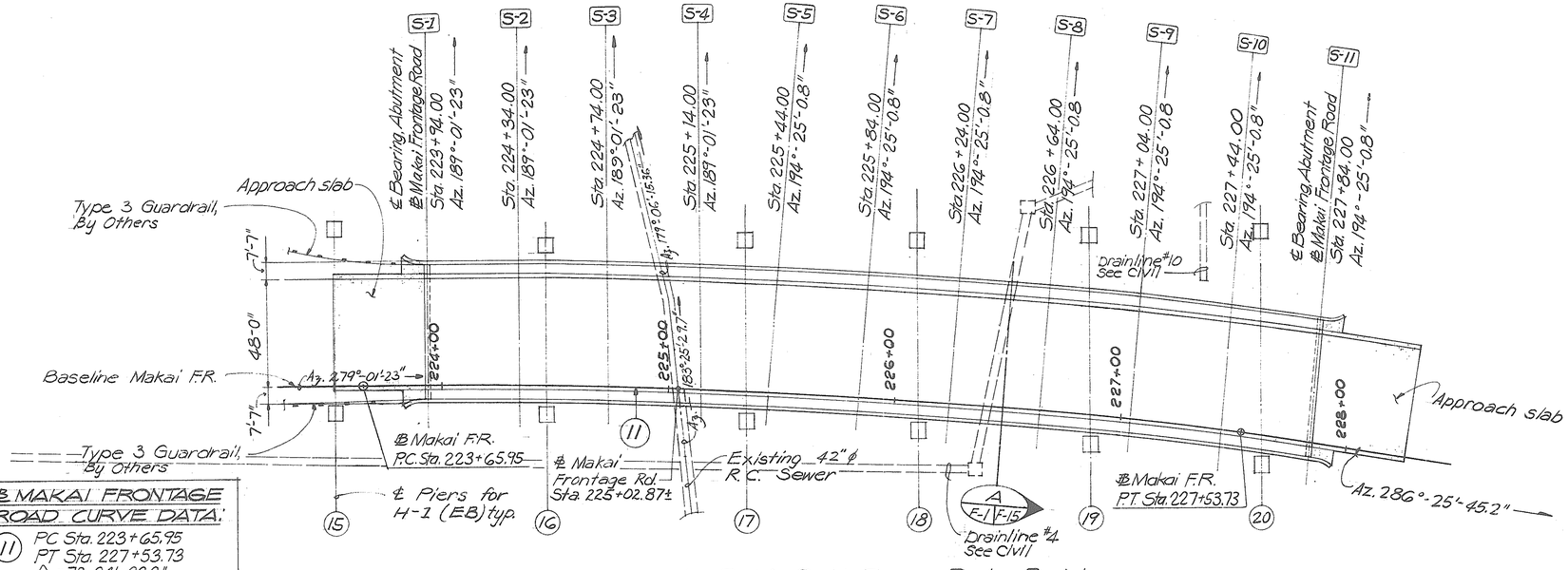
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(182)17	1982	22	42



LAYOUT PLAN

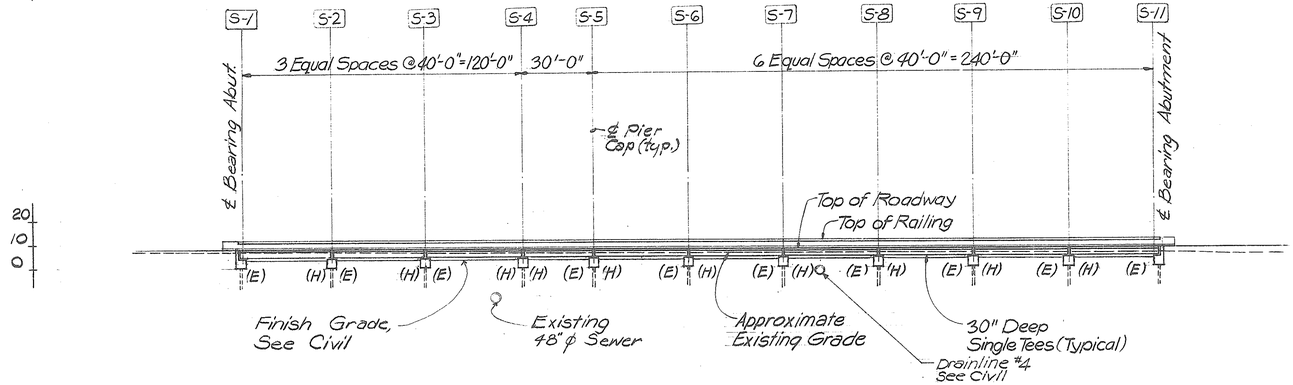
Scale: 1" = 30'-0"

℄ MAKAI FRONTAGE ROAD CURVE DATA:

(11) PC Sta. 223+65.95
PT Sta. 227+53.73
△ = 7°-24'-22.2"
R = 3,000'
L = 387.79'
T = 194.16'

NOTES:

1. Unless shown otherwise all transverse dimensions are perpendicular to ℄ Makai F.R. & longitudinal dimensions are along ℄ Makai F.R.
2. Unless shown otherwise all pier stations are along ℄ Makai F.R.



LONGITUDINAL SECTION ALONG BASELINE MAKAI FRONTAGE ROAD

Scale: 1" = 30'-0"

LEGEND:
(H) = Hinge End of Tee or Girder.
(E) = Expansion End of Tee or Girder.

REFERENCE DRAWINGS:
1. Deck Finish Grades ——— Sht. F-2
2. Deck Cross Section ——— Sht. F-15

DESIGN CRITERIA

1. Sheet Sht. SD-1 for General Notes
2. Cast-in-place concrete for various parts of the Frontage Road Structure are:
   Class A: Pile-pier caps, abutments, parapets.
   Class BD: Deck slab.
3. Reinforcing steel for cast-in-place concrete are:
   Class 40 = Concrete deck slab, parapets
   Class 60 = Pile-pier caps.

FOR INFORMATION ONLY

KEEHI INTERCHANGE AREA 1 & 2 CONSULTANTS
[illegible], Shimabukuro & Fukuda, Inc.
[illegible] Honolulu, Hawaii 96814

REUBEN T. F. TSAU
REGISTERED PROFESSIONAL ENGINEER
No. 868
HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAKAI FRONTAGE ROAD
LAYOUT PLAN & LONGITUDINAL SECTION AT STA. 223+94.00 TO 227+84.00

KEEHI INTERCHANGE
F.A.I. PROJ. No. I-HI-1(182):17

Scale: As Shown Date: 4/21/83

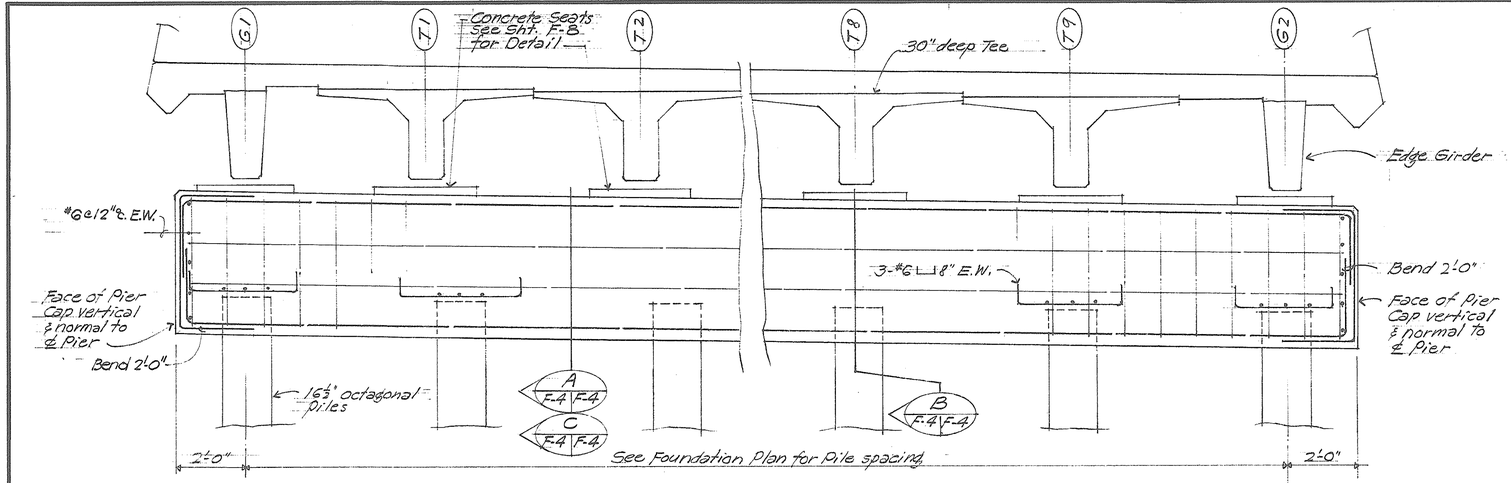
SHEET No. F-1 OF 16 SHEETS

22

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

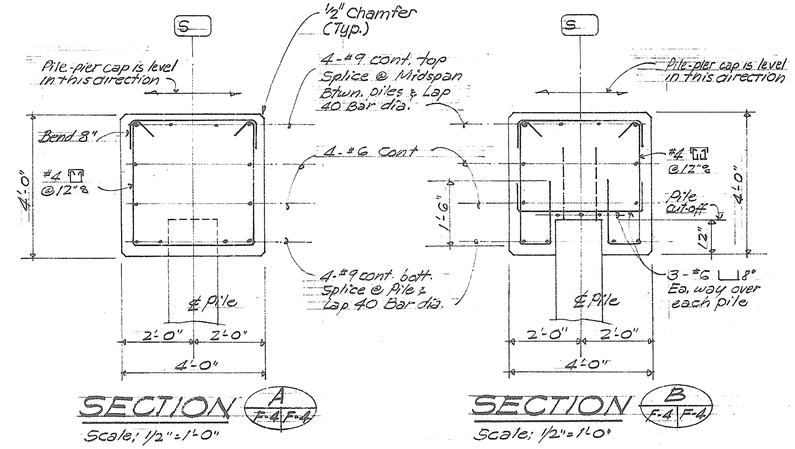
PRINTED ON NO. 1000n CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(182)-17	1982	23	42



PARTIAL ELEVATION OF TYPICAL PILE-PIER CAP

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

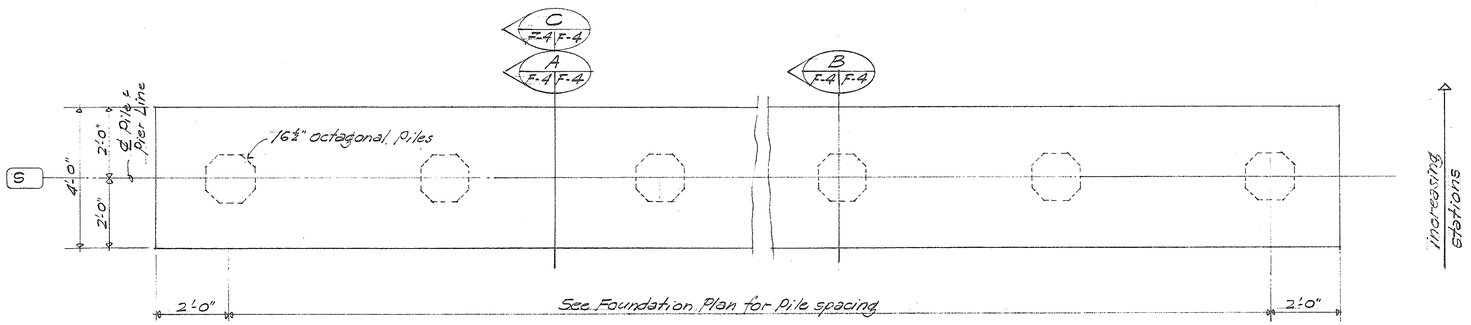


SECTION A F-4 F-4

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

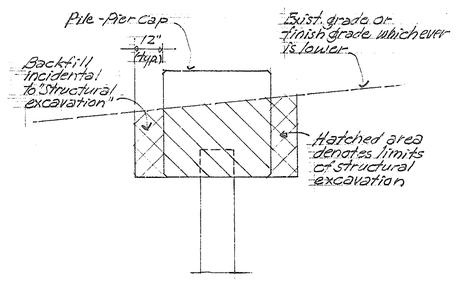
SECTION B F-4 F-4

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



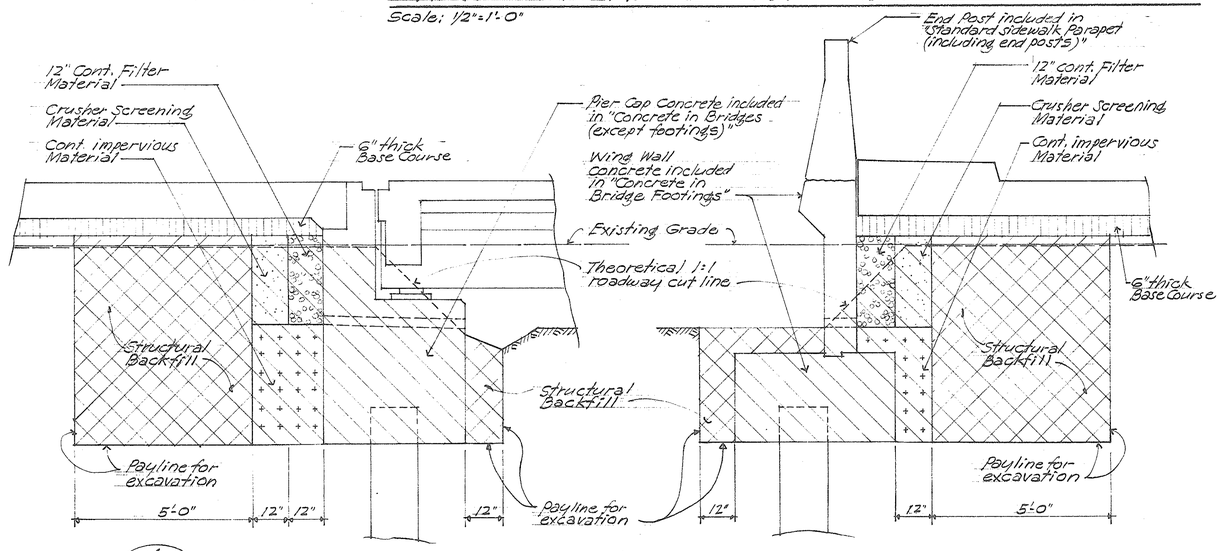
PARTIAL PLAN OF TYPICAL PILE-PIER CAP

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



SECTION C F-4 F-4

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



1/F-4 F-4 TYPICAL LIMIT OF STRUCTURAL EXCAVATION PAYLINE & BACKFILL DETAILS

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

NOTE:

See Section C F-4 F-4 for Typical Pile-Pier Cap

FOR INFORMATION ONLY

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c/o Shimazu, Shimabukuro & Fukuda, Inc.
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REUBEN Y. F. TYAU REGISTERED PROFESSIONAL ENGINEER No. 868 HAWAII, U.S.A.

This work was prepared by me or under my supervision.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAKAI FRONTAGE ROAD

TYPICAL PIER CAP PLAN, ELEVATION, & DETAILS

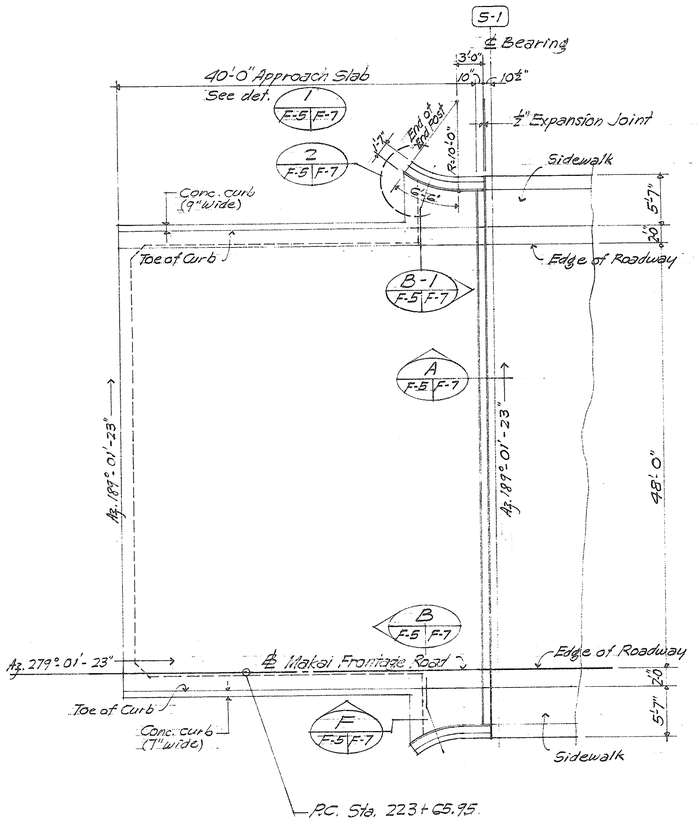
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(182)-17

Scale: As shown. Date: 4/21/83

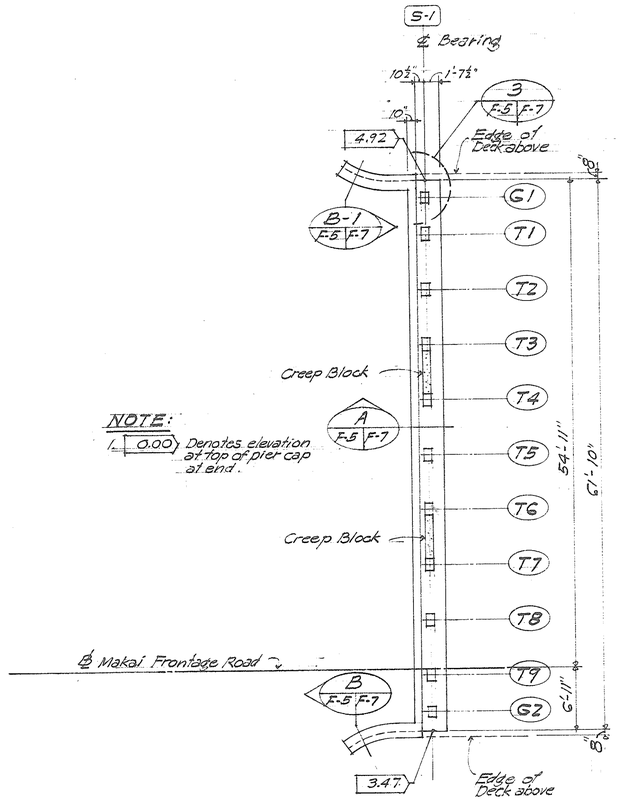
SHEET NO. F-4 OF 16 SHEETS

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGN 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-I(182):17	1982	24	42

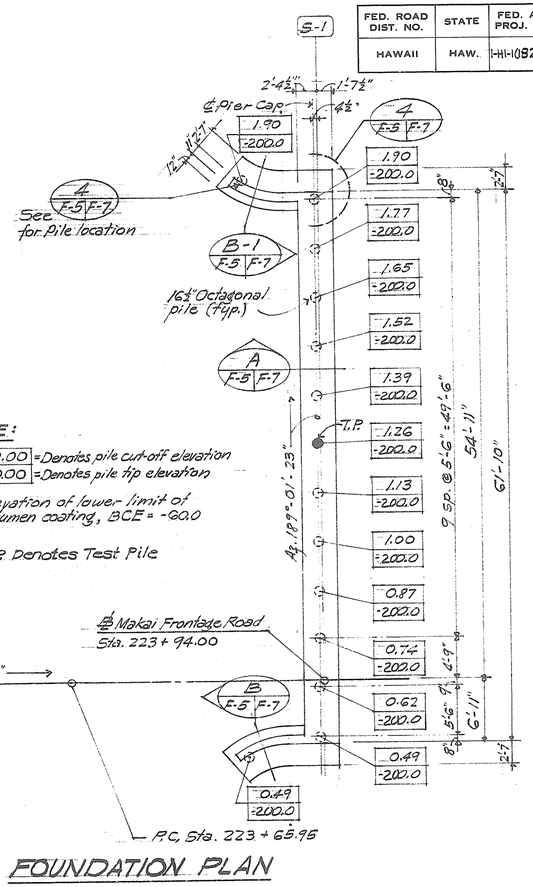


DECK PLAN



NOTE:
1. 0.00 Denotes elevation at top of pier cap at end.

PLAN AT ABUTMENT SHELF

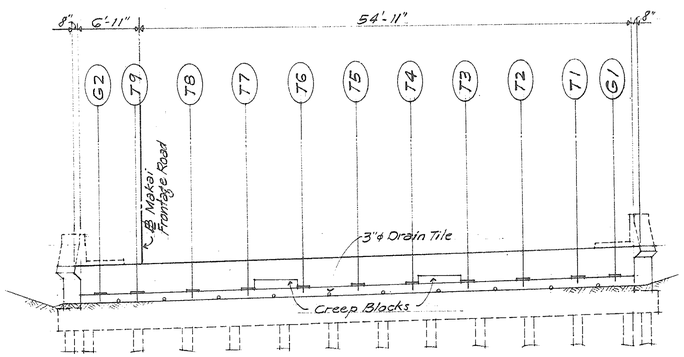


NOTE:
1. 0.00 = Denotes pile cut-off elevation
   0.00 = Denotes pile tip elevation
2. Elevation of lower limit of bitumen coating, BCE = -90.0
3. T.P. Denotes Test Pile

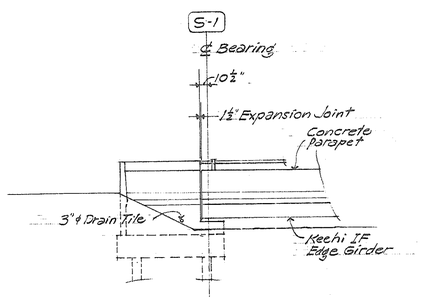
FOUNDATION PLAN

S-1 ABUTMENT PLANS

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



FRONT



SIDE

S-1 ABUTMENT ELEVATIONS

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

FOR INFORMATION ONLY

SCALE INTERCHANGE AREA I & II CONSULTANTS
c/o Shimizu, Shimabukuro & Fukuda, Inc.
1210 Ward Ave. • Honolulu, Hawaii 96814

REUBEN Y. F. TSAI
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAKAI FRONTAGE ROAD
ABUTMENT @ S-1
PLANS & ELEVATIONS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(182):17

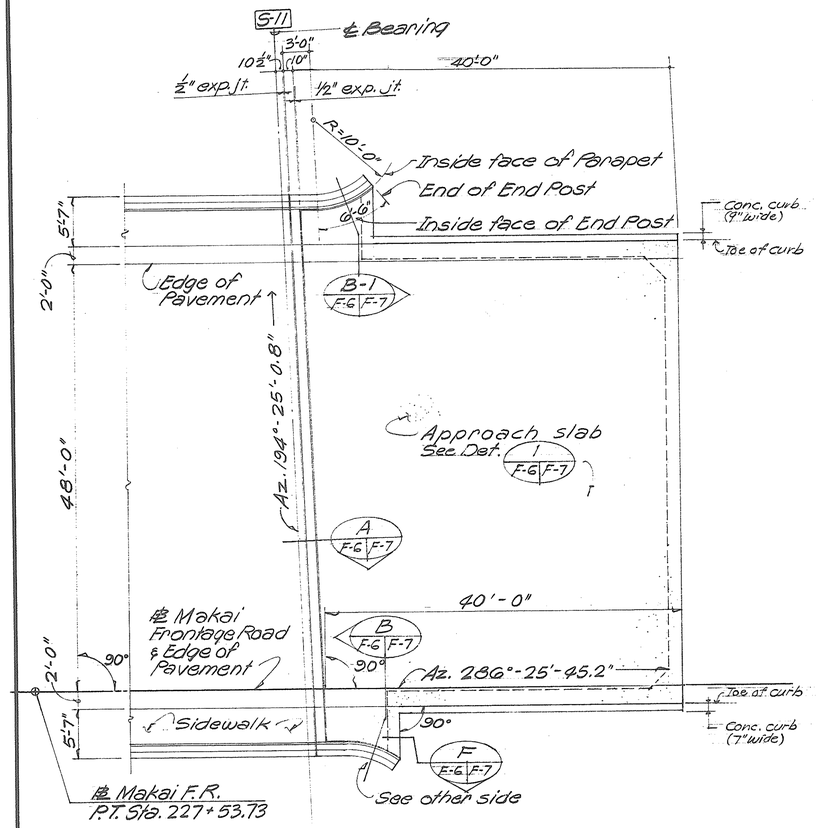
Scale: As shown Date: 4/21/83

SHEET NO. F-5 OF 16 SHEETS

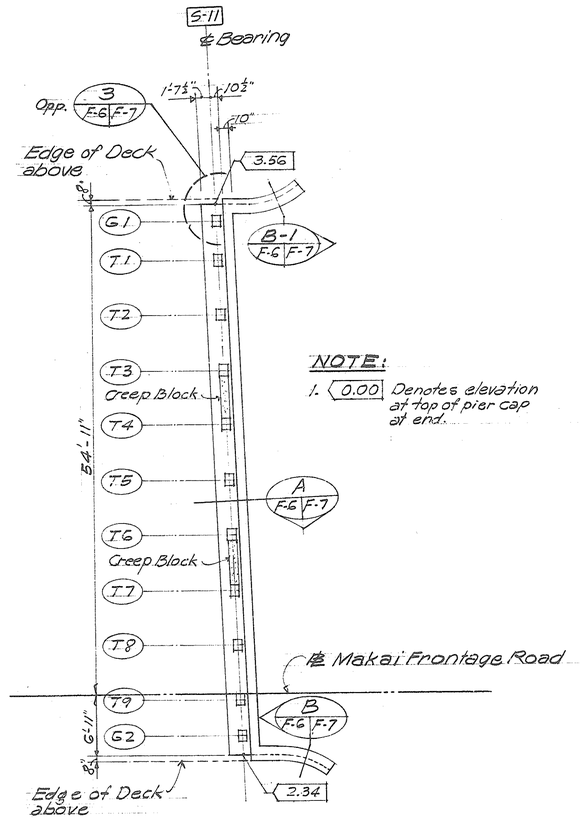
ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE
NOTE BOOK
No.

PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-I (182):17	1982	25	42

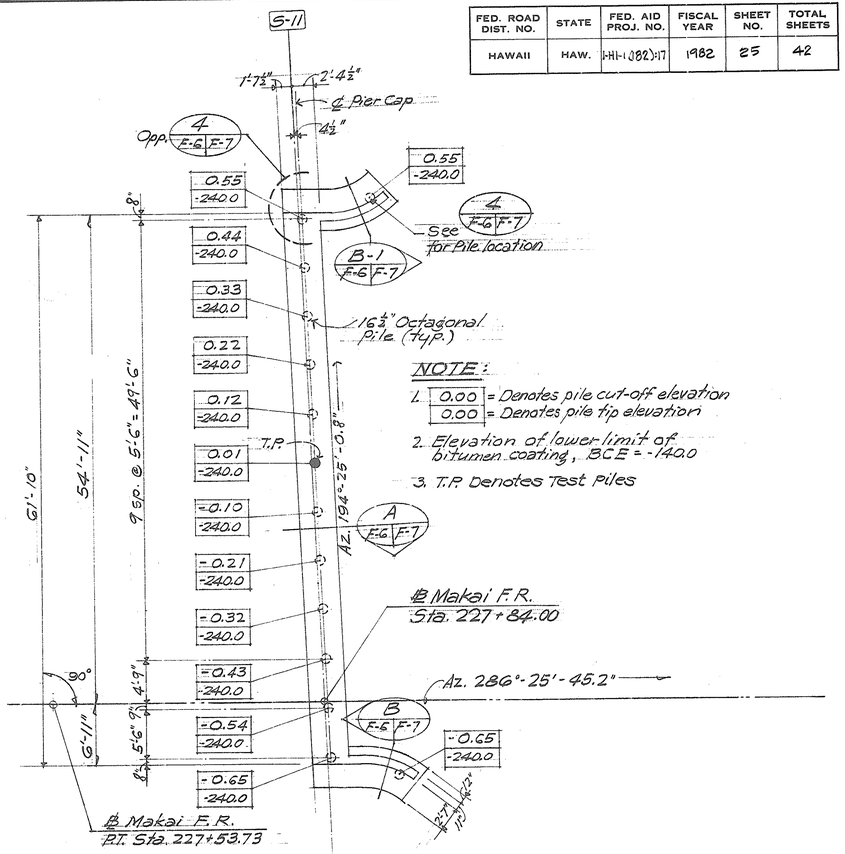


DECK PLAN



NOTE:
1. 〈0.00〉 Denotes elevation at top of pier cap at end.

PLAN AT ABUTMENT SHELF

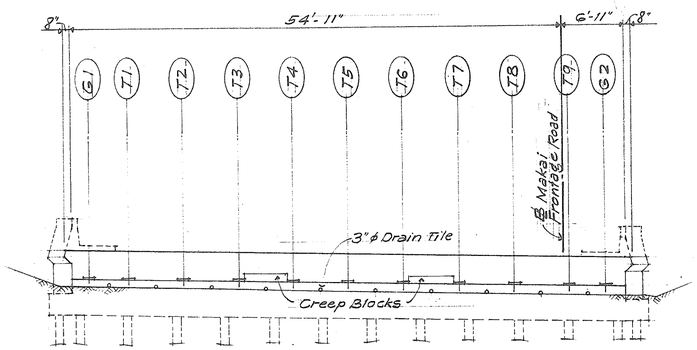


NOTE:
1. 0.00 / 0.00 = Denotes pile cut-off elevation / Denotes pile tip elevation
2. Elevation of lower limit of bitumen coating, BCE = -140.0
3. T.P. Denotes Test Piles

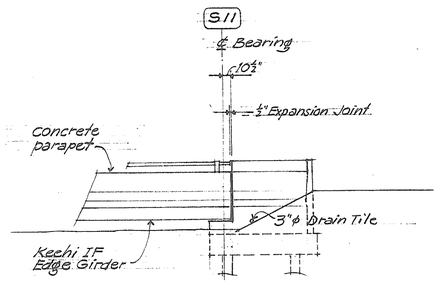
FOUNDATION PLAN

S-11 ABUTMENT PLANS

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



FRONT



SIDE

S-11 ABUTMENT ELEVATIONS

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

FOR INFORMATION ONLY

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1210 Ward Ave. • Honolulu, Hawaii 96814

REGISTERED PROFESSIONAL ENGINEER No. 868 HAWAII, U.S.A.

This work was prepared by me or under my supervision.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAKAI FRONTAGE ROAD
ABUTMENT AT S-11
PLANS & ELEVATIONS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-I (182):17

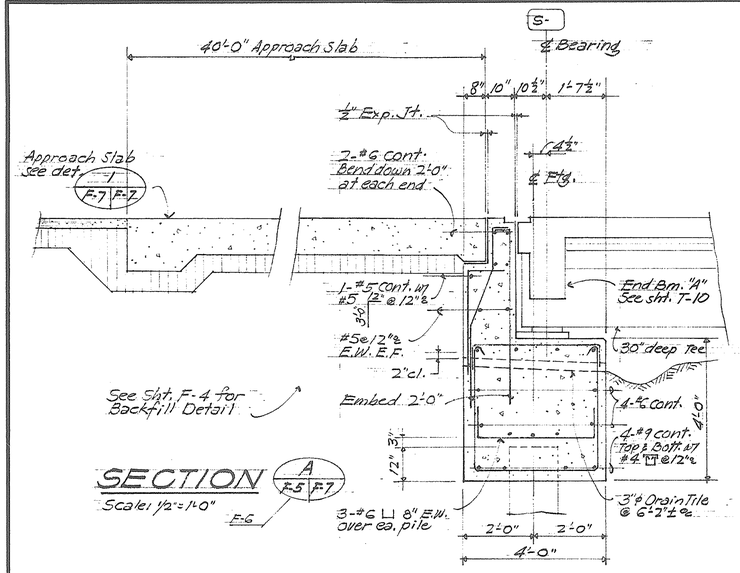
Scale: As shown Date: 4/21/83

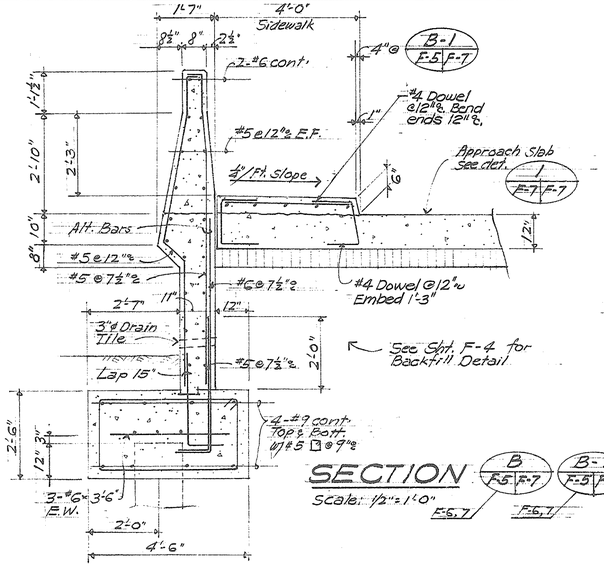
SHEET NO. F-6 OF 16 SHEETS

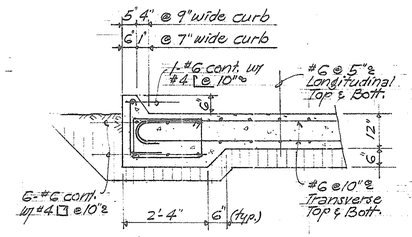
25

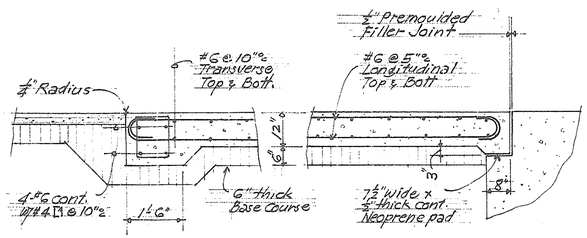
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
	TRACED BY	
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
NO.	CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(182):17	1982	26	42







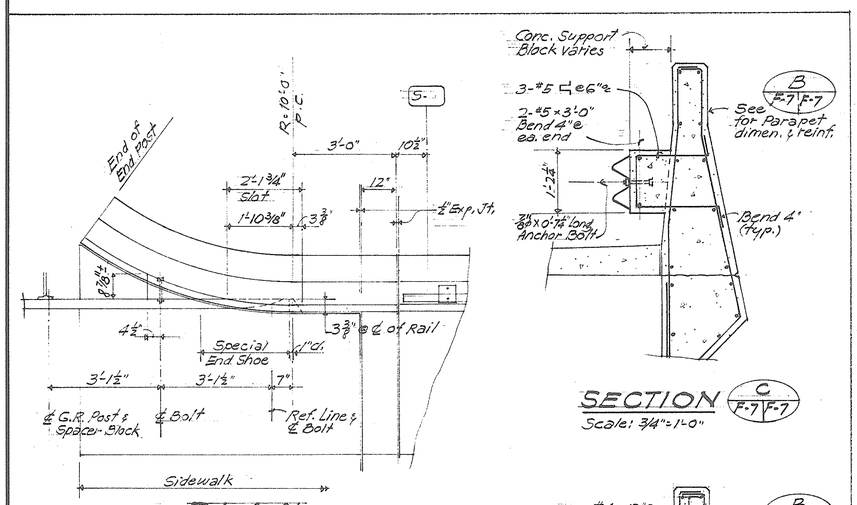


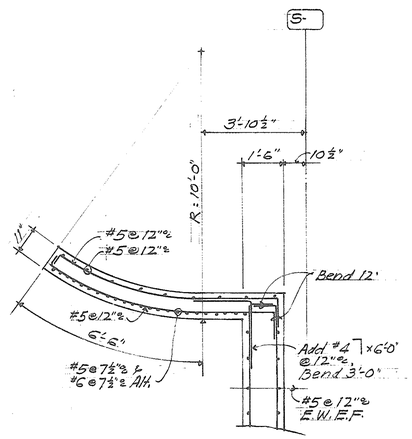
APPROACH SLAB DETAILS

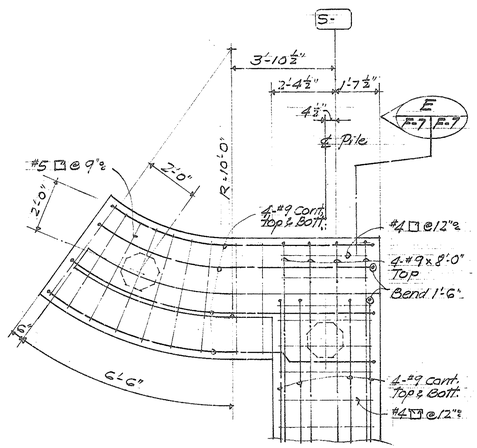
1 F-5 F-7

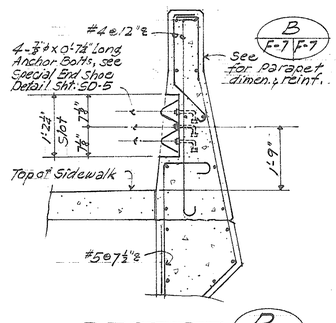
Scale: ½"=1'-0"

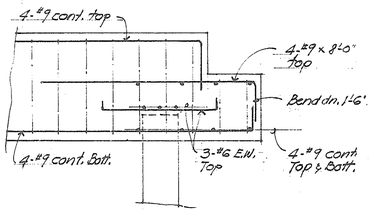
F-6, 7

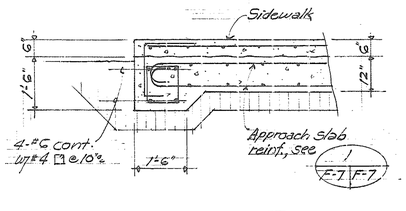












PARAPET & GUARDRAIL END SHOE DETAIL

2 F-5 F-7

FOR INFORMATION ONLY

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

INTERCHANGE AREA 1 & 8 CONSULTANTS
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1210 Ward Ave. • Honolulu, Hawaii 96814

REUBEN Y. F. TSAI REGISTERED PROFESSIONAL ENGINEER No. 868 HAWAII, U.S.A.

This work was prepared by me or under my supervision.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAKAI FRONTAGE ROAD

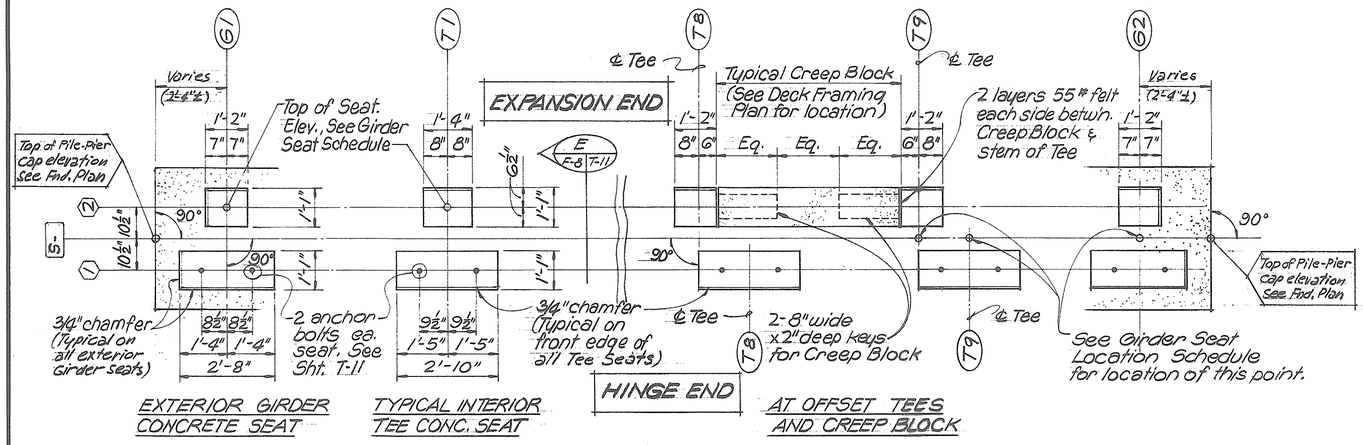
ABUTMENT SECTIONS & DETAILS

KEEHI INTERCHANGE
FA.I. PROJ. NO. I-HI-1(182):17

Scale: As shown Date: 4/21/83

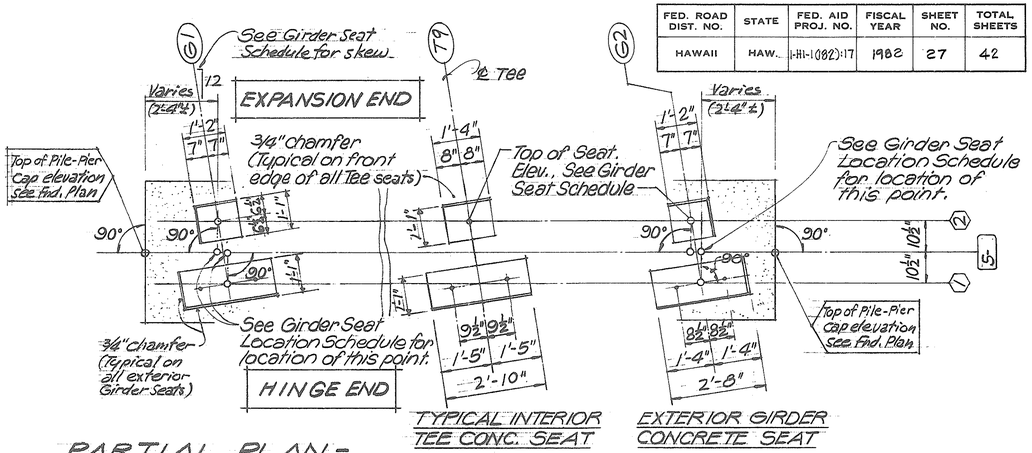
SHEET NO. F-7 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(082):17	1982	27	42



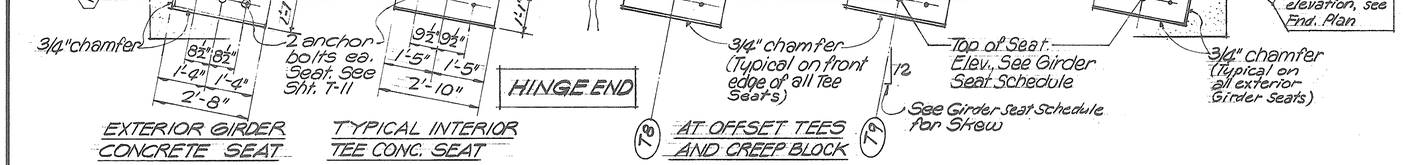
PARTIAL PLAN - TYPICAL PILE-PIER CAP NORMAL TO TEES

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



PARTIAL PLAN - TYPICAL PILE-PIER CAP NOT NORMAL TO TEES

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



PARTIAL PLAN - TYPICAL PILE-PIER CAP NOT NORMAL TO TEES

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

NOTE:

1. See Sht. T-11 for Elastomeric Bearing Pad size & Bearing details.
2. See Pile-Pier Cap Girder Seat Schedule for Seat Elevations - Sht. F-10 & 11.

FOR INFORMATION ONLY

KEEHI INTERCHANGE AREA A & B CONSULTANTS
c/o Shimazu Shimabukuro & Fukuda, Inc.
[illegible] • Honolulu, Hawaii 96814

REGISTERED PROFESSIONAL ENGINEER No. 668 — BENJAMIN I. F. TYAU — U.S.A.

This work was prepared by me or under my supervision.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAKAI FRONTAGE ROAD
TYPICAL PIER CAP PLANS OF CONCRETE GIRDER SEATS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(182):17

Scale: As shown Date: 4/21/83

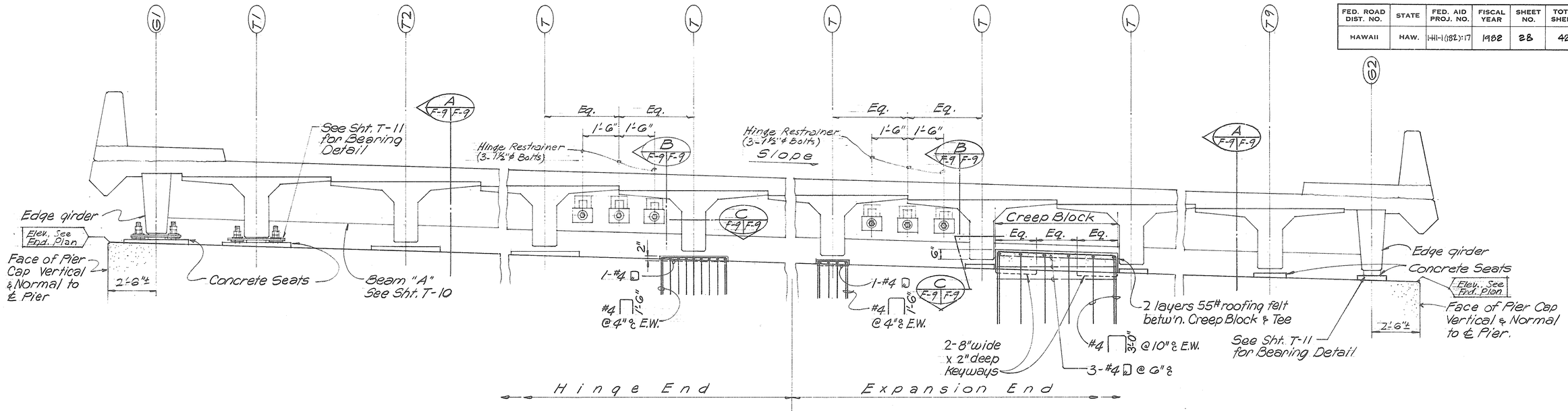
SHEET NO. F-8 OF 16 SHEETS

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

PRINTED ON NO. 1000H CLEARPRINT

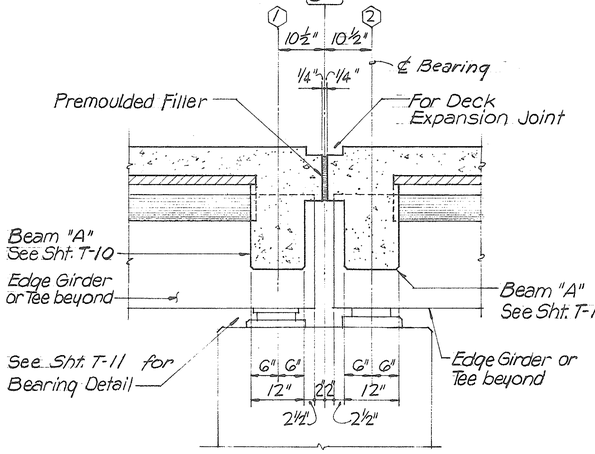
27

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HHI-1(182):17	1982	28	42



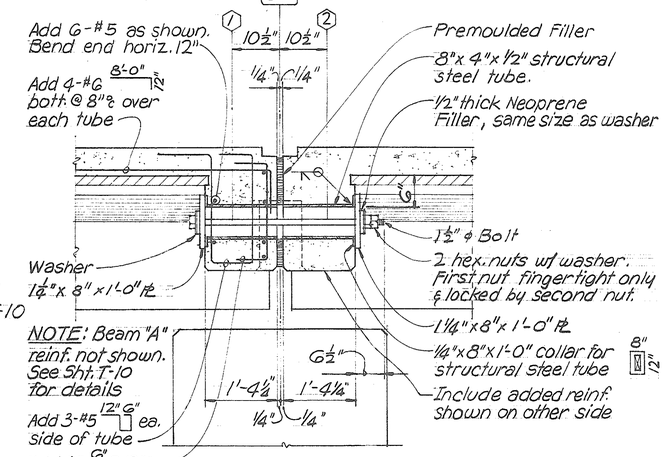
PARTIAL PILE-PIER CAP ELEVATION - (SHOWING HINGE & EXPANSION & CONCRETE SEAT DETAILS)

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



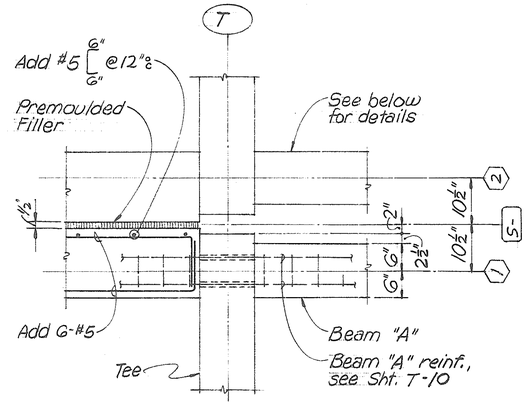
SECTION A F-9 F-9

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



SECTION B F-9 F-9

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



SECTION C F-9 F-9

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

HINGE RESTRAINER NOTES:

1. All structural steel ℔'s, shapes, bolts, etc., shall be hot-dipped galvanized.
2. Paint all exposed surfaces of hinge restrainer assembly (not embedded in concrete) with neoprene paint.
3. Hinge restrainer cost incidental to concrete.
4. Bolts for hinge restrainer shall conform to A.S.T.M. A-307.
5. See Deck Framing Plan for hinge restrainer locations.

FOR INFORMATION ONLY

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

[illegible] AREA 5 & 9 CONSULTANTS
[illegible] Nelessen, Shimabukuro & Fukuda, Inc.
1210 Ward Ave. • Honolulu, Hawaii 96814

REGISTERED PROFESSIONAL ENGINEER No. 868 HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAKAI FRONTAGE ROAD

GIRDER SEAT & CREEP BLOCK REINF. & HINGE RESTRAINER DETAILS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (82):17

Scale: As shown Date: 4/21/83

SHEET NO. F-9 OF 10 SHEETS

PILE-PIER CAP CONCRETE GIRDER SEAT LOCATIONS, ELEVATIONS, SKEWS & BEVELS SCHEDULE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(182):17	1982	23	42

PIER LINE	S1					S2										S3									
BEARING	①					②					①					②					①					②				
GIRDER	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL
G1						-52.83	8.35	5.04	+3/16 : 12	+1/16 : 12	-52.86	8.30	4.92	+3/16 : 12	+1/16 : 12	-52.82	8.30	4.98	+3/8 : 12	+1/16 : 12	-52.89	8.19	4.81	+3/8 : 12	+1/16 : 12	-52.83	8.19	4.87	+1/2 : 12	+1/16 : 12
T1						-48.67	8.25	4.90			-48.69	8.20	4.78			-48.65	8.20	4.84			-48.72	8.09	4.67			-48.66	8.09	4.73		
T2						-42.50	8.11	4.76			-42.52	8.05	4.63			-42.48	8.04	4.69			-42.55	7.93	4.51			-42.49	7.93	4.58		
T3						-36.33	7.97	4.62			-36.35	7.89	4.48			-36.31	7.89	4.54			-36.38	7.78	4.36			-36.32	7.78	4.42		
T4						-30.17	7.82	4.47			-30.19	7.74	4.32			-30.15	7.74	4.38			-30.21	7.62	4.20			-30.14	7.62	4.27		
T5						-24.00	7.68	4.33			-24.02	7.59	4.17			-23.98	7.59	4.23			-24.04	7.47	4.05			-23.97	7.47	4.11		
T6						-17.83	7.54	4.18			-17.85	7.48	4.02			-17.81	7.43	4.08			-17.87	7.31	3.89			-17.80	7.31	3.96		
T7						-11.66	7.39	4.04			-11.68	7.28	3.86			-11.64	7.28	3.92			-11.70	7.16	3.74			-11.63	7.16	3.80		
T8						-5.50	7.25	3.90			-5.51	7.13	3.71			-5.47	7.13	3.77			-5.53	7.00	3.58			-5.46	7.00	3.65		
T9						0.67	7.10	3.75			0.66	6.97	3.56			0.70	6.97	3.62			0.65	6.85	3.43			0.71	6.85	3.49		
G2						4.83	7.01	3.69			4.82	6.87	3.49			4.86	6.87	3.55			4.81	6.74	3.36			4.87	6.74	3.43		

PIER LINE	S4					S5										S6									
BEARING	①					②					①					②					①					②				
GIRDER	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL
G1	-52.93	8.07	4.69	+1/2 : 12	+1/16 : 12	-52.85	8.06	4.69	+5/8 : 12	0 : 12	-52.83	7.95	4.64	-1/2 : 12	0 : 12	-52.89	7.96	4.58	-5/16 : 12	0 : 12	-52.82	7.83	4.51	-5/16 : 12	0 : 12	-52.86	7.83	4.45	-3/16 : 12	0 : 12
T1	-48.76	7.96	4.54			-48.67	7.96	4.57			-48.66	7.85	4.53			-48.72	7.85	4.43			-48.66	7.72	4.37			-48.70	7.72	4.31		
T2	-42.58	7.81	4.39			-42.50	7.80	4.42			-42.49	7.70	4.38			-42.55	7.70	4.28			-42.49	7.57	4.21			-42.53	7.57	4.15		
T3	-36.41	7.65	4.23			-36.32	7.65	4.26			-36.31	7.54	4.22			-36.37	7.54	4.13			-36.32	7.42	4.06			-36.36	7.42	4.00		
T4	-30.23	7.50	4.08			-30.15	7.49	4.11			-30.14	7.39	4.07			-30.20	7.39	3.97			-30.16	7.26	3.91			-30.19	7.26	3.85		
T5	-24.06	7.34	3.92			-23.97	7.34	3.96			-23.97	7.24	3.92			-24.03	7.24	3.82			-23.99	7.11	3.75			-24.08	7.11	3.69		
T6	-17.88	7.19	3.77			-17.80	7.18	3.80			-17.80	7.08	3.76			-17.86	7.08	3.67			-17.82	6.96	3.60			-17.86	6.96	3.54		
T7	-11.71	7.03	3.61			-11.63	7.03	3.65			-11.62	6.93	3.61			-11.68	6.93	3.51			-11.65	6.80	3.45			-11.69	6.80	3.38		
T8	-5.54	6.87	3.46			-5.45	6.87	3.49			-5.45	6.77	3.46			-5.51	6.78	3.36			-5.48	6.65	3.29			-5.52	6.65	3.23		
T9	0.64	6.72	3.30			0.72	6.72	3.34			0.72	6.62	3.31			0.66	6.62	3.21			0.69	6.49	3.14			0.65	6.50	3.08		
G2	4.80	6.61	3.24			4.89	6.61	3.23			4.87	6.52	3.20			4.81	6.52	3.14			4.86	6.39	3.07			4.82	6.39	3.01		

PIER LINE	S7					S8														
BEARING	①					②					①					②				
GIRDER	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL
G1	-52.82	7.70	4.39	-3/16 : 12	0 : 12	-52.84	7.70	4.32	0 : 12	0 : 12	-52.83	7.58	4.26	0 : 12	0 : 12	-52.82	7.58	4.20	+1/8 : 12	+1/16 : 12
T1	-48.66	7.60	4.24			-48.67	7.60	4.18			-48.67	7.47	4.12			-48.66	7.47	4.06		0 : 12
T2	-42.49	7.45	4.09			-42.51	7.45	4.03			-42.50	7.32	3.96			-42.49	7.32	3.90		
T3	-36.33	7.29	3.94			-36.34	7.29	3.87			-36.33	7.16	3.81			-36.32	7.16	3.75		
T4	-30.16	7.14	3.78			-30.17	7.14	3.72			-30.17	7.01	3.66			-30.16	7.01	3.59		
T5	-23.99	6.98	3.63			-24.01	6.98	3.57			-24.00	6.86	3.50			-23.99	6.86	3.44		
T6	-17.83	6.83	3.47			-17.84	6.83	3.41			-17.83	6.70	3.35			-17.82	6.70	3.28		
T7	-11.66	6.68	3.32			-11.67	6.68	3.26			-11.67	6.55	3.19			-11.66	6.55	3.13		
T8	-5.49	6.52	3.16			-5.51	6.52	3.10			-5.50	6.39	3.04			-5.49	6.39	2.98		
T9	0.68	6.37	3.01			0.66	6.37	2.95			0.67	6.24	2.88			0.68	6.24	2.82		
G2	4.85	6.26	2.95			4.83	6.26	2.88			4.83	6.13	2.82			4.84	6.13	2.76		

NOTE:
See Notes, Details, & Legend on Sht. F-11.

FOR INFORMATION ONLY

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No. 868
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAKAI FRONTAGE ROAD

GIRDER SEAT GEOMETRICS

KEEHI INTERCHANGE
FA.I. PROJ. No. I-HI-1(182):17

Scale: No Scale Date: 4/21/83

SHEET NO. F-10 OF 16 SHEETS

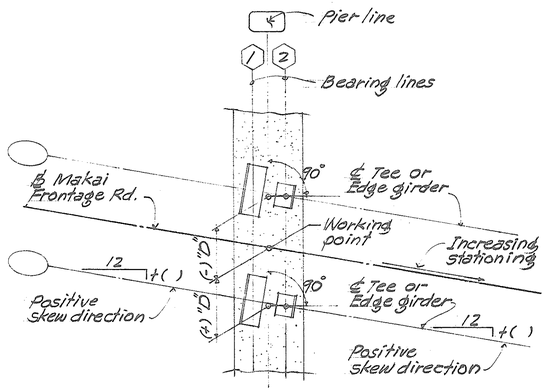
ORIGINAL PLAN
NOTE BOOK
No.
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

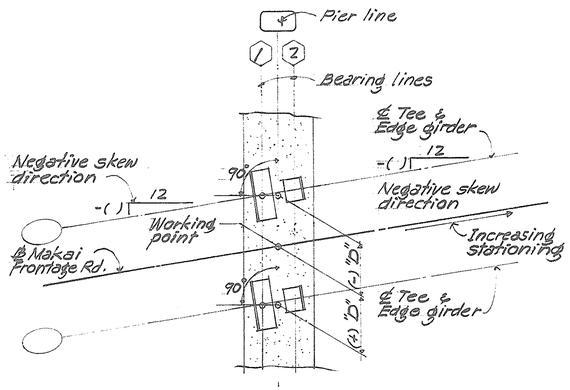
PRINTED ON NO. 1000H CLEARPRINT

PILE-PIER CAP CONCRETE GIRDER SEAT LOCATIONS, ELEVATIONS, SKEWS & BEVELS SCHEDULE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(182)-17	1982	30	42

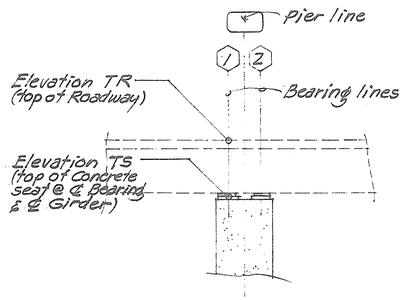
PIER LINE	S9										S10										S11									
BEARING	①					②					①					②					①					②				
GIRDER	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL	"D"	TR	TS	SKEW	BEVEL
G1	-52.85	7.41	4.09	+1/8 : 12	+1/16 : 12	-52.82	7.41	4.03	+5/16 : 12	+1/16 : 12	-52.88	7.22	3.90	+5/16 : 12	+1/16 : 12	-52.83	7.22	3.84	+7/16 : 12	+1/16 : 12	-52.90	7.01	3.69	+7/16 : 12	+1/16 : 12					
T1	-48.68	7.31	3.95		0 : 12	-48.65	7.31	3.89			-48.71	7.12	3.77			-48.66	7.12	3.71			-48.72	6.93	3.58							
T2	-42.52	7.16	3.81			-42.48	7.16	3.74			-42.54	6.98	3.63			-42.49	6.98	3.57			-42.55	6.81	3.46							
T3	-36.35	7.01	3.66			-36.32	7.01	3.59		0 : 12	-36.37	6.85	3.49		0 : 12	-36.32	6.84	3.43		0 : 12	-36.38	6.68	3.34		0 : 12					
T4	-30.18	6.86	3.51			-30.15	6.86	3.44			-30.20	6.71	3.35			-30.15	6.70	3.29			-30.21	6.56	3.22							
T5	-24.01	6.71	3.36			-23.98	6.71	3.29			-24.03	6.57	3.21			-23.98	6.56	3.15			-24.04	6.44	3.09							
T6	-17.85	6.56	3.21			-17.81	6.56	3.14			-17.86	6.43	3.07			-17.81	6.43	3.01			-17.87	6.32	2.97							
T7	-11.68	6.41	3.06			-11.65	6.41	2.99			-11.69	6.29	2.94			-11.64	6.29	2.87			-11.70	6.19	2.85							
T8	-5.51	6.26	2.91			-5.48	6.26	2.84			-5.52	6.15	2.80			-5.47	6.15	2.73			-5.53	6.07	2.73							
T9	0.66	6.11	2.76			0.69	6.11	2.69			0.65	6.01	2.66			0.70	6.01	2.59			0.64	5.95	2.61							
G2	4.82	6.01	2.69			4.86	6.01	2.63			4.81	5.92	2.60			4.87	5.91	2.54			4.81	5.87	2.55							





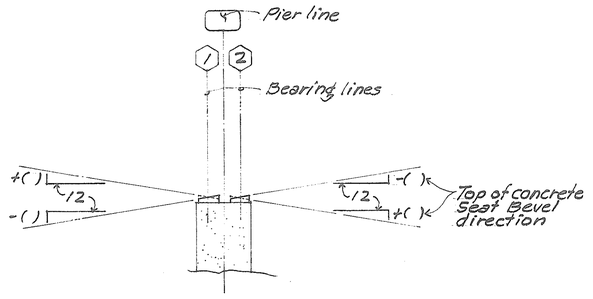
GIRDER SEAT LOCATION & SKEW

No Scale



GIRDER SEAT ELEVATIONS

No Scale



GIRDER CONCRETE SEAT BEVEL DIRECTION

No Scale

LEGEND:

"D" = Location of ℄ girder & ℄ bearing line intersection (Measured along ℄ Pier from ℄)

TR = Top of Roadway Elevation
TS = Top of Seat Elevation
— at intersection ℄ girder & ℄ Pier bearing line

Skew = Seat Skew

Bevel = Seat Bevel

NOTE:

All dimensions & elevations are shown in feet.

FOR INFORMATION ONLY

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REGISTERED PROFESSIONAL ENGINEER No. 868 HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAKAI FRONTAGE ROAD

GIRDER SEAT GEOMETRICS & DETAILS

KEEHI INTERCHANGE
FA.I PROJ. No. I-HI-1(182):17

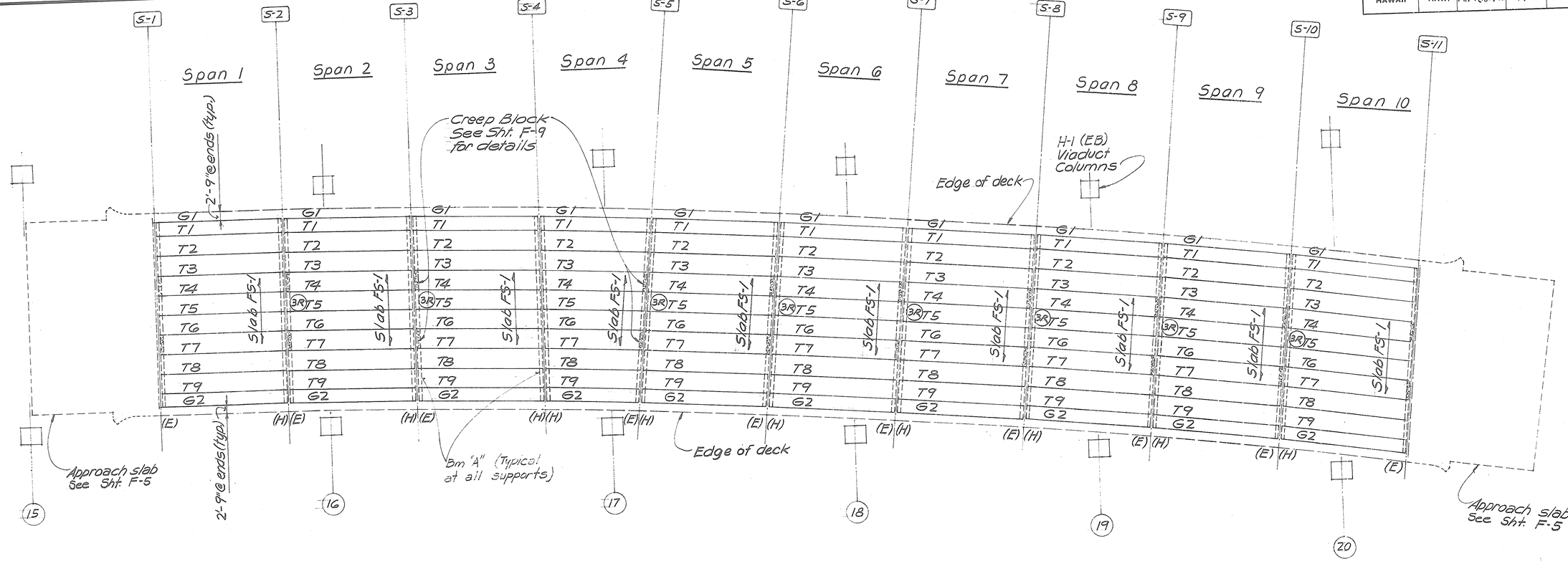
Scale: No Scale Date: 4/21/83

SHEET No. F-11 OF 16 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-I (182)-17	1982	31	42



DECK FRAMING PLAN

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

LEGEND:

(H) = denotes Hinge End of Tee or Edge Girder.
(E) = denotes Expansion End of Tee or Edge Girder.
(3R) = denotes Hinge Restrainers, see sht. F-9.

REFERENCE DRAWINGS:

1. Prestressed Tee & Girder Schedule ---- Sht. F-13
2. Slab Reinforcing Details (Slab FS-1) ---- Sht. F-16

FOR INFORMATION ONLY

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REGISTERED PROFESSIONAL ENGINEER No. 568 HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAKAI FRONTAGE ROAD
DECK FRAMING PLAN

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(182):17

Scale As Shown Date: 4/21/83

SHEET NO. F-12 OF 16 SHEETS

31

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

PRINTED ON NO. 1000M CLEARPRINT

PRESTRESSED GIRDER AND TEE SCHEDULE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H1-1(82):17	1982	32	42

Bent line: S-1 — S-2 — S-3 — S-4 — S-5 — S-6 — S-7

SPAN 1 (S-1 to S-2)

Girder	Type	Length	Skew	Camber	DL Deflec.
G1	EG-1	~~40.54'~~	+3/16:12	-0.55"	0.25"
T1	PT-1	↑	↑	-0.48"	0.13"
T2	↑			↑	0.15"
T3					↑
T4					
T5					
T6					
T7					↓
T8	↓			↓	0.15"
T9	PT-1	↓	↓	-0.48"	0.13"
G2	EG-1	~~40.54'~~	+3/16:12	-0.55"	0.25"

SPAN 2 (S-2 to S-3)

Girder	Type	Length	Skew	Camber	DL Deflec.
G1	EG-1	39.66'	+3/8:12	-0.55"	0.25"
T1	PT-1	↑	↑	-0.48"	0.13"
T2	↑			↑	0.15"
T3					↑
T4					
T5					
T6					
T7					↓
T8	↓			↓	0.15"
T9	PT-1	↓	↓	-0.48"	0.13
G2	EG-1	39.66'	+3/8:12	-0.55"	0.25"

SPAN 3 (S-3 to S-4)

Girder	Type	Length	Skew	Camber	DL Deflec.
G1	EG-1	39.66'	+1/2:12	-0.55"	0.25"
T1	PT-1	↑	↑	-0.48"	0.13"
T2	↑			↑	0.15"
T3					↑
T4					
T5					
T6					
T7					↓
T8	↓			↓	0.15"
T9	PT-1	↓	↓	-0.48"	0.13"
G2	EG-1	39.66'	+1/2:12	-0.55"	0.25"

SPAN 4 (S-4 to S-5)

Girder	Type	Length	Skew @ (1)	Skew @ (2)	Camber	DL Deflec.
G1	EG-1	34.64'	+5/8:12	-1/2:12	-0.45"	0.15"
T1	PT-2	34.25'	↑	↑	-0.28"	0.07"
T2	↑	33.67'			-0.27"	0.07"
T3		33.09'			-0.27"	0.07"
T4		32.51'			-0.26"	0.07"
T5		31.93'			-0.26"	0.06"
T6		31.35'			-0.25"	0.06"
T7		30.77'			-0.24"	0.05"
T8	↓	30.18'			-0.23"	0.05"
T9	PT-2	29.60'	↓	↓	-0.23"	0.04"
G2	EG-1a	29.21'	+5/8:12	-1/2:12	-0.21"	0.08"

SPAN 5 (S-5 to S-6)

Girder	Type	Length	Skew	Camber	DL Deflec.
G1	EG-1	39.67'	-5/16:12	-0.55"	0.25"
T1	PT-1	↑	↑	-0.48"	0.13"
T2	↑			↑	0.15"
T3					↑
T4					
T5					
T6					
T7					↓
T8	↓			↓	0.15"
T9	PT-1	↓	↓	-0.48"	0.13"
G2	EG-1	39.67'	-5/16:12	-0.55"	0.25"

SPAN 6 (S-6 to S-7)

Girder	Type	Length	Skew	Camber	DL Deflec.
G1	EG-1	39.66'	-3/16:12	-0.55"	0.25"
T1	PT-1	↑	↑	-0.48"	0.13"
T2	↑			↑	0.15"
T3					↑
T4					
T5					
T6					
T7					↓
T8	↓			↓	0.15"
T9	PT-1	↓	↓	-0.48"	0.13"
G2	EG-1	39.66'	-3/16:12	-0.55"	0.25"

Bent line: S-7 — S-8 — S-9 — S-10 — S-11

SPAN 7 (S-7 to S-8)

Girder	Type	Length	Skew	Camber	DL Deflec.
G1	EG-1	39.67'	0:12	-0.55"	0.25"
T1	PT-1	↑	↑	-0.48"	0.13"
T2	↑			↑	0.15"
T3					↑
T4					
T5					
T6					
T7					↓
T8	↓			↓	0.15"
T9	PT-1	↓	↓	-0.48"	0.13"
G2	EG-1	39.67'	0:12	-0.55"	0.25"

SPAN 8 (S-8 to S-9)

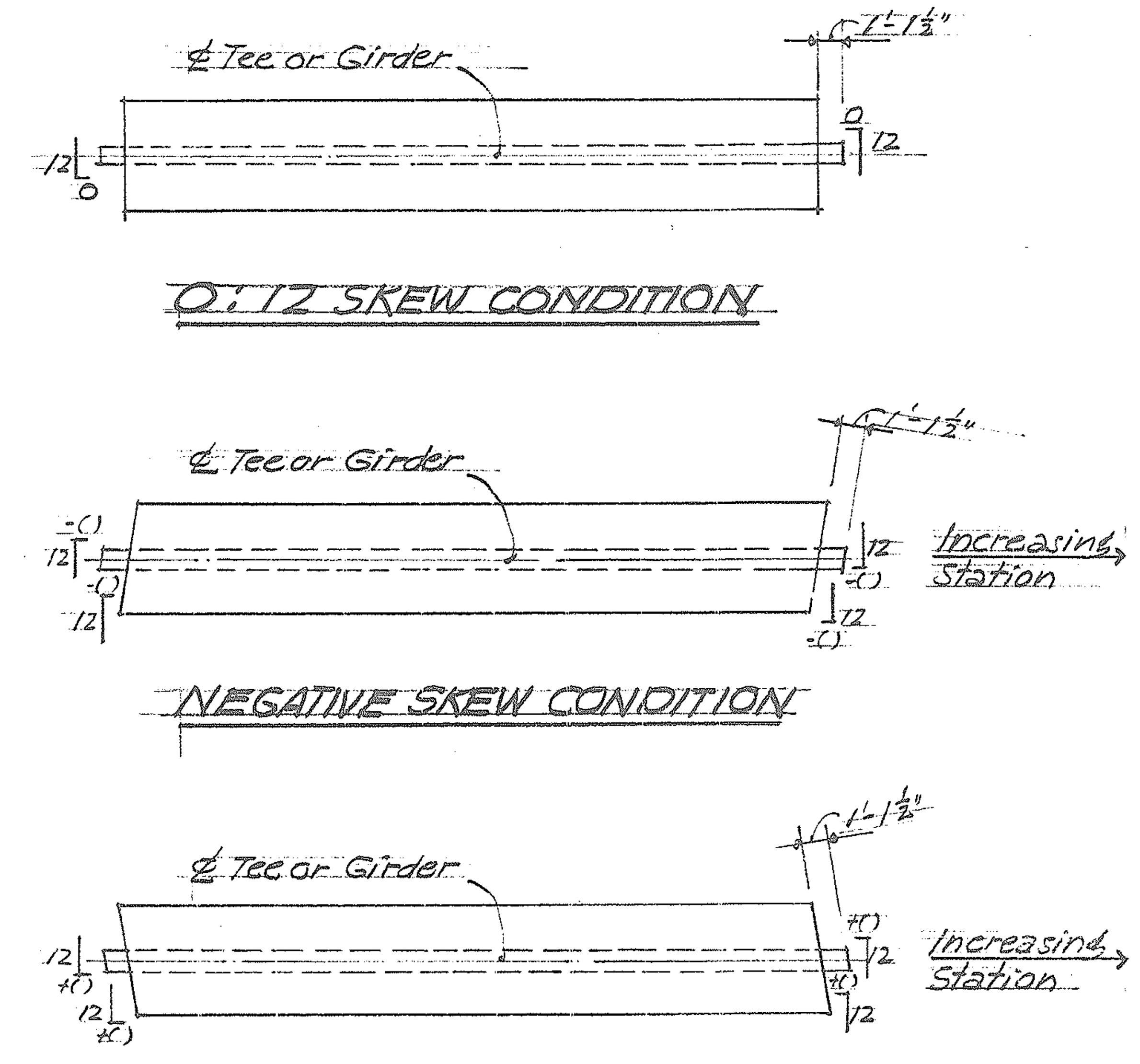
Girder	Type	Length	Skew	Camber	DL Deflec.
G1	EG-1	39.67'	+1/8:12	-0.55"	0.25"
T1	PT-1	↑	↑	-0.48"	0.13"
T2	↑			↑	0.15"
T3					↑
T4					
T5					
T6					
T7					↓
T8	↓			↓	0.15"
T9	PT-1	↓	↓	-0.48"	0.13"
G2	EG-1	39.67'	+1/8:12	-0.55"	0.25"

SPAN 9 (S-9 to S-10)

Girder	Type	Length	Skew	Camber	DL Deflec.
G1	EG-1	39.66'	+5/16:12	-0.55"	0.25"
T1	PT-1	↑	↑	-0.48"	0.13"
T2	↑			↑	0.15"
T3					↑
T4					
T5					
T6					
T7					↓
T8	↓			↓	0.15"
T9	PT-1	↓	↓	-0.48"	0.13"
G2	EG-1	39.66'	+5/16:12	-0.55"	0.25"

SPAN 10 (S-10 to S-11)

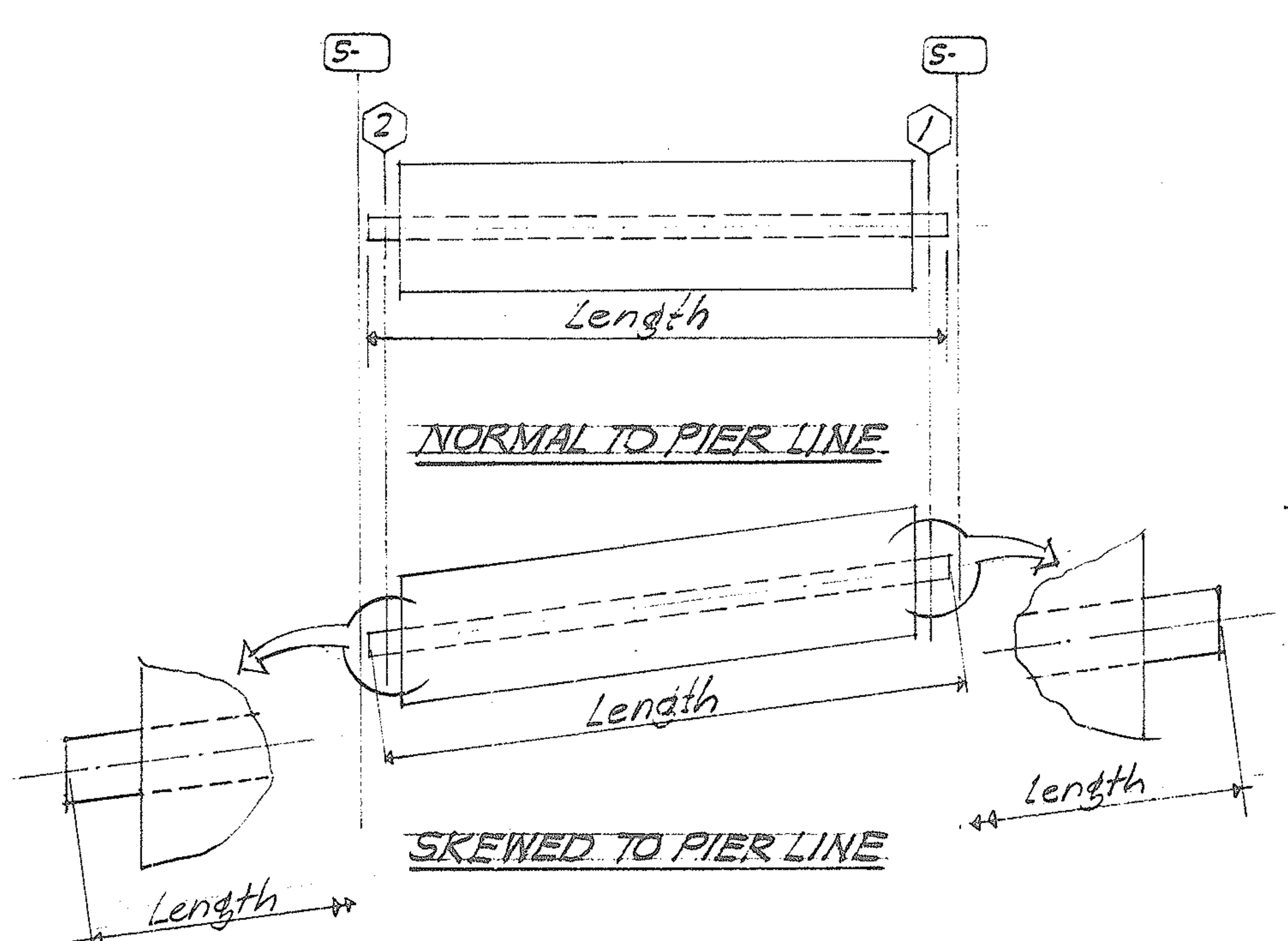
Girder	Type	Length	Skew	Camber	DL Deflec.
G1	EG-1	40.54'	+7/16:12	-0.55"	0.25"
T1	PT-1	↑	↑	-0.48"	0.13"
T2	↑			↑	0.15"
T3					↑
T4					
T5					
T6					
T7					↓
T8	↓			↓	0.15"
T9	PT-1	↓	↓	-0.48"	0.13"
G2	EG-1	40.54'	+7/16:12	-0.55"	0.25"



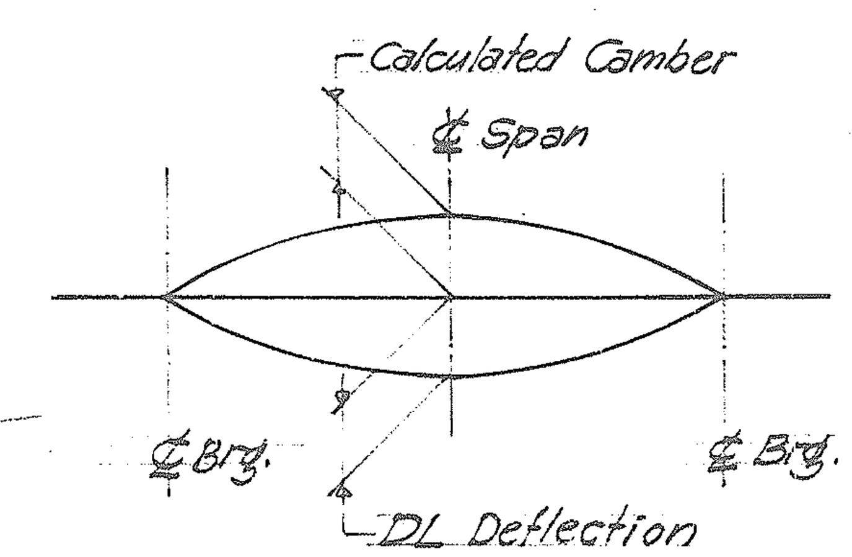
PRESTRESSED TEE OR GIRDER END SKEW DIAGRAM
No Scale

NOTES:

1. See sheets F-14 & T-10 for Girder & Tee type.
2. Lengths given are end-to-end lengths along ℄ Girder or Tee. (See diagram).
3. See diagram for schematic representation of skew.
4. "CAMBER": 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%. (See diagram).
5. "DL DEFLEC": The dead load deflection is the effect of the weight of the slab. (See diagram).



GIRDER OR TEE LENGTH DIAGRAM
No Scale



CAMBER AND DL DEFLEC. DIAGRAM
No Scale

KEEHI INTERCHANGE AREA I & II CONSULTANTS
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Honolulu, Hawaii 96814

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HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAKAI FRONTAGE ROAD

PRESTRESSED GIRDER AND TEE SCHEDULE & DETAILS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-H1-1(82):17

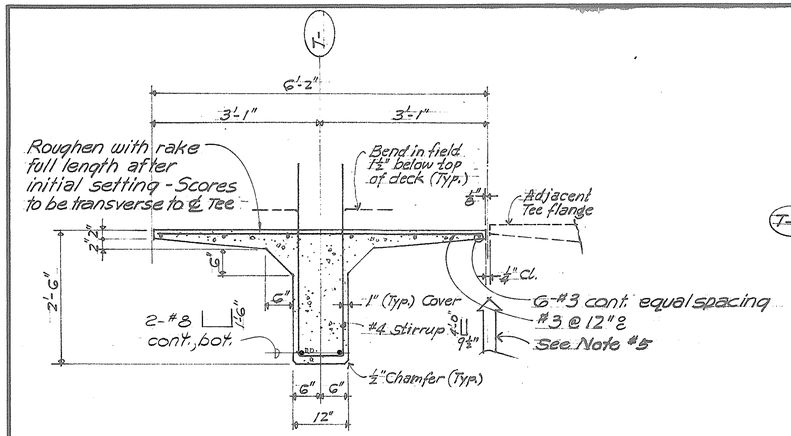
Scale: None Date: 4/21/83

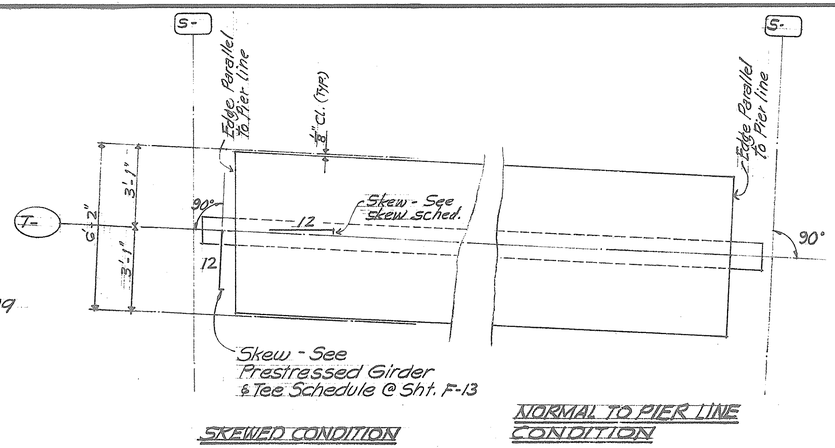
SHEET NO. F-13 OF 16 SHEETS

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(182):17	1982	33	42



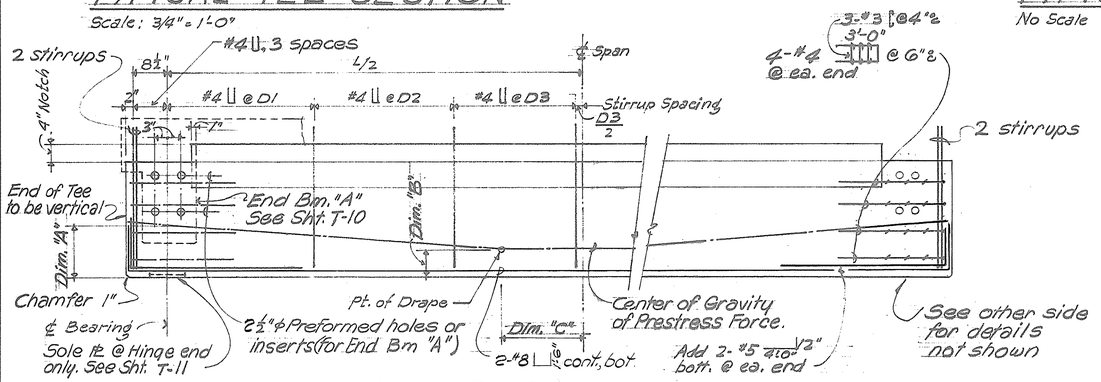


SKEWED CONDITION

NORMAL TO PIER LINE CONDITION

TYPICAL TEE SECTION

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



TYPICAL TEE PLAN

No Scale

LONGITUDINAL SECTION

No Scale

PRESTRESSED TEE TYPE SCHEDULE

TEE TYPE	INITIAL PRESTRESS FORCE (kips)	WORKING FORCE (kips) (After all losses)	LOCATION OF CENTER OF GRAVITY OF PRESTRESS FORCE Dim. "A"	Dim. "B"	DIST. TO PT. OF DRAPE Dim. "C"	STIRRUPS NO. OF STIRRUPS @ SPACING D1	NO. OF STIRRUPS @ SPACING D2	SPACING D3	REQUIRED MIN. ULTIMATE CONC. STRENGTH @ RELEASE OF STRANDS (p.s.i.)	REMARKS
PT. 1	456.0	352.5	12.18"	7.74"	L/10	10 @ 6" ℄	4 @ 9" ℄	12" ℄	4,500	
PT. 2	364.8	282.0	12.83"	7.91"	L/10	9 @ 8" ℄	12" ℄	12" ℄	4,500	T1-T9 @ Span 4

NOTES:

1. Prestress notes, see Sht. T-9
2. See Sht. F-13 for Prestressed Girder & Tee Schedule.
3. See Sht. T-10 for Keehi I.F. & End Diaphram details.
4. See Sht. T-11 for Bearing Details.
5. All Prestressed Tee Flanges must be supported during deck pour. Contractor shall submit to the Engineer for approval his detail to support the flanges.

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This work was prepared by me or under my supervision.

DATE	REVISION
1/16/84	REVISED TEE REINF. & PREFORMED HOLES

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAKAI FRONTAGE ROAD

PRESTRESSED TEE DETAILS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(182):17

Scale: As shown Date: 4/21/83

SHEET NO. F-14 OF 16 SHEETS

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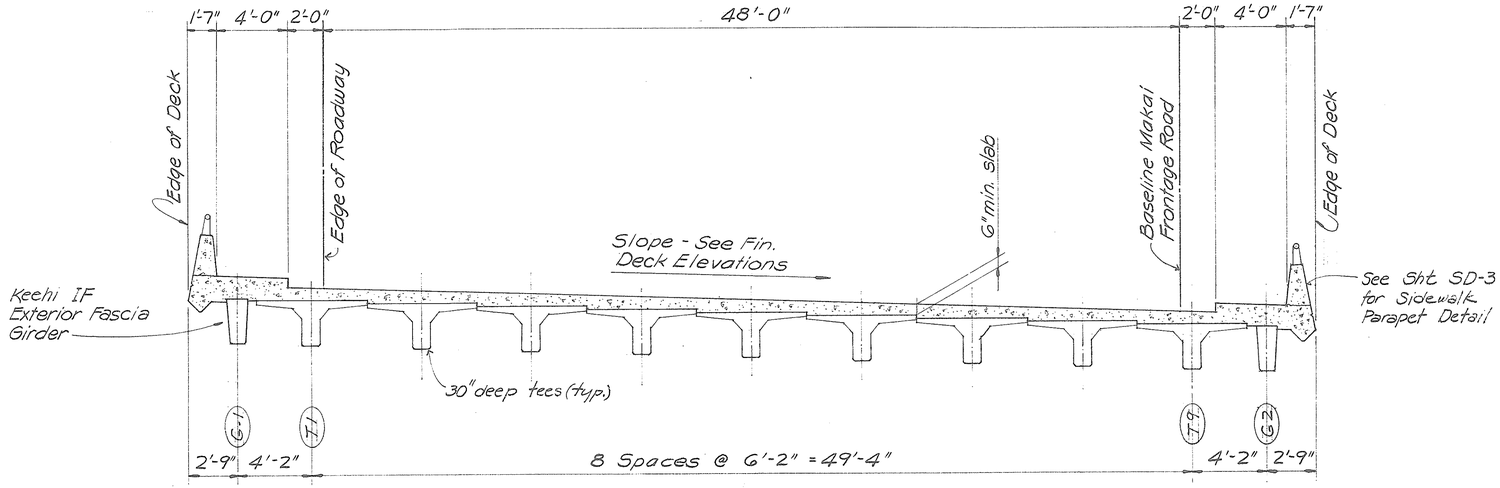
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

PRINTED ON NO. 1000H CLEARPRINT

ADD. 33

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(182):17	1982	34	42



NOTE:
Dimensions are measured perpendicular to ℄ Makai Frontage Road.

MAKAI FRONTAGE ROAD DECK SECTION (A) F-1 | F-15

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

FOR INFORMATION ONLY

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAKAI FRONTAGE ROAD
DECK SECTION

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(182):17

Scale: As shown Date: 4/21/83

SHEET No. F-15 OF 16 SHEETS

34

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

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