INDEX

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	114	207

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S-4	GENERAL LAYOUT PLAN
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S-60	SIDEWALK DETAILS MAKAI FRONTAGE ROAD

ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	QUANTITIES NC(EB)	RAMP "A"	RAMP "B"
206·6000	STRUCTURE EXCAVATION FOR BRIDGE	CU. YD.	640	1710	895
206·7000	STRUCTURE BACKFILL	CU. YD.	56	—	—
206·8000	FILTER MATERIAL	CU. YD.	9	—	—
206·8500	CRUSHER SCREENINGS	CU. YD.	24	—	—
411·1300	CONCRETE IN APPROACH SLAB	CU. YD.	74	—	—
503·1860	CONCRETE IN BRIDGES (EXCEPT FOOTING); NC. (EB)	LUMP SUM	1124 cu.yd.	—	—
503·1870	CONCRETE IN BRIDGES (EXCEPT FOOTING); RAMP "A"	LUMP SUM	—	1820 cu.yd.	—
503·1880	CONCRETE IN BRIDGES (EXCEPT FOOTING); RAMP "B"	LUMP SUM	—	—	1400 cu.yd.
503·1890	CONCRETE IN SIDEWALK; MAKAI FRONTAGE ROAD	LUMP SUM	95 cu.yd.		
503·1940	CONCRETE IN BRIDGE FOOTINGS; NC. (EB)	LUMP SUM	312 cu.yd.	—	—
503·1950	CONCRETE IN BRIDGE FOOTINGS (INCL. PEDESTAL); RAMP "A"	LUMP SUM	—	1025 cu.yd.	—
503·1960	CONCRETE IN BRIDGE FOOTINGS (INCL. PEDESTAL); RAMP "B"	LUMP SUM	—	—	605 cu.yd.
504·0500	ERECTING GIRDERS, NC. (EB)	LUMP SUM	104 Ea.	—	—
504·0600	ERECTING GIRDERS, RAMP A	LUMP SUM	—	28 Ea.	—
504·0700	ERECTING GIRDERS, RAMP B	LUMP SUM	—	—	25 Ea.
505·0010	PILE LOAD TEST	EACH	—	—	1
505·0430	PRECAST, PRESTRESSED CONC. PILES-TYPE-A FURNISHED	LIN. FT.	20,357	21,040	14,795
505·4300	PRECAST, PRESTRESSED CONC. PILES-TYPE-A DRIVEN	LIN. FT.	19,783	20,480	14,400
505·4800	FURNISHING AND INSTALLING MALE OR FEMALE SPLICE COUPLING	EACH	428	448	301
505·6100	SLEEVED HOLE 30 INCH DIA.	LIN. FT	1,508	1685	970
505·8100	PILE DRIVING SHOE	EACH	108	112	79
505·9205	'BUILD-UPS' OF PILES; NC. (EB)	F.A.			
505·9206	BUILD-UPS OF PILES; RAMP "A"	F.A.			
505·9207	BUILD-UPS OF PILES; RAMP "B"	F.A.			
505·9305	RETAPPING OF PILES; NC. (EB)	F.A.			
505·9306	RETAPPING OF PILES; RAMP "A"	F.A.			
505·9307	RETAPPING OF PILES; RAMP "B"	F.A.			
505·9405	PILE ACCEPTANCE TEST; NC. (EB)	F.A.			
505·9406	PILE ACCEPTANCE TEST; RAMP "A"	F.A.			
505·9407	PILE ACCEPTANCE TEST; RAMP "B"	F.A.			
507·7100	STANDARD PARAPET	LIN. FT.	1224	1160	1360
511·0100	DECK EXPANSION JOINT	LIN. FT.	615	245	205
602·1340	REINFORCING STEEL IN BRIDGES; NC. (EB)	LUMP SUM	438,706 lbs	—	—
602·1350	REINFORCING STEEL IN BRIDGES; RAMP "A"	LUMP SUM	—	718,510 lbs	—
602·1360	REINFORCING STEEL IN BRIDGES; RAMP "B"	LUMP SUM	—	—	529,620 lbs
602·1370	REINFORCING STEEL IN SIDEWALK; MAKAI FRONTAGE RD.	LUMP SUM	8,550 lbs.		
604·5000	FURNISHING AND INSTALLING TYPE A-12 FRAME AND GRATE FOR DECK DRAINAGE	EACH	16	5	7 *
634·0340	EXPLORATORY WORK AT STRUCTURE FOOTINGS; N.C. (EB)	F.A.			
634·0350	EXPLORATORY WORK AT STRUCTURE FOOTINGS; RAMP "A"	F.A.			
634·0360	EXPLORATORY WORK AT STRUCTURE FOOTINGS; RAMP "B"	F.A.			
660·0100	BITUMEN COATING	SQ. YD.	6220	6720	4345

* Note: Addition of cross bars to the type A-12 grates (7) for Ramp "B" only (CCO #5)

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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

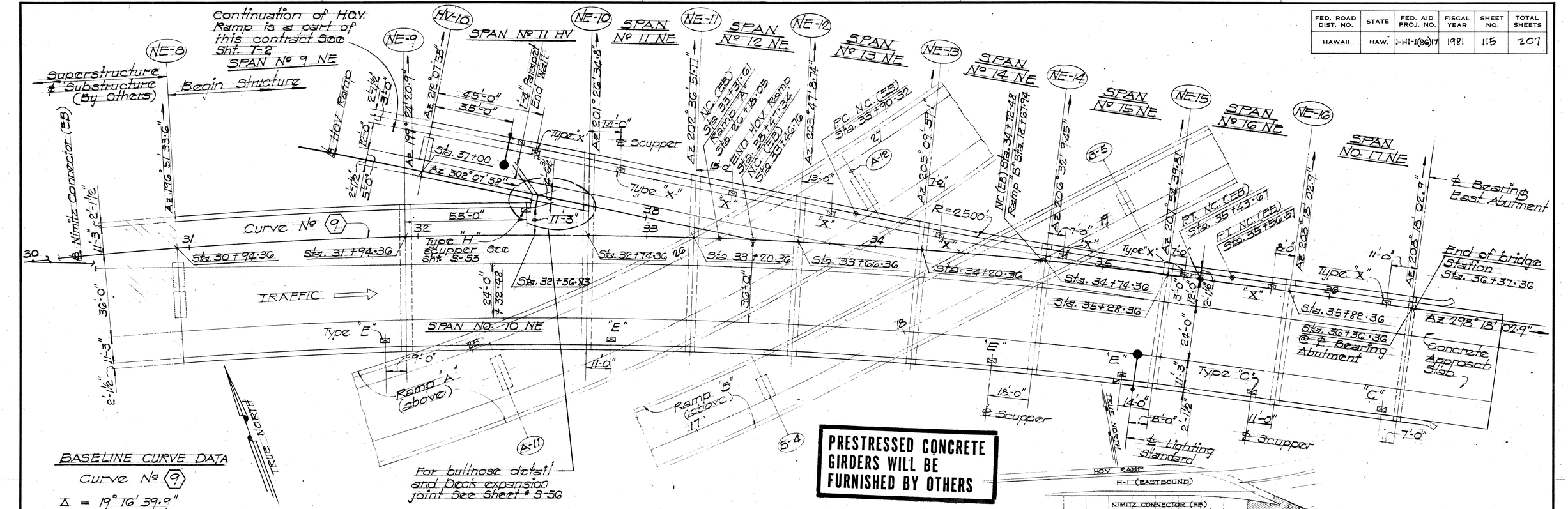
NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"
INDEX TO DRAWINGS
AND ESTIMATED QUANTITIES
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(86)17

SCALE: DATE: June 15, 1981

SHEET No. S-1 OF 60 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-I(86)17	1981	115	207



BASELINE CURVE DATA

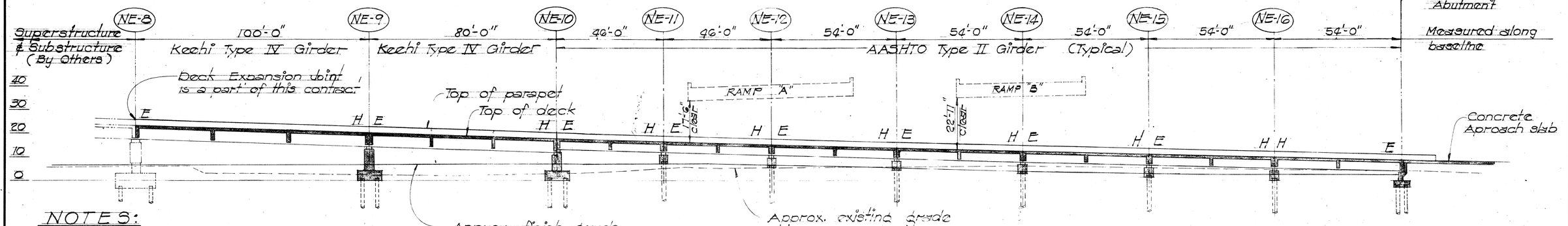
Curve No 9

Δ = 19° 16' 39.9"
R = 2250'
L = 757.04'
T = 382.13'

PARTIAL NIMITZ CONNECTOR (EB) PLAN

Scale: 1" = 20'-0"

KEY PLAN



PARTIAL LONGITUDINAL SECTION ℄ NIMITZ CONNECTOR (EB)

Scale: 1" = 20'

NOTES:

1. Top of concrete deck to follow finish roadway grades, except otherwise noted.
2. ⊠ Denotes deck scuppers see detail Shts. # S-53 & Sht. #SD-8
3. H. Denotes Hinge Bearing.
4. E Denotes Expansion Bearing.
5. All azimuths are measured from south.

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

REGISTERED PROFESSIONAL ENGINEER No. 1398 HAWAII, U.S.A. — THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

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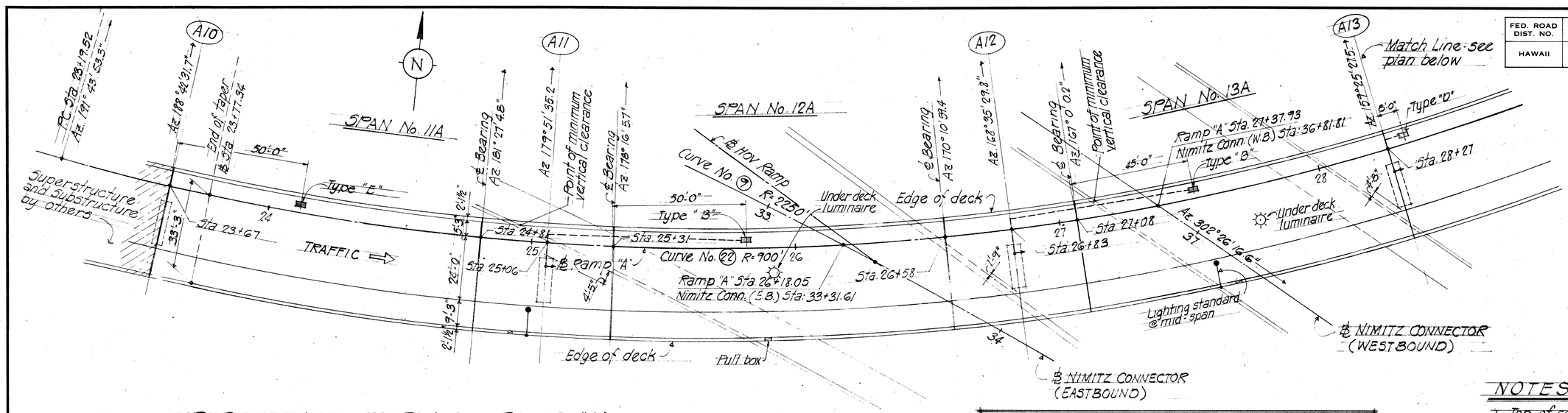
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB)
H.O.V. RAMP, RAMP "A" AND RAMP "B"
GENERAL PLAN & LONGITUDINAL SECTION
KEEHI INTERCHANGE
FAI. PROJ. NO. I HI-I (86)17

SCALE: 1"=20'-0" DATE: June 15, 1981

SHEET NO. S-2 OF 60 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(36)17	1981	116	207



PARTIAL LAYOUT PLAN ~ RAMP "A"

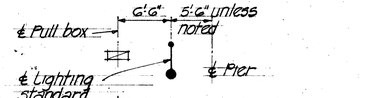
Scale 1" = 20'-0"

CURVE DATA

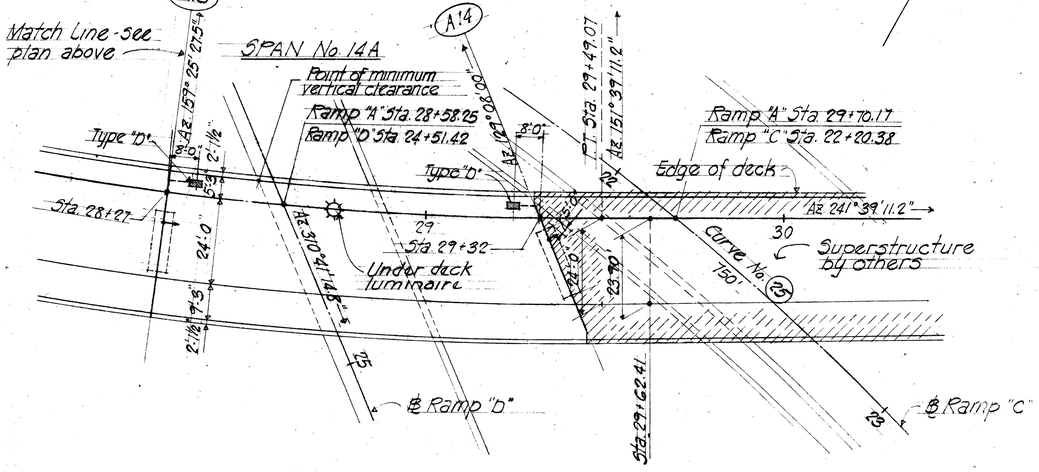
Curve number	△	L	T
(22)	40° 04' 42.1"	629.55'	328.27'

NOTES

1. Top of concrete deck to follow finish roadway grades, except otherwise noted.
2. ▨ Denotes deck scuppers see detail sht S-57, S-58, SD-8 & SD-9.
3. Electrical conduit are not shown on plans - see electrical dwgs.

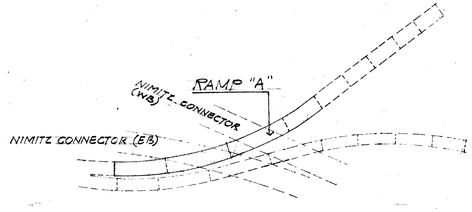


☼ = Under deck luminaire - for location see electrical dwgs.



PARTIAL LAYOUT PLAN ~ RAMP "A"

Scale 1" = 20'-0"



KEY PLAN

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HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.), HOV RAMP, RAMP "A" & RAMP "B"
GENERAL LAYOUT PLAN

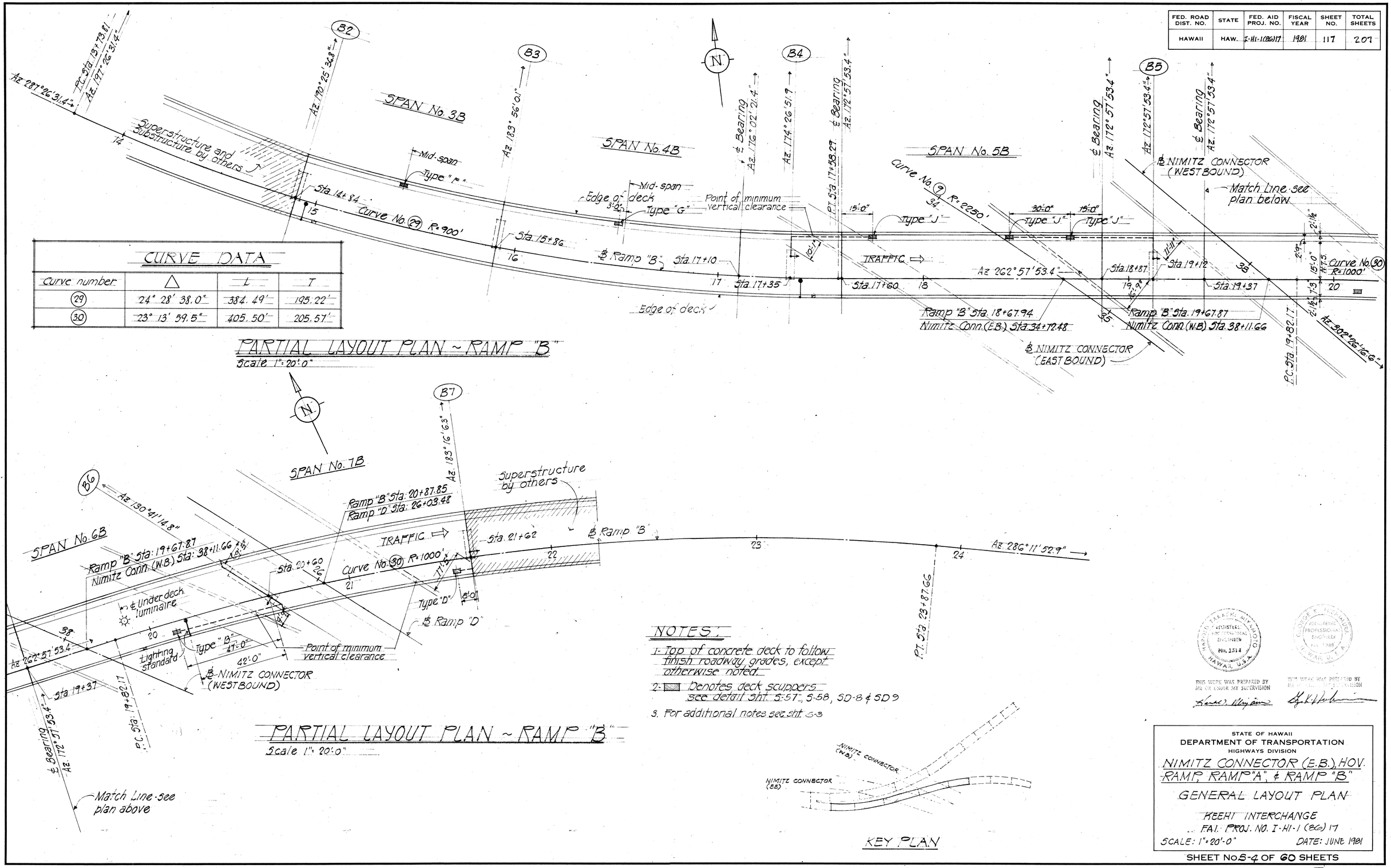
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (36) 17
SCALE: 1" = 20'-0" DATE: JUNE 1981

SHEET No. S-3 OF 60 SHEETS

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

PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	117	207



CURVE DATA

Curve number	△	L	T
(29)	24° 28' 38.0"	384.49'	195.22'
(30)	23° 13' 59.5"	405.50'	205.57'

PARTIAL LAYOUT PLAN ~ RAMP "B"

Scale 1": 20'-0"

PARTIAL LAYOUT PLAN ~ RAMP "B"

Scale 1": 20'-0"

NOTES:

1. Top of concrete deck to follow finish roadway grades, except otherwise noted.
2. ▨ Denotes deck scuppers see detail sht. S-57, S-58, SD-8 & SD-9
3. For additional notes see sht. S-3

KEY PLAN

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CLIFFORD Y. HIRANAGA, REGISTERED PROFESSIONAL ENGINEER, No. 7198, HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.), HOV RAMP, RAMP "A", & RAMP "B"

GENERAL LAYOUT PLAN

KEEHI INTERCHANGE
FAI. PROJ. NO. I-HI-1 (86) 17

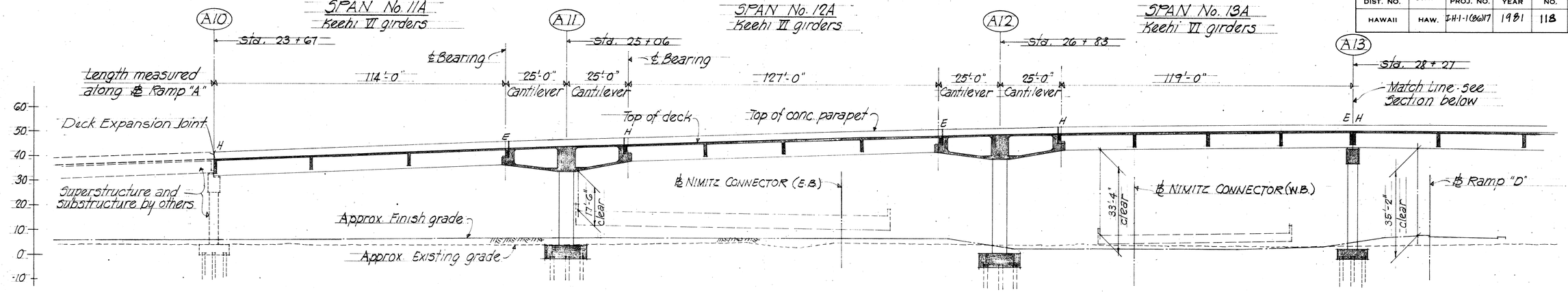
SCALE: 1"=20'-0" DATE: JUNE 1981

SHEET NO. S-4 OF 60 SHEETS

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

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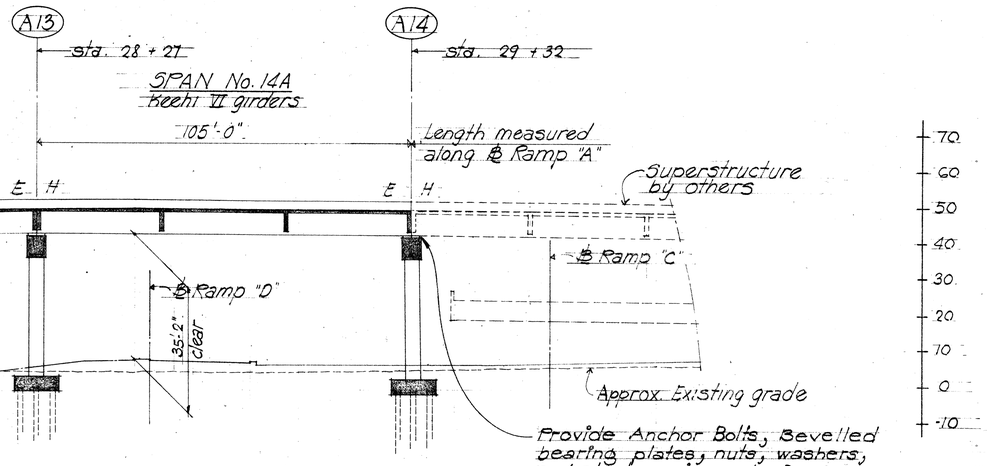
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	118	207



PARTIAL LONGITUDINAL SECTION ALONG ℄ RAMP "A"

Scale 1"=20'-0"

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS



PARTIAL LONGITUDINAL SECTION ℄ RAMP "A"

Scale 1"=20'-0"

"Provide blockout as on sheet SD-6" (Field Change No. 15)

NOTES:

H = Denotes Hinge Bearing
E = Denotes Expansion Bearing
For limits of structural excavation and back fill see sht. S-17

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REGISTERED PROFESSIONAL ENGINEER

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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A", & RAMP "B"

LONGITUDINAL SECTION

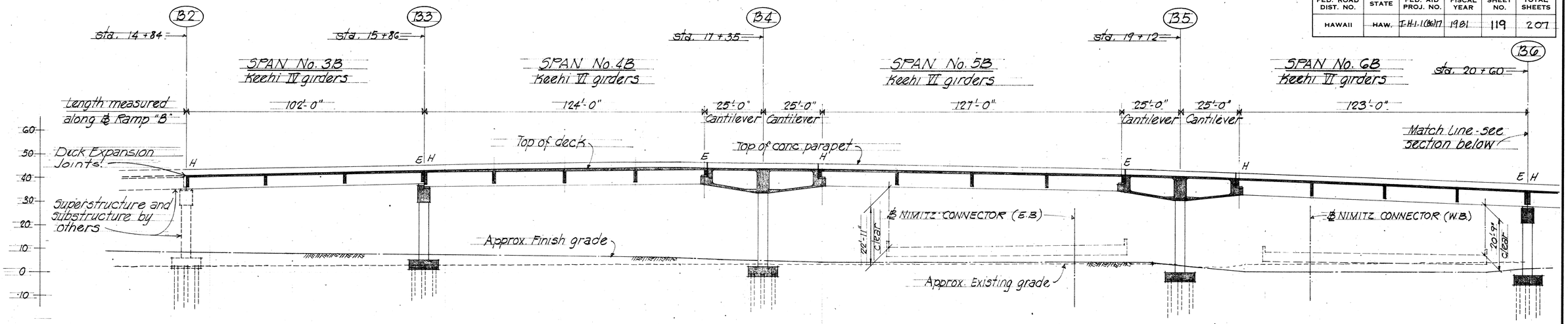
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(86)17
SCALE: 1"=20'-0" DATE: JUNE 1981

SHEET No. S-5 OF 60 SHEETS

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

PRINTED ON NO. 1000H CLEARPRINT

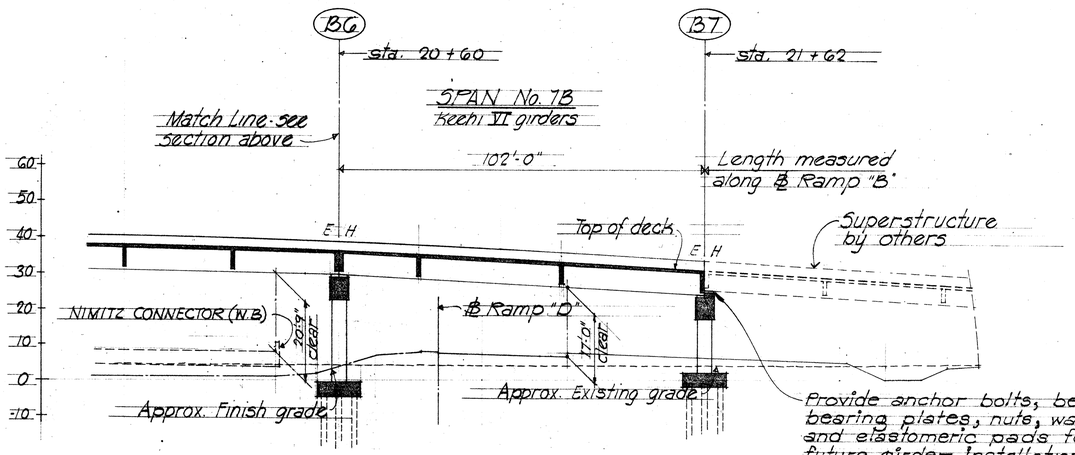
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(26)17	1981	119	207



PARTIAL LONGITUDINAL SECTION ALONG ℄ RAMP "B"

Scale 1"=20'-0"

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS



PARTIAL LONGITUDINAL SECTION ALONG ℄ RAMP "B"

Scale: 1"=20'-0"

"Provide block out as shown on sheet SD-6." (Field Change No. 15)

NOTES:

H = Denotes Hinge Bearing

E = Denotes Expansion Bearing

For limits of structural excavation and back fill see Sht S-17

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A", & RAMP "B"

LONGITUDINAL SECTION

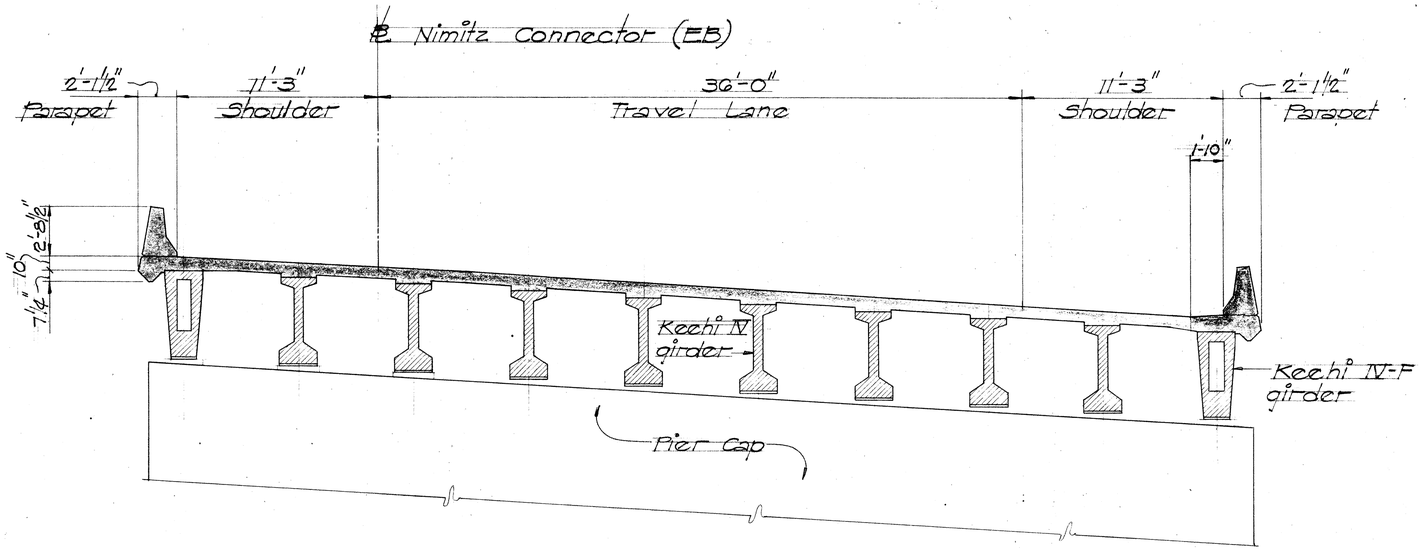
KEEHI INTERCHANGE
F.A.I. PROJ. No. I-HI-1(26)17
SCALE: 1"=20'-0" DATE: JUNE 1981

SHEET No. S-6 OF 60 SHEETS

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

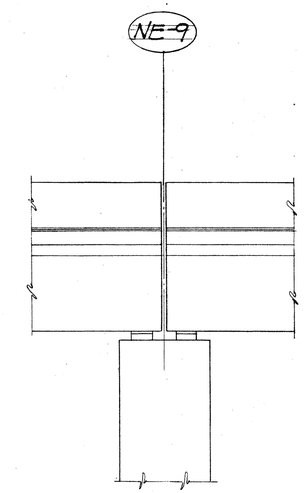
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	120	207

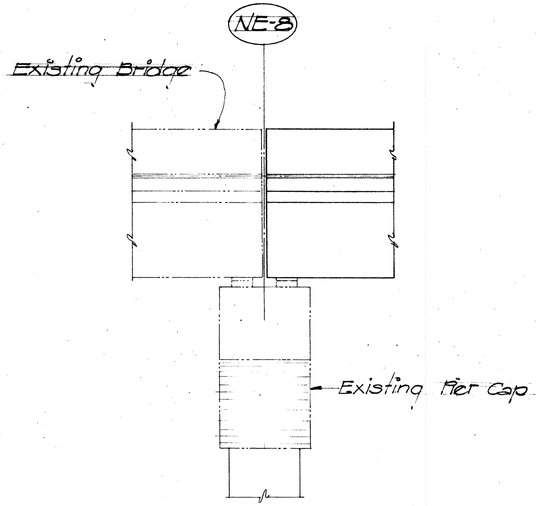


NORMAL SECTION
Sta. 30+94.36 to Sta. 31+94.36
Scale: 1/4"=1'-0"

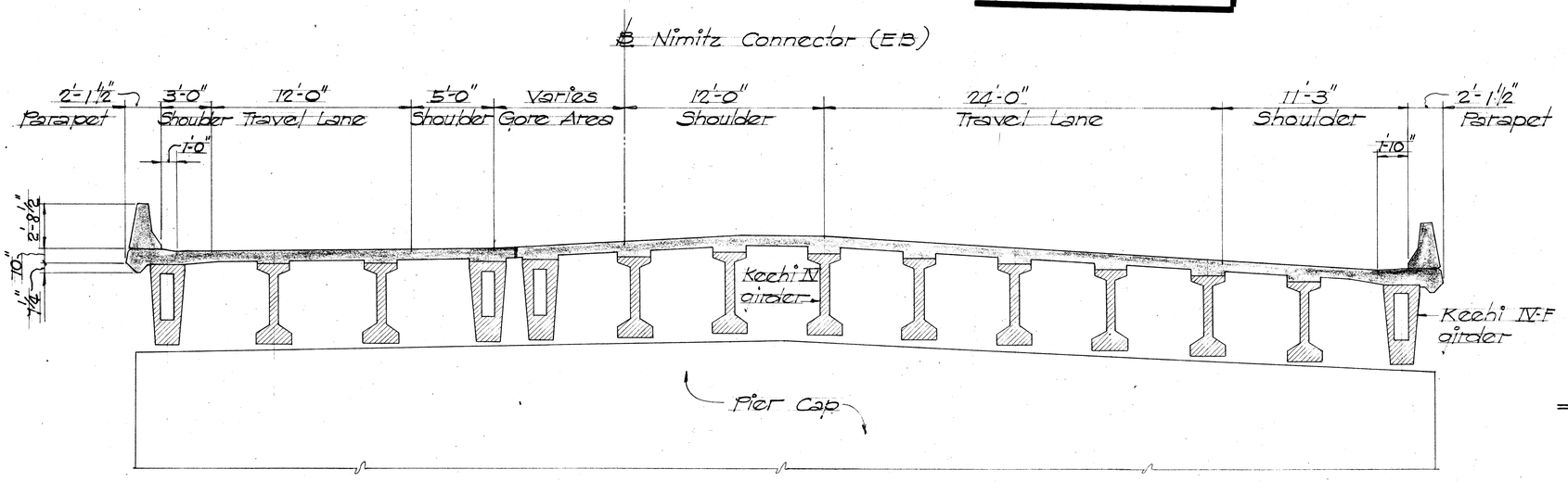
PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS



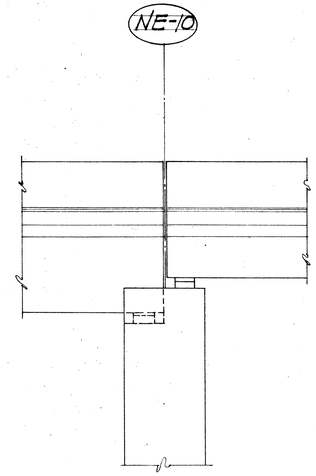
PARTIAL ELEVATION
Scale: 1/4"=1'-0"



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



NORMAL SECTION
Sta. 31+94.36 to Sta. 32+74.36
Scale: 1/4"=1'-0"



PARTIAL ELEVATION @ GIRDER TRANSITION
Scale: 1/4"=1'-0"

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

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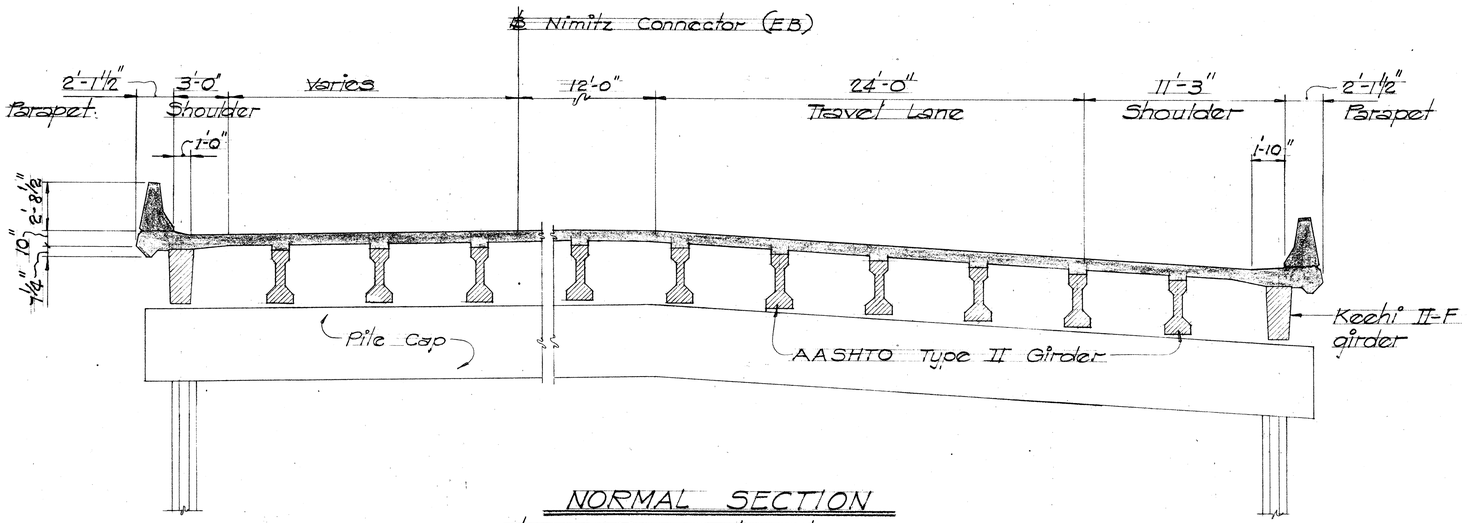
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"
NORMAL SECTIONS & PARTIAL ELEVATIONS
KEEHI INTERCHANGE
F.A.I. PROJ. NO: I-HI-1(86)17

SCALE: AS SHOWN DATE: June 15, 1981

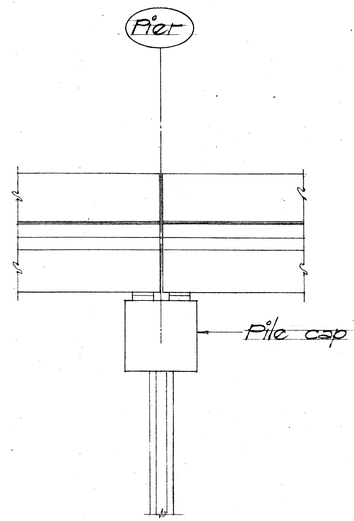
SHEET NO. S-7 OF 60 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-I(BG)17	1981	121	207

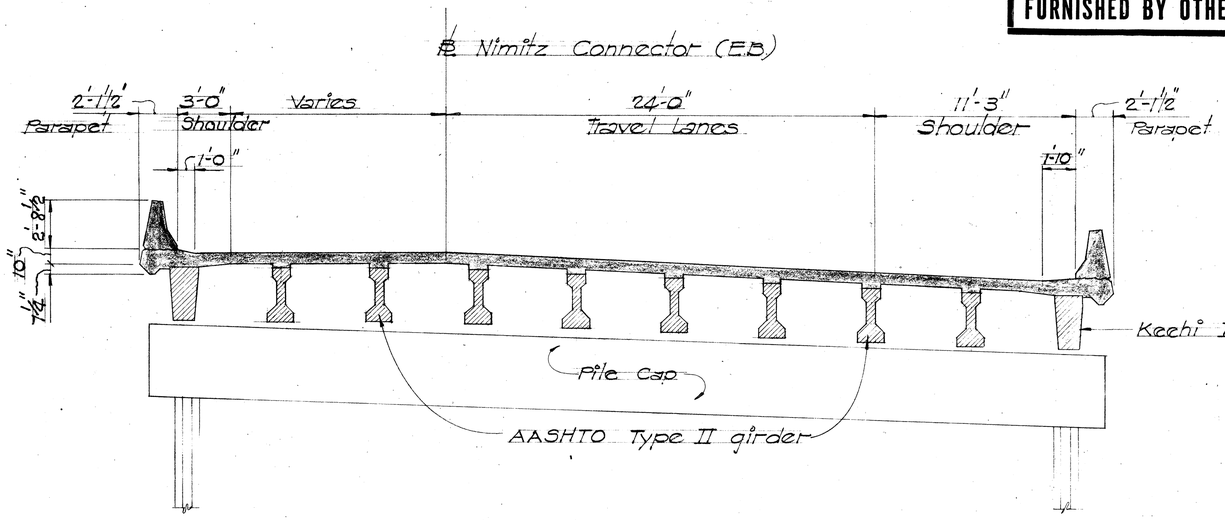


NORMAL SECTION
Sta. 32+74.36 to Sta. 34+74.36
Scale: 1/4" = 1'-0"

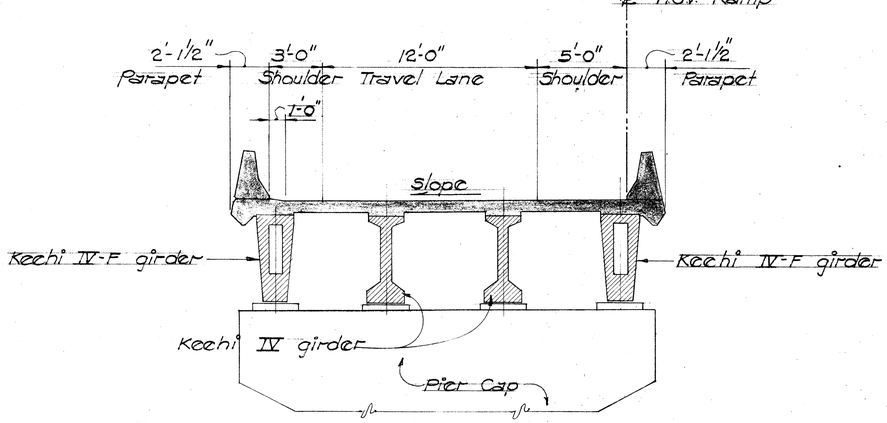
PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS



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



NORMAL SECTION
Sta. 34+74.36 to Sta. 36+36.36
Scale: 1/4" = 1'-0"



NORMAL SECTION
STA. 37+00 THRU STA. 37+55.28
Scale 1/4" = 1'-0"

GEORGE K. NISHIMURA REGISTERED PROFESSIONAL ENGINEER No. 1388 HAWAII, U.S.A.

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HAROLD TAKASHI MIYAMOTO REGISTERED PROFESSIONAL ENGINEER No. 3514 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"

NORMAL SECTIONS & PARTIAL ELEVATIONS

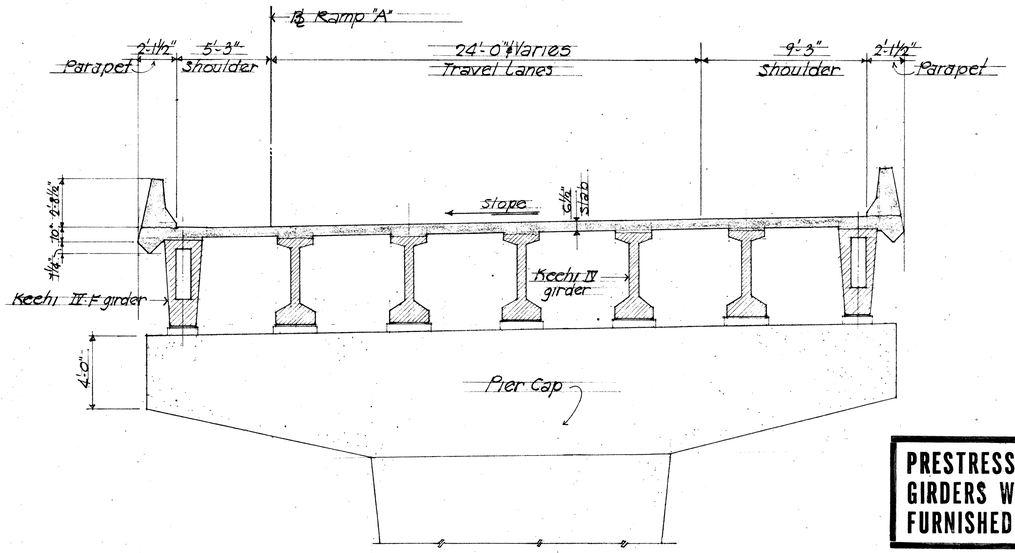
KEEHI INTERCHANGE
FAI. PROJ NO I HI-I (BG)17

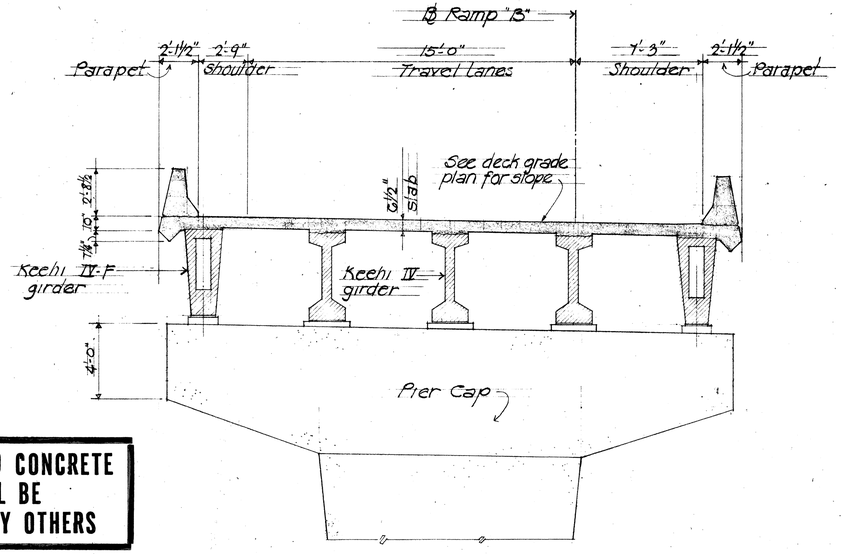
SCALE: AS SHOWN DATE: June 15, 1981

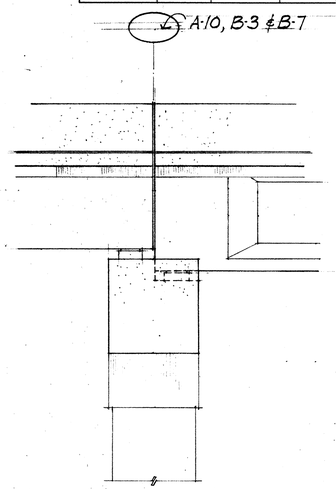
SHEET NO. S-8 OF 60 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	122	207





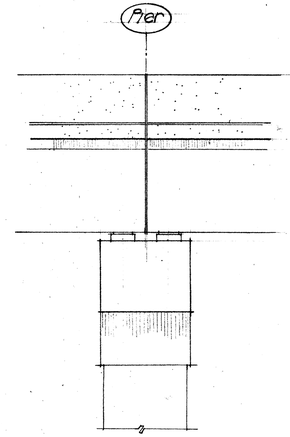


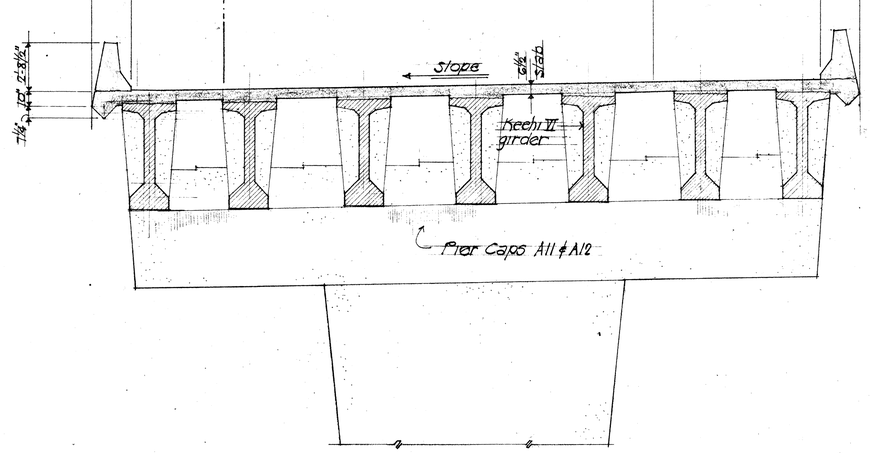
PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS

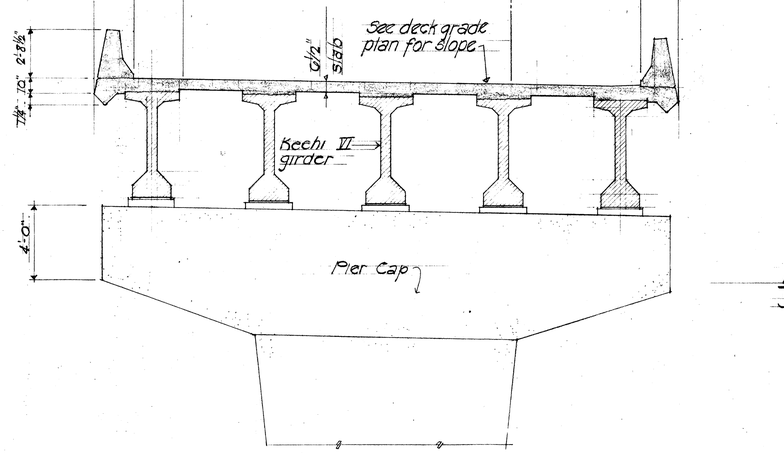
RAMP "A" SECTION @ TYPE IV GIRDERS
Scale: 1/4" = 1'-0"

RAMP "B" SECTION @ TYPE IV GIRDERS
Scale: 1/4" = 1'-0"

PARTIAL ELEVATION @ GIRDER TRANSITION
Scale 1/4" = 1'-0"







PARTIAL ELEVATION @ PIERS
Scale 1/4" = 1'-0"

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GEORGE K. NISHIMURA REGISTERED PROFESSIONAL ENGINEER No. 1288 HAWAII, U.S.A.

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RAMP "A" SECTION @ TYPE VI GIRDERS
Scale: 1/4" = 1'-0"

RAMP "B" SECTION @ TYPE VI GIRDERS
Scale: 1/4" = 1'-0"

ORIGINAL PLAN

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A" & RAMP "B"

NORMAL SECTION & PARTIAL ELEVATION

KEEHI INTERCHANGE

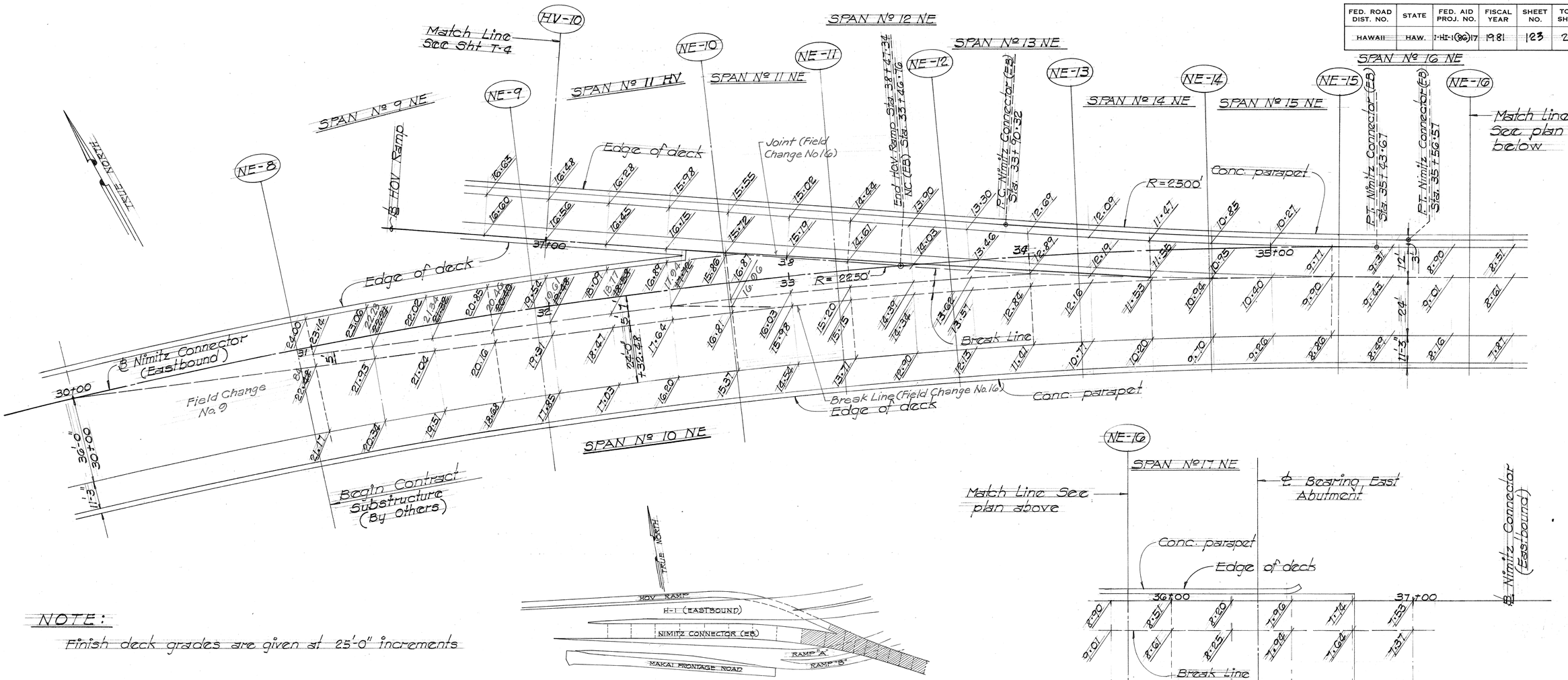
F.A.I. PROJ. NO. I-HI-1 (86) 17

Scale As Noted Date: JUNE 1981

SHEET No. S-9 OF 60 SHEETS

PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(36)17	1981	123	207



KEY PLAN

NOTE:

Finish deck grades are given at 25'-0" increments

DECK FINISH GRID GRADE PLAN

H.O.V. RAMP AND NIMITZ CONNECTOR (EASTBOUND)

Scale: 1"= 20'

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

GEORGE K. NISHIMURA REGISTERED PROFESSIONAL ENGINEER No. 1388 HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

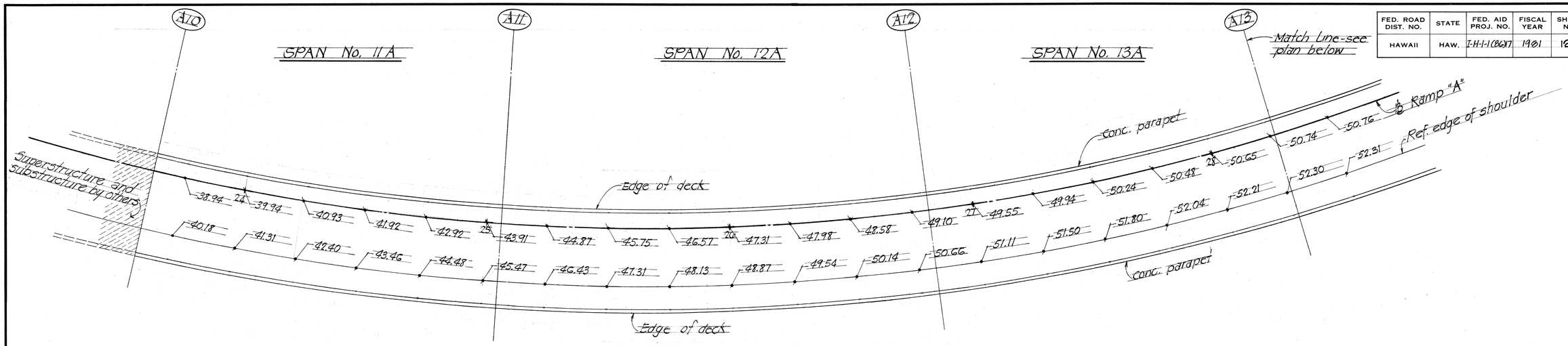
NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"
DECK FINISH GRID GRADE PLAN

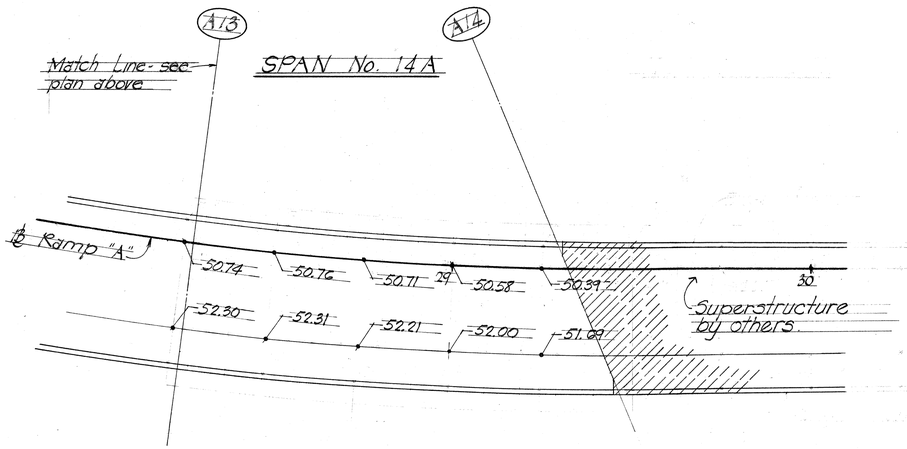
KEEHI INTERCHANGE
FAI. PROJ. NO 1-HI-1(36)17

SCALE: 1"=20'-0" DATE: June 15, 1981

SHEET No. S-100F 60 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1-1(86)17	1981	124	207

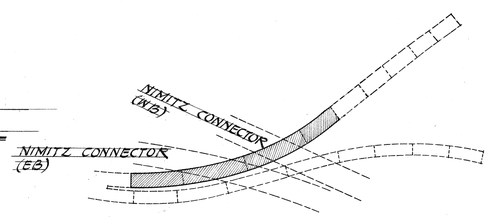




NOTE: Finish deck grades are given @ 25'-0" increments.

DECK FINISH GRID GRADE PLAN RAMP "A"

Scale: 1" = 20'-0"



KEY PLAN

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.), HOV RAMP, RAMP "A", & RAMP "B"
DECK FINISH GRID GRADE PLAN - RAMP "A"
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(86)17

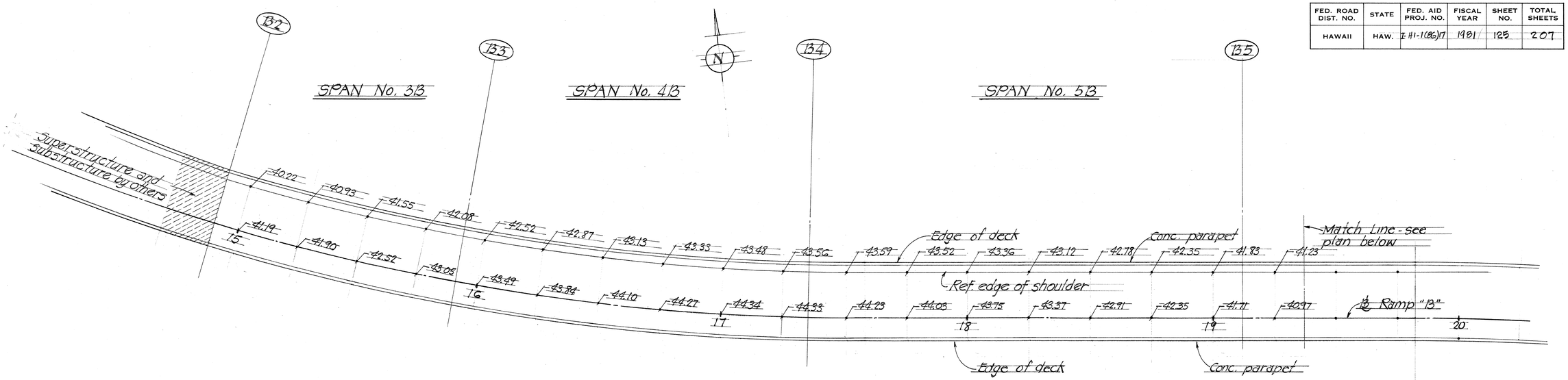
Scale: 1" = 20'-0" Date: JUNE 1981

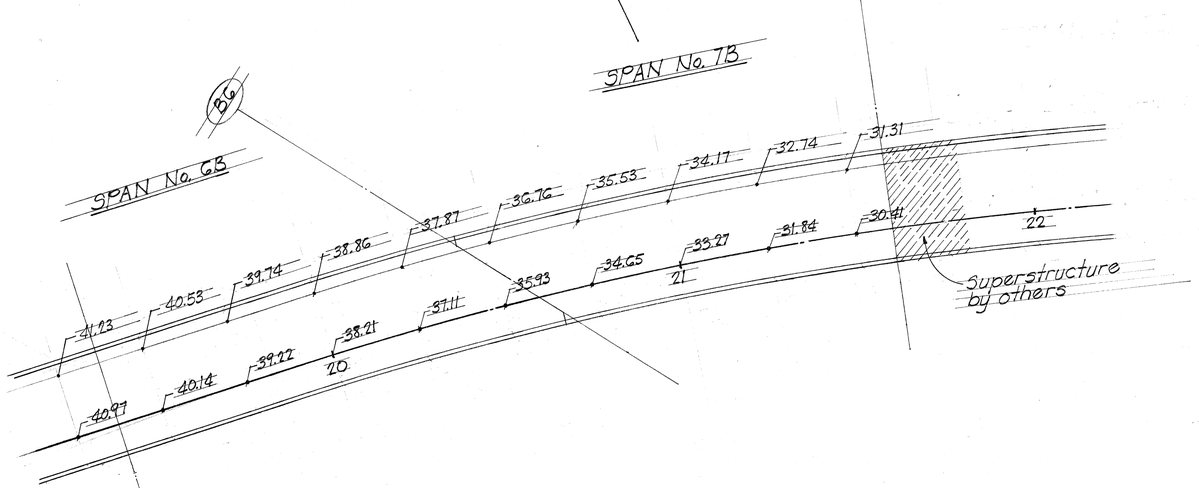
SHEET NO. S-11 OF 60 SHEETS

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

PRINTED ON NO. 1000N CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	125	207

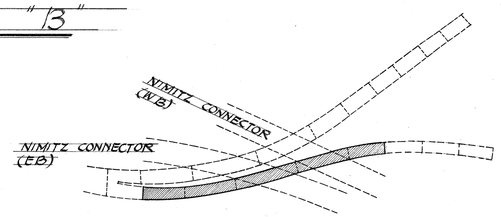




DECK FINISH GRID GRADE PLAN RAMP "B"

Scale: 1" = 20'-0"

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



KEY PLAN

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A" & RAMP "B"

DECK FINISH GRID GRADE PLAN - RAMP "B"

KEEHI INTERCHANGE

F.A.I. PROJ. NO. I-HI-1(86)17

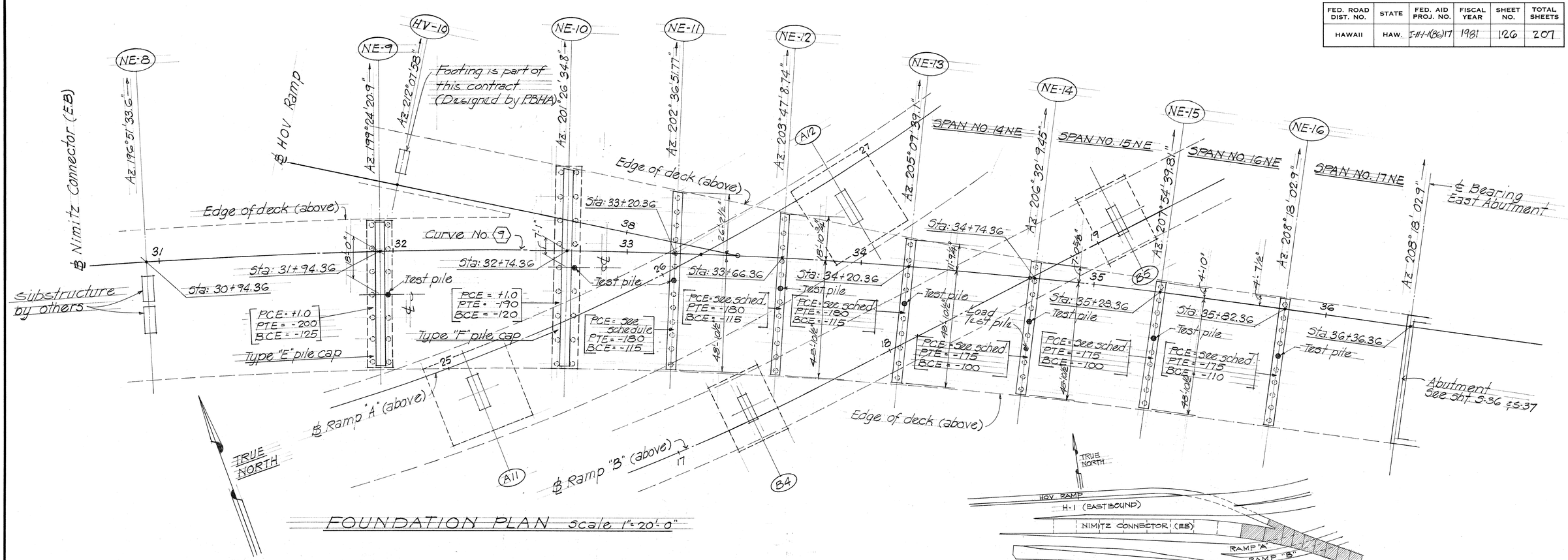
Scale: 1" = 20'-0" Date: JUNE 1981

SHEET NO. 5-12 OF 60 SHEETS

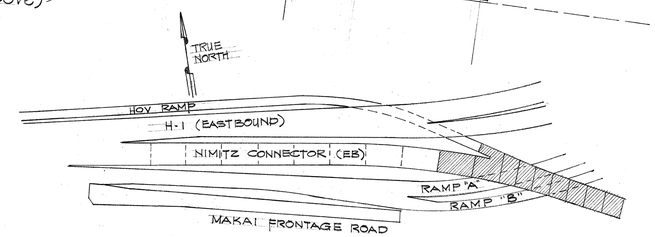
ORIGINAL PLANS	SURVEY PLOTTED BY	DATE
	DRAWN BY	
NOTE BOOK	TRACED BY	
	DESIGNED BY	
No.	QUANTITIES BY	
	CHECKED BY	

PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	126	207



FOUNDATION PLAN Scale 1"=20'-0"



KEY PLAN

REF. NORTH EDGE

PILE CUT OFF ELEVATION (PCE) SCHEDULE

PIER NO.	Pile #1	Pile #2	Pile #3	Pile #4	Pile #5	Pile #6	Pile #7	Pile #8	Pile #9	Pile #10	Pile #11	Pile #12	Pile #13
PIER NE-11	7.26	7.13	7.00	6.88	6.75	6.62	6.49	6.36	6.23	6.10	5.98	5.85	5.72
PIER NE-12	6.09	5.92	5.74	5.57	5.40	5.22	5.05	4.88	4.70	4.53	4.35	4.18	
PIER NE-13	4.78	4.55	4.32	4.09	3.86	3.63	3.40	3.17	2.94	2.71			
PIER NE-14	3.41	3.21	3.02	2.83	2.64	2.45	2.25	2.06	1.87	1.68			
PIER NE-15	2.27	2.12	1.97	1.82	1.67	1.52	1.37	1.22	1.07	0.92			
PIER NE-16	1.34	1.22	1.11	0.99	0.87	0.75	0.63	0.51	0.40	0.28			

LEGEND:

⬡ Precast prestressed concrete piles, 16½" octagonal pile, type "A". Design capacity 115 tons. See detail sheet # SD-10 thru SD-12

PCE Pile cut-off elevation.

PTE Estimated pile tip elevation

BCE Elevation of lower limit of Bitumen coating.

NOTE:

1. For table of Pile Load Test and Applicable Footings, See Sht. # SD-11.
2. For pile spacing of Piers NE-11 thru NE-16, See shts. # S-20 thru S-22 inclusive.
3. For pile spacing of Piers NE-9 and NE-10, see sht. # S-17

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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.), HOV RAMP, RAMP "A" & RAMP "B"

FOUNDATION PLAN

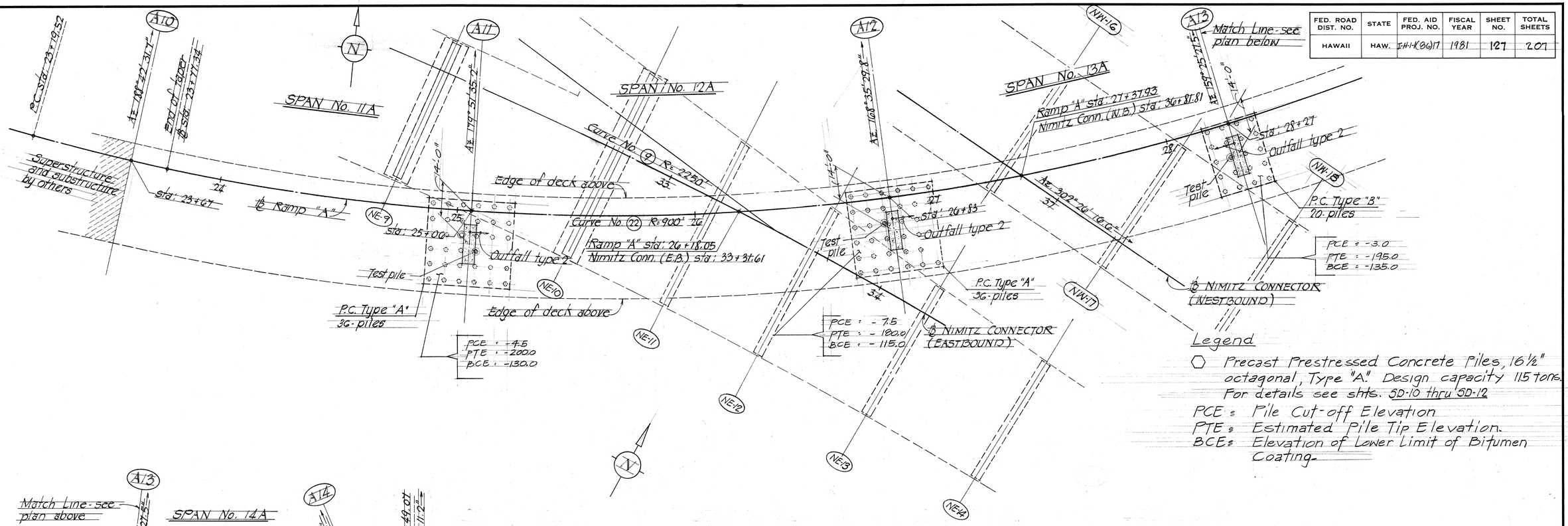
KEEHI INTERCHANGE
FAI. PROJ. NO. I-HI-1(86)17
Scale: 1"=20'-0" Date: JUNE 1981

SHEET No. S-13 OF 60 SHEETS

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

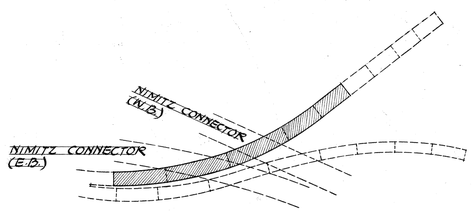
PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H1-1(86)17	1981	127	207



NOTE:

1. For Table of Pile Load Test and Applicable Footings, see Sht. # SD-11
2. For pile spacing - see Sht. # S-16



KEY PLAN

HAROLD TAKASHI IWAMOTO REGISTERED PROFESSIONAL ENGINEER No. 1514 HAWAII, U.S.A.

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GEORGE K. NISHIMURA REGISTERED PROFESSIONAL ENGINEER No. 1388 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A" & RAMP "B"

FOUNDATION PLANS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(86)17

Scale: 1" = 20'-0" Date: JUNE 1981

SHEET NO. S-14 OF 60 SHEETS

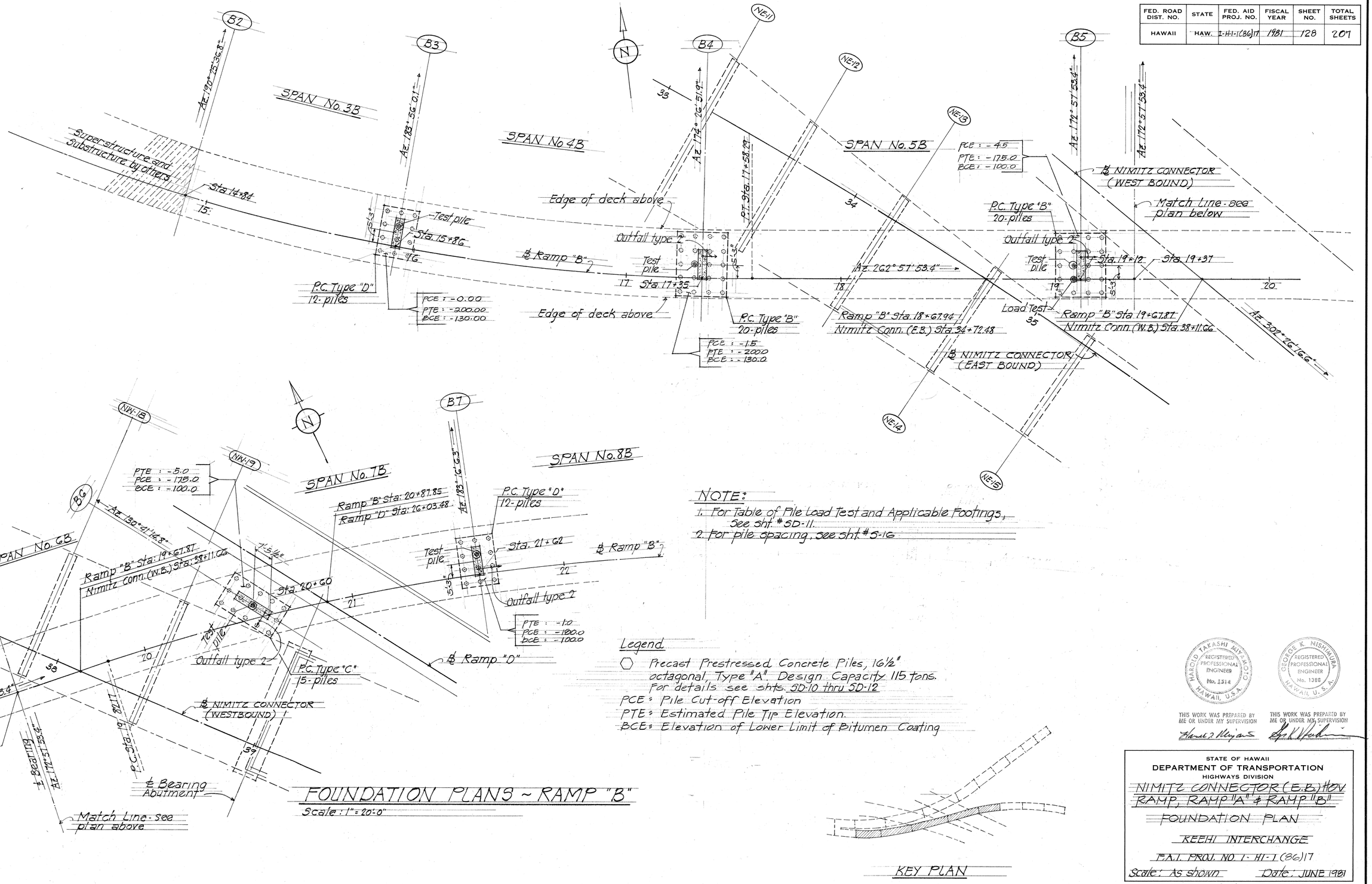
FOUNDATION PLANS - RAMP "A"

Scale: 1" = 20'-0"

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

PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	128	207



NOTE:

1. For Table of Pile Load Test and Applicable Footings, See sht. # SD-11.
2. For pile spacing, See sht. # S-16

Legend

⬡ Precast Prestressed Concrete Piles, 16½" octagonal, Type "A". Design Capacity 115 tons. For details see shts. SD-10 thru SD-12

PCE = Pile Cut-off Elevation

PTE = Estimated Pile Tip Elevation.

BCE = Elevation of Lower Limit of Bitumen Coating

FOUNDATION PLANS ~ RAMP "B"

Scale: 1" = 20'-0"

KEY PLAN

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GEORGE K. NISHIMURA — REGISTERED PROFESSIONAL ENGINEER — No. 1388 — HAWAII, U.S.A.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.) ON RAMP, RAMP "A" & RAMP "B"

FOUNDATION PLAN

KEEHI INTERCHANGE

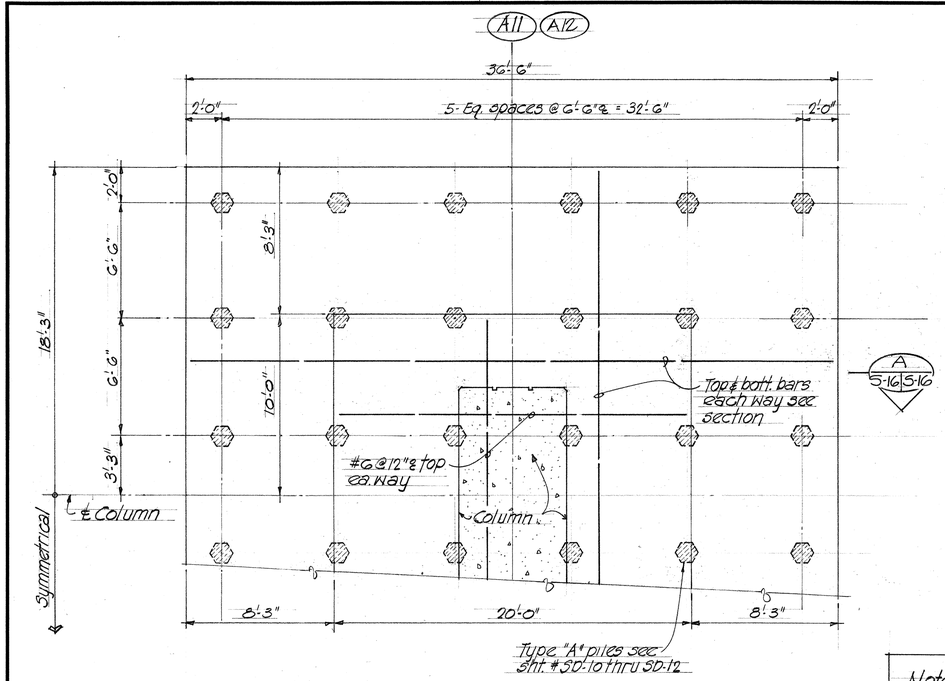
F.A.I. PROJ. NO. I-HI-1(86)17

Scale: As shown Date: JUNE 1981

SHEET No. S-15 OF 60 SHEETS

PRINTED ON NO. 1000H CLEARPRINT

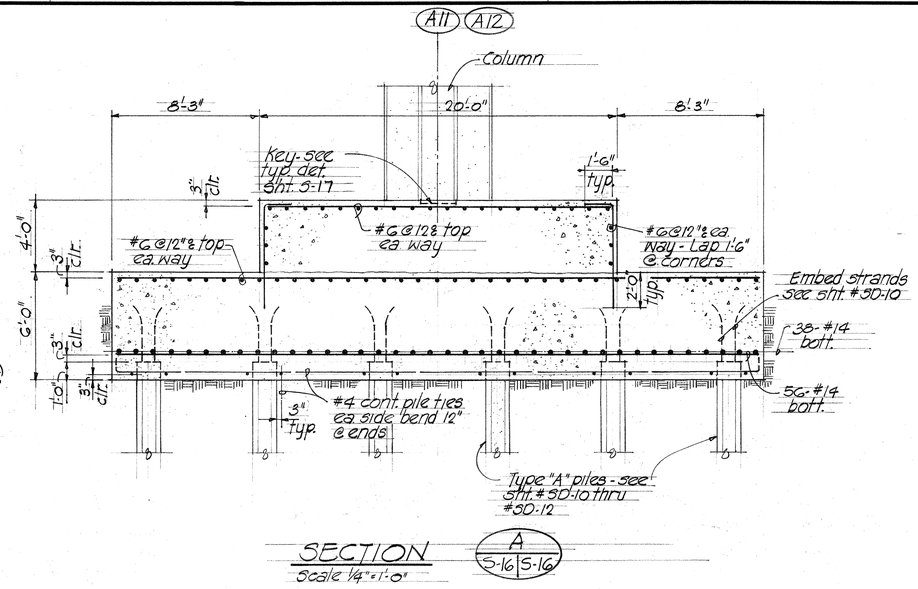
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	129	207



36 PILES

PLAN ~ PILE CAP TYPE "A"

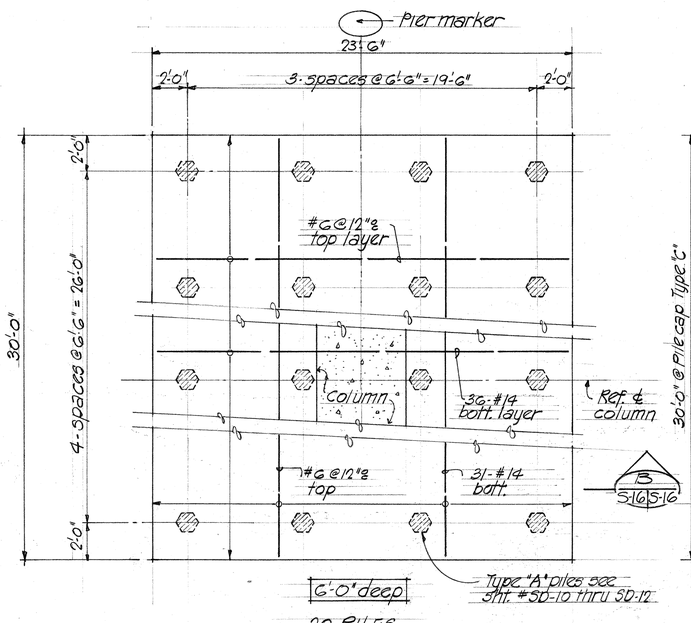
Scale 1/4" = 1'-0"



SECTION

Scale 1/4" = 1'-0"

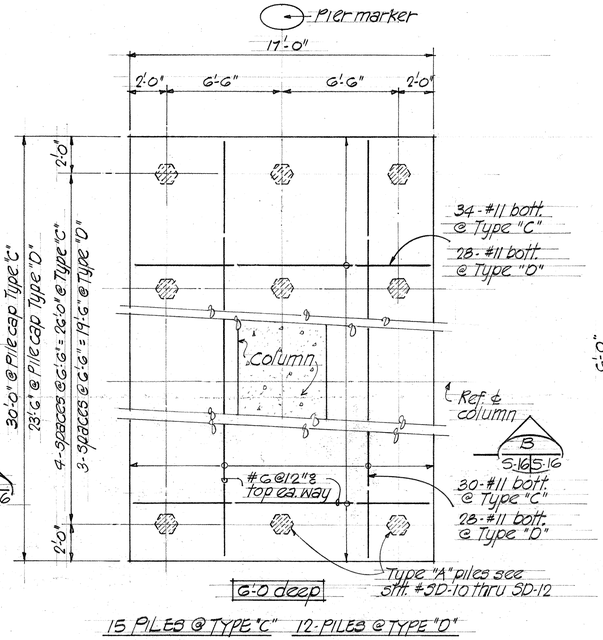
Note: All #11 & #14 bars shall be grade 60 bars.



20 PILES

PLAN ~ PILE CAP TYPE "B"

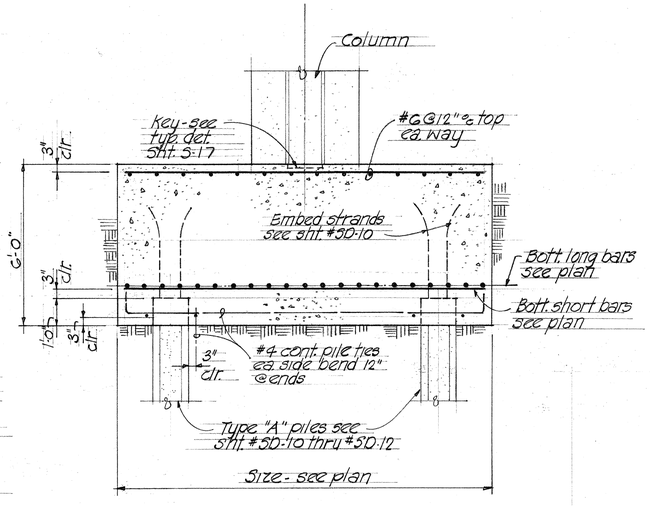
Scale 1/4" = 1'-0"



15 PILES @ TYPE "C" 12-PILES @ TYPE "D"

PLAN ~ PILE CAP TYPE "C" & "D"

Scale 1/4" = 1'-0"



TYPICAL SECTION

B 5-16 5-16

Scale 3/16" = 1'-0"

HAROLD TAKASHI MIYAMOTO REGISTERED PROFESSIONAL ENGINEER No. 1514 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

GEORGE K. NISHIMURA REGISTERED PROFESSIONAL ENGINEER No. 1388 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.), HOV. RAMP, RAMP "A" & RAMP "B"

PILE CAP DETAILS

KEEHI INTERCHANGE

F.A.I. PROJ. NO. I-HI-1(86)17

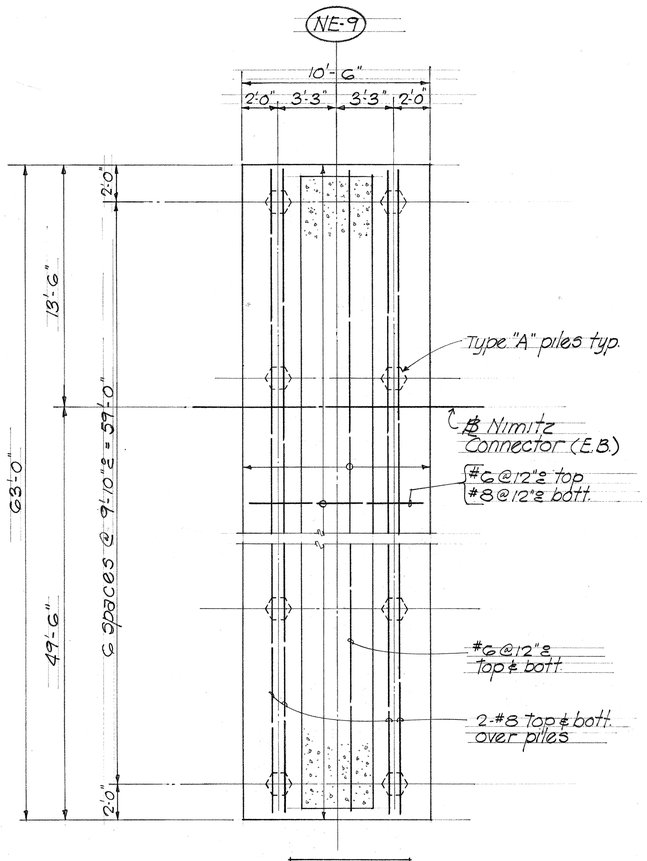
Scale As Noted Date: JUNE 1981

SHEET NO. S-16 OF 60 SHEETS

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

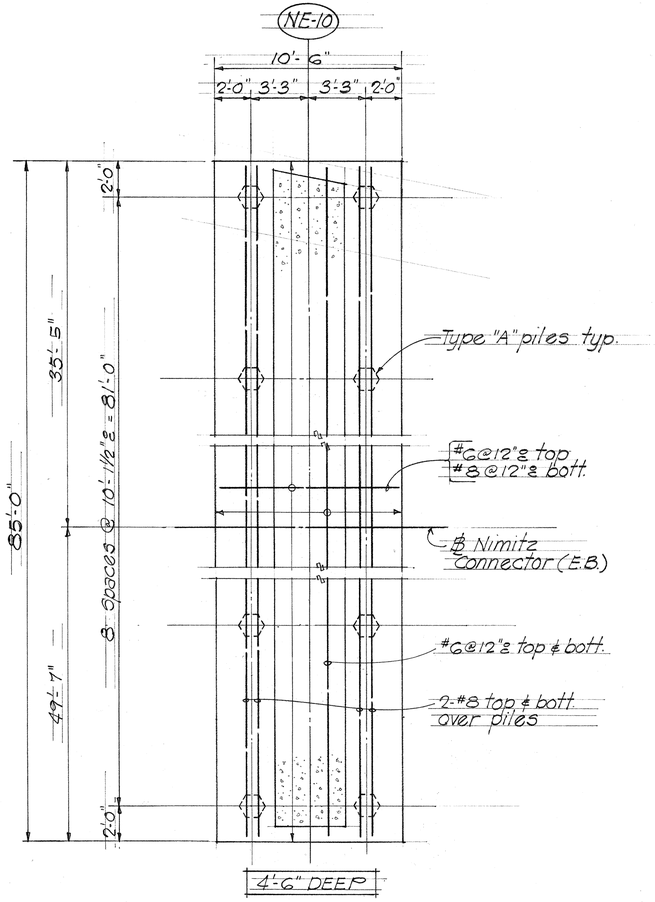
PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(80)17	1981	130	207



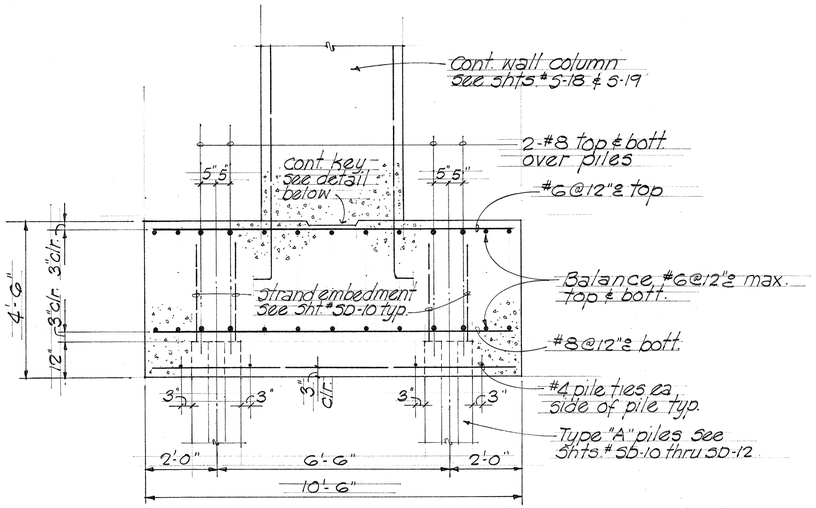
14 Type "A" piles

TYPE "E" PILE CAP PLAN
Scale 1/4"=1'-0"

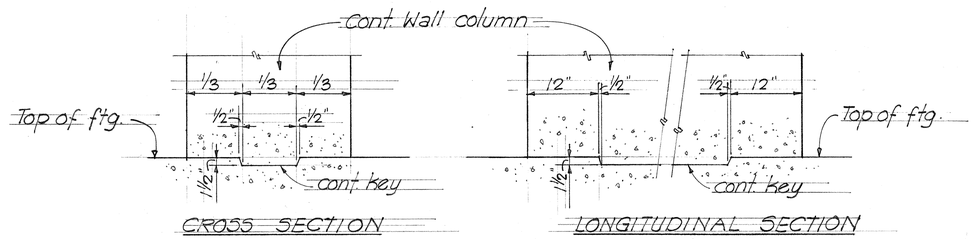


18 Type "A" piles

TYPE "F" PILE CAP PLAN
Scale 1/4"=1'-0"



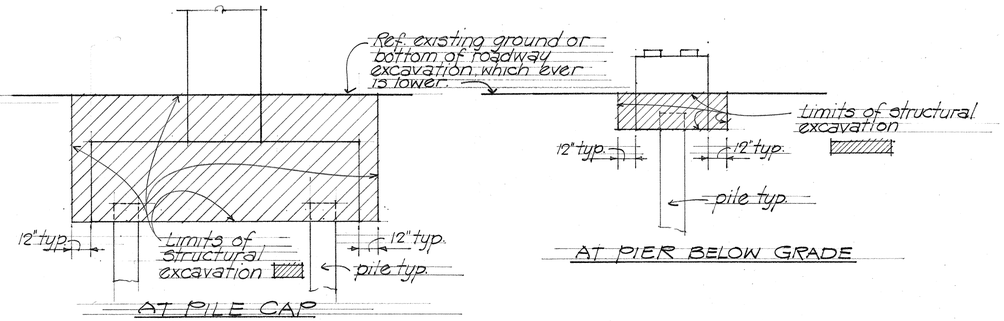
TYPICAL SECTION THRU TYPE "E" & "F" PILE CAP
Scale 1/2"=1'-0"



CROSS SECTION

LONGITUDINAL SECTION

TYPICAL CONT. KEY DETAIL
Not to scale.



PAY LIMITS AT PILE CAP & PIER
Not to scale

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

HAROLD TAKASHI MIYAMOTO
REGISTERED PROFESSIONAL ENGINEER
No. 1514
HAWAII, U.S.A.

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GEORGE K. NISHIMURA
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.), HON. RAMP, RAMP "A" & RAMP "B"

TYPE "E" & "F" PILE CAP DETAIL

KEEHI INTERCHANGE

FAI. PROJ. NO. I-HI-1(66)17

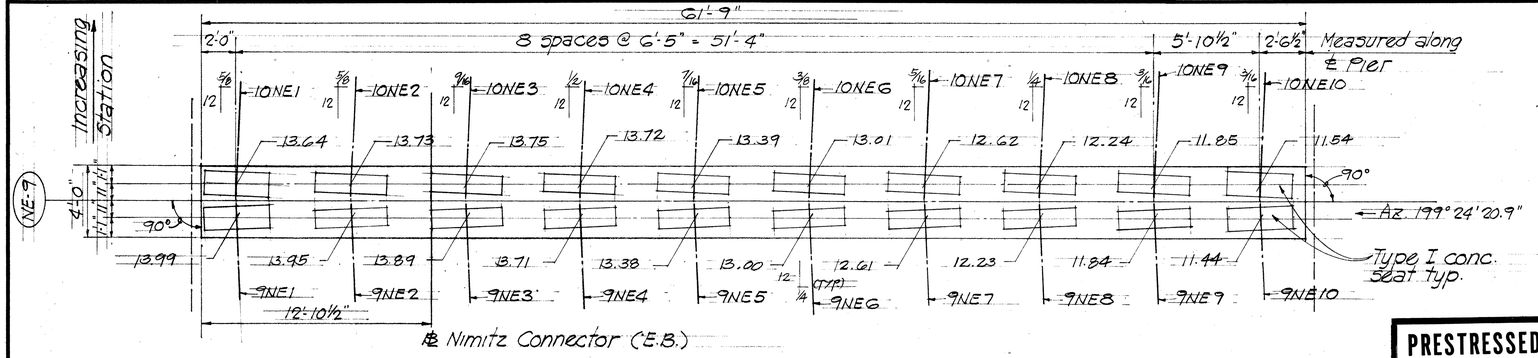
Scale: As noted Date: JUNE 1981

SHEET No. S-17 OF 60 SHEETS

PRINTED ON NO. 1000H CLEARPRINT

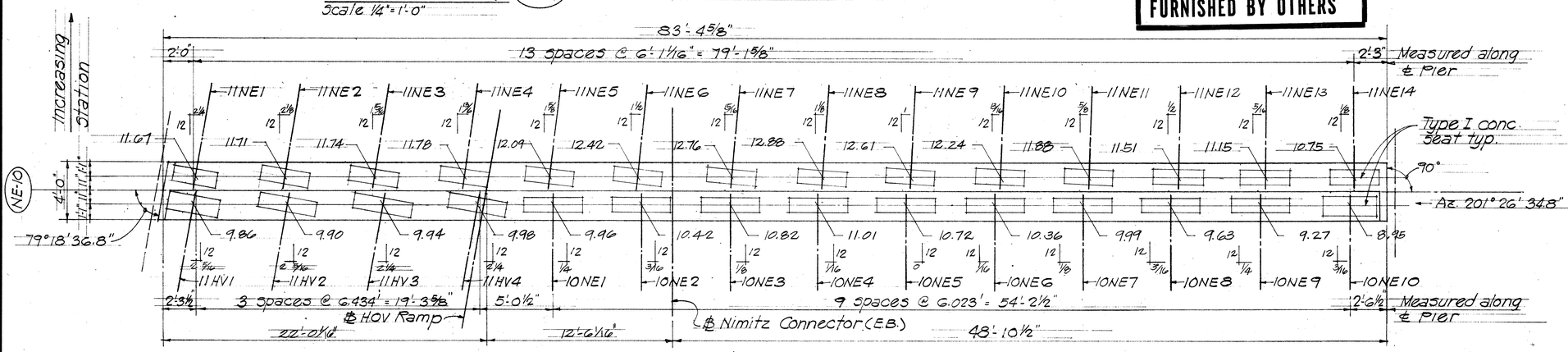
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1-1(86)17	1981	131	207

NOTE:
1. For concrete seat details: see sht. #S-35
2. Adjust pier top main reinforcing spacing to clear bearing plate anchor bolts.

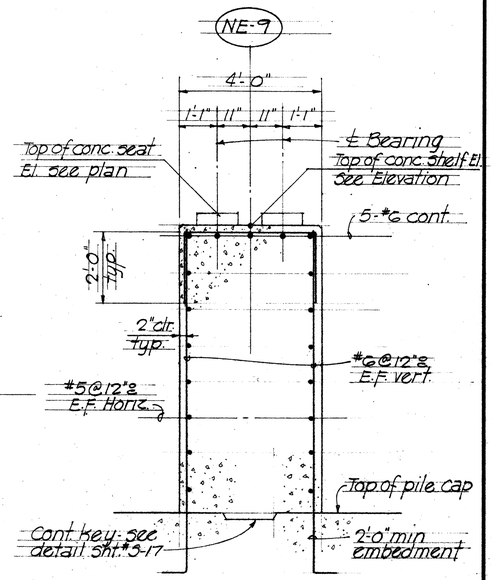


PLAN - PIER (NE-9)
Scale 1/4"=1'-0"

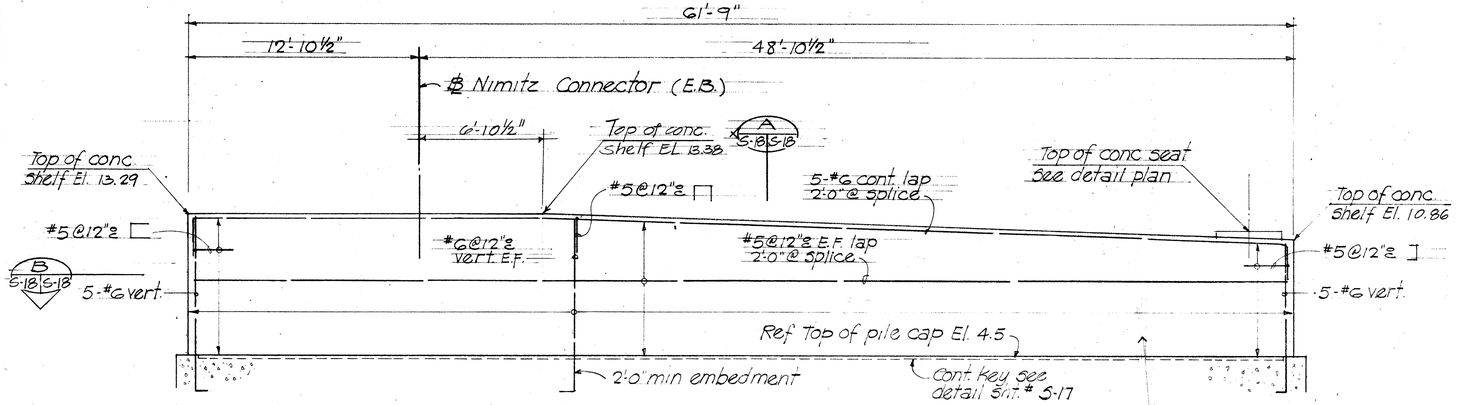
PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS



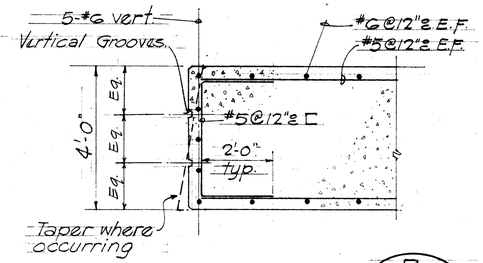
PLAN - PIER (NE-10)
scale 1/4"=1'-0"



SECTION A (S-18 | S-18)
Scale 1/2"=1'-0"



ELEVATION - PIER (NE-9)
Scale 1/4"=1'-0"



SECTION B (S-18)
Scale 1/2"=1'-0"
S-18 & S-19

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.), HOV RAMP, RAMP 'A' & RAMP 'B'
PIER DETAILS NE-9 & NE-10

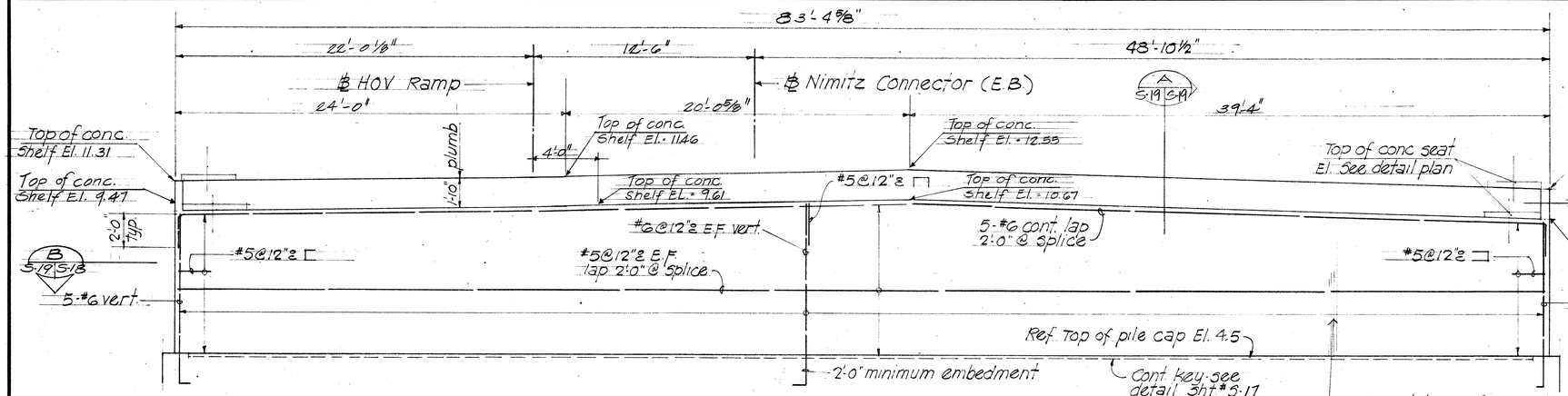
KEEHI INTERCHANGE
FAI. PROJ. NO. I-HI-1(86)17
Scale: As shown Date: JUNE 1981

SHEET NO. S-18 OF 60 SHEETS

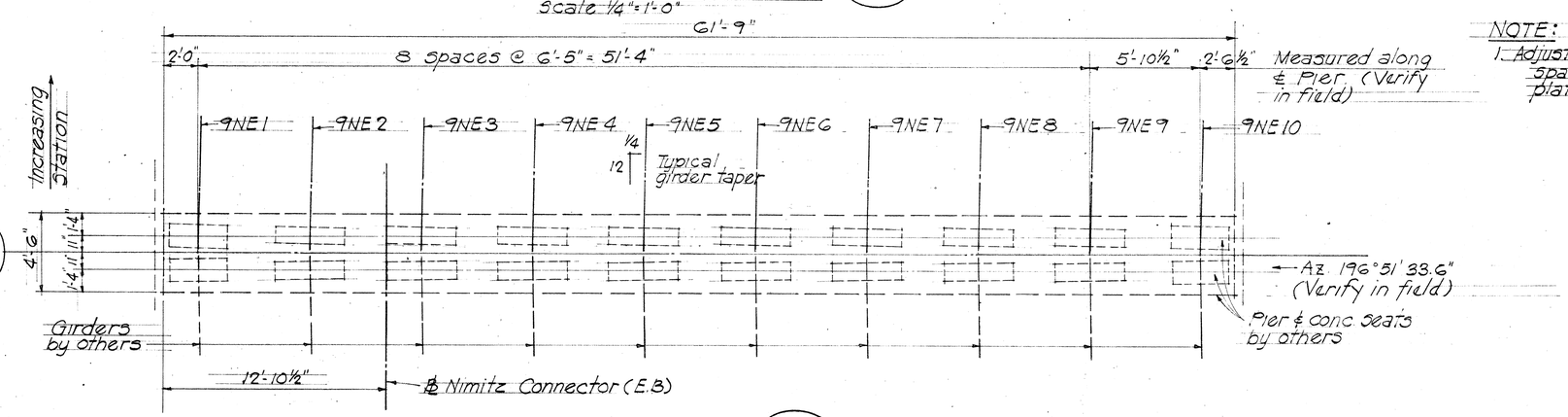
ORIGINAL PLAN | NOTE BOOK | No. | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE

PRINTED ON NO. 1000H CLEARPRINT

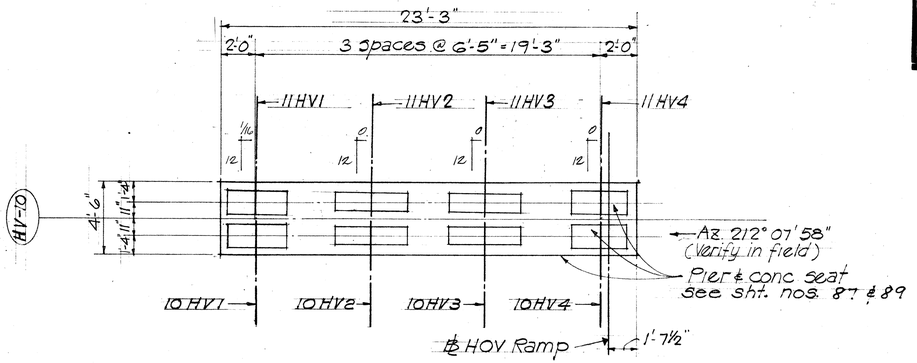
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	132	207



ELEVATION PIER (NE-10)
Scale 1/4"=1'-0"



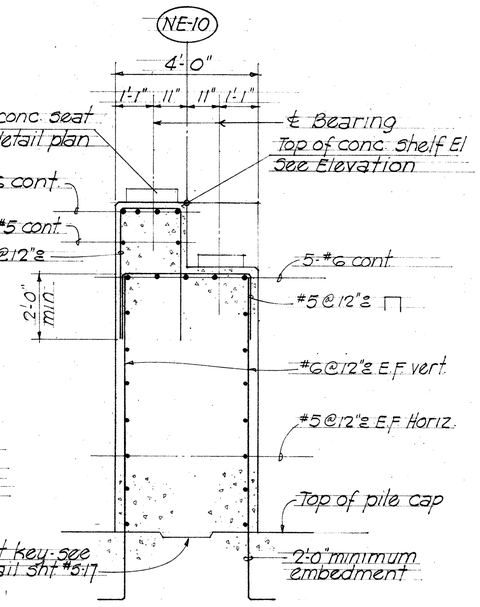
PLAN - PIER (NE-8)
Scale 1/4"=1'-0"



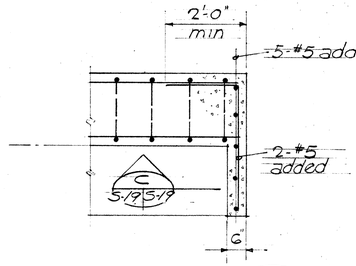
PLAN - PIER (HV-10)
Scale 1/4"=1'-0"

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS

NOTE:
1. Adjust pier top main reinforcing spacing to clear bearing plate anchor bolts.



SECTION (A 5-19 5-19)
Scale 1/2"=1'-0"



SECTION (B 5-19 5-19)
Scale 1/2"=1'-0"

SECTION (C 5-19 5-19)
Scale 1/2"=1'-0"

HAROLD TAKASHI MIYAMOTO — REGISTERED PROFESSIONAL ENGINEER No. 1514 — HAWAII, U.S.A.

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GEORGE K. NISHIMURA — REGISTERED PROFESSIONAL ENGINEER No. 1388 — HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B), HOV. RAMP, RAMP "A" & RAMP "B"

PIER DETAIL NE-10, NE-8 & HOV-10

KEEHI INTERCHANGE
FAI. PROJ. NO. I-HI-1(86)17

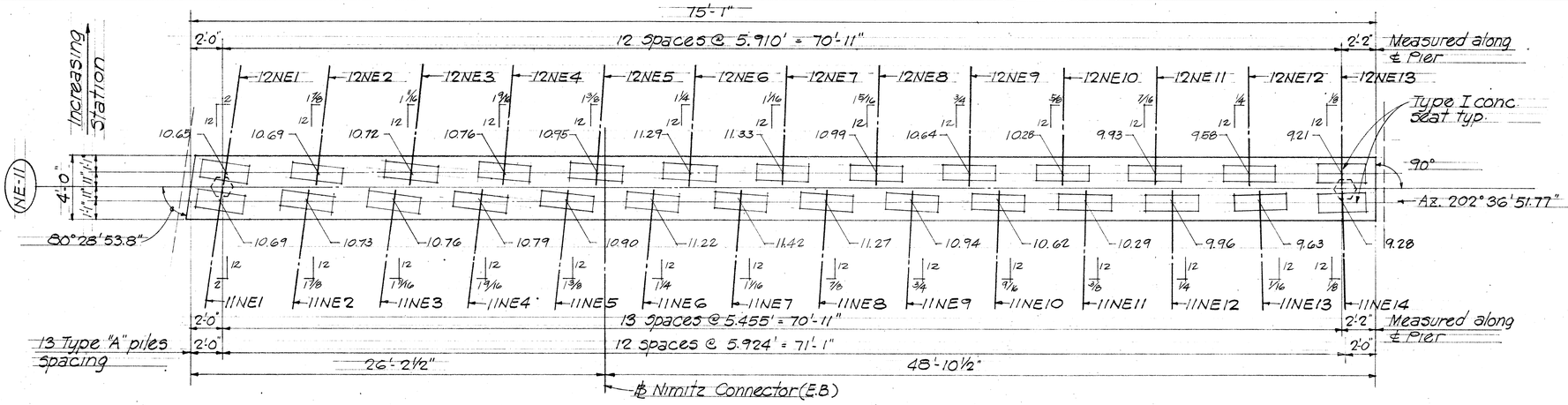
Scale as noted Date: JUNE 1981

SHEET NO. S-19 OF 60 SHEETS

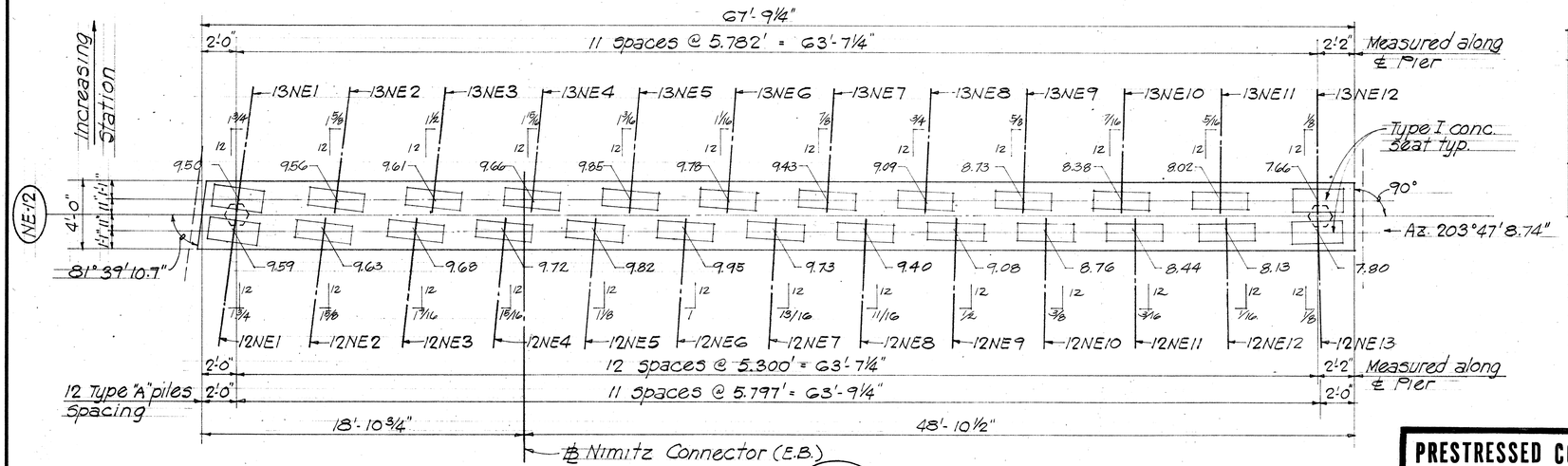
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	132	207



PLAN - PIER (NE-11)
Scale 1/4"=1'-0"

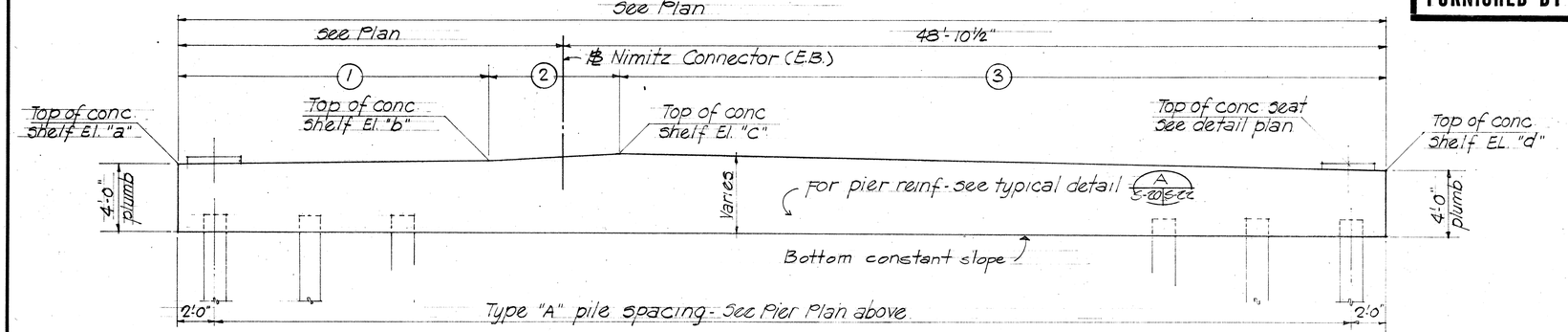


PLAN - PIER (NE-12)
Scale 1/4"=1'-0"

NOTE:
1. For conc. seat details - see sht. #5-35
2. For Type "A" piles - see details on shts # 5D-10 thru 5D-12.

TOP OF CONCRETE SHELF SCHEDULE							
PIER NO.	DIMENSIONS			ELEVATIONS			
	(1)	(2)	(3)	"a"	"b"	"c"	"d"
(NE-11)	24'-0"	11'-1"	40'-0"	10.29	10.44	11.05	8.66
(NE-12)	21'-6"	7'-0"	39'-3¼"	9.13	9.33	9.50	7.10

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS



TYPICAL ELEVATION - PIERS (NE-11) & (NE-12)
Not to scale

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HAROLD TAKASHI MIYAMOTO REGISTERED PROFESSIONAL ENGINEER No. 3514 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
GEORGE K. NISHIMURA REGISTERED PROFESSIONAL ENGINEER No. 1388 HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.), HOV RAMP, RAMP "A" & RAMP "B"

PIER DETAILS NE-11 & NE-12

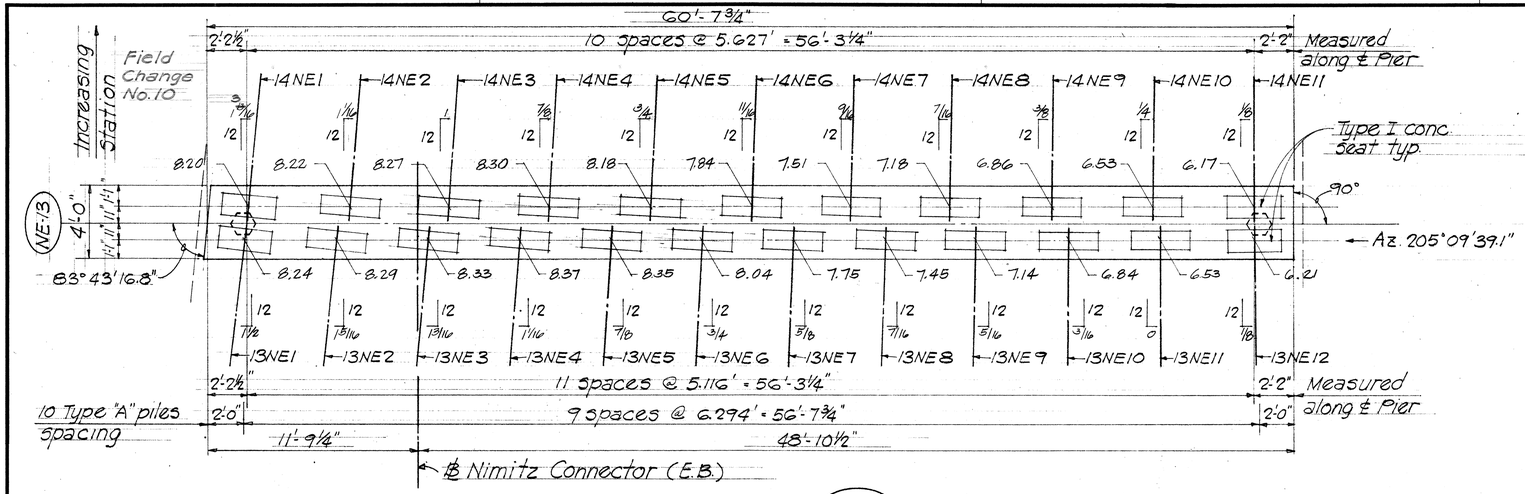
KEEHI INTERCHANGE
FAI. PROJ. NO. I-HI-1(86)17
Scale: 1/4"=1'-0" Date: JUNE 1981

SHEET No. 5-200F 60 SHEETS

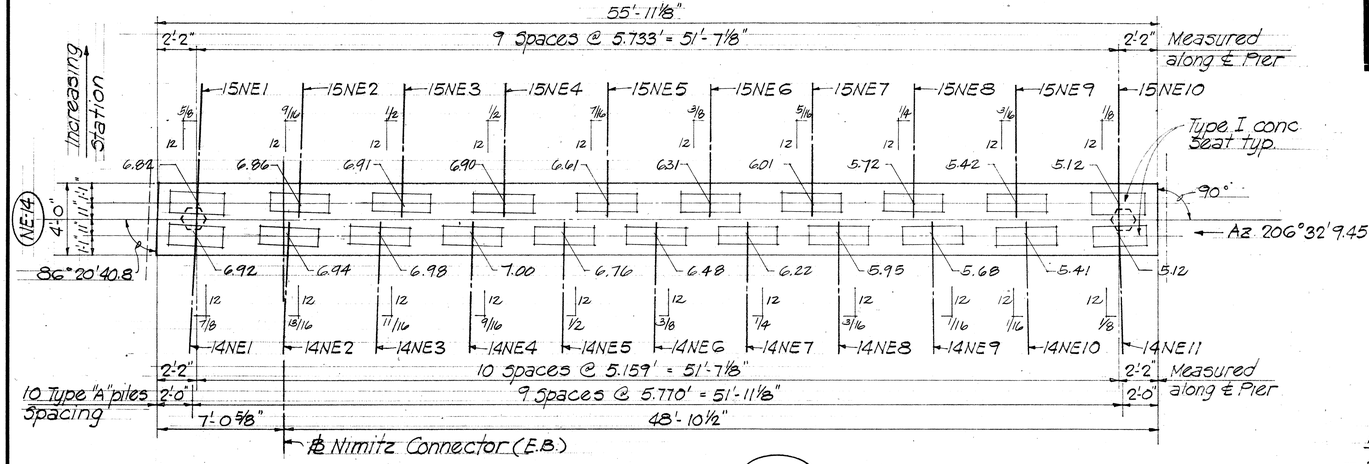
ORIGINAL PLAN | NOTE BOOK | No. | DATE
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

PRINTED ON NO. 1000H CLEARPRINT

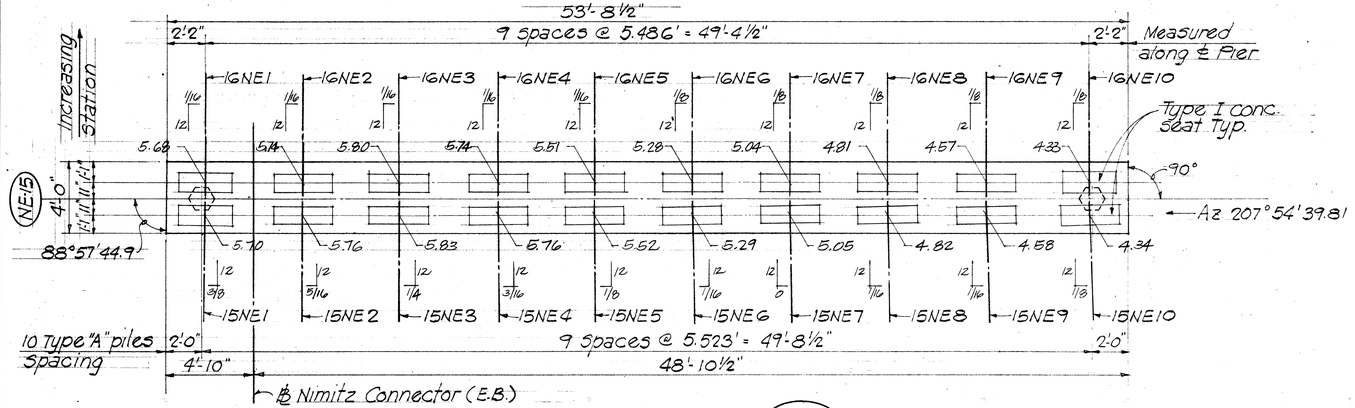
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HH-(86)17	1981	134	207



PLAN - PIER (NE-13)
Scale 1/4"=1'-0"



PLAN - PIER (NE-14)
Scale 1/4"=1'-0"



PLAN - PIER (NE-15)
Scale 1/4"=1'-0"

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS

NOTE:

1. For conc. seat details - see sht. # S-35
2. For Type "A" piles - see details on shts. # SD-10 thru SD-12.

HAROLD TAKASHI MIYAMOTO REGISTERED PROFESSIONAL ENGINEER No. 1514 HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A" & RAMP "B"
PIER DETAILS NE-13 THRU NE-15

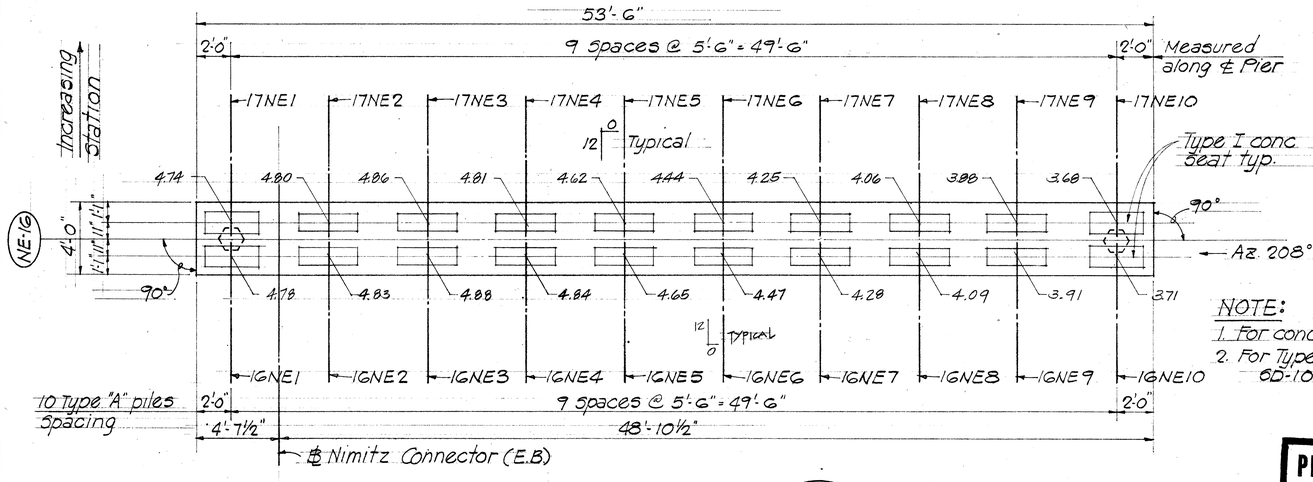
KEEHI INTERCHANGE
FAI PROJ. NO. I-HI-1(86)17
Scale: 1/4"=1'-0" Date: JUNE 1981

SHEET NO. S-21 OF 60 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
NOTE BOOK	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.	I-HI-1(86)17	1981	135	207



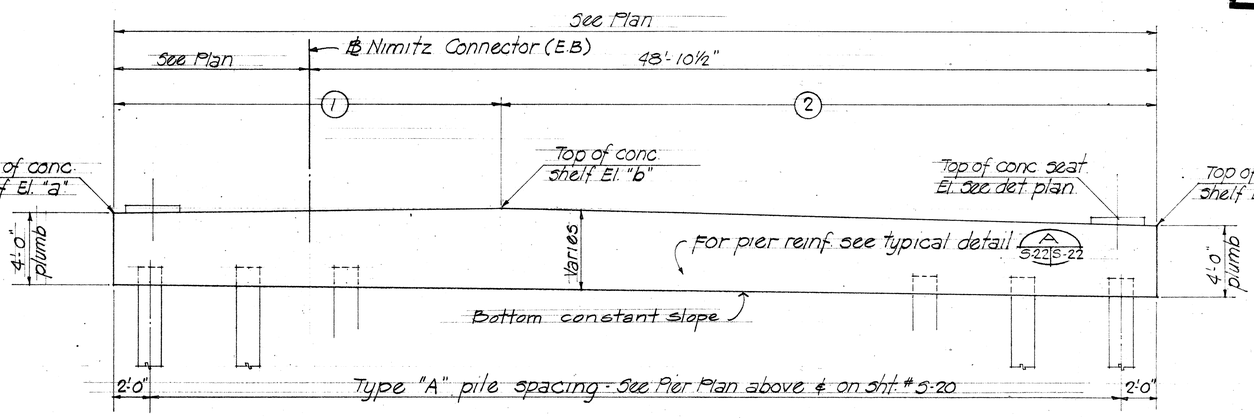
PLAN - PIER (NE-16)

Scale 1/4" = 1'-0"

NOTE:
1. For conc. seat details - see sht. #S-35
2. For Type "A" piles - see details on shts # 5D-10 thru 5D-12.

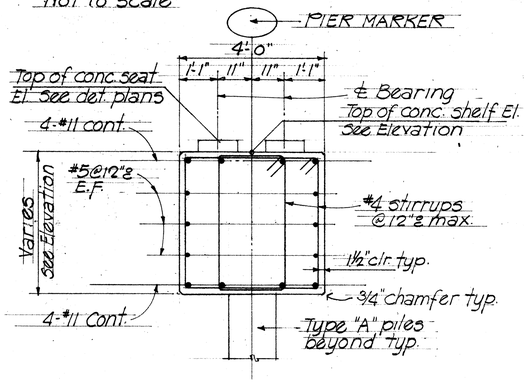
TOP OF CONCRETE SHELF SCHEDULE					
PIER NO.	DIMENSIONS ①	DIMENSIONS ②	ELEVATIONS "a"	ELEVATIONS "b"	ELEVATIONS "c"
NE-13	21'-7 3/4"	39'-0"	7.83	7.93	5.61
NE-14	17'-8 1/8"	38'-3"	6.45	6.58	4.59
NE-15	15'-8 1/2"	38'-0"	5.31	5.47	3.85
NE-16	15'-6"	38'-0"	4.37	4.53	3.22

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS



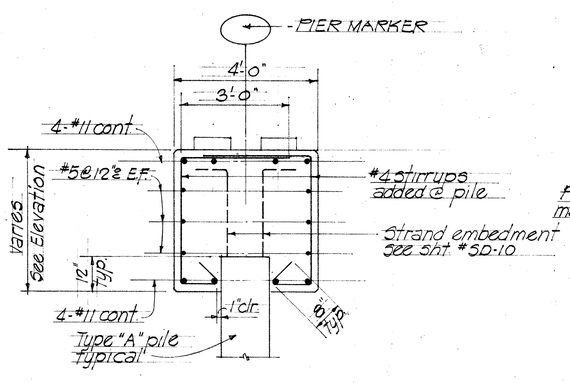
TYPICAL ELEVATION - PIERS (NE-13), (NE-14), (NE-15) & (NE-16)

Not to scale



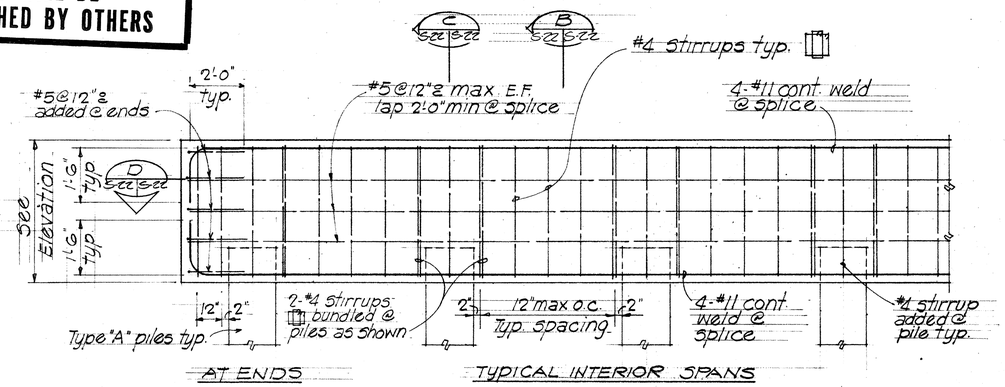
B S-22 S-22 SECTION BETWEEN PILES

Scale 1/2" = 1'-0"



C S-22 S-22 SECTION AT PILES

Scale 1/2" = 1'-0"

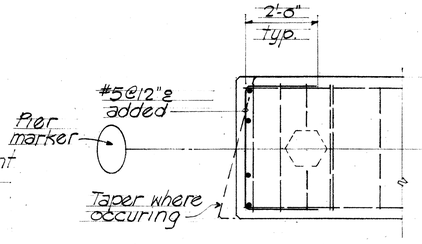


AT ENDS TYPICAL INTERIOR SPANS

A S-20 S-22 S-22 TYPICAL PIER DETAIL ELEVATION

PIERS (NE-11) THRU (NE-16) INCLUSIVE

Scale 1/2" = 1'-0"



D S-22 S-22 SECTION

Scale 1/2" = 1'-0"

NOTE:
1. All #11 bars shall be grade 60 bars.
2. Adjust pier cap top main reinforcing spacing to clear bearing plate anchor bolts.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB), HOV RAMP, RAMP "A" & RAMP "B"

PIER DETAILS NE-11 THRU NE-16

KEEHI INTERCHANGE
FAI. PROJ. NO. I-HI-1(86)17

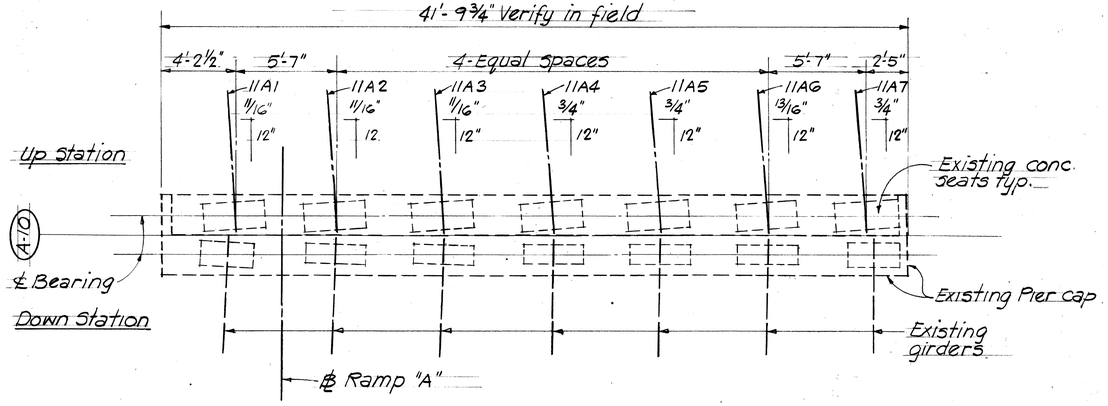
Scale as shown Date: JUNE 1981

SHEET NO. S-22 OF 60 SHEETS

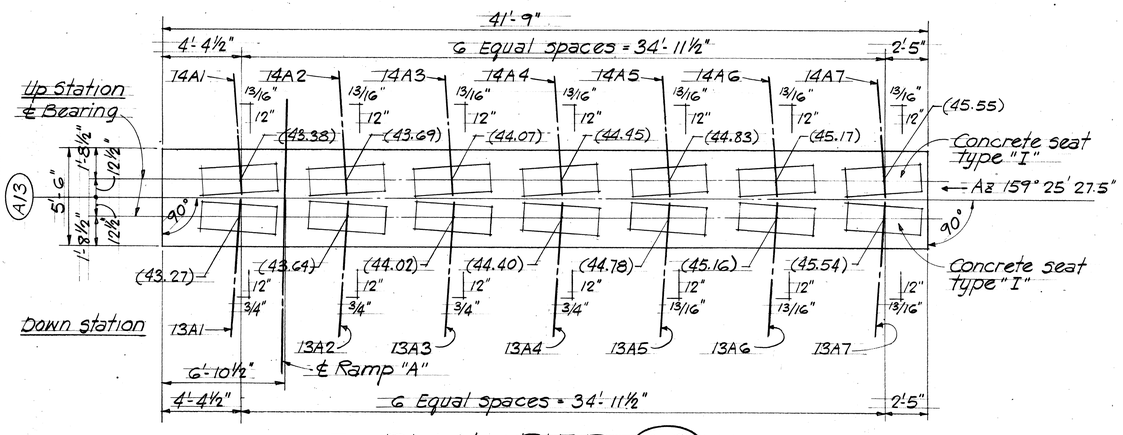
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
	DESIGNED BY	
No.	QUANTITIES BY	
	CHECKED BY	

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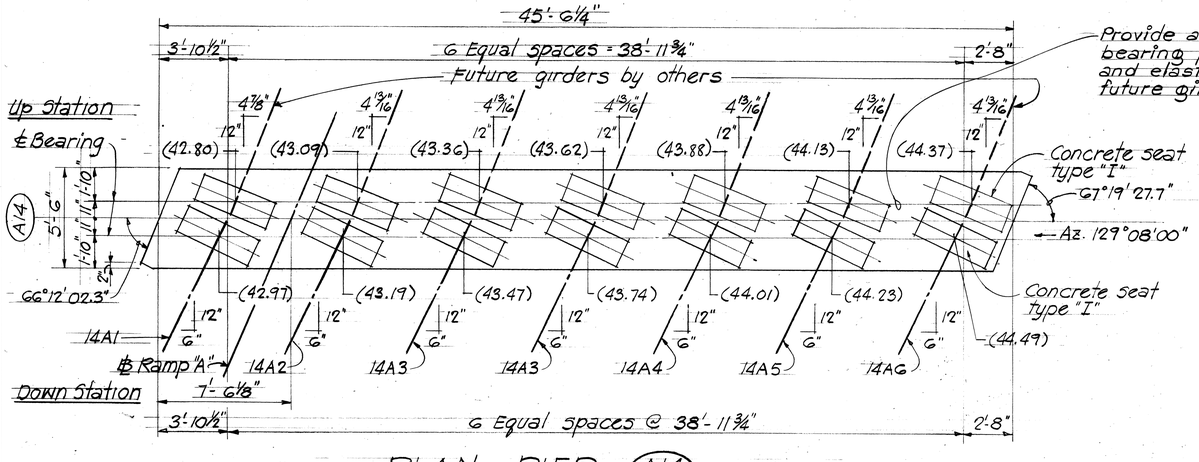
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1-1(86)17	1981	130	207



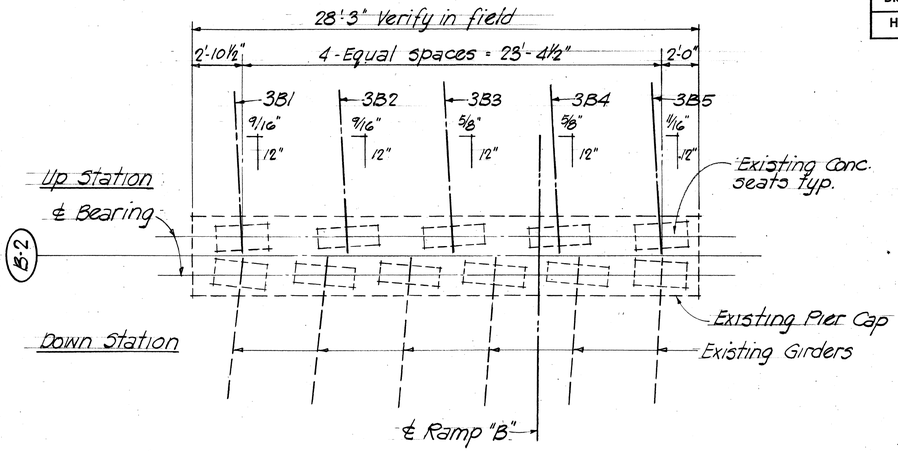
PLAN - PIER (A10)
Scale ¼"=1'-0"



PLAN - PIER (A13)
Scale ¼"=1'-0"



PLAN - PIER (A14)
Scale ¼"=1'-0"



PLAN - PIER (B-2)
Scale ¼"=1'-0"

NOTE:
(00.00) Denotes top of concrete seat elevation.

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS

Field Change No. 6
Note: Correct offset dimension for girder 14A1 is 3'-7⅝" and not 3'-8¼" as shown on Sheet 156.

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

GEORGE K. NISHIMURA REGISTERED PROFESSIONAL ENGINEER No. 1388 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

HAROLD TAKASHI MIYAMOTO REGISTERED PROFESSIONAL ENGINEER No. 1514 HAWAII, U.S.A.

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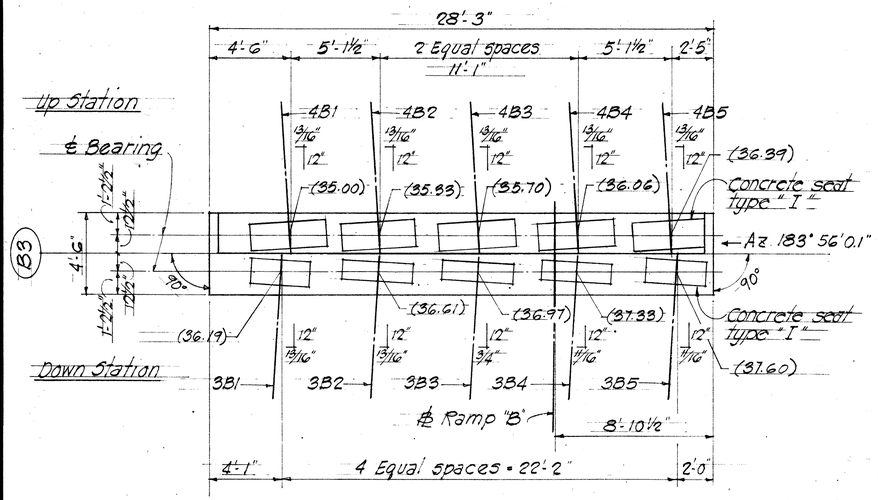
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

NIMITZ CONNECTOR (E.B.), HOV. RAMP, RAMP "A" & RAMP "B"
PIER A10, A13, A14 & B2 PLANS

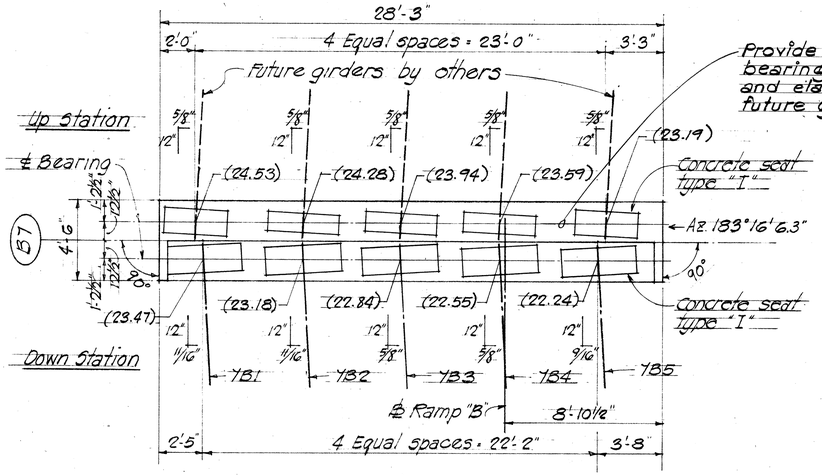
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(86)-17
Scale ¼"=1'-0" Date: JUNE 1981

SHEET No. S-23 OF 60 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	121	207

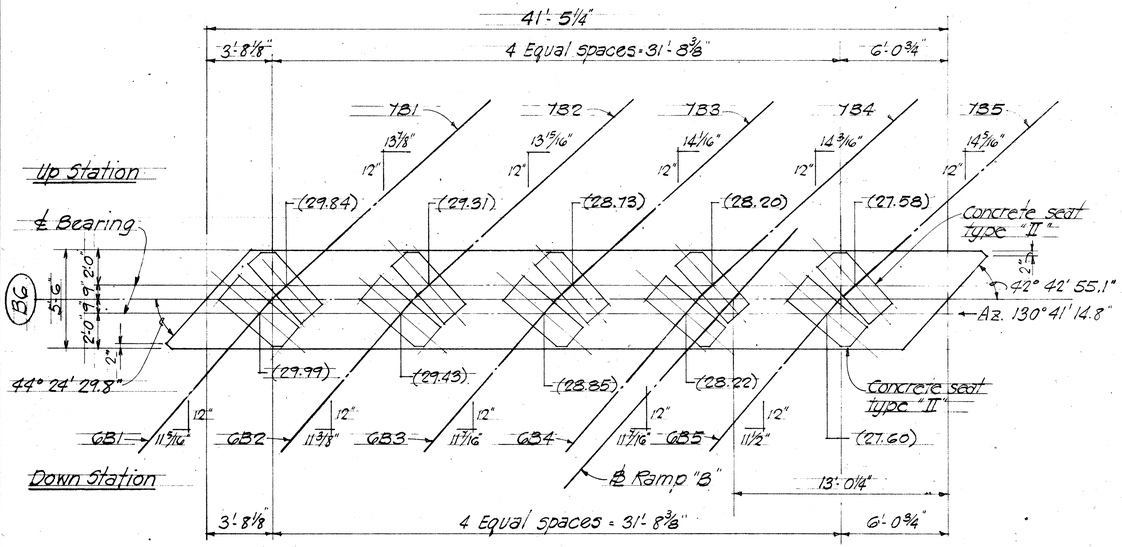


PLAN ~ PIER (B3)
Scale 1/4"=1'-0"



NOTE:
(00.00) Denotes top of concrete seat Elevation.

PLAN ~ PIER (B7)
Scale 1/4"=1'-0"



PLAN ~ PIER (B6)
Scale 1/4"=1'-0"

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS

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

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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
GEORGE K. NISHIMURA REGISTERED PROFESSIONAL ENGINEER No. 1388 HAWAII, U.S.A.

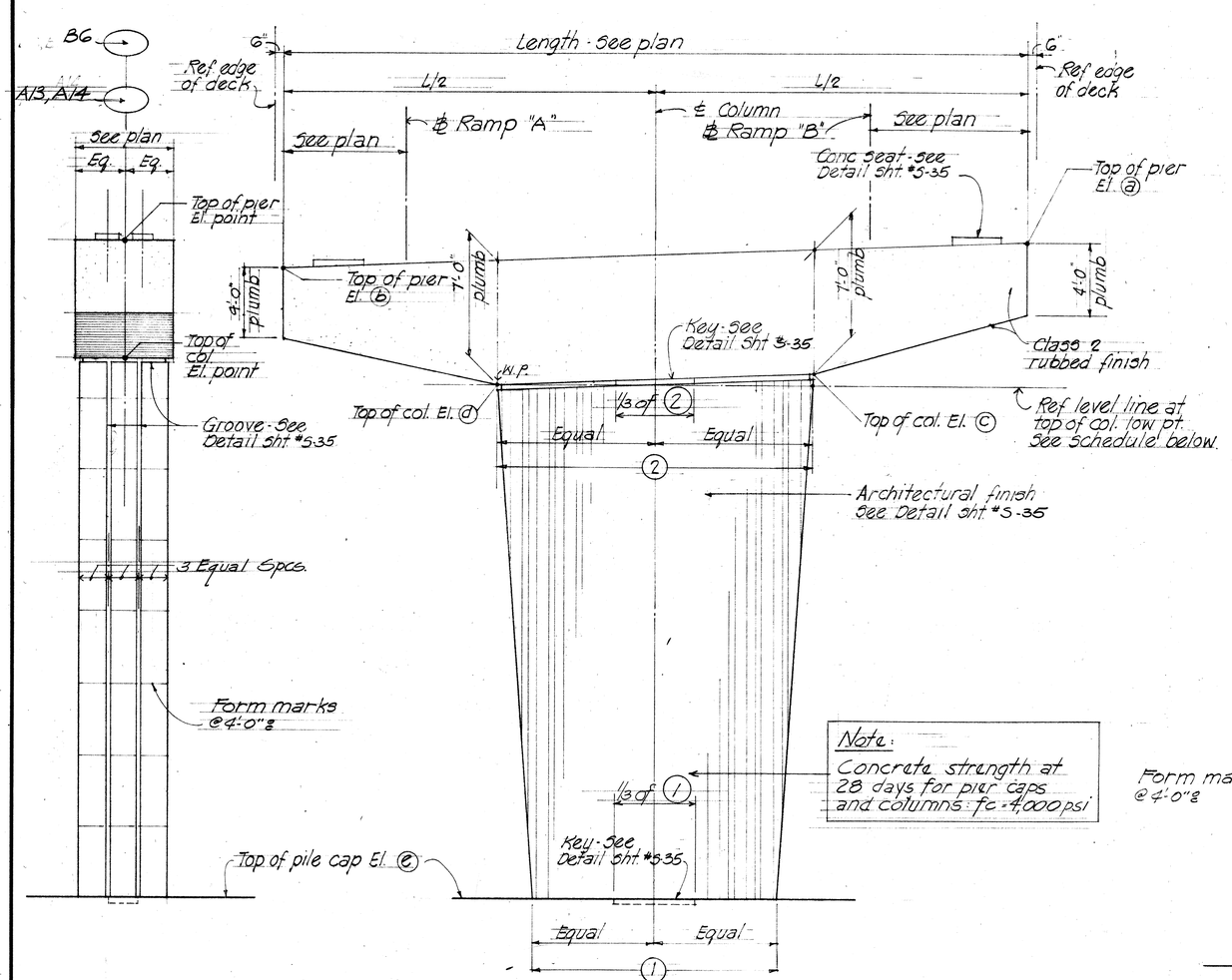
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB), HOV RAMP, RAMP "A" & RAMP "B"
PIER B3, B6 & B7 PLANS
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(86)17
Scale: As shown Date: JUNE 1981

SHEET NO. S-24 OF 60 SHEETS

PRINTED ON NO. 1000H CLEARPRINT

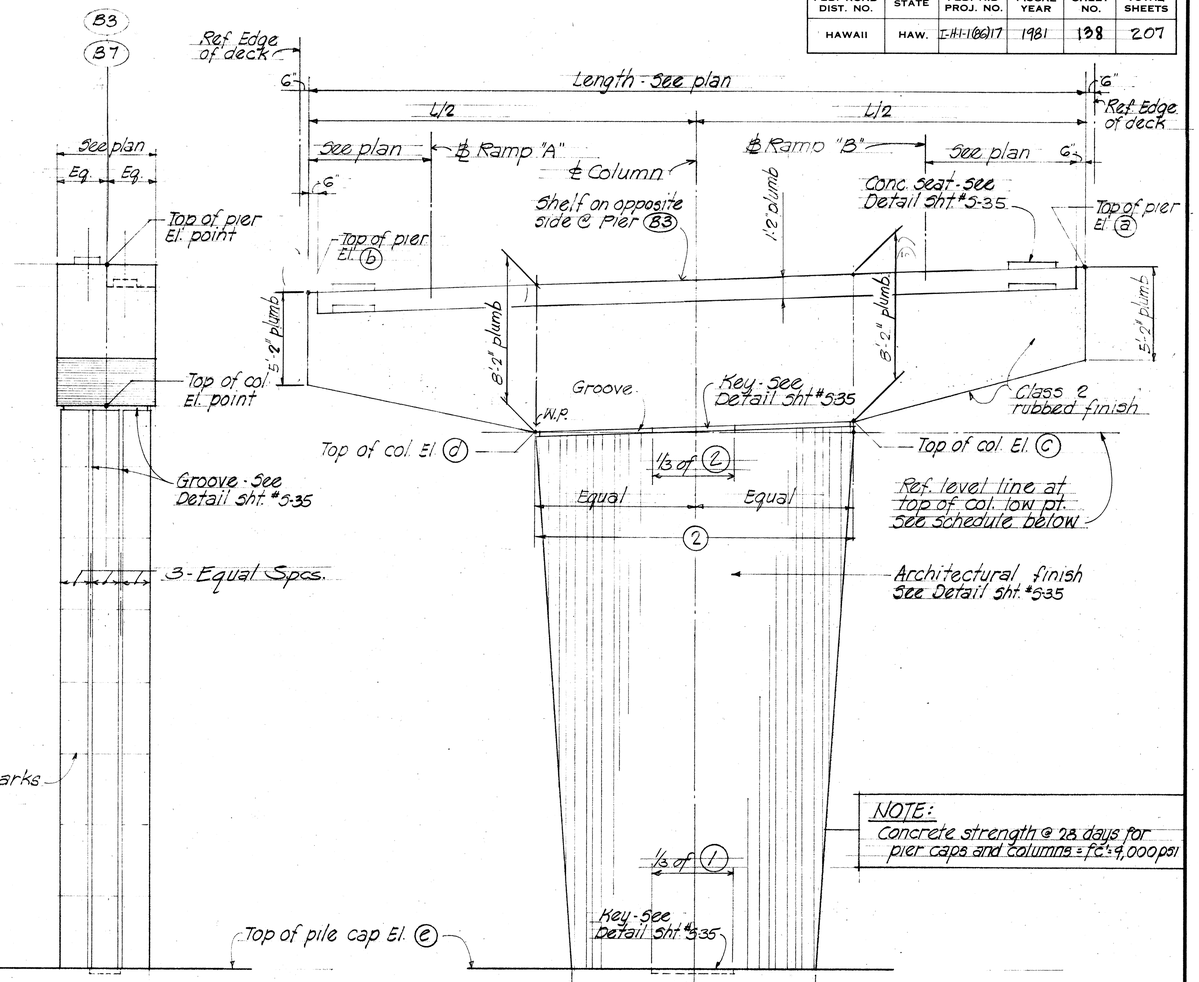
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(BG)17	1981	138	207



Note:
Concrete strength at 28 days for pier caps and columns: fc = 4,000 psi

END ELEVATION
Scale 1/4" = 1'-0"

ELEVATION - PIERS (A13) (A14) (B6)
Scale 1/4" = 1'-0"
Piers (B6) similar except reverse slope at top of pier.



NOTE:
Concrete strength @ 28 days for pier caps and columns = fc = 4,000 psi

END ELEVATION
Scale 1/4" = 1'-0"

ELEVATION - PIERS (B3) (B7)
Scale 1/4" = 1'-0"
Pier (B7) similar except reverse slope at top of pier.

PIER DIMENSION & ELEVATION SCHEDULE

PIER NUMBER	DIMENSIONS (1)	DIMENSIONS (2)	ELEVATIONS (a)	(b)	(c)	(d)	(e)
A13	13'-0"	18'-0"	45.22	42.51	37.45	36.28	2.00
A14	13'-6"	18'-0"	44.13	42.15	36.53	35.75	5.00

PIER NUMBER	DIMENSIONS (1)	DIMENSIONS (2)	ELEVATIONS (a)	(b)	(c)	(d)	(e)
B3	10'-0"	13'-0"	37.21	35.37	28.55	27.70	5.00
B6	15'-0"	18'-0"	26.51	29.60	20.38	21.74	0.0
B7	11'-6"	13'-0"	22.50	24.19	14.79	15.57	4.00

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A" & RAMP "B"
PIER A13, A14, B3, B6, & B7 ELEV.

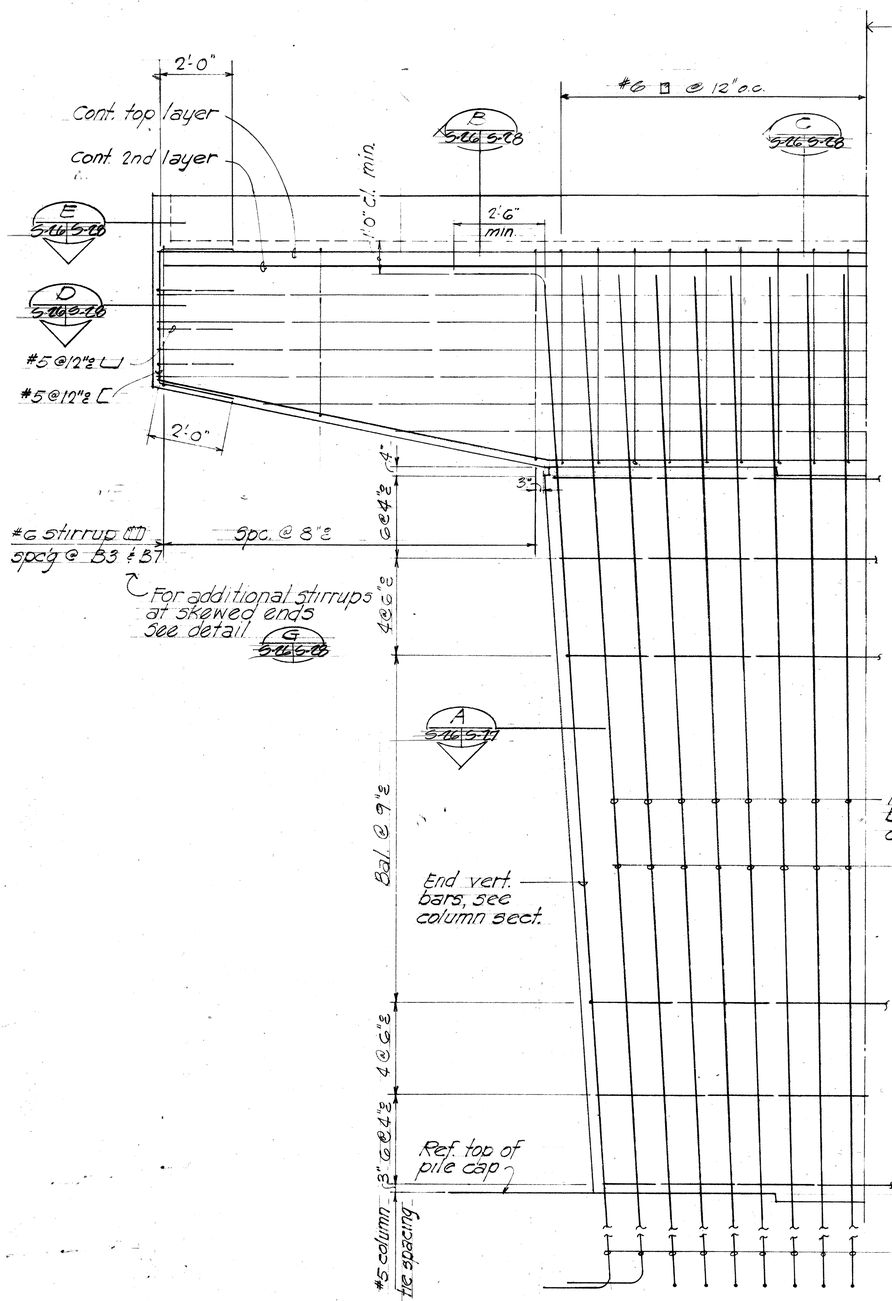
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(BG)17
Scale: As Shown Date: JUNE 1981

SHEET NO 5-25 OF 60 SHEETS

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

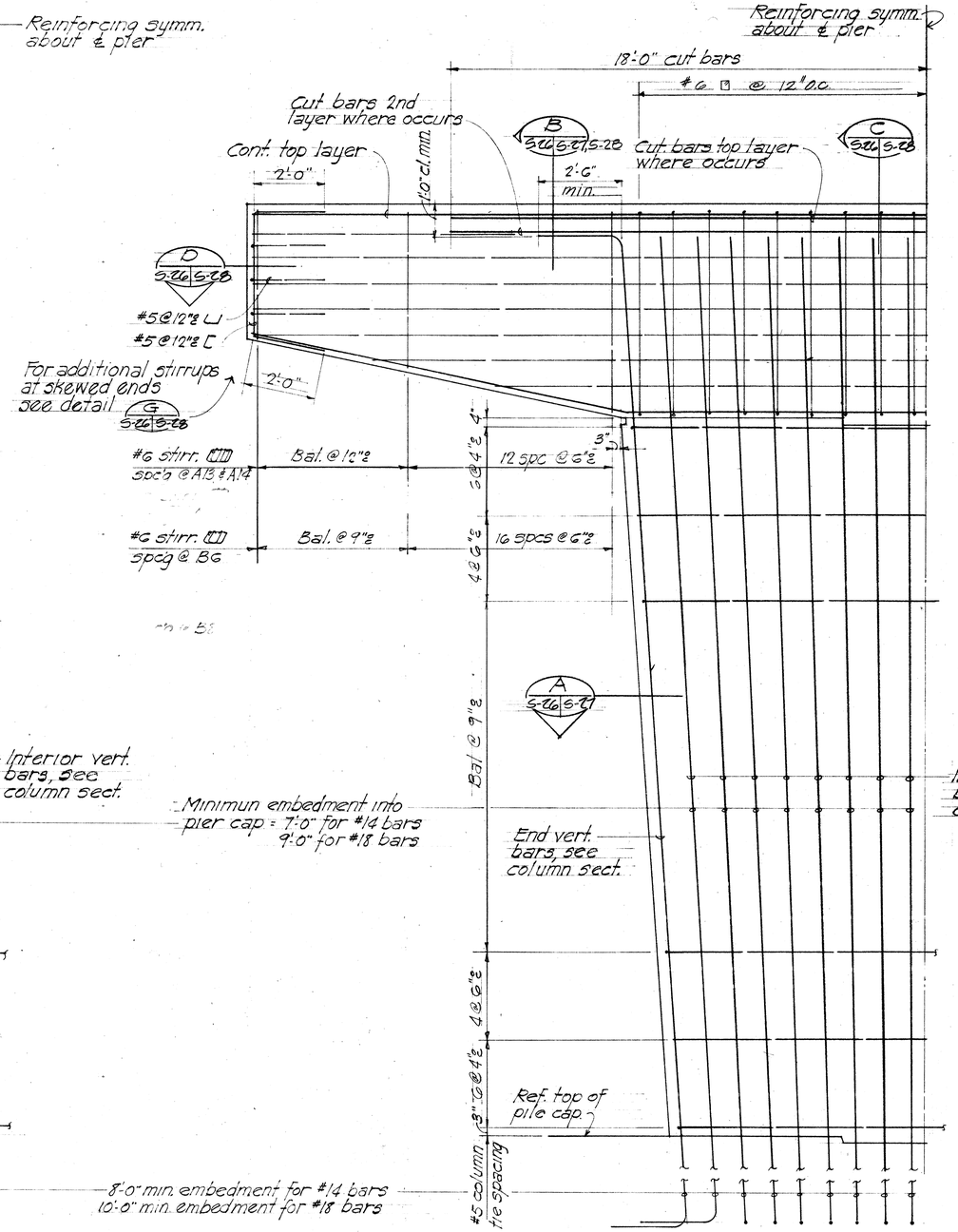
PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	139	207



REINFORCEMENT DETAIL PIERS (B3) & (B7)

Not to scale



REINFORCEMENT DETAIL PIERS (A13) (A14) & (B6)

Not to scale

NOTE: For pier reinforcing see sections on shts. 5-27 & 5-28

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

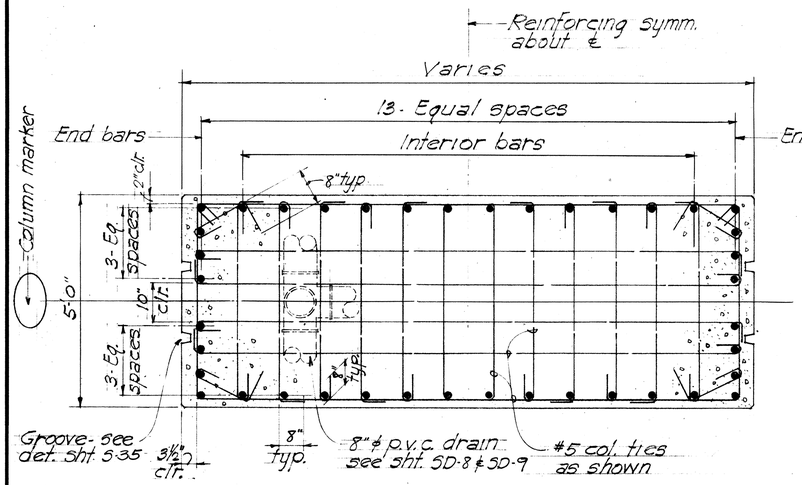
NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A" & RAMP "B"
PIER DETAILS

KEEHI INTERCHANGE
F.A.I. PROJ. No. I-HI-1(86)17
Scale: As Shown Date: JUNE 1981

SHEET NO 5-26 OF 60 SHEETS

PRINTED ON NO. 1000H CLEARPRINT

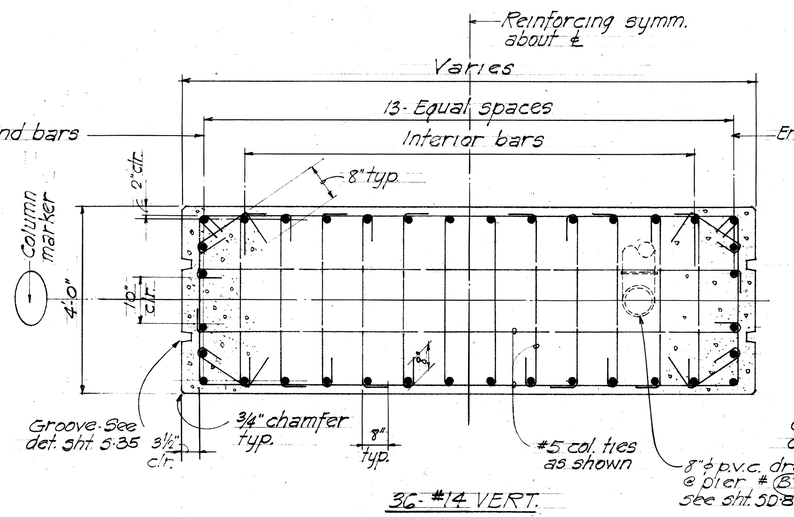
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-HI-I-I(86)17	1981	140	207



40- #18 VERT.

A 5-26 | 5-27 COLUMN SECTION @ A13 A14

Not to scale

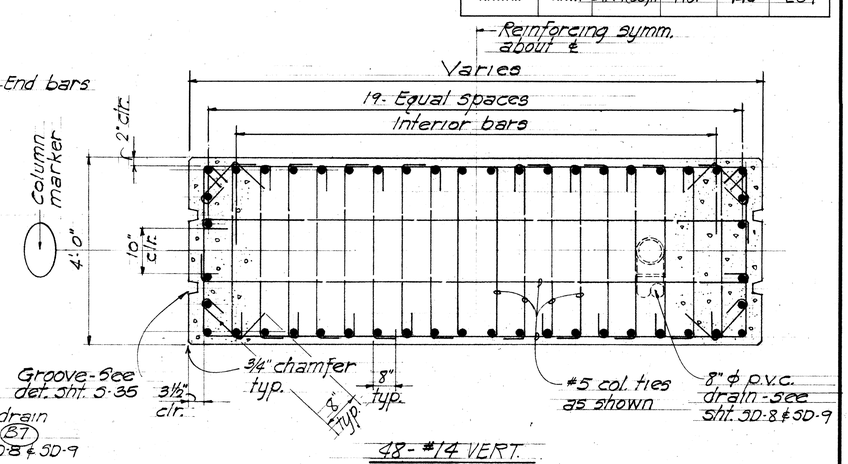


36- #14 VERT.

A 5-26 | 5-27 COLUMN SECTION @ B3 B7

Not to scale

Note: For Columns: fc' = 4,000 p.s.i. concrete

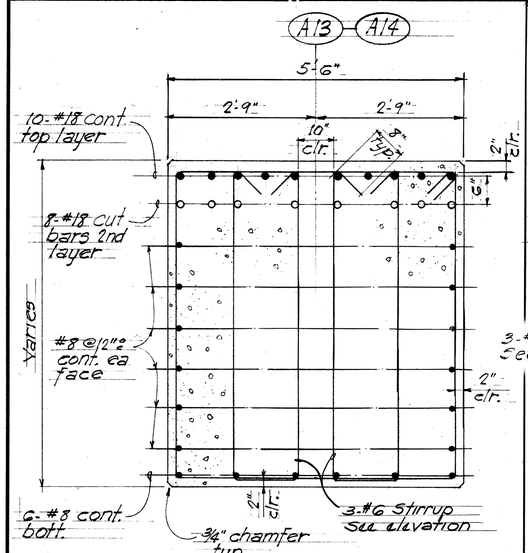


48- #14 VERT.

A 5-26 | 5-27 COLUMN SECTION @ B6

Not to scale

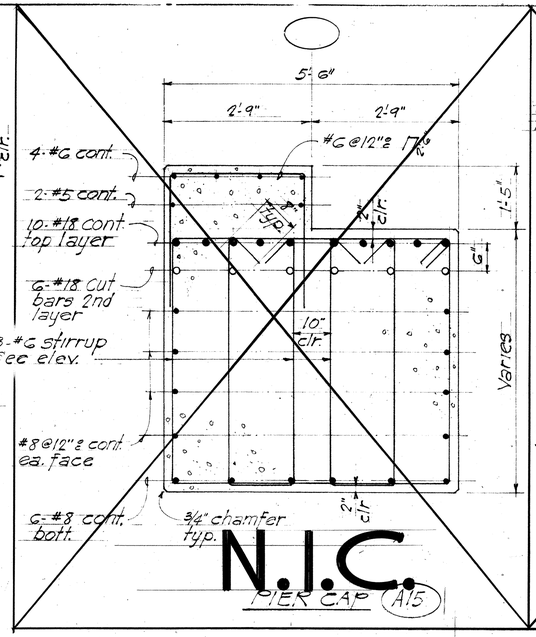
NOTE: All #18 & #14 bars shall be grade 60 bars.



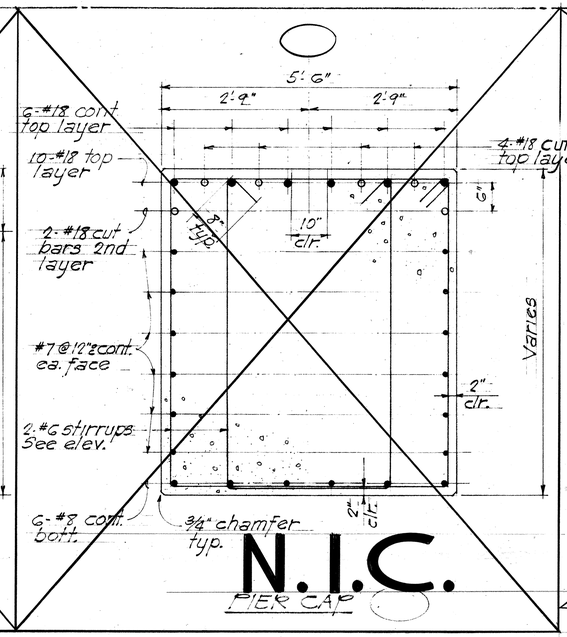
PIER CAP A13 & A14

SECTION B 5-26 | 5-27

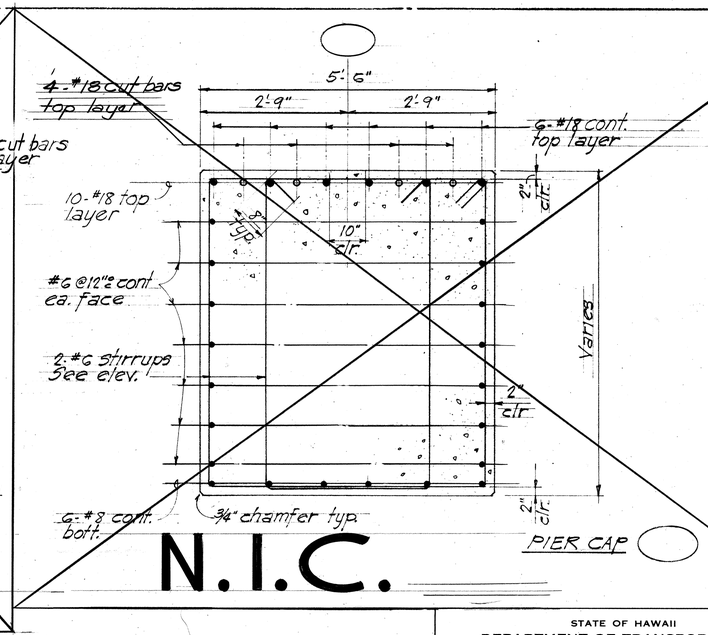
Scale ¾" = 1'-0"



PIER CAP A15



PIER CAP



PIER CAP

NOTE: Adjust pier cap top main reinforcing spacing to clear bearing plate anchor bolts.

NOTE: All #18 bars shall be grade 60 bars

Note: For Pier Caps: fc' = 4,000 psi concrete

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B) HOV RAMP, RAMP "A" & RAMP "B"

PIER DETAILS

KEEHI INTERCHANGE

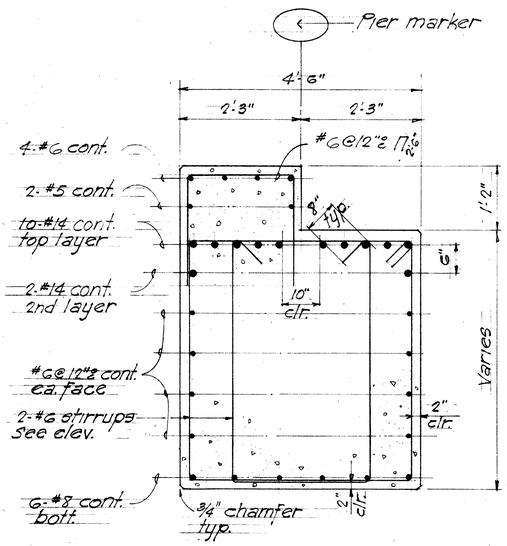
F.A.I. PROJ. No. I-HI-I(86)17

Scale: As Shown Date: JUNE 1981

SHEET No. 5-27 OF 60 SHEETS

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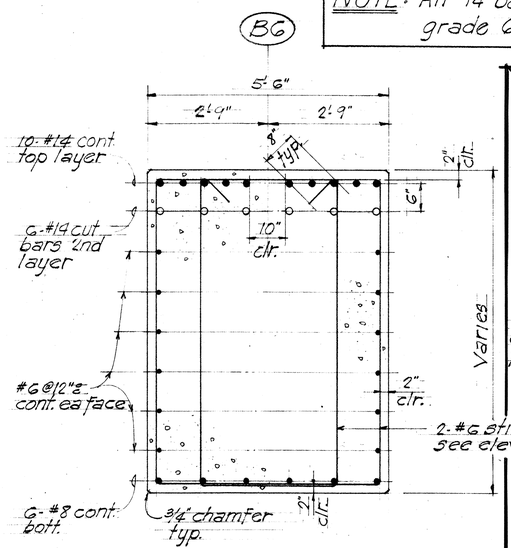
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	~~F-HI-1(86)17~~	1981	141	207



PIER CAP (B3) & (B7)

SECTION (B) S-26 | S-28

Scale 3/4"=1'-0"



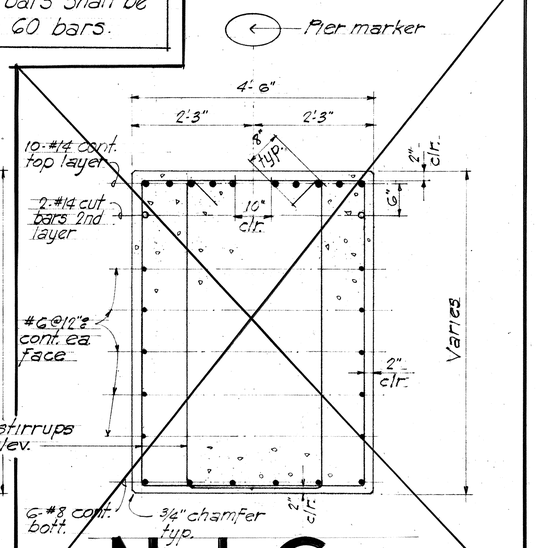
PIER CAP (B6)

SECTION (B) S-26 | S-28

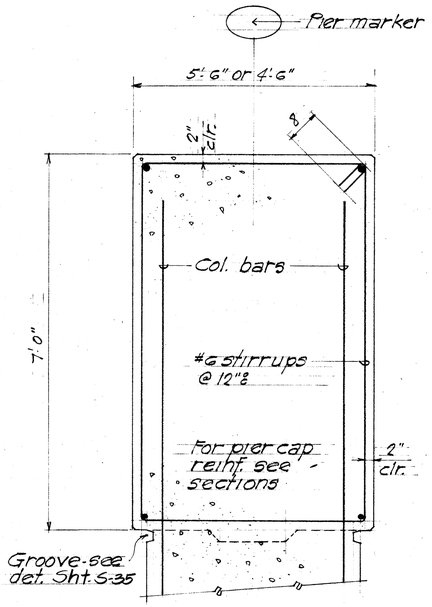
Scale 3/4"=1'-0"

Note: For Pier Caps: fc' = 4,000 p.s.i.

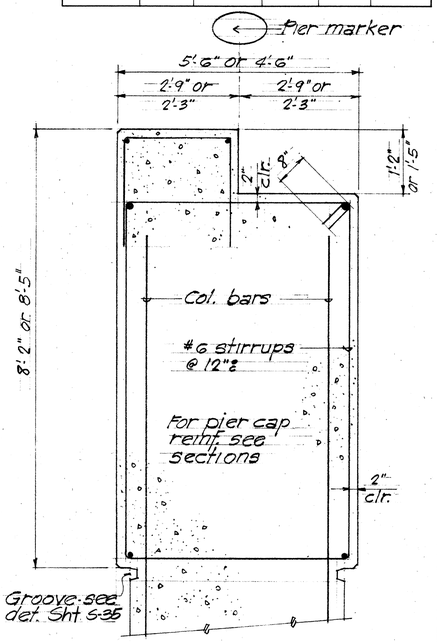
NOTE: All #14 bars shall be grade 60 bars.



NOTE: Adjust pier cap top main reinforcing spacing to clear bearing plate anchor bolts.



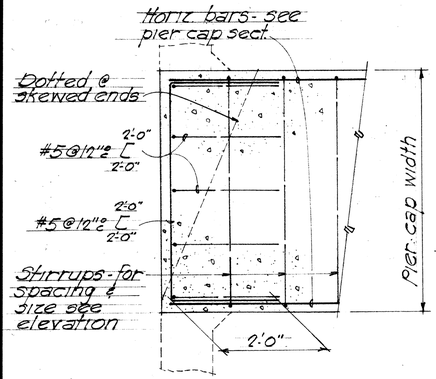
PIER CAP (A13) (A14) & (B6)



PIER CAP (B3) & (B7)

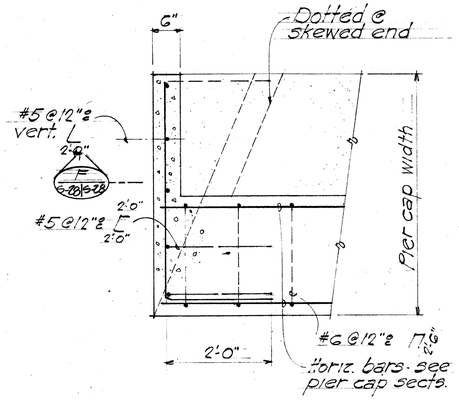
SECTION (C) S-26 | S-28

Scale 3/4"=1'-0"



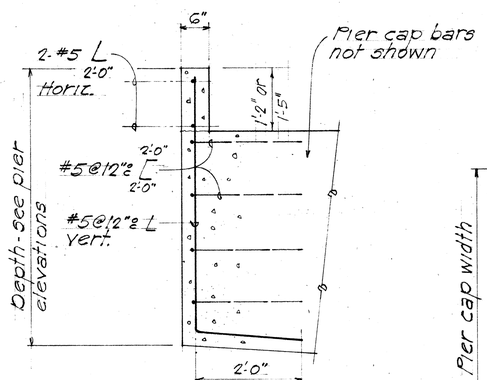
SECTION (D) S-26 S-28 S-29

Scale 3/4"=1'-0"



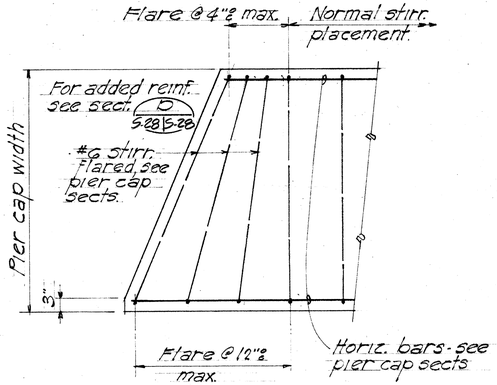
SECTION (E) S-26 | S-28

Scale 3/4"=1'-0"



SECTION (F) S-28 | S-28

Scale 3/4"=1'-0"



G S-26 | S-28

TYPICAL PIER CAP STIRRUP PLACEMENT DET. @ SKEWED ENDS

fc' = 4,000 psi concrete

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A" & RAMP "B"
PIER DETAILS

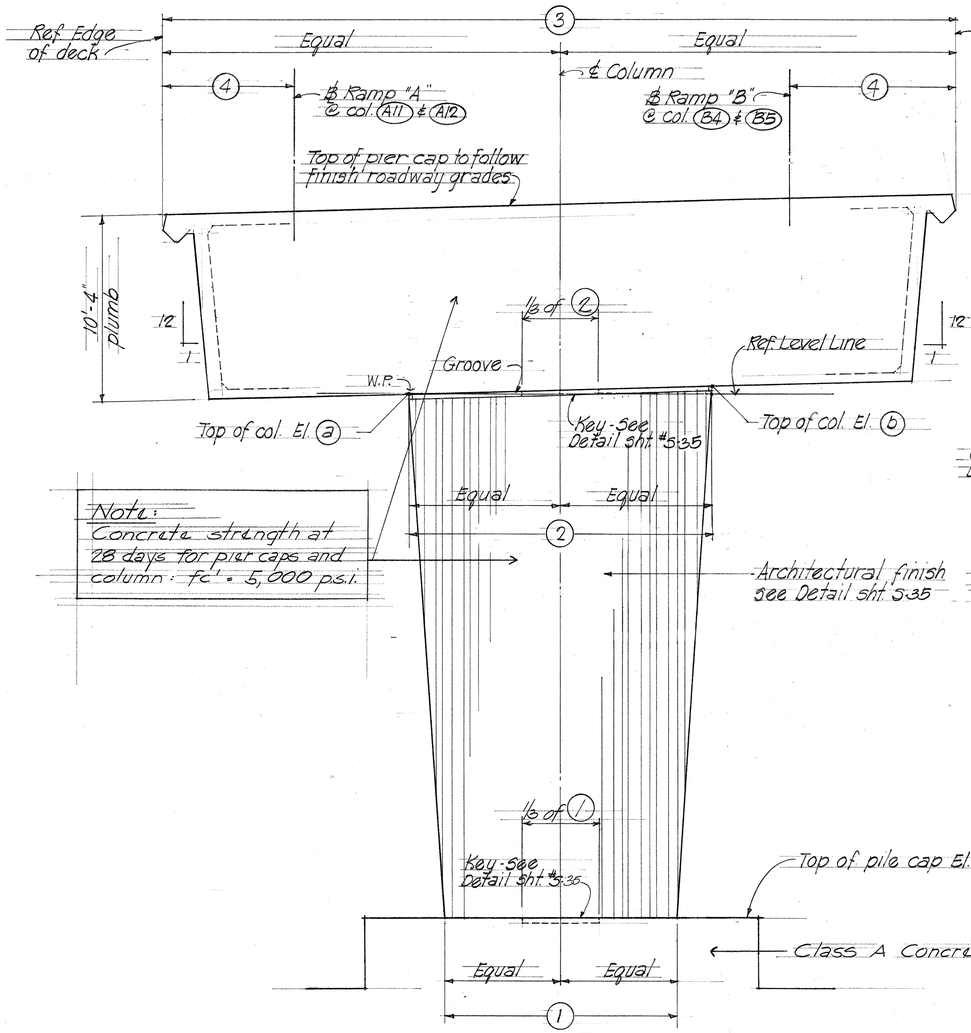
KEEHI INTERCHANGE
F.A.I. PROJ. No. I-HI-1 (86)17
Scale: As Shown Date: JUNE 1981

SHEET NO S-28 OF 60 SHEETS

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

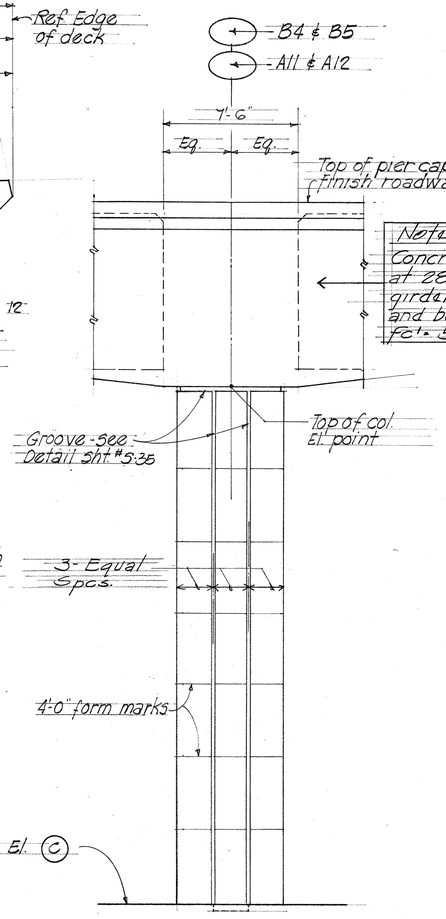
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-I-1(86)17	1981	142	207



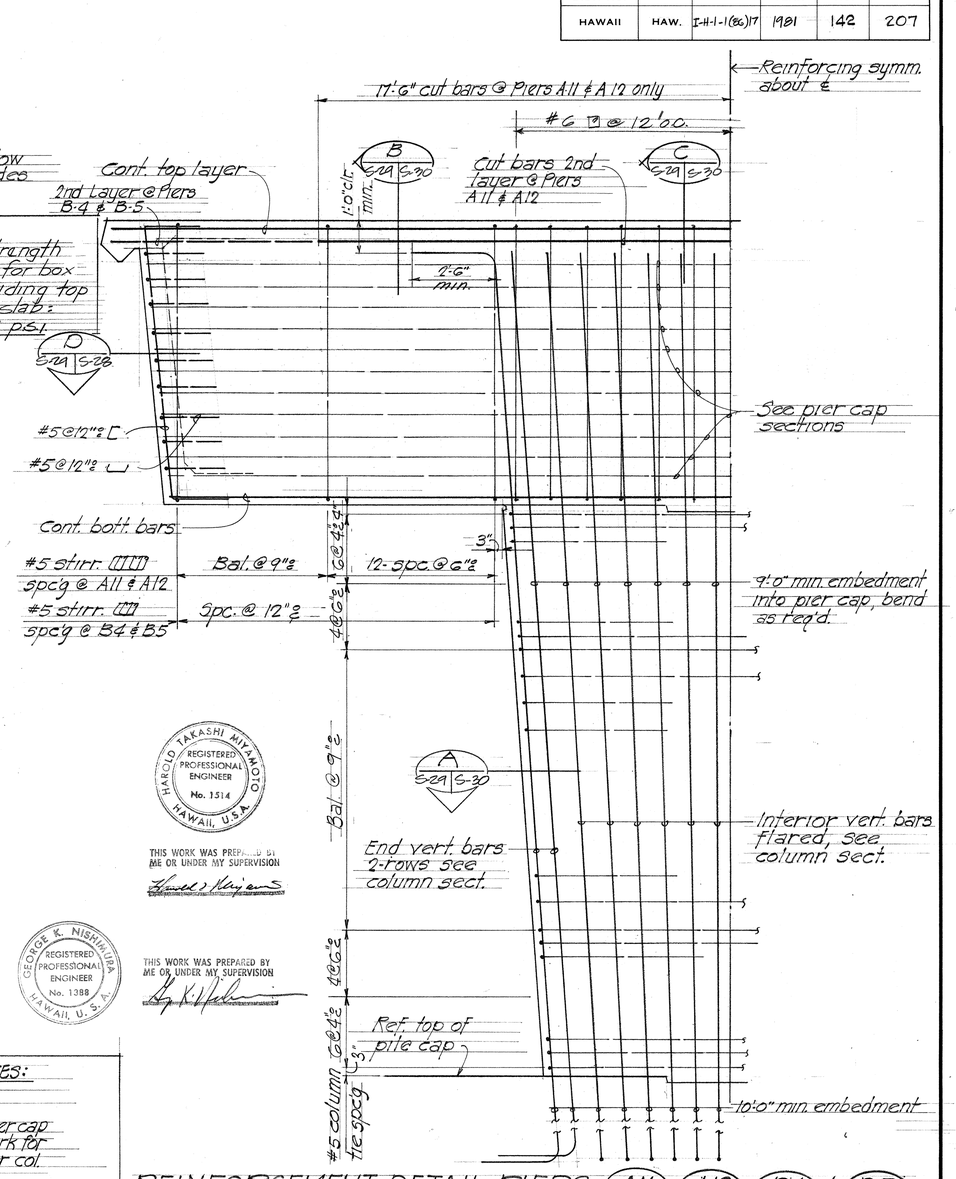
ELEVATION PIERS A11 A12 B4 & B5

Scale 1/4"=1'-0"



END ELEVATION

Scale 1/4"=1'-0"



REINFORCEMENT DETAIL PIERS A11 A12 B4 & B5

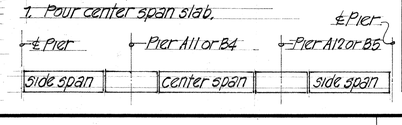
Not to scale

PIER DIMENSION & ELEVATION SCHEDULE

PIER NUMBER	DIMENSIONS ①	②	③	④	ELEVATIONS ⓐ	ⓑ	ⓒ
A11	13'-0"	17'-0"	42'-9"	1'-4½"	34.17	35.28	4.50
A12	12'-6"	17'-6"	42'-9"	1'-4½"	39.26	40.40	1.50
B4	11'-0"	15'-0"	29'-3"	9'-4½"	33.36	34.08	3.50
B5	11'-0"	15'-0"	29'-3"	9'-4½"	31.19	31.00	0.50

CONSTRUCTION SEQUENCE NOTES:
for PIERS A11, A12, B4 & B5

1. Construct footing, columns and pier cap bottom slab and webs. Falsework for pier cap to be supported by pier col. & or pile cap.
2. When bottom slab and web concrete has attained a minimum cylinder strength of 3,000 psi (10 days min.) remove the interior forms. Note: Pier cap false work shall not be removed until 28 days after top slab is cast. (See step 4)
3. Pour pier cap top slab: taking into account elevations and total camber as shown on drawings
4. When entire cap concrete has attained a minimum cylinder strength of 5,000 psi (28 days min.) remove pier cap falsework, beginning from the extremities of the cap and proceeding uniformly toward the column.
5. Place girders alternately for side & center spans with not more than one girder dead load unbalance.
6. Pour side span slabs.
7. Pour center span slab.



HAROLD TAKASHI MIYAMOTO REGISTERED PROFESSIONAL ENGINEER No. 1514 HAWAII, U.S.A.

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GEORGE K. NISHIMURA REGISTERED PROFESSIONAL ENGINEER No. 1388 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.), H.O.V. RAMP, RAMP "A" & RAMP "B"

PIER A11, A12, B4, & B5 DETAILS

KEEHI INTERCHANGE

F.A.I. PROJ. NO. I-HI-1(86)17

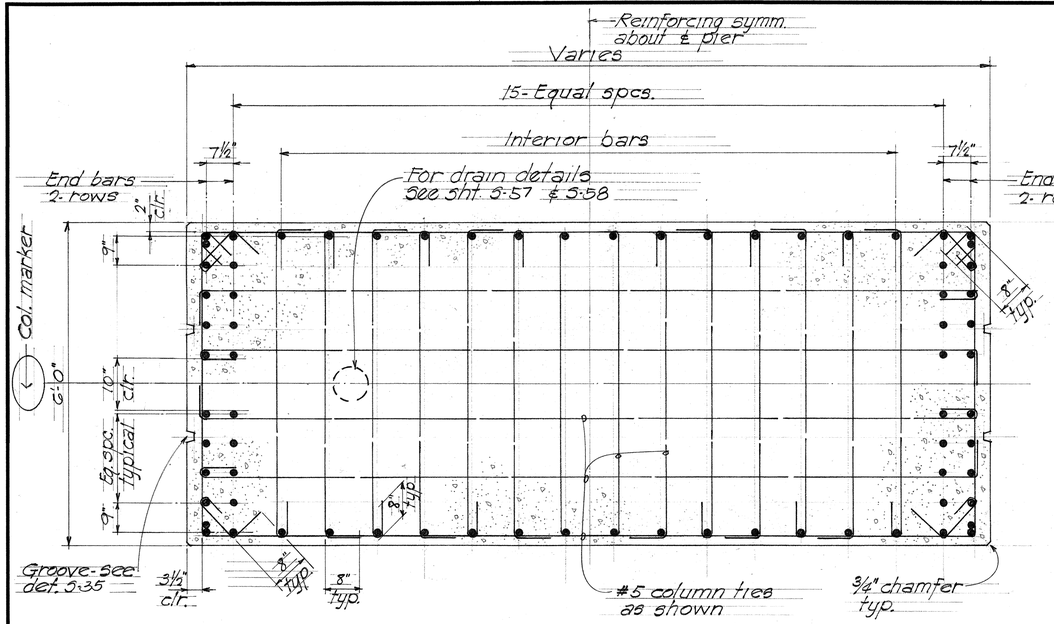
Scale: As shown Date: JUNE 1981

SHEET NO. S-29 OF 60 SHEETS

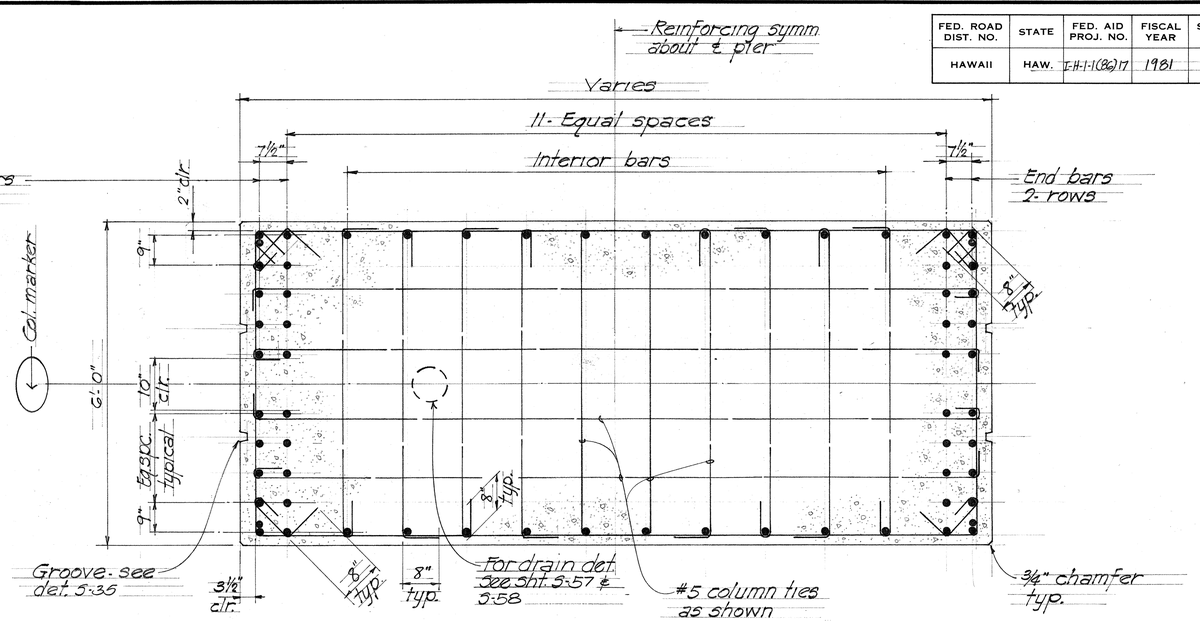
ORIGINAL PLAN | NOTE BOOK | No. | DATE
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1-1(86)17	1981	143	207



72-#18 VERT

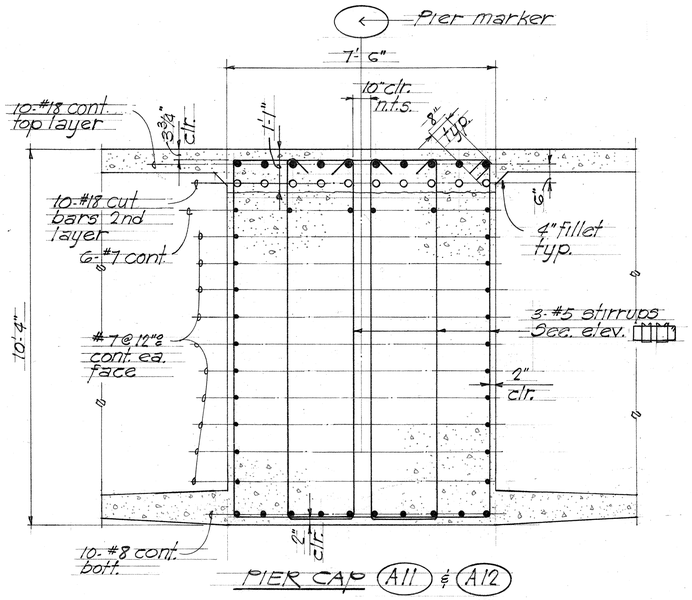


64-#18 VERT.

NOTE:
1. All #18 bars shall be grade 60 bars.
2. For columns: fc' = 5,000 p.s.i.

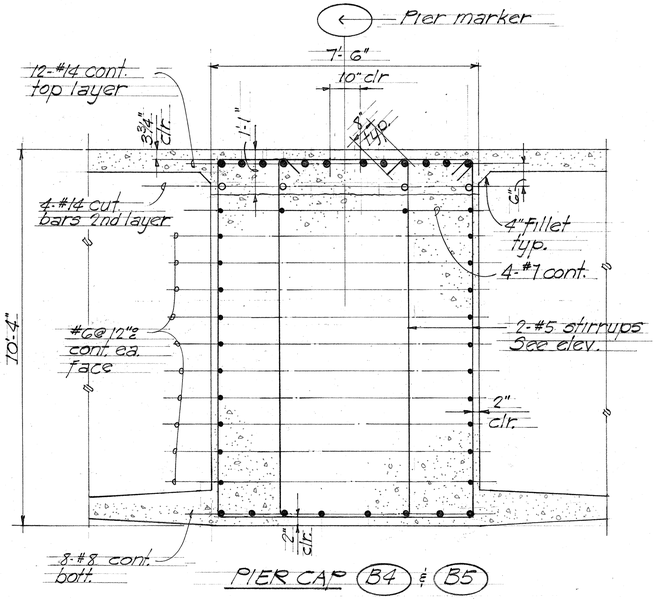
A S-29 | S-30 COLUMN SECTION @ A11 & A12
Scale ¾"=1'-0"

A S-29 | S-30 COLUMN SECTION @ B4 & B5
Scale ¾"=1'-0"



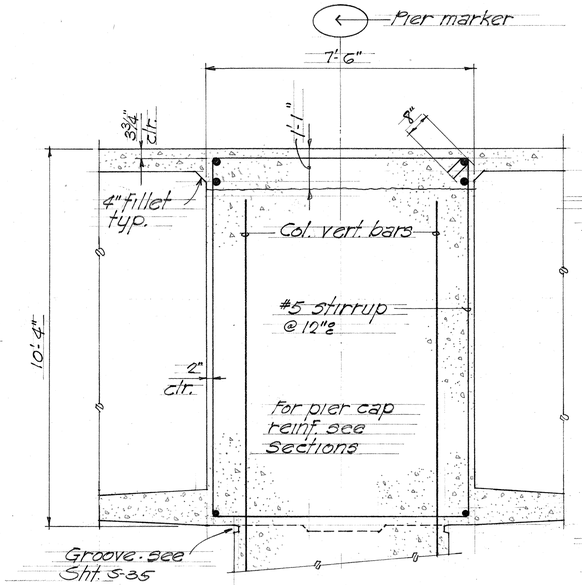
PIER CAP A11 & A12

SECTION B S-29 | S-30
Scale ½"=1'-0"



PIER CAP B4 & B5

SECTION B S-29 | S-30
Scale ½"=1'-0"



TYP. SECTION C S-29 | S-30
Scale ½"=1'-0"

NOTE:
1. All #18 & #14 bars shall be grade 60 bars
2. For pier caps: fc' = 5,000 p.s.i.

HAROLD TAKASHI MIYAMOTO REGISTERED PROFESSIONAL ENGINEER No. 1514 HAWAII, U.S.A.

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GEORGE K. NISHIMURA REGISTERED PROFESSIONAL ENGINEER No. 1388 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB.) HOV RAMP, RAMP "A" & RAMP "B"

PIER DETAILS

KEEHI INTERCHANGE

F.A.I. PROJ. NO. I-HI-1(86)17

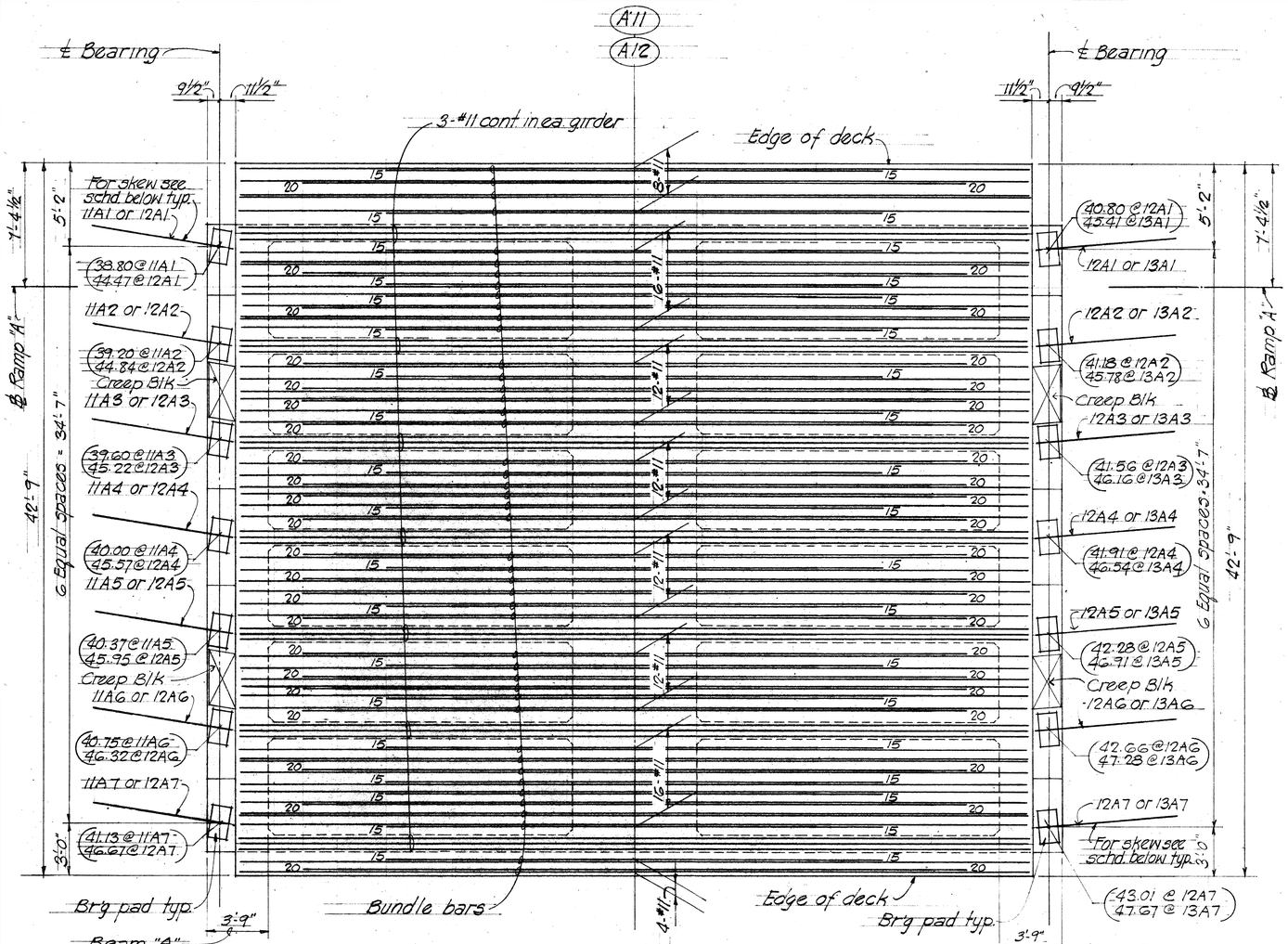
Scale: As shown Date: JUNE 1981

SHEET NO. S-30 OF 60 SHEETS

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

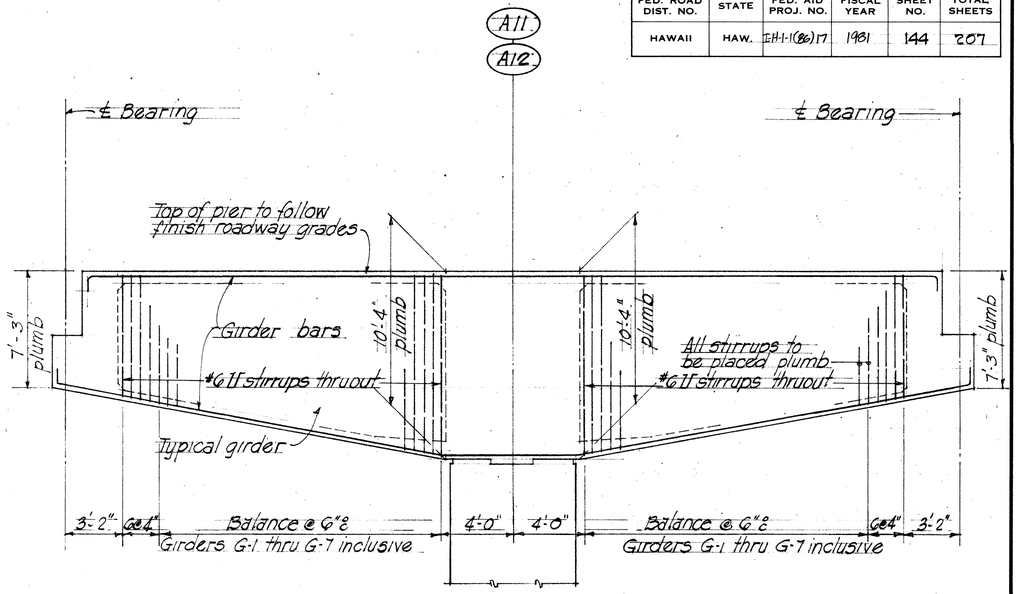
PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H1-1(86)17	1981	144	207



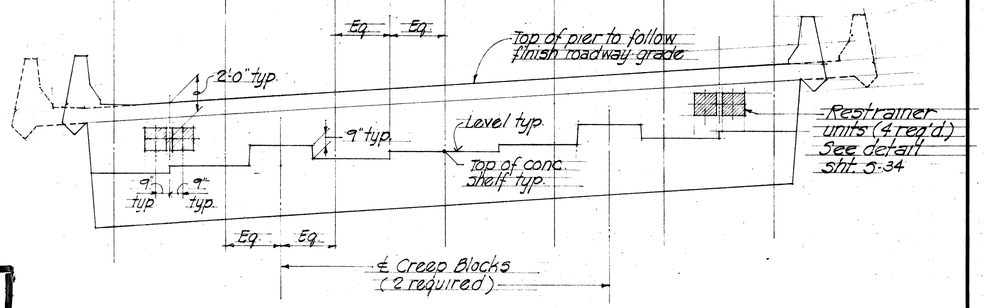
TOP SLAB MAIN REINFORCEMENT PLAN @ PIERS A11 & A12

Scale 1/4"=1'-0"



PROFILE - SHOWING STIRRUP PLACEMENT @ PIERS A11 & A12

Scale 1/4"=1'-0"



TYPICAL ELEVATION @ BEARING ENDS - PIERS A11 & A12

Scale 1/2"=1'-0"

NOTE:

1. For normal deck section - see sht. #S-55
2. All #11 bars shall be grade 60 bars.
3. (00.00) denotes top of conc. shelf elevation.
4. For drain details see detail shts. S-57 & S-58

GIRDER SKEW SCHEDULE @ PIERS A11 & A12

Girder No	DOWNSTATION	UP STATION
11A1		13/16" : 12"
11A2		13/16" : 12
11A3		13/16" : 12
11A4		13/16" : 12
11A5		3/4" : 12
11A6		3/4" : 12
11A7		3/4" : 12
12A1 thru 12A7	7/8" : 12"	7/8" : 12"
13A1 thru 13A7	13/16" : 12"	

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS

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

STATE OF HAWAII
REGISTERED PROFESSIONAL ENGINEER
No. 1514
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

REGISTERED PROFESSIONAL ENGINEER

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.), H.O.V. RAMP, RAMP "A" & RAMP "B"

DETAILS AT PIERS A11 & A12

KEEHI INTERCHANGE

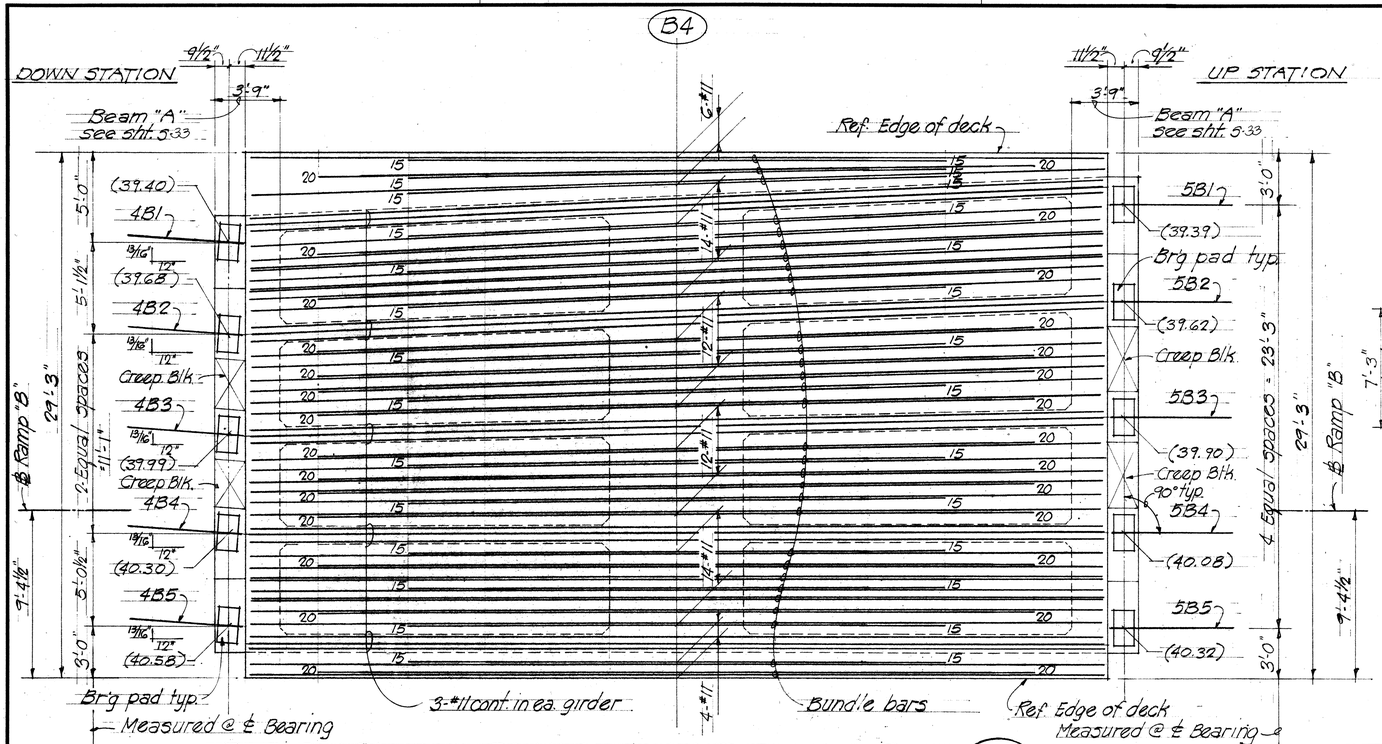
F.A.I. PROJ. NO. 1-HI-1 (86) 17

Scale: AS SHOWN Date: JUNE 1981

SHEET NO. S-31 OF 60 SHEETS

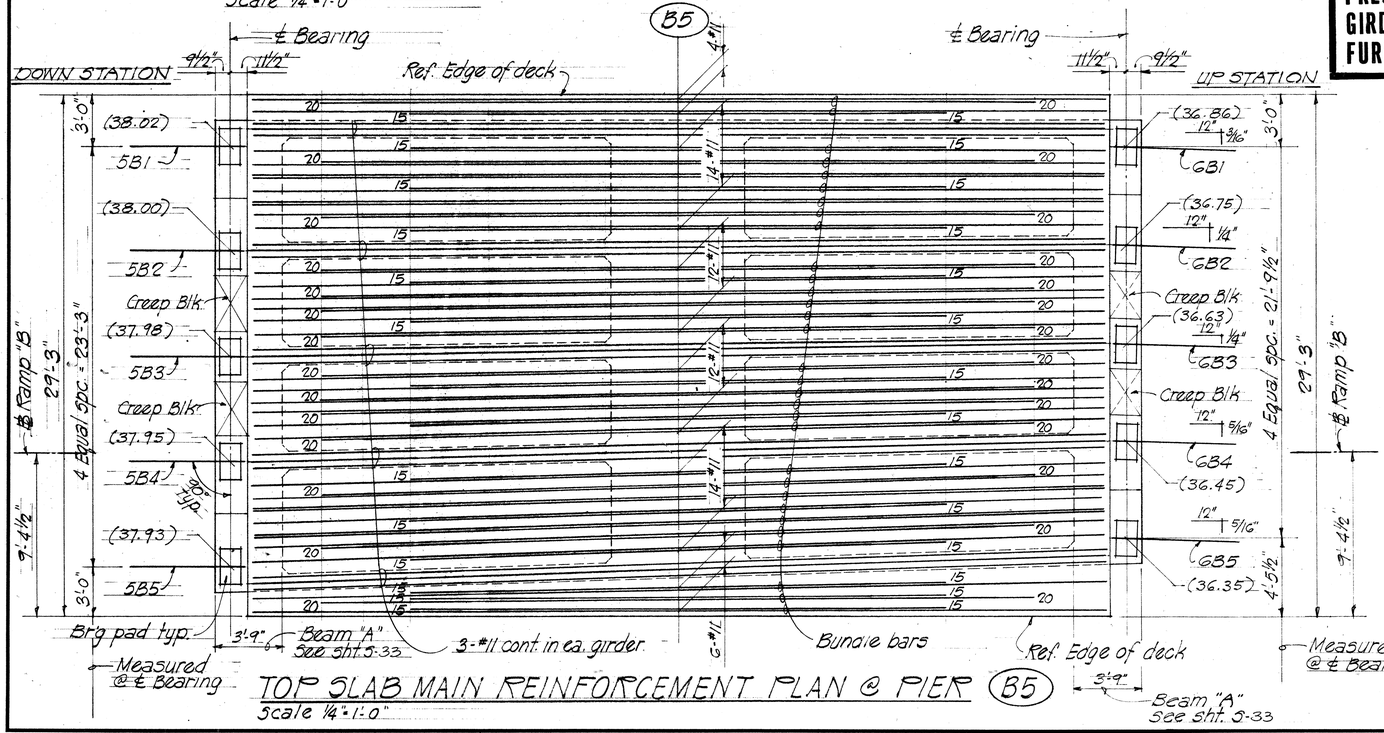
PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H1-1(86)17	1981	145	207



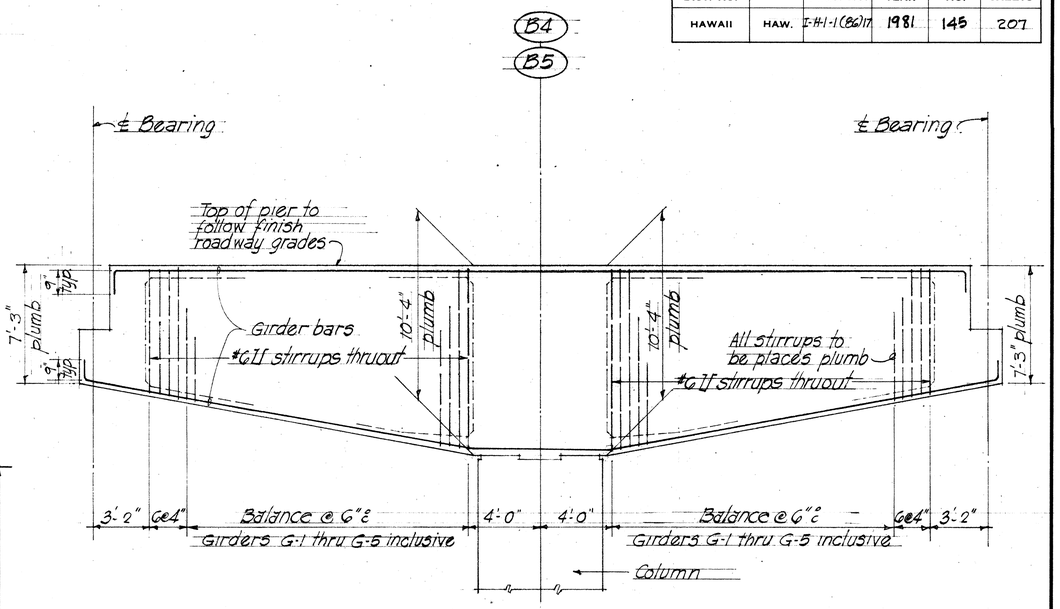
TOP SLAB MAIN REINFORCEMENT PLAN @ PIER (B4)

Scale 1/4"=1'-0"



TOP SLAB MAIN REINFORCEMENT PLAN @ PIER (B5)

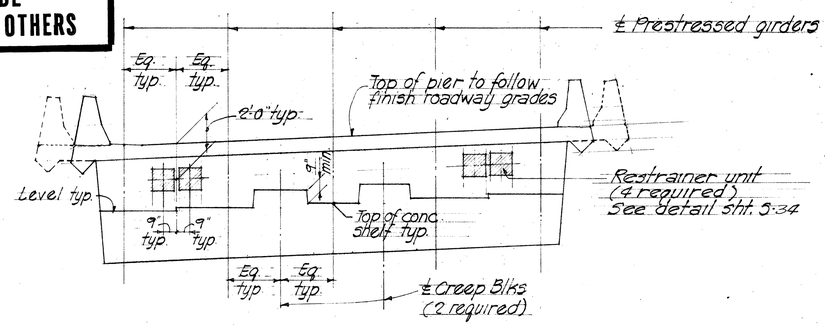
Scale 1/4"=1'-0"



PROFILE - SHOWING STIRRUP PLACEMENT @ PIERS (B4) & (B5)

Scale 1/4"=1'-0"

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS



TYPICAL ELEVATION @ BEARING ENDS - PIERS (B4) & (B5)

Scale 1/4"=1'-0"

NOTE:

1. For normal deck section - see sht. #5-55
2. All #11 bars shall be grade 60 bars.
3. (00.00) denotes top of conc. shelf elevation.
4. For drain details - see detail shts. 5-57 & 5-58

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Thomas K. Hiyama
REGISTERED PROFESSIONAL ENGINEER No. 1314

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Gordon K. Uyehara
REGISTERED PROFESSIONAL ENGINEER No. 1388

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB), HOV RAMP, RAMP "A" & RAMP "B"

DETAILS AT PIERS B4 & B5

KEEHI INTERCHANGE

F.A.I. PROJ. NO. I-HI-1(86)17

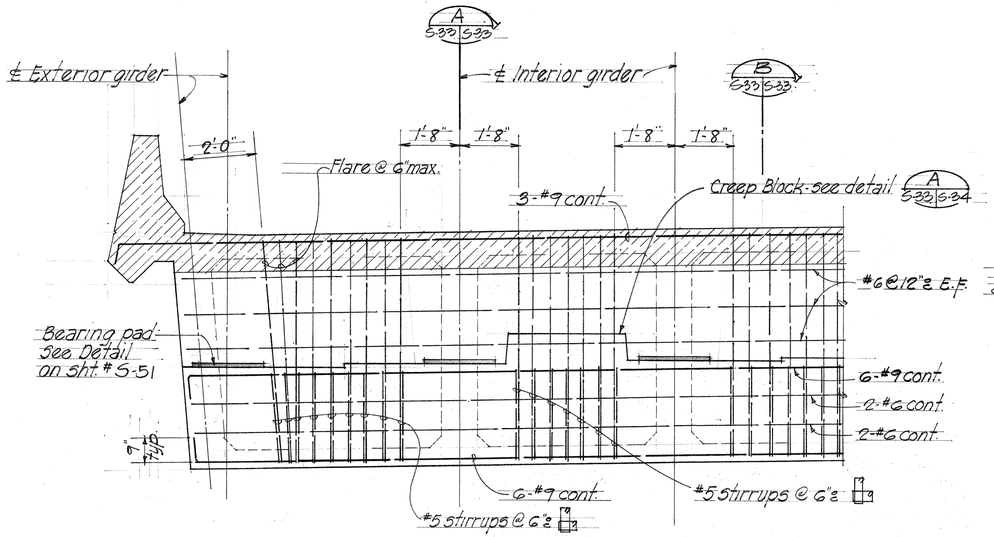
Scale: As shown Date: JUNE 1981

SHEET NO. 5-32 OF 60 SHEETS

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

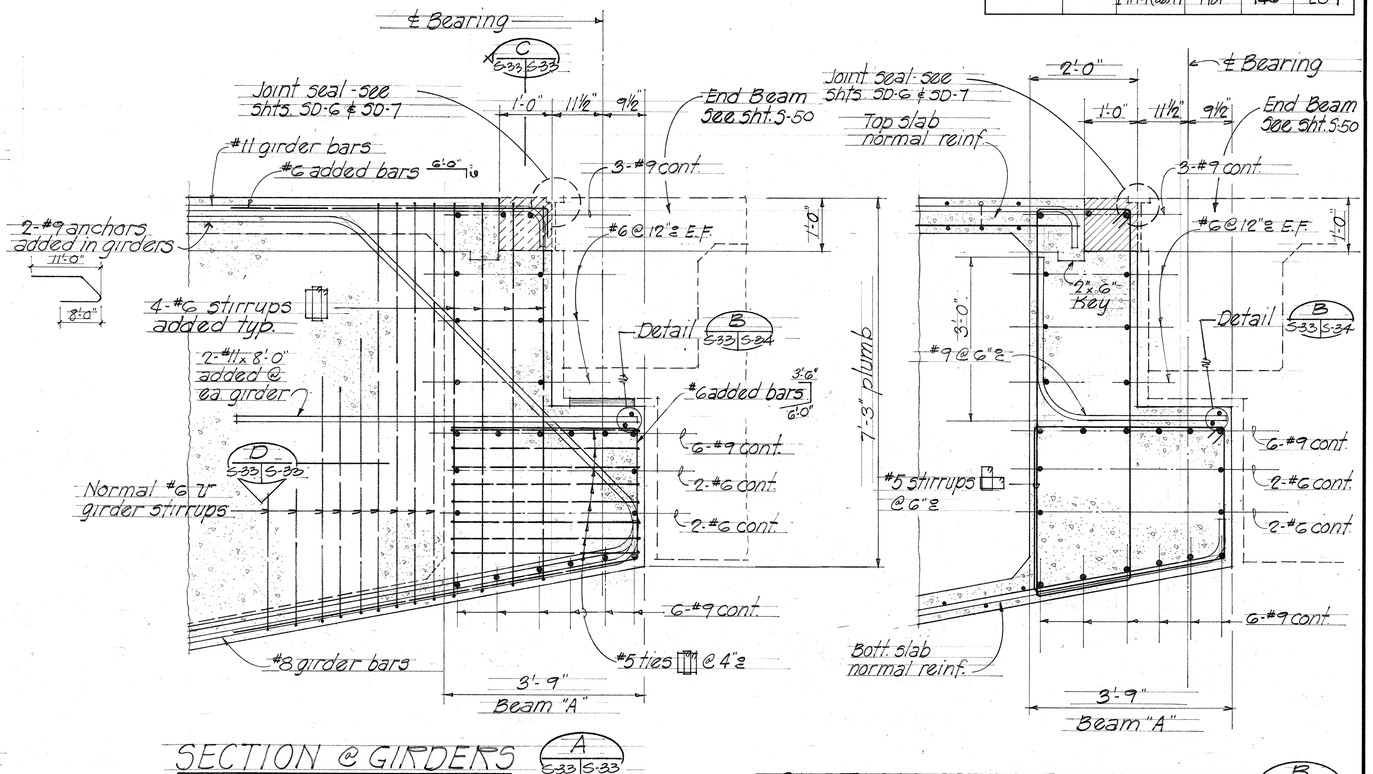
PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-HI-1(86)17	1981	146	207



TYPICAL BEAM "A" ELEVATION

Scale 1/2" = 1'-0"

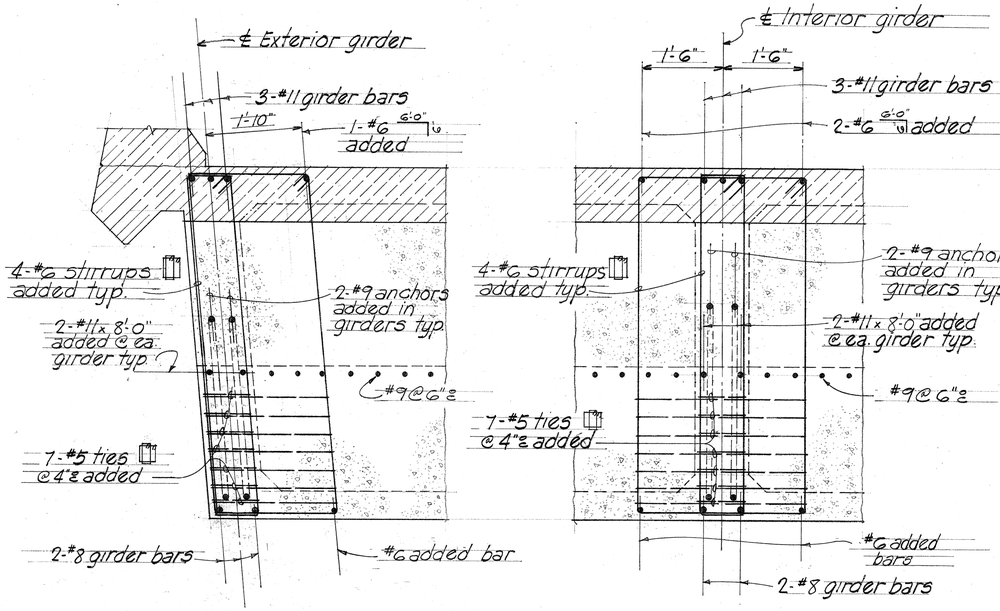


SECTION @ GIRDERS A S-33 S-33

Scale 3/4" = 1'-0"

SECTION BETWEEN GIRDERS B S-33 S-33

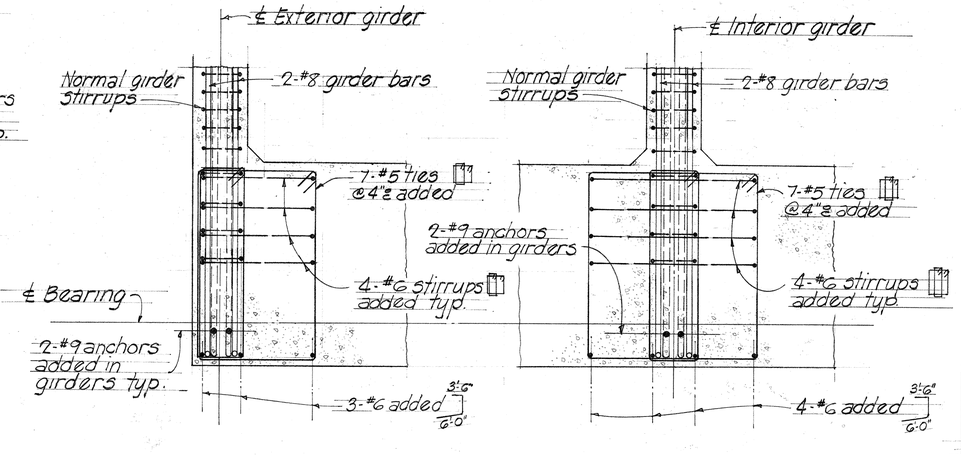
Scale 3/4" = 1'-0"



@ EXTERIOR GIRDER @ INTERIOR GIRDER

SECTION C S-33 S-33

Scale 3/4" = 1'-0"



@ EXTERIOR GIRDER @ INTERIOR GIRDER

SECTION D S-33 S-33

Scale 3/4" = 1'-0"

Note:
Concrete Strength at 28 days for all concrete this sheet fc' = 5,000 p.s.i.

HAROLD TAKASHI MIYAMOTO REGISTERED PROFESSIONAL ENGINEER No. 3514 HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A" & RAMP "B" BEAM "A" DETAILS

KEEHI INTERCHANGE

F.A.I. PROJ. NO. I-HI-1(86)17

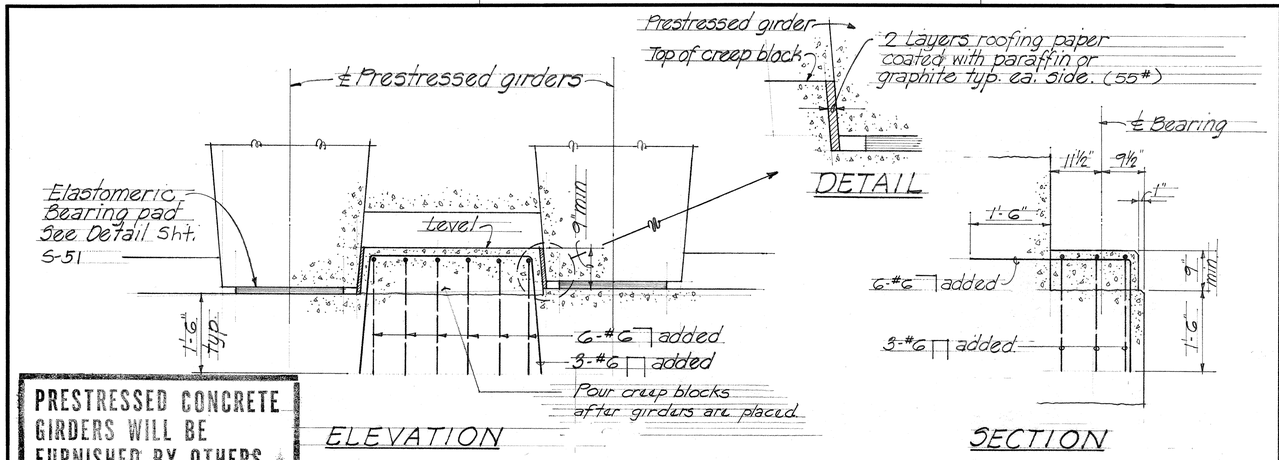
Scale: As shown Date: JUNE 1981

SHEET NO. S-33 OF 60 SHEETS

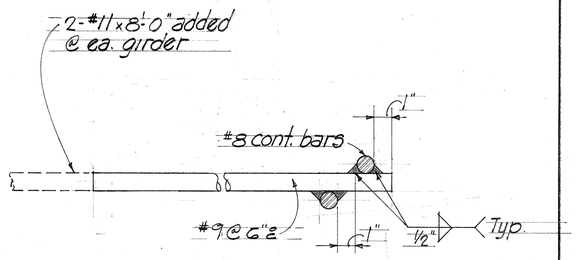
ORIGINAL PLAN	NOTE BOOK	No.
SURVEY PLOTTED BY	DATE	
DRAWN BY		
TRACED BY		
DESIGNED BY		
QUANTITIES BY		
CHECKED BY		

PRINTED ON NO. 1000H CLEARPRINT

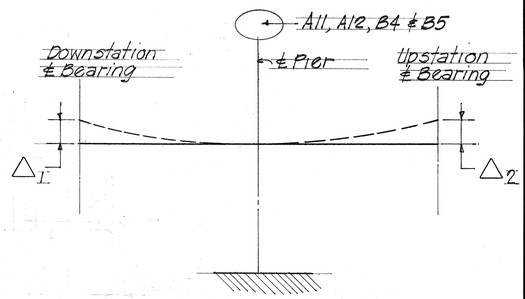
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(86)17	1981	147	207



A S-33 S-34 TYPICAL CREEP BLOCK DETAILS scale 3/4"=1'-0"



DETAIL B S-33 S-34
Scale 3"=1'-0"

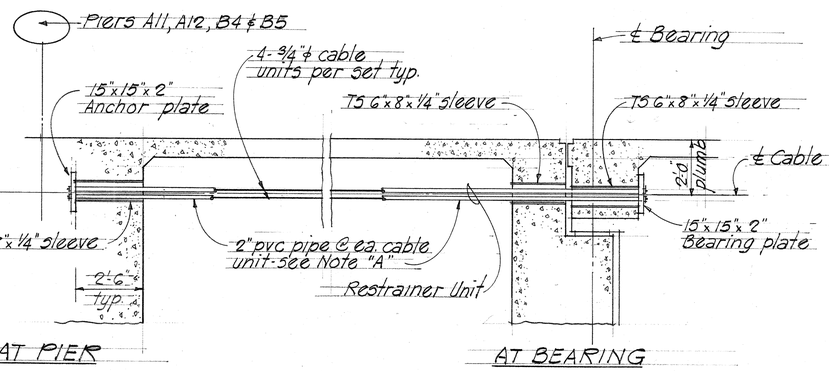


CAMBER DIAGRAM

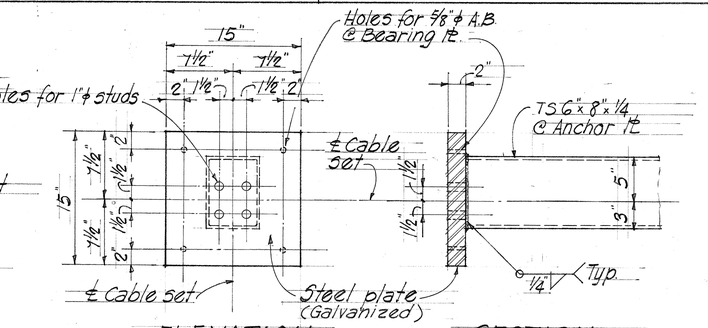
CAMBER TABLE

SOURCE	PIER All		PIER Al2		PIER B4		PIER B5	
	△1	△2	△1	△2	△1	△2	△1	△2
Deadload Approach Beams	1/32"	1/32"	1/32"	1/32"	1/32"	1/32"	1/32"	1/32"
All Other Dead Load	1/32"	1/32"	1/32"	1/32"	1/32"	1/32"	1/32"	1/32"
Long Term Deflection	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"
Total Camber	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"

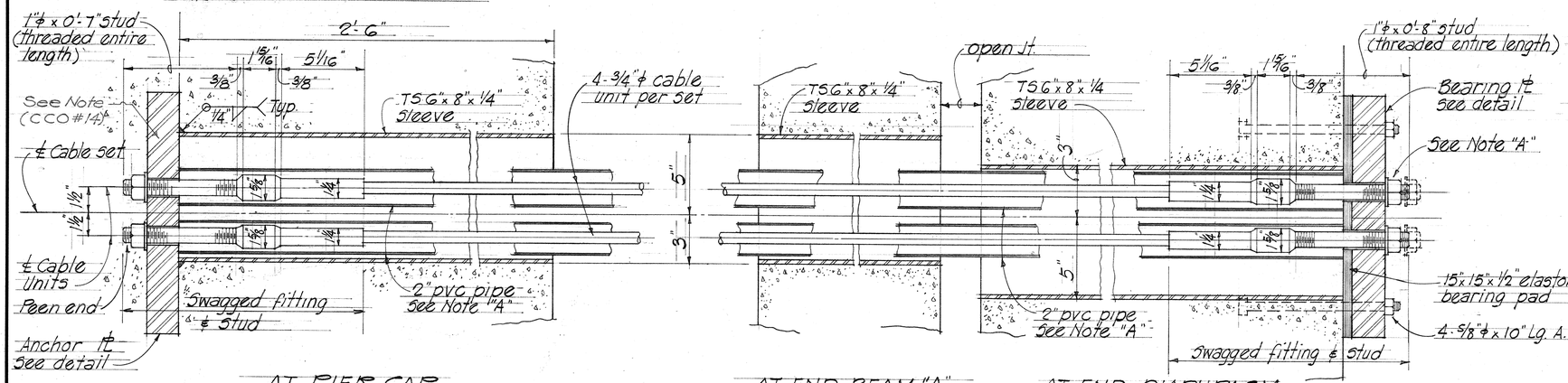
Note: For pier dead load only - no camber required.



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



TYPICAL BEARING & ANCHOR PLATE DETAIL
Scale 1½"=1'-0"



TYPICAL RESTRAINER UNIT DETAIL Not to scale

NOTE "A"

1. After top slab has attained its 28 day concrete strength, torque nut to 45 ft/lbs then back-off one inch typical and peen threads @ Expansion Bearing.
   Torque nut to 20 ft/lbs then release to 5 ft/lbs and peen threads @ Hinged Bearing.
2. All cables shall be greased with heavy duty grease and encased with 2" pvc pipe. All joints in pvc pipe shall be sealed water tight as approved by the Engineer
3. Cables, swagged fitting & studs, nut, washer, plates and steel sleeve to be galvanized.
4. All restrainer units shall be incidental to concrete.

CCO#14
Note: "Anchor Plates for restrainer units on pier caps A-12, B-4, B-5 were reduced in size to meet plan dimensions of girder spacing.
Also see plan sheet Nos. 145 & 146.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A" & RAMP "B"

RESTRAINERS & MISCELLANEOUS DET.

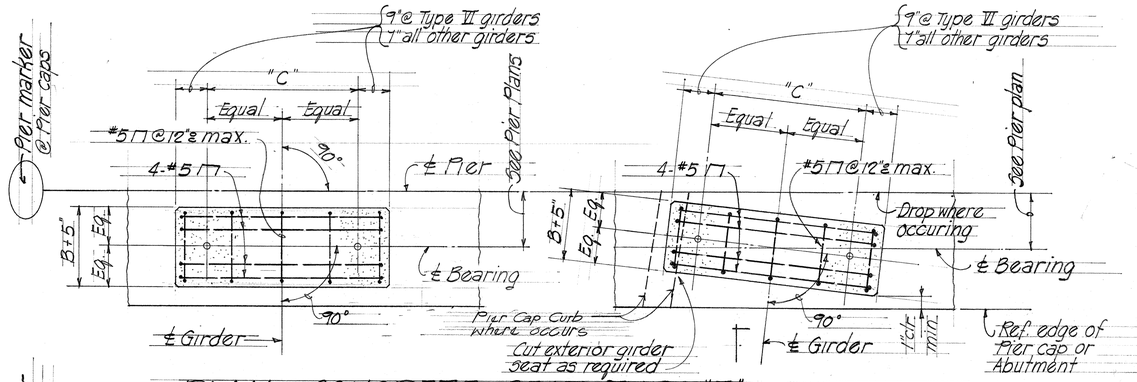
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(86)17
Scale: As shown Date: JUNE 1981

SHEET No. S-34 OF 60 SHEETS

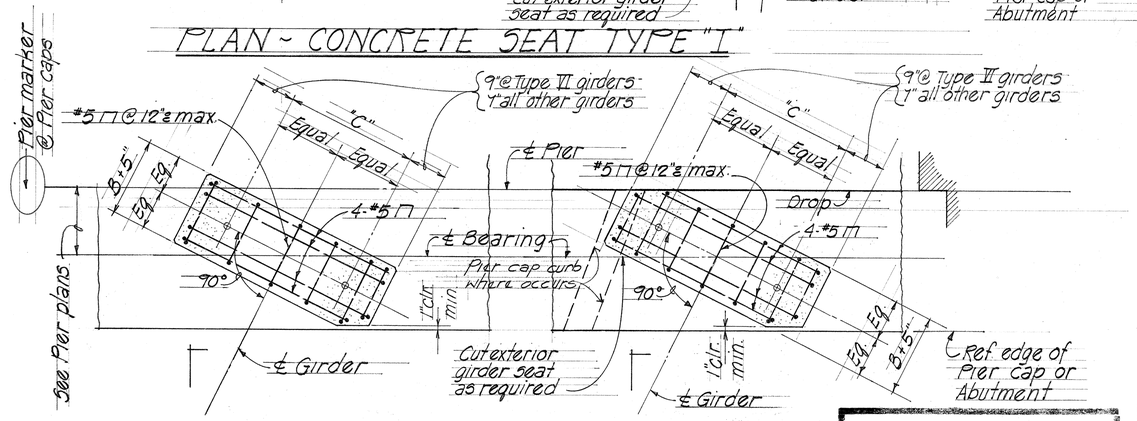
ORIGINAL PLAN | NOTE BOOK | No. | DESIGNED BY | QUANTITIES BY | CHECKED BY | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DATE

PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	148	207

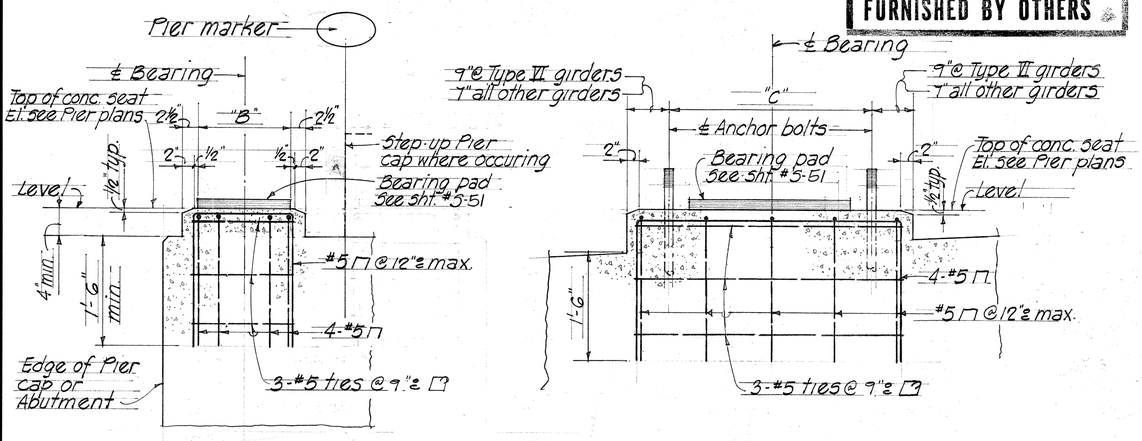


PLAN ~ CONCRETE SEAT TYPE "I"



PLAN ~ CONCRETE SEAT TYPE "II"

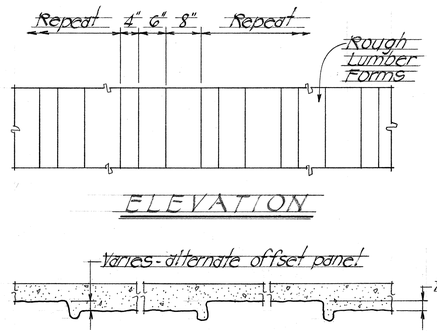
PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS



CROSS SECTION

LONGITUDINAL SECTION

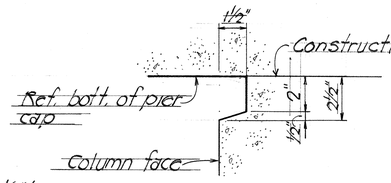
TYPICAL CONCRETE SEAT DETAILS Not to scale



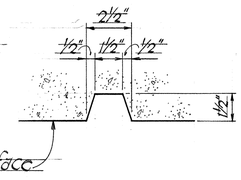
ELEVATION

SECTION

TYP. COLUMN ARCHITECTURAL FINISH DETAIL NOT TO SCALE



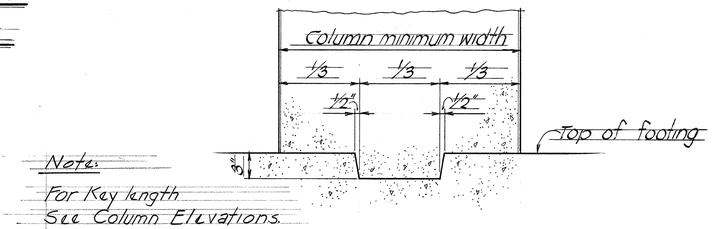
℄ TOP OF COLUMN



℄ VERTICAL GROOVE

TYP. COLUMN GROOVE DETAIL

Scale: 3"=1'-0"



Note:
For Key length
See Column Elevations.

TYPICAL COLUMN KEY DETAIL

Not to scale

(Column key @ top of column similar)

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GEORGE K. NISHIMURA REGISTERED PROFESSIONAL ENGINEER No. 1388 HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A" & RAMP "B"

TYP. CONCRETE SEAT & COLUMN DET.

KEEHI INTERCHANGE

F.A.I. PROJ NO. I-HI-1(86)17

Scale As Noted Date: JUNE 1981

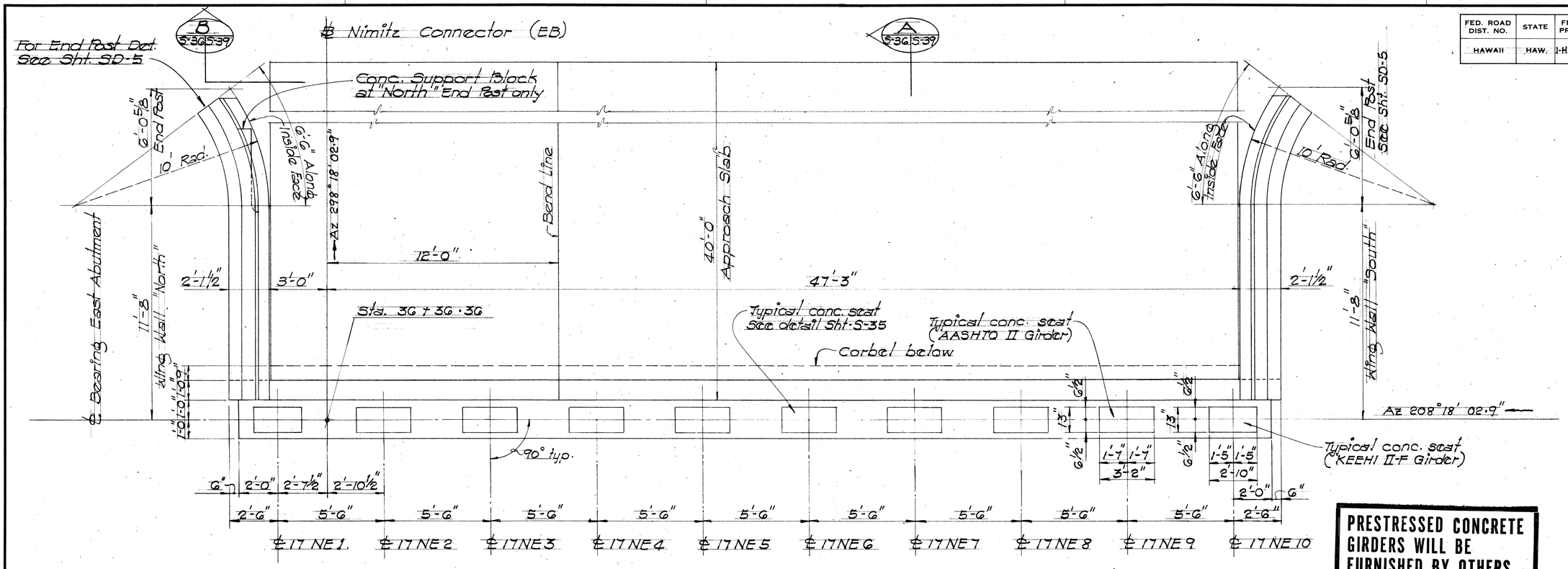
SHEET NO 5-350F 60 SHEETS

ORIGINAL PLAN	NOTE BOOK	No.

SURVEY PLOTTED BY
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QUANTITIES BY
CHECKED BY
DATE

PRINTED ON NO. 1000H CLEARPRINT

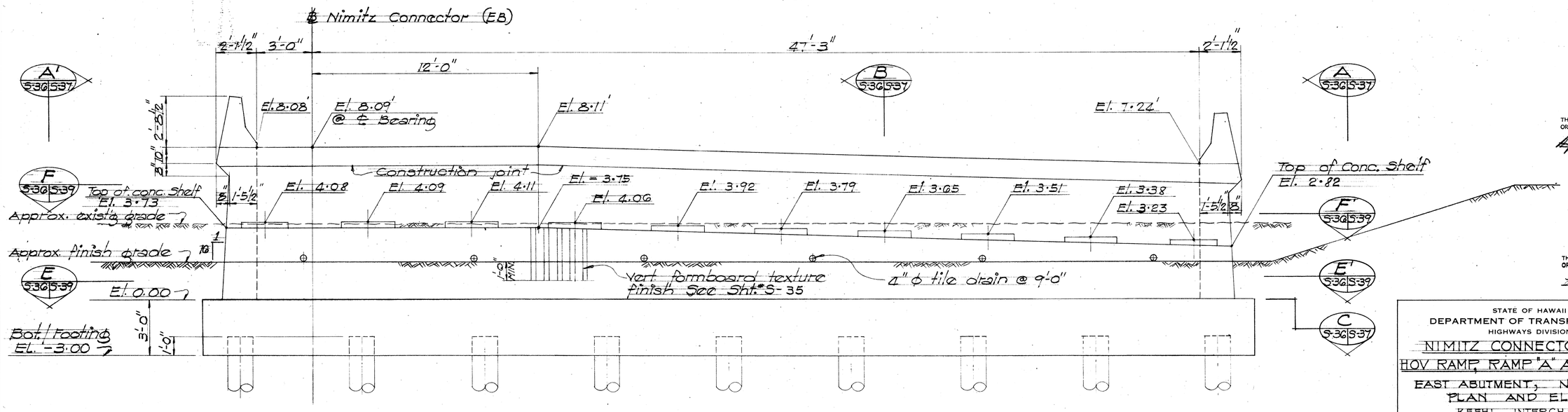
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(36)17	1981	149	207



PLAN — EAST ABUTMENT — NIMITZ CONNECTOR (EB)

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

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS



ELEVATION — EAST ABUTMENT — NIMITZ CONNECTOR (EB)

Scale 3/8" = 1'-0"

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

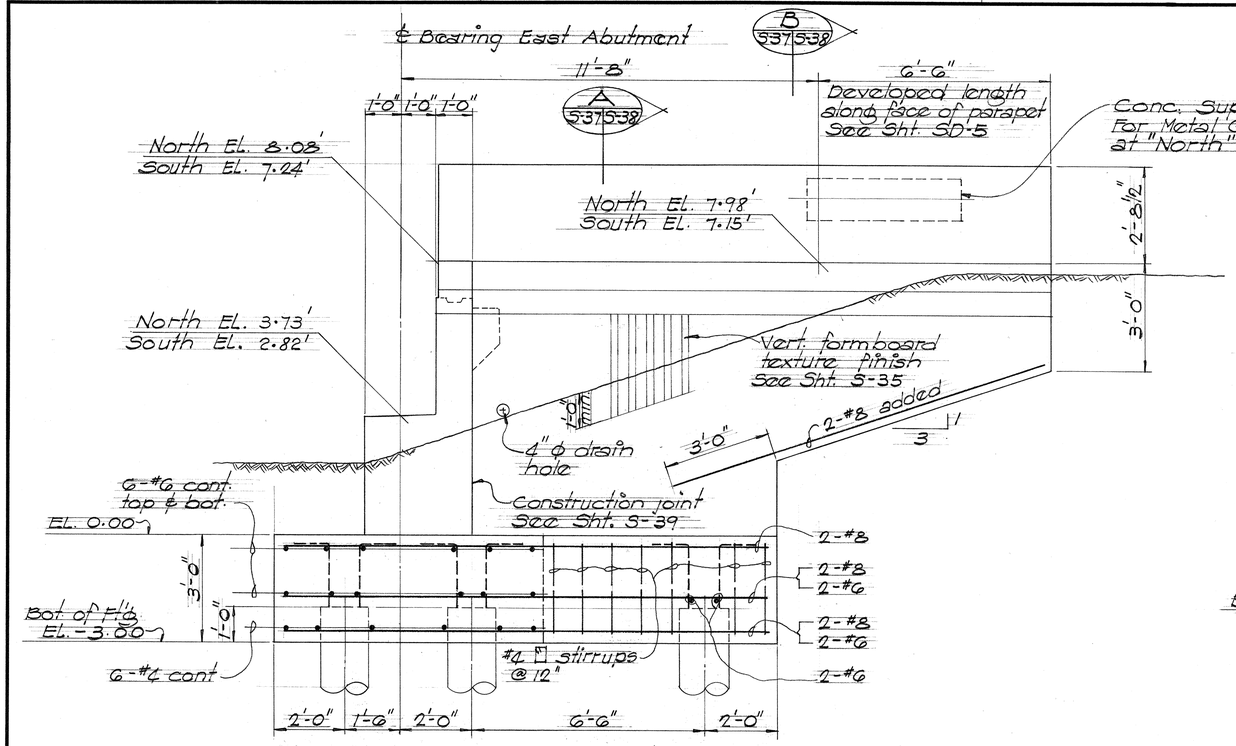
NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"
EAST ABUTMENT, N.C. (EB)
PLAN AND ELEVATION
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (36)17

SCALE: 3/8" = 1'-0" DATE: June 15, 1981

SHEET NO. S-36 OF 60 SHEETS

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

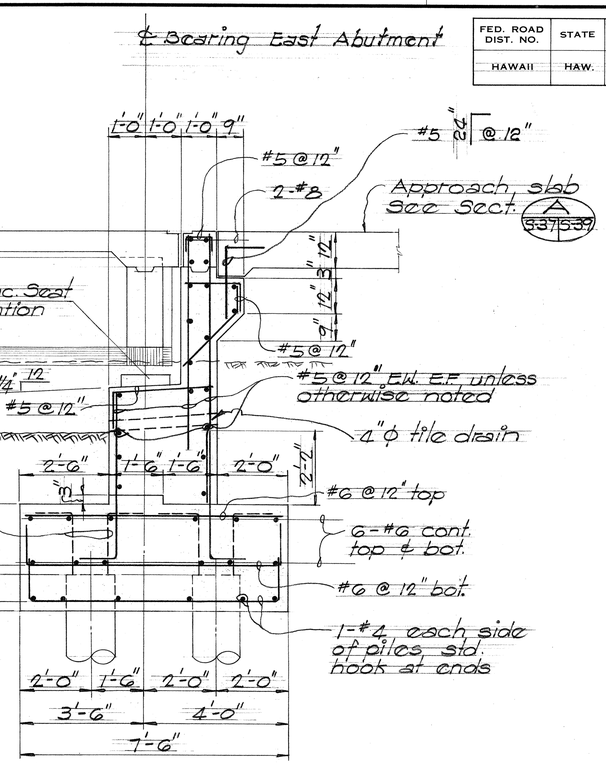
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-I(86)17	1981	150	207



SOUTH ELEVATION AS SHOWN (A S-36 S-37)

NORTH ELEVATION OPPOSITE HAND (A' S-36 S-37)

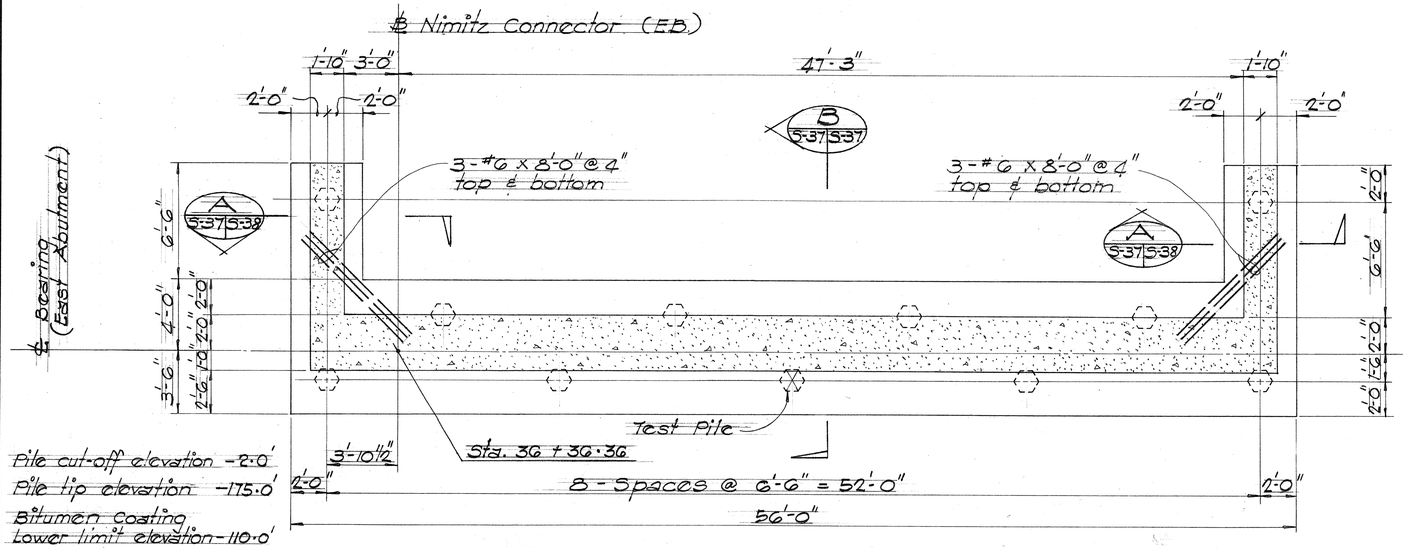
Scale: 1/2" = 1'-0"



SECTION (B S-37)

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

S-36, S-37



PLAN ~ PILE FOUNDATION (C S-37 S-38)

(11 - 16 1/2" OCTAGON TYPE "A" PILES)

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

ABUTMENT NOTES:

1. All reinforcing steel except stirrups shall be grade 60.
2. Concrete strength @ 28 days, f'c = 3,000 psi.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"
NIMITZ CONNECTOR, NC. (EB)
FOUNDATION PLAN, ELEVATION & SECTION
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-I(86)17

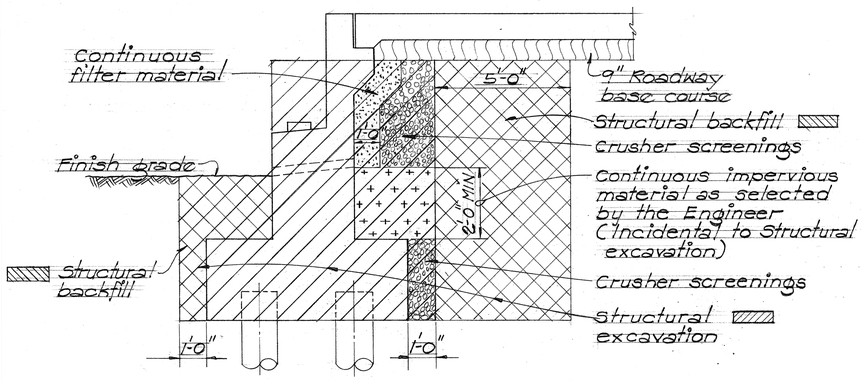
SCALE: AS SHOWN DATE: June 15, 1981

SHEET NO S-37 OF 60 SHEETS

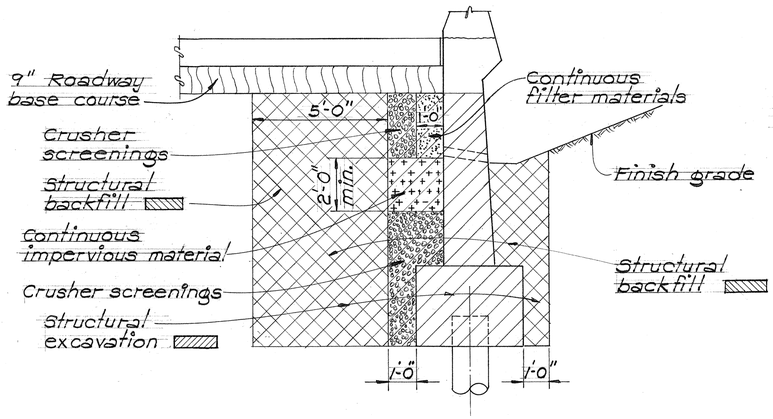
ORIGINAL PLAN | NOTE BOOK | No.

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

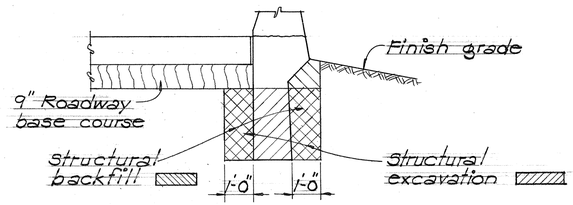
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	151	207



ABUTMENT



WINGWALL

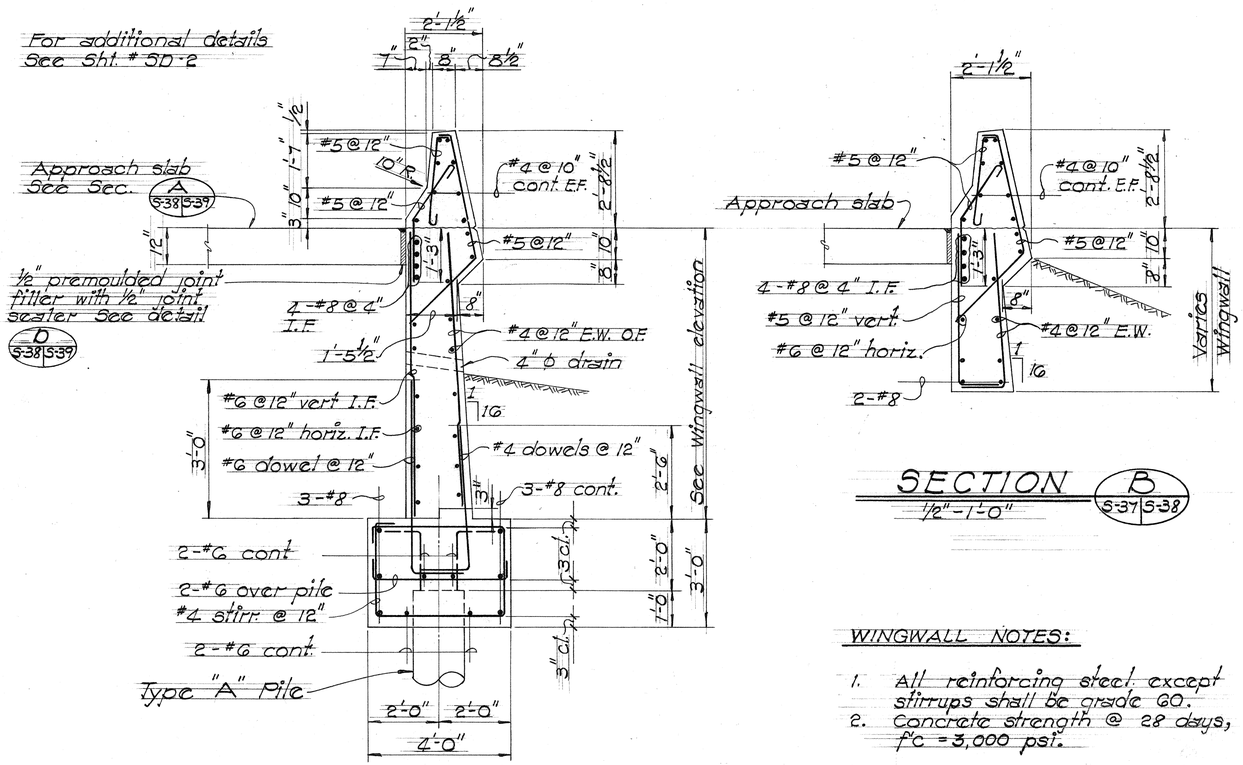


CANTILEVERED WINGWALL

PAY LIMITS EAST ABUTMENT, NIMITZ CONNECTOR (EB)

3/8" = 1'-0"

For additional details See Sht. # SD-2



SECTION A
½" = 1'-0"
S-37 | S-38

SECTION B
½" = 1'-0"
S-37 | S-38

WINGWALL NOTES:

1. All reinforcing steel except stirrups shall be grade 60.
2. Concrete strength @ 28 days, f'c = 3,000 psi.

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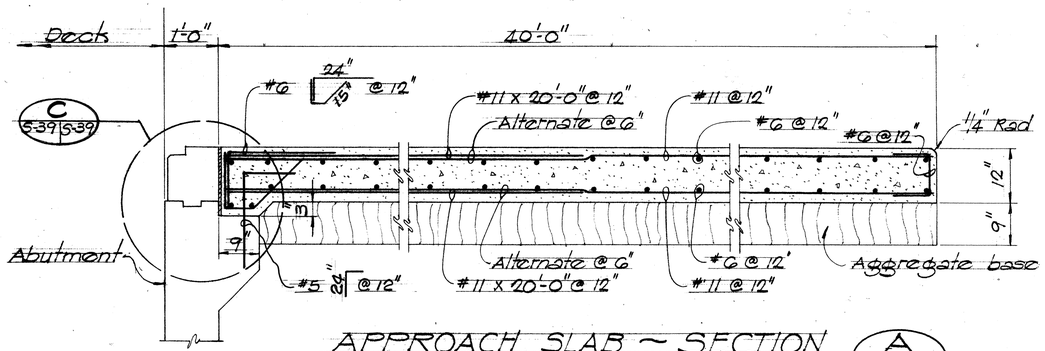
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"
PAY LIMITS EAST ABUTMENT NC(EB)
AND WINGWALL DETAILS.
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I HI-1(86)17

SCALE: AS SHOWN DATE: June 15, 1981

SHEET No. S-38 OF 60 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(BG)17	1981	152	207

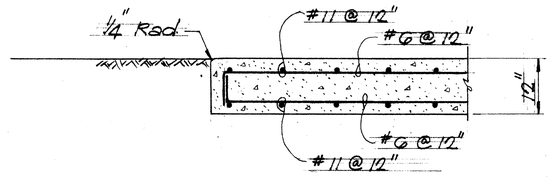


C S-39 | S-39

APPROACH SLAB ~ SECTION A

3/4" = 1'-0"

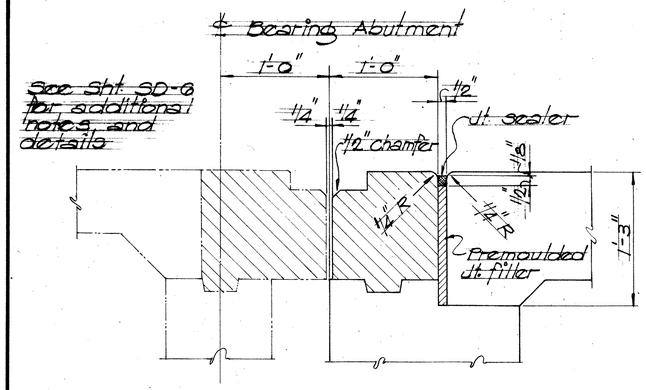
S-36, S-37, S-38 | S-39

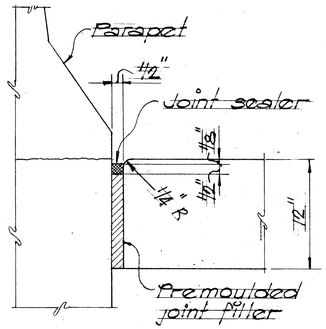


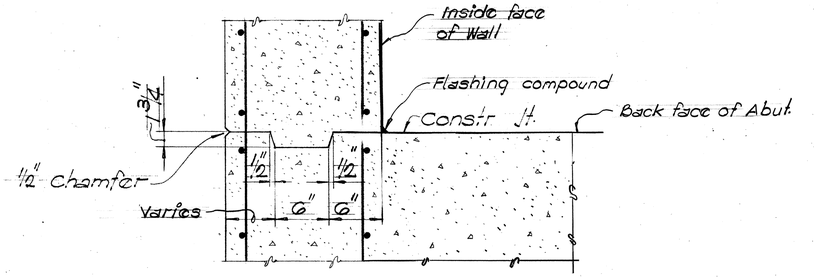
APPROACH SLAB ~ SECTION B

3/4" = 1'-0"

S-36 | S-37







JOINT DETAIL C

1 1/2" = 1'-0"

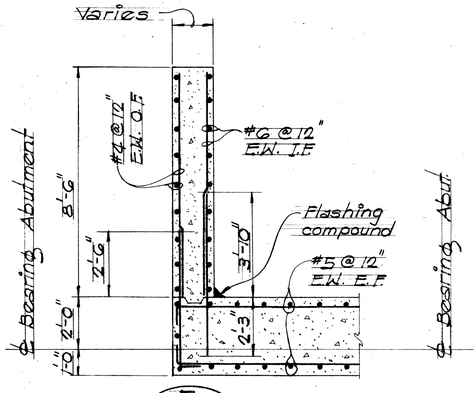
S-39 | S-39

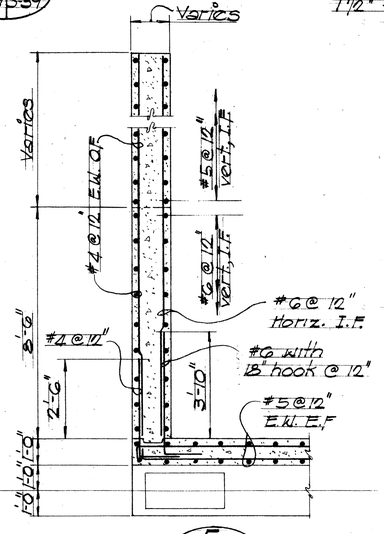
JOINT DETAIL D

1 1/2" = 1'-0"

S-38 | S-39

CONSTRUCTION JOINT DETAIL





SECTION E S-36 | S-39 AS SHOWN

SECTION E' S-36 | S-39 OPP. HAND

SECTION F S-36 | S-39 AS SHOWN

SECTION F' S-36 | S-39 OPP. HAND

ORIGINAL PLAN | NOTE BOOK | No.

SURVEY PLOTTED BY | DATE
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DEPARTMENT OF TRANSPORTATION
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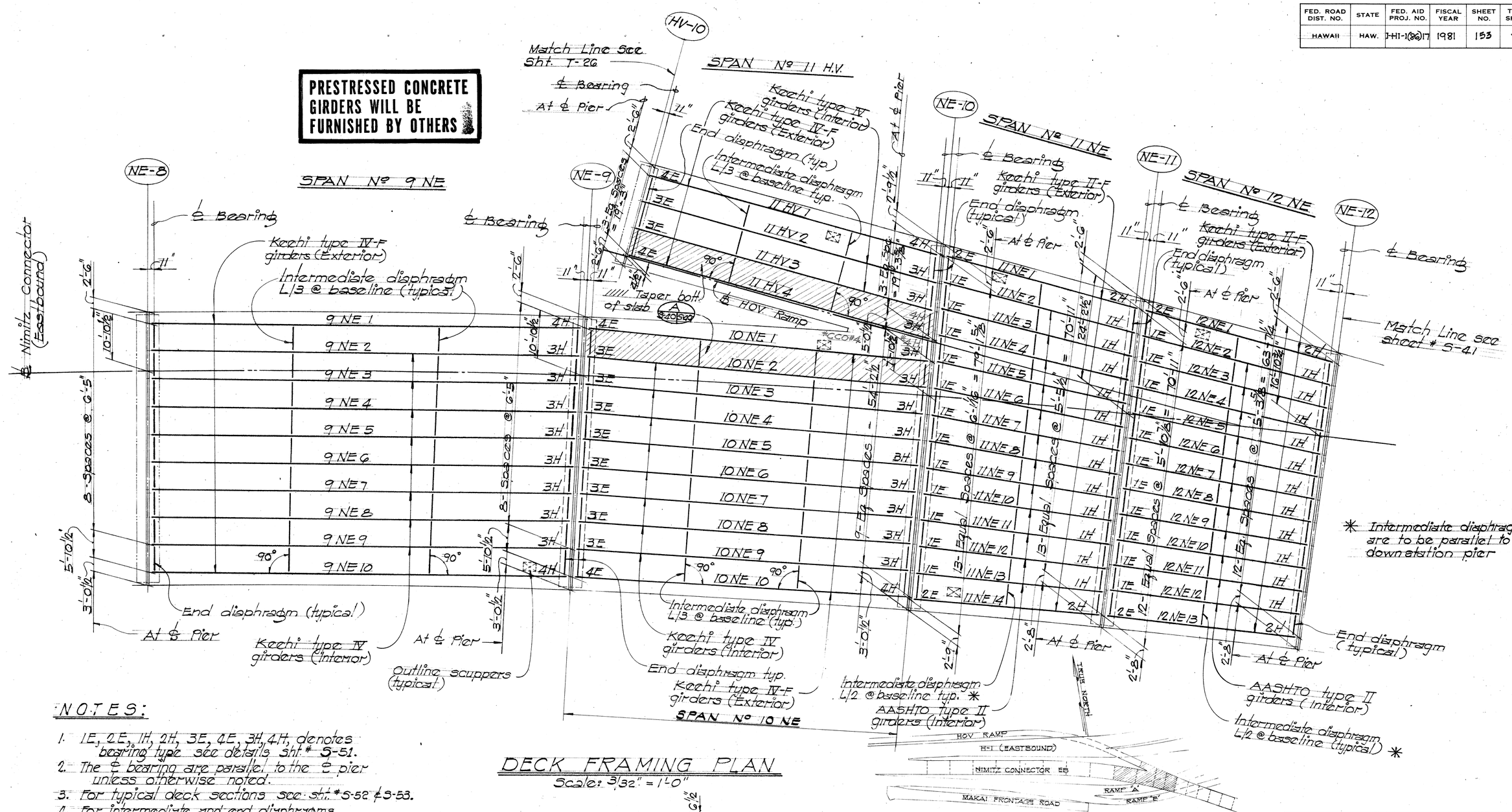
NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"
ABUTMENT AND APPROACH SLAB DETAILS
KEEHI INTERCHANGE
FAI PROJ. NO. I HI-1 (BG)17

SCALE: AS SHOWN DATE: June 15, 1981

SHEET NO. S-39 OF 60 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	153	207

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS

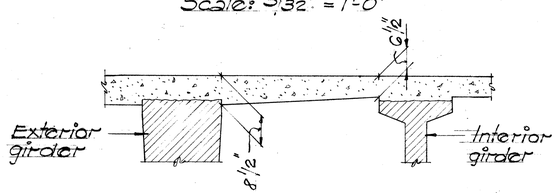


NOTES:

1. 1E, 2E, 1H, 2H, 3E, 4E, 3H, 4H, denotes bearing type see details sht # S-51.
2. The ℄ bearing are parallel to the ℄ pier unless otherwise noted.
3. For typical deck sections see sht. # S-52 & S-53.
4. For intermediate and end diaphragms see sheet # S-49.
5. For girder length see sheet # S-46.
6. Hatched area show tapered bottom of slab see section this sheet.

DECK FRAMING PLAN

Scale: 3/32" = 1'-0"



TYPICAL SECTION @ TAPERED SLAB

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

A S-40 S-40

KEY PLAN

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"

DECK FRAMING PLAN

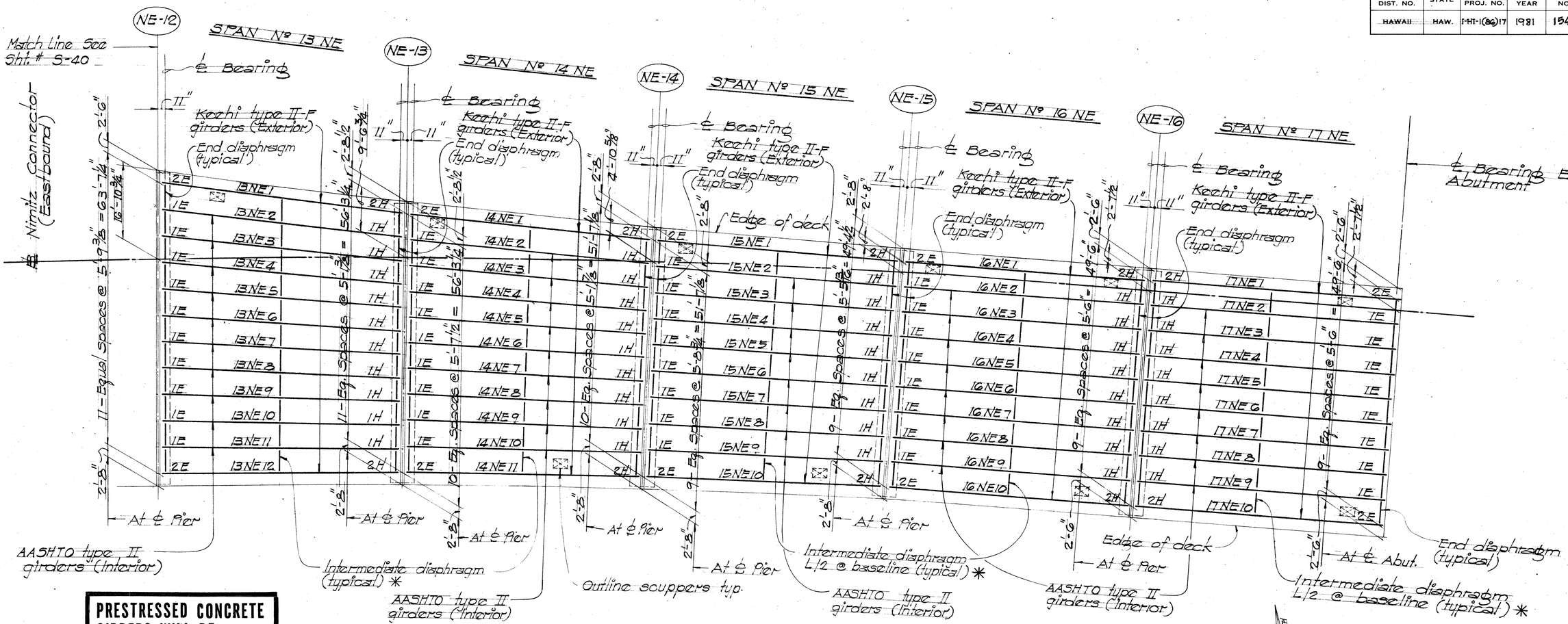
KEEHI INTERCHANGE
FAI. PROJ. NO. I-HI-1(86)17

SCALE: 3/32"=1'-0" DATE: June 15, 1981

SHEET NO. S-40 OF 60 SHEETS

ORIGINAL PLAN | NOTE BOOK | NO. | DATE
SURVEY PLOTTED BY
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	154	207



PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS

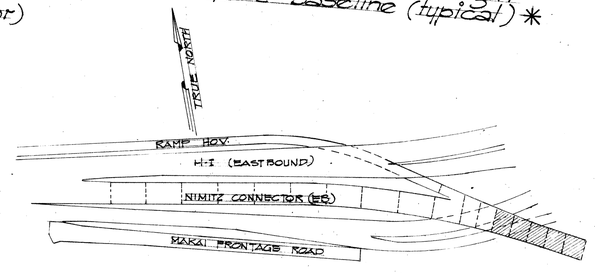
DECK FRAMING PLAN

Scale: 3/32" = 1'-0"

* Intermediate diaphragms are to be parallel to downstation pier.

NOTES:

1. 1E, 2E, 1H, 2H denotes bearing type see details sht # S-51.
2. The ℄ bearing are parallel to the ℄ pier unless otherwise noted.
3. For typical deck section see sht # S-53.
4. For intermediate and end diaphragms see sheet # S-49.
5. For girder length see sheet # S-46.



KEY PLAN

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"

DECK FRAMING PLAN

KEEHI INTERCHANGE
FAI PROJ. NO. I HI-1 (86)17

SCALE: 3/32 = 1'-0" DATE: June 15, 1981

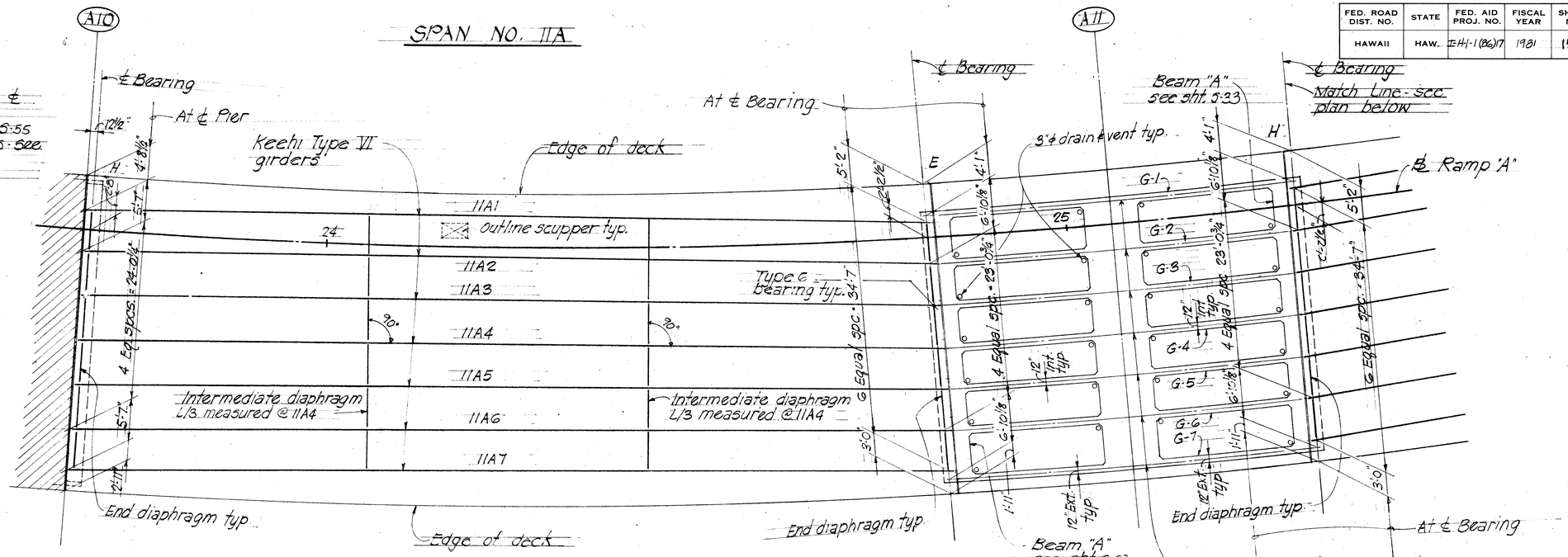
SHEET NO. S-41 OF 60 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	155	207

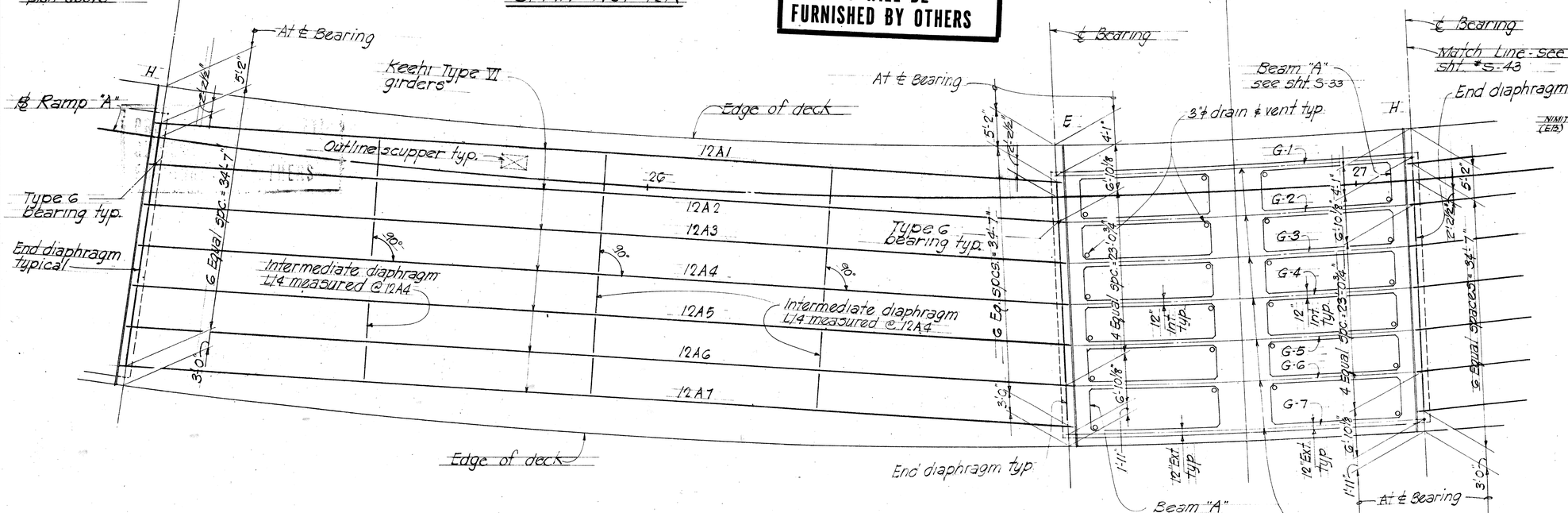
NOTES:

1. The ℄ bearing are parallel to the ℄ pier unless otherwise noted.
2. For typical deck sections - See sht 5:55
3. For intermediate & end diaphragms - see shts. 5:49
4. For girder length - see sht 5:46

SPAN NO. 11A



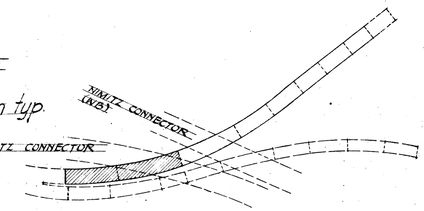
SPAN NO. 12A



PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS

DECK FRAMING PLAN

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



KEY PLAN

HAROLD TAKASHI MIYAMOTO
REGISTERED PROFESSIONAL ENGINEER
No. 3514
HAWAII, U.S.A.

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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB) HOV RAMP, RAMP "A" & RAMP "B"

DECK FRAMING PLAN

KEEHI INTERCHANGE

F.A.I. PROJ. NO. I-HI-1(86)17

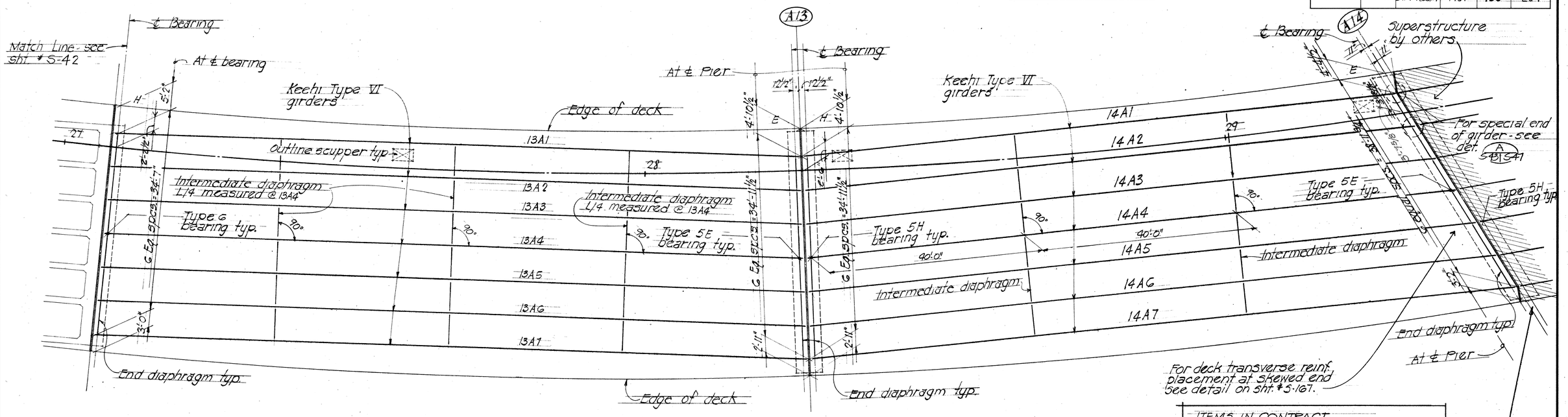
Scale: As shown Date: JUNE 1981

SHEET No. 5:42 OF 60 SHEETS

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

PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1-1(86)17	1981	156	207



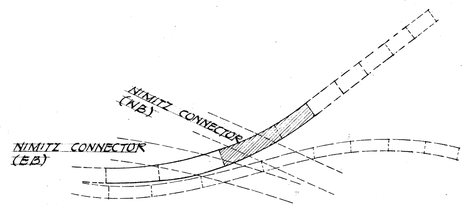
DECK FRAMING PLAN

Scale 1/8"=1'-0"

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS

ITEMS IN CONTRACT
1. Column, footing & pier cap.
2. Concrete seats.
3. Anchor bolts for bearing plate.

NOTE:
1. The ℄ bearing are parallel to the ℄ pier unless otherwise noted.
2. For typical deck sections - See shts. S-55
3. For intermediate & end diaphragm - See shts S-49
4. For girder length - See sht. S-46



KEY PLAN

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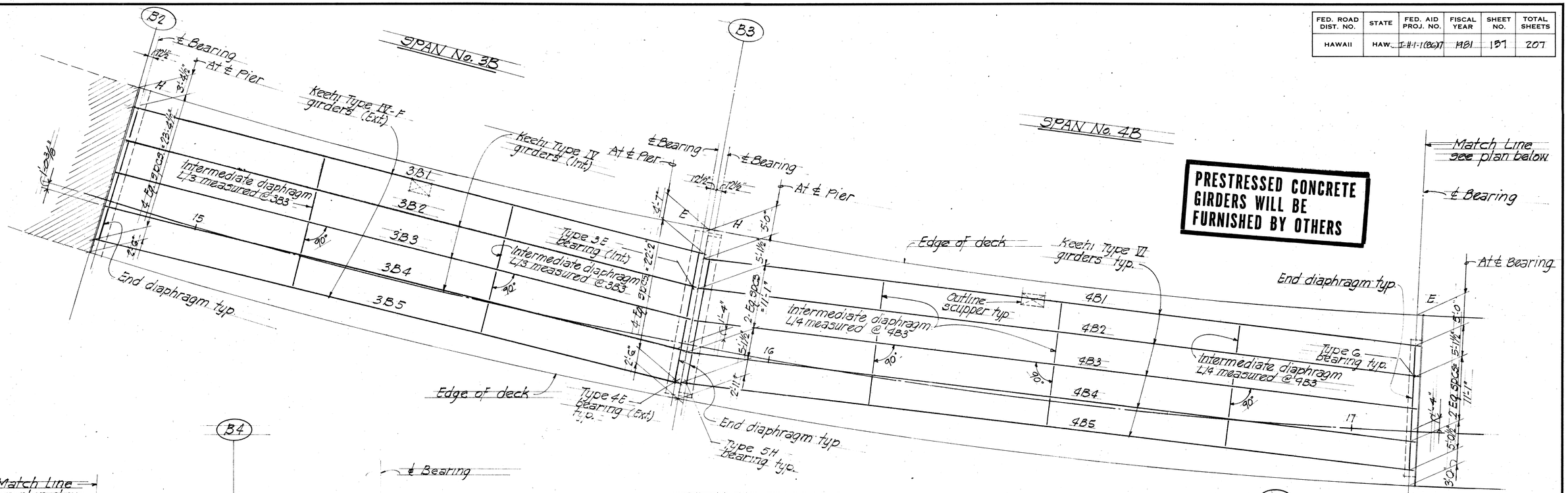
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
NIMITZ CONNECTOR (E.B.), HOV RAMP, RAMP "A" & RAMP "B"
DECK FRAMING PLAN
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(86)17
Scale: As shown Date: JUNE 1981
SHEET No. S-43 OF 60 SHEETS

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

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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	157	207

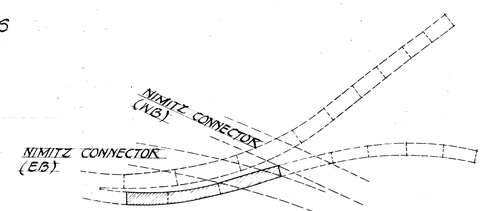


DECK FRAMING PLAN

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

NOTE:

1. The ℄ bearing are parallel to the ℄ pier, unless otherwise noted.
2. For typical deck sections - see sht. S-55
3. For intermediate & end diaphragm - see sht. S-49
4. For girder length - see sht. S-46



KEY PLAN

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A" & RAMP "B"

DECK FRAMING PLAN

KEEHI INTERCHANGE

F.A.I. PROJ. NO. I-HI-1(86)17

Scale: As shown Date: JUNE 1981

SHEET NO. S-44 OF 60 SHEETS

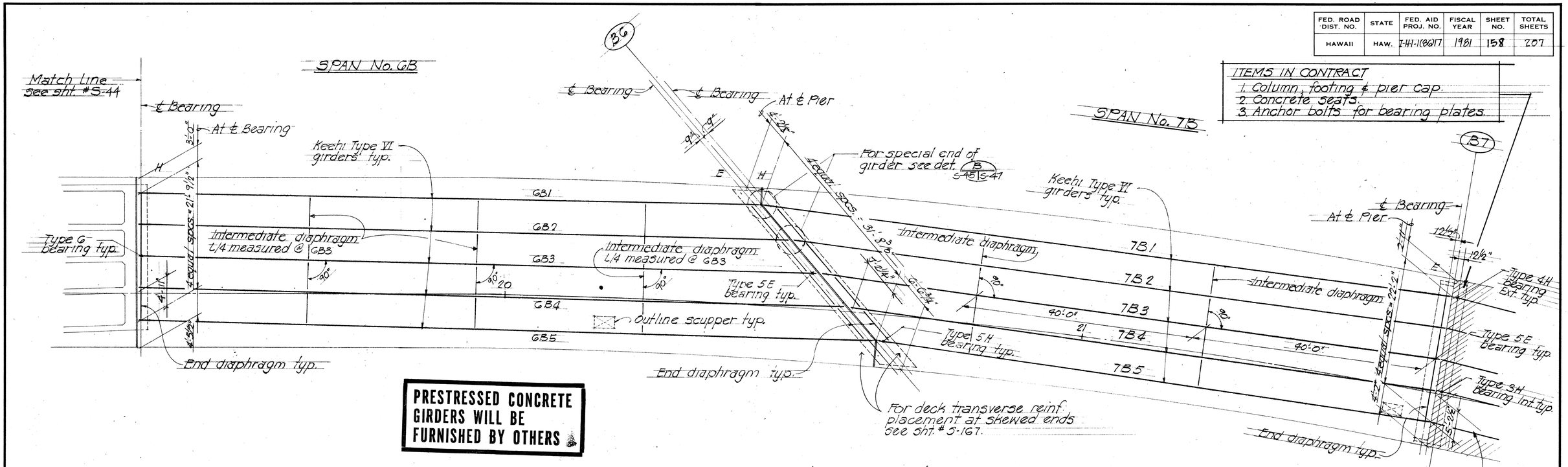
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ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

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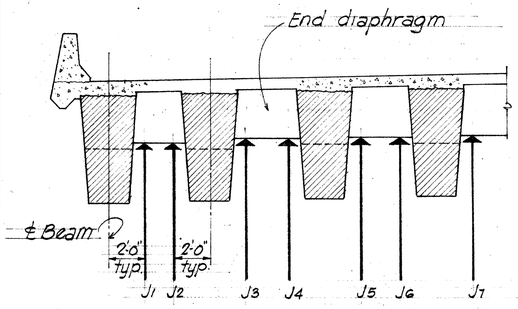
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	158	207



PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS

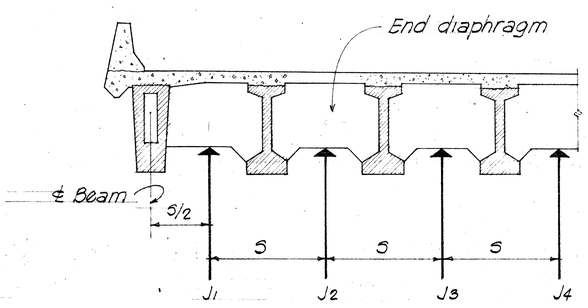
DECK FRAMING PLAN

Scale 1/16" = 1'-0"



FUTURE JACKING DIAGRAM FOR PIERS A11, A12, B4 & B5

Not to scale



TYPICAL FUTURE JACKING DIAGRAM FOR ALL OTHER PIERS Not to scale

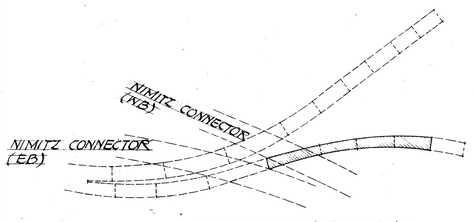
NOTE:
1. Place jacks under the diaphragms as shown in above diagrams for any lifting of the superstructure.
2. Future jacking diagram shown for reference only. Jacking is not in contract.

LEGEND

J Denotes jacking force
S Denotes beam spacing

FUTURE JACKING DIAGRAMS (NOT IN CONTRACT)

NOTE:
1. The ℄ bearing are parallel to the ℄ pier unless otherwise noted.
2. For typical deck section - See sht. S-55
3. For intermediate & end diaphragm - See shts. S-49
4. For girder length - See sht. S-46



KEY PLAN

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB) HOV RAMP, RAMP "A" & RAMP "B"
DECK FRAMING PLAN & FUTURE JACKING DIAGRAM
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(86)17

Scale: AS SHOWN Date: JUNE 1981

SHEET No. S-45 OF 60 SHEETS

158

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

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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1-1(86)17	1981	159	207

Beam mark	Bm. length ℄ to ℄ brg.	t'	t²	Plate* taper	Beam type
11A 1	112.57			1/2 : 12	VI-D
2	113.29				
3	114.04				
4	114.78				VI-D
5	115.53				VI-C
6	116.27				VI-C
11A 7	116.99			1/2 : 12	VI-C
12A 1	126.58			5/16 : 12	VI-B
2	127.40				VI-B
3	128.21				VI-B
4	129.03				VI-A
5	129.84				VI-A
6	130.66				VI-A
12A 7	131.47			5/16 : 12	VI-F
13A 1	117.56		1 1/8"	1/8 : 12	VI-C
2	118.33				
3	119.09				
4	119.86				
5	120.63				
6	121.39				
13A 7	122.16		1 1/8"	1/8 : 12	VI-C
14A 1	101.06	1 1/16"	1 1/16"	1/16 : 12	VI-E
2	104.34				VI-D
3	107.63				
4	110.91			1/16 : 12	
5	114.20			1/8 : 12	VI-D
6	117.48			1/8 : 12	VI-C
14A 7	120.77	1 1/16"	1 1/16"	1/8 : 12	VI-C
15A 1		1 1/8"		3/16 : 12	
2		1 1/8"			
3		1 1/8"		3/16 : 12	
4		1 3/16"		1/4 : 12	
5					
6					
15A 7		1 3/16"		5/16 : 12	

Beam mark	Bm. length ℄ to ℄ brg.	t'	t²	Plate* taper	Beam type
3B 1	98.07		1 3/16"	5/16 : 12	IV-A
2	98.71		1 1/8"		IV-A
3	99.35		1 1/8"		IV-A
4	99.99		1 1/8"		IV-A
3B 5	100.64		1 3/16"	5/16 : 12	IV-D
4B 1	120.81	1 1/16"		1/8 : 12	VI-C
2	121.52				
3	122.28				
4	123.04				VI-C
4B 5	123.75	1 1/16"		1/8 : 12	VI-G
5B 1	127.00			1/8 : 12	VI-B
2				1/8 : 12	
3				3/16 : 12	
4				3/16 : 12	
5B 5	127.00			1/4 : 12	VI-B
6B 1	105.42		1 5/16"	7/16 : 12	VI-D
2	110.75			7/16 : 12	VI-D
3	116.09			1/2 : 12	VI-D
4	121.43			1/2 : 12	VI-C
6B 5	126.77		1 5/16"	1/2 : 12	VI-B
7B 1	119.32	1 7/16"	1 7/16"	5/8 : 12	VI-C
2	112.99			5/8 : 12	VI-D
3	106.66			11/16 : 12	VI-D
4	100.33			11/16 : 12	VI-E
7B 5	94.00	1 7/16"	1 7/16"	11/16 : 12	VI-E
8B 1		1 3/8"		11/16 : 12	
2		1 1/4"			
3		1 1/4"			
4		1 1/4"			
8B 5		1 3/8"		11/16 : 12	
9NE 1	98.64		1 5/16"	1/2 : 12	IV-A
2	98.30		1 3/16"	7/16 : 12	IV-A
3	98.07			3/8 : 12	
4	97.79				
5	97.50				
6	97.22				
9NE 7	96.93		1 3/16"	3/8 : 12	IV-A

Beam mark	Bm. length ℄ to ℄ brg.	t'	t²	Plate* taper	Beam type
9NE 8	96.65		1 3/16"	3/8 : 12	IV-A
9NE 9	96.36		1 3/16"	3/8 : 12	IV-A
9NE 10	96.10		1 1/4"	3/8 : 12	IV-A
11HV 1	68.18	1 1/16"	1 1/16"	1/8 : 12	IV-C
2	69.38				IV-B
3	70.57				IV-B
11HV 4	71.76	1 1/16"	1 1/16"	1/8 : 12	IV-C
10NE 1	78.55	1 5/16"	1 5/16"	9/16 : 12	IV-E
2	78.32	1 3/16"	1 3/16"	1/2 : 12	IV-B
3	78.08			7/16 : 12	
4	77.85				
5	77.62				
6	77.40			7/16 : 12	
7	77.17			3/8 : 12	
8	76.95				
9	76.73	1 3/16"	1 3/16"		IV-B
10 NE 10	76.51	1 1/4"	1 1/4"	3/8 : 12	IV-C
11 NE 1	45.48	1 1/8"	1 1/8"	1/4 : 12	II-C
2	45.26				II-C
3	45.04				
4	44.83			1/2 : 12	
5	44.63			5/16 : 12	
6	44.44			5/16 : 12	
7	44.26	1 1/8"	1 1/8"	3/8 : 12	
8	44.08	1 3/16"	1 3/16"	7/16 : 12	
9	43.92				
10	43.76				
11	43.61				
12	43.47				
13	43.34				II-C
11 NE 14	43.21	3/16"	1 3/16"	7/16 : 12	II-C
12 NE 1	45.16	1 1/8"	1 1/8"	1/4 : 12	II-C
2	44.95				II-C
3	44.76				
4	44.57			1/4 : 12	
5	44.39			5/16 : 12	
6	44.21	1 1/8"	1 1/8"	3/8 : 12	
7	44.04	1 3/16"	1 3/16"	7/16 : 12	
8	43.89				
9	43.73				
10	43.59				
11	43.46	1 3/16"	1 3/16"	7/16 : 12	
12	43.33	1 1/8"	1 1/8"	3/8 : 12	II-C
12 NE 13	43.21	1 1/8"	1 1/8"	3/8 : 12	II-C
13 NE 1	52.98	1 1/8"	1 1/8"	5/16 : 12	II-B
2	52.76				II-B
3	52.55				
4	52.35				
5	52.16			5/16 : 12	
6	51.98			3/8 : 12	
13 NE 7	51.80	1 1/8"	1 1/8"	3/8 : 12	II-B

Beam mark	Bm. length ℄ to ℄ brg.	t'	t²	Plate* taper	Beam type
13 NE 8	51.63	1 1/8"	1 1/8"	3/8 : 12	II-B
9	51.47				
10	51.32				
11	51.18			3/8 : 12	II-B
13 NE 12	51.04	1 1/8"	1 1/8"	5/16 : 12	II-B
14 NE 1	52.54	1 1/8"	1 1/8"	5/16 : 12	II-B
2	52.37				II-B
3	52.21				
4	52.05				
5	51.89				
6	51.74				
7	51.59				
8	51.45			5/16 : 12	
9	51.31			1/4 : 12	
10	51.18			1/4 : 12	II-B
14 NE 11	51.04	1 1/8"	1 1/8"	1/4 : 12	II-B
15 NE 1	52.30	1 1/8"	1 1/8"	1/4 : 12	II-B
2	52.16				II-B
3	52.01				
4	51.87				
5	51.73				
6	51.59				
7	51.45			1/4 : 12	
8	51.32			3/16 : 12	
9	51.18			3/16 : 12	II-B
15 NE 10	51.04	1 1/8"	1 1/8"	3/16 : 12	II-B
16 NE 1	52.18	1 1/16"	1 1/16"	3/16 : 12	II-B
2	52.14				II-B
3	52.11				
4	52.07				
5	52.03				
6	51.99				
7	51.96				
8	51.92			3/16 : 12	
9	51.88			1/8 : 12	II-B
16 NE 10	51.84	1 1/16"	1 1/16"	1/8 : 12	II-B
17 NE 1	53.08	1 1/16"	1 1/16"	1/8 : 12	II-B
2					II-B
3					
4					
5					
6					
7					
8					
9					II-B
17 NE 10	53.08	1 1/16"	1 1/16"	1/8 : 12	II-B

Beam mark	Bm. length ℄ to ℄ brg.	t'	t²	Plate* taper	Beam type

NOTES:

1. t' is the bearing plate thickness (inches) at down station end of the beam.
2. t² is the plate thickness (inches) at up station end of beam.
3. Beam length given is horizontal distance between ℄ bearing.
4. For placement of tapered plate see top of concrete seat elevation on pier details.

✳ There are no bearing plates at dapped beam ends. However, "plate taper" is given to satisfy dapped end requirement. See Note on sheet S-50.

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS

GEORGE K. NISHIMURA — REGISTERED PROFESSIONAL ENGINEER — No. 1388 — HAWAII, U.S.A.

HAROLD TAKASHI MIYAMOTO — REGISTERED PROFESSIONAL ENGINEER — No. 1514 — HAWAII, U.S.A.

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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"

BEAM TYPE SCHEDULE

KEEHI INTERCHANGE

F.A.I. PROJ. NO. I-HI-1(86)17

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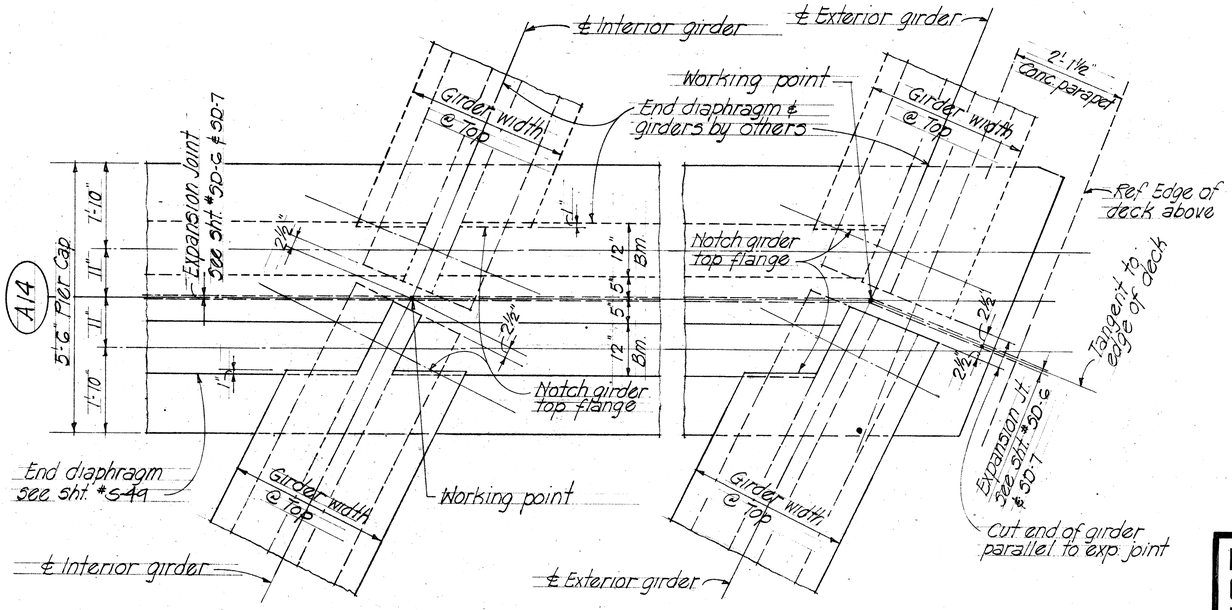
SHEET NO. S-46 OF 60 SHEETS

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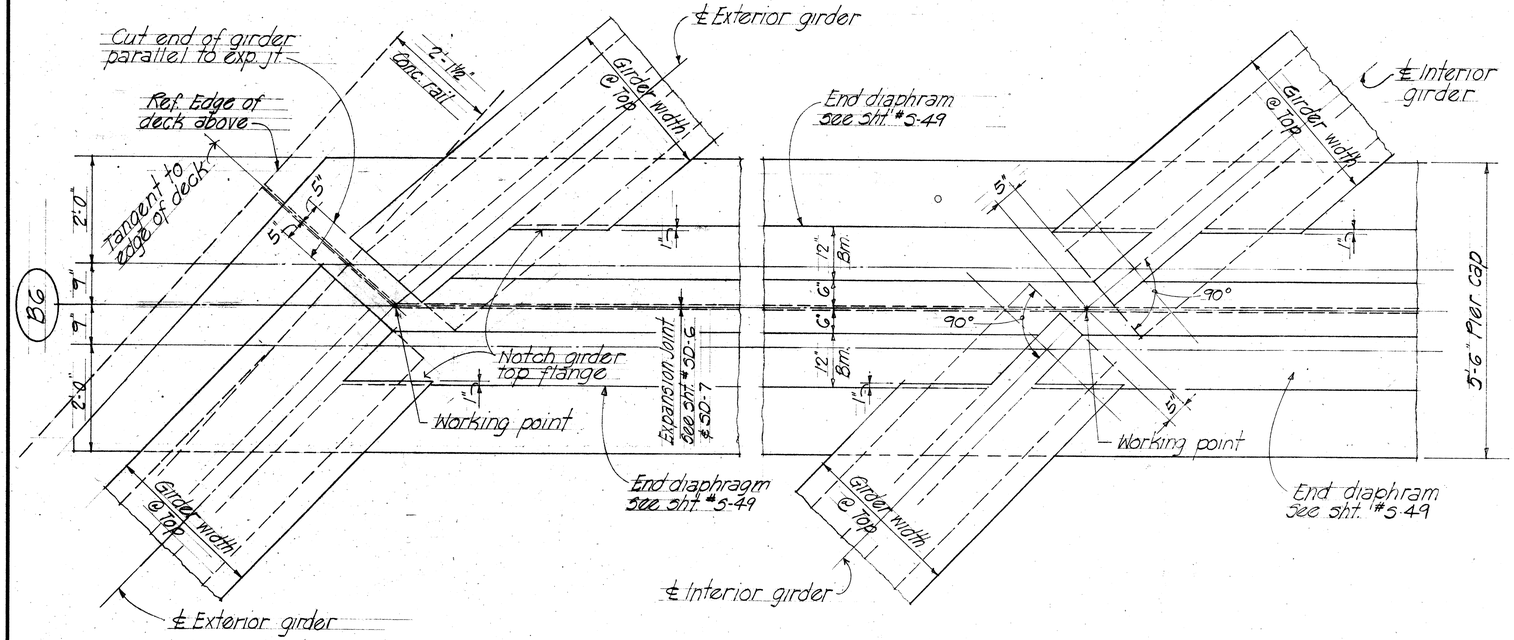
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HAWAII	HAW.	F-H-1-(86)17	1981	160	207



A (S-43 | S-47) PLAN @ PIER A14 SHOWING END OF GIRDERS

Scale 3/4"=1'-0"



B (S-45 | S-47) PLAN @ PIER B6 SHOWING END OF GIRDERS

Scale 3/4"=1'-0"

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A" & RAMP "B"
MISCELLANEOUS GIRDER DETAILS

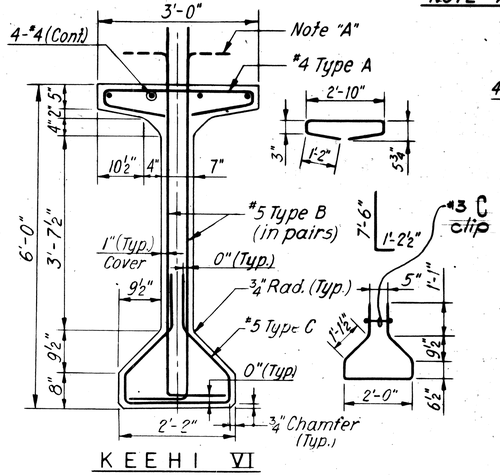
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (86)17
Scale: As shown Date: JUNE 1981

SHEET NO. S-47 OF 60 SHEETS

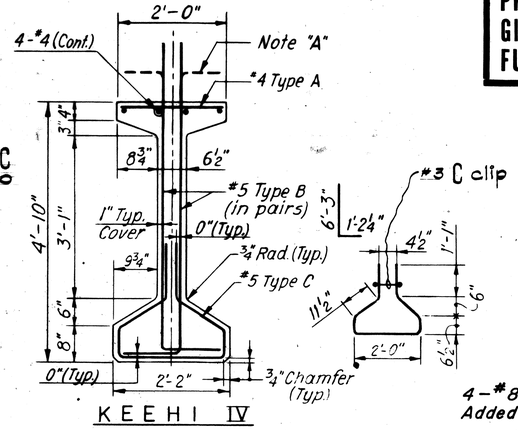
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HAWAII	HAW.	I-HI-1(86)17	1981	161	207

NOTE "A": Bend bars in field 1½" below top of deck.
All reinforcing dimensions are out to out.

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS



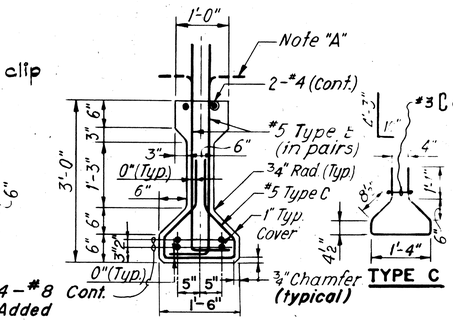
KEEHI VI



KEEHI IV

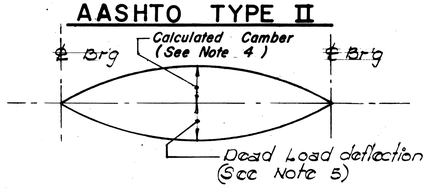
TYPICAL BEAM SECTIONS

Scale ¾" = 1'-0"

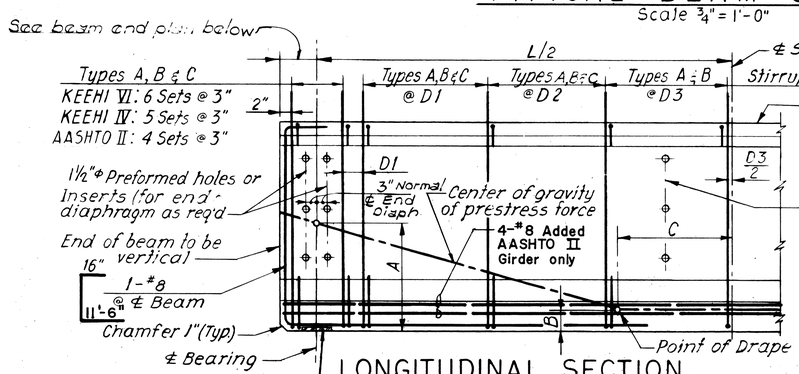


TYPE C

AASHTO TYPE II

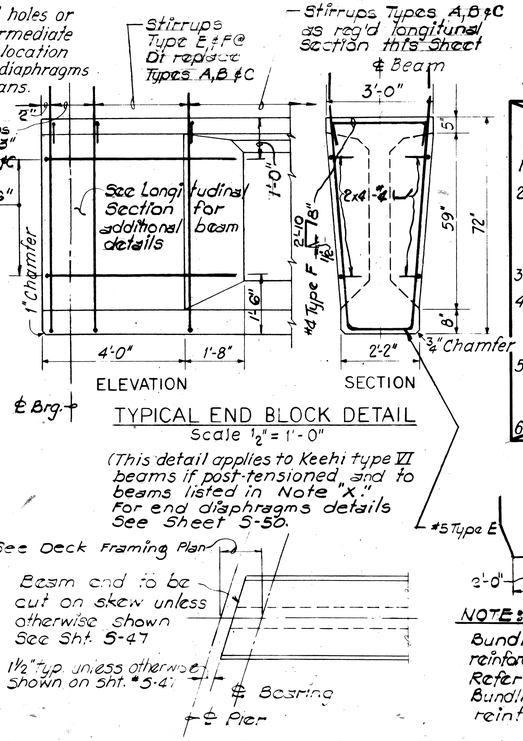


CAMBER DIAGRAM



LONGITUDINAL SECTION

No Scale.

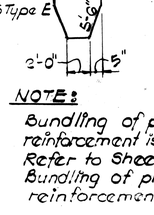


TYPICAL END BLOCK DETAIL

Scale ½" = 1'-0"

(This detail applies to Keehi type VI beams if post-tensioned and to beams listed in Note "X." For end diaphragms details See Sheet S-50.

BEAM END PLAN



NOTE:
Bundling of prestressing reinforcement is permitted
Refer to Sheet T-31 Bundling of prestressing reinforcement Detail

NOTES FOR PRESTRESSED BEAMS:

PRETENSIONING

1. Concrete shall have a minimum 28 day compressive strength of 6,000 psi.
2. A. Pretensioned strands in Keehi Beams Type IV, IV-F & VI shall be 7 wire 1/2" ø stress-relieved steel strands (area = 0.153 in²) with an ultimate strength of 270 ksi. For properties see State Standard Specifications.
   ~~Initial strand stress (before any losses): 199 ksi., Initial loss = 20,000 psi.~~
   Total loss due to creep, shrinkage, elastic shortening and relaxation of steel = 45,000 psi.
   B. Pretensioned strands in AASHTO Beam Type II and Keehi Beam Type II-F shall be 7 wire 7/16" ø stress-relieved steel strands (area = 0.115 in²) with an ultimate strength of 270 ksi. For properties see State Standard Specifications.
   ~~Initial strand stress (before any losses): 196 ksi.; Initial loss = 20,000 psi.~~
   Total loss due to creep, shrinkage, elastic shortening and relaxation of steel = 45,000 psi.
3. Non-prestressed reinforcing steel shall be Grade 40 unless otherwise noted. For properties see State Standard Specifications.
4. The calculated camber includes the effect of the initial prestress force and the weight of the beam after removal from bed. Negative values shown for calculated camber indicate a net upward deflection. Calculated camber values shown do not account for any camber growth of the beam. The actual camber shall not exceed the calculated camber shown on the plans by more than 100% at time of installation.
5. The dead load deflection includes the combined effects of the weight of slab, haunch and diaphragm.
6. Strand pattern shall be symmetrical about the longitudinal ℄ of the beam.
7. Strand release sequence shall not induce any lateral deflection of the beam.
8. Contractor shall submit his proposed strand pattern and releasing sequence to the Engineer for approval.
9. During curing care shall be taken to avoid any lateral deflection of the beam due to improper orientation.
10. Lifting devices shall be placed as close as possible to the center line of bearings of the beam. Details and locations of lifting devices shall be submitted to the Engineer for approval. Such approval does not relieve the Contractor of his responsibility if the beam is damage due to failure of the lifting device.
11. See Framing Plans for locations of diaphragms and beam mark numbers. For beam types and lengths see beam type schedule. Lengths shown do not include effect of elastic shortening.
12. In lieu of the 7 wire 1/2" dia. stress-relieved steel strands (area 0.153 in²) with an ultimate strength of 270 ksi, the Contractor at his option may use 7 wire 7/16" dia. stress-relieved steel strands (area 0.115 in²) with an ultimate strength of 270 ksi. For properties of 7/16" dia. strand see special provision. However the working force and its center of gravity as stated, shall not be revised unless approved by the Engineer.

POST-TENSIONING

(Contractor's Option for Keehi Type VI Beams only)

1. The compressive 28 day cylinder strength or concrete shall be a minimum of 6000 psi.
2. Post-tensioning steel shall consist of either 1/2"Φ, 270 ksi S/R multistrand tendons or high strength alloy steel bars. Sheathing shall be galvanized rigid duct (coef. of friction μ = 0.25 and wobble coef. K = 0.0002) for strands and galvanized metal sheathing (μ = 0.15 and k = 0.0002) for bars.
3. Loss due to creep, shrinkage, elastic shortening and relaxation of steel to be assumed = 35,000 psi.
4. Contractor shall submit the post-tensioned beam design including elongation, jacking and deflection computation to Engineer for approval. Estimate of losses (apart from that listed above) peculiar to post-tensioning shall be part of the calculations.
5. Contractor shall submit the tendon pattern and profile, sequence of stressing and anchorage details to Engineer for approval. Tendons (strands) and post-tensioning shall be symmetrical about the longitudinal ℄ of the beam.
6. Pretensioning notes 3, 9, 10 and 11 also apply to post-tensioning.

Note 'X' The following exterior beam shall have end blocks at the location shown below

Beam Mark	Location
11A1, 11A7	Pier A10
481, 485	Pier B3
781, 785	Pier B7

Field Change No. 7

DATE	REVISION
4/11/83	Increased length of #8 bar at end of beam. Deleted 4th line in Notes 2(A) & (B). Deleted 2nd Column in Beam Schedule.

BEAM SCHEDULE

BEAM TYPE	✱ INITIAL PRESTRESS FORCE (KIPS)	✱✱ WORKING FORCE (KIPS)	CALCULATED CAMBER SEE NOTE 4	DEAD LOAD DEFLECTION SEE NOTE 5	LOCATION OF CENTER OF GRAVITY OF PRESTRESS FORCE			STIRRUPS			REQUIRED MIN. ULT. CONC. STRENGTH BEFORE RELEASE OF STRANDS (P.S.I.)	REMARKS
					DIST A	DIST B	DIST. TO PT. OF DRAPE C	NO. OF STIRRUPS @ SPACING D1	NO. OF STIRRUPS @ SPACING D2	SPACING D3		
VI-A	1767	1367	-1¾"	1¾"	1'-11"	7¼"	13'-0"	12 @ 9"	18 @ 12"	18"	4800	
VI-B	1706	1320	-1 5/8"	1¾"	1'-11"	7½"	13'-0"	12 @ 9"	18 @ 12"	18"	4500	
VI-C	1623	1179	-1½"	1½"	1'-10"	6"	12'-6"	10 @ 12"	10 @ 15"	18"	4500	See Note 'X'
VI-D	1341	1037	-1¼"	7/8"	1'-9"	5¼"	11'-6"	10 @ 12"	10 @ 15"	18"	4200	See Note 'X'
VI-E	1087	847	-7/8"	5/8"	1'-10"	4¾"	10'-0"	7 @ 15"	8 @ 18"	18"	4200	See Note 'X'
VI-F	1812	1415	-1 7/8"	1 5/8"	2'-0"	7¼"	13'-0"	16 @ 9"	20 @ 12"	18"	5000	
VI-G	1645	1273	-1½"	1 1/4"	1'-11"	7 5/8"	12'-6"	15 @ 12"	12 @ 15"	18"	4500	See Note 'X'
IV-A	1219	943	-1½"	1"	1'-8"	6 5/8"	10'-0"	12 @ 9"	18 @ 12"	18"	4500	
IV-B	975	754	-¾"	3/8"	1'-6"	7½"	9'-0"	10 @ 12"	10 @ 15"	18"	4200	
II-B	541	417	-5/8"	3/8"	1'-2"	5 5/8"	5'-6"	22 @ 5"	16 @ 7"	10"	4200	
II-C	451	347	-3/8"	1/4"	1'-2"	6 1/8"	5'-0"	20 @ 5"	18 @ 7"	12"	4000	

✱✱ After all losses

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
NIMITZ CONNECTOR (EB)
HOV RAMP RAMP "A" AND RAMP "B"
PRESTRESS BEAM DETAILS
SHEET 1 OF 2
KEEHI INTERCHANGE
F.A.I. PROJECT NO. I-HI-1(86)17
SCALE: DATE: 6-15-81

SHEET NO. S-48 OF 60 SHEETS

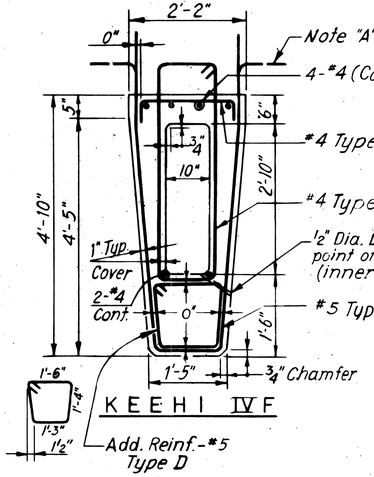
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
ORIGINAL PLAN
NOTE BOOK
No.
DATE

C.O. 161

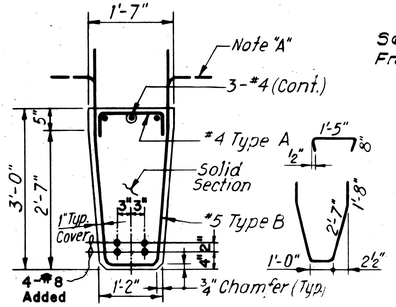
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	162	207

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS.

NOTE "A": Bend bars in field 1½" below top of deck. All reinforcing dimensions are out to out.



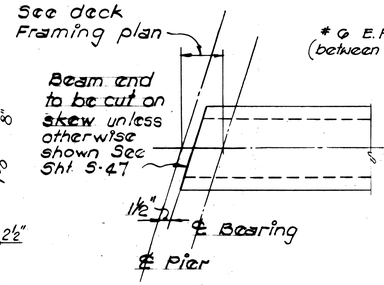
KEEHI IV F



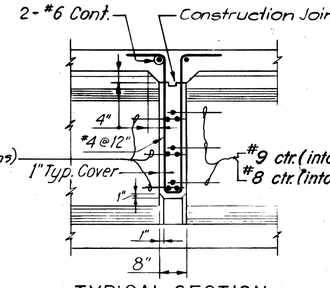
KEEHI II F

TYPICAL BEAM SECTION

Scale ¾" = 1'-0"

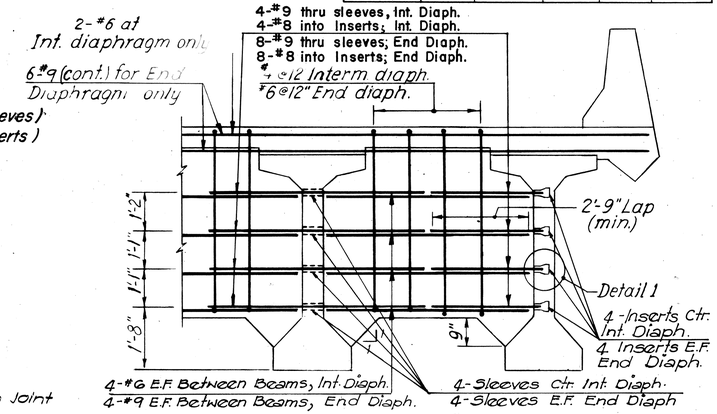


BEAM END PLAN

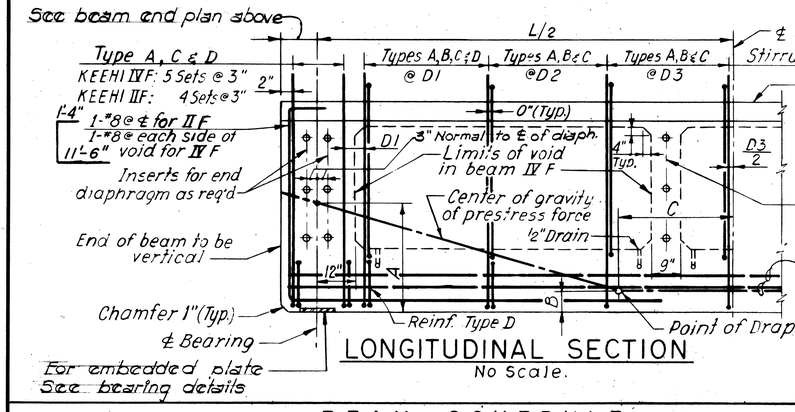


TYPICAL SECTION INTERMEDIATE DIAPHRAGMS

Scale ½" = 1'-0"

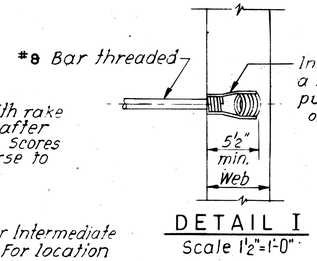


BEAMS KEEHI VI



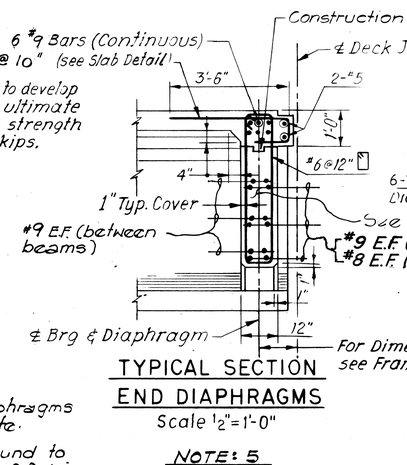
LONGITUDINAL SECTION

No Scale.



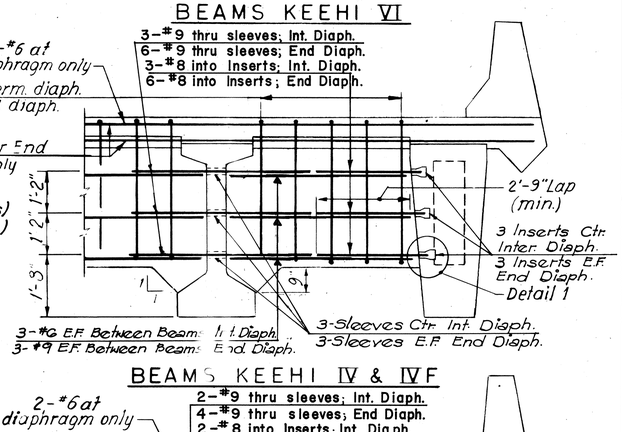
DETAIL I

Scale 1½" = 1'-0"



TYPICAL SECTION END DIAPHRAGMS

Scale ½" = 1'-0"



BEAMS KEEHI IV & IVF

NOTES:

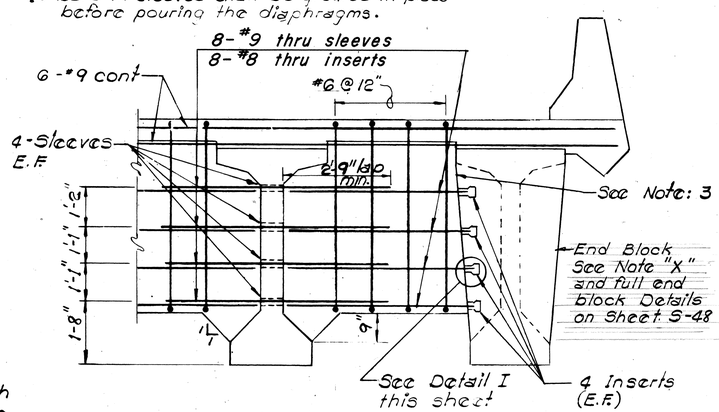
1. For Prestress Notes and Camber Diagram see Sh. No. 48
2. Intermediate and End Diaphragms shall be Class A concrete.
3. Apply epoxy bonding compound to contact area on inside face of fascia beams before placing end diaphragm concrete. Epoxy bonding compound incidental to concrete in bridges.
4. Bars in sleeves shall be grouted in place before pouring the diaphragms.

BEAM SCHEDULE

BEAM TYPE	INITIAL PRESTRESS FORCE (KIPS)	** WORKING FORCE (KIPS)	CALCULATED CAMBER SEE NOTE 4	DEAD LOAD DEFLECTION SEE NOTE 5	LOCATION OF CENTER OF GRAVITY OF PRESTRESS FORCE DIST. A	DIST. B	DIST. TO PT. OF DRAPE C	STIRRUPS NO. OF STIRRUPS @ SPACING D1	NO. OF STIRRUPS @ SPACING D2	SPACING D3	REQUIRED MIN. ULT. CONC. STRENGTH BEFORE RELEASE OF STRANDS (PSI.)	REMARKS
IVF-A	1402	1085	-3/8"	7/8"	1'-9"	7¾"	10'-0"	9 @ 15"	10 @ 18"	18"	4000	
—	—	—	—	—	—	—	—	—	—	—	—	
IVF-C	975	754	-1/2"	3/8"	2'-2"	10"	8'-0"	9 @ 15"	10 @ 18"	18"	4200	
IVF-D	1524	1179	-1 5/8"	7/8"	1'-8"	8¼"	10'-0"	15 @ 12"	12 @ 15"	18"	5000	
IVF-E	1097	849	-7/8"	3/8"	1'-11"	7¼"	9'-6"	9 @ 15"	10 @ 18"	18"	4500	
IIF-B	721	556	-5/8"	1/4"	1'-3"	8½"	5'-6"	9 @ 12"	8 @ 15"	18"	4000	
IIF-C	586	452	3/8"	1/4"	1'-3½"	8 7/8"	5'-0"	9 @ 12"	8 @ 15"	18"	4000	

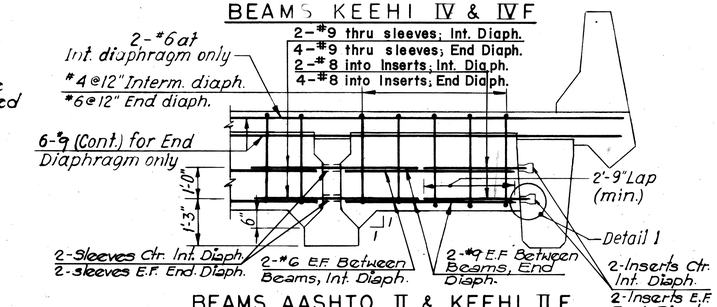
** After any losses

NOTE:
Diaphragm bars through sleeve or threaded into inserts shall be paid under reinforcing steel in bridges, _____.



END DIAPHRAGM AT FULL END BLOCK OF KEEHI TYPE VI BEAMS

Scale: ½" = 1'-0"



BEAMS AASHTO II & KEEHI II F

TYPICAL INTERMEDIATE AND END DIAPHRAGMS

Scale: ½" = 1'-0".

NOTE: 5

Inserts and sleeves are incidental to prestressed concrete beam.

DATE	REVISION
4/11/83	Changed #9 inserts to #8 inserts at Int. Diaph. & End Diaph.
4/11/83	Deleted 2ND Column in Beam Schedule
	CCO #8
4/11/83	Increased length of #8 bars at end of beam

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"

PRESTRESS BEAM DETAILS
SHEET 2 OF 2

KEEHI INTERCHANGE
F.A.I. PROJECT NO. I-HI-1(86)17

SCALE: DATE: 6-15-81

SHEET NO. S-49 OF 60 SHEETS

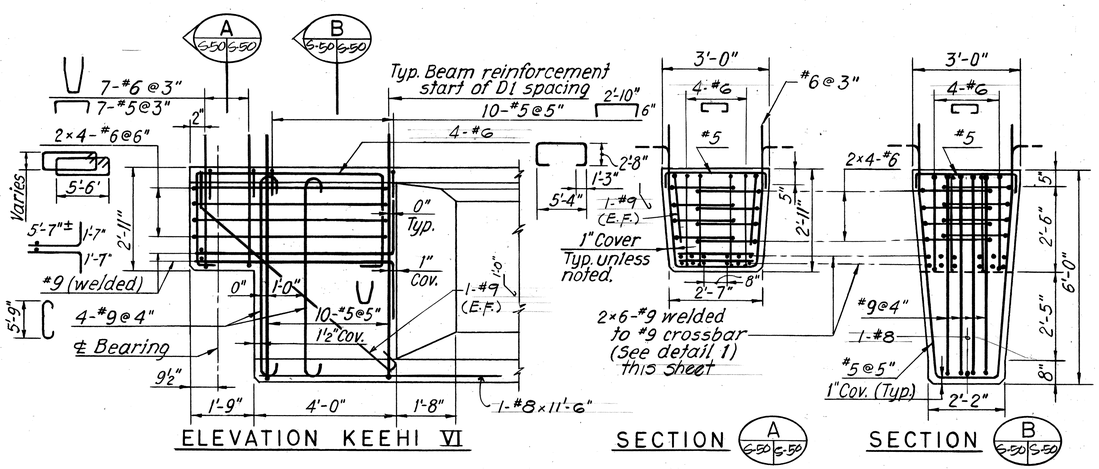
SURVEY PLOTTED BY / DRAWN BY / TRACED BY / DESIGNED BY / QUANTITIES BY / CHECKED BY / DATE
ORIGINAL PLAN / NOTE BOOK / NO.

C.O. 162

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1 (86)17	1981	163	207

NOTE:

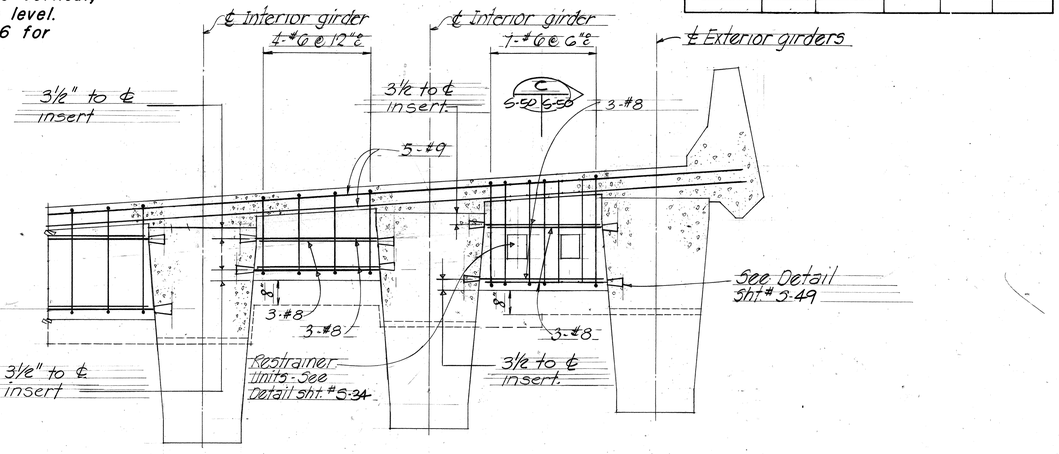
All beam ends to be vertical, all seat areas to be level. Refer to sheet S-46 for taper requirements.



ELEVATION KEEHI VI

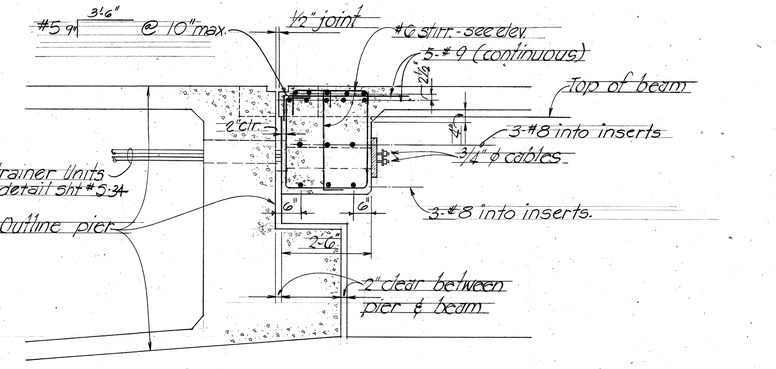
SECTION A 6-50 6-50

SECTION B 6-50 6-50



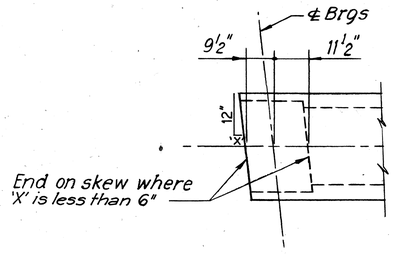
END DIAPHRAGMS AT DAPPED END OF KEEHI VI BEAMS

Scale: ½"=1'-0"



SECTION C

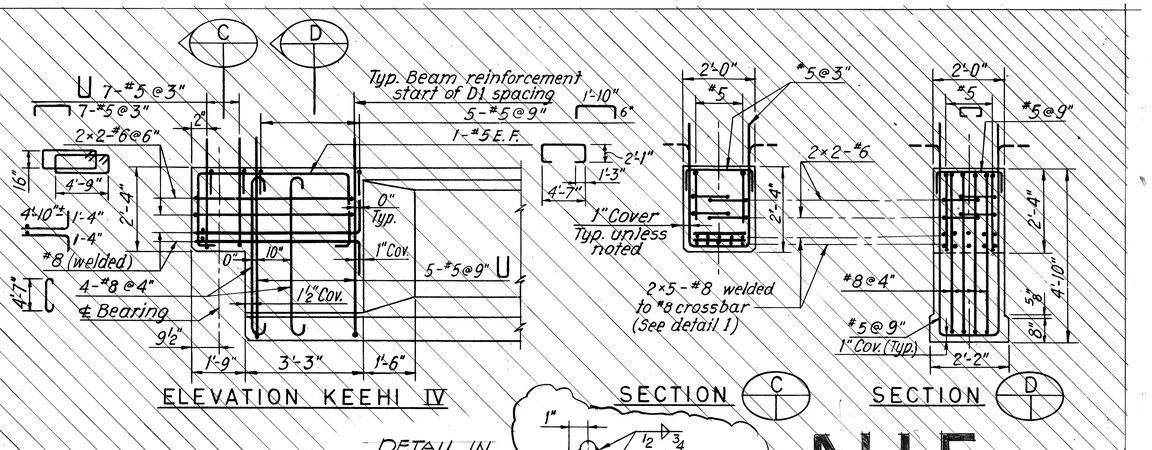
Scale: ½"=1'-0" 5-50 5-50



DAPPED BEAM END - PLAN

(Keehi VI shown, others similar)

Scale: ½"=1'-0"

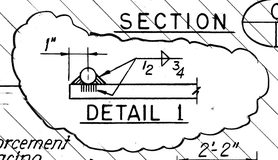


ELEVATION KEEHI IV

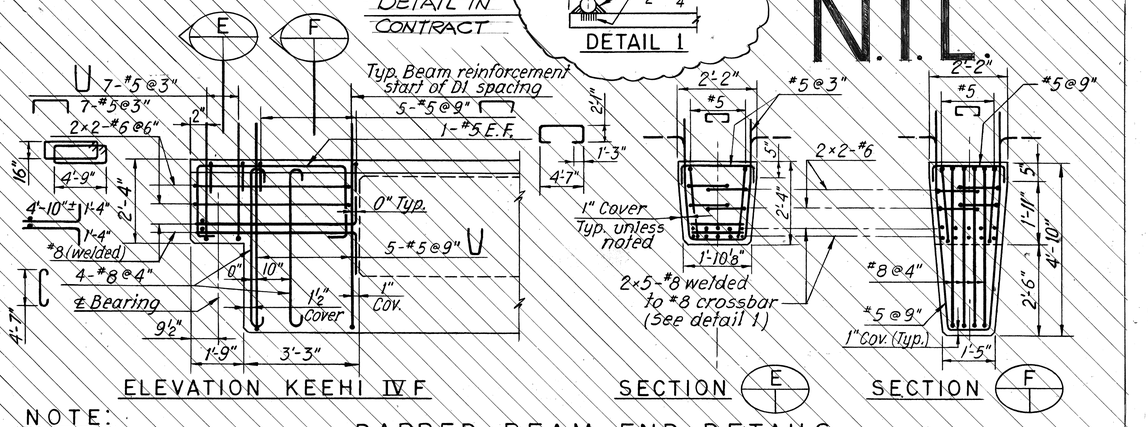
SECTION C

SECTION D

DETAIL IN CONTRACT



N.I.C



ELEVATION KEEHI IV F

SECTION E

SECTION F

NOTE:

All beam ends to be vertical, all seat areas to be level.

DAPPED BEAM END DETAILS

Scale: ½"=1'-0"

CCO #8	
2-2-83	Revise Dapped End Beam
DATE	REVISION

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.)
HOV RAMP, RAMP "A" AND RAMP "B"

DAPPED BEAM DETAILS

KEEHI INTERCHANGE
F.A.I. PROJECT NO. I-HI-1(86)17

SCALE: AS SHOWN DATE: JUNE 1981

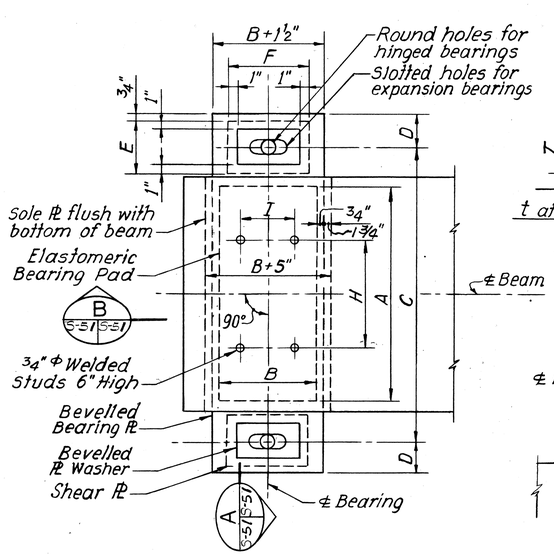
SHEET NO. S-50 OF 60 SHEETS

ORIGINAL PLAN | NOTE BOOK | No.

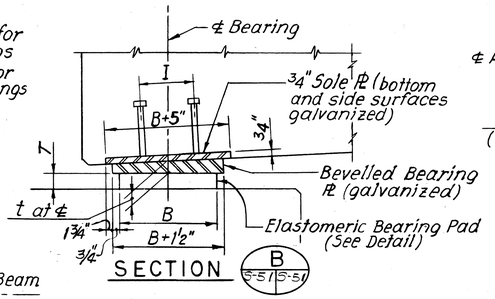
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

CO 163

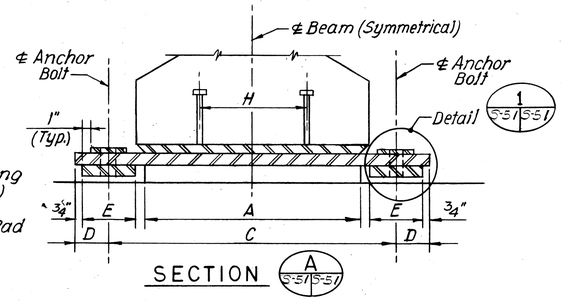
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1 (80)17	1981	164	207



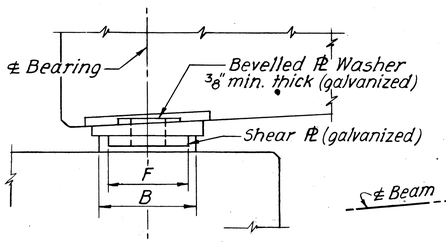
PLAN



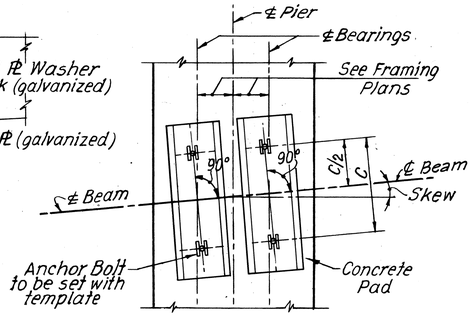
SECTION



SECTION



SIDE ELEVATION



ANCHOR BOLT PLAN

BEARING DETAILS

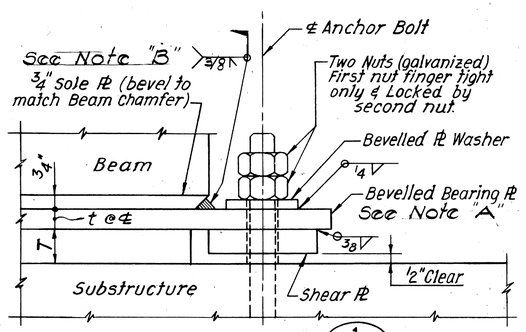
PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS

NOTE: "A"

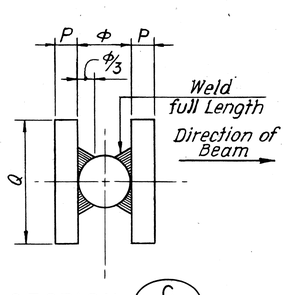
At his option the Contractor may use bearing plates of uniform thickness, t, specified on the Beam Table Sht. No. 5-46 instead of beveled bearing plates, where the bevels ¼" ± or less. In these instances, the concrete seats shall be bevelled to compensate for the bearing plates being of uniform thickness.

NOTE: "B"

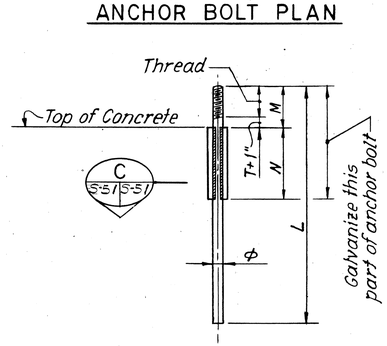
The Contractor shall minimize and dissipate the heat generated during the field welding of the ¾" sole plate to the bevelled bearing plate and during the field galvanizing of the weld. The Contractor shall take all necessary precautions to avoid burning the elastomeric bearing pad during welding & galvanizing. Welding of the sole plate to the bearing plate shall be done prior to the pouring of diaphragm and deck. Temporary wooden shims (A x B x ¾" min. thickness) shall be placed between the beveled bearing plates & the elastomeric bearing pads during field welding and galvanizing. Shims shall be removed.



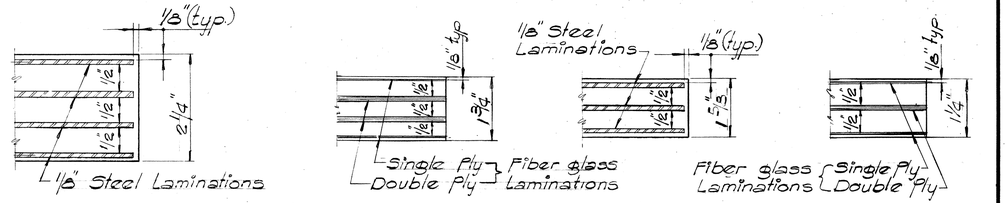
DETAIL 1 (5-51/5-51)



SECTION C (5-57/5-57)



ANCHOR BOLT DETAIL



AS DETAILED T = 2¼" | ALTERNATE (See Note below) | AS DETAILED T = 1⅝" | ALTERNATE (See Note below)

ELASTOMERIC BEARING PAD DETAILS

BEARING AND ANCHOR BOLT TABLE

BEARING TYPE	ELASTOMERIC BEARING PAD A	B	T	STEEL DIMENSIONS C	D	E	F	t	STUD SPACING H	I	ANCHOR BOLT HOLES HINGED BRGS.	EXP. BRGS.	ANCHOR BOLT ϕ	L	M	ANCHOR PLATES N	Q	P
1H	16"	8"	1⅝"	24"	3¾"	6"	8"	See Beam Table on Sht. 5-46	10"	6"	1½"ϕ	—	1¼"	32"	8"	6"	3"	½"
1E											—	1½"×4"						
2H	12"	8"	1⅝"	20"	3¾"	6"	8"		8"	6"	1½"ϕ	—	1¼"	32"	8"	6"	3"	½"
2E											—	1½"×4"						
3H	24"	8"	1⅝"	32"	3¾"	6"	8"		12"	6"	1¾"ϕ	—	1½"	38"	9"	8"	4	⅝"
3E											—	1¾"×4"						
4H	19"	12	1⅝"	27"	3¾"	6"	8"		8"	6"	2" ϕ	—	1¾"	39"	9"	8"	4½"	⅝"
4E											—	2"×4"						
5H	24"	14"	2¼"	33"	4¼"	7"	10"		12"	9"	2¼" ϕ	—	2"	45"	10"	9"	5"	¾"
5E											—	2¼"×5"						
6	24"	14"	2¼"	—	—	—	—	—	—	—	—	—						

NOTES:

1. Elastomeric Bearing Pads, Anchor Bolts and Bevelled Bearing Pl's are incidental to Concrete in Bridges.
2. Sole Pl's Welded Studs are incidental to Beams.
3. Durometer hardness of Elastomeric pad shall be 60 ± 5.

FIBER GLASS LAMINATED PADS

All bearing seat elevations (Denoted also as bush hammer or pad elevations) are based on steel laminated elastomeric bearing pads. If the contractor elects to use fiber glass laminated elastomeric pads, instead of steel laminated elastomeric pads, he shall comply with the following requirements.

a. The fiber glass laminated elastomeric pads shall comply with the details shown on the plans and the requirements of the Special Provisions.

b. Appropriate revisions shall be made to the bearing seat elevations and shear Pl thickness to reflect the reduction in thickness for the fiber glass laminated bearing pads. Any such revisions shall be approved by the engineer.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"

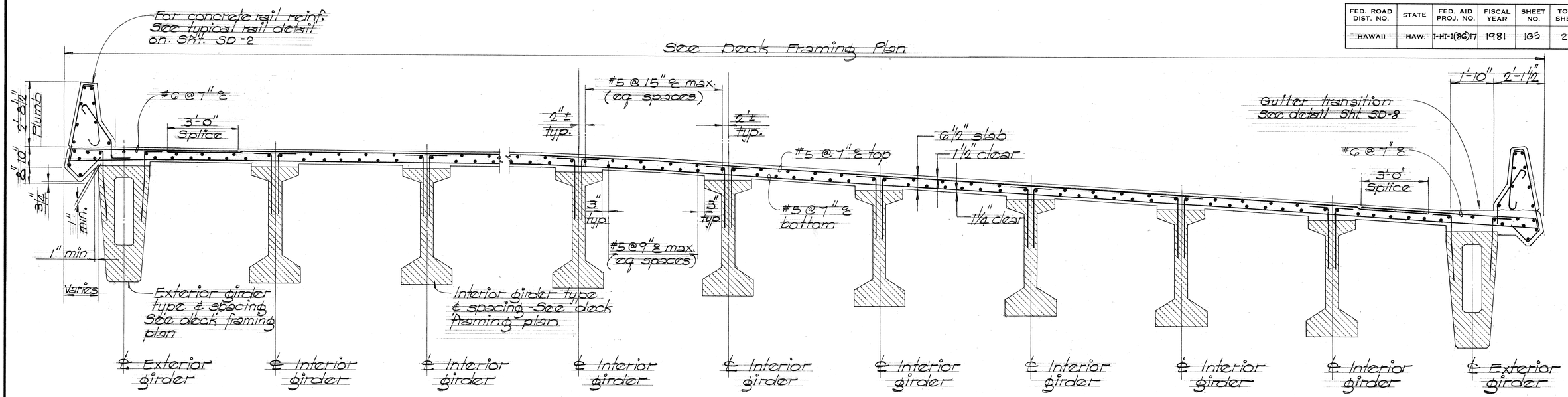
BEARING DETAILS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (80)17
SCALE: AS SHOWN DATE: 6-15-81

SHEET NO. 5-51 OF 60 SHEETS

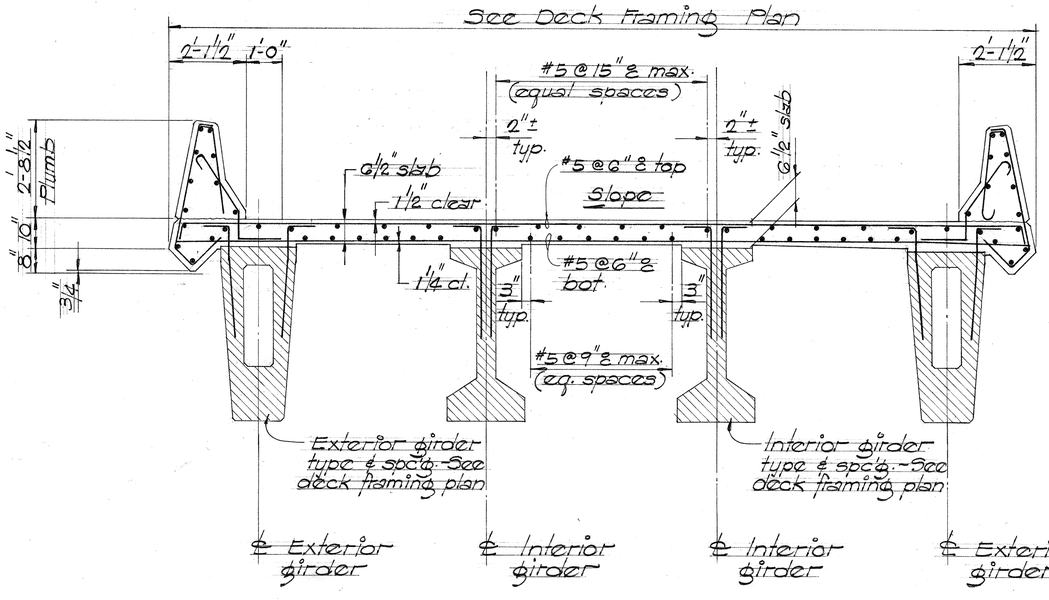
ORIGINAL PLANS | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	165	207



TYPICAL DECK SECTION "NIMITZ CONNECTOR (EB)" STA. 30+94.36 THRU STA. 32+74.36

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



TYPICAL DECK SECTION RAMP "HOV" STA. 37+00 THRU STA. 37+55.28

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

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS

NOTES:

1. In general all deck transverse bars shall be placed either radially or normal to the baseline. All transverse bars that are placed radially to the baseline shall be spaced as indicated on plans, measured along the edge of deck with the maximum curve length.
2. For additional reinforcing at deck drains See detail on sheet # S-53 and sheet # SD-9
3. See deck framing plans for girder spacings sheet # S-40.
4. Deck slab shall be Class BD concrete.

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"

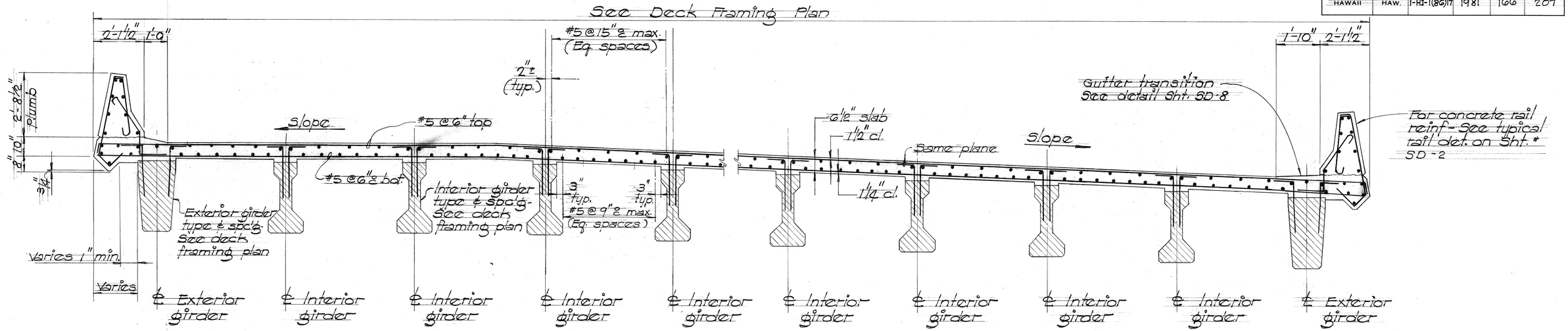
TYPICAL DECK SECTIONS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(86)17

SCALE - AS SHOWN DATE: June 15, 1981

SHEET NO. S-52 OF 60 SHEETS

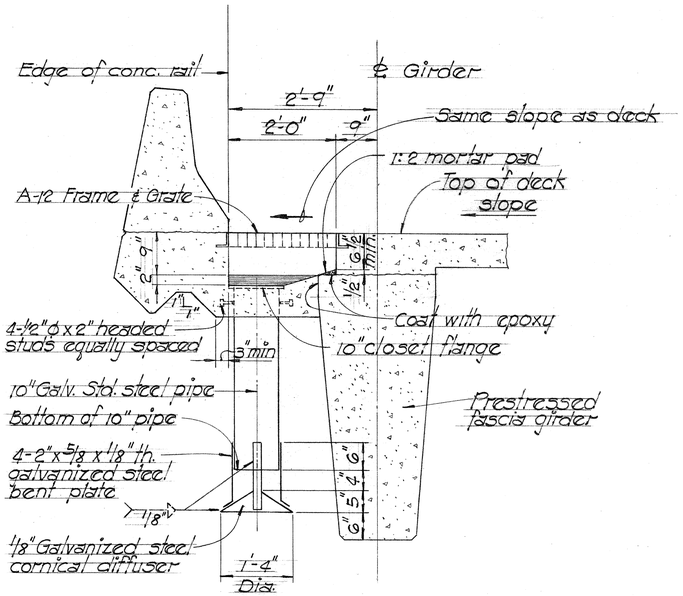
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	166	207



TYPICAL DECK SECTION "NIMITZ CONNECTOR (EB)" STA. 32+74.36 THRU STA. 36+36.36

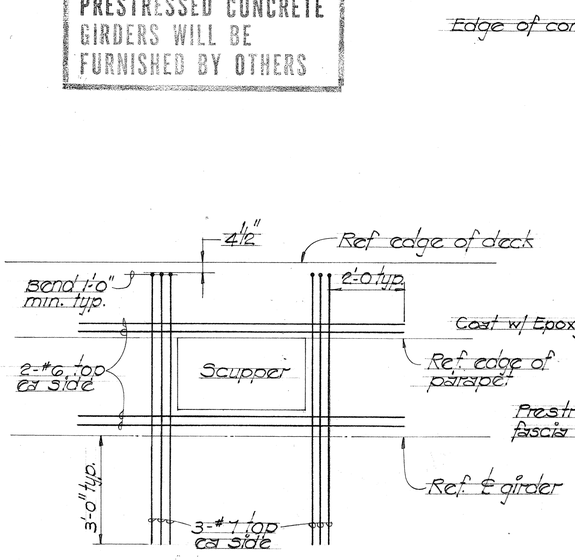
Scale: 1/2" = 1'-0"

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS



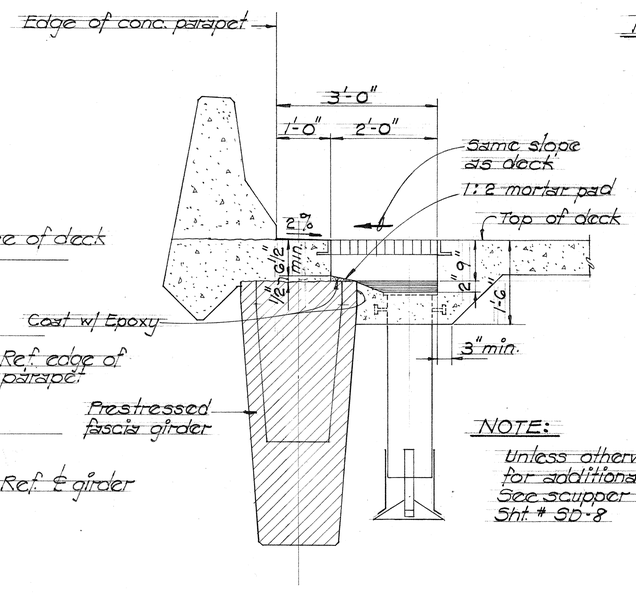
SCUPPER TYPE "H"

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



ADDED REINFORCING AT SCUPPER TYPE "H"

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



SCUPPER TYPE "X"

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

NOTES:

1. In general all deck transverse bars shall be placed either radially or normal to the baseline. All transverse bars that are placed radially to the baseline shall be spaced as indicated on plans, measured along the edge of deck with the maximum curve length.
2. For additional reinforcing at deck drains - See detail on sheets # SD-8 & SD-9
3. See deck framing plans for girder spacings sheet # S-40 and sheet # S-41.
4. Deck slab shall be Class BD concrete.

NOTE:

Unless otherwise shown for additional notes. See scupper type "E" Sht # SD-8

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"

TYPICAL DECK SECTION & SCUPPER DETAIL

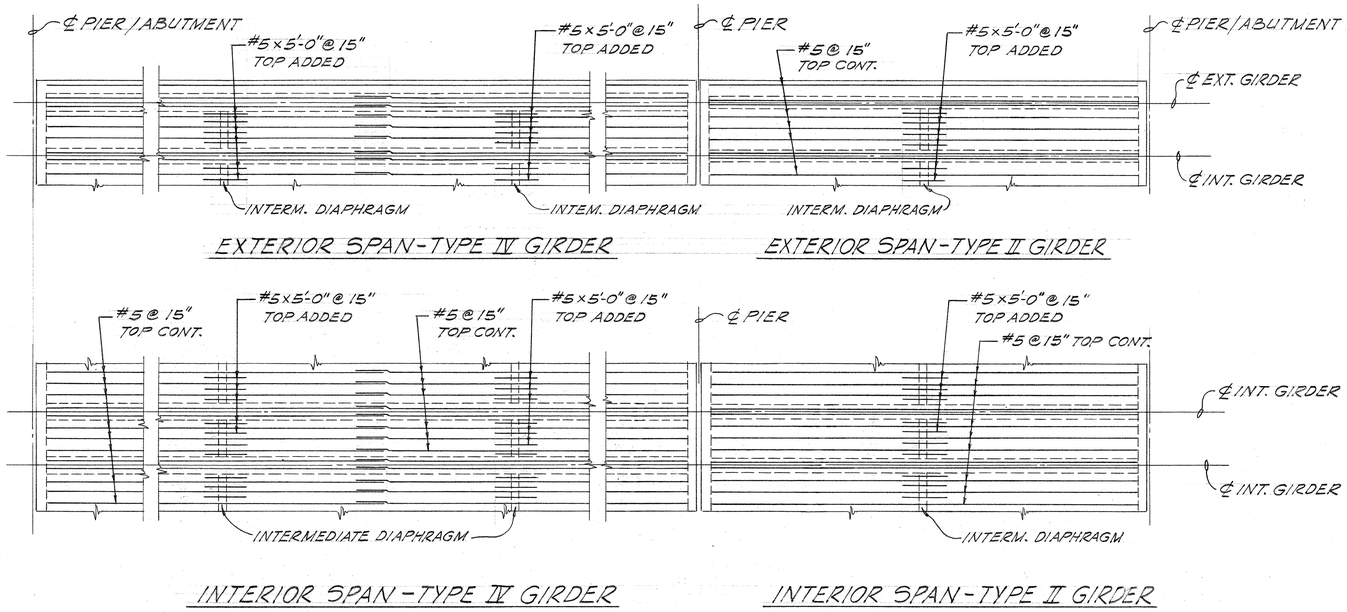
KEEHI INTERCHANGE
FAI PROJ. NO. I-HI-1(86)17

SCALE: AS SHOWN. DATE: June 15, 1981

SHEET NO. S-53 OF 60 SHEETS

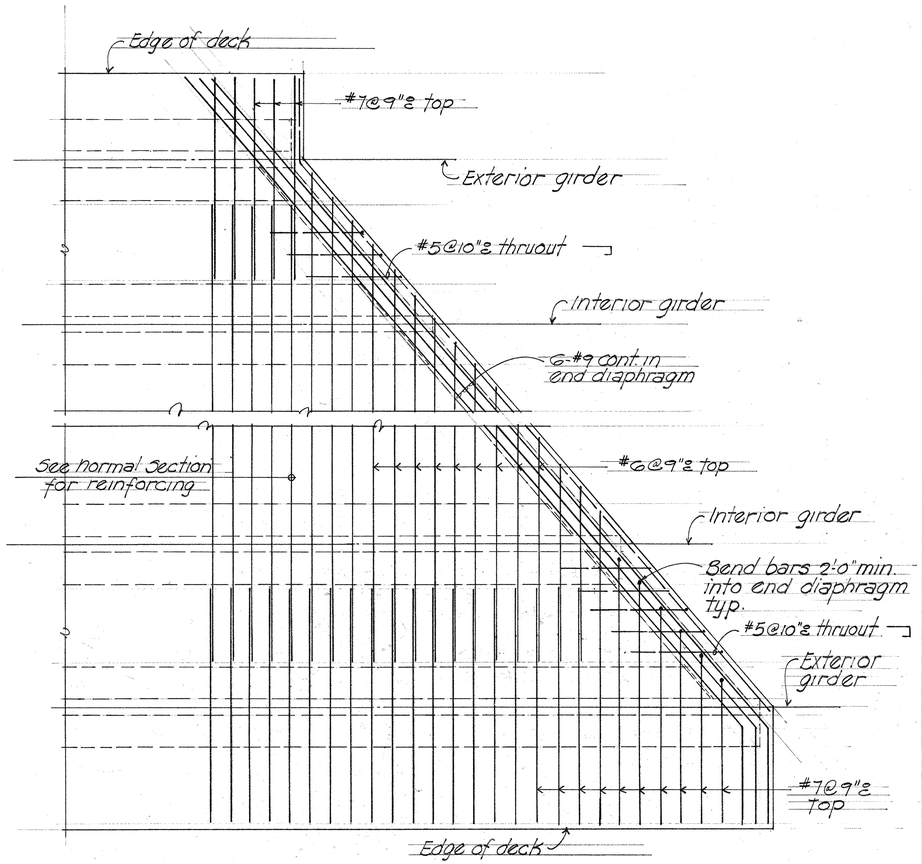
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
NOTE BOOK	TRACED BY	
	DESIGNED BY	
	QUANTITIES BY	
No.	CHECKED BY	

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HAWAII	HAW.	I-HI-1(36)17	1981	167	207



TYPICAL ARRANGEMENT OF TOP REINFORCEMENT

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



TYPICAL TRANSVERSE REINF. PLACEMENT @ SKEWED ENDS

Not to scale.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"

DECK REINFORCEMENT

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(36)17

SCALE: AS SHOWN DATE: June 15, 1981

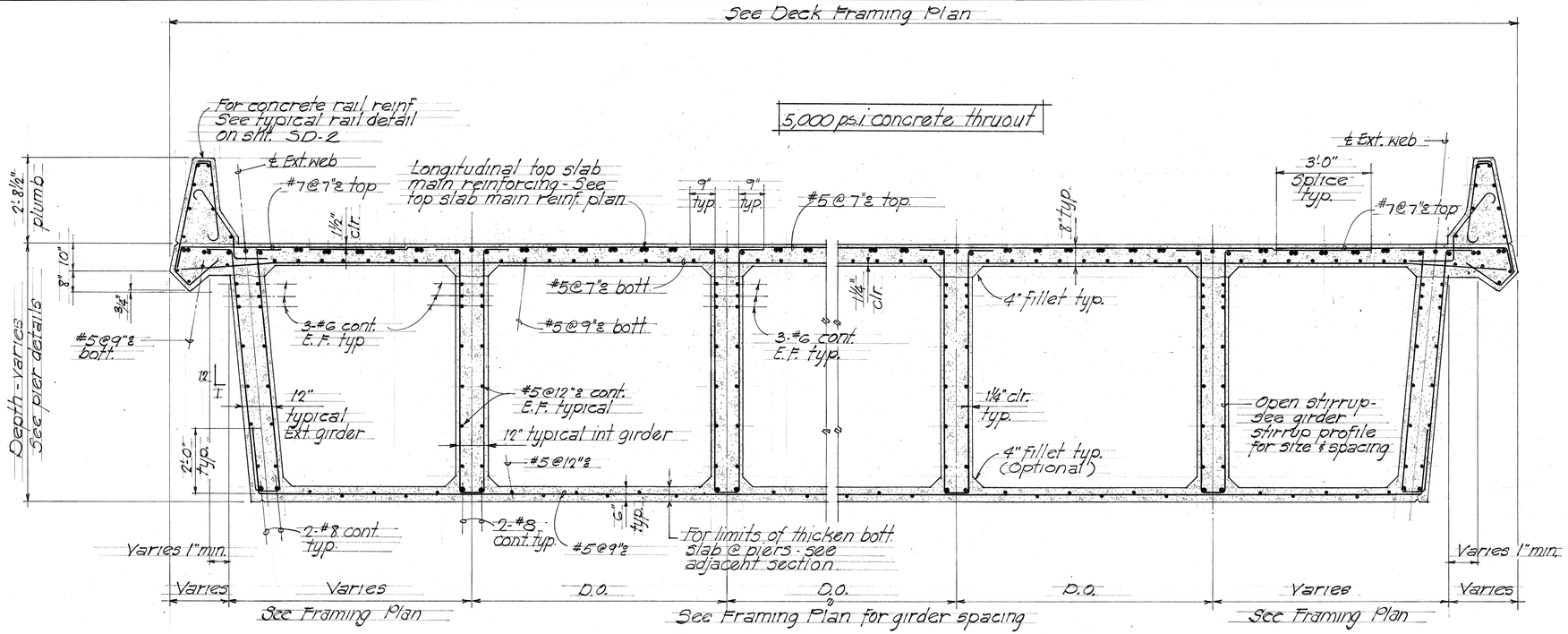
SHEET NO. S-54 OF 60 SHEETS

ORIGINAL PLAN | NOTE BOOK | No.

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

PRINTED ON NO. 1000H CLEARPRINT

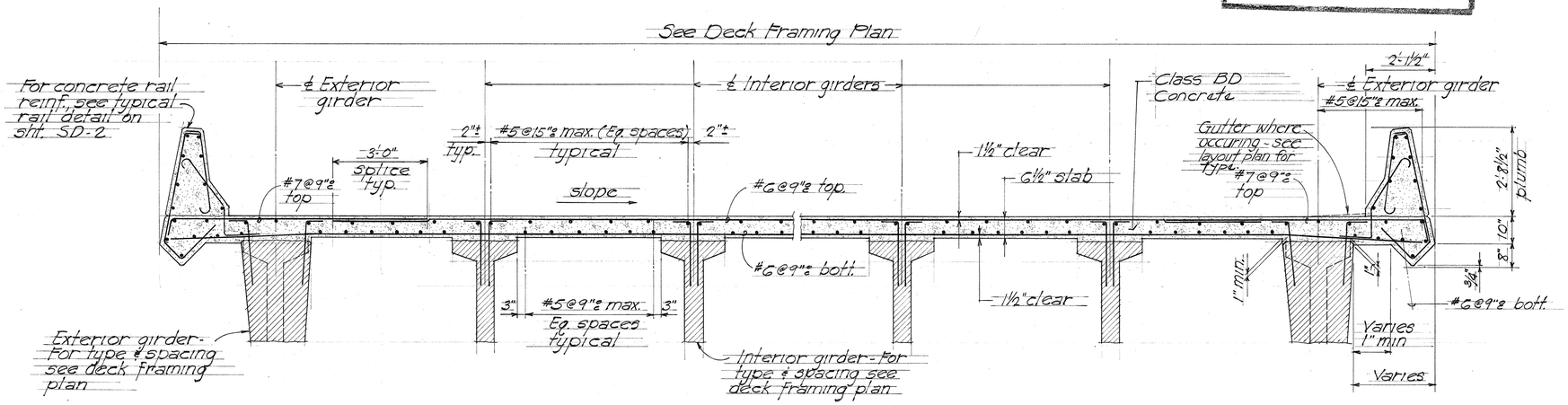
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	168	207



NORMAL SECTION @ PIERS A11, A12, B4 & B5

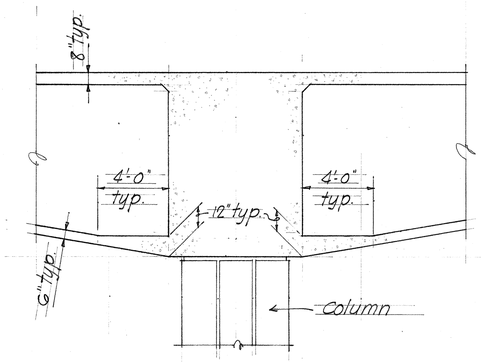
Scale ½"=1'-0"

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS



TYPICAL DECK SECTION RAMP "A" & RAMP "B"

Scale ½"=1'-0"



TYPICAL SECTION @ PIERS A-11, A-12 B4 & B5 SHOWING LIMIT OF THICKEN BOTTOM SLAB Not to scale

NOTES

1- In general all deck transverse bars shall be placed either radially or normal to the baseline. All transverse bars that are placed radially to the baseline shall be spaced as indicated on plans, measured along the edge of deck with the maximum curve length.

2- For additional reinforcing at deck drains - see detail on sheet #50-9.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A" & RAMP "B" TYPICAL DECK SECTIONS

KEEHI INTERCHANGE

F.A.I. PROJ. NO. I-HI-1(86)17

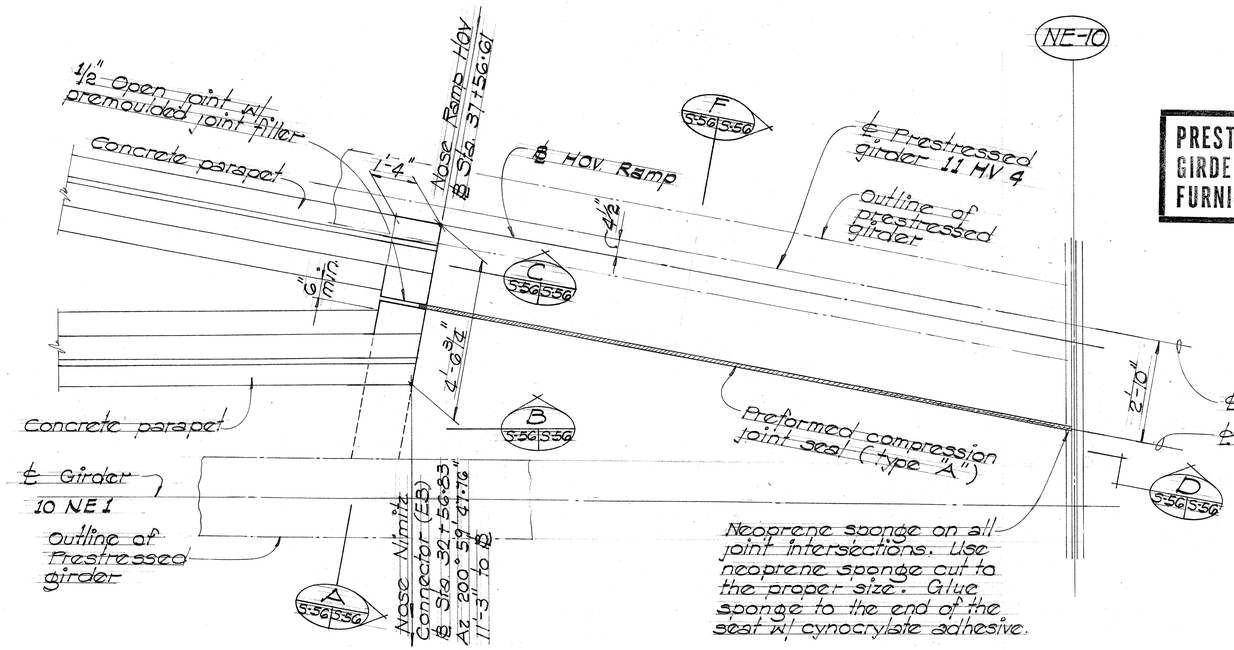
Scale: As shown Date: JUNE 1981

SHEET NO. S-55 OF 60 SHEETS

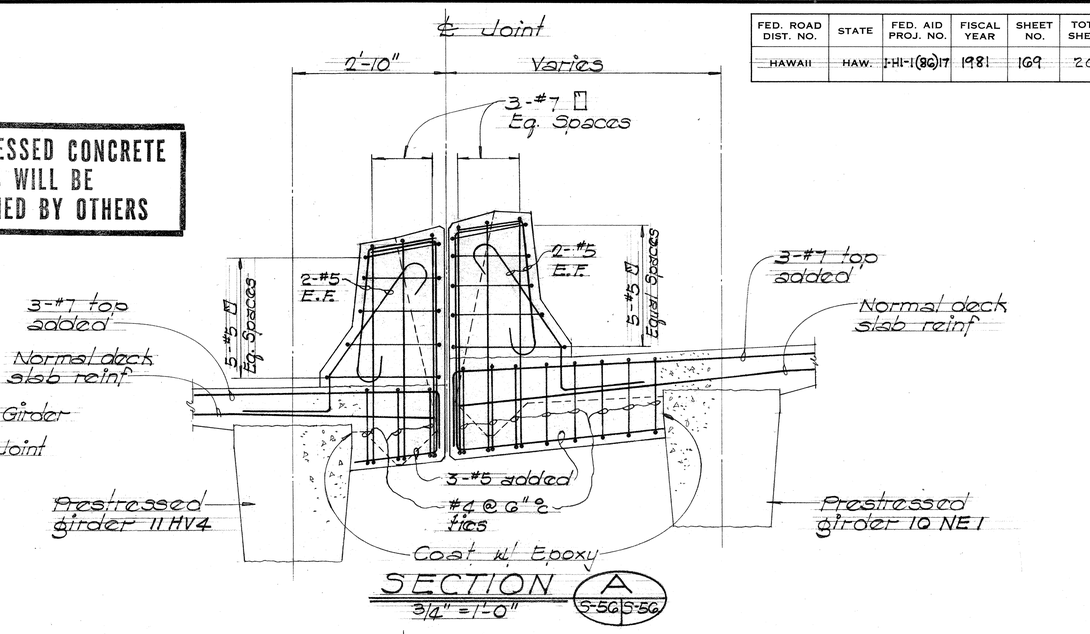
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
NOTE BOOK	TRACED BY	
	DESIGNED BY	
No.	QUANTITIES BY	
	CHECKED BY	

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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	169	207

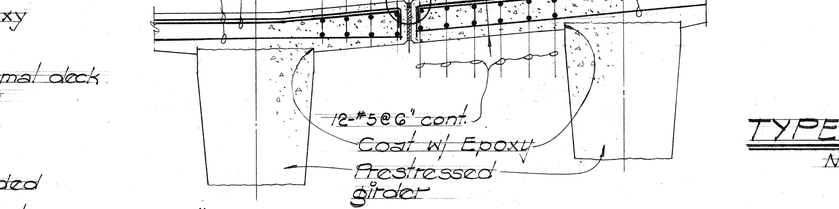


PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS



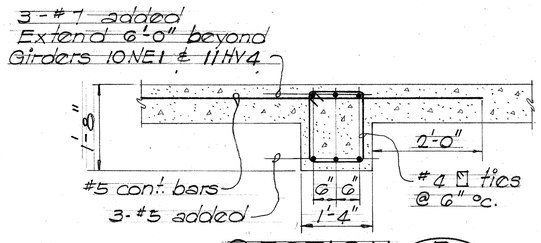
SECTION A
3/4" = 1'-0"
A 5-5G 5-5G

PARTIAL DETAIL PLAN @ "NIMITZ CONNECTOR (EB)" ℄ "RAMP HOV"
Scale: 1/2" = 1'-0"

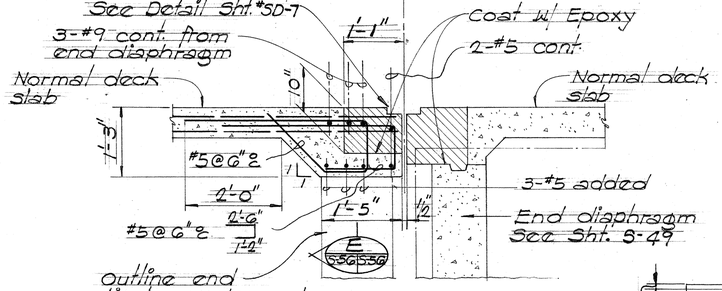




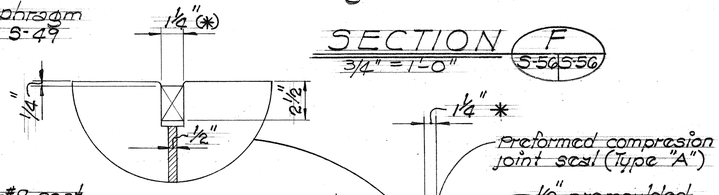
TYPE "A" JOINT SEAL
Not to scale



SECTION B
3/4" = 1'-0"
B 5-5G 5-5G

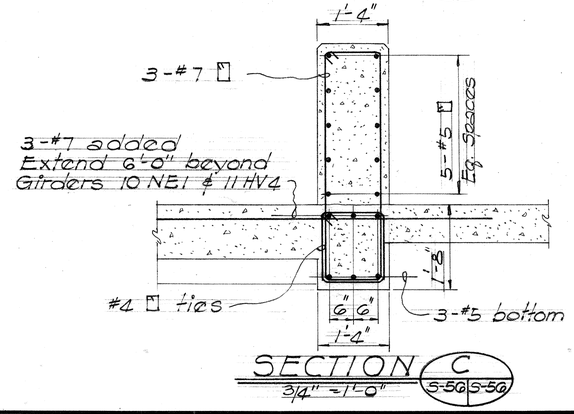


SECTION D
3/4" = 1'-0"
D 5-5G 5-5G

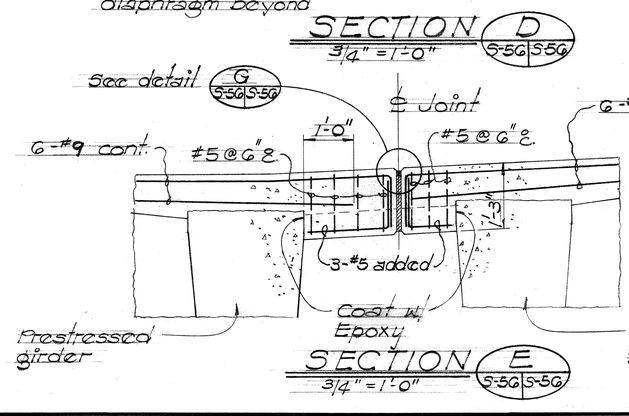


SECTION F
3/4" = 1'-0"
F 5-5G 5-5G

DETAIL G
1 1/2" = 1'-0"
G 5-5G 5-5G



SECTION C
3/4" = 1'-0"
C 5-5G 5-5G



SECTION E
3/4" = 1'-0"
E 5-5G 5-5G

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (EB)
HOV RAMP, RAMP "A" AND RAMP "B"

MISCELLANEOUS DETAILS

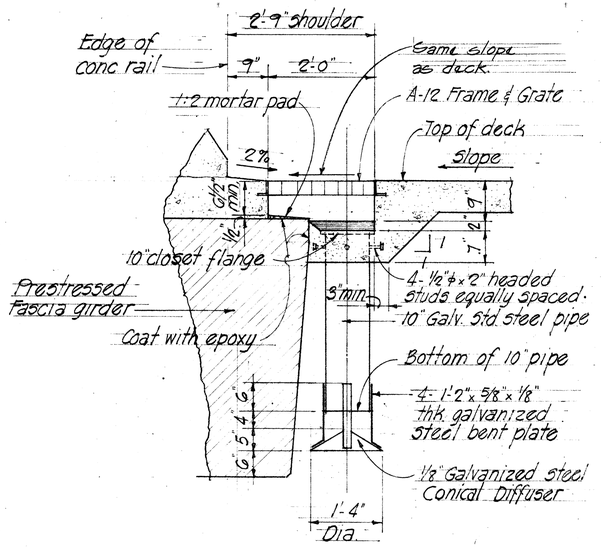
KEEHI INTERCHANGE
FAI PROJ NO. I-HI-1(86)17

SCALE: AS SHOWN DATE: June 15, 1981

SHEET NO. S-5G OF 60 SHEETS

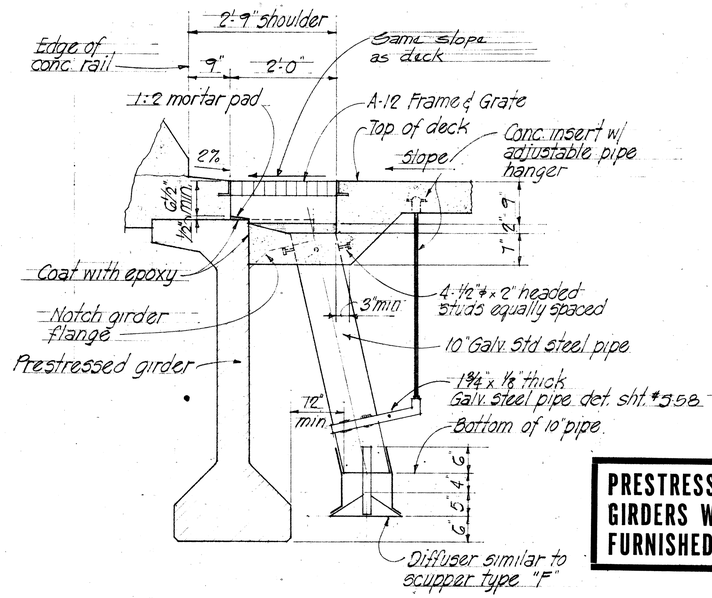
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | NOTE BOOK | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | No.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	170	207



SCUPPER TYPE "F"

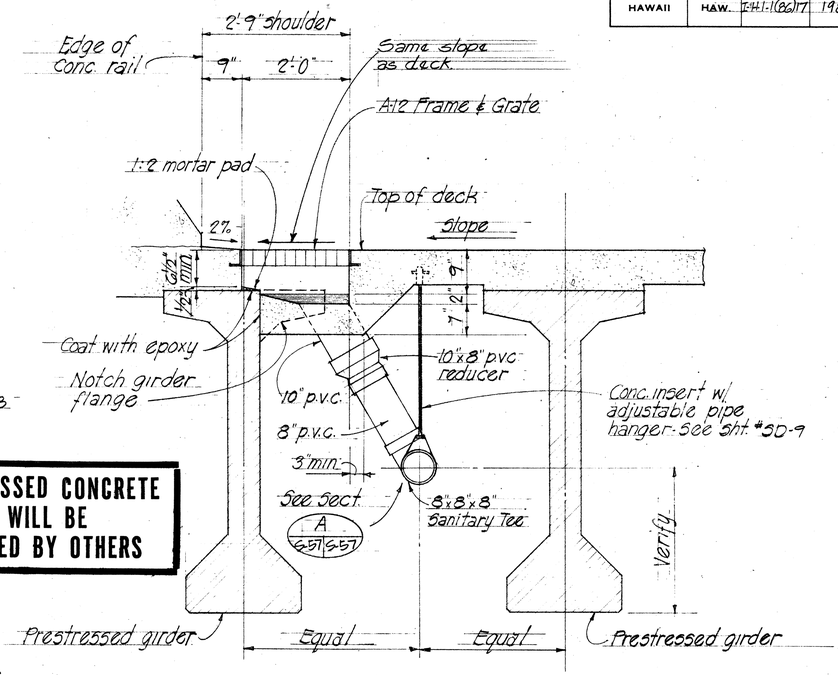
Scale 3/4"=1'-0"



SCUPPER TYPE "G"

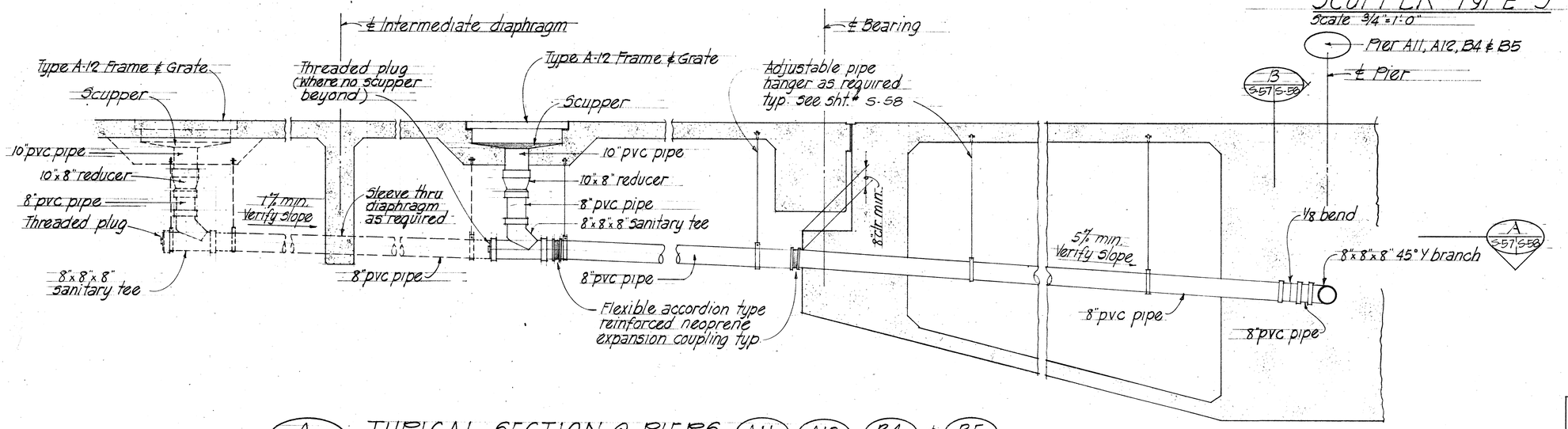
Scale 3/4"=1'-0"

PRESTRESSED CONCRETE GIRDERS WILL BE FURNISHED BY OTHERS



SCUPPER TYPE "J"

Scale 3/4"=1'-0"



A S-57 S-57 TYPICAL SECTION @ PIERS A11 A12 B4 ℄ B5

Scale 1/2"=1'-0"

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
NOTE BOOK	TRACED BY	
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	CHECKED BY	

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A" & RAMP "B"
SCUPPER AND DRAIN DETAILS

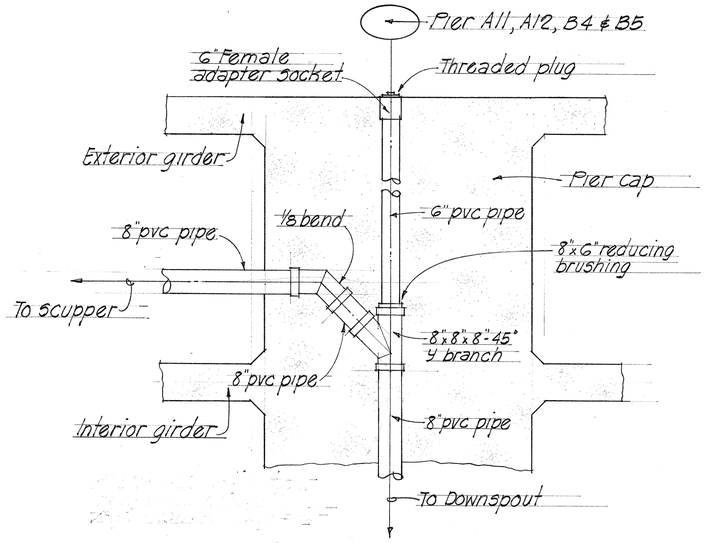
KEEHI INTERCHANGE

F.A.I. PROJ. NO. I-HI-1 (86) 17

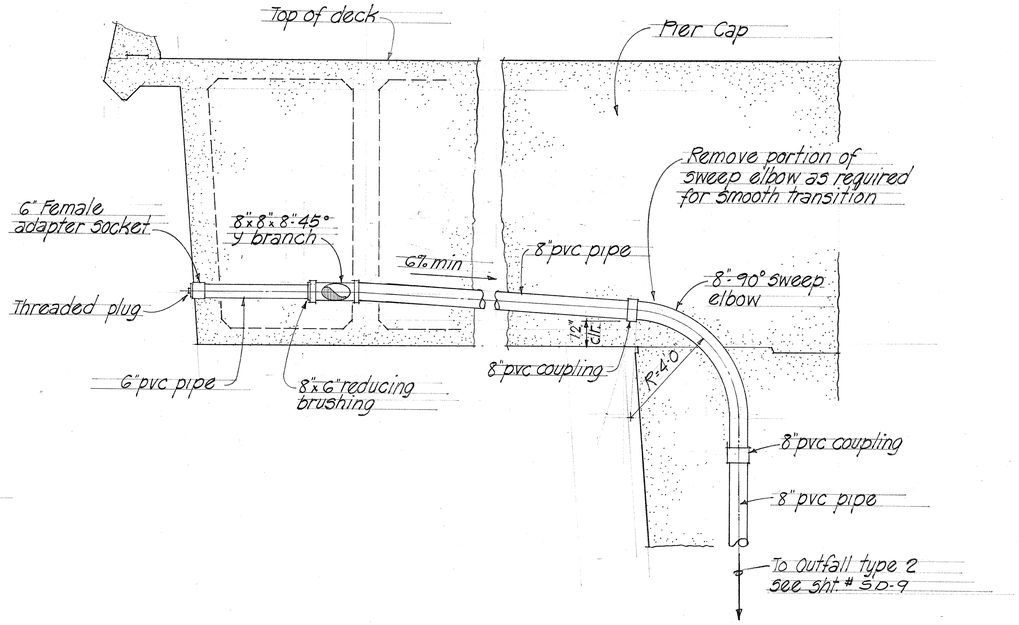
Scale: As shown Date: JUNE 1981

SHEET NO. S-57 OF 60 SHEETS

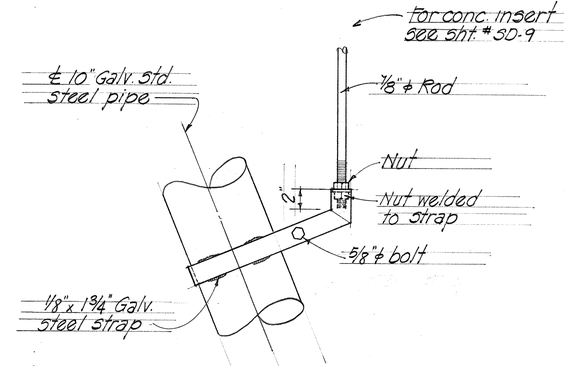
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	171	207



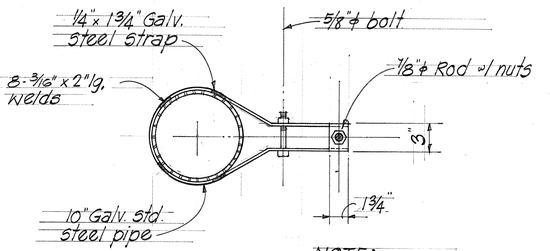
SECTION A
Scale 1/2"=1'-0"
S-57 | S-58



SECTION B
Scale 3/8"=1'-0"
S-57 | S-58



ELEVATION



SECTION

NOTE:
Inserts and hangers to develop a minimum ultimate pulling strength of 13 kips.

C
S-57 | S-58

PIPE HANGER DETAIL
Scale 1 1/2"=1'-0"

NOTE:
1. All pvc pipes shall be Type I schedule 40.
2. For location of Scuppers and Outfall Type, see General Plan (Layout plan) & Foundation Plan of structure.

HAROLD TAKASHI MIYAMOTO
REGISTERED PROFESSIONAL ENGINEER
No. 1514
HAWAII, U.S.A.

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GEORGE K. NISHIMURA
REGISTERED PROFESSIONAL ENGINEER
No. 1388
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

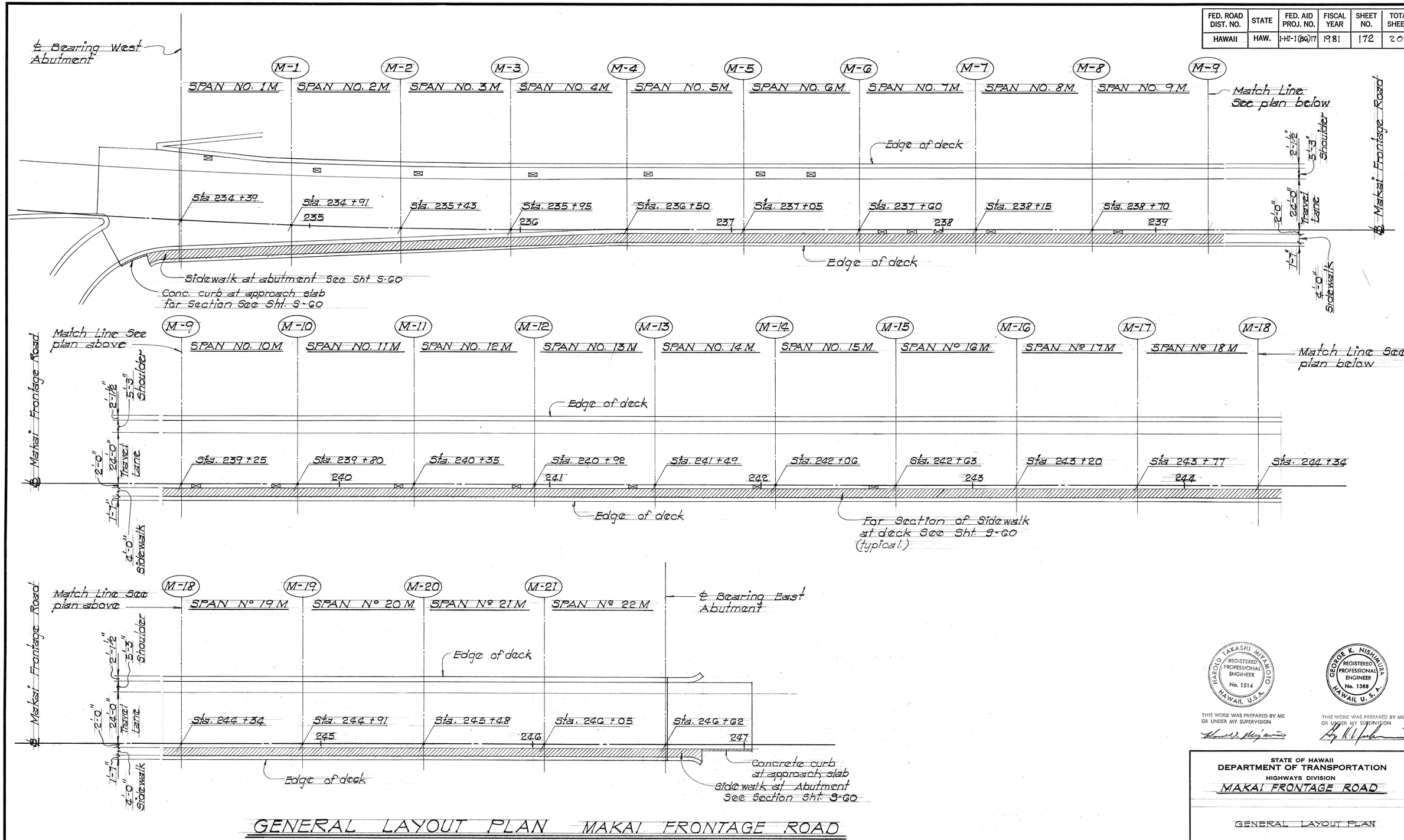
NIMITZ CONNECTOR (E.B.) HOV RAMP, RAMP "A" & RAMP "B"
SCUPPER & DRAIN DETAILS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (86) 17
Scale: As shown Date: JUNE 1981

SHEET NO 5-58 OF 60 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	172	207



GENERAL LAYOUT PLAN MAKAI FRONTAGE ROAD

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

HAROLD TAKASHI MIYAMOTO REGISTERED PROFESSIONAL ENGINEER No. 1514 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

GEORGE K. NISHIMURA REGISTERED PROFESSIONAL ENGINEER No. 1388 HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MAKAI FRONTAGE ROAD

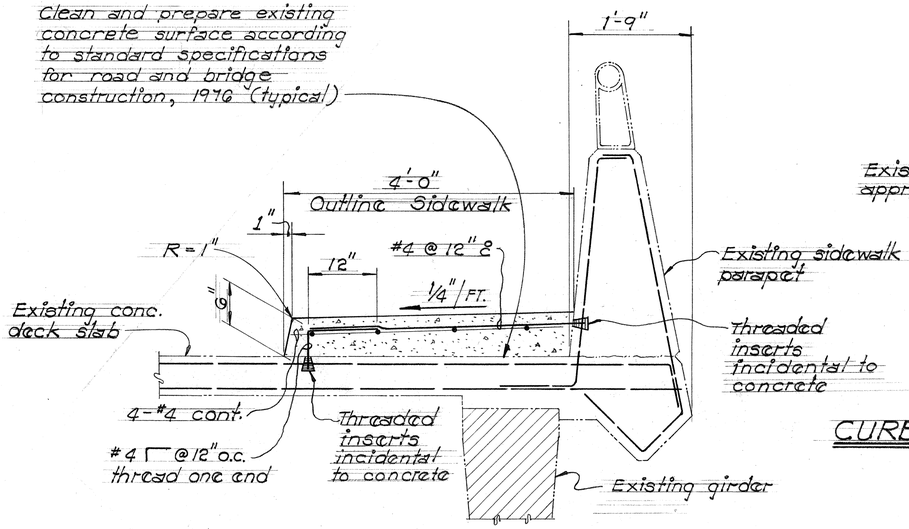
GENERAL LAYOUT PLAN

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(86)17

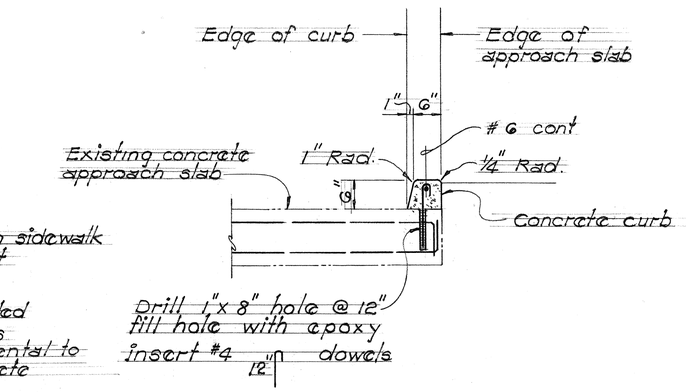
SCALE: DATE: June 15, 1981

SHEET No. 5-59 OF 60 SHEETS

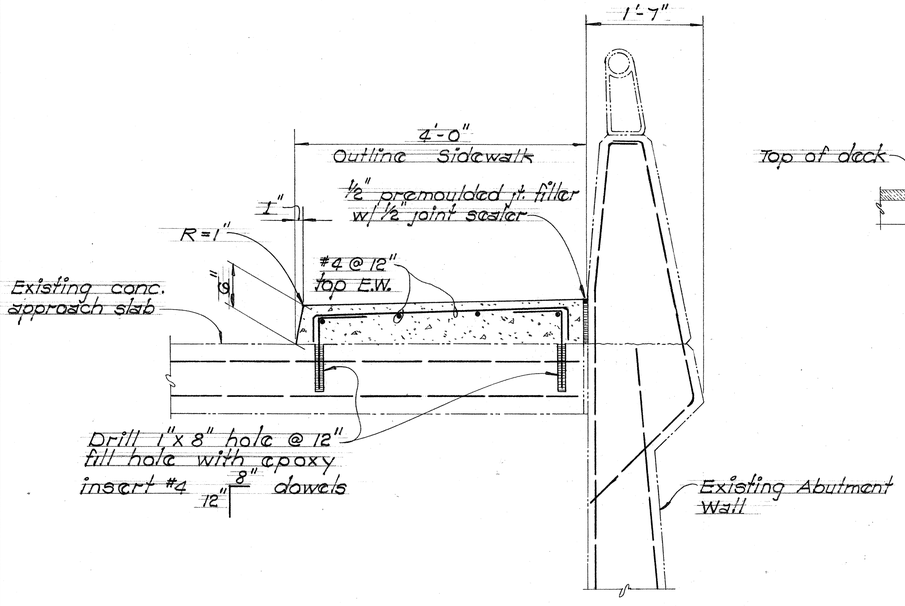
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(86)17	1981	173	207



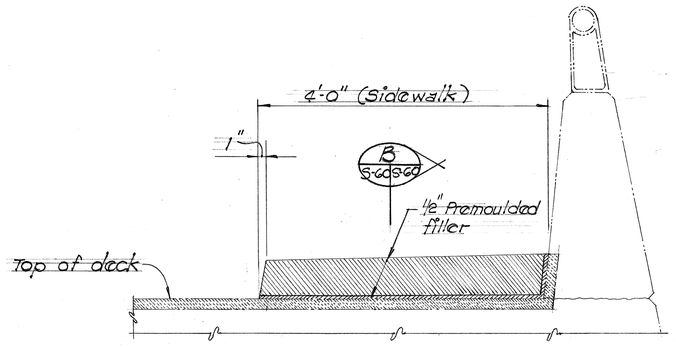
SIDEWALK PARAPET SECTION AT DECK
(MAKAI FRONTAGE ROAD)
Scale: 1"=1'-0"



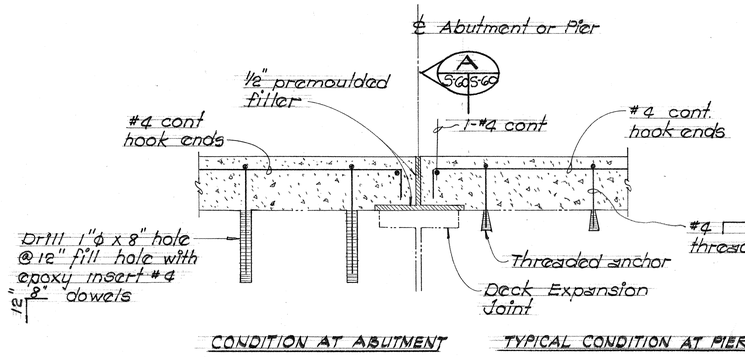
CURB SECTION AT APPROACH SLAB



SIDEWALK PARAPET SECTION AT ABUTMENT
(MAKAI FRONTAGE ROAD)
Scale: 1"=1'-0"



SECTION A S-60 S-60



CONDITION AT ABUTMENT TYPICAL CONDITION AT PIERS

SECTION B S-60 S-60

SIDEWALK SECTION AT EXPANSION JOINT
Scale: 1 1/2" =1'-0"

GEORGE K. NISHIMURA — REGISTERED PROFESSIONAL ENGINEER — No. 1388 — HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MAKAI FRONTAGE ROAD

SIDEWALK SECTION & EXPANSION JOINT DETAIL

KEEHI INTERCHANGE
FAI PROJ NO. I-HI-1(86)17

SCALE: DATE: June 15, 1981

SHEET No. S-60 OF 60 SHEETS

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

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