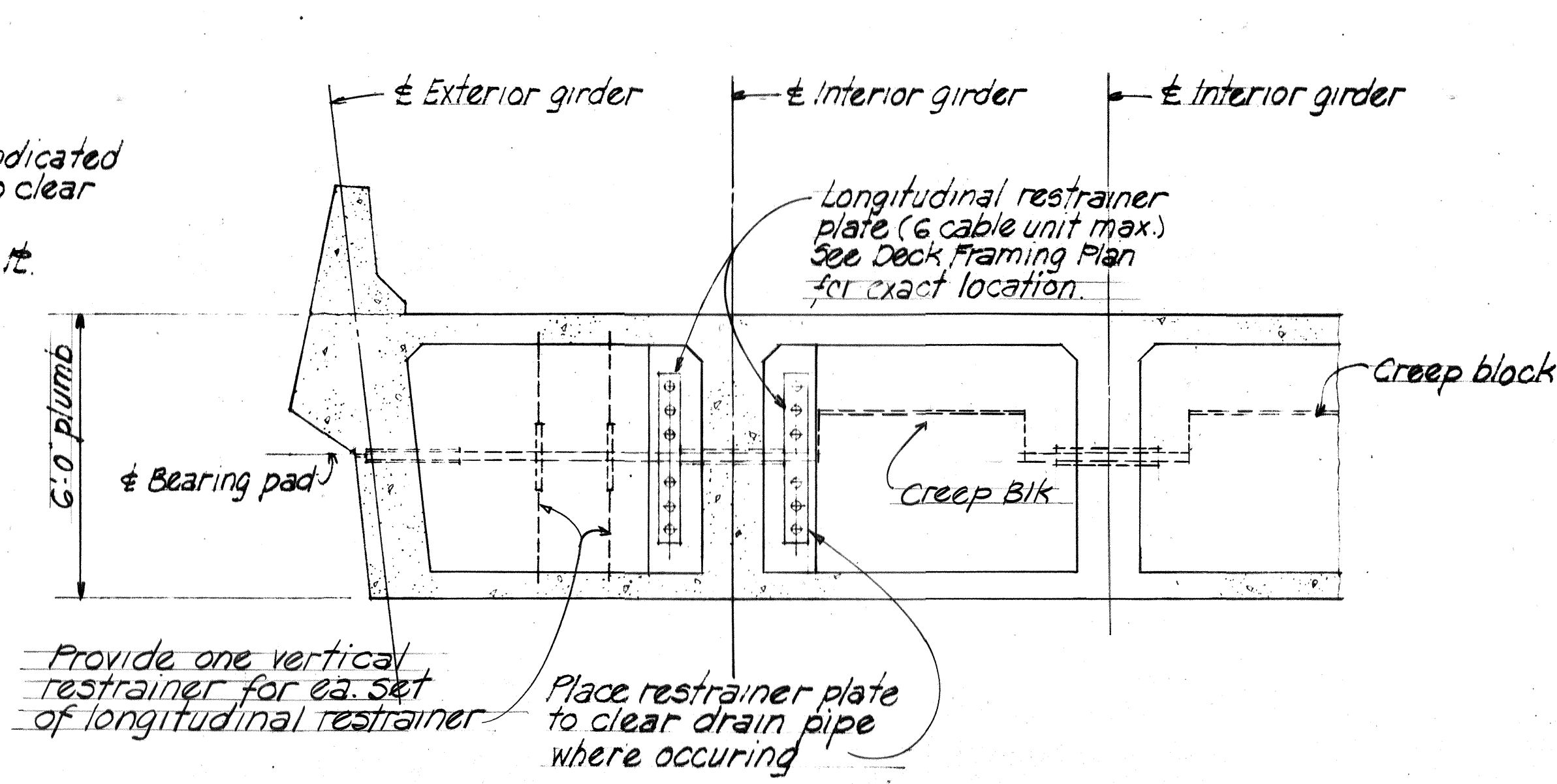
SCALE: AS NOTED DATE: SEPT. 1982

SHEET NO. 15 OF 42 SHEETS

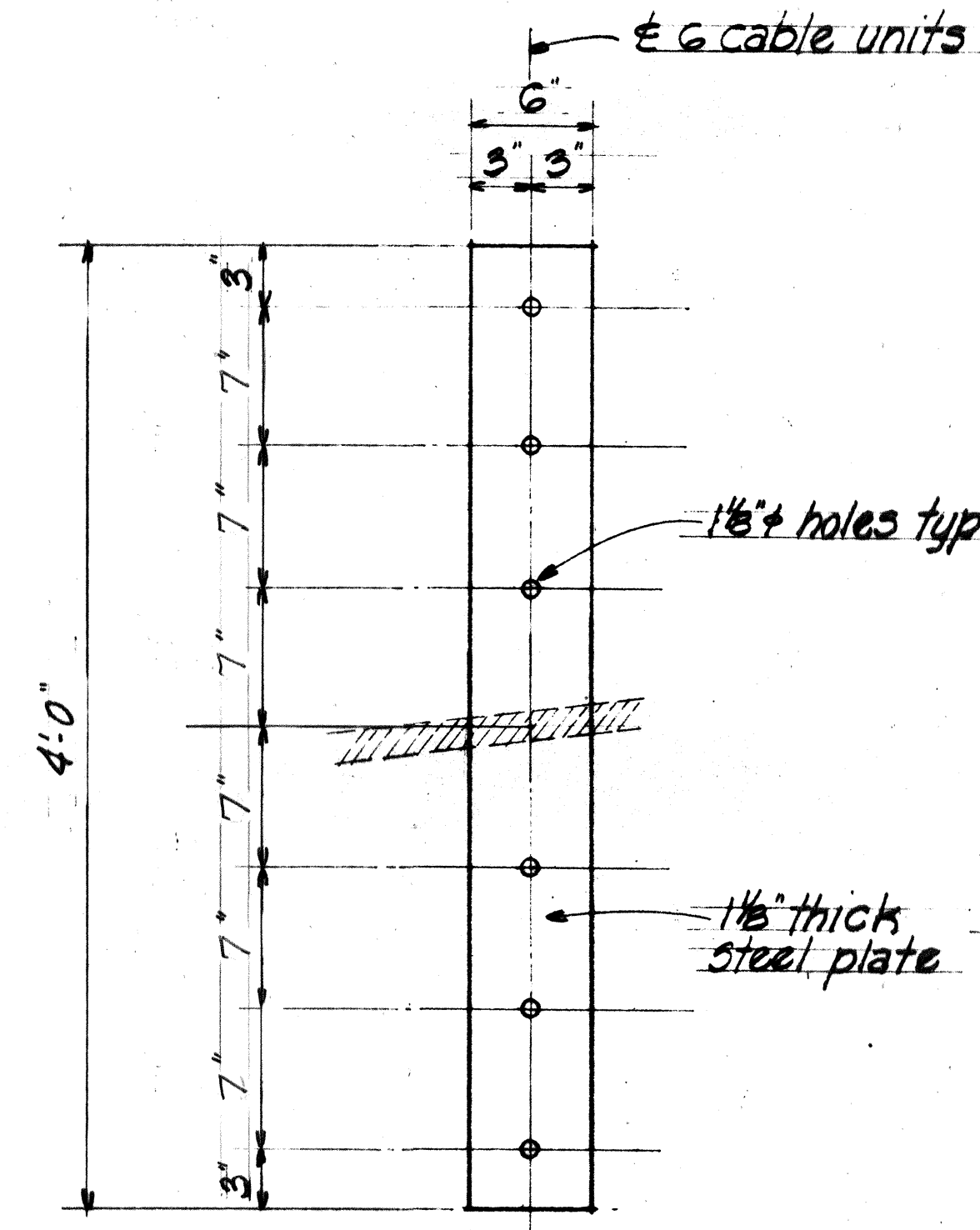
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(174)16	1982	35	70



PROFILE ~ SHOWING RESTRAINERS @ HINGED BEARING
Scale 3/8" = 1'-0"



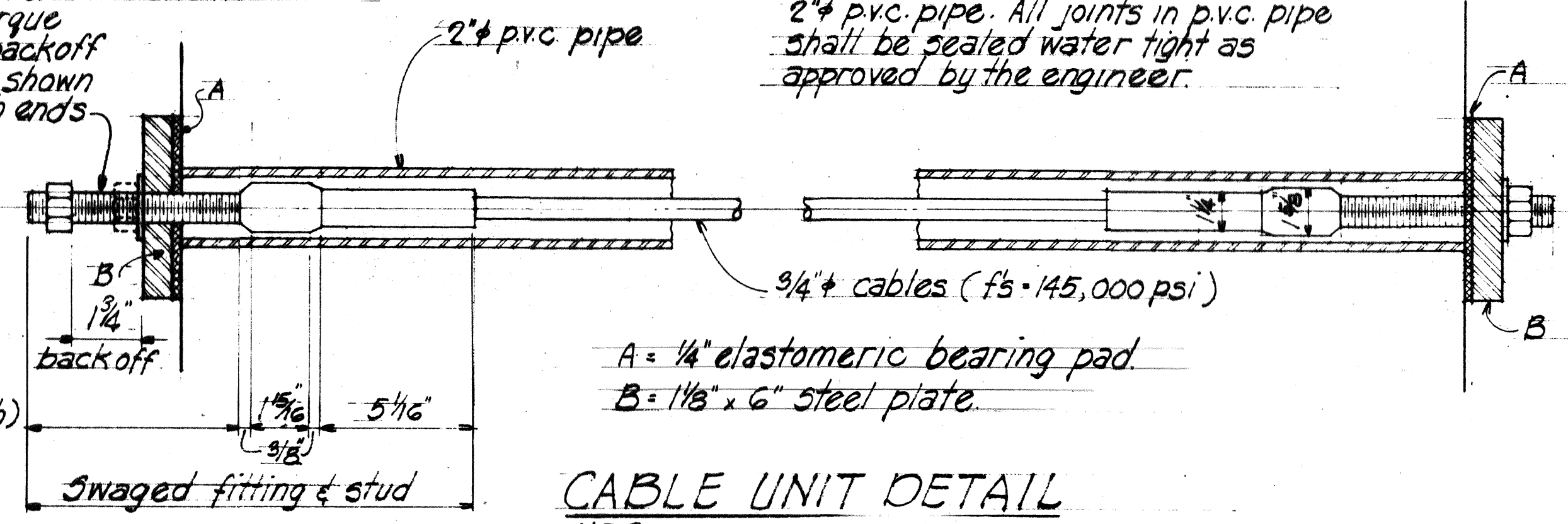
SECTION ~ SHOWING RESTRAINERS @ HINGED BEARING
Scale 3/8" = 1'-0"



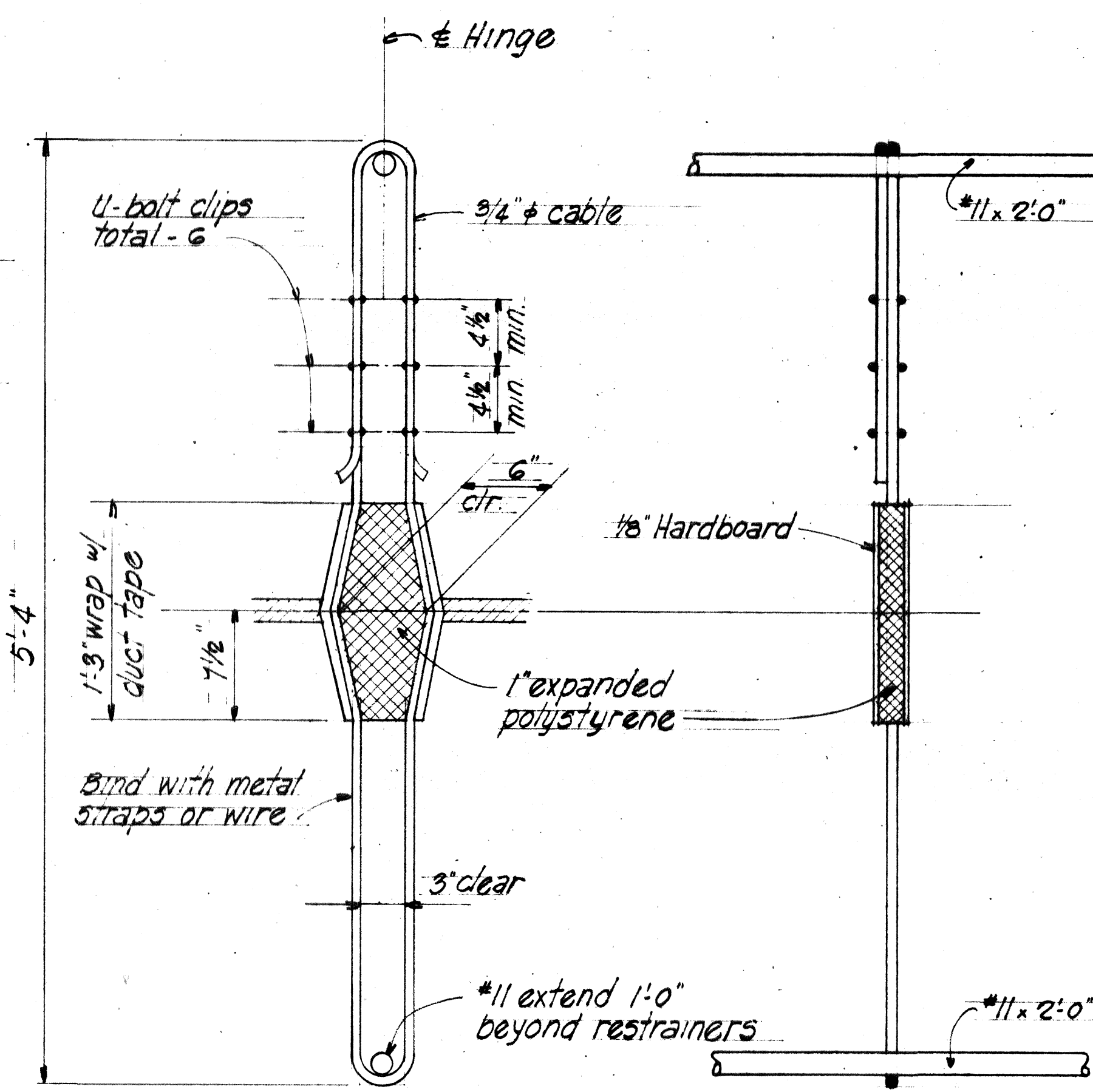
RESTRAINER PLATE DETAIL
Scale 1/2" = 1'-0"

After the web and bottom slab has attained its 28 day strength, torque nut to 45 ft/lbs then backoff at one end of unit as shown and peen threads both ends.

NOTE: All cable units shall be greased with heavy duty grease and encased 2" pvc pipe. All joints in pvc pipe shall be sealed water tight as approved by the engineer.

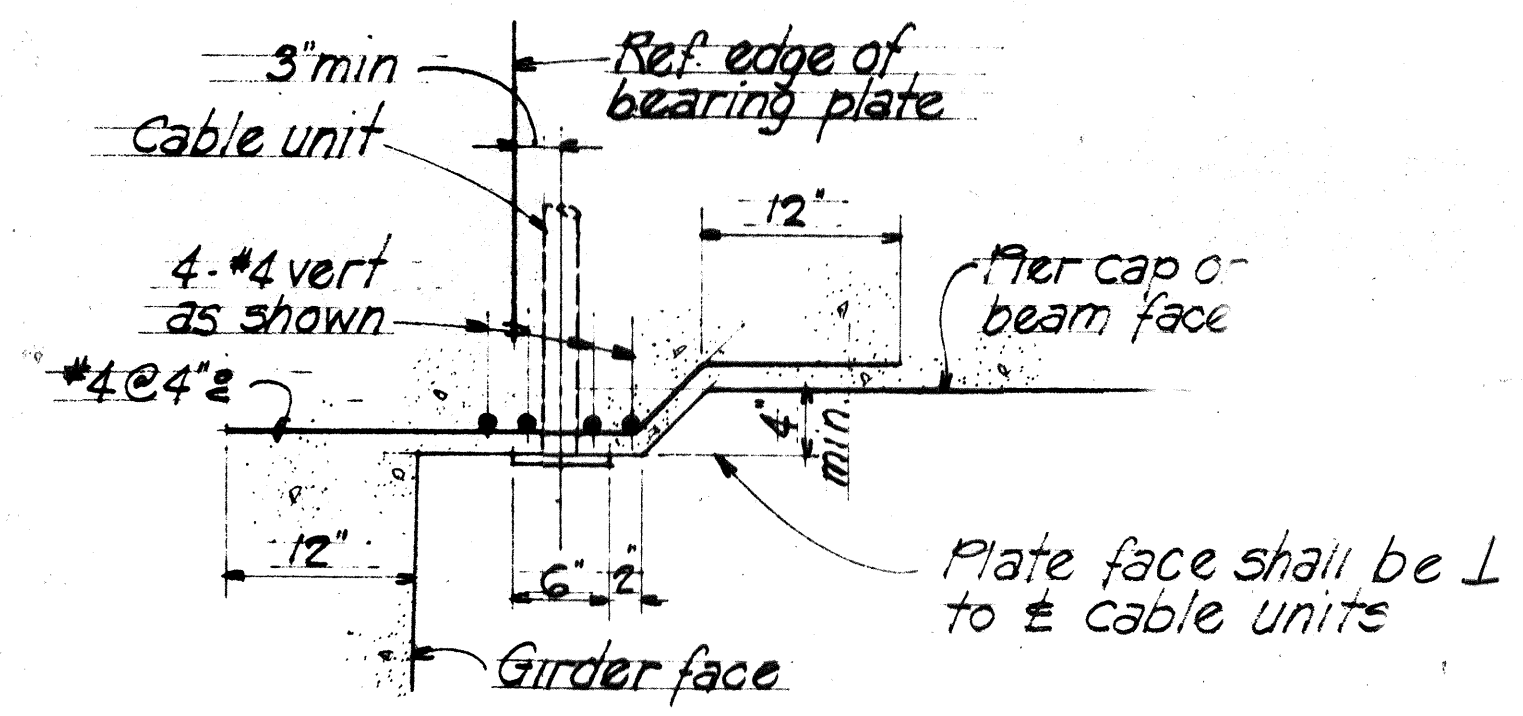


CABLE UNIT DETAIL
N.T.S.



VERTICAL RESTRAINER DETAIL
N.T.S.

- NOTE:**
1. All cable units shall be placed so that cables are in a straight line.
 2. The exact position of the longitudinal restrainers to be determined by the Contractor. One cable per set may be omitted to clear drain pipe in pier caps as noted on plans. Any removal of cables must be symmetrical about the structure.
 3. All vertical & longitudinal restrainers units and plates shall be incidental to concrete.
 4. All cable units @ future supported span shall be protected against corrosion.
 5. Restrainer plate shall conform to existing cable units @ existing cantilever span.
 6. Contractor shall submit shop drawing of the cable arrangement to the engineer for approval prior to installation.



SECTION
Scale 1" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HINGED RESTRAINER DETAIL

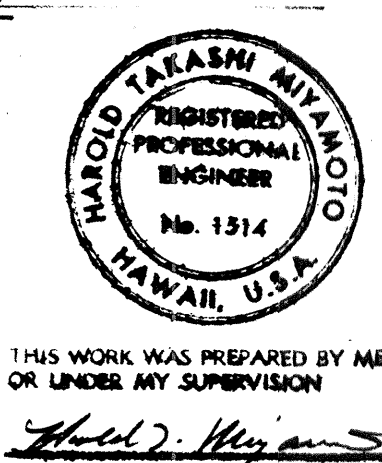
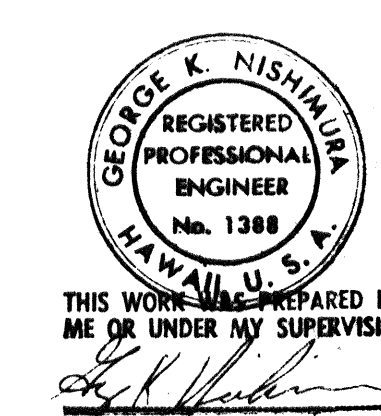
RAMP-IF

STA: 78+17.13 TO STA: 85+37.69

AIRPORT INTERCHANGE
F.A.I. PROJECT NO. 1-HI-1(174)-16

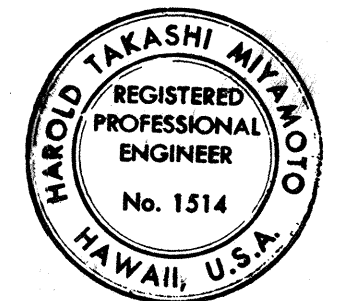
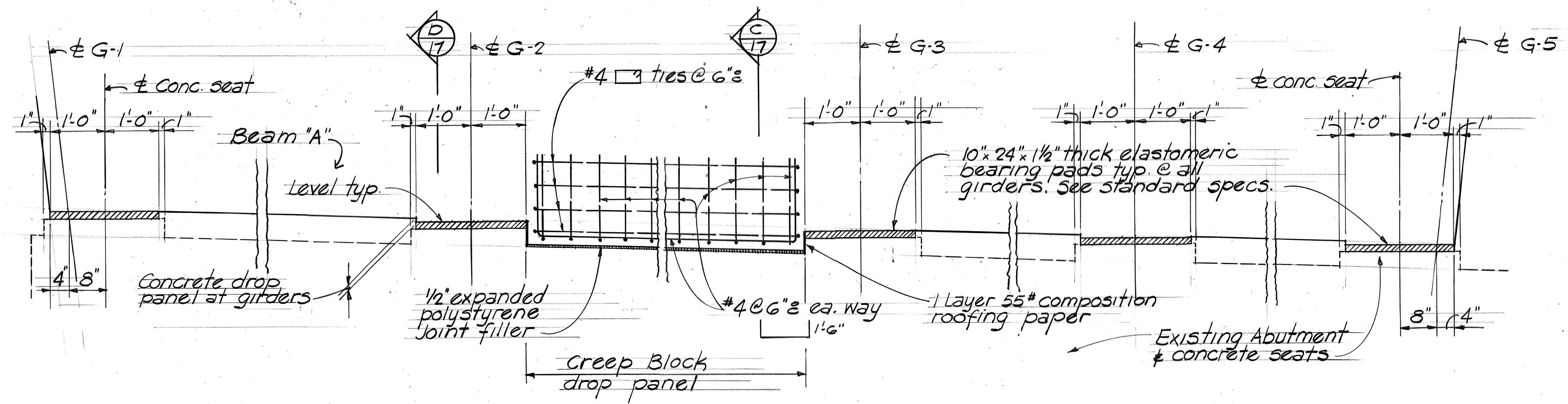
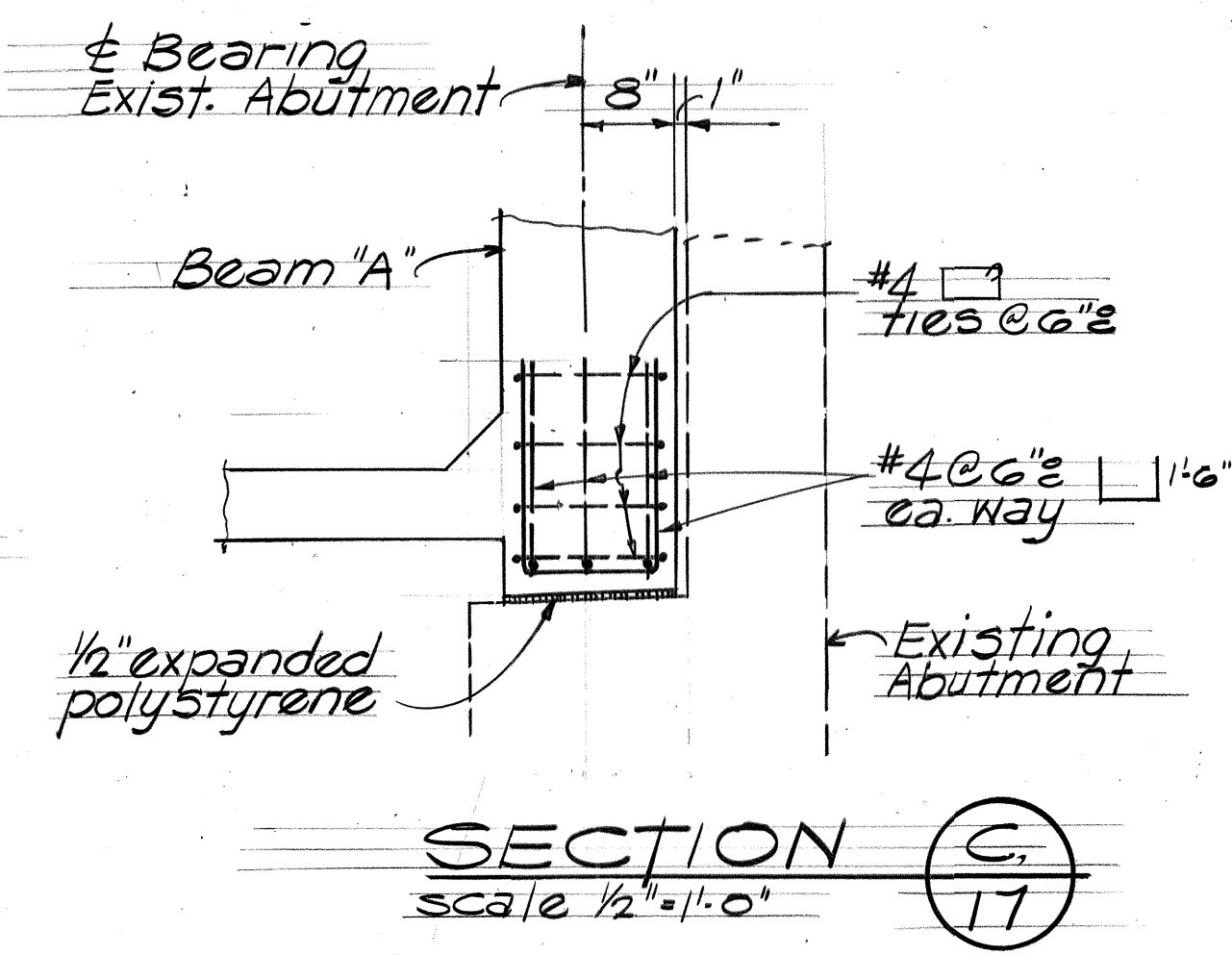
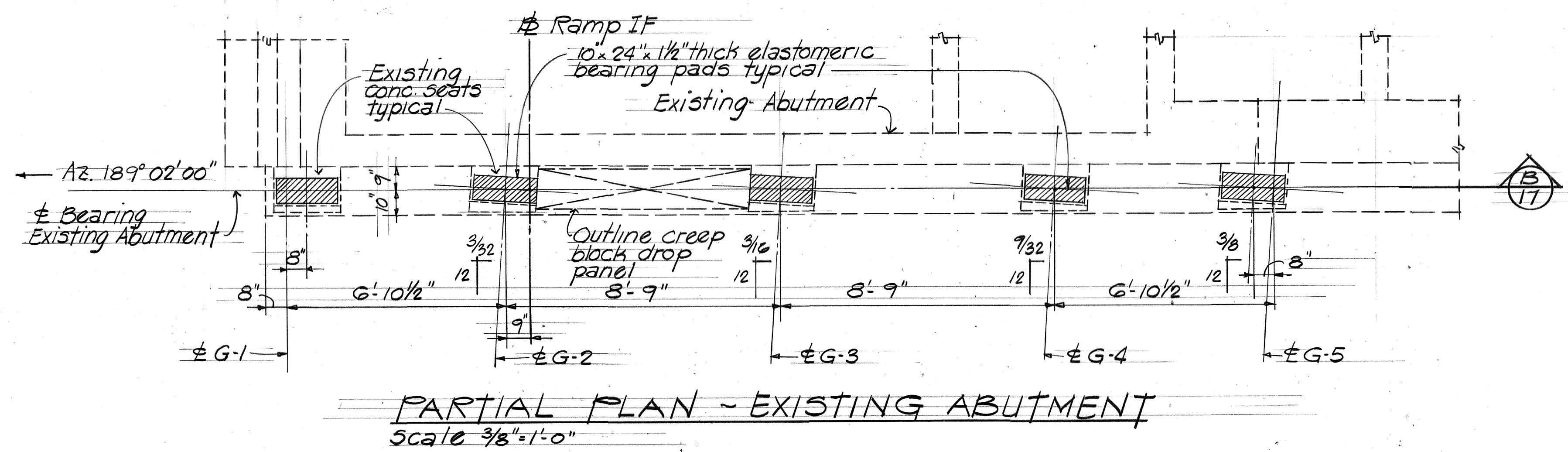
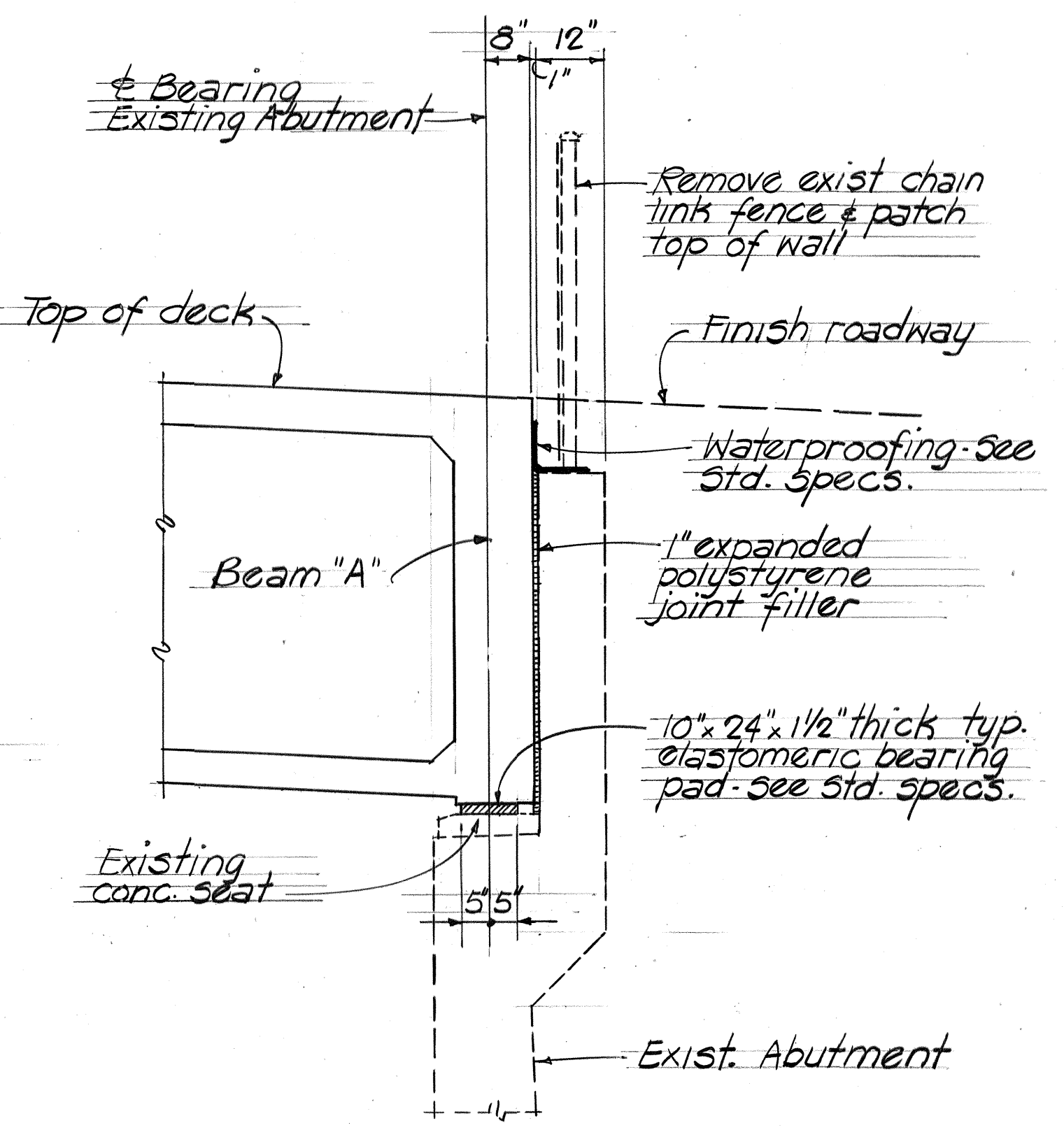
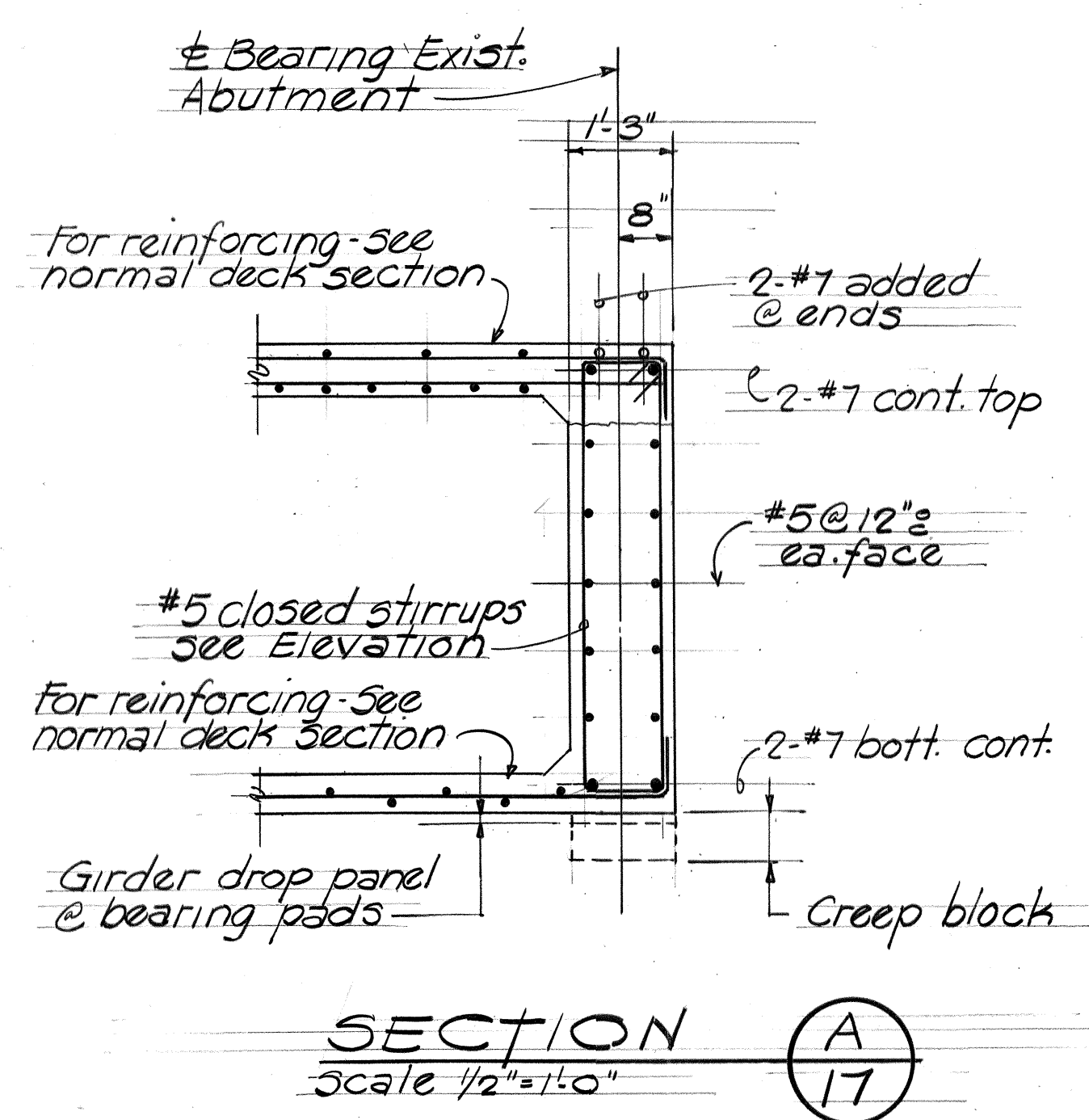
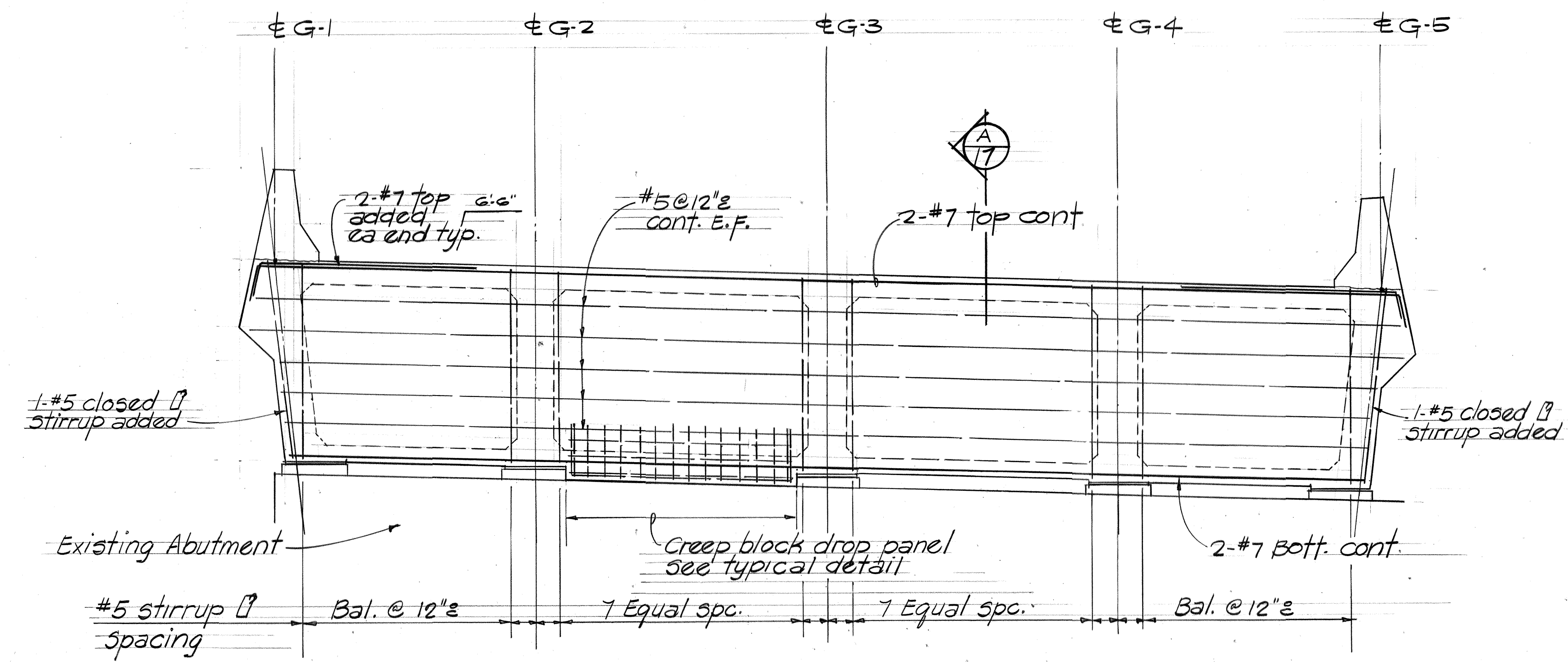
SCALE: AS NOTED DATE: SEPT. 1982

SHEET NO. 16 OF 42 SHEETS



SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(174)16	1982	36	70



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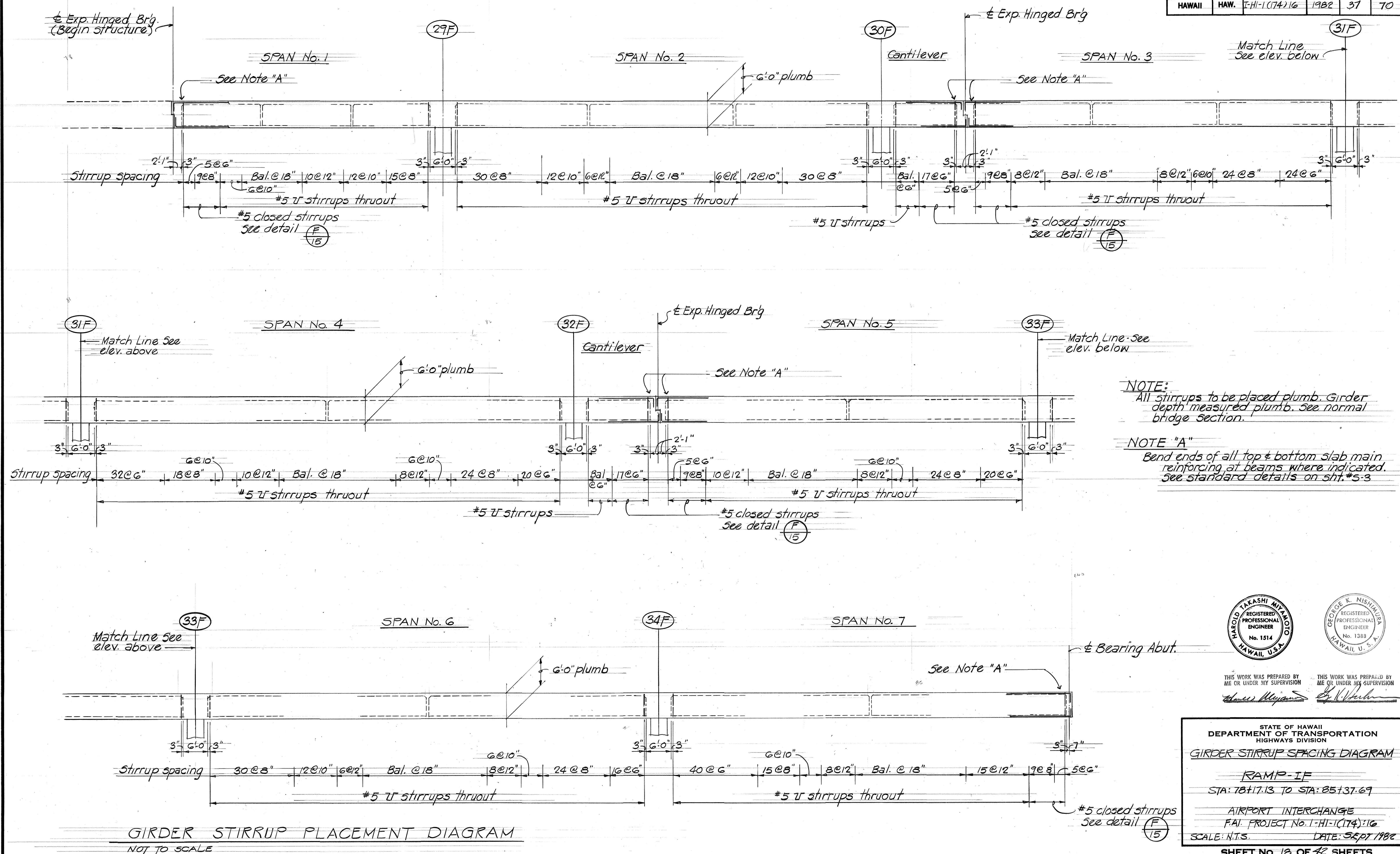
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PARTIAL PLAN EXISTING ABUTMENT & BEAM 'A' ELEVATION
RAMP IF

AIRPORT INTERCHANGE
F.A.I. PROJECT No. I-HI-1(174):16
SCALE: AS NOTED DATE: SEPT 1982

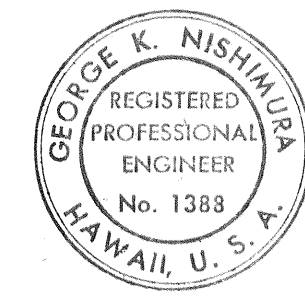
SHEET No. 17 OF 42 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-HI-1 (174) 16	1982	37	70



NOTE:
All stirrups to be placed plumb. Girder depth measured plumb. See normal bridge section.

NOTE "A"
Bend ends of all top & bottom slab main reinforcing at beams where indicated. See standard details on sheet #5-3



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Edmund Mayan

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E. V. Vukobratovic

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GIRDER STIRRUP SPACING DIAGRAM

RAMP - IF

STA: 78+17.13 TO STA: 85+37.69

AIRPORT INTERCHANGE

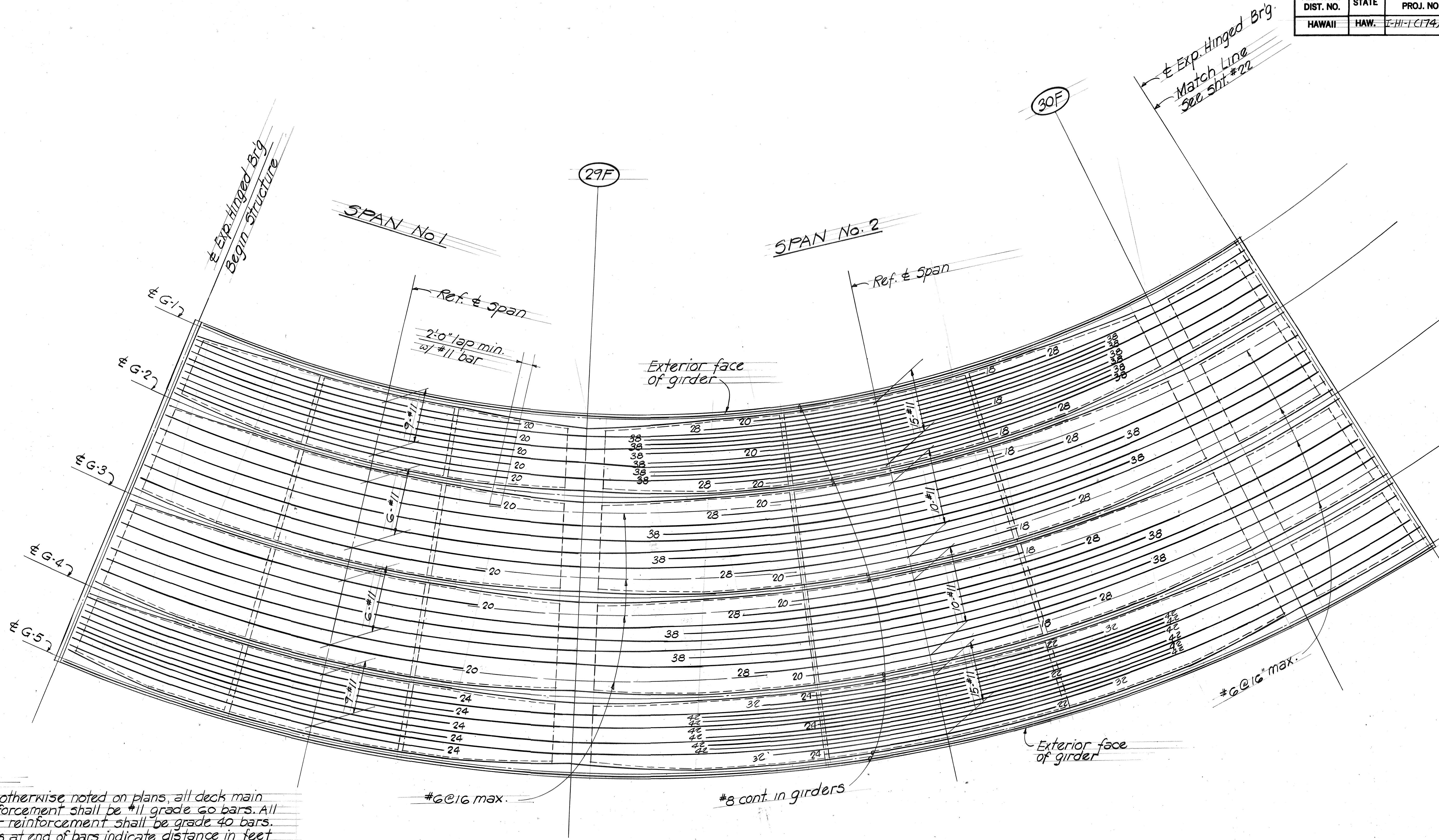
F.A.I. PROJECT No. 1-HI-1(174):16

SCALE: N.T.S. DATE: SEPT 1982

SHEET No. 13 OF 42 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	" "
	TRACED BY	" "
NOTE BOOK	DESIGNED BY	" "
	QUANTITIES BY	" "
No.	CHECKED BY	" "

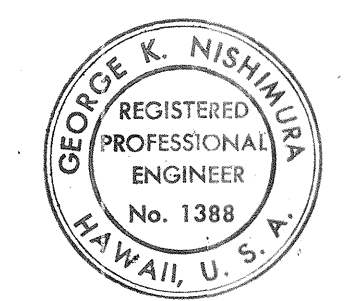
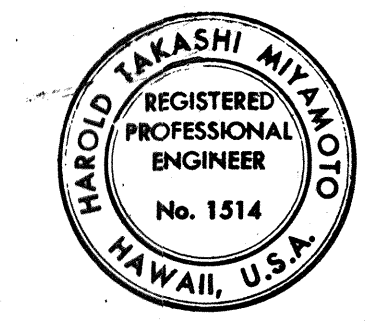
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1 (174) 16	1982	39	70



- NOTE:**
1. Unless otherwise noted on plans, all deck main reinforcement shall be #11 grade 60 bars. All other reinforcement shall be grade 40 bars.
 2. Numbers at end of bars indicate distance in feet from adjacent & span.
 3. All #6 bars shall be extended and lapped 2'-0" min. with the adjacent #11 bars.
 4. All bars to follow the curvature of the girders. See layout plan for curve data.
 5. For additional deck slab reinforcement, see Normal Deck Section on sht. #12 and standard details on shts. 5-1, 5-2, 5-3 & 5-4.

PARTIAL BOTTOM SLAB MAIN REINFORCING PLAN
 Vert. 1/4"=1'-0"
 Horiz. 1/8"=1'-0"

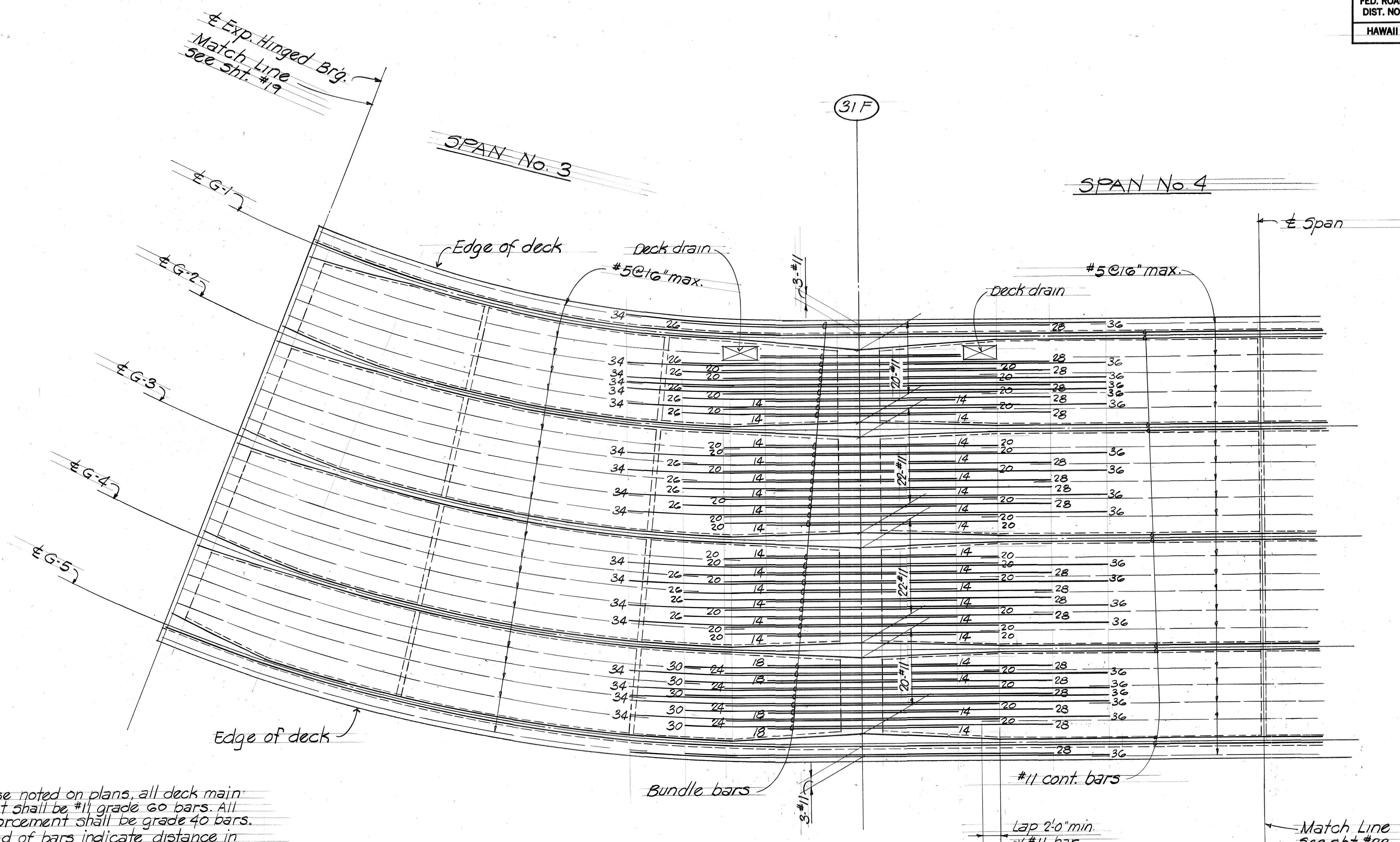
ORIGINAL PLAN	DATE
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
No.	



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Harold Miyamoto *George K. Nishimura*

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
BOTTOM SLAB MAIN REINFORCEMENT
PLAN - SPAN No. 1 & 2
RAMP - IF
 STA: 78+17.13 TO STA: 85+37.69
 AIRPORT INTERCHANGE
 F.A.I. PROJECT NO. 1-HI-1 (174) 16
 SCALE: AS NOTED DATE: SEPT. 1982
 SHEET No. 20 OF 42 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(174)16	1982	40	70

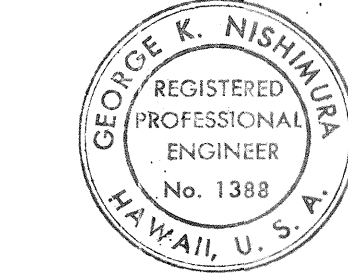


- NOTES:**
1. Unless otherwise noted on plans, all deck main reinforcement shall be #11 grade 60 bars. All other reinforcement shall be grade 40 bars.
 2. Numbers at end of bars indicate distance in feet from adjacent pier.
 3. All bars to follow curvature of girders - see layout plan for curve data.
 4. All #5 bars shall be extended and lapped 2'0" min. with the adjacent #11 bar.
 5. For additional deck slab reinforcement, see Normal Deck Section on Sht. #12 and standard details on Shts. S-1, S-2, S-3 & S-4

PARTIAL TOP SLAB MAIN REINFORCING PLAN

Vert. 1/4" = 1'-0"
 Horiz. 1/8" = 1'-0"

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



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Blaine C. Morgan

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G. K. Nishimura

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

**TOP SLAB MAIN REINFORCEMENT
 PLAN SPAN NO. 3 & 4**

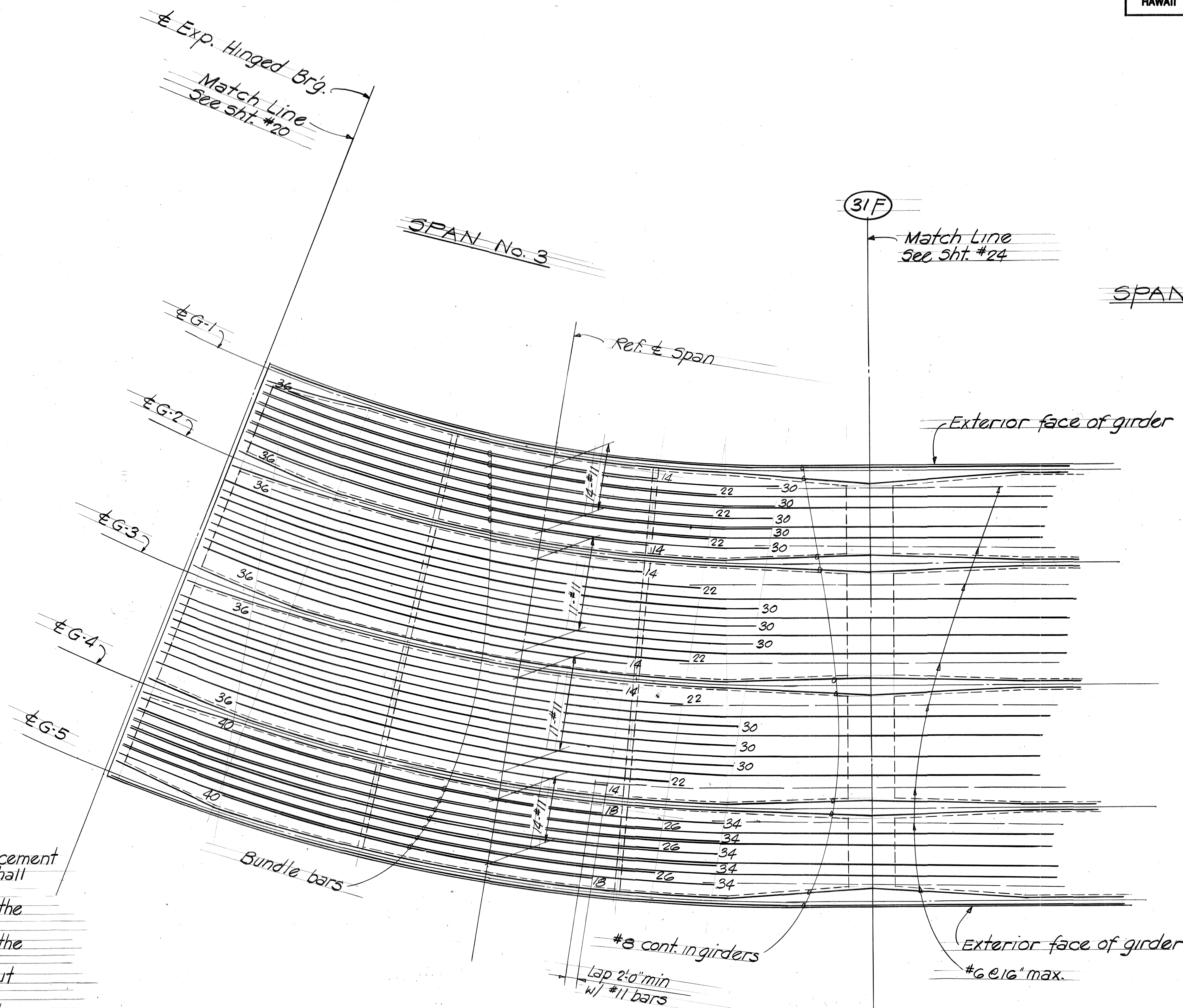
RAMP - IF
 STA: 78+17.13 TO STA: 85+37.69

AIRPORT INTERCHANGE
 F.A.I. PROJECT NO. 1-HI-1(174)-16

SCALE: AS NOTED DATE: SEPT. 1982

SHEET NO. 21 OF 42 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(174):16	1988	41	70



- NOTE:
1. Unless otherwise noted on plans, all deck main reinforcement shall be #11 grade 60 bars. All other reinforcement shall be grade 40 bars.
 2. Numbers at end of bars indicate distance in feet from the adjacent span.
 3. All #6 bars shall be extended and lapped 2'-0" min. with the adjacent #11 bars.
 4. All bars to follow the curvature of the girders. See Layout Plan for curve data.
 5. For additional deck slab reinforcement, see Normal Deck Section on sht. #12 and standard details on shts. 5-1, 5-2, 5-3 & 5-4.

PARTIAL BOTTOM SLAB MAIN REINFORCING PLAN
 Vert. 1/4" = 1'-0"
 Horiz. 1/8" = 1'-0"

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George K. Nishimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**BOTTOM SLAB MAIN REINFORCEMENT
PLAN - SPAN No. 3**

RAMP - IF

STA: 78+17.13 TO STA: 85+37.69

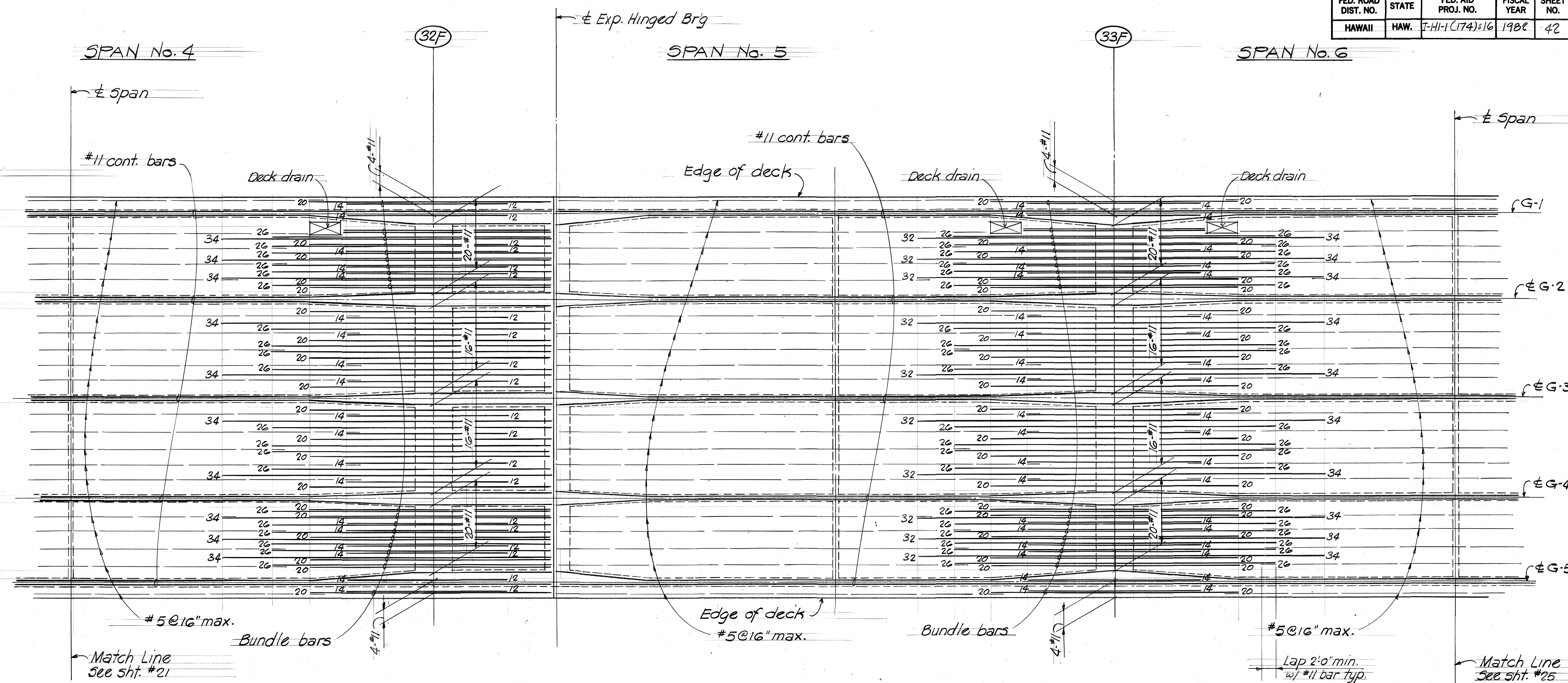
AIRPORT INTERCHANGE
F.A.I. PROJECT No. I-HI-1(174):16

SCALE: AS NOTED DATE: SEPT. 1988

SHEET No. 41 OF 42 SHEETS

41

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(174):16	1982	42	70

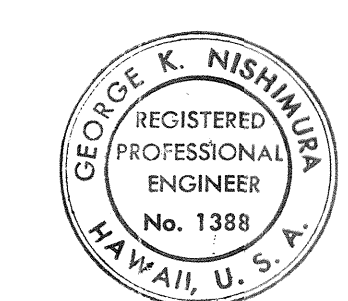
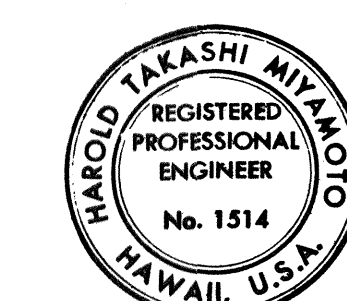


PARTIAL TOP SLAB MAIN REINFORCING PLAN
 Vert. 1/4" = 1'-0"
 Horiz. 1/8" = 1'-0"

NOTES:

1. Unless otherwise noted on plans, all deck main reinforcement shall be #11 grade 60 bars. All other bars shall be grade 40 bars.
2. Numbers at end of bars indicate distance in feet from adjacent pier.
3. All #5 bars shall be extended and lapped 2'-0" min with the adjacent #11 bars.
4. For additional deck slab reinforcement, see Normal Deck Section on Sht. #12 and standard details Shts. 5-1, 5-2, 5-3 & 5-4.

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



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Harold Takashi Miyajima

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George K. Nishimura

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

**TOP SLAB MAIN REINFORCEMENT
 PLAN-SPAN No. 4, 5, & 6**

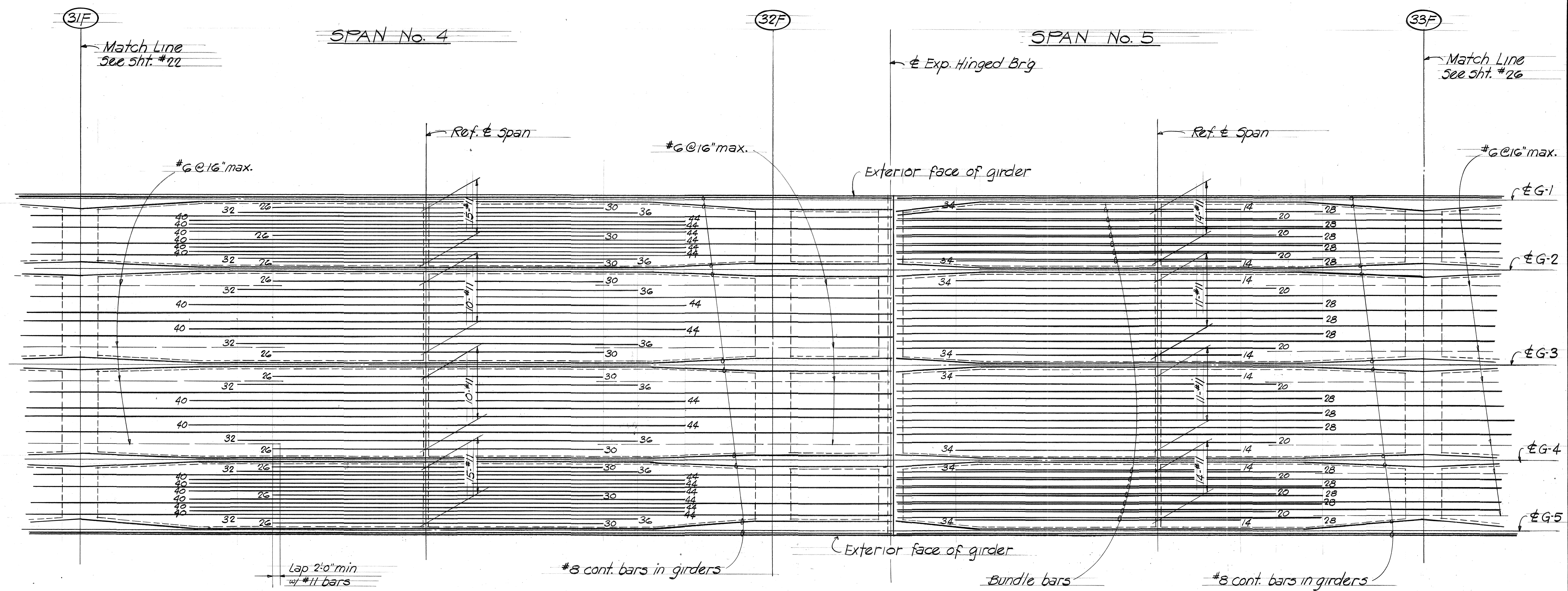
RAMP-IF
 STA: 78+17.13 TO STA: 85+37.69

AIRPORT INTERCHANGE
 P.A.I. PROJECT NO. I-HI-1(174):16

SCALE: AS NOTED DATE: SEPT 1982

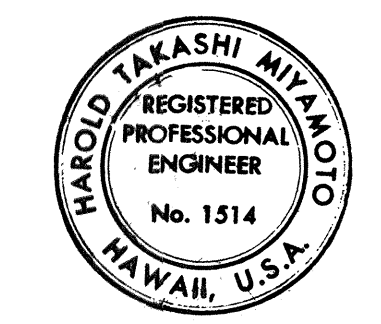
SHEET NO. 23 OF 42 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(174)-16	1982	43	70



- NOTE:**
1. Unless otherwise noted on plans, all deck main reinforcement shall be #11 grade 60 bars. All other reinforcement shall be grade 40.
 2. Numbers at end of bars indicate distance in feet from adjacent to span.
 3. All #6 bars shall be extended and lapped 2'-0" min. with the adjacent #11 bars.
 4. For additional deck slab reinforcing - see Normal Deck Section on sht. #12 and standard details shts. 5-1, 5-2, 5-3 & 5-4.

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____



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Harold Takashi Miyamoto

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George K. Nishimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**BOTTOM SLAB MAIN REINFORCEMENT
PLAN-SPAN No. 4 & 5**

RAMP - IF

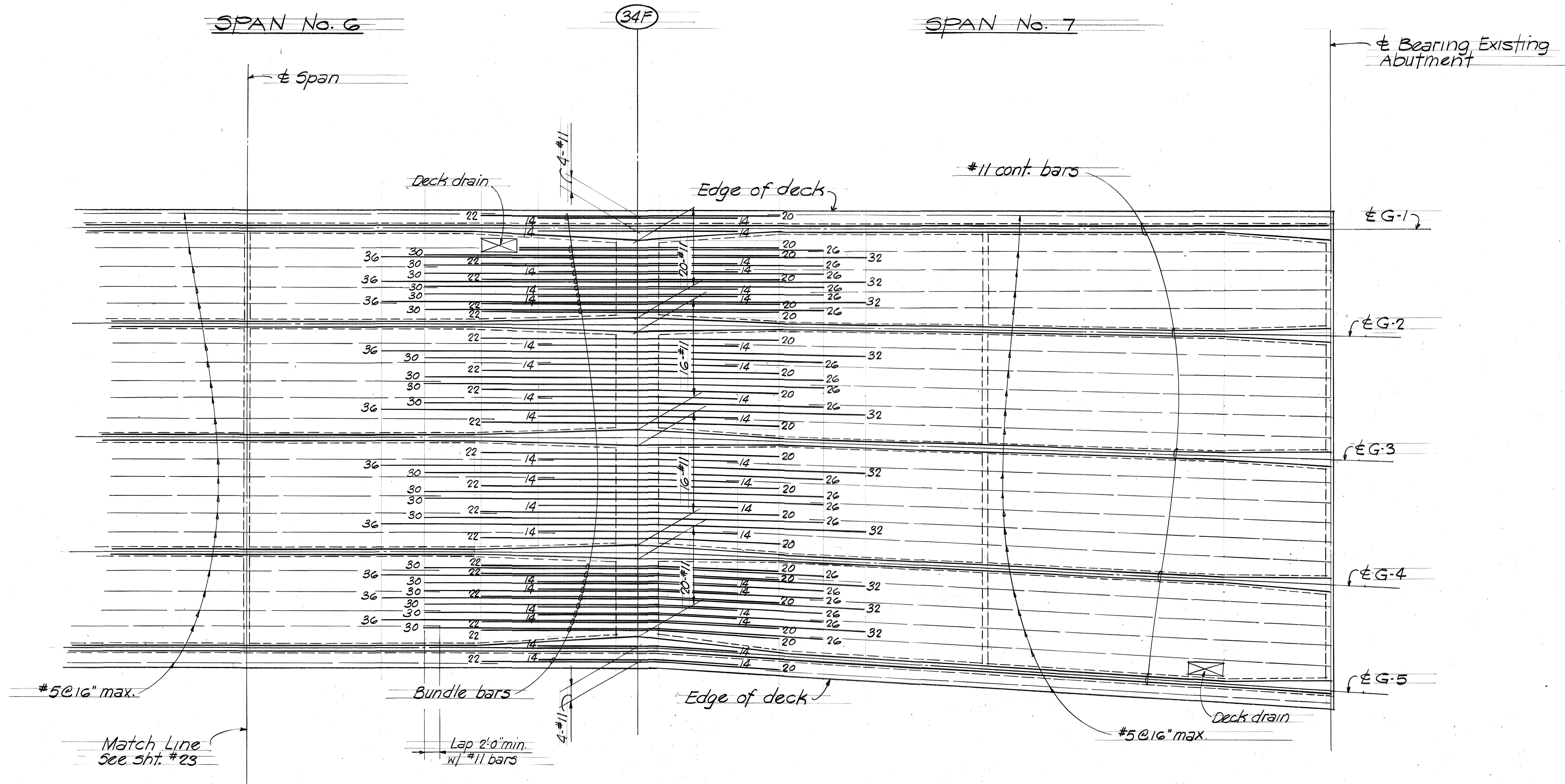
STA: 78+17.13 TO STA: 85+37.69

AIRPORT INTERCHANGE
F.A.I. PROJECT No. I-HI-1(174)-16

SCALE: AS NOTED DATE: SEPT. 1982

SHEET No. 24 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(174)-16	1982	44	70

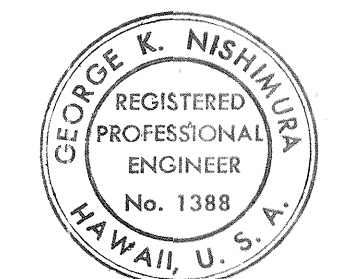
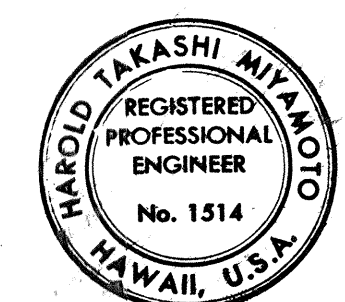


- NOTE:**
1. Unless otherwise noted on plans, all deck main reinforcement shall be #11 grade 60 bars. All other reinforcement shall be grade 40.
 2. Numbers at end of bars indicate distance in feet from adjacent pier.
 3. All #5 bars shall extend and lapped 2'-0" min. with the adjacent #11 bars.
 4. For additional deck slab reinforcement, see Normal Deck Section on Sht. #12 and standard details on Shts. 5-1, 5-2, 5-3 & 5-4.

PARTIAL TOP SLAB MAIN REINFORCING PLAN

Vert. 1/4" = 1'-0"
 Horiz. 1/8" = 1'-0"

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
DESIGNED BY	QUANTITIES BY	
CHECKED BY		



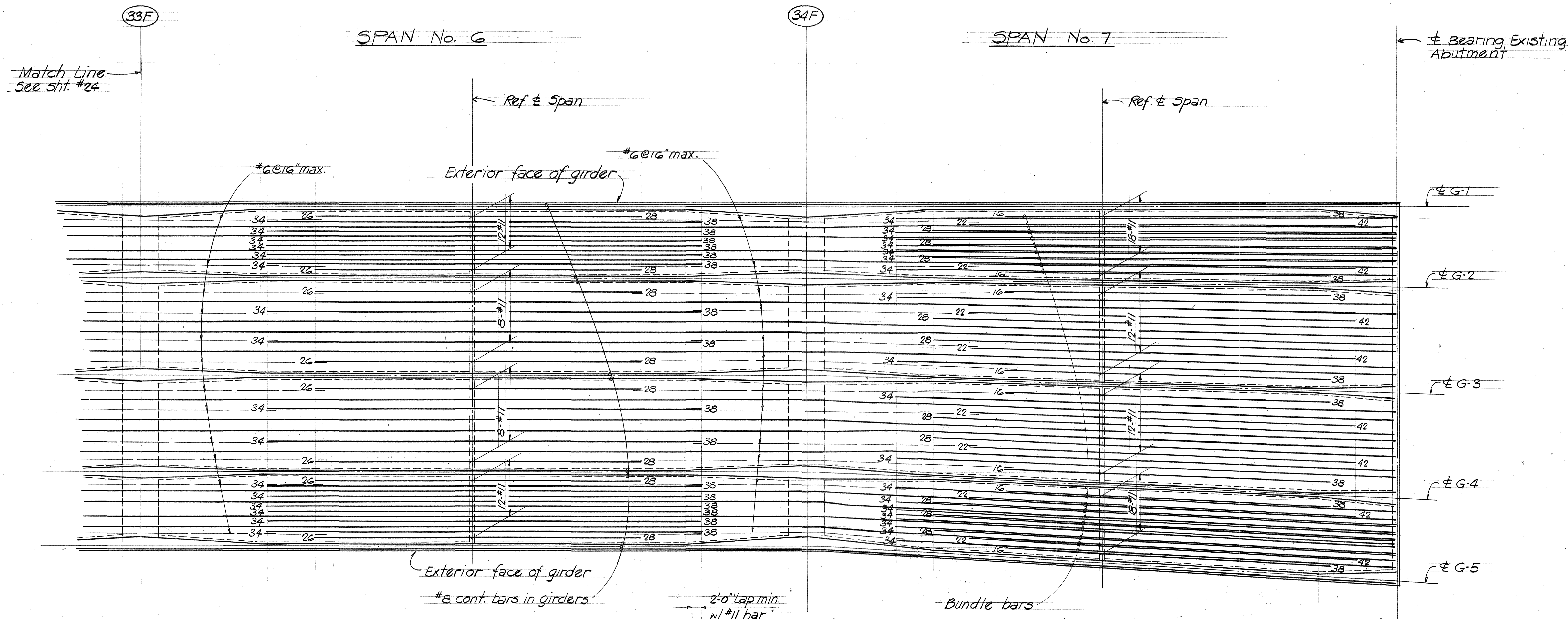
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Harold Takashi Miyamoto

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TOP SLAB MAIN REINFORCEMENT
PLAN - SPAN NO. 6 & 7
RAMP - IF
STA: 78+17.13 TO STA: 85+37.67
AIRPORT INTERCHANGE
F.A.I. PROJECT NO. I-H-1(174)-16
SCALE: AS NOTED
DATE: SEPT. 1982
SHEET NO. 25 OF 42 SHEETS

44

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(174):16	1982	45	70



PARTIAL BOTTOM SLAB MAIN REINFORCING PLAN

Vert. 1/4"=1'-0"
HORIZ. 1/8"=1'-0"

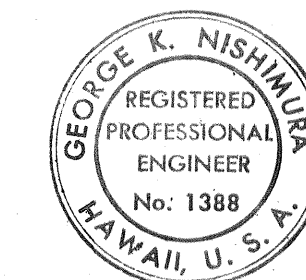
NOTE:

1. Unless otherwise noted on plans, all deck main reinforcement shall be grade 60 bars. All other reinforcement shall be grade 40.
2. Numbers at end of bars indicate distance in feet from adjacent ± span.
3. All #6 bars shall be extended and lapped 2'-0" min. with the adjacent #11 bars.
4. For additional deck slab reinforcement - see Normal Deck Section on sht. #12 and standard details sht. 5-1, 5-2, 5-3 & 5-4.



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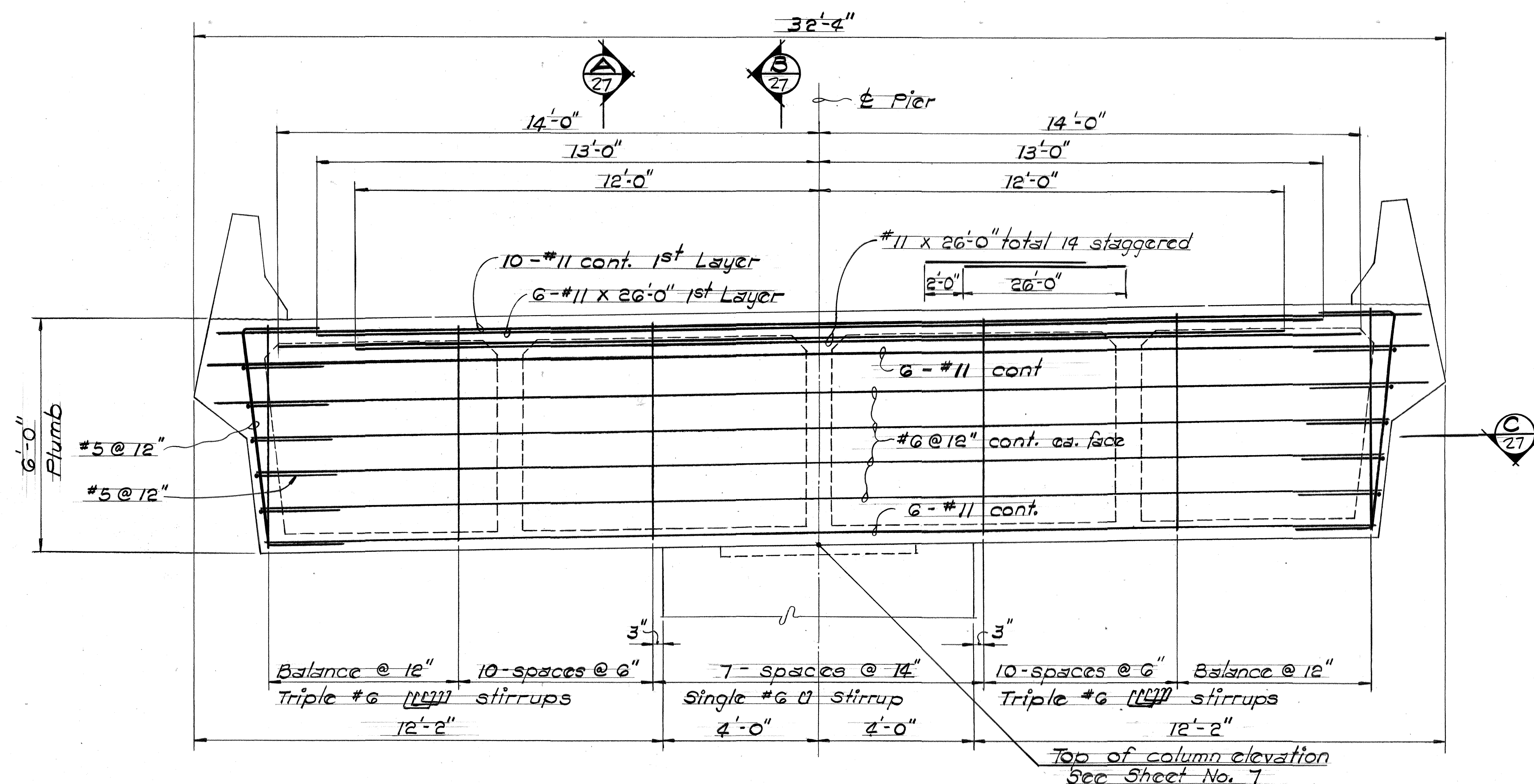


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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BOTTOM SLAB MAIN REINFORCEMENT
PLAN - SPAN No. 6 & 7
RAMP-IF
STA: 78+17.13 TO STA: 85+37.69
AIRPORT INTERCHANGE
F.A.I. PROJECT NO. I-HI-1(174):16
SCALE: AS NOTED DATE: SEPT. 1982
SHEET NO. 26 OF 42 SHEETS

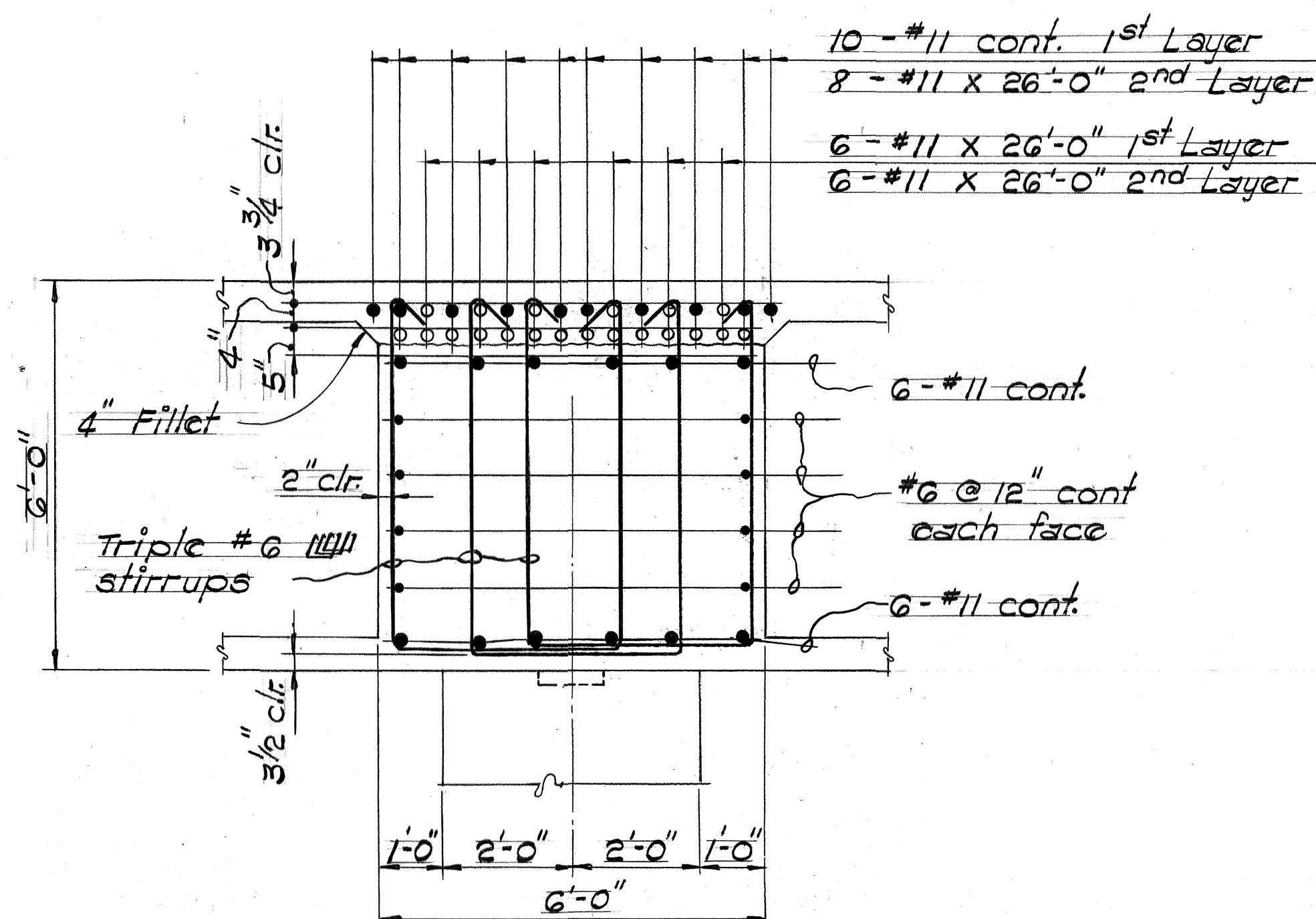
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7-HI-1(174)-10	1982	40	70



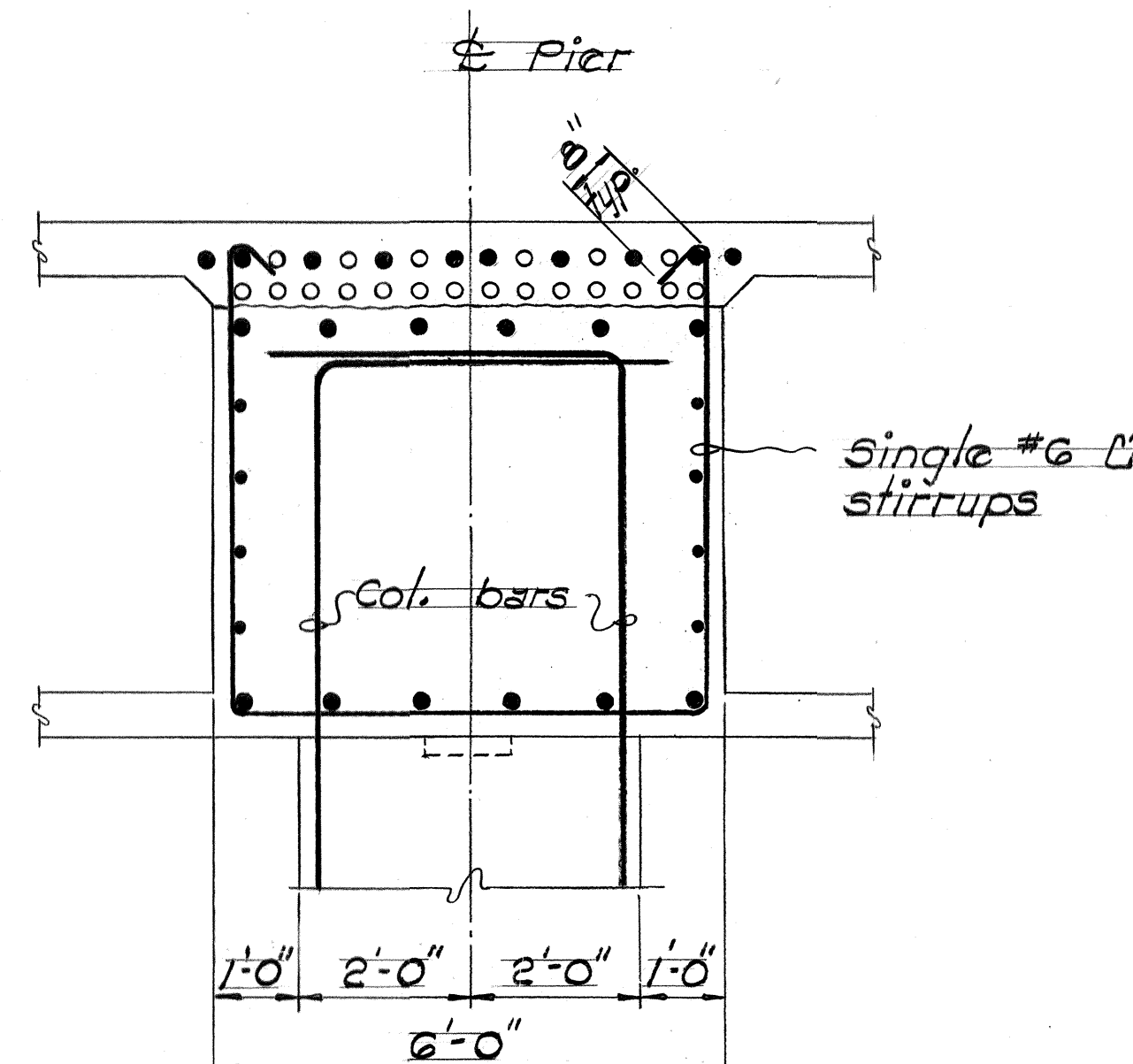
PIER CAP ELEVATION @ PIERS 29F thru 34F inclusive

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

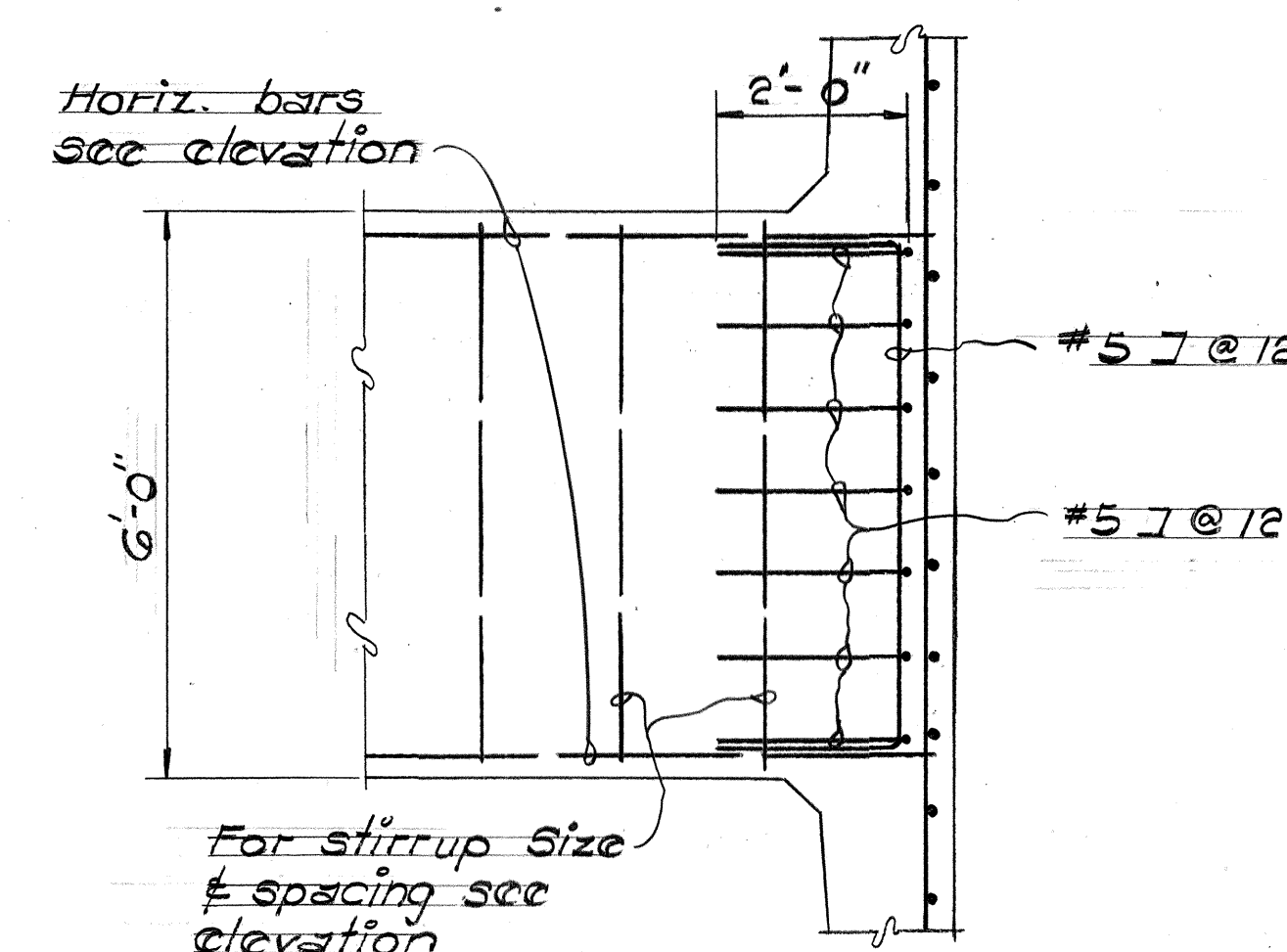
$f_c' = 4,000 \text{ psi}$



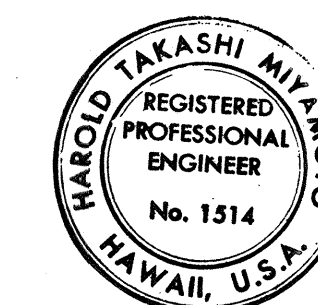
SECTION A
Scale: 1/2" = 1'-0"



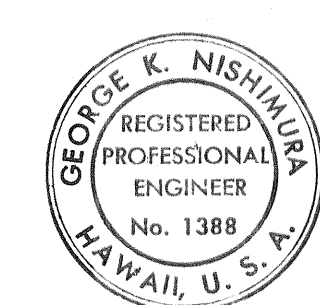
SECTION B
Scale: 1/2" = 1'-0"



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



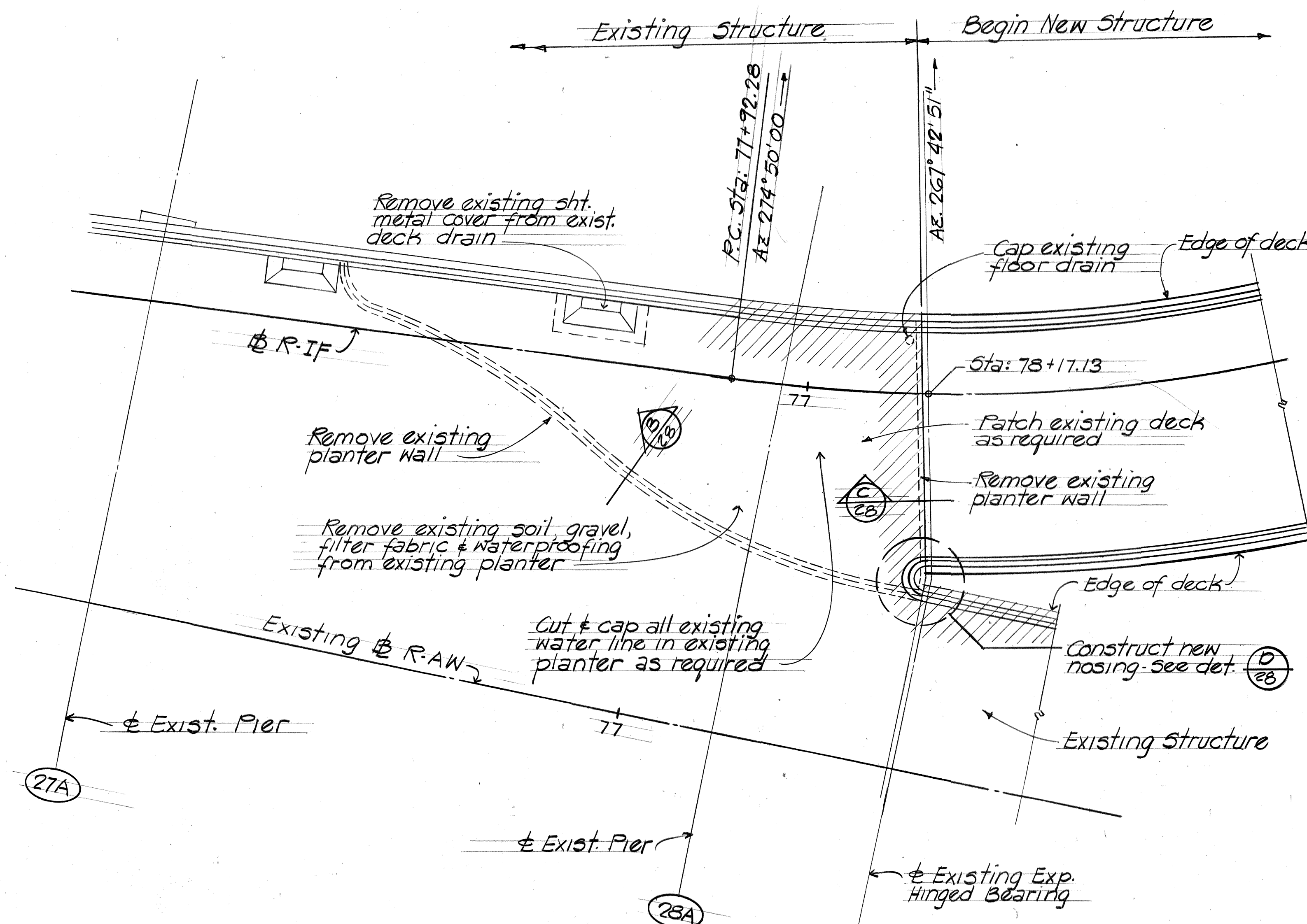
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Harold Miyamoto



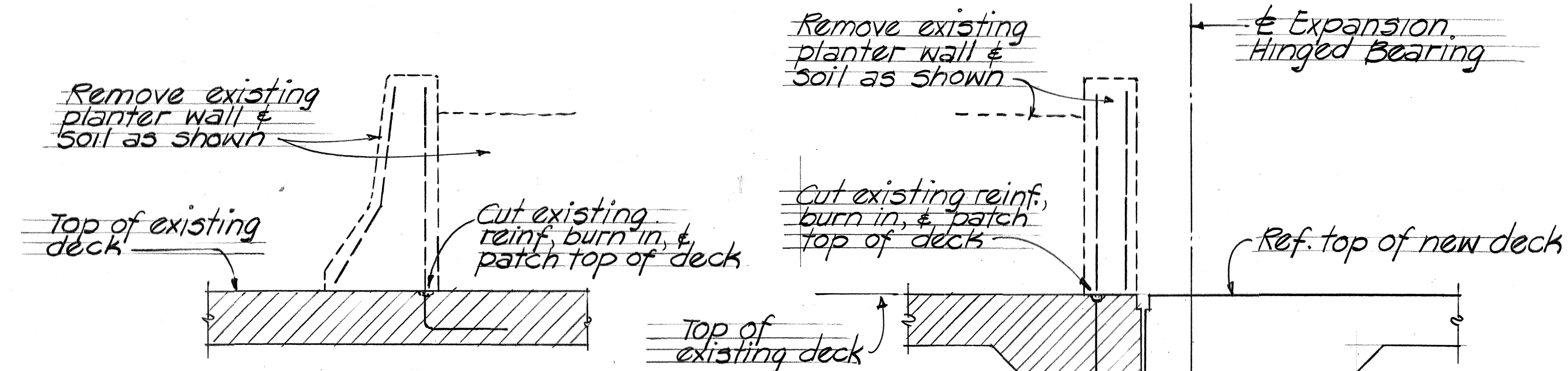
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**PIER CAPS 29F-34F
ELEVATION AND SECTIONS**
RAMP-1F
STA. 78+17.13 TO STA. 85+37.69
AIRPORT INTERCHANGE
F.A.I. PROJ. NO. 7-HI-1 (174) 10
SCALE: AS NOTED DATE: SEPT. 1982
SHEET NO. 27 OF 42 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(174):16	1982	47	70

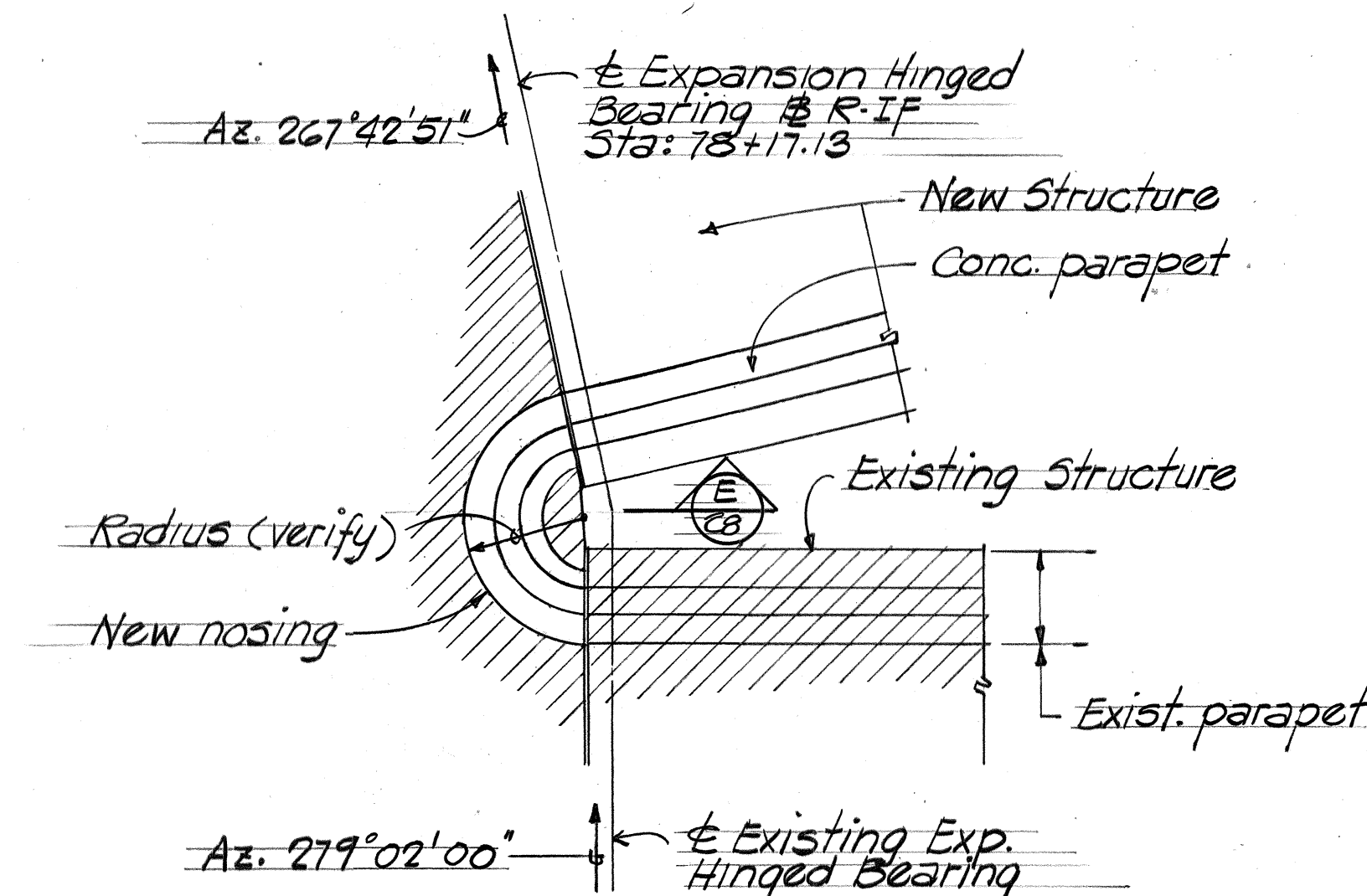


A PARTIAL DETAIL PLAN @ EXISTING PLANTER
Scale 1"=10'-0"

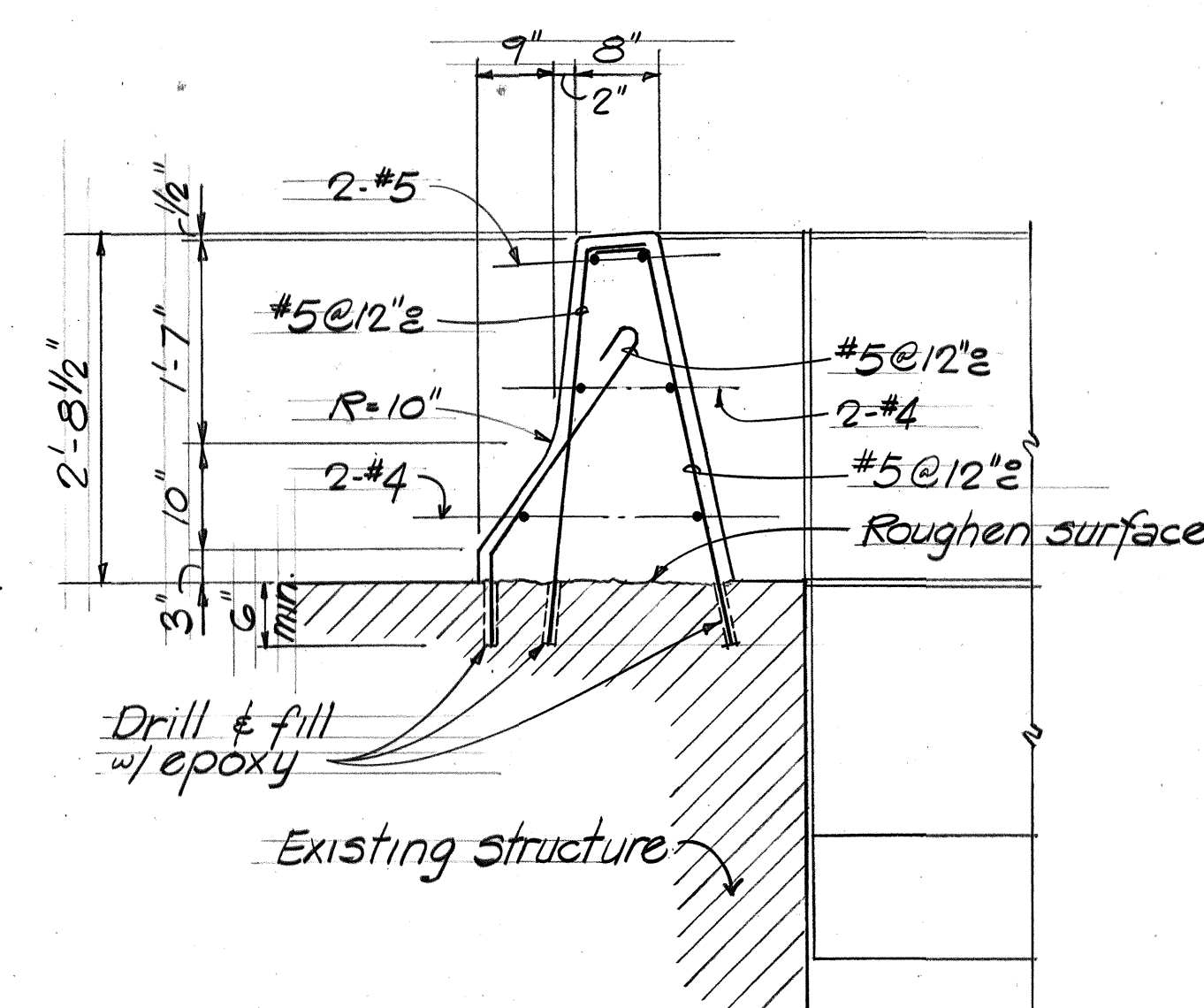


SECTION B
Scale 3/4"=1'-0"

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

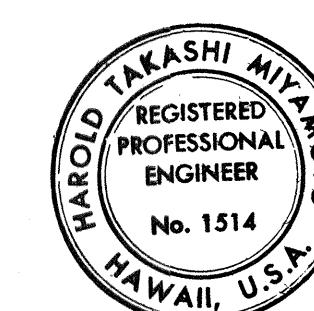


D DETAIL PLAN @ NOSING
Scale 1/4"=1'-0"

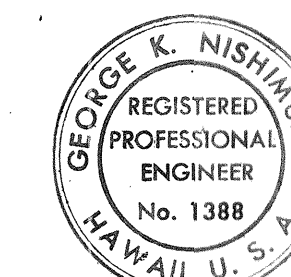


SECTION E
Scale 3/4"=1'-0"

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	



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HIGHWAYS DIVISION

**EXISTING PLANTER PLAN
SECTION & DETAILS**

RAMP-IF

STA: 78+17.13 TO STA: 85+37.69

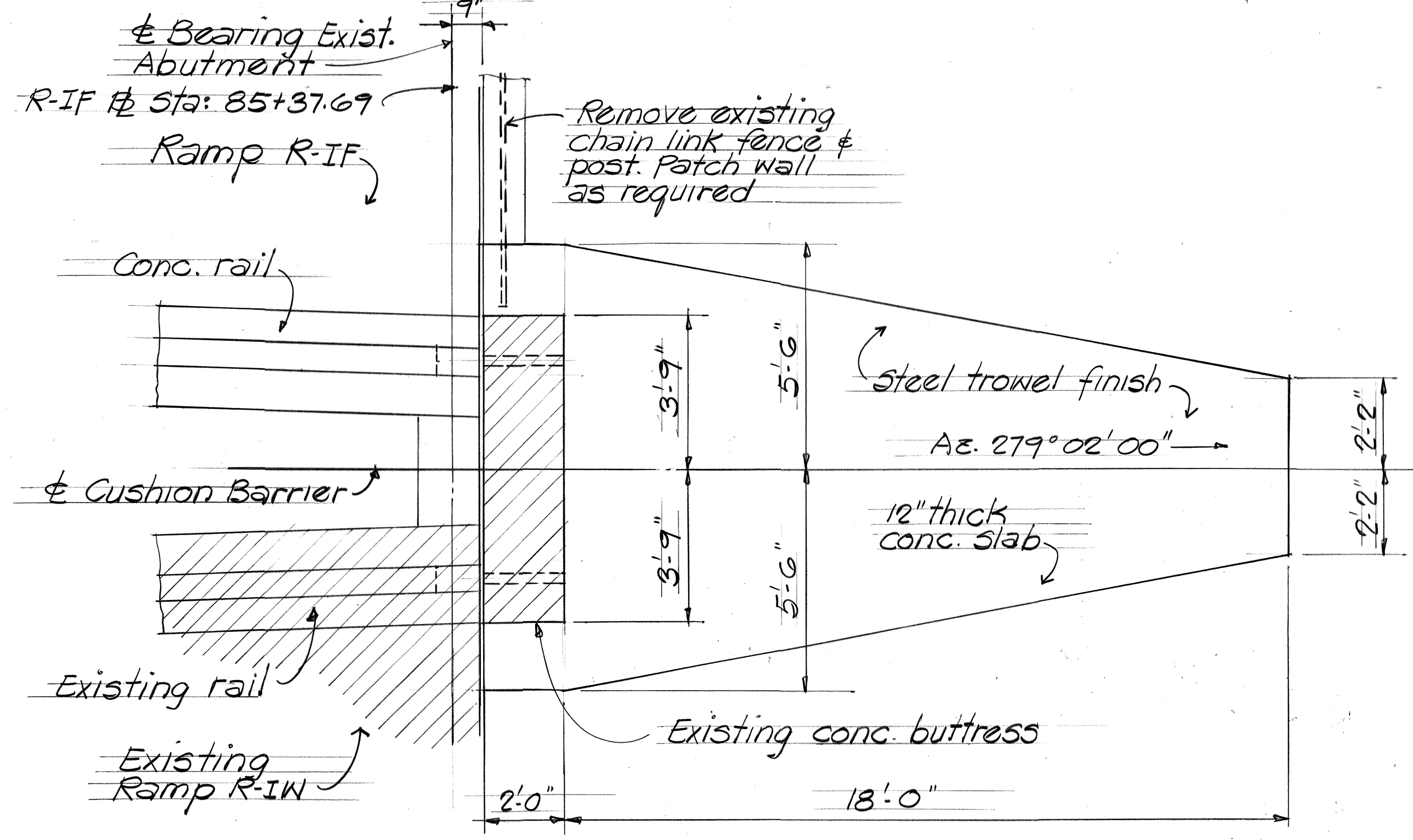
AIRPORT INTERCHANGE

F.A.I. PROJECT NO. I-H-1(174):16

SCALE: AS NOTED DATE: SEPT. 1982

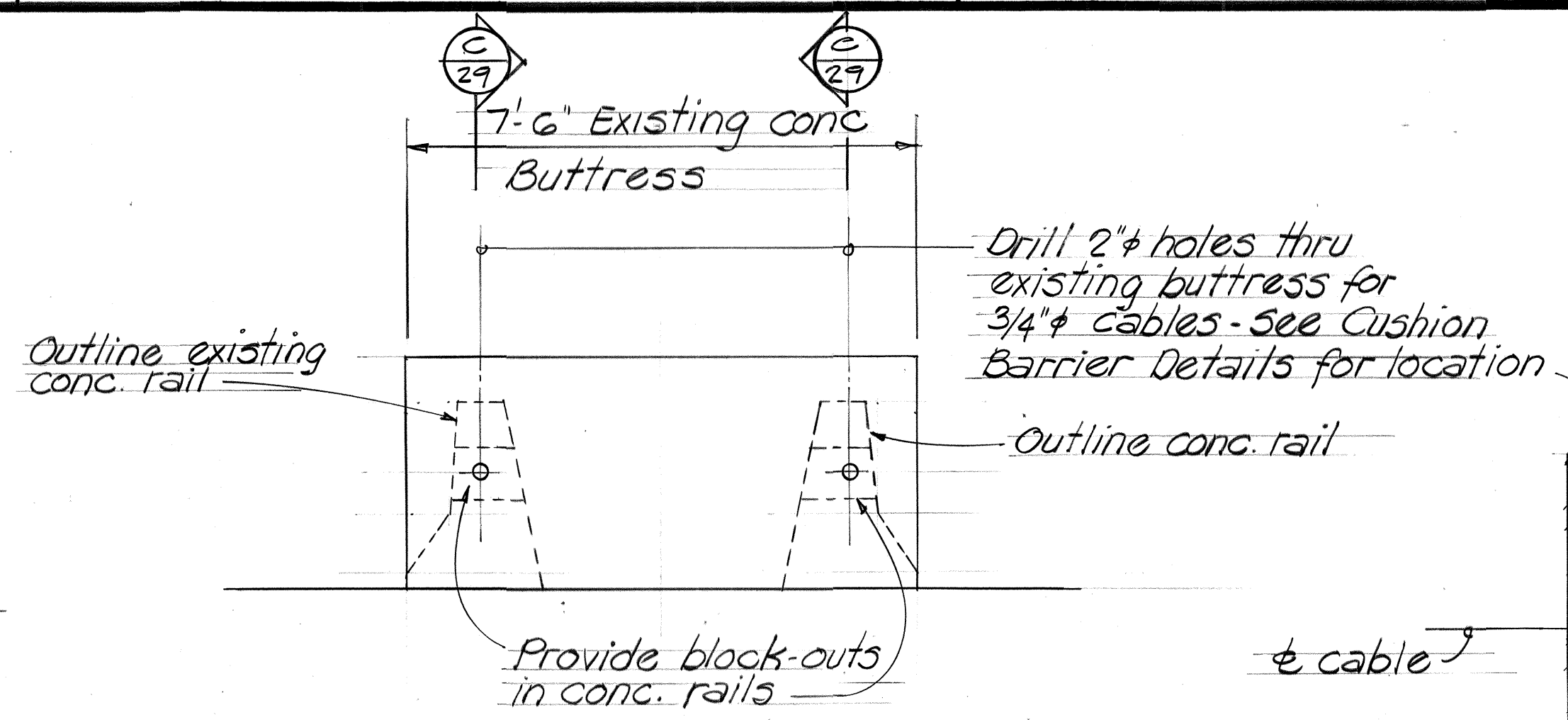
SHEET NO. 28 OF 42 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(174):16	1982	48	70

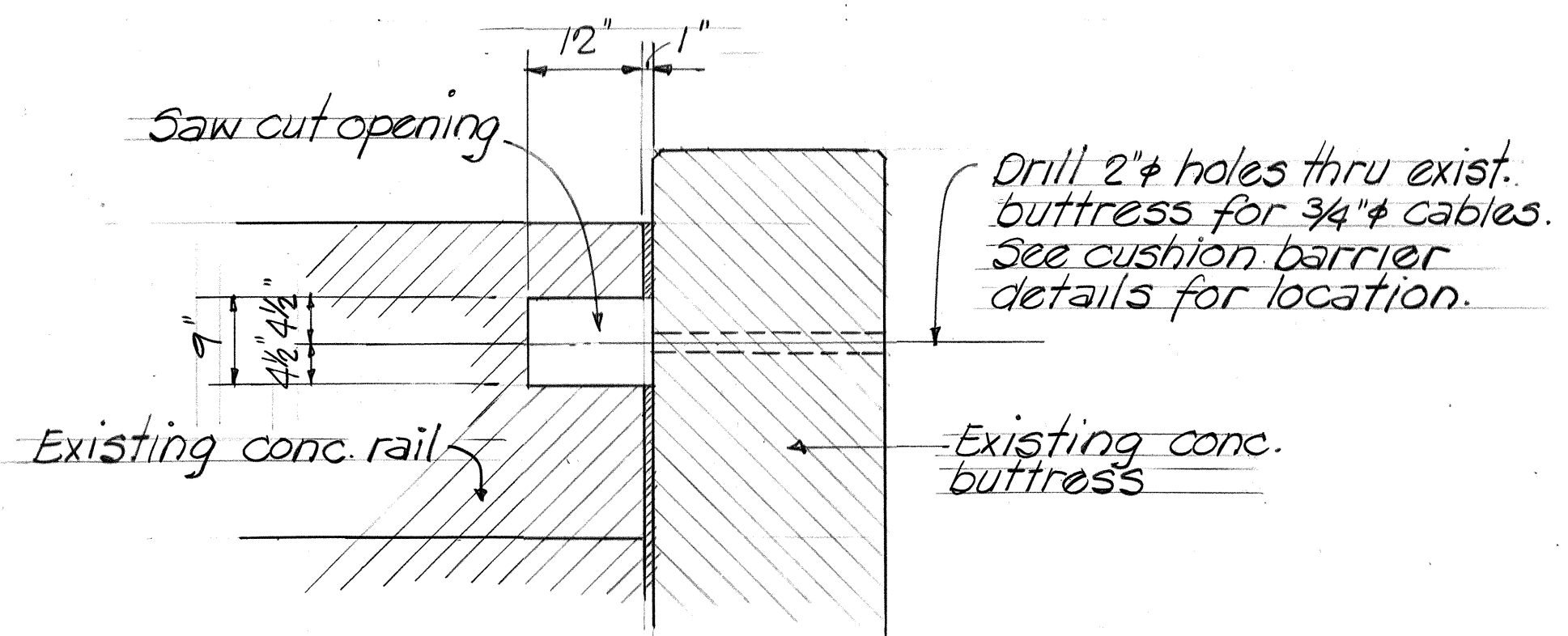


RAMP R-IF & R-IN NOSE DETAIL
Scale 3/8"=1'-0" **(A)**
29

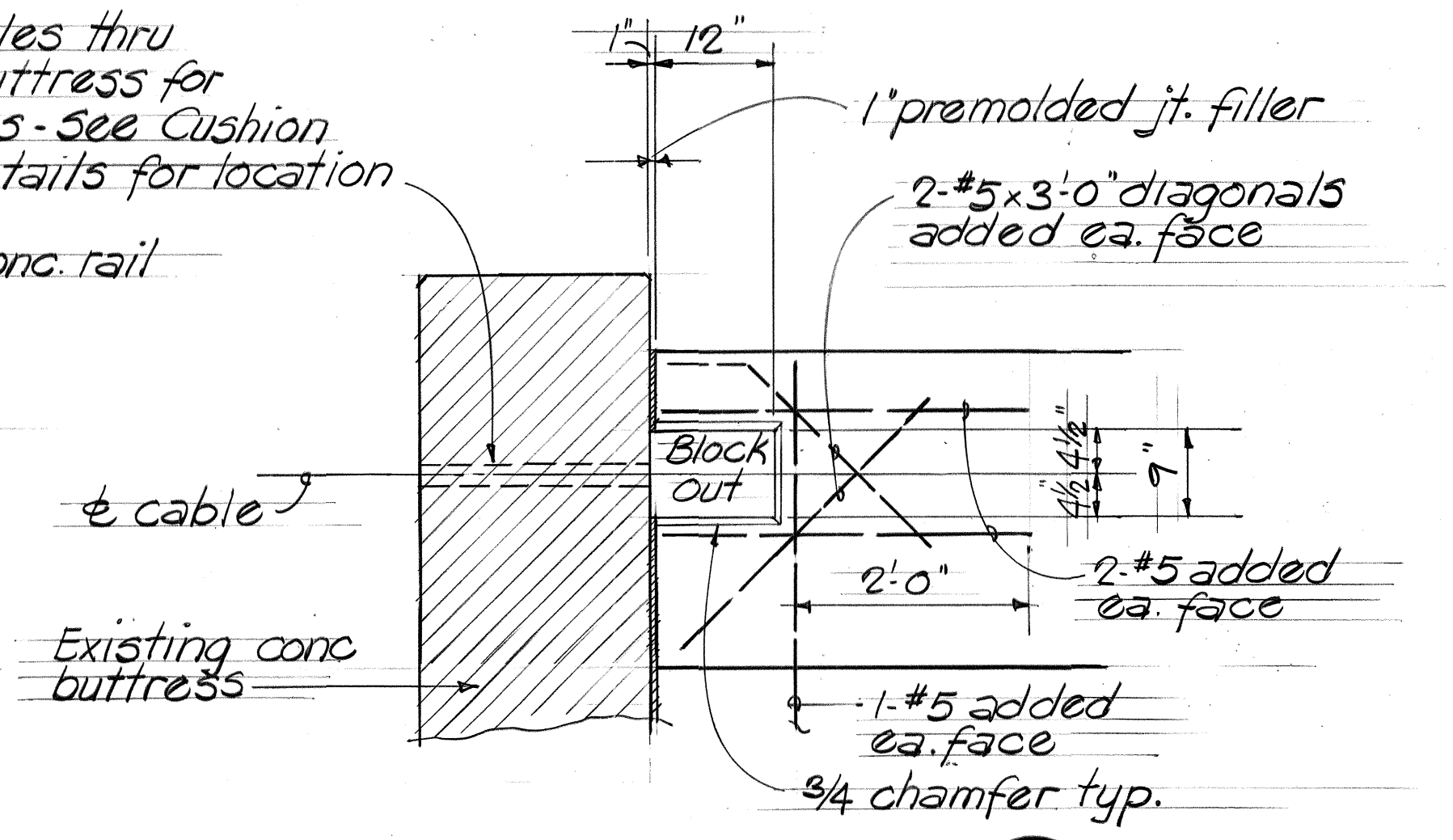
NOTE:
For plates, bolts, and other device used to anchor cushion barrier - See cushion barrier details on Civil sheets.



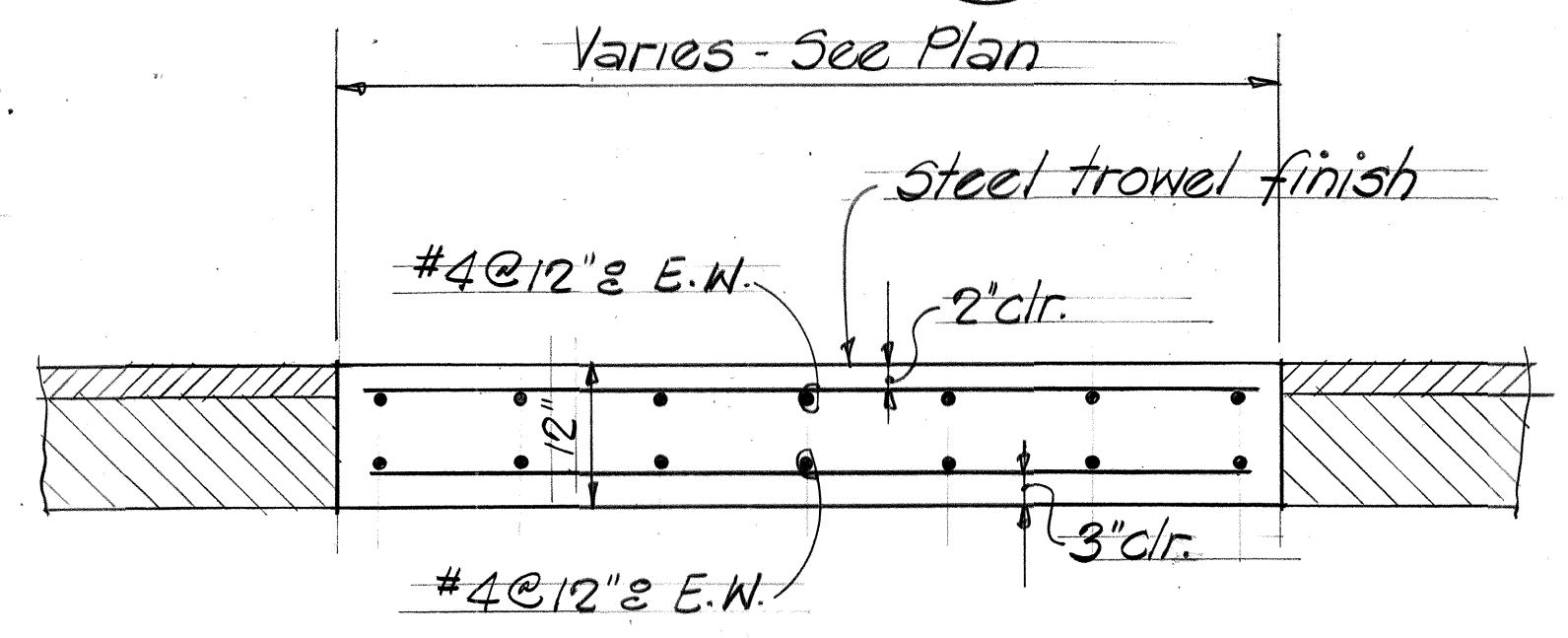
ELEVATION B
Scale 3/4"=1'-0" **(B)**
29



SECTION D
Scale 3/4"=1'-0" **(D)**
29



SECTION C
Scale 3/4"=1'-0" **(C)**
29



SECTION E
Scale 3/4"=1'-0" **(E)**
29



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HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

RAMP-IF

STA: 78+17.13 TO STA: 85+37.69
AIRPORT INTERCHANGE
F.A.I. PROJECT No. 1-HI-1(174):16

Scale AS NOTED DATE: SEPT. 1982

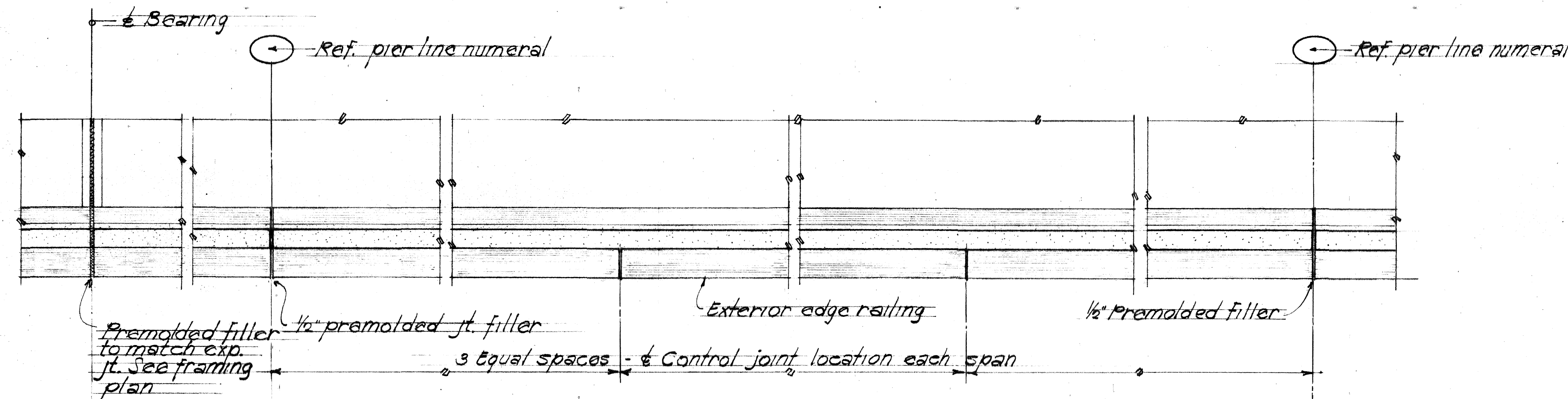
SHEET No. 29 OF 42 SHEETS

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

AT DECK EXPANSION JOINTS

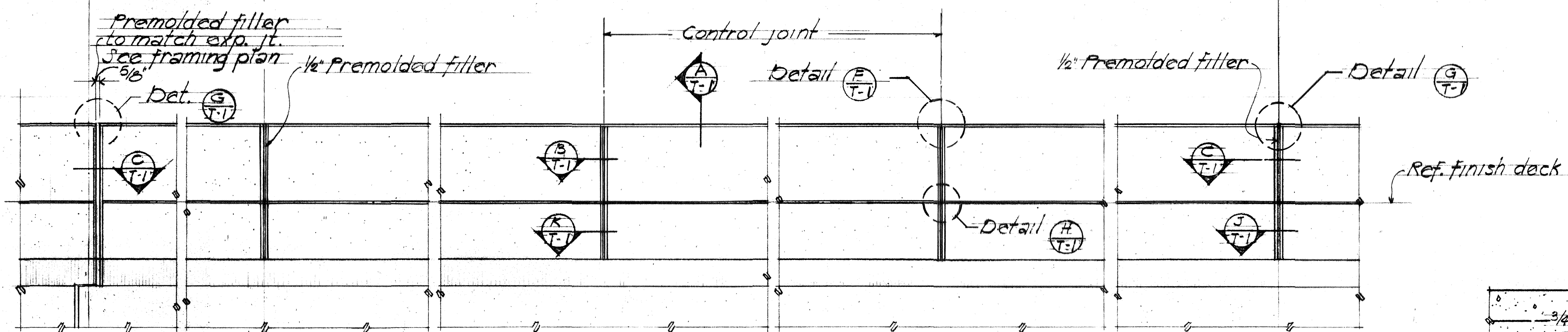
INTERMEDIATE CONTROL JOINTS

CONTINUOUS DECK OVER PIER



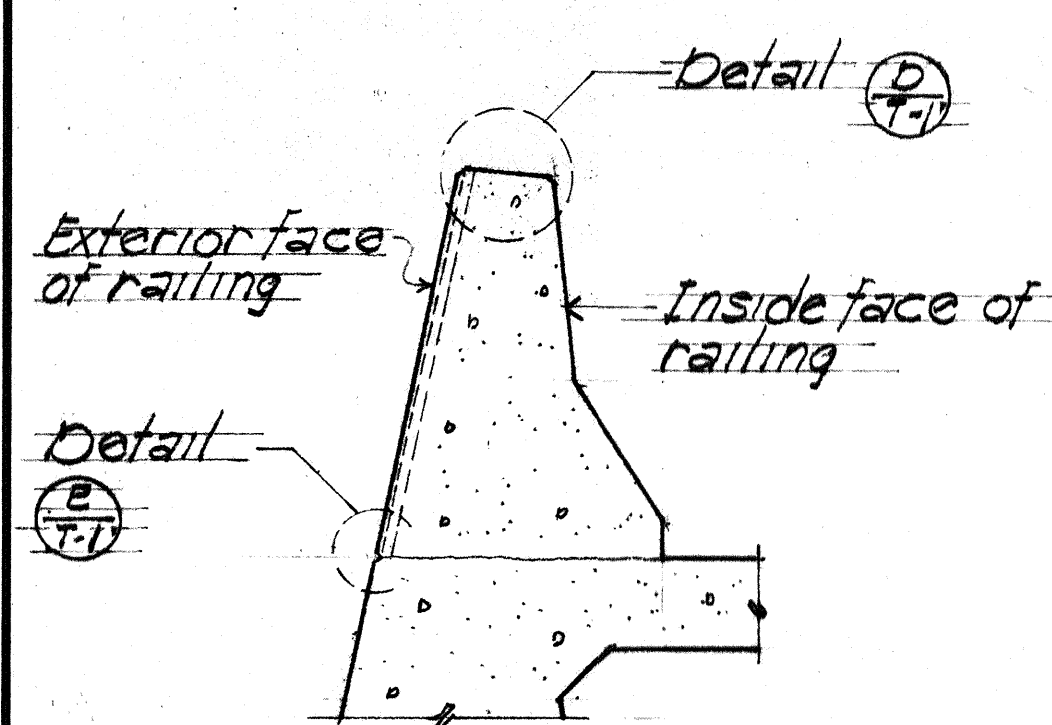
PART PLAN - TYPICAL RAILING

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



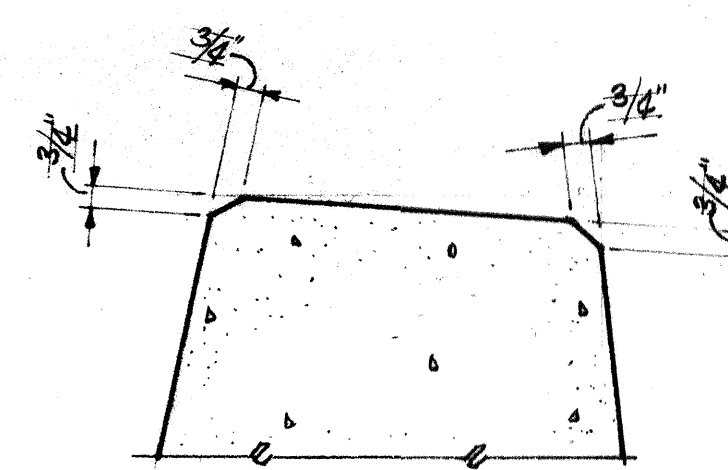
PARTIAL EXTERIOR ELEVATION - TYPICAL RAILING

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



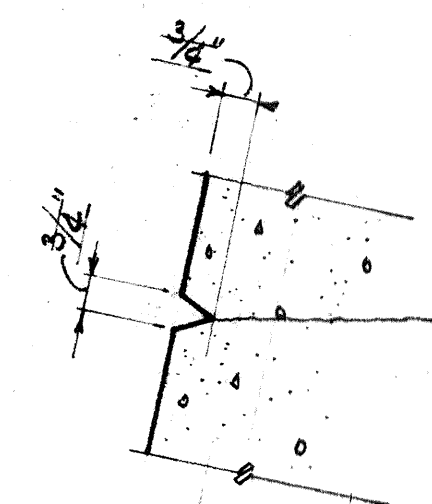
TYPICAL RAILING SECTION

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



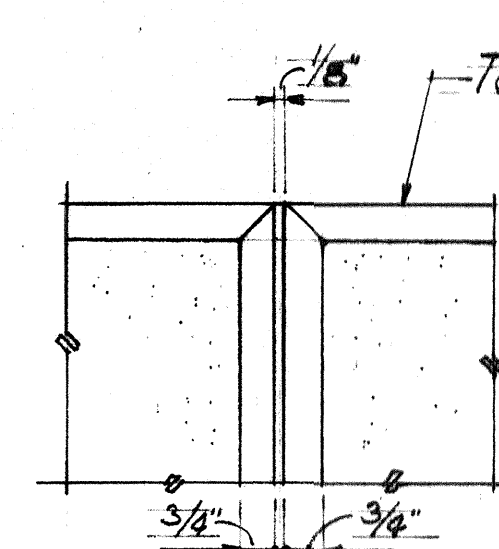
DETAIL D

Scale: 3" = 1'-0"



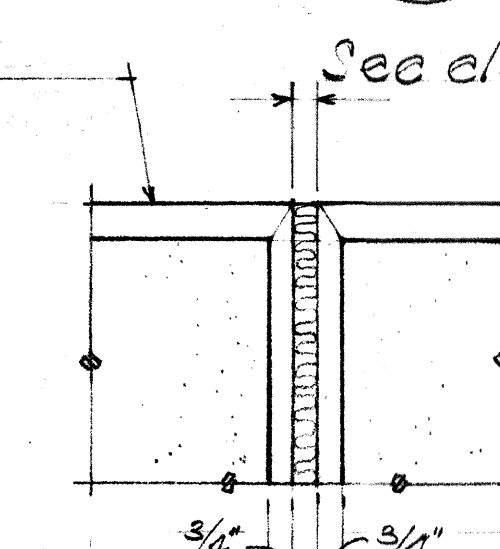
DETAIL E

Scale: 3" = 1'-0"



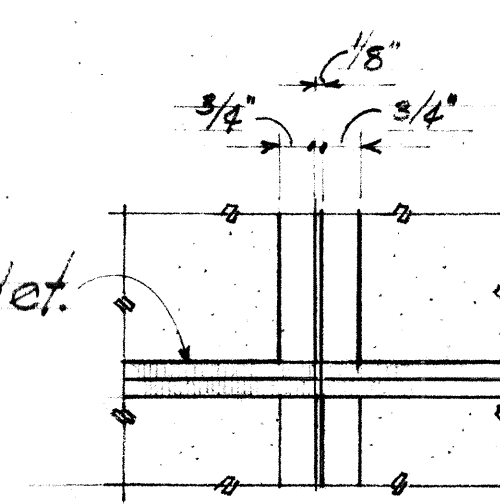
DETAIL F

Scale: 3" = 1'-0"



DETAIL G

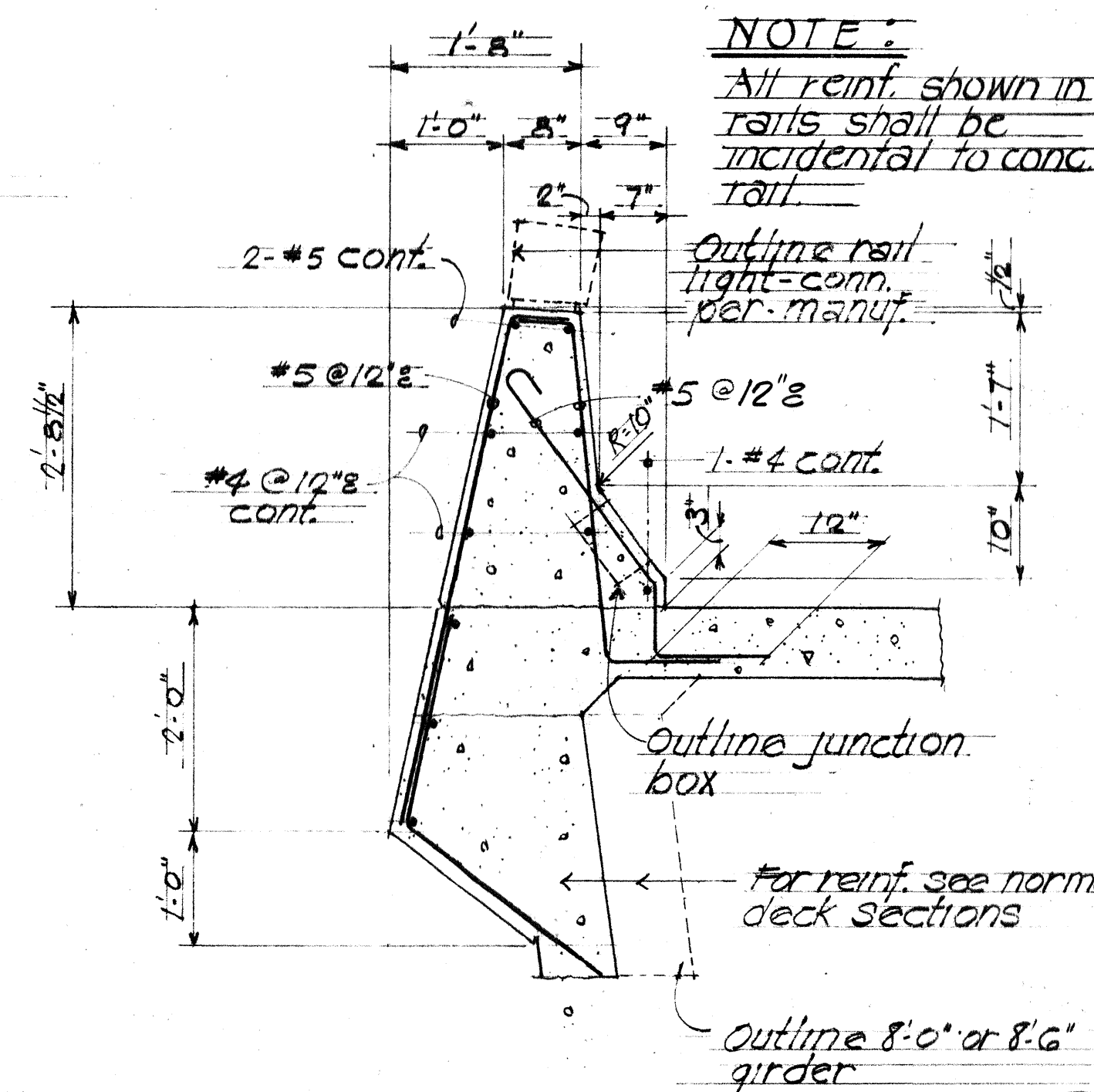
Scale: 3" = 1'-0"



DETAIL H

Scale: 3" = 1'-0"

TYPICAL CONCRETE RAILING FASCIA DETAILS & FINISH

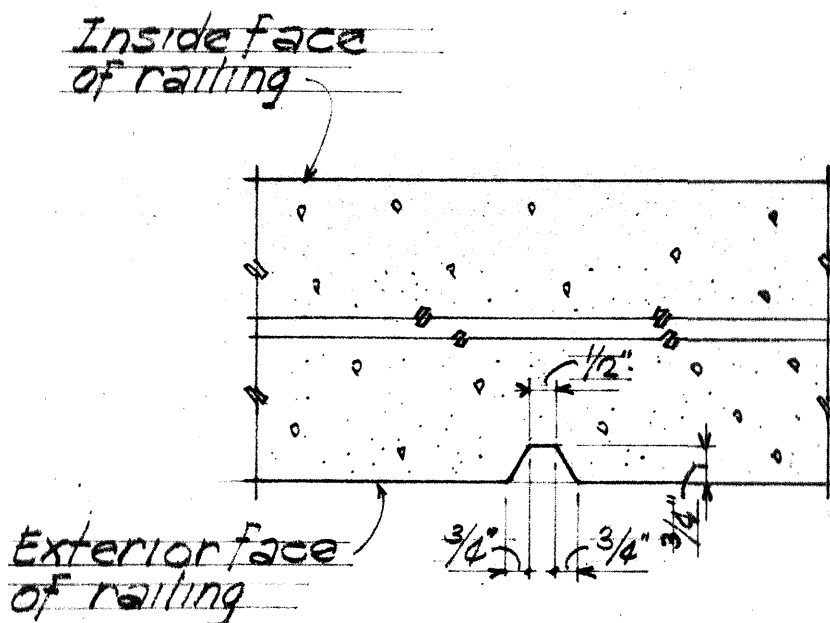


TYPICAL SECTION

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

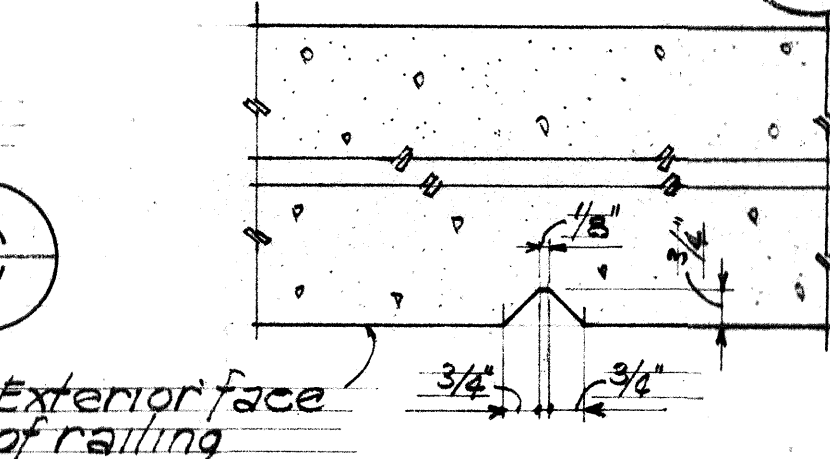
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	T-H-1(174)16	1980	49	70

NOTE:
All reinf. shown in rails shall be incidental to conc. rail.



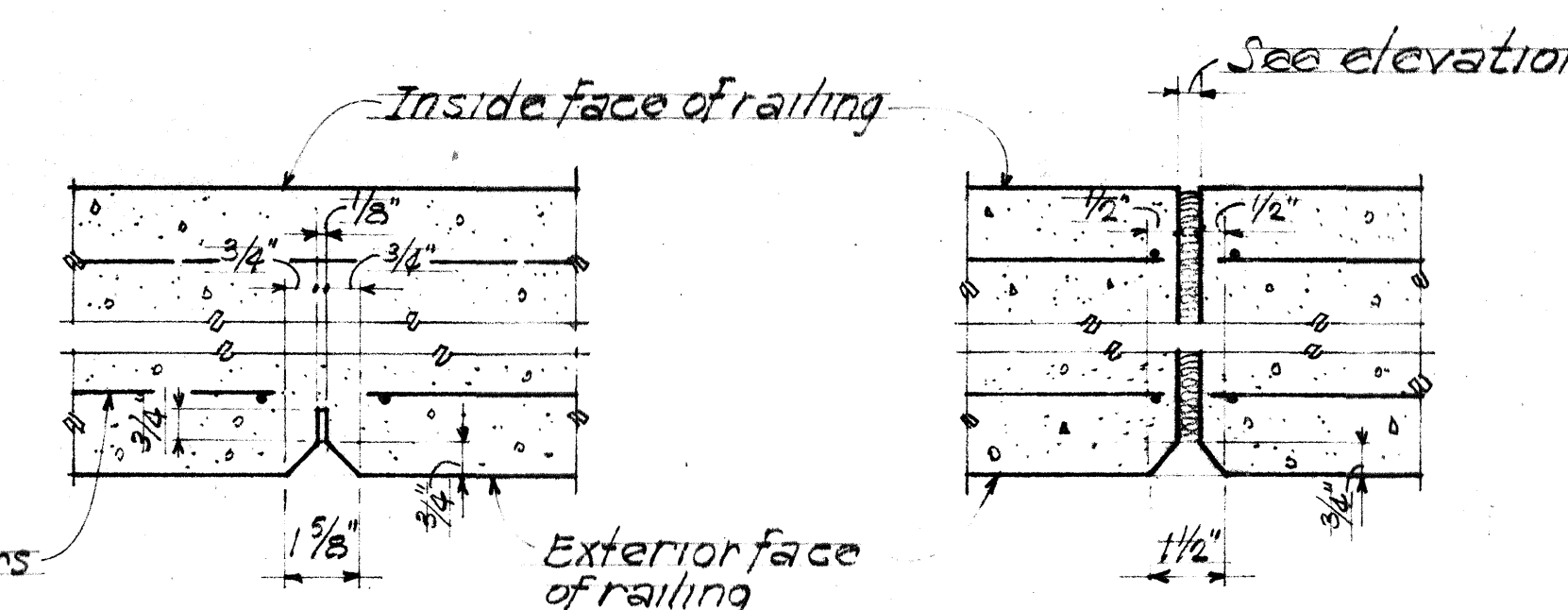
SECTION J

Scale: 3" = 1'-0"



SECTION K

Scale: 3" = 1'-0"

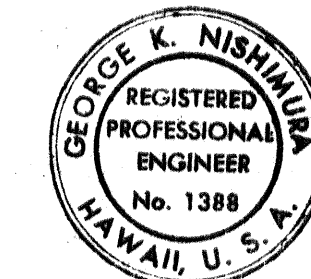
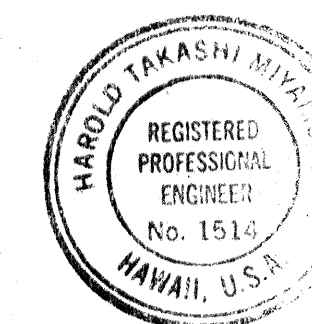


SECTION B

Scale: 3" = 1'-0"

SECTION C

Scale: 3" = 1'-0"

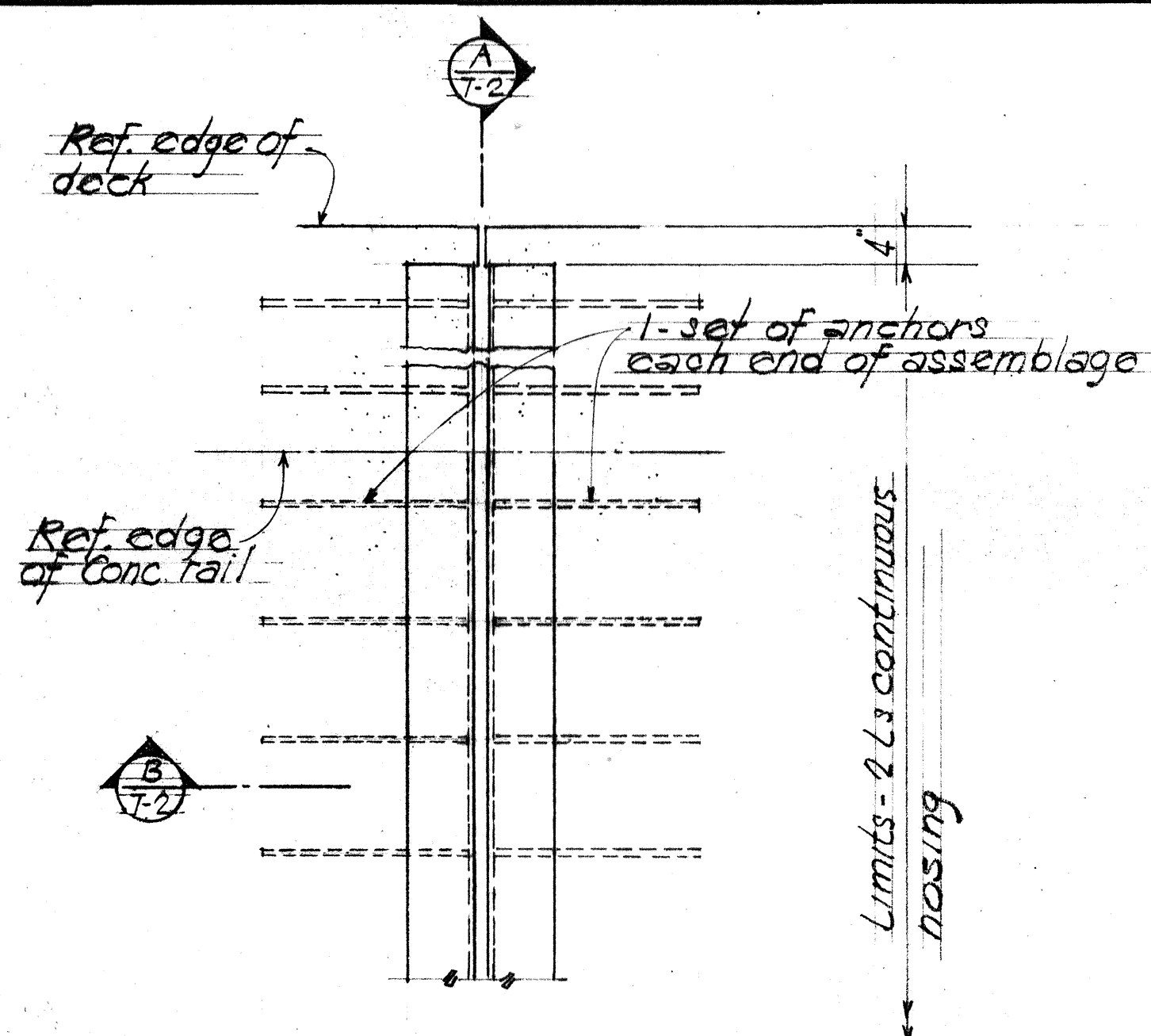


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Harold Takasumi

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
George K. Nishimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TYPICAL CONCRETE RAIL DETAILS
RAMP-IF
STA: 78+17.13 TO STA: 85+37.69
AIRPORT INTERCHANGE
F.A.I. PROJECT NO. T-H-1(174)16
SCALE: AS NOTED DATE: SEPT. 1980
SHEET NO. T-1 OF 42 SHEETS

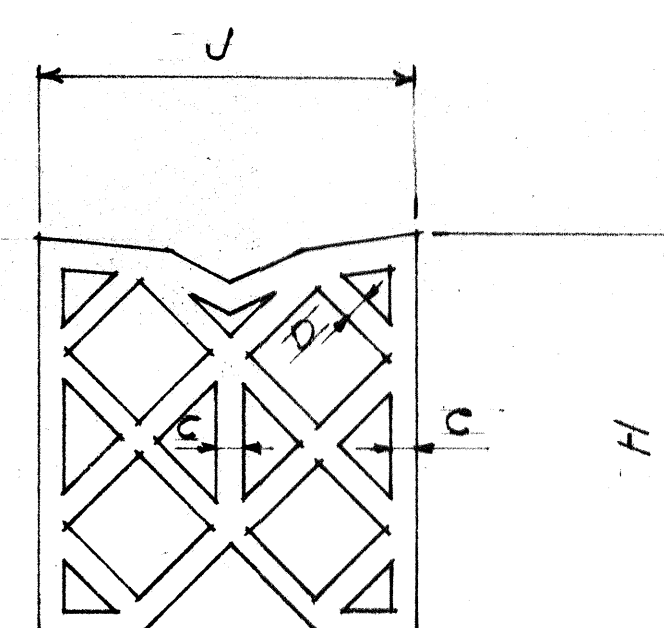
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	TH-1(174)16	1982	50	70



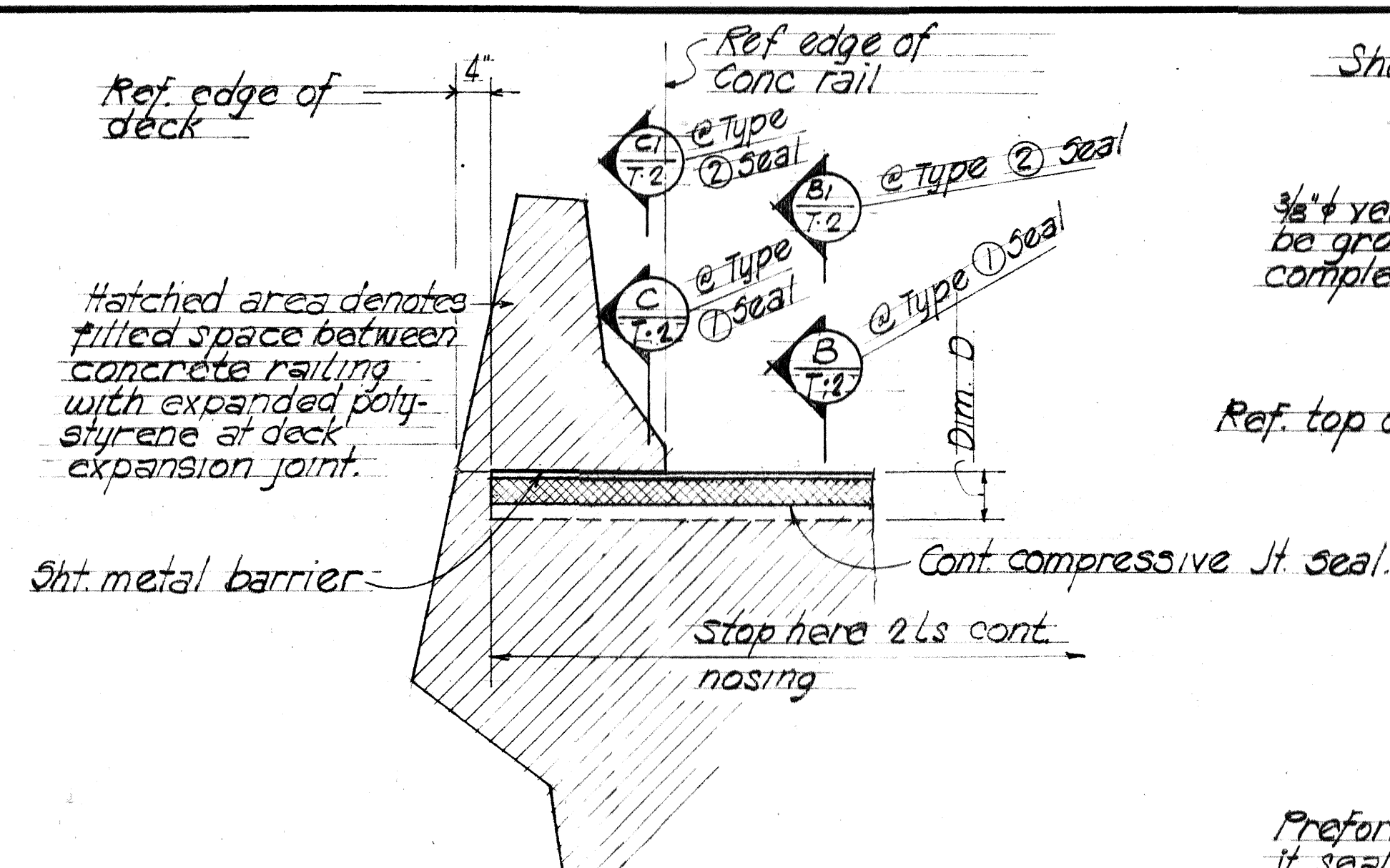
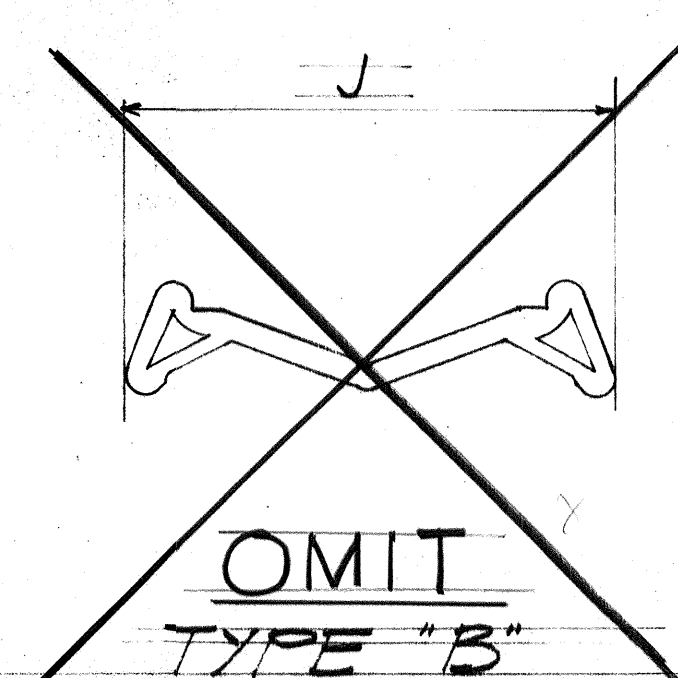
RADIAL OR NORMAL

PLAN TRANSVERSE DECK EXPANSION JOINT

Scale: 1" = 1'-0"



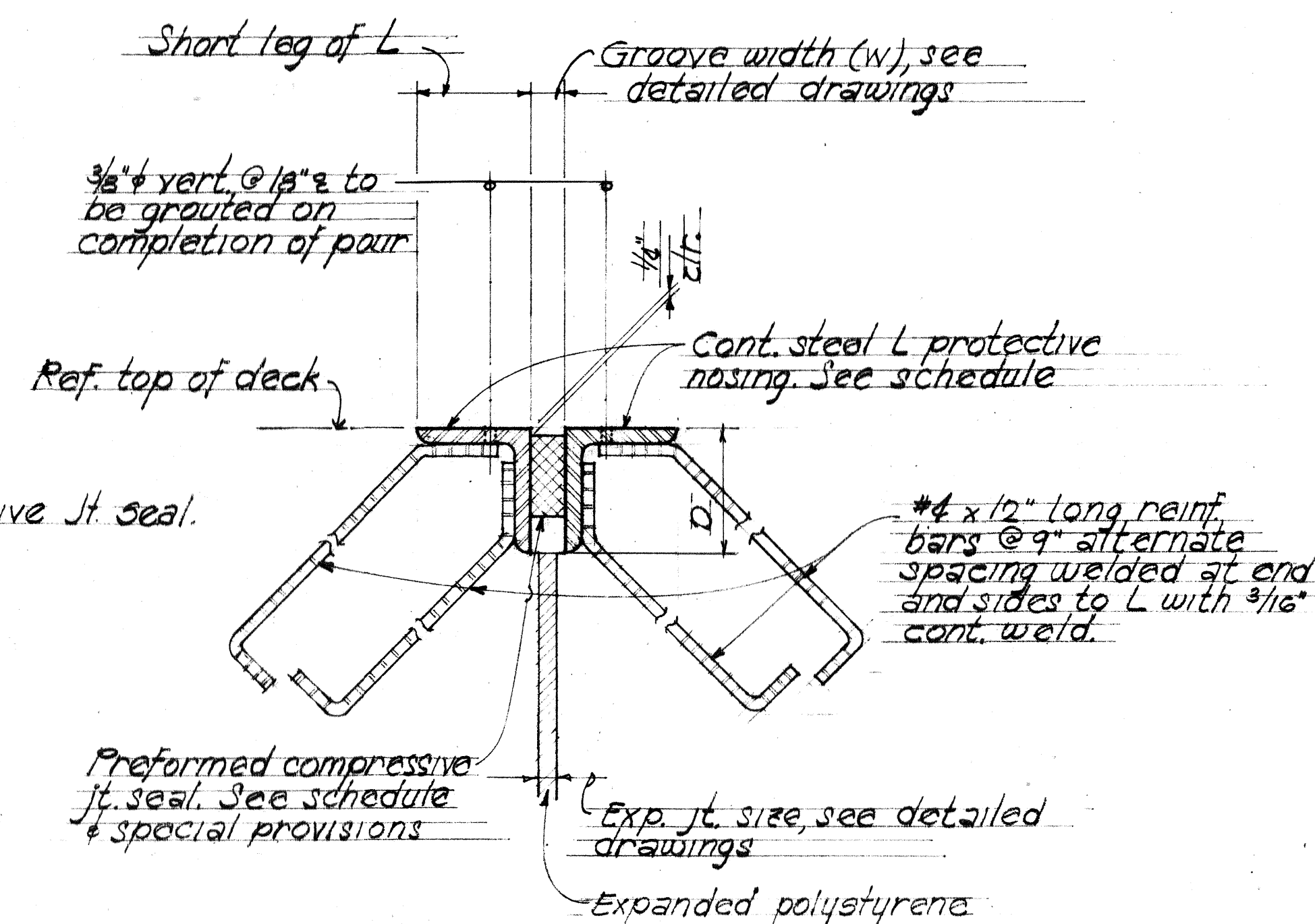
TYPE 'A'



TYPICAL ELEVATION

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

(A)
T-2



AT STEEL ANGLE PROTECTIVE NOSING

TYPICAL SECTION

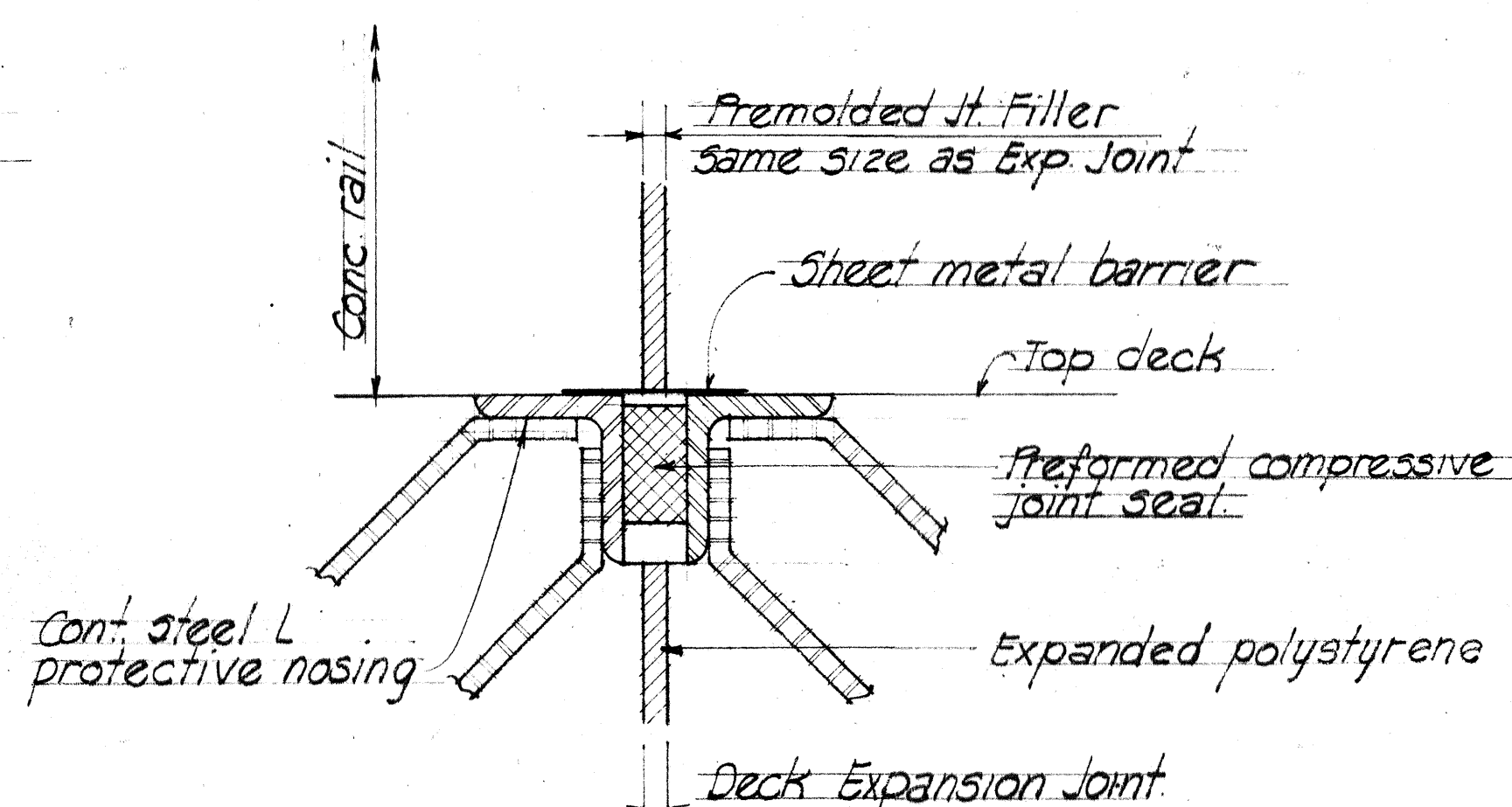
Scale: 3" = 1'-0"

(B)
T-2

NOTE:

Steel angles protective nosing assembly shall be hot dipped galvanized after fabrication.

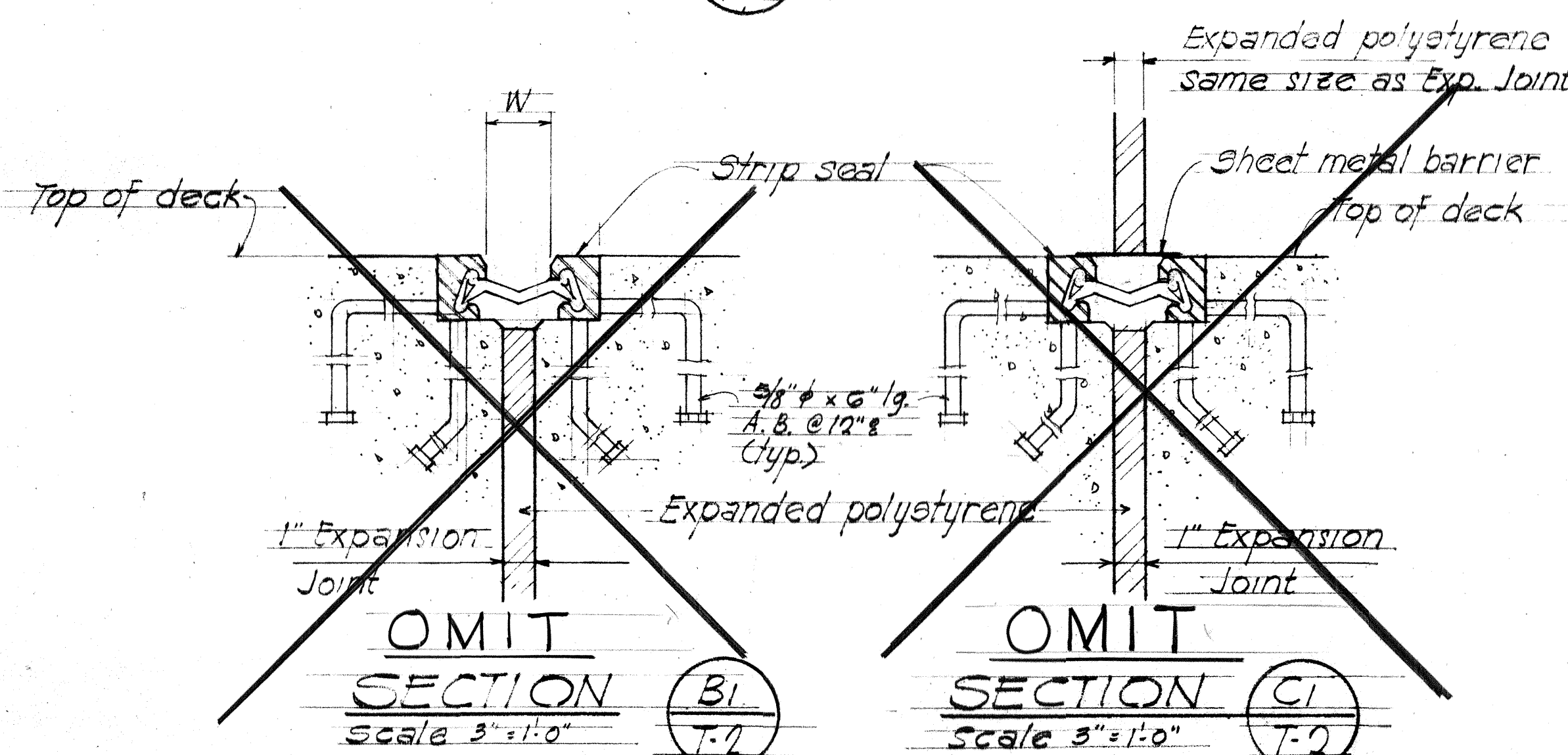
Steel angle protective nosing assembly and joint sealer incidental to concrete.



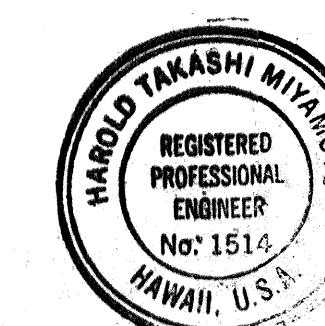
SECTION

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

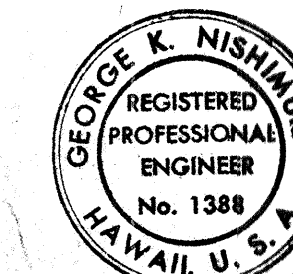
(C)
T-2



Joint seal type	Exp. jt. size	Steel angle protective nosing	Groove size during construction @ 10°F		Minimum Groove size during installation		Joint seal dimensions and tolerances					TOTAL MOVEMENT
			W	D	W	D	type	J	H	C	D	
(1)	5/8" x 1/2"	5" x 3 1/2" x 1/2"	1 1/4" x 1 1/2"	5"	2"	5"	"A"	3"	3 13/32"	3/16"	1/8"	1.219



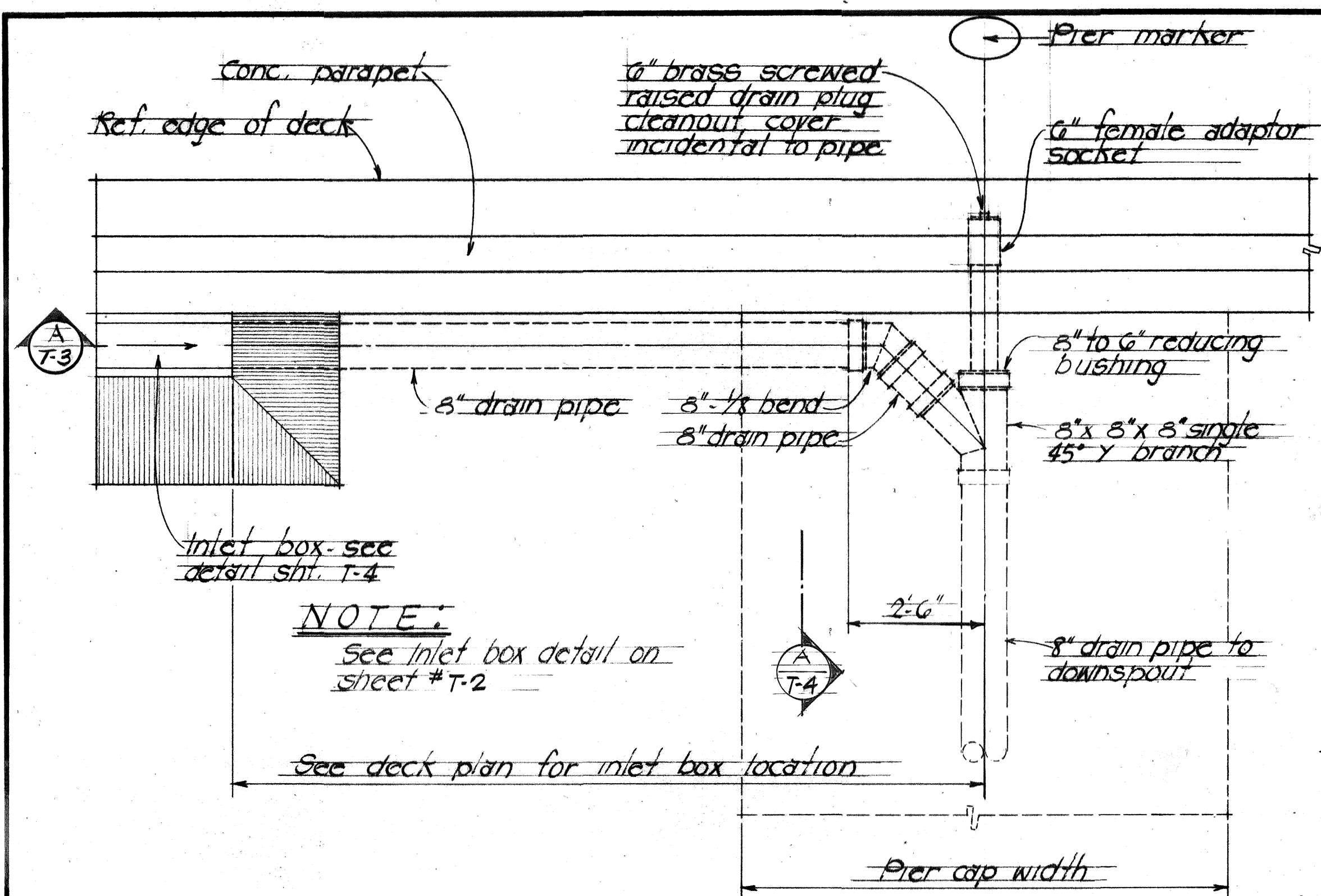
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION



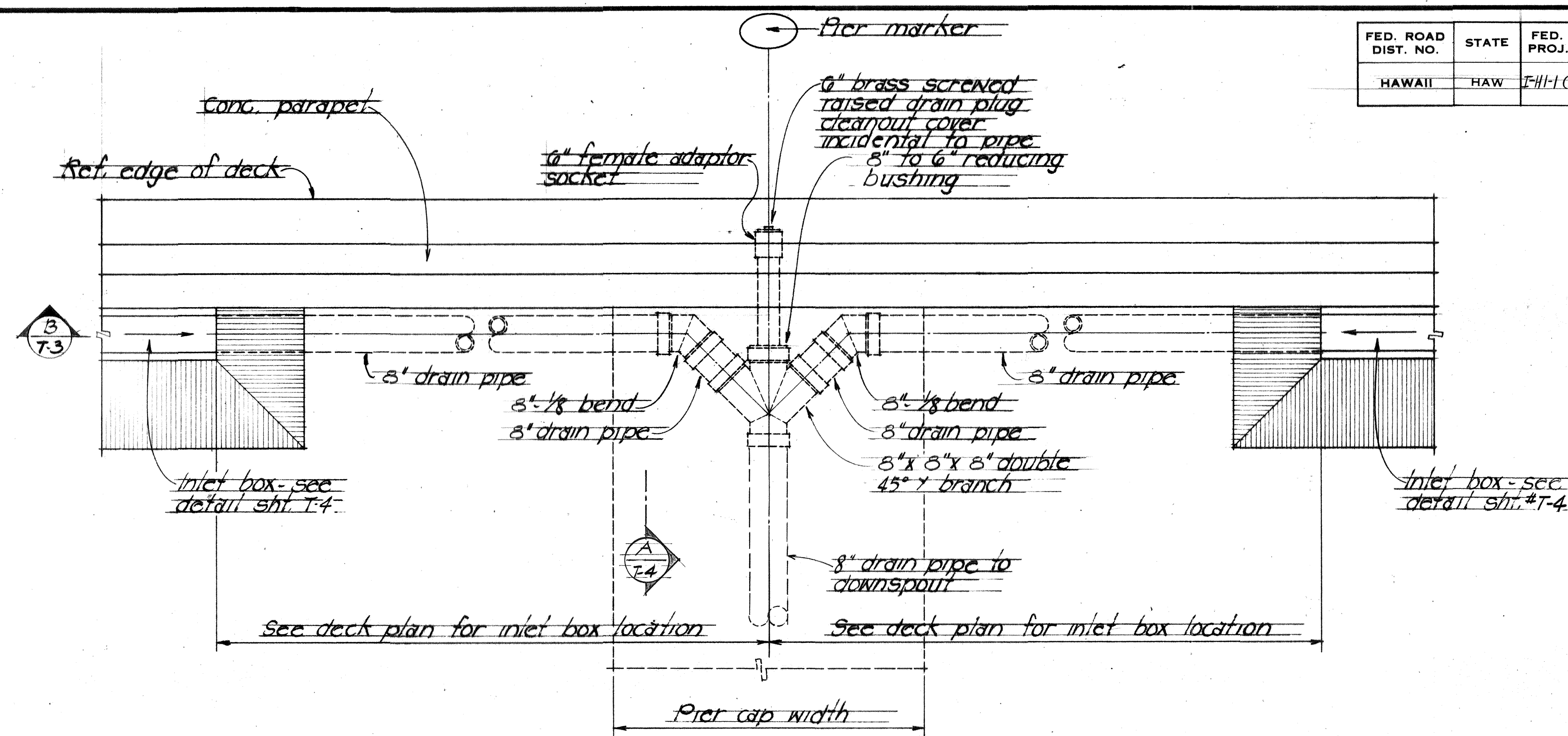
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<u>TYPICAL EXPANSION JOINT DETAILS</u>	
<u>RAMP-IF</u>	
STA: 78+17.13 TO STA: 85+37.69	
AIRPORT INTERCHANGE	
F.A.I. PROJECT NO. T-H-1(174):16	
SCALE: AS NOTED	DATE: Sept 1982
SHEET NO. T-2 OF 42 SHEETS	

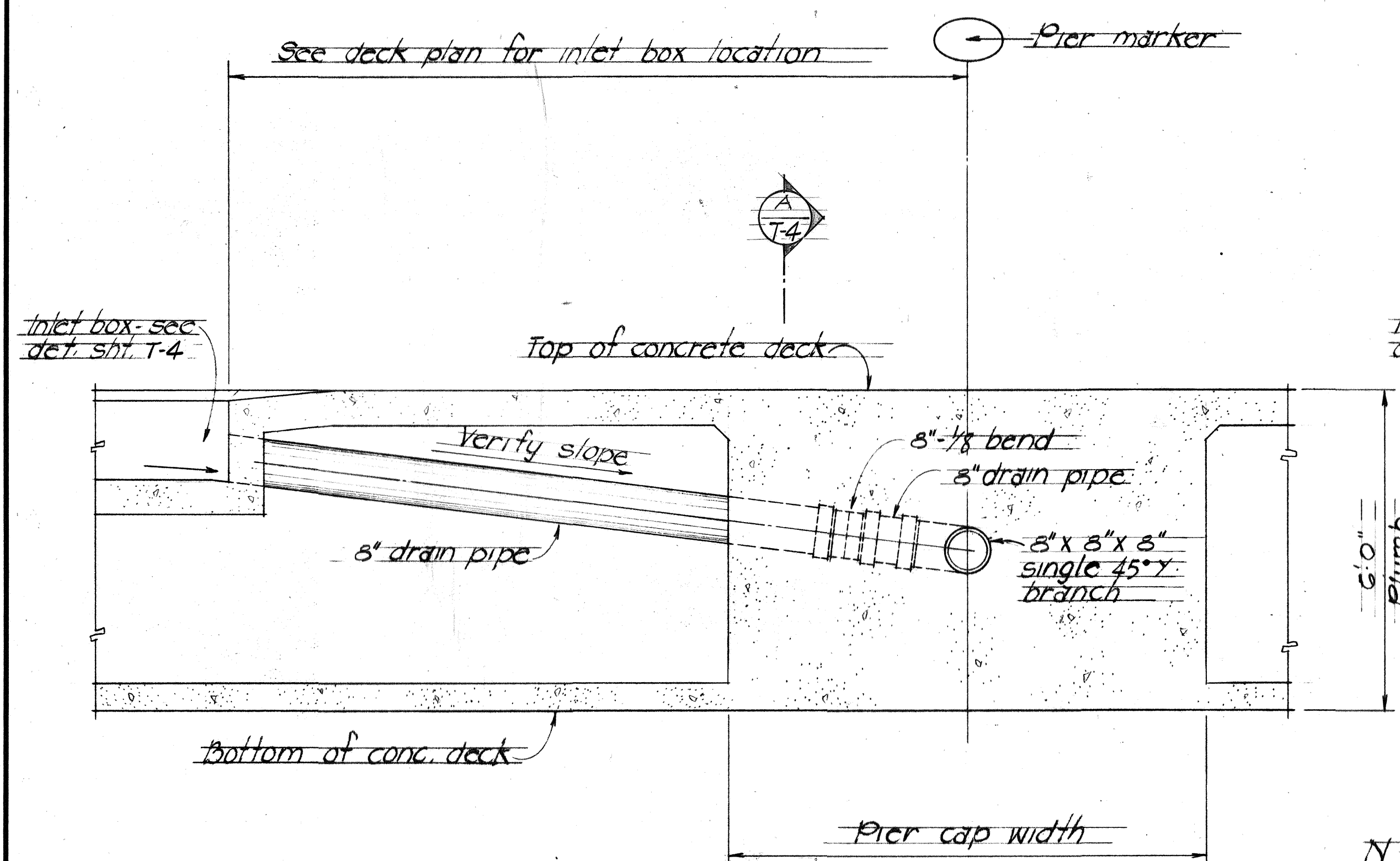
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	F-H-1(174)16	1982	51	70



PLAN - SINGLE INLET BOX & DRAIN PIPE TYPE "DI"
Scale: 1/2" = 1'-0"

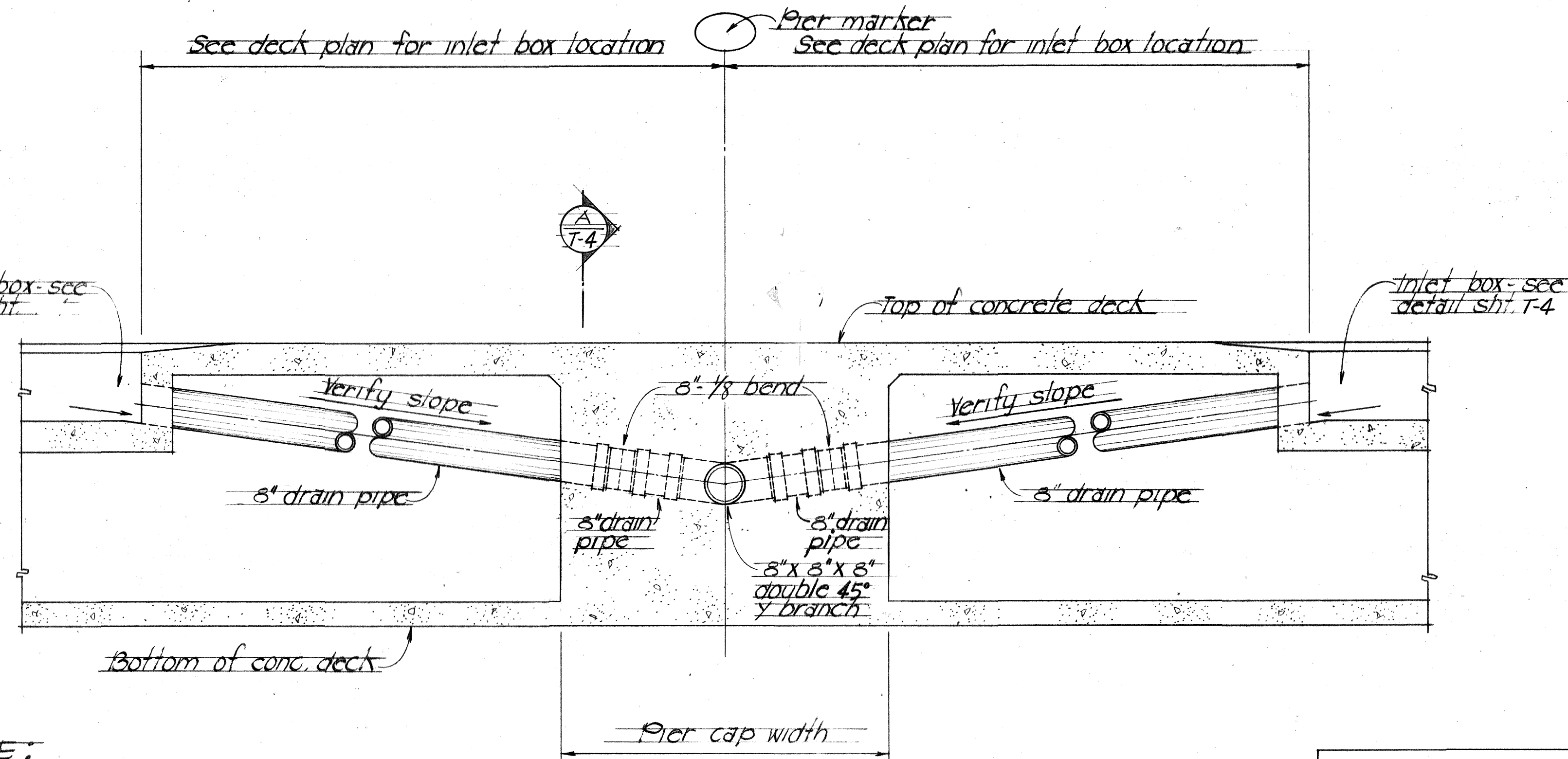


PLAN - DOUBLE INLET BOX & DRAIN PIPE TYPE "DI"
Scale: 1/2" = 1'-0"

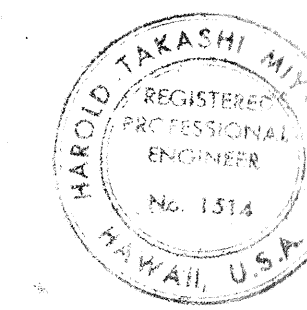
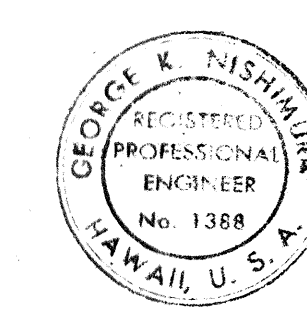


SECTION A
Scale: 1/2" = 1'-0"

NOTE:
For drain pipe notes - see sht. T-4

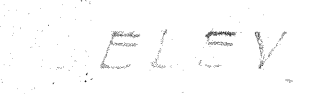


SECTION B
Scale: 1/2" = 1'-0"



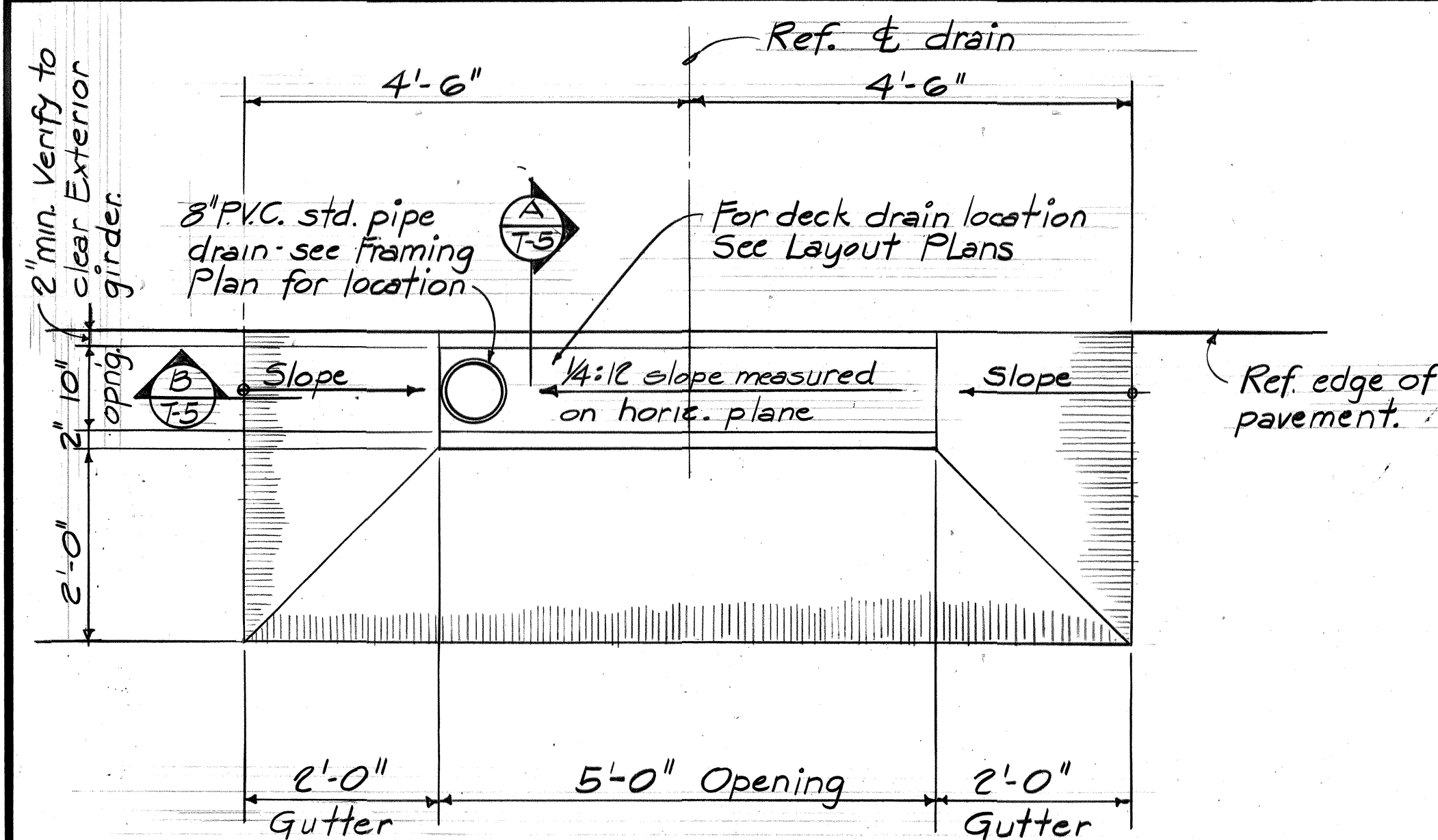
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
TYPICAL DECK DRAIN DETAILS	
RAMP IF	
STA: 78+17.13 TO STA: 85+37.69	
AIRPORT INTERCHANGE	
F.A.I. PROJECT NO. 1-H-1(174)16	
SCALE: AS NOTED	DATE: SEPT. 1982
SHEET NO. T-3 OF 42 SHEETS	

ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE _____
NOTE BOOK	DRAWN BY _____	_____"
	TRACED BY _____	_____"
	DESIGNED BY _____	_____"
	QUANTITIES BY _____	_____"
No. _____	CHECKED BY _____	_____"

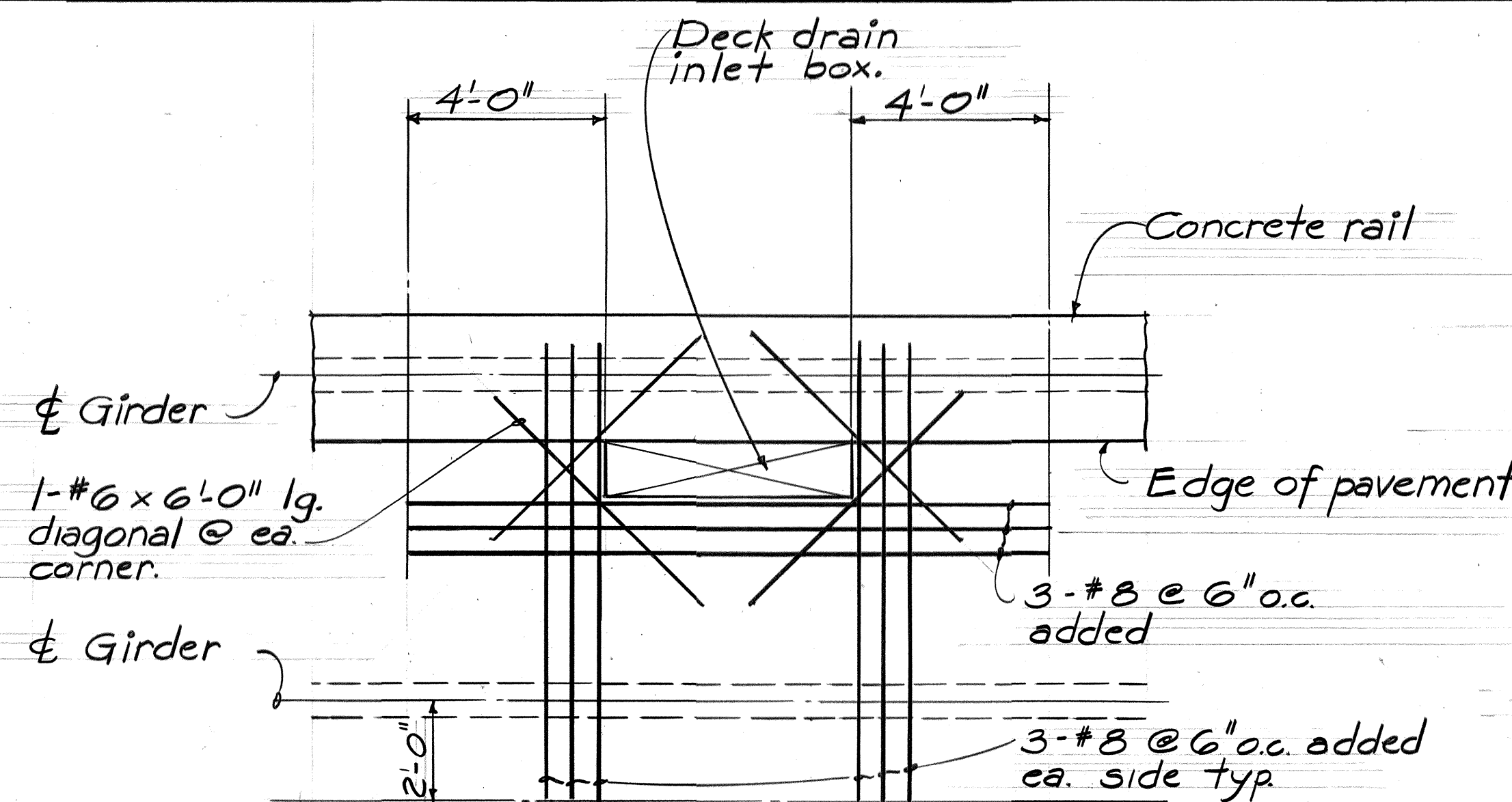


PRINTED ON NO. 1000H CLEARPRINT

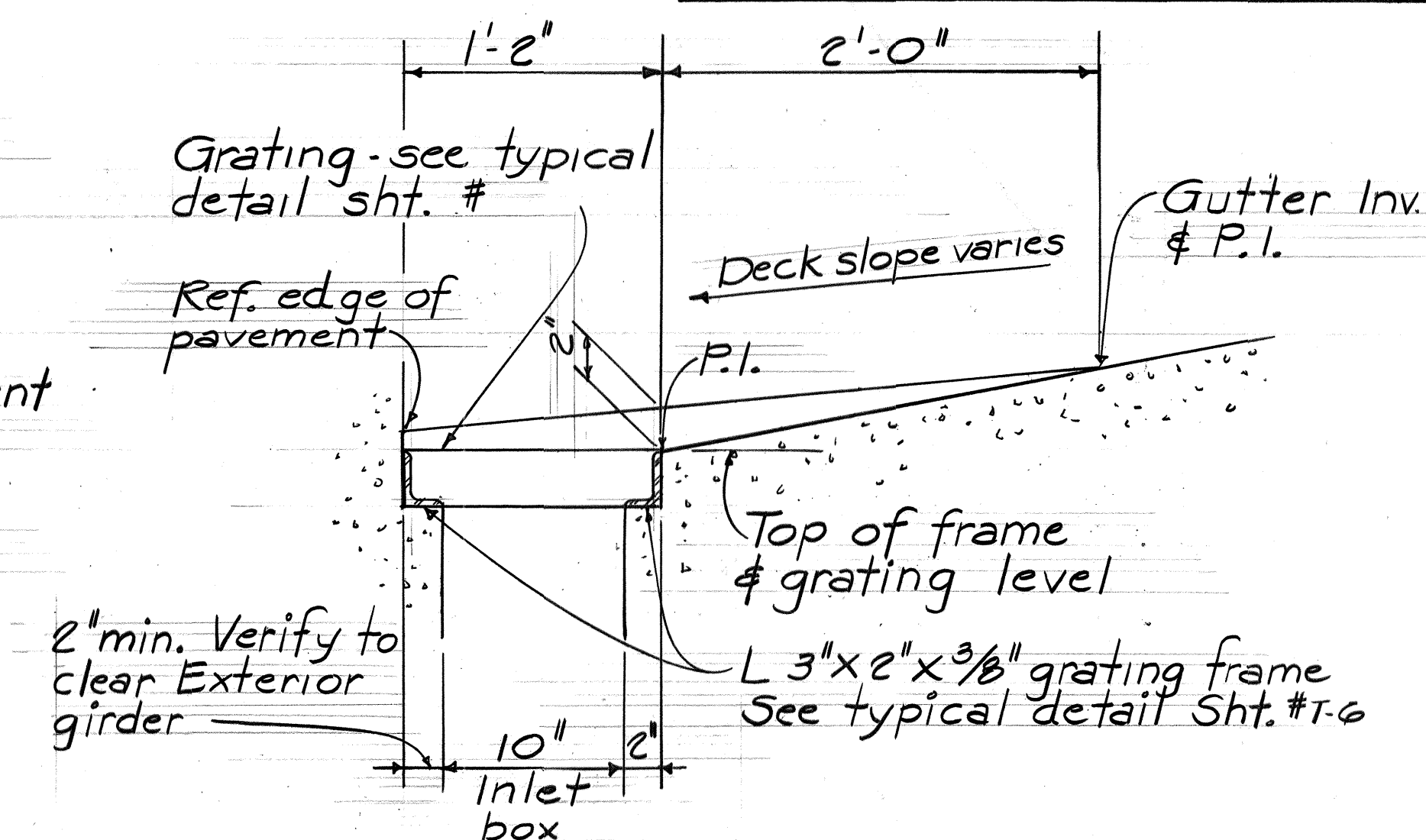
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H-1(174)-16	1982	53	70



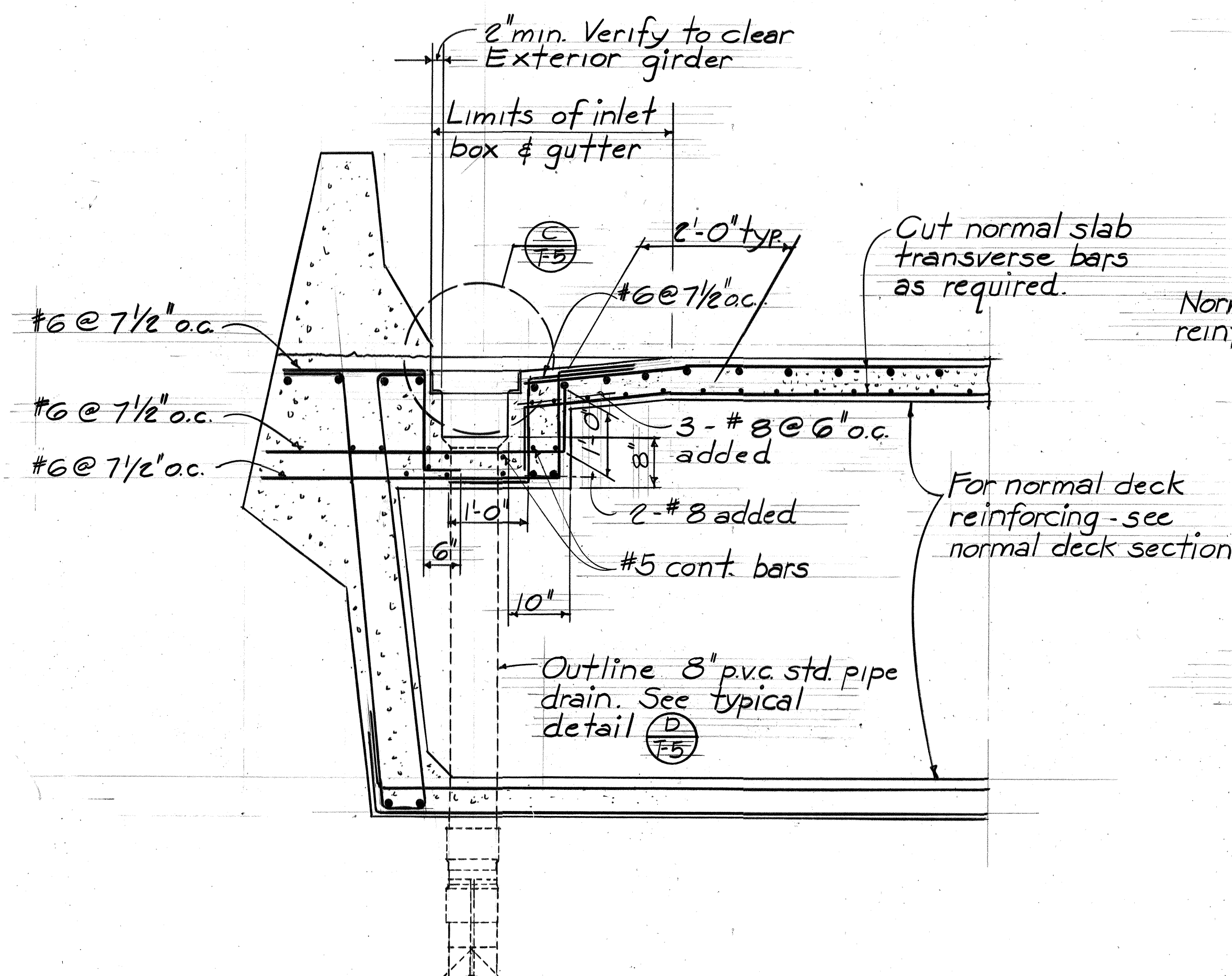
PLAN - INLET BOX & DRAIN PIPE TYPE D2
Scale: 3/4" = 1'-0"



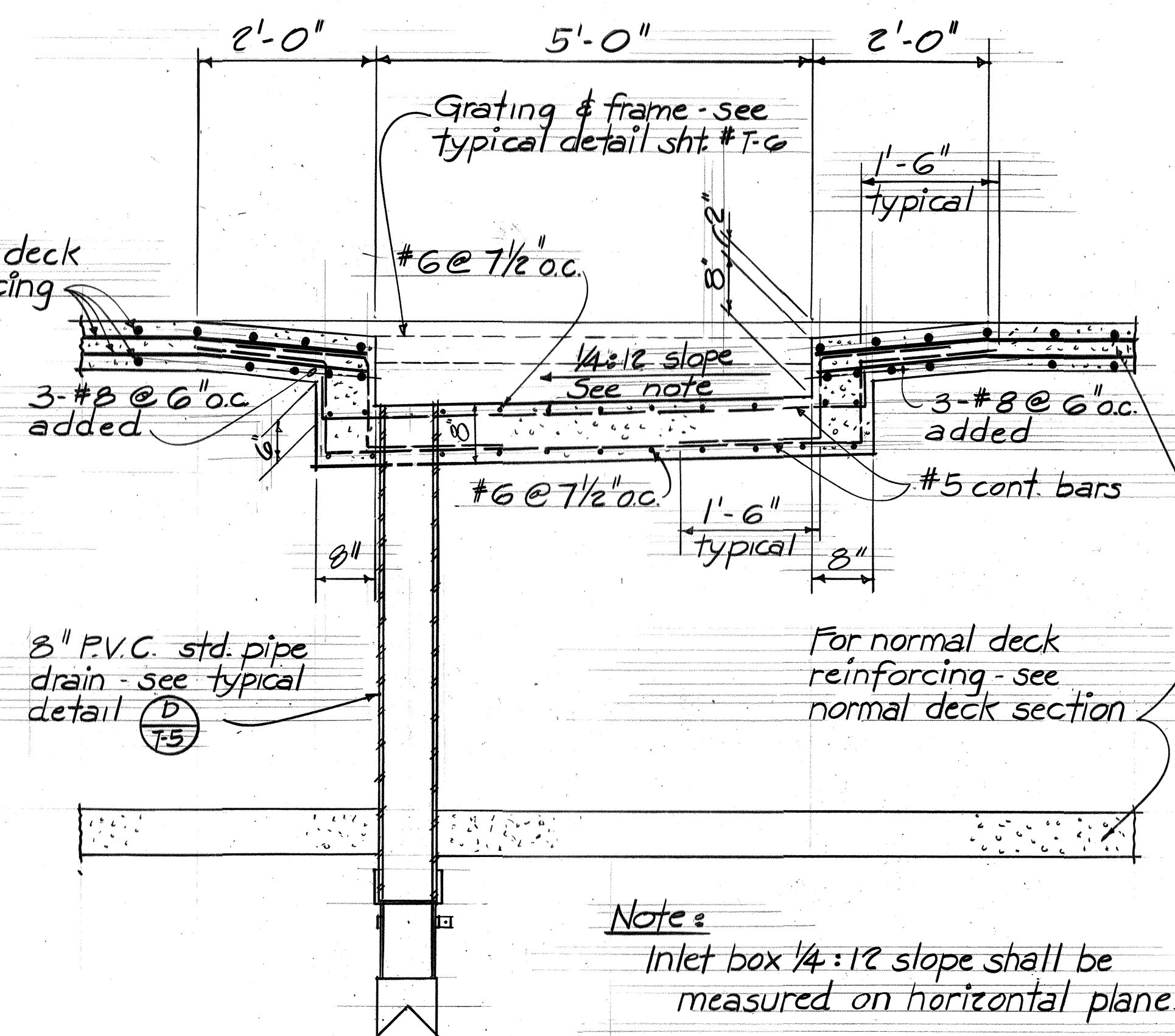
PLAN - SHOWING ADDED REINFORCING
@ DECK DRAIN INLET BOX
Scale: 3/8" = 1'-0"



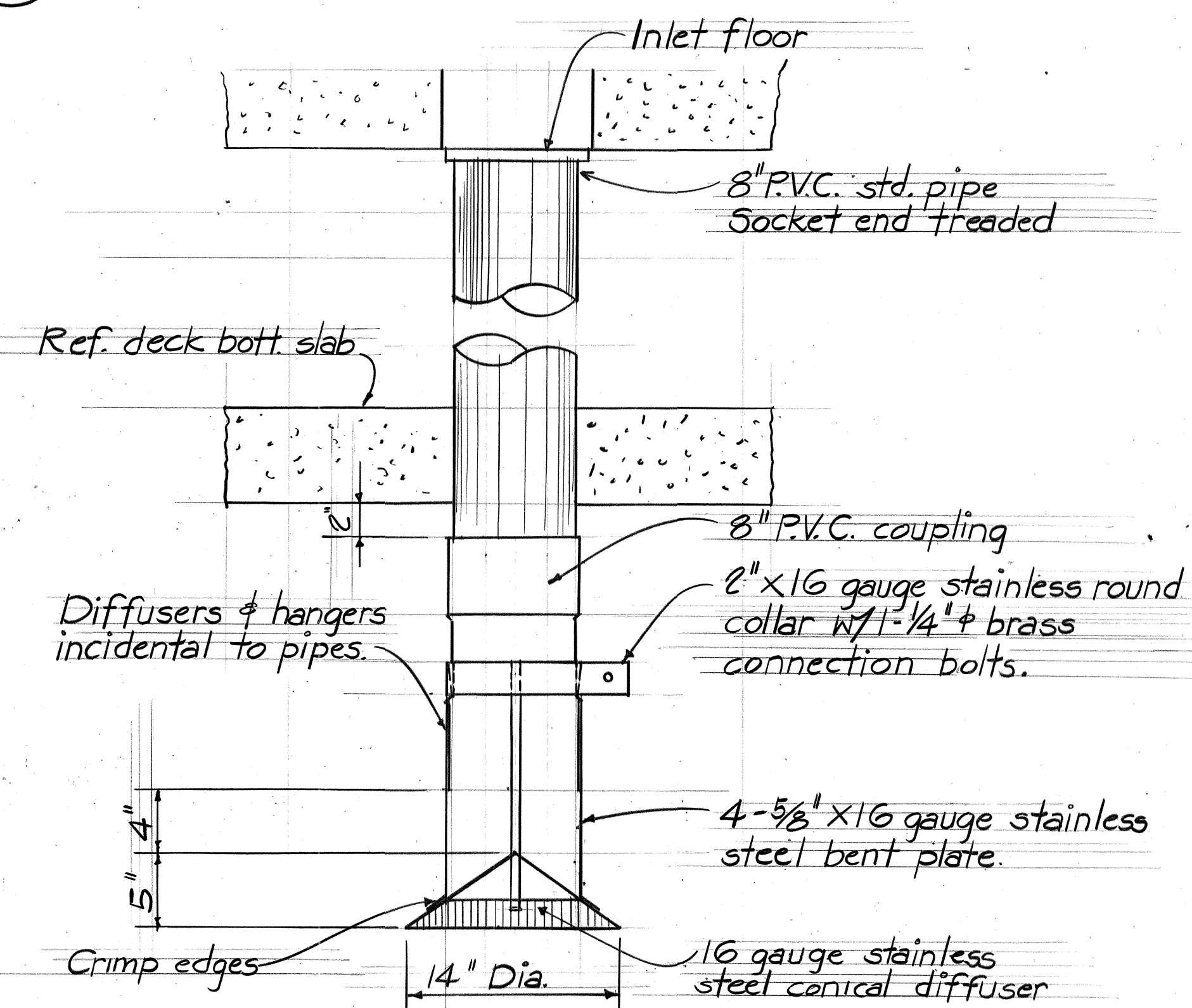
C TYPICAL INLET BOX & GUTTER DETAIL
T-5 Scale: 3" = 1'-0"



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



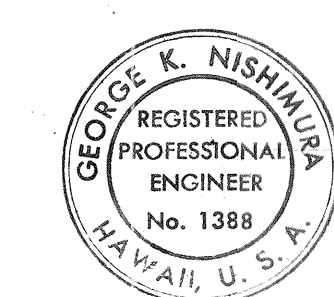
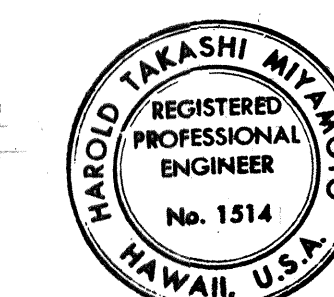
SECTION B
Scale: 3/4" = 1'-0"



D TYPICAL DRAIN PIPE & DIFFUSER DETAIL
T-5 Scale: 1 1/2" = 1'-0"

NOTE:

1. For deck drain location - see Deck Layout Plan
2. For Grating and frame details - see sht. #T-4
3. All drain pipe diffuser hangers, grating & frame shall be incidental to concrete.



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION
Harold Takashi Miyamoto

THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION
George K. Nishimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TYPICAL DECK DRAIN DETAILS
RAMP - IF
STA: 78+17.13 TO STA: 85+37.69
AIRPORT INTERCHANGE
F.A.I. PROJECT No.
Scale: As Noted DATE: SEPT. 1982
SHEET No. T-5 OF 42 SHEETS

5'-0"

Inlet clear opening - see layout plan

1/2" cl.

locate grate bars skew against direction of flow (Typ.)

1'-0 1/4" out to out

2 5/8" x 1/2" Grate end fl.

Edge of railing

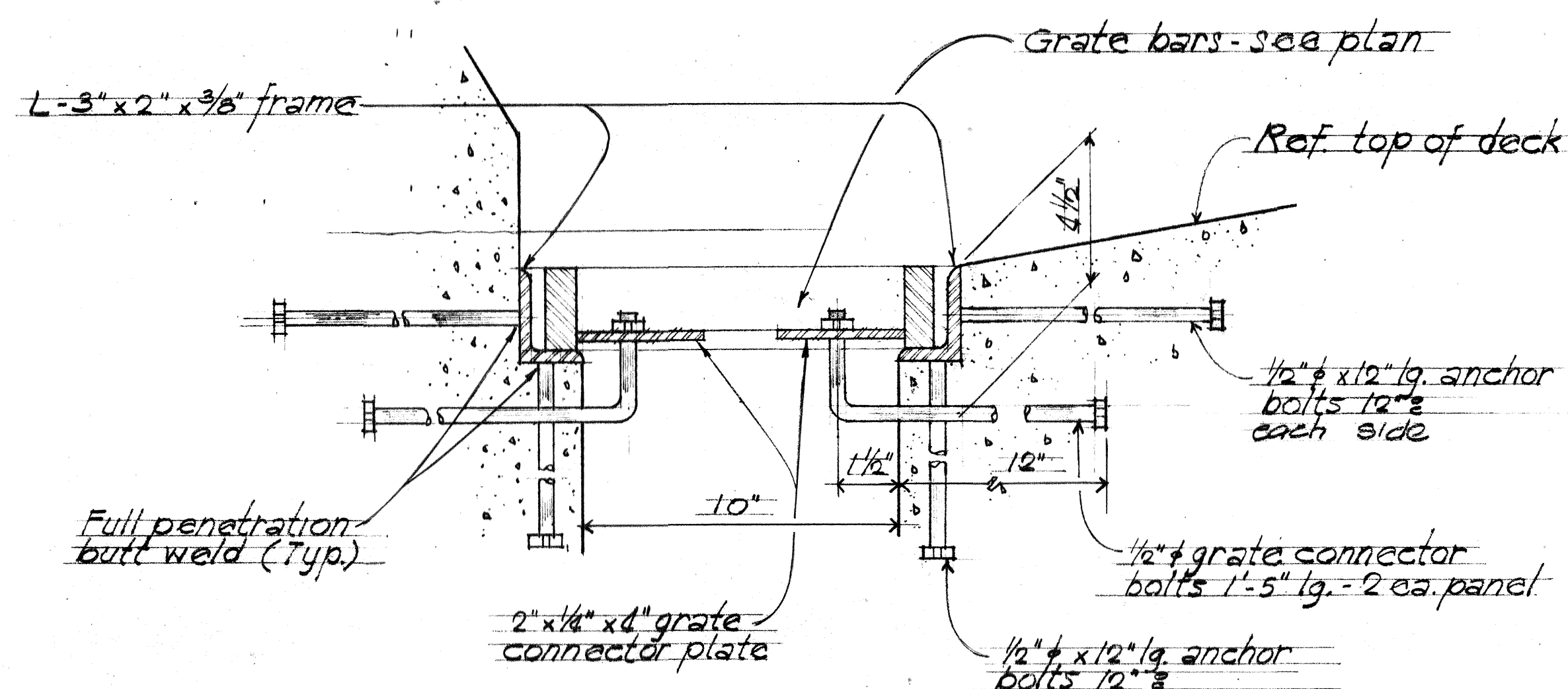
Grating

DIRECTION OF FLOW

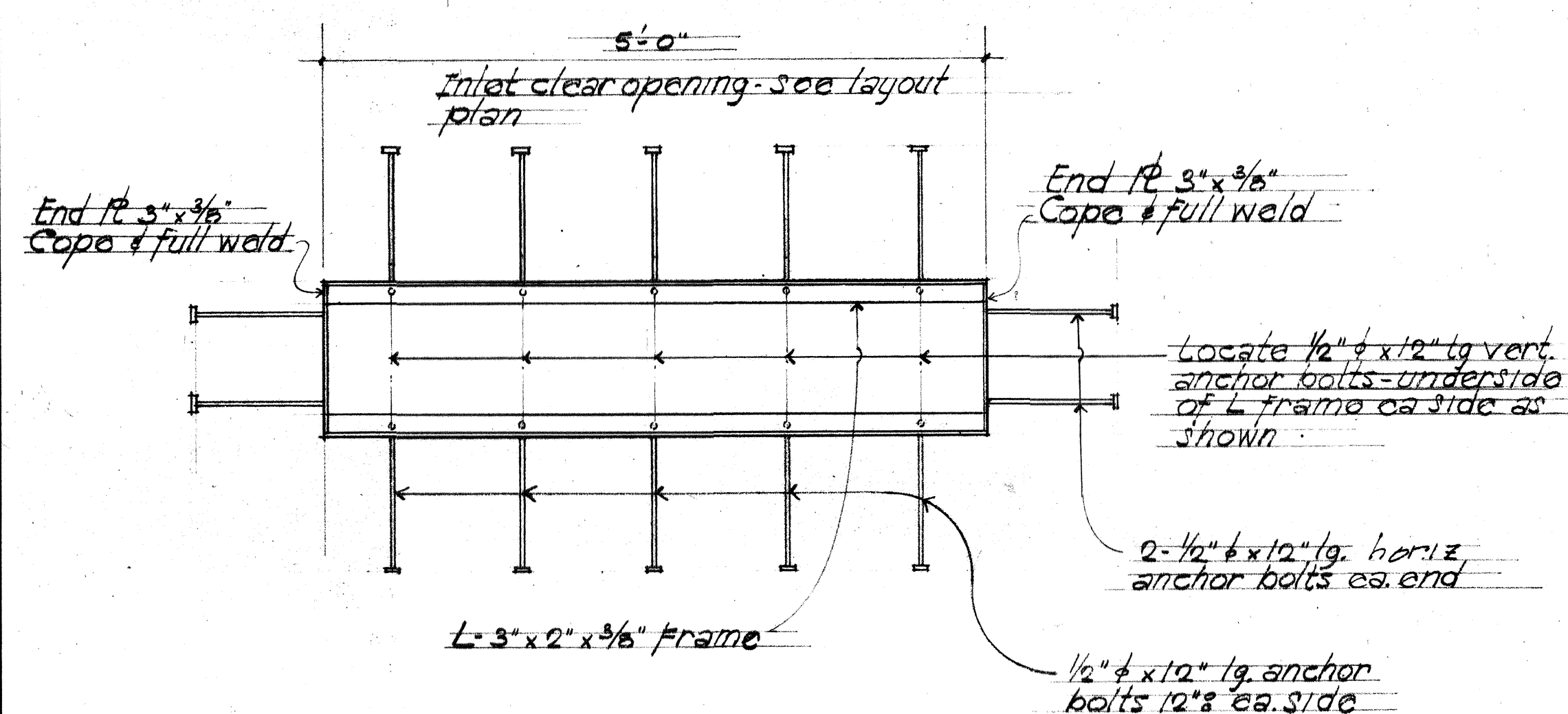
Grating connection bolts & fls. 2 ea. panel each side (Typ.) Locate normal to inlet - see detail

2 5/8" x 1" Grate side fl. (Typ.)

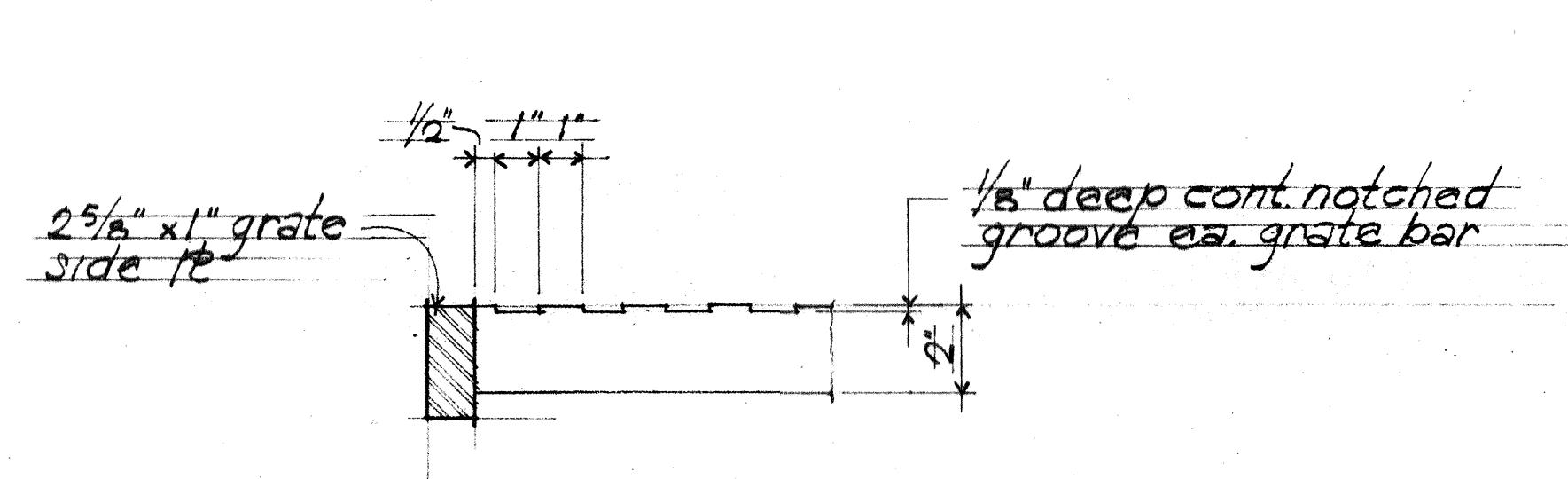
Scale: 1" = 1'-0"



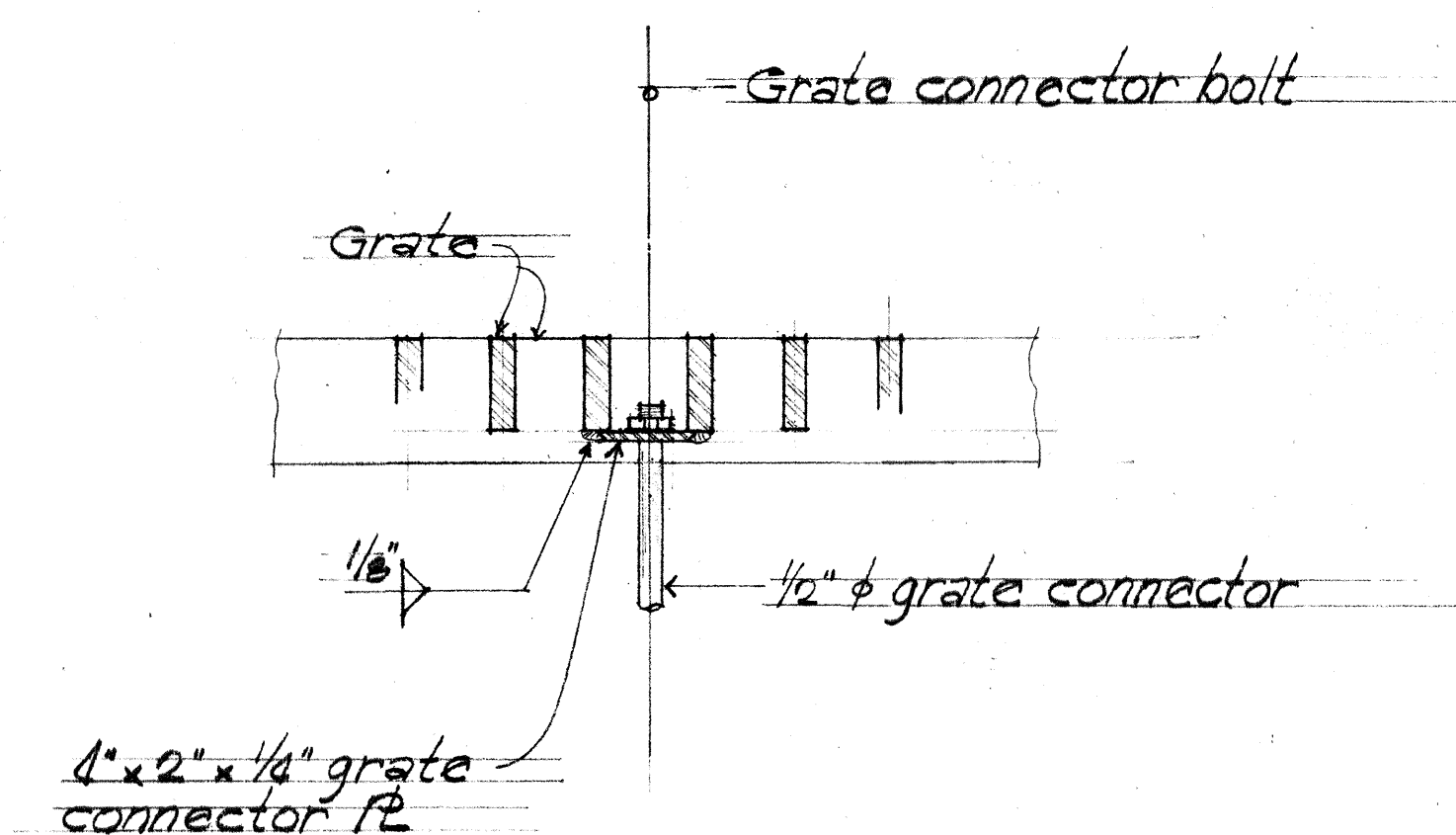
(B) TYPICAL SECTION (Grate & Frame Assemblage)
7-6 Scale 3" = 1'-0"



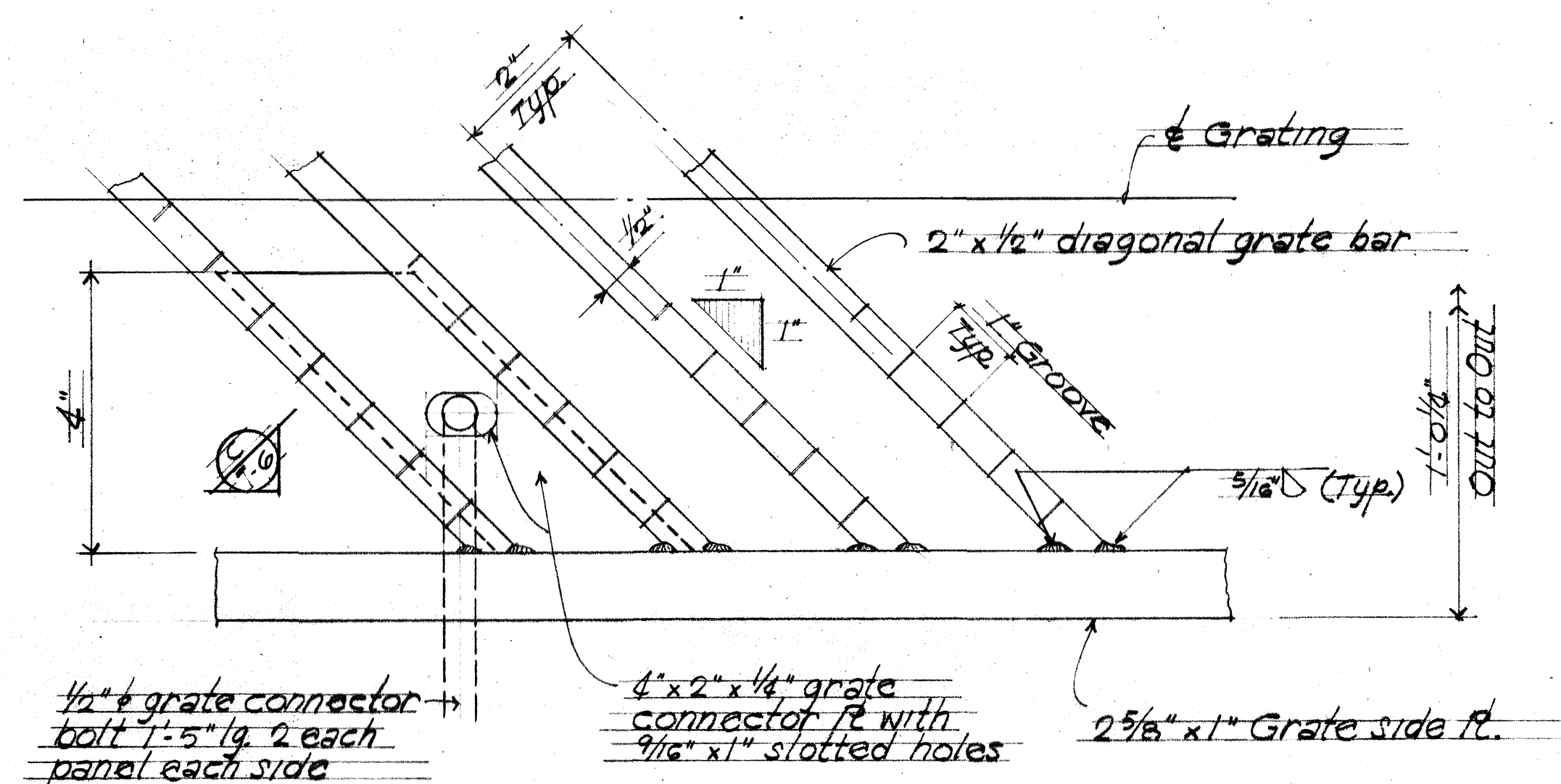
Scale: 1" = 1'-0"



Scale: 3" = 1'-0"

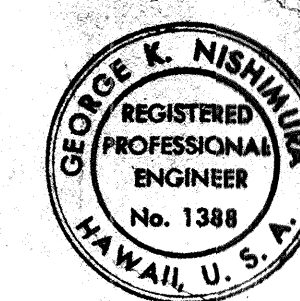


C SECTION
T-6 Scale: 3" = 1'-0"



A TYPICAL GRATE CONNECTION DETAIL
7-6 Scale: Half Scale

1. Grate frames, bolts etc. shall be hot dipped galvanized after fabrication. See special provisions
2. Grating and frame shall be incidental to concrete.

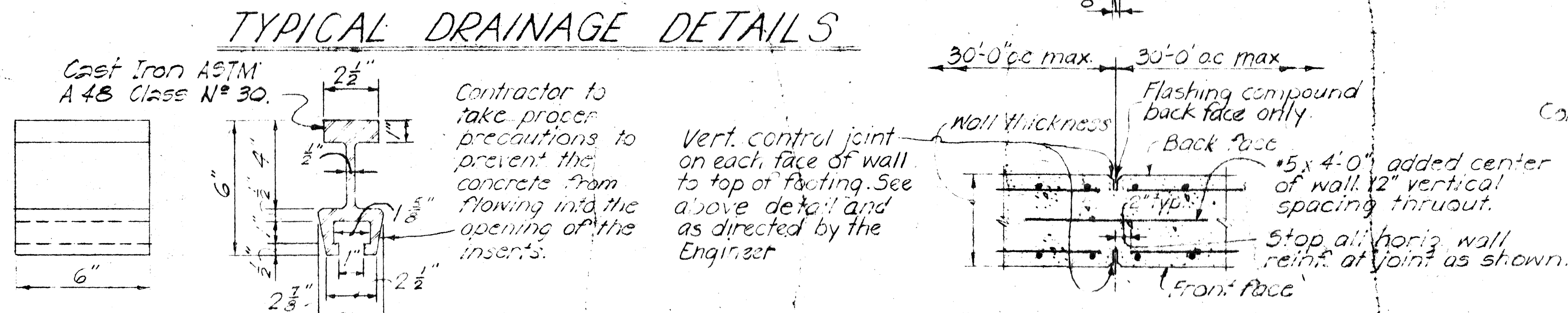
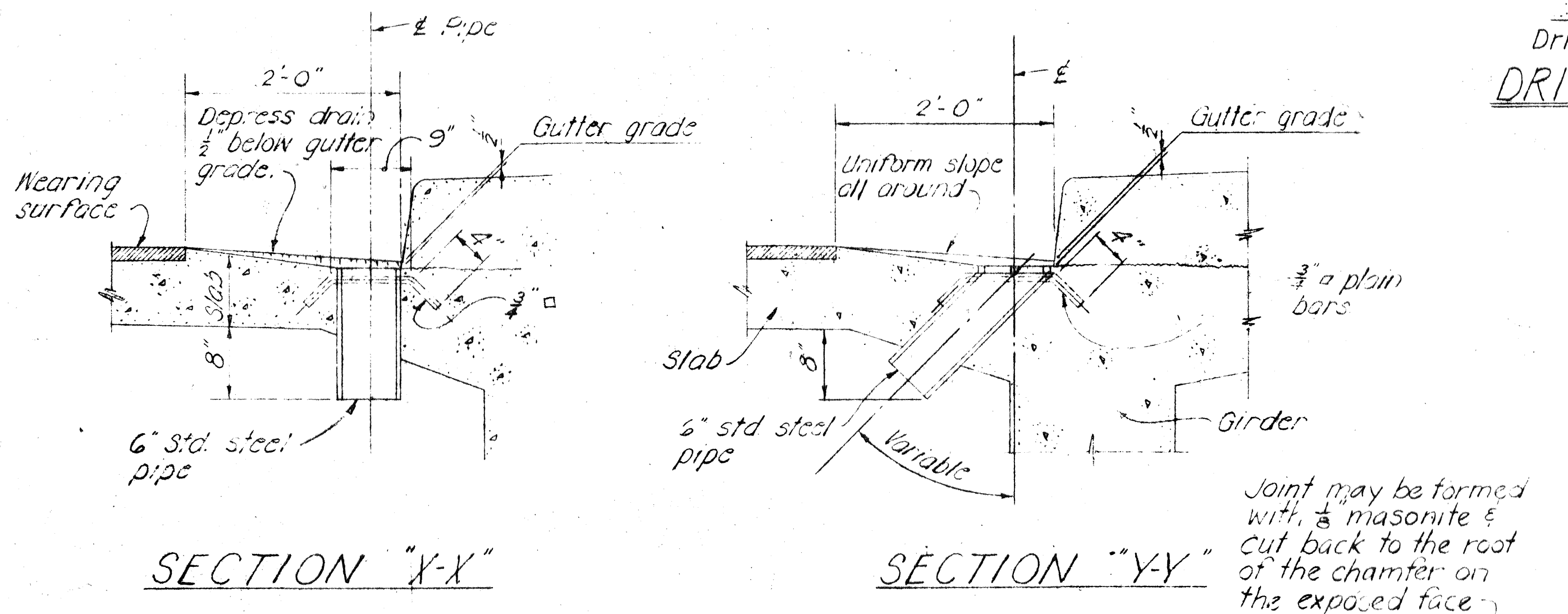
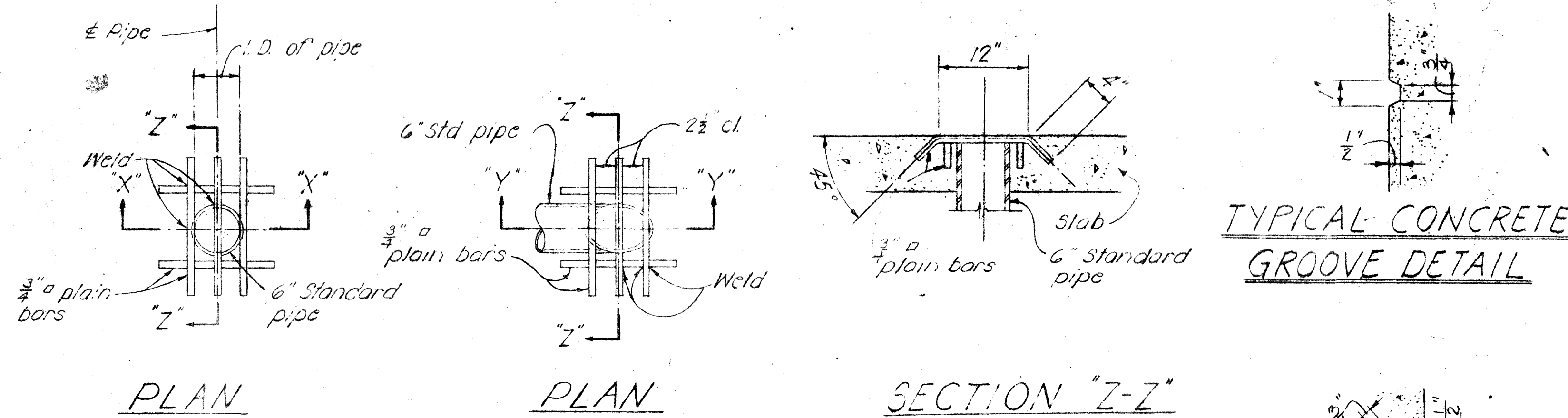


SHEET NO T-6 OF 42 SHEETS

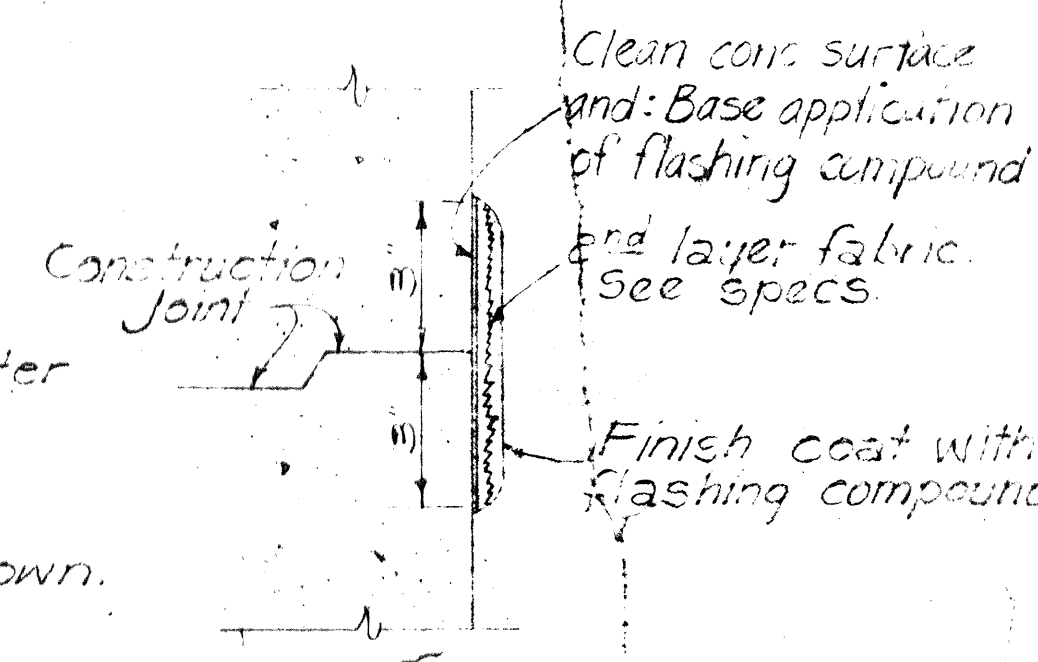
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

GENERAL NOTES

- All concrete shall be Class A unless otherwise noted.
- Reinforcing shall be detailed in accordance with A.C.I. Manual of Standard Practice for Detailing Reinforced Concrete Highway Structures unless otherwise noted.
- Clearance for reinforcing bars shall be as follows, unless otherwise noted:
 - 1 1/2" For stirrups of beams & pier caps.
 - 2" For ties of columns.
 - 2" For formed walls.
 - 3" For footings.
- Minimum spacing between parallel bars shall be 2 1/2 times the diameter of bars, but in no case shall the clear distance between the bars be less than 1 1/2 times the maximum size of the coarse aggregate.
- All dimensions relating to reinforcing are to centers of bars unless otherwise noted.
- Reinforcing bars shall be securely tied at all intersections & lap splices & shall be held in place during pouring to maintain their proper locations as shown on plans.
- Vertical column bars shall be arranged in such a manner as to miss pier cap bars above as directed by the Engineer.
- Except as otherwise noted on drawings, all exterior corners & re-entrant angles in concrete work shall be chamfered 3/4" x 3/4".
- Concrete seats receiving steel plates, lead plates or neoprene pads shall be poured monolithically with supporting structures & top of concrete seats shall be finished with a steel trowel to a smooth level surface at the elevation shown on the plans.
- Elastomeric Pads: Bottom of bridge bearing pads shall be secured against displacement with adhesives approved by the Engineer. Pads shall be incidental to concrete and will not be paid for separately.
- Forms for all exposed surfaces of separation structures and surfaces of retaining walls visible from a traveled way or from a populated area shall be plywood except that metal forms may be permitted provided a surface finish satisfactory to the Engineer can be obtained and the use of such forms is approved in writing by the Engineer. Forms for round columns shall be made of materials that will give a smooth finish and true dimensions as given in the plans. Forms for prestressed concrete members shall be either metal or plywood.
- Gothic letters and figures approximating dimensions shown will be acceptable if approved by the Engineer.
- The contractor shall verify the location of all existing utility lines and notify the respective owners before commencing work of excavation or driving of piles.
- Standard Detail Drawings refer to all structures in general, except for modifications as may be required for special conditions. For such modifications refer to the corresponding detailed drawings.



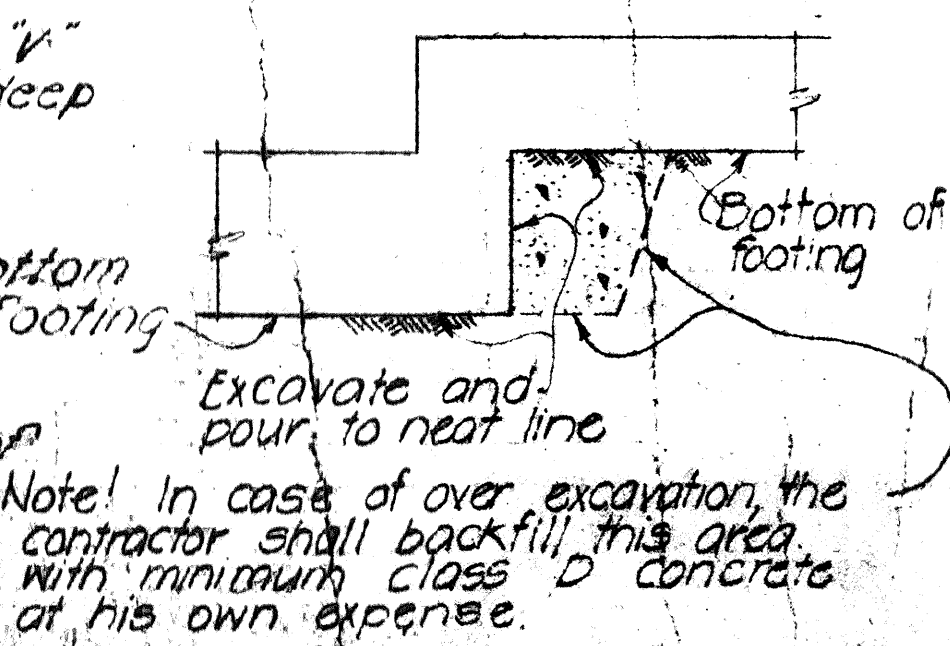
TYP. FLASHING COMPOUND WATERPROOFING DETAIL



NAME DATE

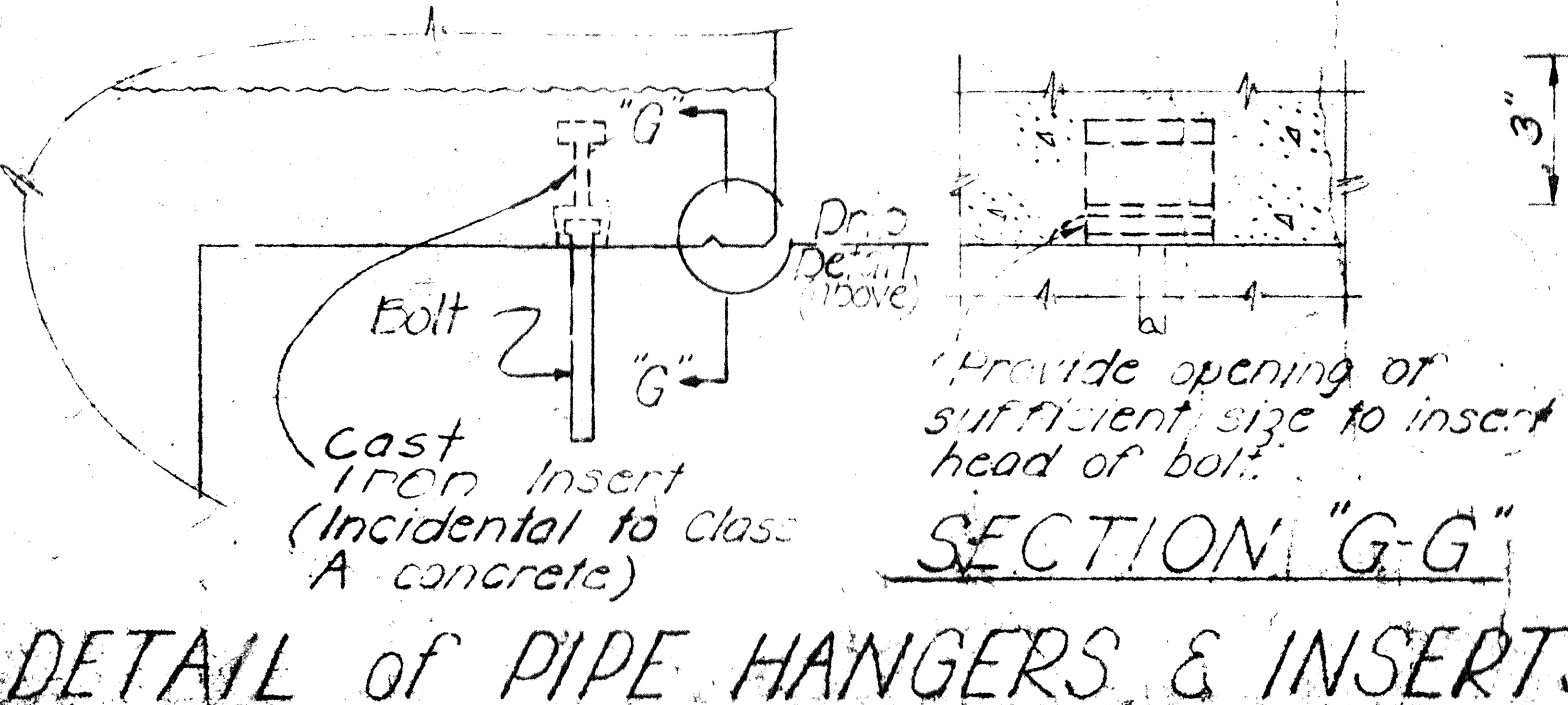
Use correct name of bridge Date of Year built

NOTE: Refer to corresponding detail drawings for placement of such names & dates at end post. Exact details & spacing of letters & figures shall be as directed by the Engineer. See Note #12.



TYPICAL DETAIL OF LETTERS & FIGURES AT CONCRETE END POST

Note: In case of over excavation, the contractor shall backfill this area with minimum Class D concrete at his own expense.



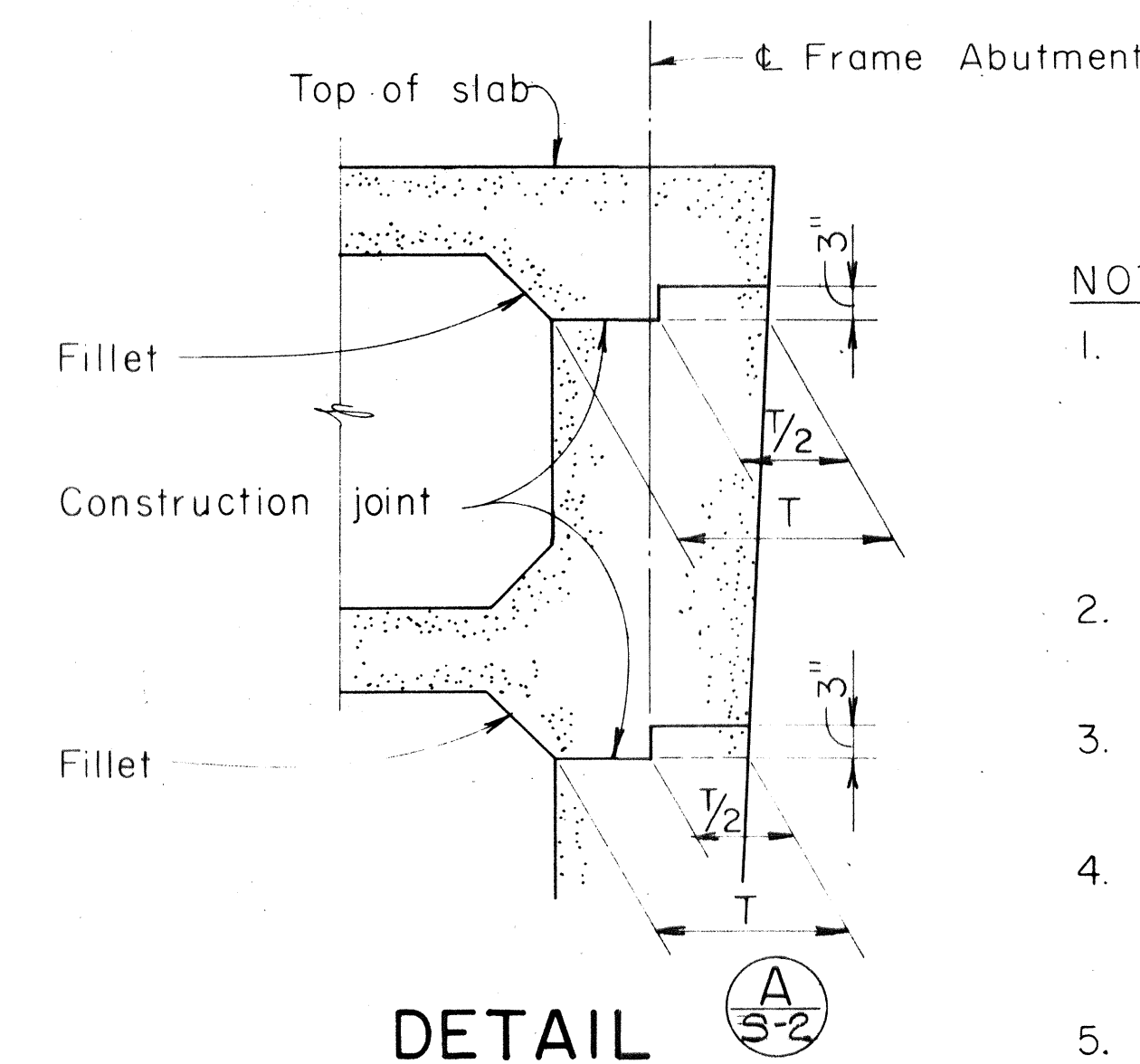
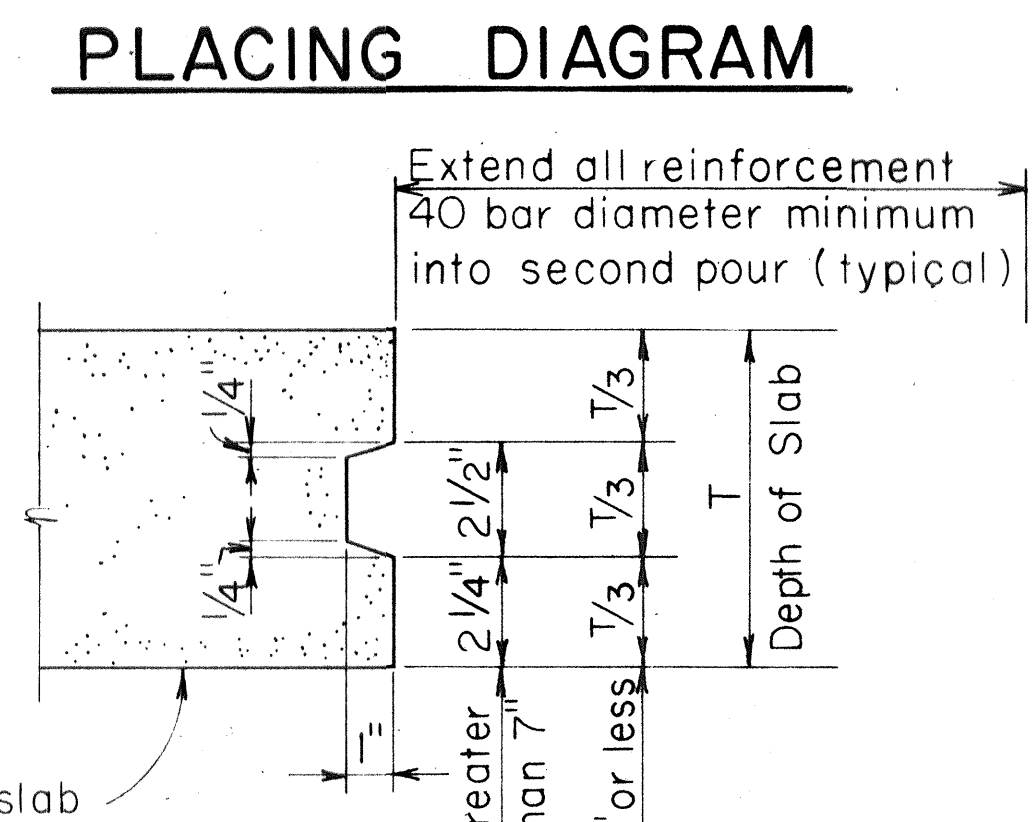
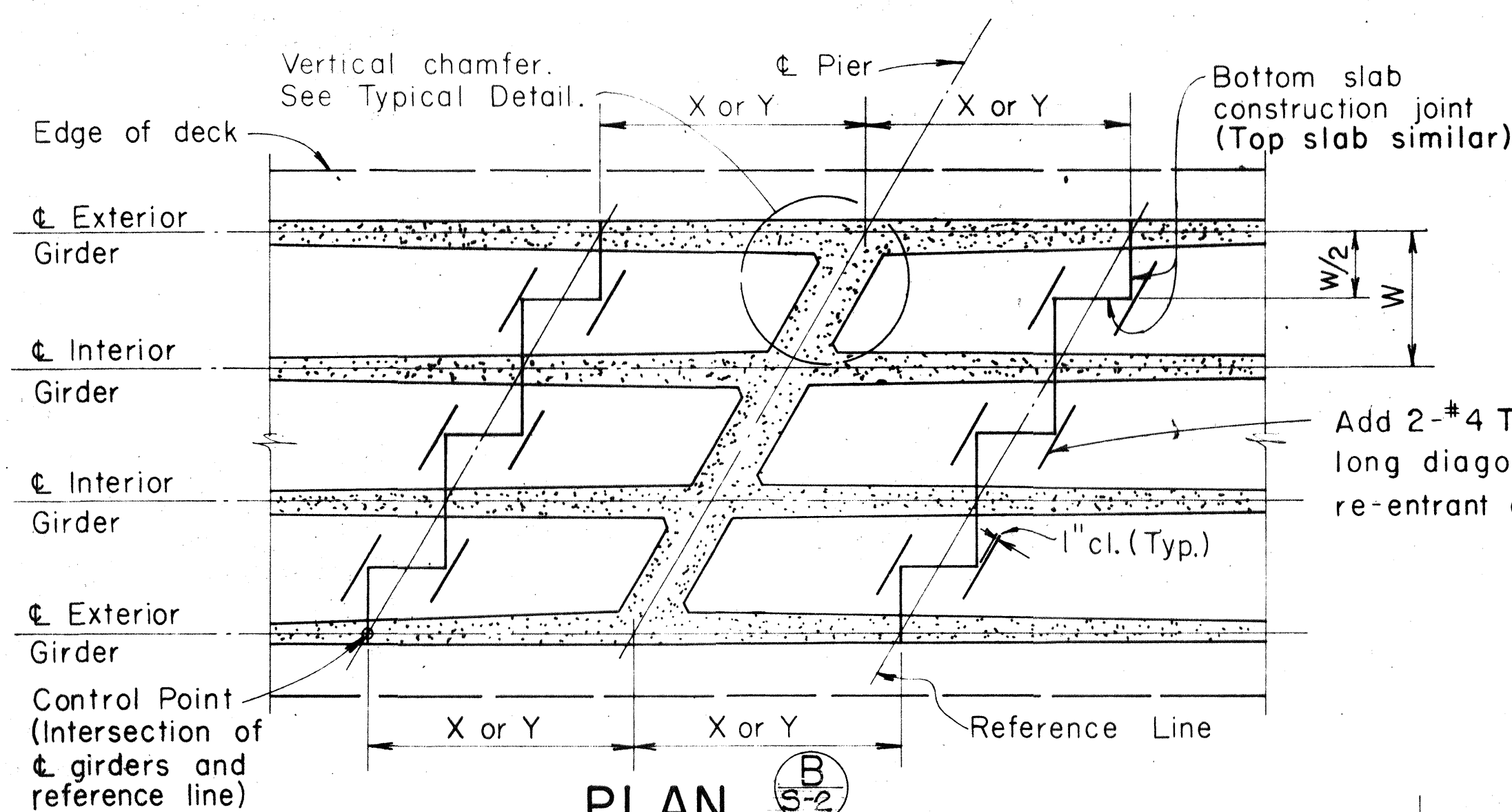
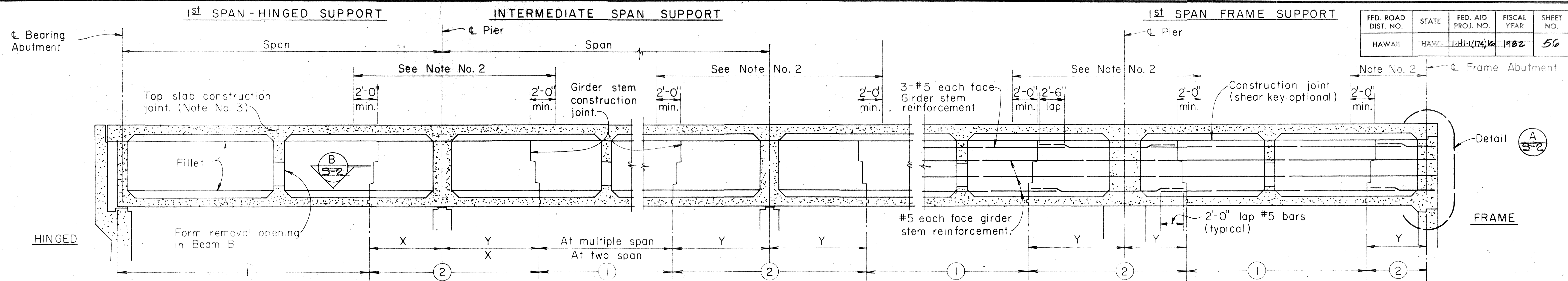
NO.	REVISION	APPROVED BY	DATE

APPROVAL RECOMMENDED:
Paul T. Umasudita
BRIDGE DESIGN ENGINEER
1-23-70
DATE

APPROVED
Paul T. Umasudita
ASSISTANT CHIEF, ENGINEERING
1-28-70
DATE

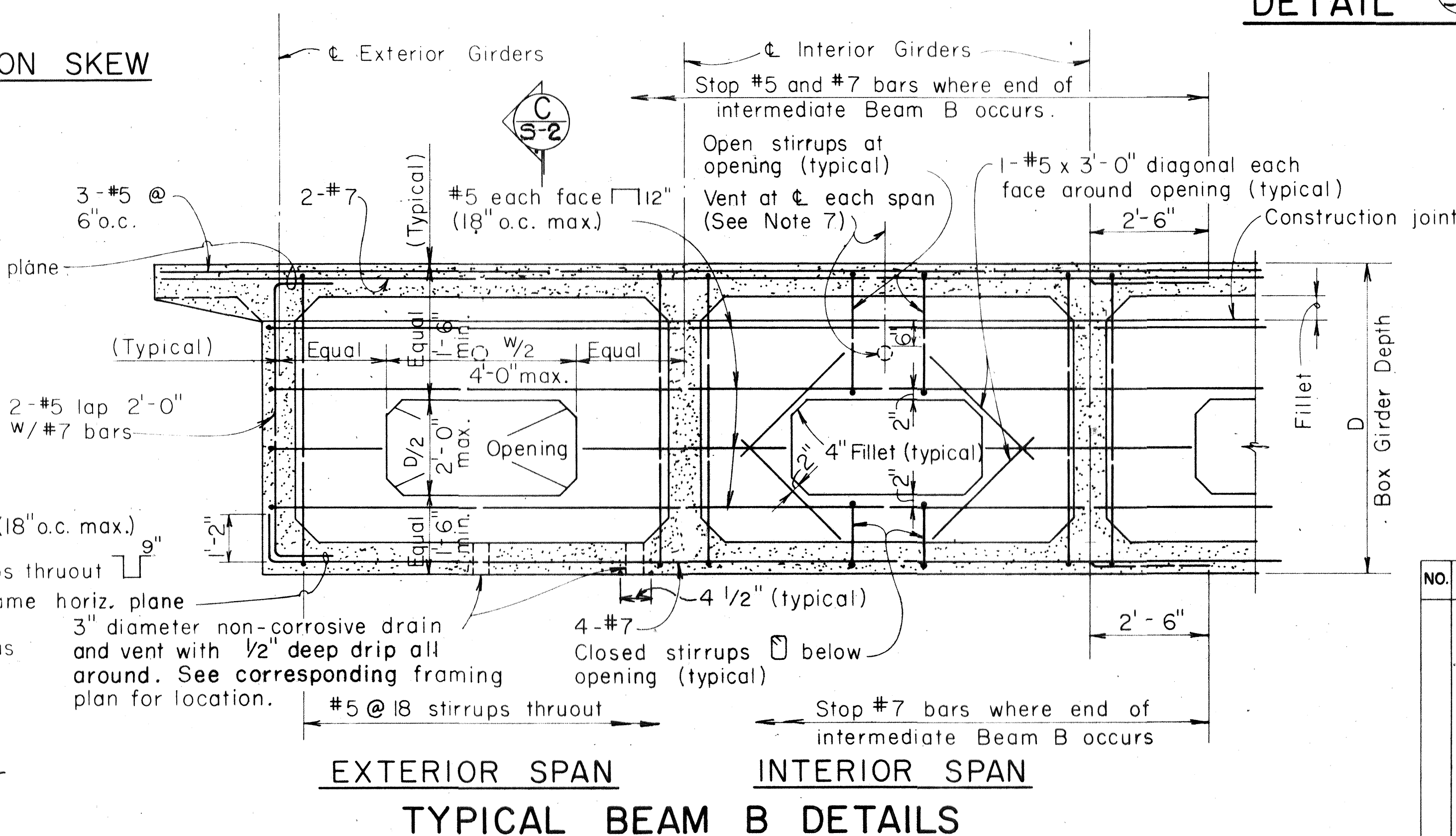
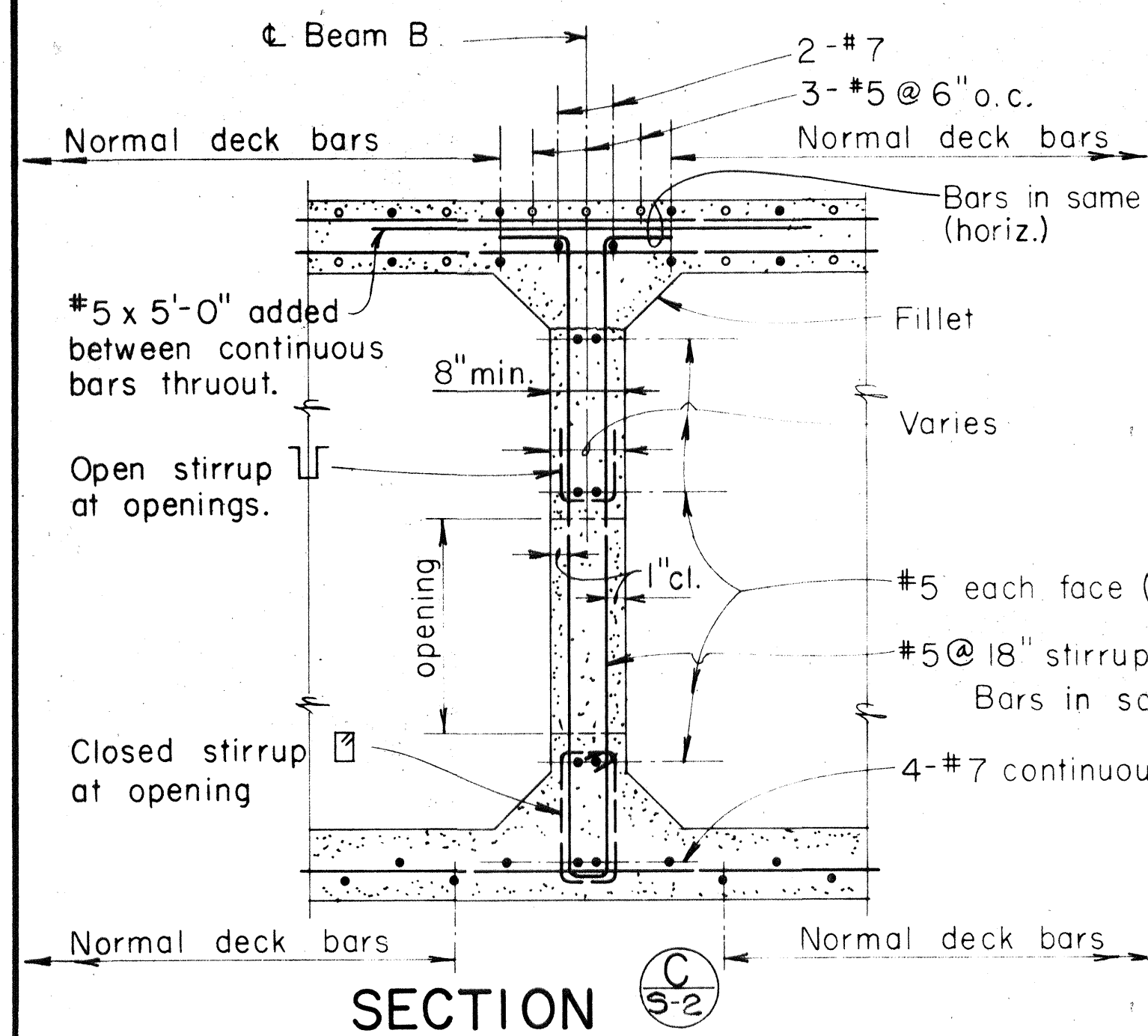
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
STANDARD DETAILS	
NOTES AND MISCELLANEOUS DETAILS	
Date: October 1982	
SHEET No. 5-1 OF 72 SHEETS DB-100	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	1-HI-1(174)16	1982	56	70



- NOTES:

1. Numbers ① and ② indicate sequence of placing bottom slab and girder stem concrete. ② may be placed with ① when approved by the Engineer provided that the ① sections adjoining the ② sections are placed in this pour. For any deviation from the above, the contractor shall submit a diagram to the Engineer for approval.
2. No top slab construction joint or form removal opening shall be located in the region over the piers as noted, nor in the supporting section of a hinged span.
3. When top slab is not poured continuously, and top slab forms are not removed, construction joint in top slab shall be located over an intermediate diaphragm.
4. Top slab concrete shall be placed separately from the stem. Top slab concrete may be placed continuously or in parts as approved by the Engineer, providing pour is not in conflict with the above notes.
5. Dimension $X = 1/4$ span. $Y = 1/5$ span.
6. No lapping of main bars shall be permitted at construction joints.
7. If the Contractor elects to leave top slab forms in place, form removal opening shall be omitted and replaced by 3" vent. Vertical shorings left in place for the top slab formwork, shall not be located within the center half of each topslab span.



NO.	REVISION	APPROVED BY	DATE

APPROVAL RECOMMENDED:
James R. Haman 6-1-76
BRIDGE DESIGN ENGINEER DATE

APPROVED
Harvey Balzish 6-2-76
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

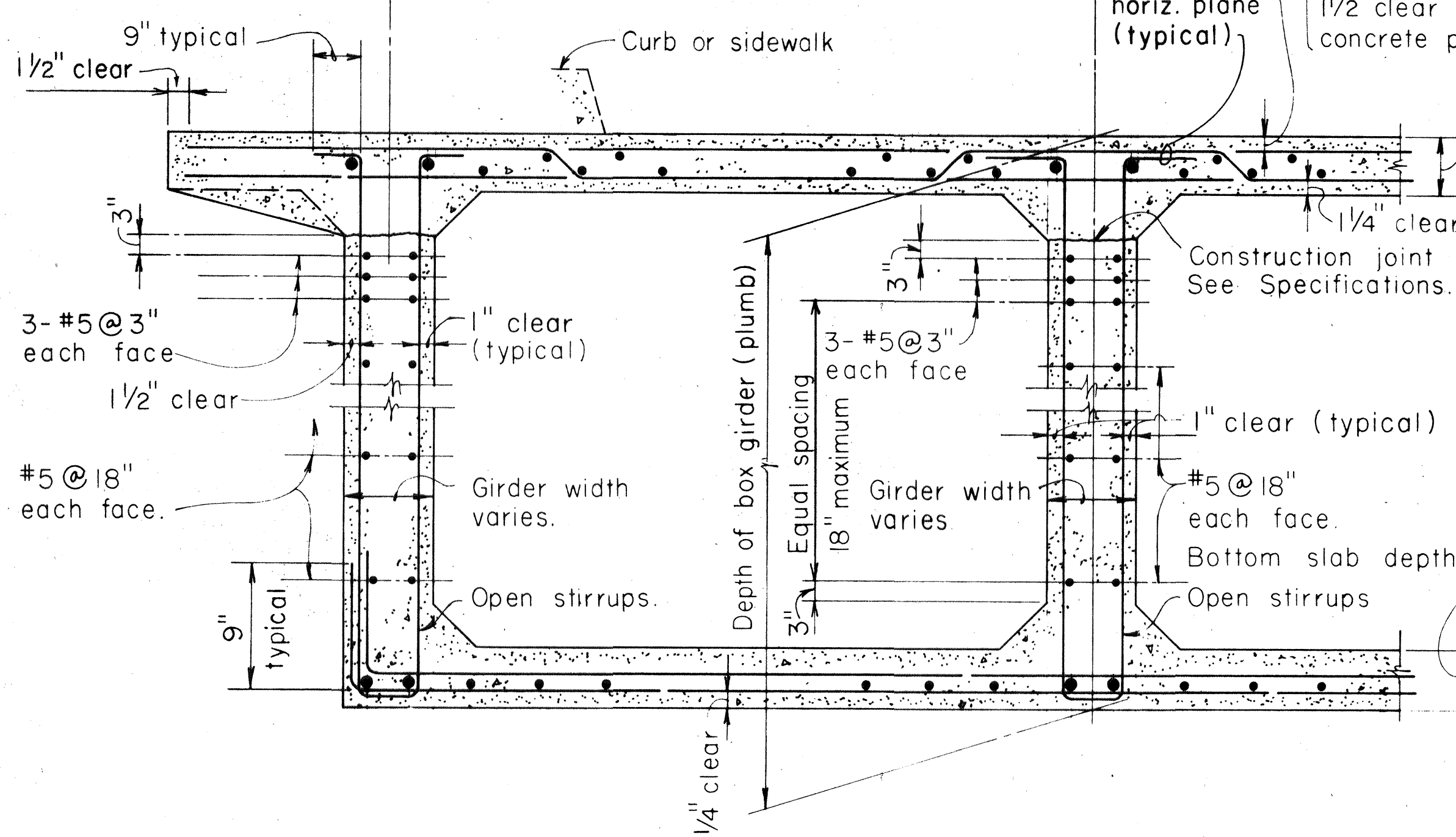
CONCRETE BOX GIRDER

Not To Scale	Date: May 1976
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SHEET No. 5-2 OF 42 SHEETS DB-10-1

NOTE:

For additional details, see detailed plans



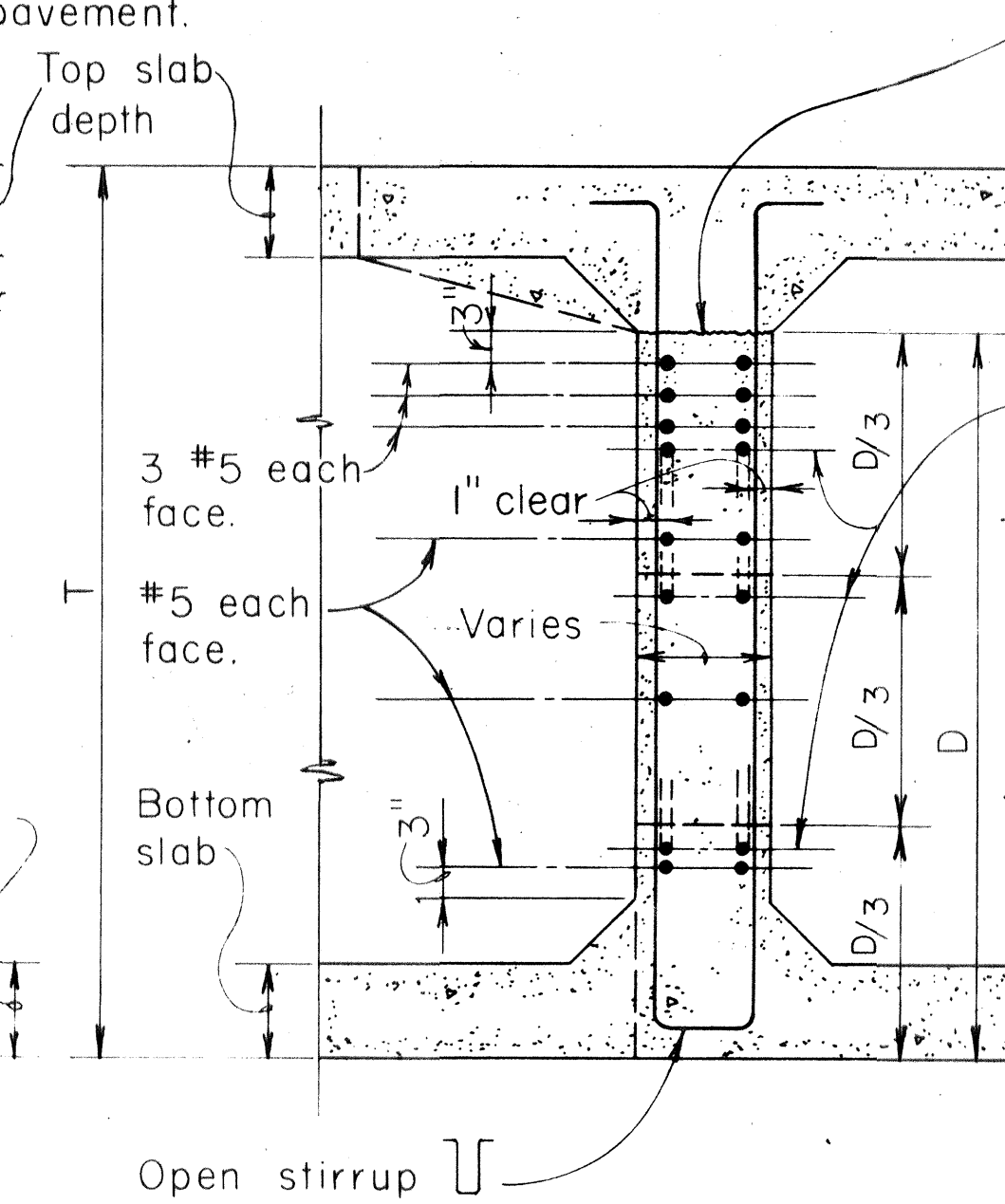
EXTERIOR GIRDER

INTERIOR GIRDER

TYPICAL NORMAL BOX GIRDER SECTION

NOTE:

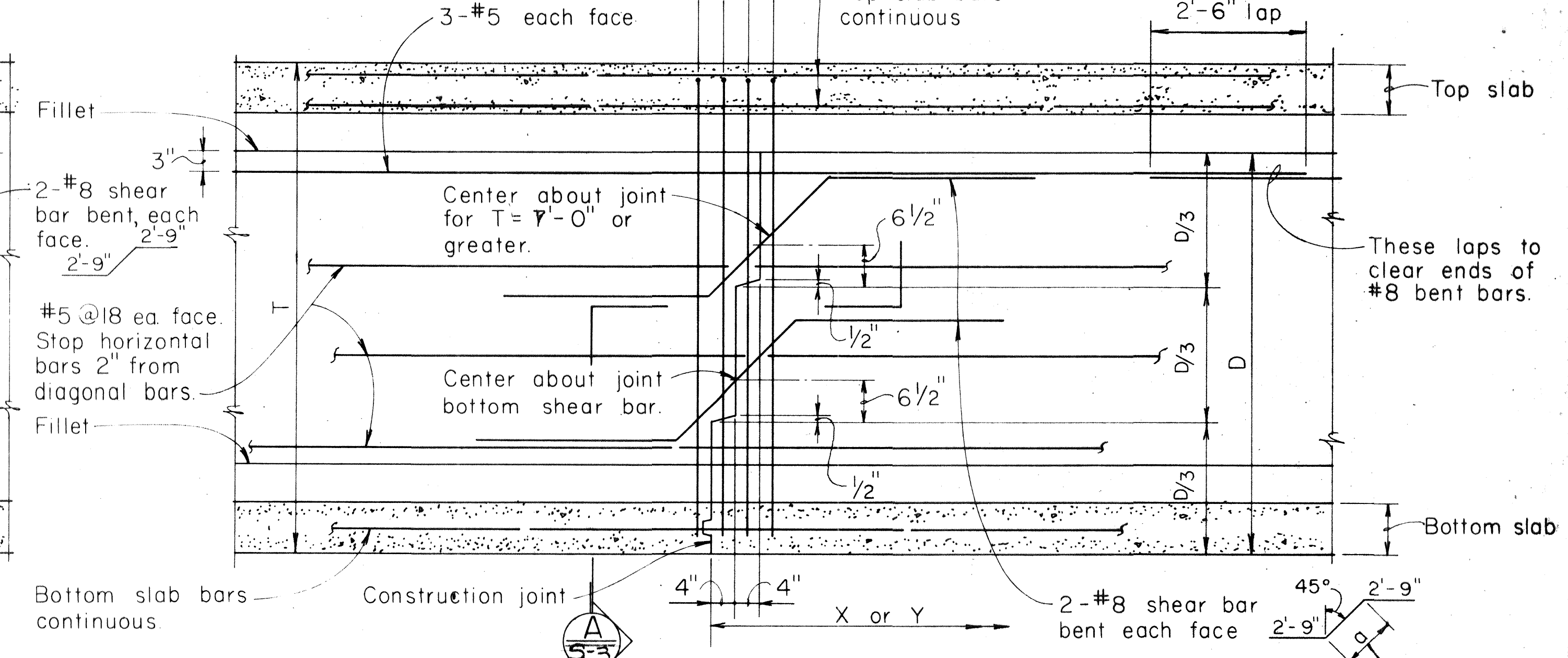
D = Depth of girder stem to bottom of slab.
For additional details see Normal Section of the Plans.



SECTION A-3

4 open stirrup @ 4" added.
(Stirrup arrangement at joint)

Construction joint - See Specifications

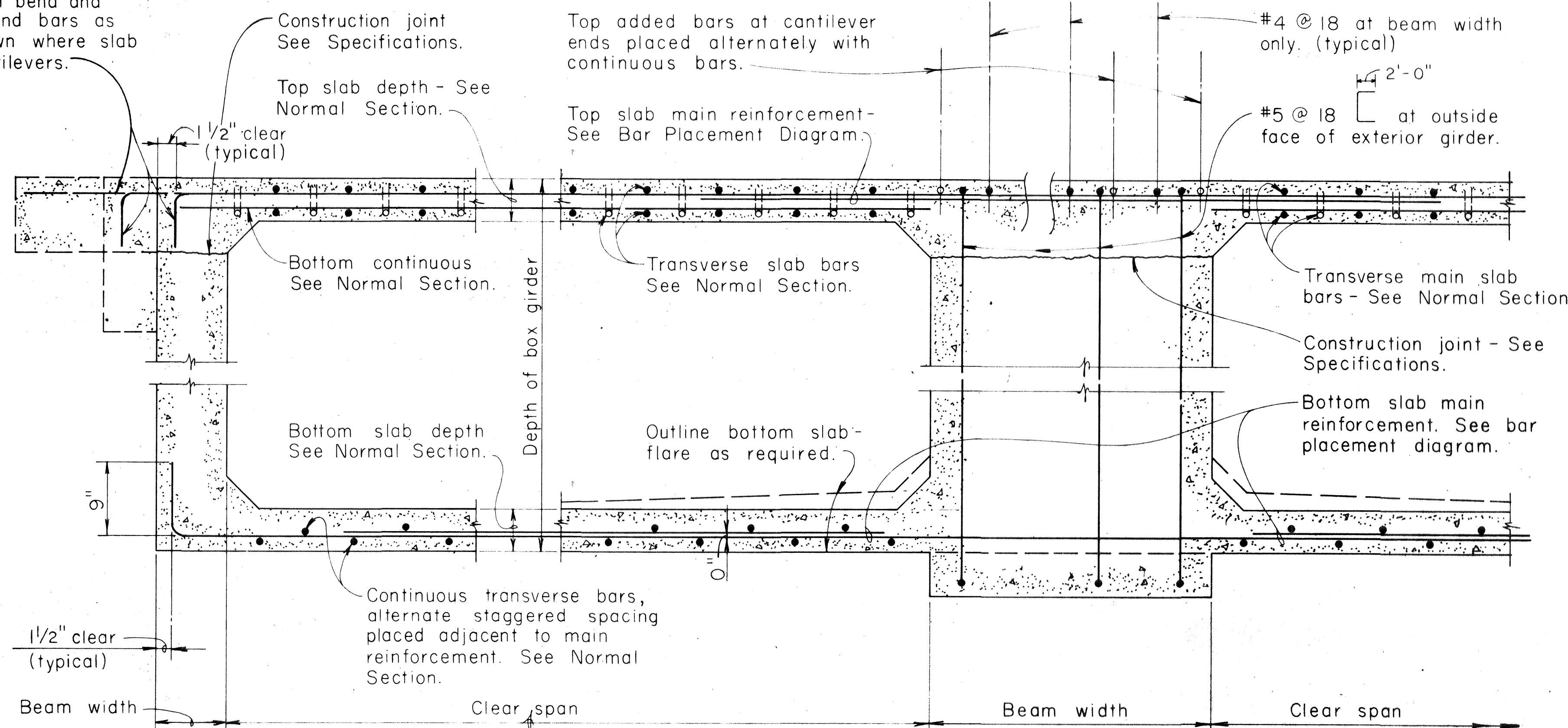


GIRDER STEM CONSTRUCTION JOINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	141(14)6	1972	57	70

Depth T	a
4'-11" and smaller	1'-9"
5'-0" to 5'-11"	2'-0"
6'-0" to 6'-11"	2'-3"
7'-0" and greater	3'-0"

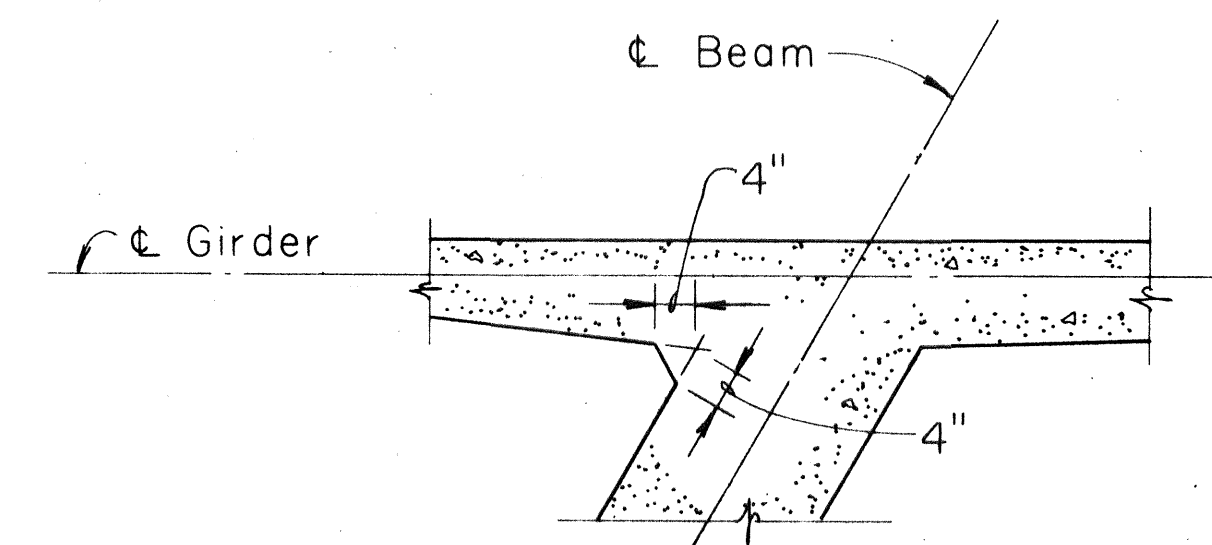
Omit bend and extend bars as shown where slab cantilevers.



AT NON-CONTINUOUS END

AT CONTINUOUS SUPPORT

**TYPICAL LONGITUDINAL DECK SECTION
ALONG GIRDER AT NORMAL OR RADIAL SUPPORTS**



TYPICAL DETAIL OF VERTICAL CHAMFER AT ACUTE INTERSECTION OF SKEWED CONCRETE MEMBER

APPROVAL RECOMMENDED:
Clarence R. Yamamoto 6-1-76
BRIDGE DESIGN ENGINEER DATE

APPROVED
Shirley J. Sato 6-2-76
ASSISTANT CHIEF, ENGINEERING DATE

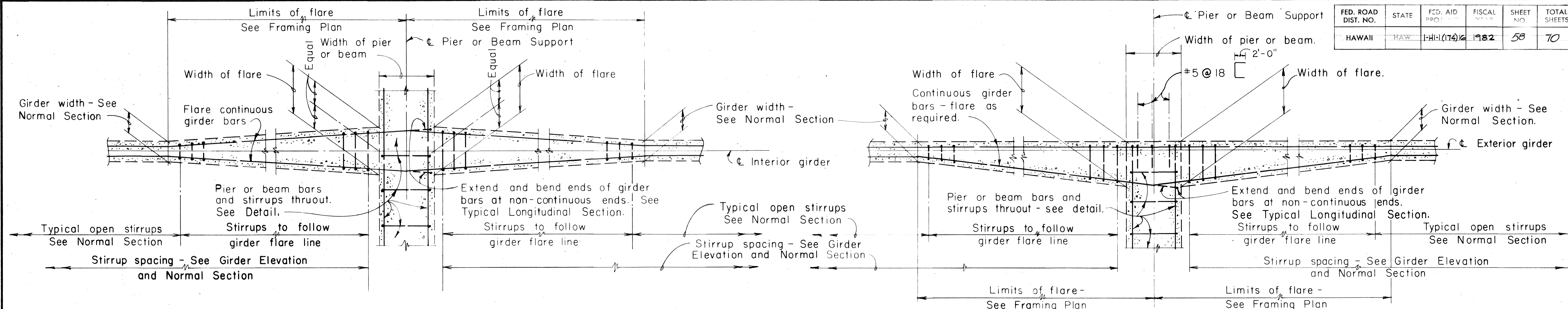
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
CONCRETE BOX GIRDER

Not To Scale Date: May 1976

SHEET No. 5-3 OF 12 SHEETS DB-101-2

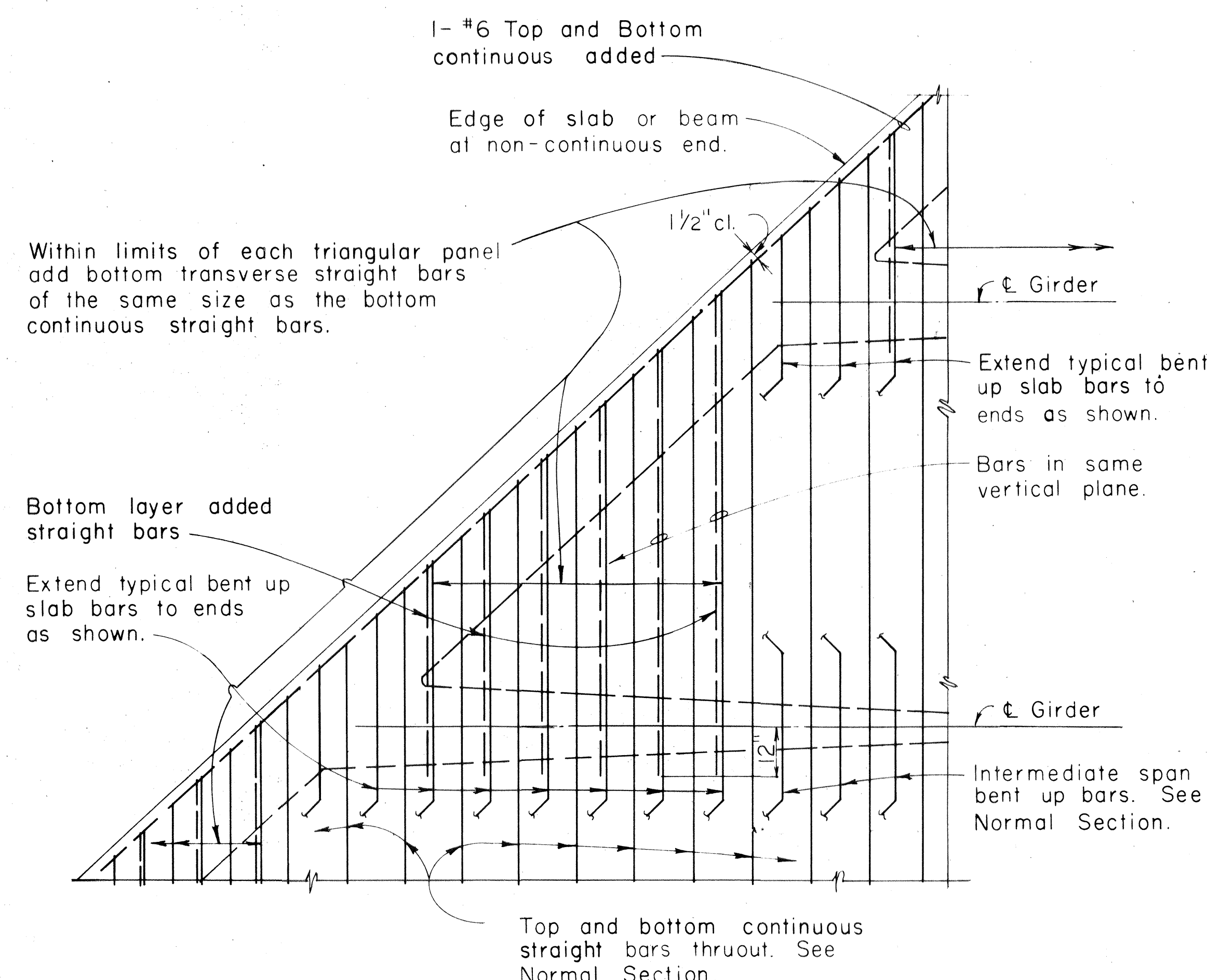
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(174)2	1982	58	70



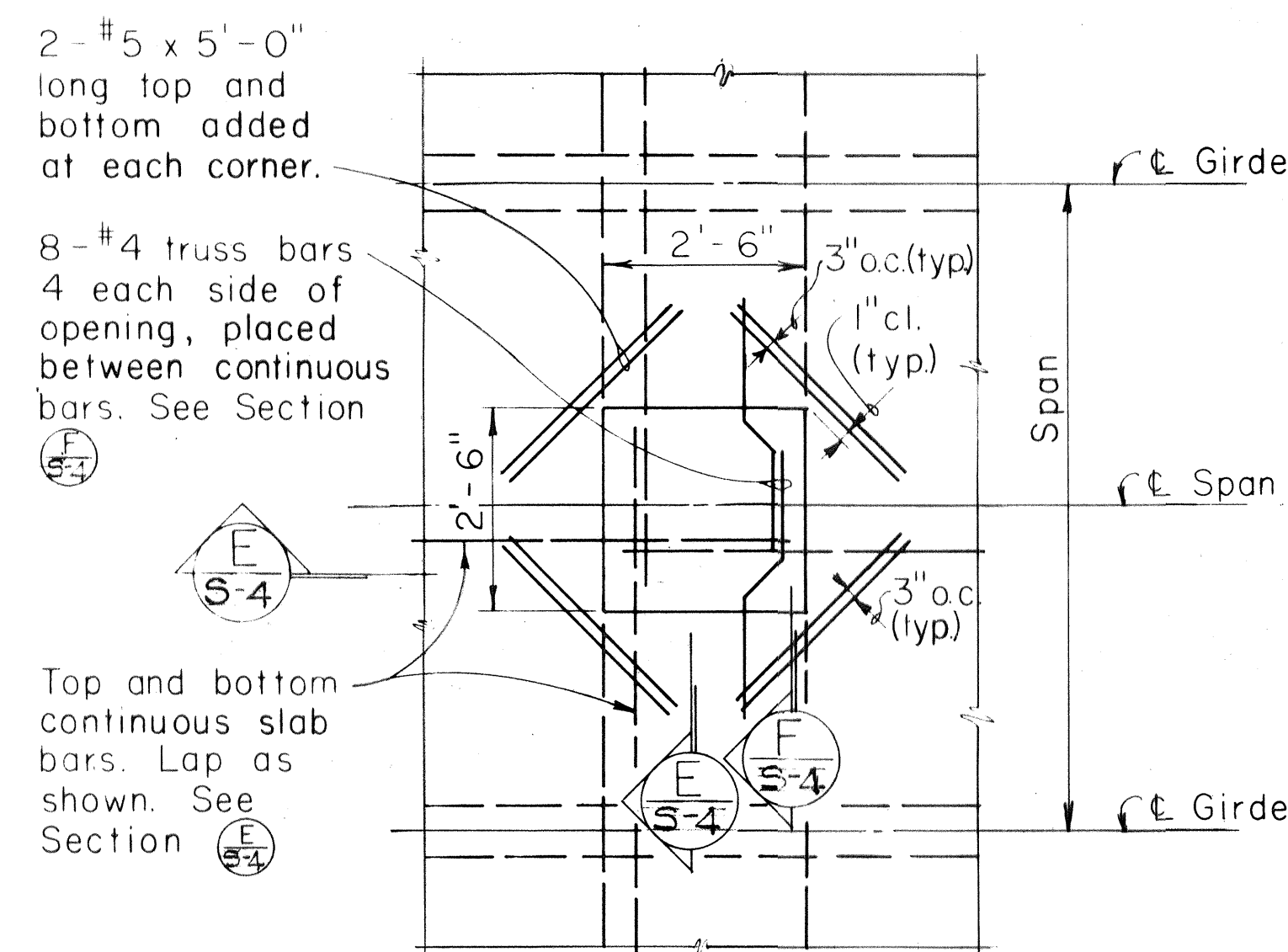
INTERIOR GIRDER

EXTERIOR GIRDER

TYPICAL DETAILS OF GIRDER FLARE AT NORMAL OR RADIAL SUPPORTS - CONTINUOUS ENDS AS SHOWN
(NON-CONTINUOUS ENDS SIMILAR EXCEPT AS OTHERWISE NOTED)



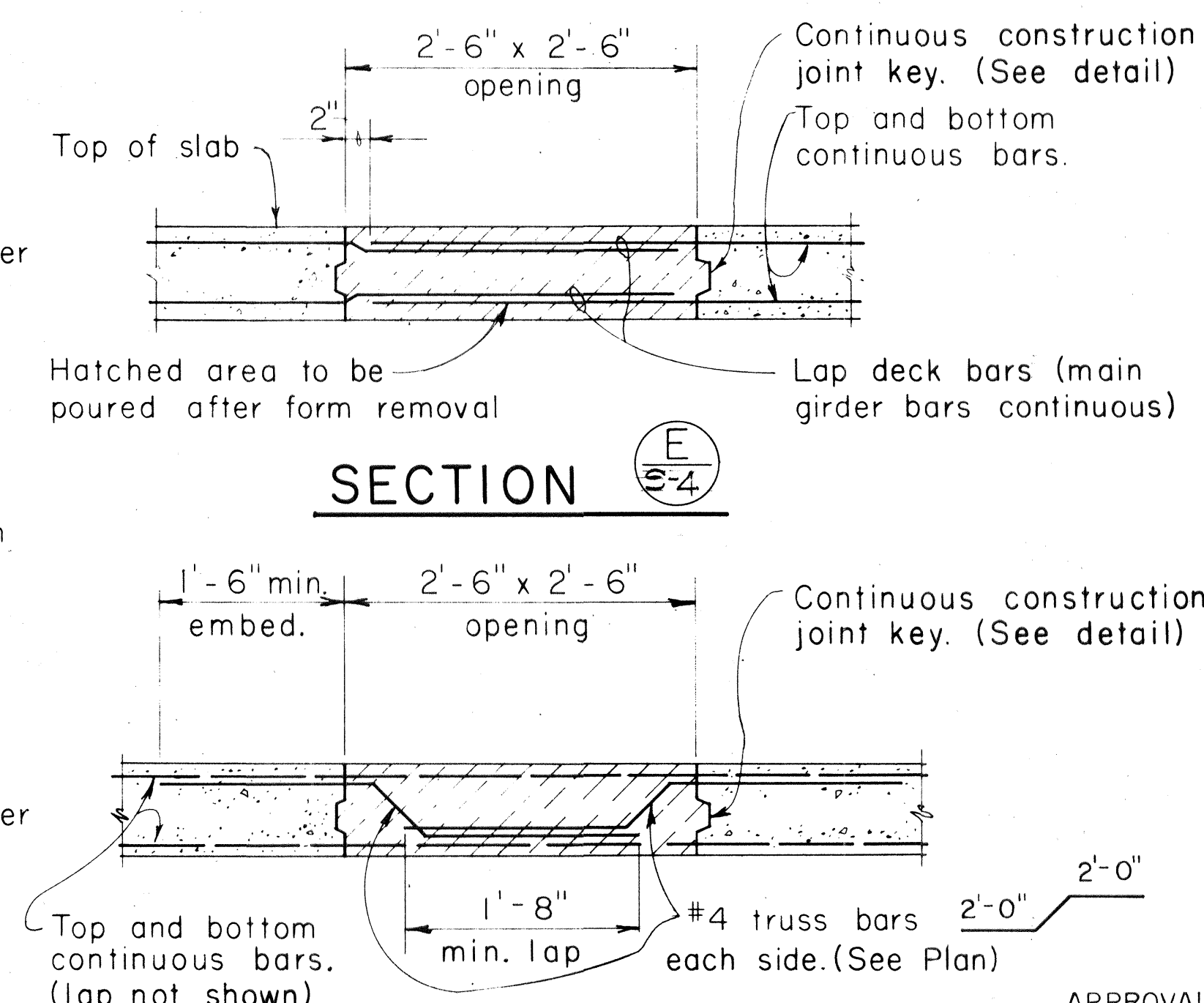
PART PLAN - TYPICAL ARRANGEMENT OF TOP SLAB REINFORCEMENT AT SKEWED ENDS



NOTES

1. Final location of opening shall be determined by the Engineer.
2. Form removal opening at top slab shall not be located where main girder bars occur.
3. Form removal opening may extend from edge of deck.

PART PLAN - DECK SHOWING FORM REMOVAL OPENING



APPROVAL RECOMMENDED
Colman R. Yamamoto
BRIDGE DESIGN ENGINEER
C-1-76
DATE

APPROVED
Robert S. Sato
ASSISTANT CHIEF, ENGINEERING
C-2-76
DATE

NO.	REVISION	APPROVED BY	DATE

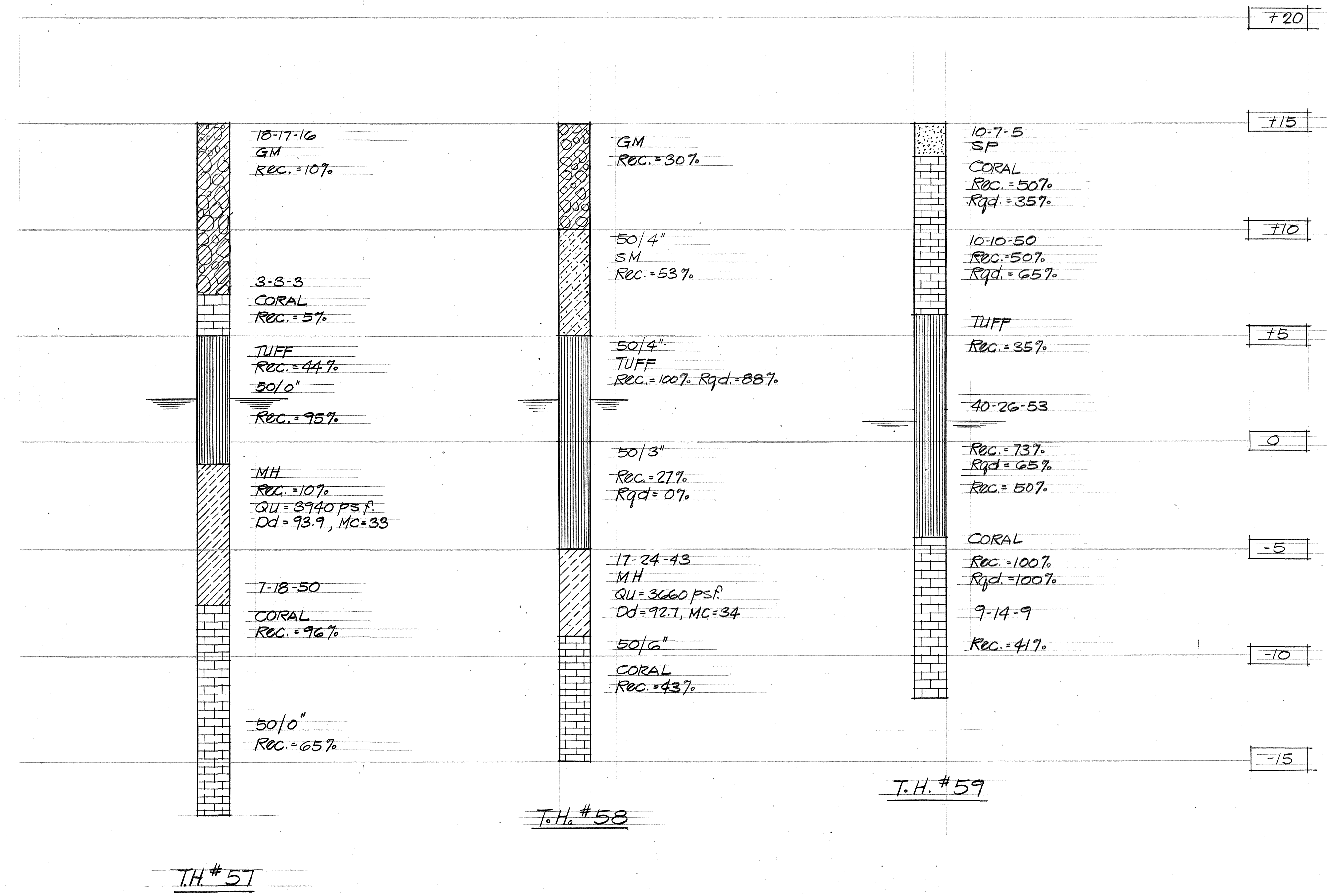
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
CONCRETE BOX GIRDER

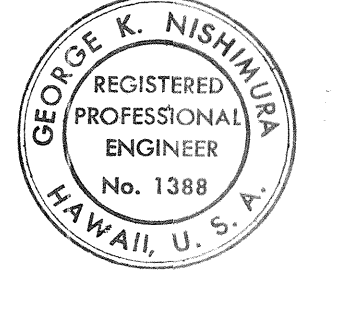
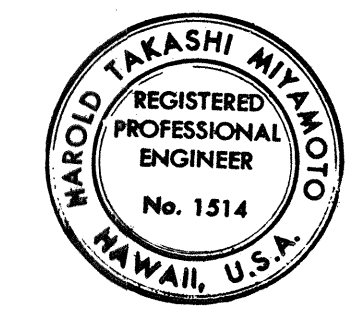
Not To Scale: Date: May 1976

SHEET No. 5-40F-2 SHEETS DB-101-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(174):16	1982	59	70



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Harold Takashi Miyamoto

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

George K. Nishimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

RAMP-IF

STA: 78+7.13 TO STA: 85+37.69

AIRPORT INTERCHANGE

F.A.I. PROJECT NO. 1-HI-1(174):16

SCALE: N.T.S. DATE: SEPT. 1982

SHEET NO. 8-1 OF 42 SHEETS