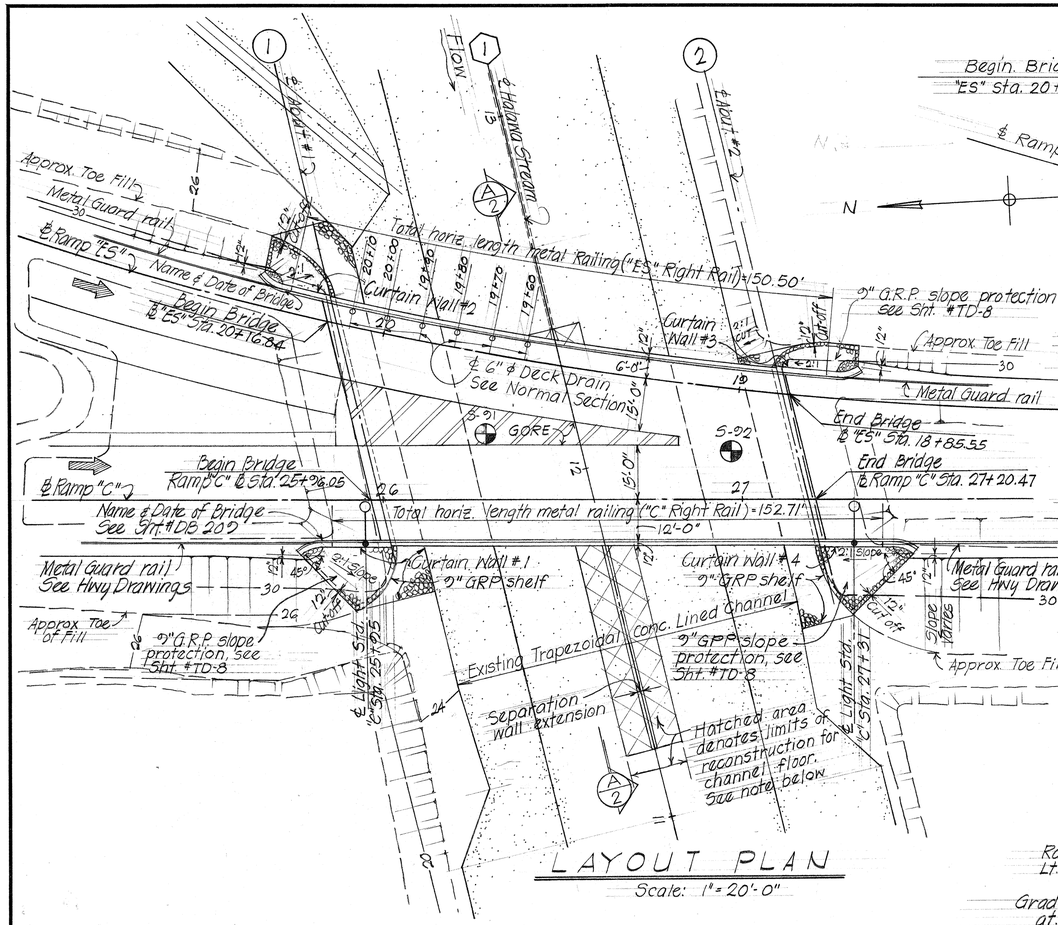
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(91):13	1972	178	228

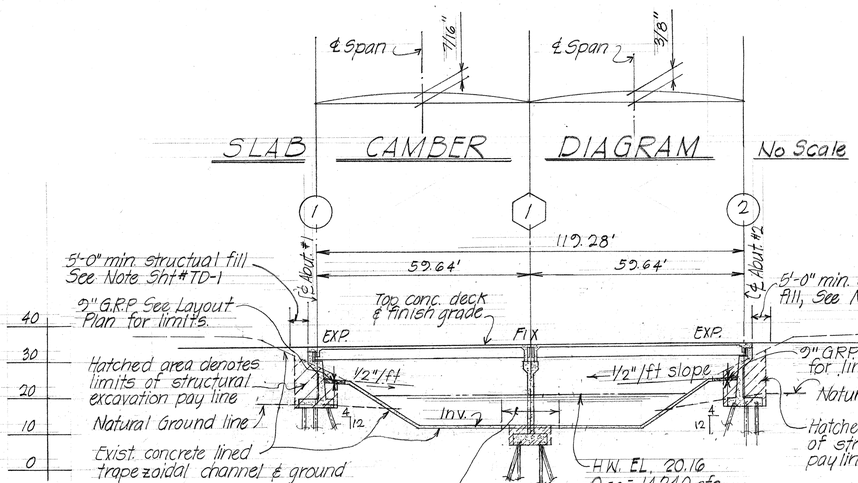
NOTES:
Elevations indicated on plan are finish Ramp grades at various locations. Refer to the Highway Plans for the variable finish grade profiles of each Ramp near the bridge structure.

Hatched area denotes limits of gore finish grade slope line of bridge deck.



LAYOUT PLAN
Scale: 1"=20'-0"

FINISH GRADE PLAN
Scale: 1"=10'-0"



LONGITUDINAL SECTION ALONG ℄ RAMP "C"
Scale: 1"=20'-0"

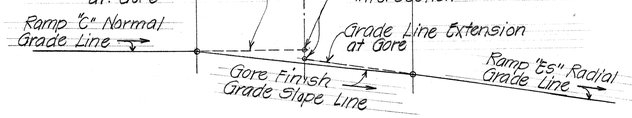
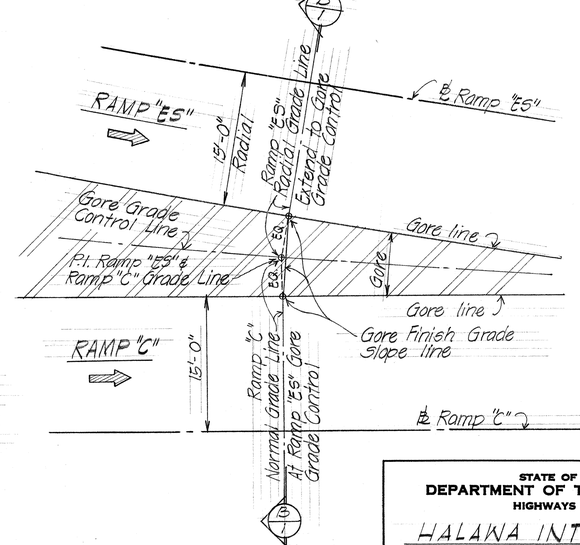


DIAGRAM-NORMAL SECTION B/1
No Scale;

REFERENCE NOTES

For design notes, general notes, symbols and abbreviations refer to Sht. # TD-1
For Estimated Quantities refer to Sht. # 2
For Boring log See Sht. #54 thru 60.



A/1 TYPICAL GORE FINISH GRADE LAYOUT PLAN
Scale: 1/8"=1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HALAWA INTERCHANGE
STRUCTURE Nº 9
LAYOUT PLANS & DETAILS
"ES" Sta. 18+85.55 to Sta. 19+16.84
"C" Sta. 25+96.05 to Sta. 27+20.47

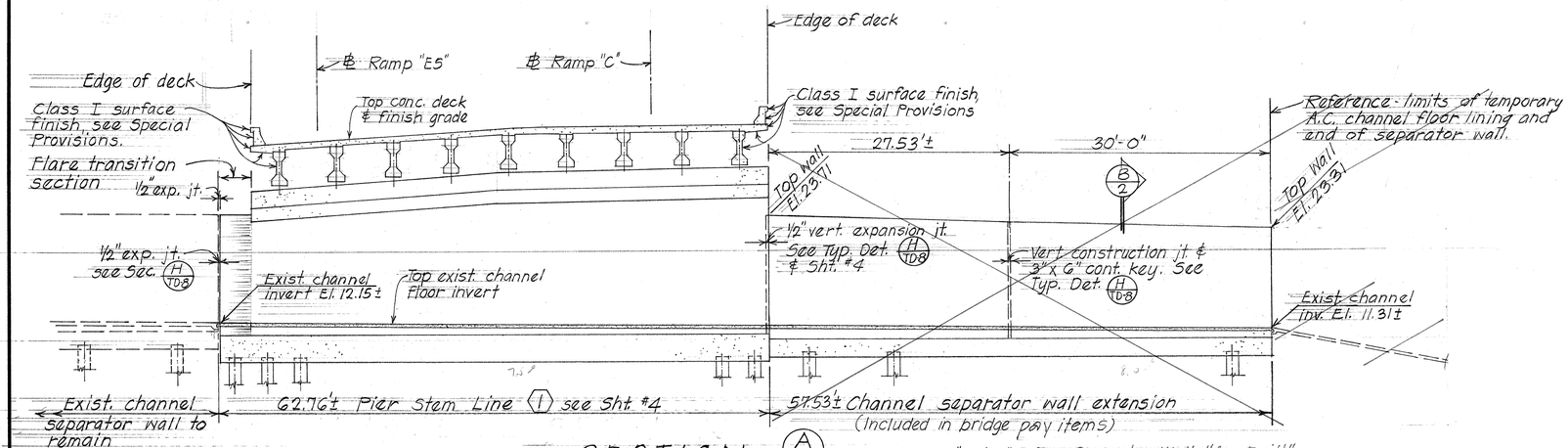
Proj Nº I-HI-1(91)13 MAY 1971

SHEET No. 1 OF 10 SHEETS

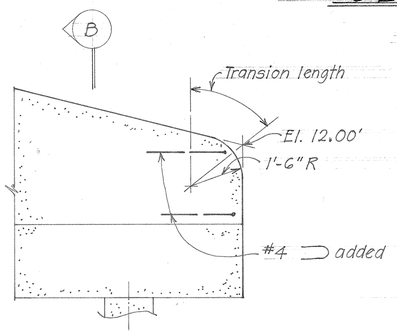
ORIGINAL PLAN	NOTE BOOK	No.
SURVEY PLOTTED BY	DESIGNED BY F.K. & D.C.O.	
DRAWN BY K.T.	TRACED BY " "	
CHECKED BY " "	QUANTITIES BY K.T. & L.M.K.	
DATE May 1971	CHECKED BY F.K. & T.H.	

PRINTED ON NO. 1000H CLEARPRINT

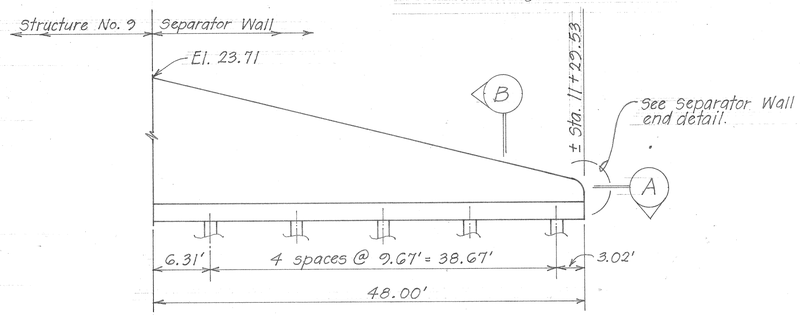
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(91):13	1972	179	228



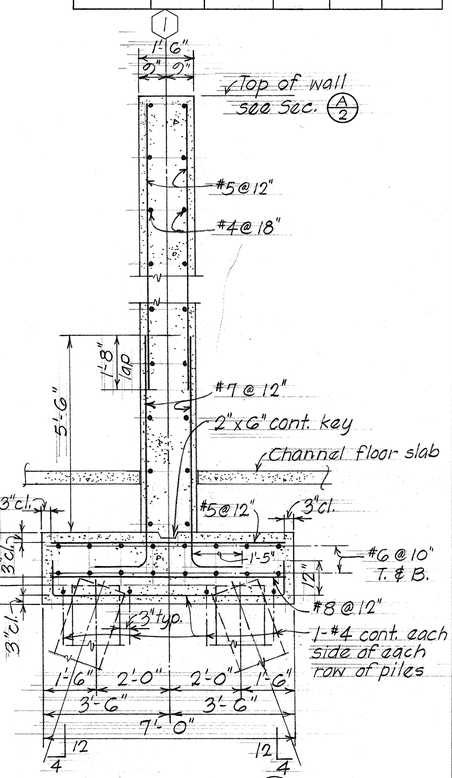
SECTION A/2 Scale: 1/8"=1'-0" For Separator Wall "As-Built" see drawing below.



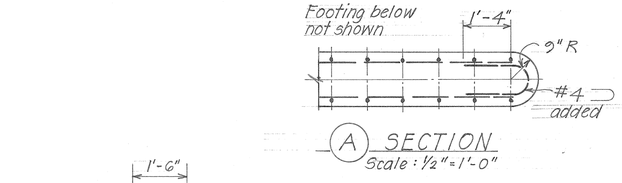
SEPARATOR WALL END DETAIL
Scale: 1/2" = 1'-0"



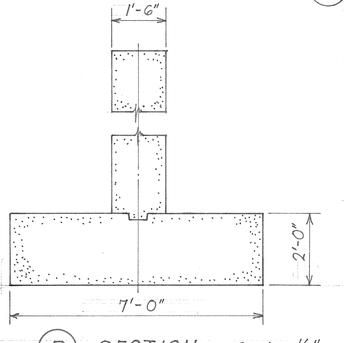
ELEVATION
Scale: 1/8" = 1'-0"



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



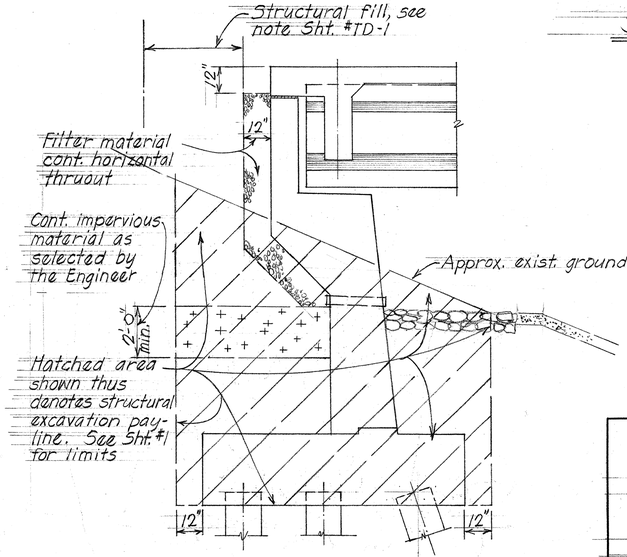
A SECTION
Scale: 1/2"=1'-0"



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

ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	QUANTITY
503.078	Concrete in Structure No. 9 Footings	L.S.	(222 C.Y.)
503.077	Concrete in Structure No. 9 (Except Footing)	L.S.	(477 C.Y.)
602.014	Reinforcing Steel in Structure No. 9	L.S.	(122,700 Lbs.)
612.01	Grouted Rubble Paving	C.Y.	87 C.Y.
504.35	Type III Presstressed Conc. Girder in Struct. No 9	L.S.	(1,050 L.F.)
505.040	Precast, Prestressed Concrete Piles, Furnished	L.F.	9,531 L.F.
505.400	Precast, Prestressed Concrete Piles, Driven	L.F.	8,343 L.F.
505.800	Driving Test Piles	L.F.	806 L.F.
507.10	Metal Bridge Railing - One Rail on Parapet	L.F.	303 L.F.
507.70	Concrete Bridge Parapet, Including End Post	L.F.	343 L.F.
505.001	Pile Load Tests	Each	1-Only
206.60	Structure Excavation for Bridges	C.Y.	0996 C.Y.
206.81	Filter Material for Structures	C.Y.	41 C.Y.



ABUTMENT STRUCTURAL EXCAVATION PAYLINE & BACKFILL
No Scale

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE May 1971
	DRAWN BY N.Y.	"
	TRACED BY	"
NOTE BOOK	DESIGNED BY D.C. & T.M.K.	"
No.	QUANTITIES BY W.Y.K. & J.O.	"
	CHECKED BY	"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

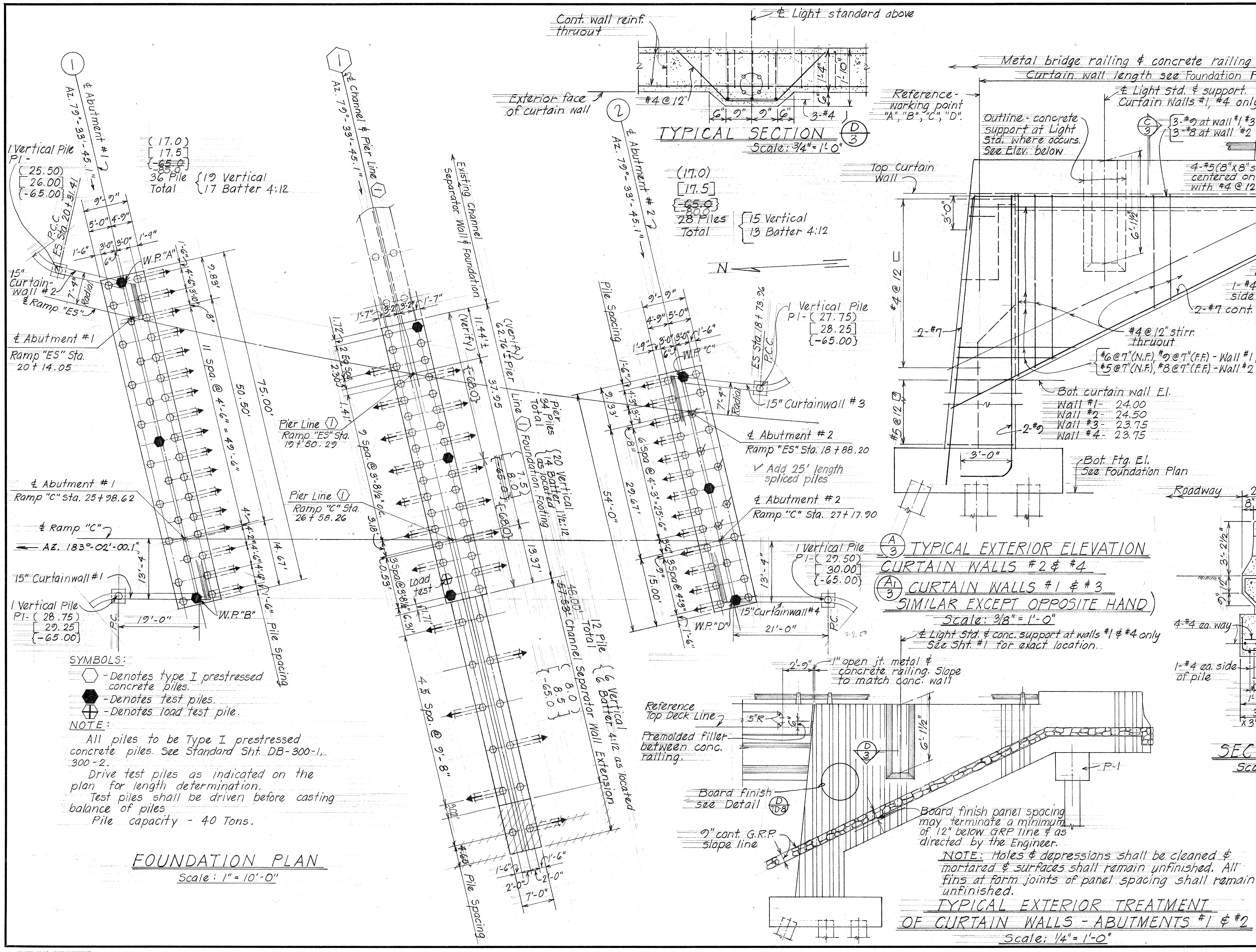
HALAWA INTERCHANGE
STRUCTURE No. 9
SECTIONS & DETAILS

Proj. No. I-HI-1(91):13 May 1971

SHEET No. 2 OF 10 SHEETS

179

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(91):13	1972	180	228

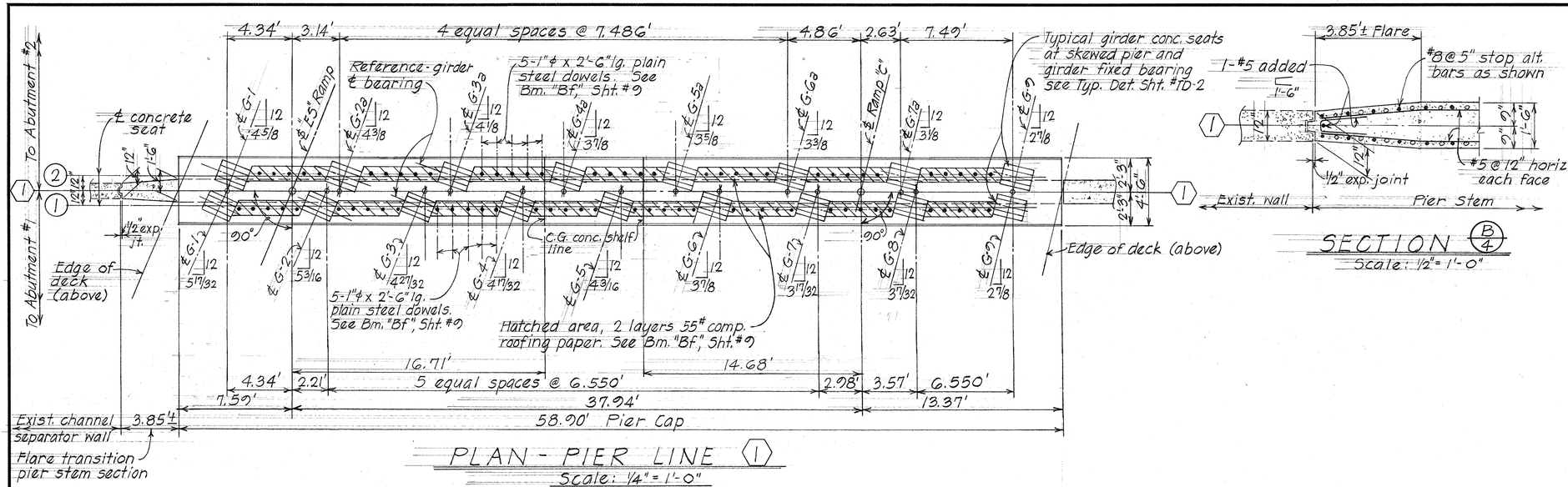


STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HALAWA INTERCHANGE
STRUCTURE Nº 9
FOUNDATION & CURTAIN WALL DETAILS

Proj. No. I-HI-1(91)13 May 1971

SHEET No. 3 OF 10 SHEETS

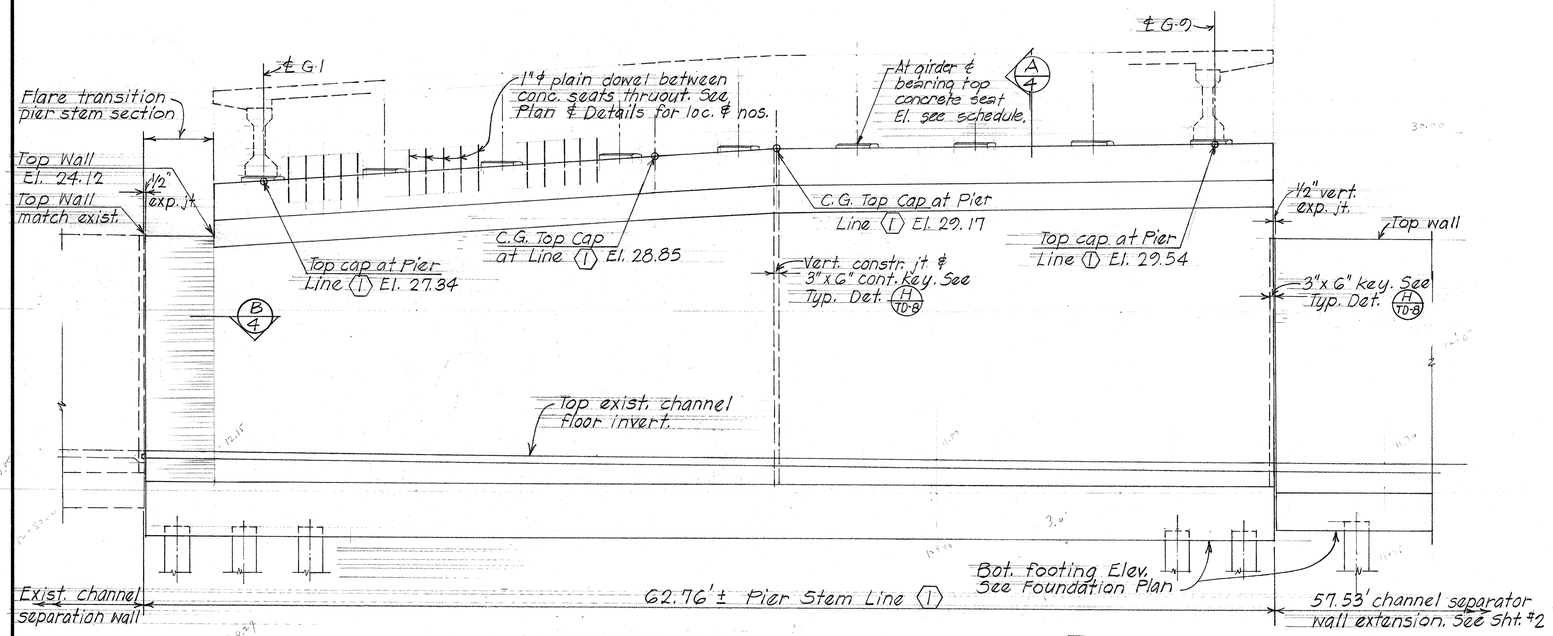


PLAN - PIER LINE ⟨1⟩

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

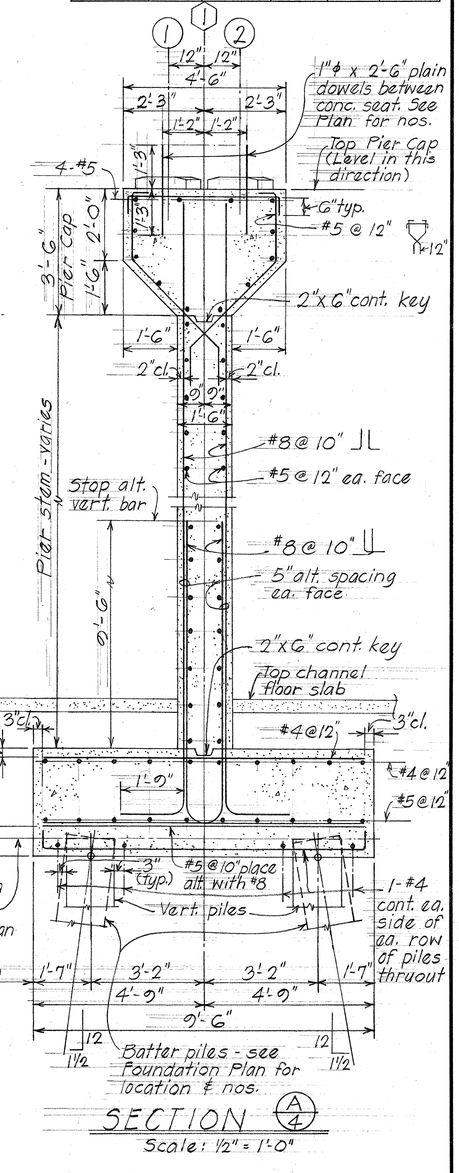
SECTION (B/4)

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



ELEVATION - PIER LINE ⟨1⟩

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



SECTION (A/4)

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(91):13	1972	181	228

ORIGINAL PLAN	
SURVEY PLOTTED BY	NY
DRAWN BY	"
TRACED BY	"
DESIGN BY	DCO
NOTE BOOK	
QUANTITIES BY	MM GT
CHECKED BY	JO GT
DATE	May 1971

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HALAWA INTERCHANGE STRUCTURE NO 9

PIER LINE ⟨1⟩ DETAILS

I-HI-1(91):13 May, 1971

SHEET No. 4 OF 10 SHEETS

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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(91):13	1972	182	228

Curve Data
Δ = 40° 06' 25"
R = 10'
Lc. = 7.0'

P.C.

7'-0" curve section of conc. end post see Elev. A1/3

Curtain Wall #1

℄ Ramp "C"

19'-0"

13'-4"

℄ Abut. #1

W.P. "B"

Outline - edge of deck

8 x 2'-0" x 2" deep key at shelf level centered under each creep block.

Abutment conc. seat & creep block. See Typ. Det. sht #6.

Reference - girder ℄ bearing

Top abutment shelf change in grade

A5

7" x 1" x 22" elastomeric bearing pad each seat. (typ)

C.G. top conc. shelf

1'-6 1/2" 3'-0"

90°

4"

2 7/8 / 12 ℄ G9

3 11/32 / 12 ℄ G8

3 17/32 / 12 ℄ G7

3 9/8 / 12 ℄ G6

4 3/16 / 12 ℄ G5

4 17/32 / 12 ℄ G4

4 27/32 / 12 ℄ G3

5 3/16 / 12 ℄ G2

5 17/32 / 12 ℄ G1

1/4" Creep Block

1.9702'
8.1475'
13.71'
6.1772'
12.82'
5 equal spcs. @ 8.1475' o.c.
50.49
16.71'
3.5800
4.5675'
8.19'

7'-0" curve section of conc. end post see Elev. A3

℄ "E5" Ramp

7'-4" Radial

Curtain Wall #2

Curve data see oppos. end

P.C. Sta. 20+31.41

W.P. "A"

1/4"

Outline - edge of deck

PLAN - ABUTMENT #1

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

Note: Deck slab not shown. Conc. seat shall be poured monolithic with abut. wall. Creep block shall be constructed only after prestressed girders are in place.

1 2 ℄ Abutment #1 or #2

See E/8

3'-0"

1'-2" 1'-6" 1'-3"

Top conc. deck

1-1/2"

1/2" premolded filler

Top abut. stem

2-#4 top cont.

#4 @ 18" each way

Top conc. shelf @ ℄ abutment (See Abut. Elev.

Cont. flashing compound waterproofing See sht #DB-100.

#5 @ 12"
#5 @ 12"

1'-6"

6-#5 cont.

1/4" / ft. slope

Slope front face & abut. end wall thruout

#5 @ 12" ea. way

Cont. vert. key at constr. jt. see Sht. #D-8

2'-3"

4" ℄ tile drain @ 10'-0" o.c.

Exist. conc. channel

1 10

2'-6"

9" GRP see Layout Plan for limits

3"

2'-3"

#8 @ 12" bend into ftg.

#5 @ 12" bend into ftg.

Flashing compound

4'-0"

12"

3" cl.

3" cl.

#7 @ 12"

3" cl.

3-#5 T. & B.

2'-8"

#7 @ 6" T. & B.

2'-6" lap

3" typ.

1-#4 cont. ea. side of each row of piles thruout.

Bot. pile ftg. Elev. See Foundation Plan

Pile cut-off Elev. See Foundation Plan

1'-6" 3'-0" 3'-6" 1'-0"
5'-0" 4'-0"
9'-9" 12 4

TYPICAL SECTION A5

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

℄ Ramp "C"

Top conc. deck slab & abut. end wall

Top conc. deck slab & finish grade

Abutment stem cont. constr. jt. & 2" x 4" key. See Typ. Det. H/DB

Top conc. deck slab & abutment end wall

℄ G9 ℄ G8 ℄ G7 ℄ G6 ℄ G5 ℄ G4 ℄ G3 ℄ G2 ℄ G1

At girder ℄ bearing Top conc. seat El. see Schedule

Top conc. shelf at Line (1) El. 29.21

C.G. top conc. shelf at line (1) El. 28.86

4" ℄ tile drain 10'-0" o.c.

Top GRP Line

C.G. top conc. shelf at Line (1) El. 28.16

Top conc. shelf at Line (1) El. 26.69

Bot. Footing Elev. See Foundation Plan

Abutment wall cont. vert. constr. jt. & 3" x 6" cont. key see Det. H/DB

NOTE: Top concrete shelf straight line slope between change in grade elevations & shelf elevations at exterior girders.

ELEVATION - ABUTMENT #1

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

ORIGINAL PLAN		DATE MAY '71
	SURVEY PLOTTED BY NY	" " "
	DRAWN BY " "	" " "
	TRACED BY " "	" " "
NOTE BOOK	DESIGNED BY DCO	" " "
No.	QUANTITIES BY TM GT	" " "
	CHECKED BY WD GT	" " "

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HALAWA INTERCHANGE
STRUCTURE No 9
ABUTMENT #1 SECTIONS & DETAILS

IHI-1(91):13 May 1971

SHEET No. 5 OF 10 SHEETS

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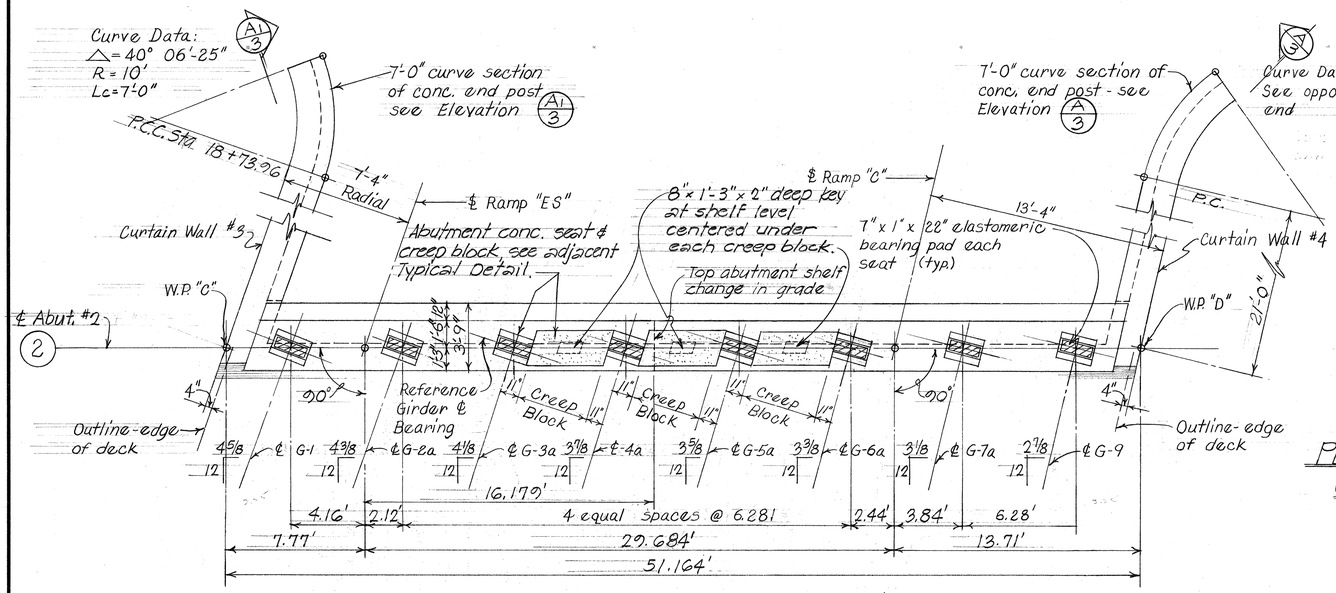
PRINTED ON NO. 1000H CLEARPRINT

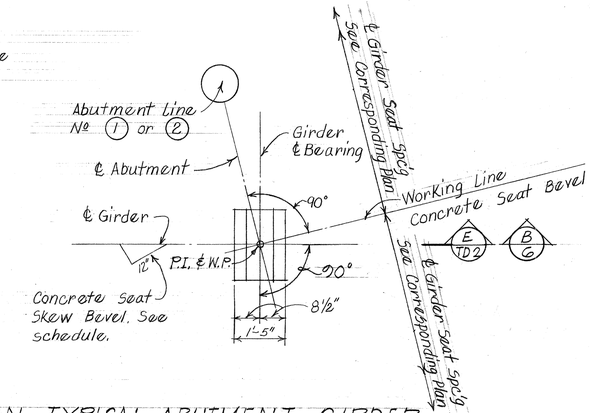
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(91):13	1972	183	228



NOTE: Deck slab not shown. Concrete seats shall be poured monolithic with abutment wall. Creep block shall be constructed only after prestressed girders are in place.

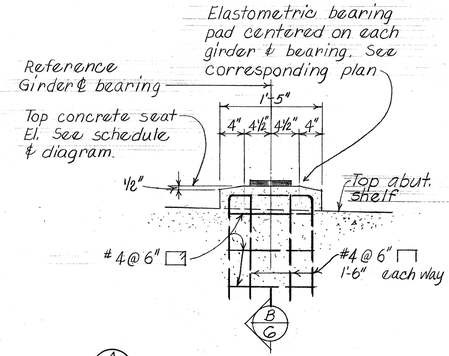
PLAN ABUTMENT #2

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



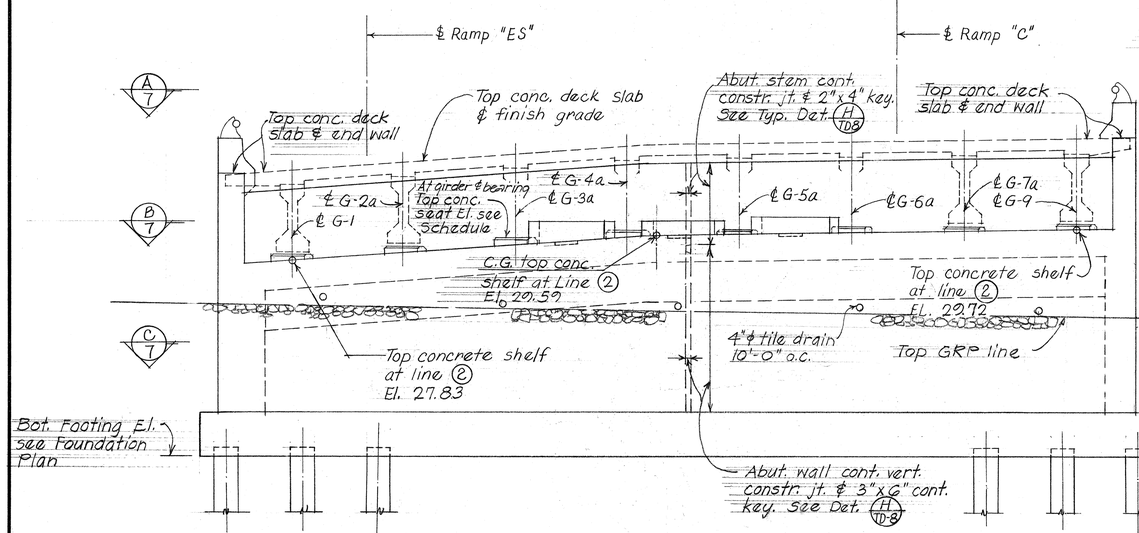
PLAN - TYPICAL ABUTMENT GIRDER CONCRETE SEAT LOCATION DETAIL

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



A/6 GIRDER CONCRETE SEAT REINFORCEMENT

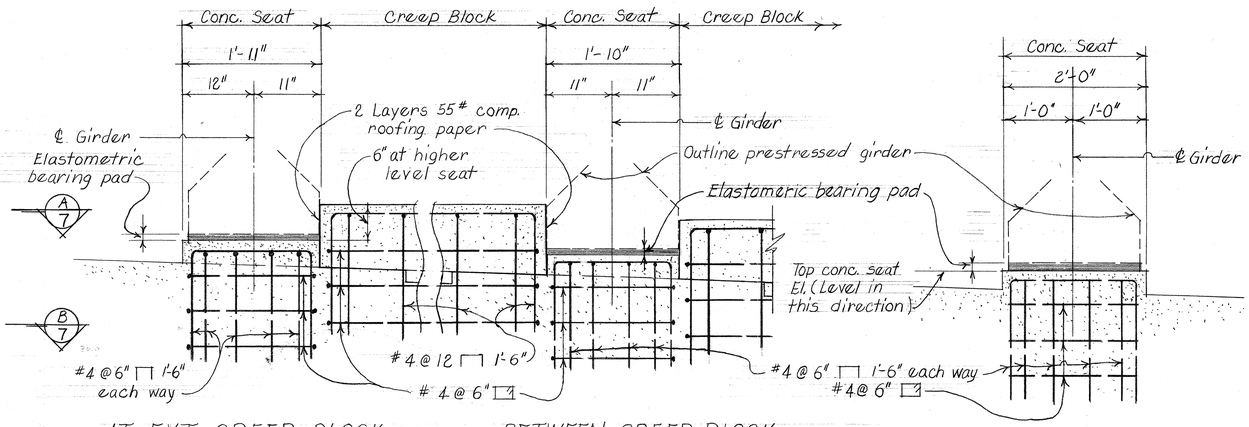
Scale: 1" = 1'-0"



NOTE: Top concrete shelf straight line slope between change in grade elevations and shelf elevations at exterior girders.

ELEVATION ABUTMENT #2

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



AT EXT. CREEP BLOCK — BETWEEN CREEP BLOCK — TYPICAL

TYPICAL CONCRETE SEAT SECTION B/6

Scale: 1" = 1'-0"

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HALAWA INTERCHANGE
STRUCTURE NO 9
ABUTMENT No 2 DETAILS & SECTIONS

Proj. No. IHI-1(91):13 May 1971

SHEET No. 6 OF 10 SHEETS

PRINTED ON NO. 1000H CLEARPRINT

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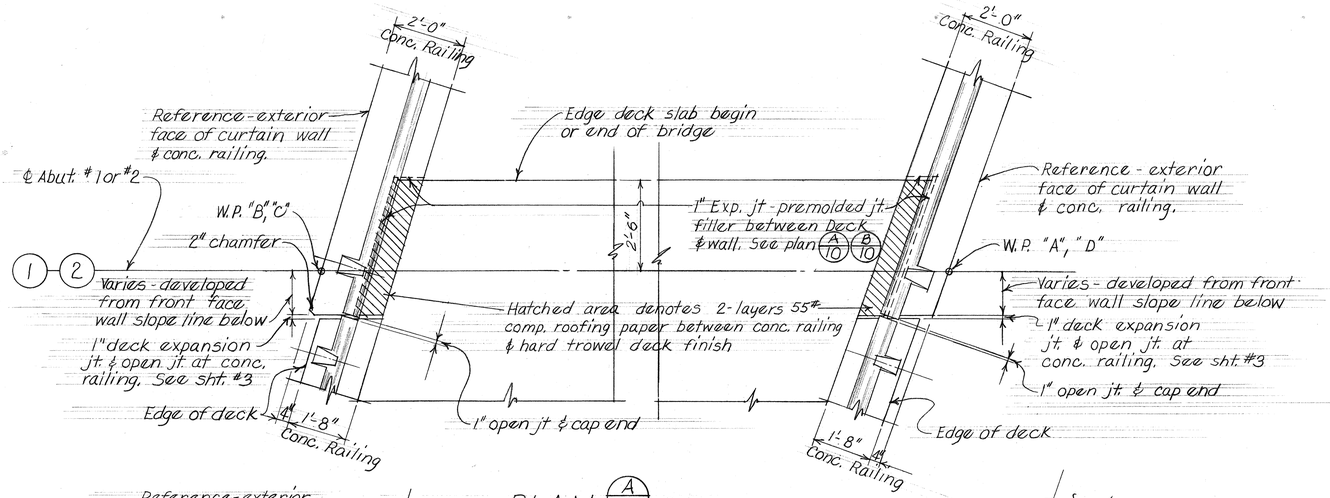
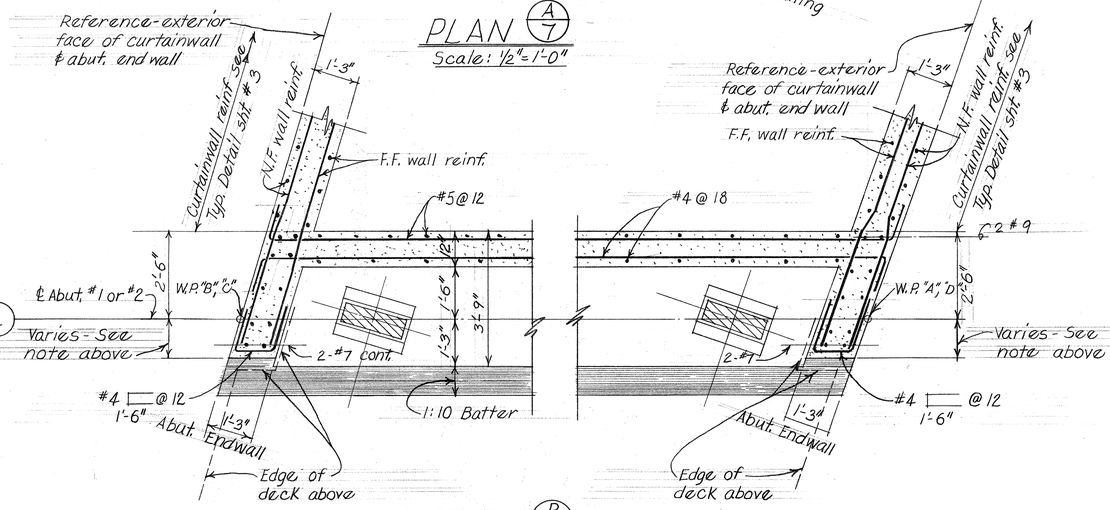
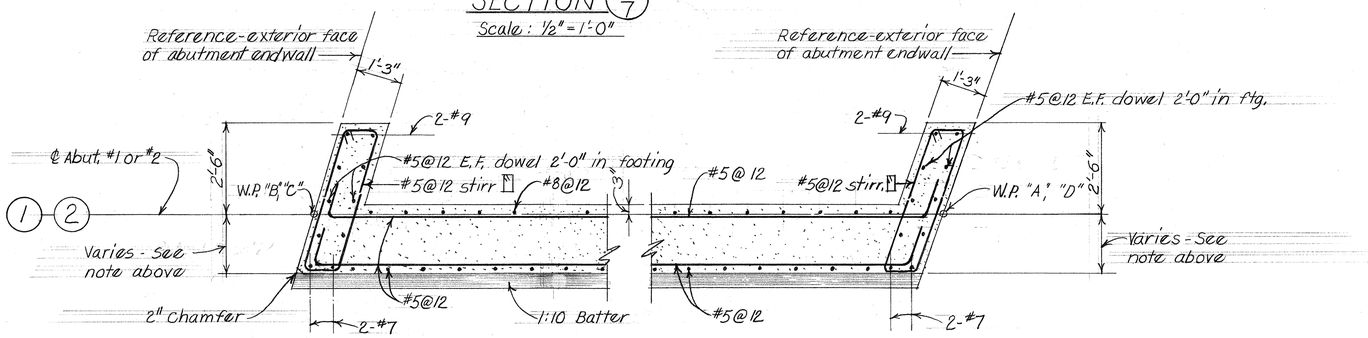
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(91):13	1972	184	228



PLAN A/7
Scale: 1/2"=1'-0"



SECTION B/7
Scale: 1/2"=1'-0"



SECTION C/7
Scale: 1/2"=1'-0"

TOP CONCRETE SEAT ELEVATION & SLOPE SCHEDULE (AT GIRDER ℄ BEARING)

	ABUT #1		DIRECTION				DIRECTION		ABUT #2
	(1)		TOP SEAT SLOPE		(1)	(2)	TOP SEAT SLOPE		(2)
G-1	26.94	+	1/8 : 12	+	27.56	27.62	+ 3/32 : 12	+	28.08
G-2	27.49	+	3/32 : 12	+	28.03				
G-2a						28.15	+ 3/32 : 12	+	28.55
G-3	28.06	+	1/16 : 12	+	28.50				
G-3a						28.69	+ 1/16 : 12	+	29.01
G-4	28.52	+	1/16 : 12	+	28.97				
G-4a						29.17	+ 1/16 : 12	+	29.48
G-5	28.79	+	3/32 : 12	+	29.34				
G-5a						29.46	+ 1/32 : 12	+	29.67
G-6	29.06	+	3/32 : 12	+	29.50				
G-6a						29.57	+ 1/32 : 12	+	29.77
G-7	29.21	+	1/16 : 12	+	29.60				
G-7a						29.69	+ 1/32 : 12	+	29.87
G-8	29.33	+	1/16 : 12	+	29.69				
G-9	29.46	+	1/16 : 12	+	29.79	29.80	+ 1/32 : 12	+	29.97

NOTE: Refer to sheets #6, TD-2 for seat detail and schedule designations.

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	
	DRAWN BY	L.M
	TRACED BY	
NOTE BOOK	DESIGNED BY	DCO
	QUANTITIES BY	E.M & G.U
No.	CHECKED BY	E.J & J.L

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

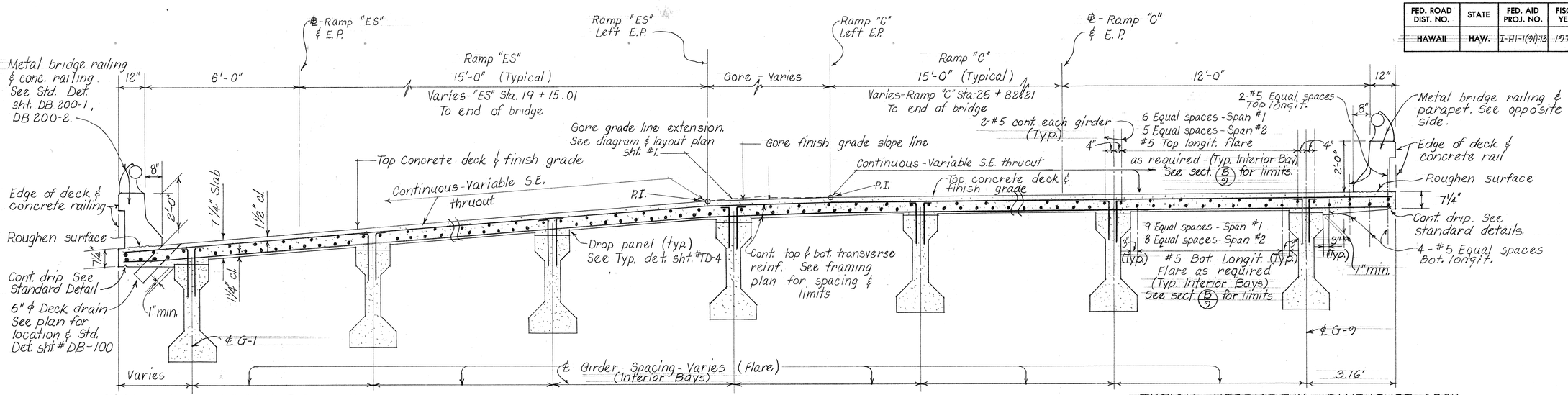
HALAWA INTERCHANGE
STRUCTURE Nº 9
ABUTMENT Nº 1 & 2
SCHEDULE & SECTION

Proj. Nº I-HI-1(91):13 May 1971

SHEET No. 7 OF 10 SHEETS

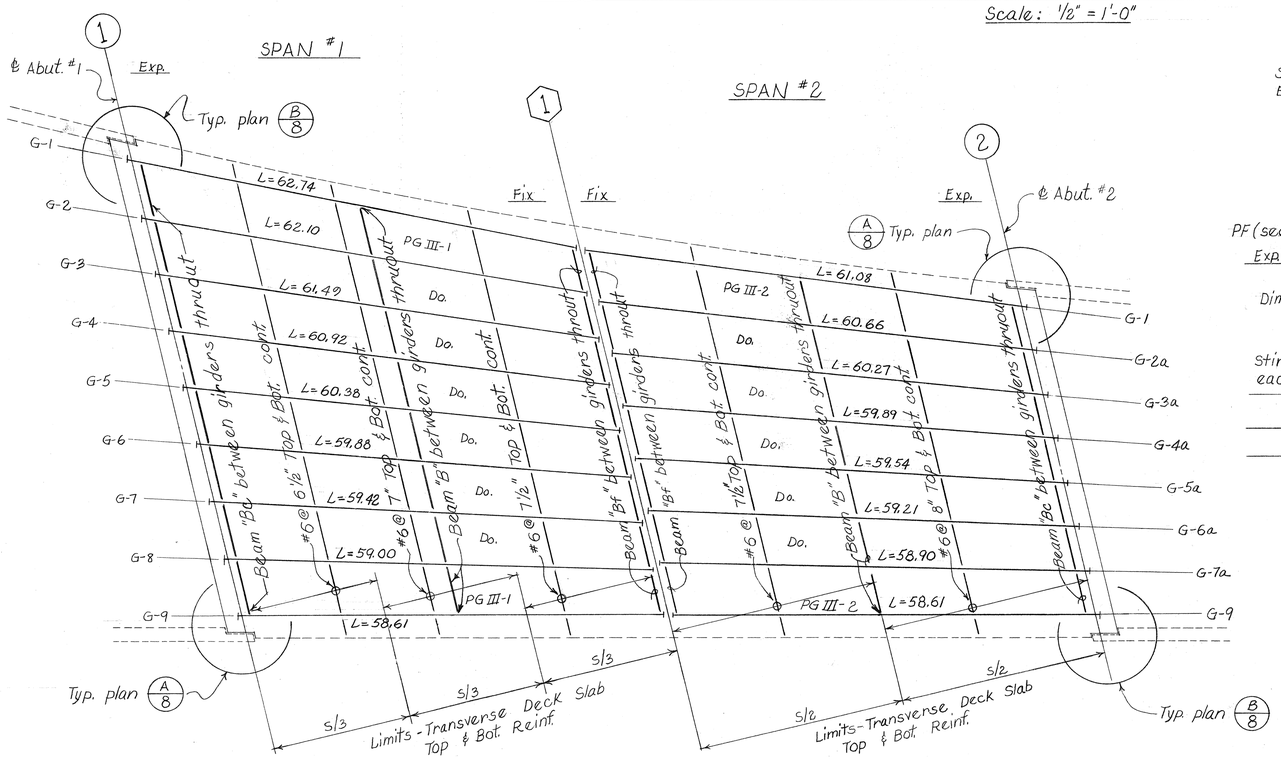
1 S 41

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(91):13	1972	185	228



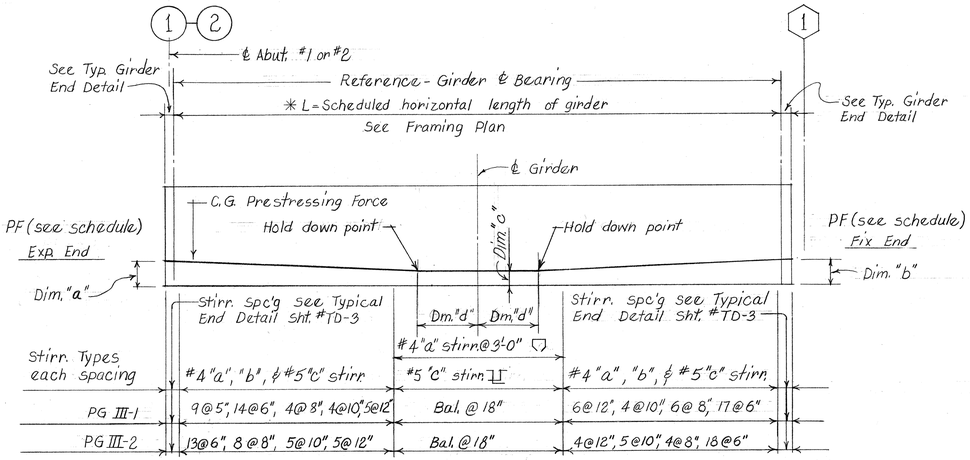
TYPICAL NORMAL DECK SECTION RAMPS "ES" & "C" - SPANS #1 & #2

Scale: ½" = 1'-0"



DECK FRAMING PLAN

Scale: 1" = 10'-0"



TYPICAL TYPE PG III-1 & PG III-2 GIRDER DETAIL

Not to scale

PRESTRESSED GIRDER SCHEDULE					
Girder Type	Dim. "a"	Dim. "b"	Dim. "c"	Dim. "d"	Working Force PF
PG-III-1	11 1/4"	11 1/4"	7 3/16"	6'-3"	612 K
PG-III-2	11 1/4"	11 1/4"	7 1/4"	6'-3"	565 K

NOTE:

* Girder dimension L = Horizontal measurement between girder & bearings each end of girder. The contractor shall determine the total length of girder.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY LM	
NOTE BOOK	TRACED BY	
	CHECKED BY DCO	
No.	QUANTITIES BY ENR & GT	
	CHECKED BY PWO	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HALAWA INTERCHANGE STRUCTURE Nº 9

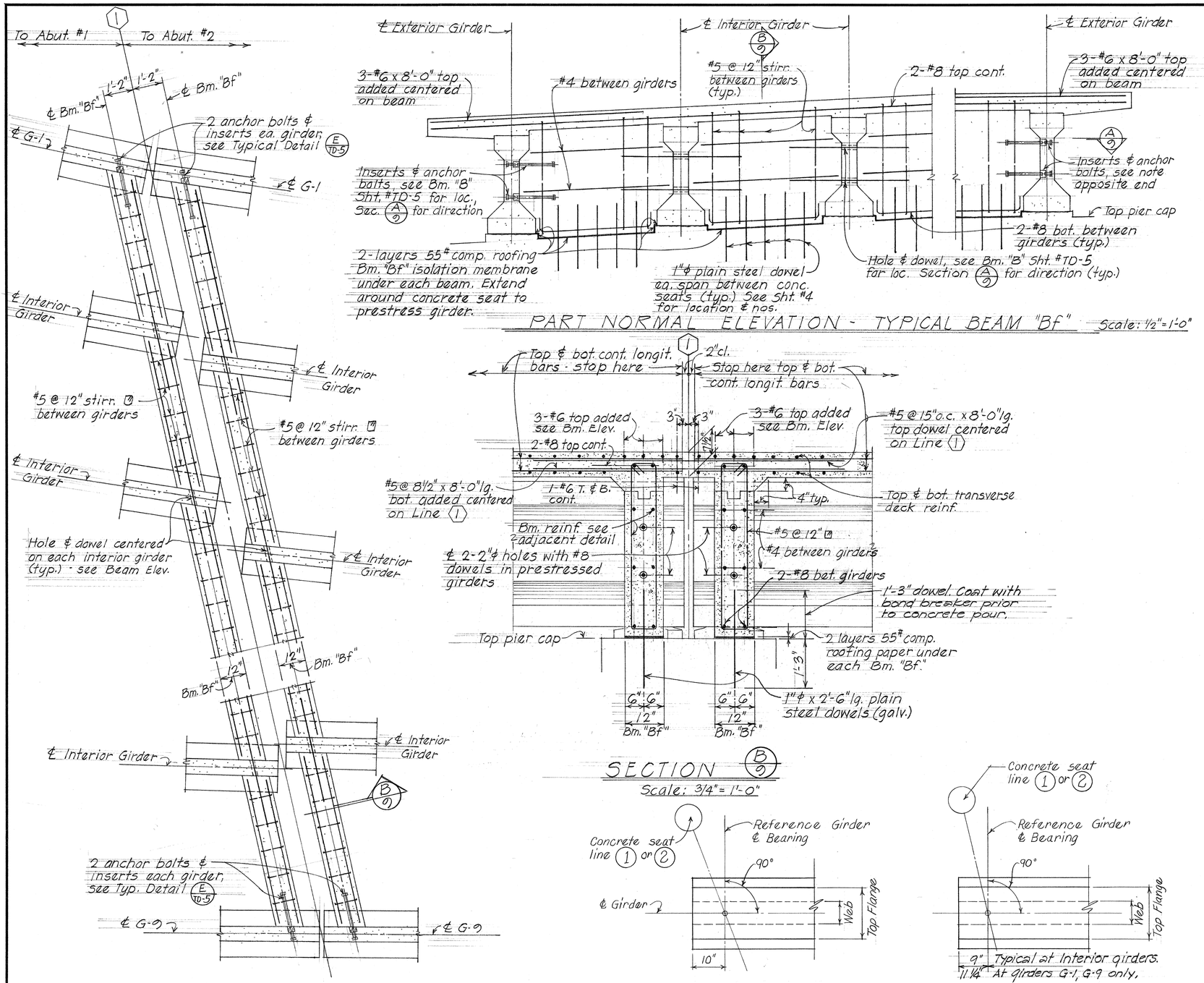
DECK FRAMING PLAN SECTION & DETAIL

Proj. Nº I-HI-1(91):13 May 1971

SHEET No. 8 OF 10 SHEETS

185

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(91):13	1972	186	228



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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HALAWA INTERCHANGE
STRUCTURE Nº 9

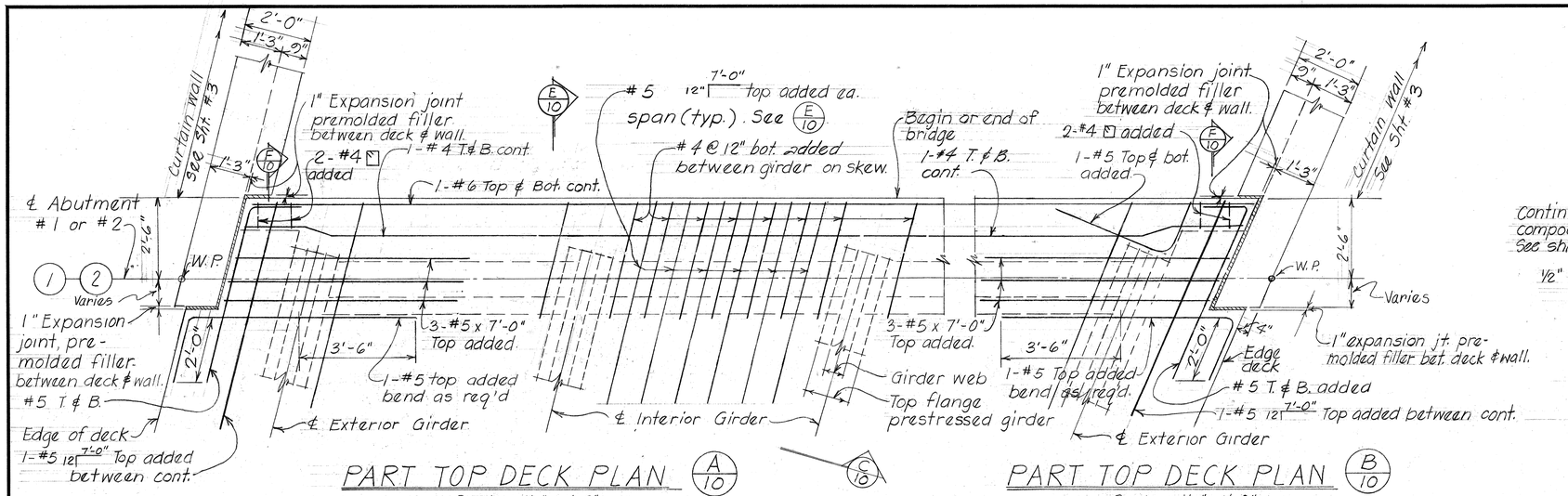
BEAM "Bf" SECTION & DETAILS

Proj Nº I-HI-1(91):13 May 1971

SHEET No. 9 OF 10 SHEETS

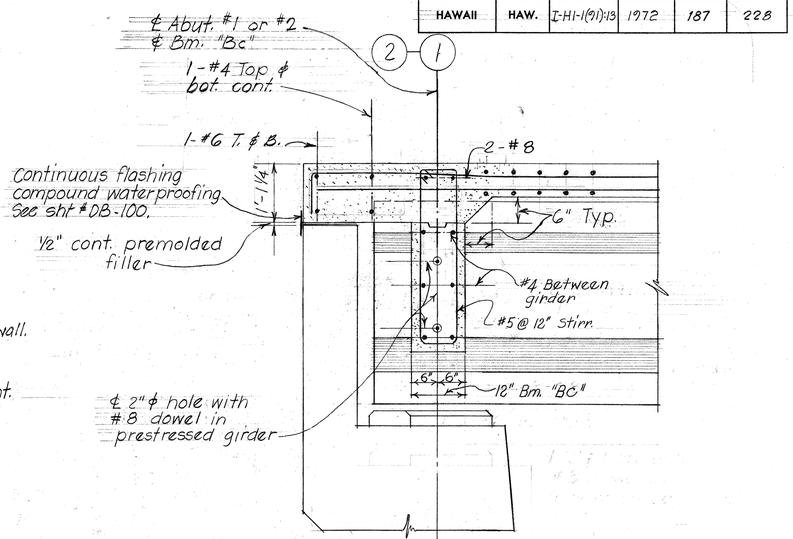
186

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(91):13	1972	187	228

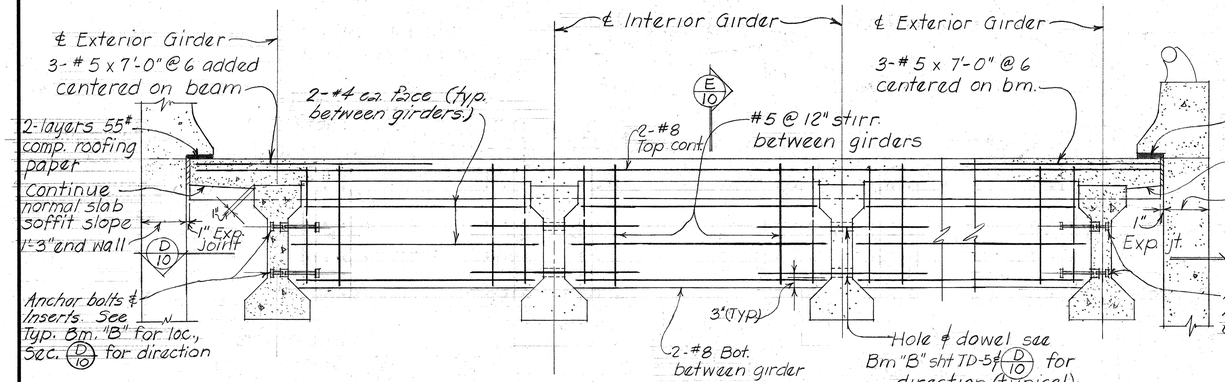


PART TOP DECK PLAN A/10
Scale : 1/2" = 1'-0"

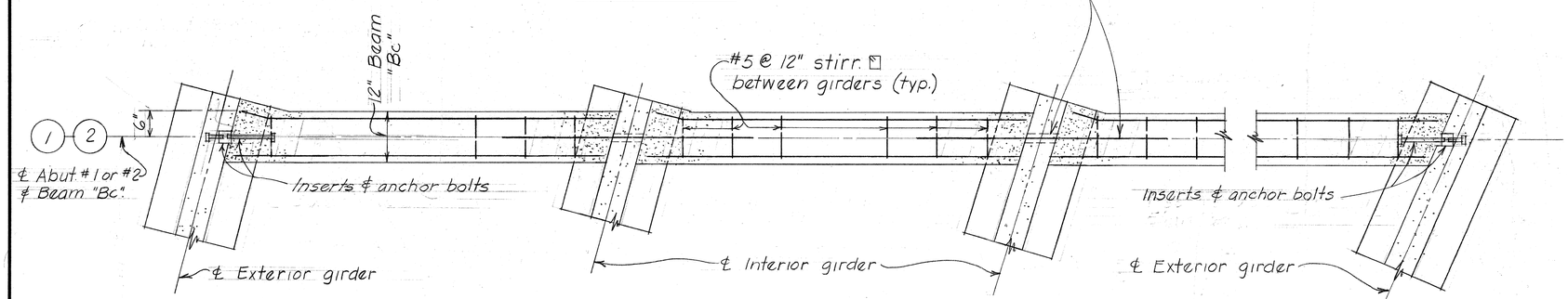
PART TOP DECK PLAN B/10
Scale : 1/2" = 1'-0"



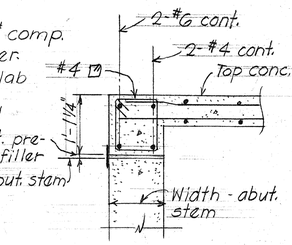
AT GIRDER



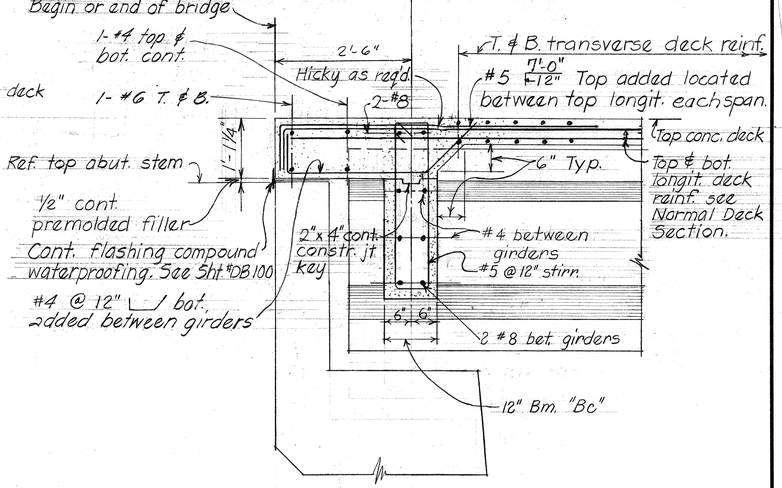
C/10 PART NORMAL ELEVATION TYPICAL BM "Bc"
Scale : 1/2" = 1'-0"



TYPICAL SECTION D/10
Scale : 3/4 = 1'-0"



SECTION F/10
Scale: 3/4" = 1'-0"



BETWEEN GIRDERS
TYPICAL SECTION E/10
Scale: 3/4" = 1'-0"

ORIGINAL PLAN	SURVEY PLOTTED BY: L.M.A.	DATE: May 71
	DRAWN BY: " "	
	TRACED BY: " "	
NOTE BOOK	DESIGNED BY: D.C.O.	
No.	QUANTITIES BY: T.M.B.	
	CHECKED BY: T.O.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HALAWA INTERCHANGE
STRUCTURE No 9

BEAM "Bc" SECTIONS & DETAILS

Proj. No I-HI-1(91):13 May 1971

SHEET No. 10 OF 10 SHEETS

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