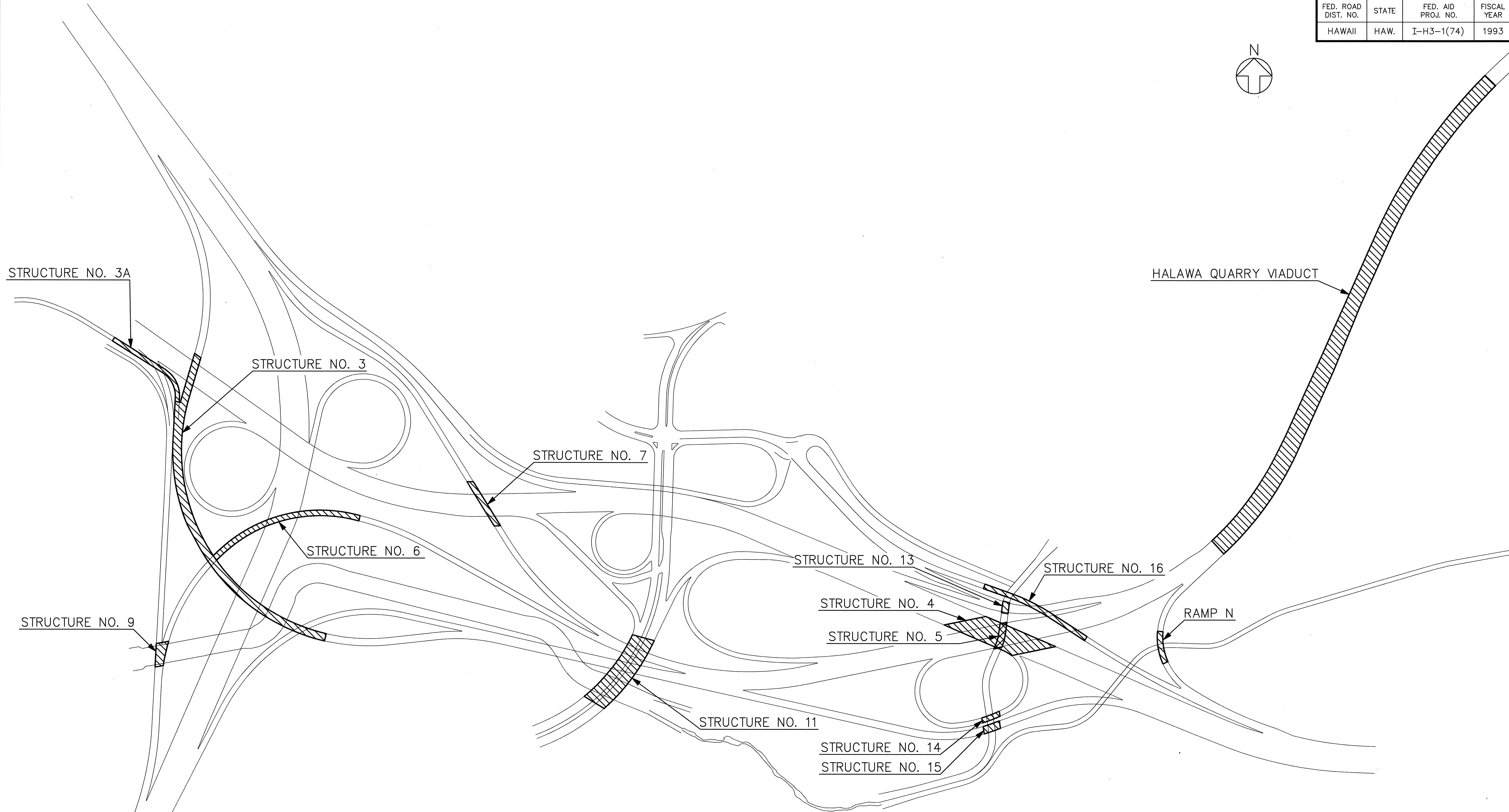
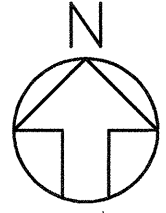
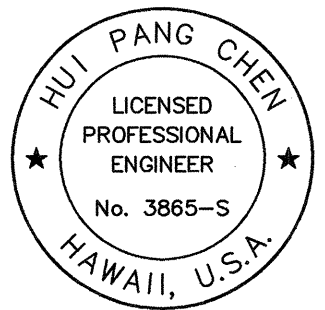


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	256	325



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

LOCATION PLAN
SCALE: 1" = 250'



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Hui Pang Chen

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LOCATION MAP

H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

SCALE: AS SHOWN DATE: AUGUST 1994

SHEET NO. S1 OF 35 SHEETS

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

CAD by Q.D. TRUONG, 85-52

Last Saved: G:\HALAWA\STRUCT\BR-NOTES.dwg 02/24/95 at 15:52

GENERAL NOTES FOR BRIDGE RETROFIT CONSTRUCTION:

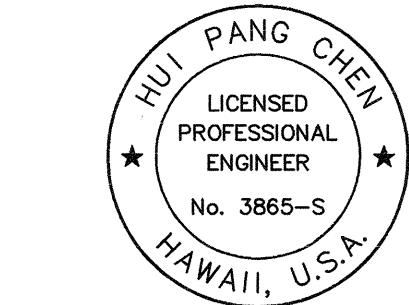
1. GENERAL SPECIFICATION: HAWAII DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1985, TOGETHER WITH SPECIAL PROVISIONS PREPARED FOR THIS CONTRACT.
2. DESIGN SPECIFICATIONS: THE 15TH EDITION OF A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1992. WITH 1993 INTERIM SPECIFICATIONS.
3. LOADS:
- (A) DEAD LOAD: AN ALLOWANCE OF 20 P.S.F. FOR FUTURE WEARING SURFACE OF ASPHALT CONCRETE HAS BEEN PROVIDED FOR IN THE DESIGN.
- (B) LIVE LOAD: HS20-44 OR INTERSTATE LOADING.
- (C) TRAFFIC RAILING LOAD: SEE A.A.S.H.T.O. SECTION 2.7.
- (D) SEISMIC LOAD: SEISMIC PERFORMANCE CATEGORY (SPC) B, ACCELERATION COEFFICIENT (A) = 0.17.
4. MATERIALS:
- (A) CONCRETE FOR BRIDGE SUPERSTRUCTURE SHALL BE 5000 PSI CONCRETE.
- (B) OTHER CONCRETE SHALL BE CLASS A UNLESS OTHERWISE NOTED.
- (C) ALL REINFORCING STEEL SHALL BE A.S.T.M. A615, GRADE 60 UNLESS OTHERWISE NOTED.
- (D) ALL STRUCTURAL STEEL SHALL BE A.S.T.M. A36, HOT DIPPED GALVANIZED, UNLESS OTHERWISE NOTED.
- (E) ALL ANCHOR BOLTS, WASHERS AND NUTS SHALL BE A.S.T.M. A307, HOT DIP GALVANIZED AFTER FABRICATION, UNLESS OTHERWISE NOTED.
- (F) RESTRAINERS, SEE SPECIAL PROVISIONS.
5. DESIGN STRESSES: SHALL FOLLOW A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES IN ADDITION TO THOSE LISTED BELOW.
- | CONCRETE | CLASS A | DRILLED SHAFTS | SUPERSTRUCTURE |
|----------|-------------|----------------|----------------|
| f'c | 3000 P.S.I. | 4000 P.S.I. | 5000 P.S.I. |
| fc | 1200 P.S.I. | 1600 P.S.I. | 2000 P.S.I. |
| n | 9 | 8 | 7 |
6. REINFORCEMENT: FOR REINFORCEMENT NOTES, SEE GENERAL NOTES ON STANDARD PLAN NO. B-01.
7. CONSTRUCTION NOTES:
- (A) SEE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
- (B) EXCEPT AS OTHERWISE NOTED, ALL VERTICAL DIMENSIONS ARE MEASURED PLUMB.
- (C) TOP OF DECK SHALL BE CONSTRUCTED TO FOLLOW EXISTING ROADWAY SLOPE.
- (D) FOR CONCRETE FINISH, SEE STANDARD SPECIFICATIONS.
- (E) THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AS SPECIFIED ON THE PLANS PRIOR TO COMMENCING WITH THE WORK.
- (F) THE CONTRACTOR SHALL CONDUCT CONSTRUCTION OPERATIONS IN A MANNER THAT WILL PREVENT ANY DAMAGE TO PASSING VEHICLES OR INJURY TO MOTORISTS AND PEDESTRIANS. DURING CONCRETE REMOVAL AND PLACEMENT, SAFETY NETS AND WORK PLATFORMS TO PRECLUDE CONSTRUCTION MATERIALS FROM CAUSING INJURY TO PERSONS AND DAMAGE TO PASSING VEHICLES SHALL BE USED.
- (G) THE CONTRACTOR SHALL PROVIDE ADEQUATE SIGNS AND WARNING DEVICES FOR MOTORISTS AND PEDESTRIANS AS SHOWN ON THE TRAFFIC CONTROL PLANS, SHEETS B1 TO B36.
- (H) ALL TRAVEL LANES SHALL REMAIN OPEN TO TRAFFIC DURING MORNING AND AFTERNOON PEAK HOURS. FOR TRAFFIC CONTROL SEE CIVIL DRAWINGS, SHEETS B1 TO B36.
- (I) ALL ITEMS NOTED INCIDENTAL WILL NOT BE PAID FOR SEPARATELY.
- (J) FOR CONCRETE REMOVAL, THE EDGES OF ALL CONCRETE TO BE REMOVED SHALL BE SAW-CUT TO A DEPTH OF 1" TO PROVIDE A NEAT LINE AT THE EDGE OF THE SURFACE OF THE REMOVED AREA.
- (K) THE CONTRACTOR SHALL PROVIDE AN AIR SUPPLY FOR THE PURPOSE OF VENTING AIR IN THE CLOSED ABUTMENTS AND BOX GIRDER SUPERSTRUCTURES PRIOR TO ENTERING AND WHILE WORKING IN THESE AREAS.

Item No.	Item	Unit	ESTIMATED QUANTITIES													
			Structure No 3A & Ret. Wall	Structure No.3	Structure No.4	Structure No.5	Structure No.6	Structure No.7	Structure No. 9	Structure No. 11	Structure No. 13	Structure No.14	Structure No. 15	Structure No. 16	Halawa Quarry Viaduct	Total
503.1092	Removal And Widening Work of Existing Bridge Deck (Widened Deck Concrete) (Reinforcing Steel)	L.S.	—	—	L.S. (11.6 C.Y.) (2140 LB)	—	—	—	—	—	—	—	—	—	—	L.S.
503.1093	Creep Blocks	Each	2**	6	—	—	1	2	—	15	—	—	—	7	5	44
503.1094	Anchor Blocks	Each	—	—	—	—	8	—	—	—	—	—	—	6	—	14
503.1095	Shear Transfer Device	Each	2	—	—	—	—	—	—	—	—	—	—	—	—	2
503.1096	Type 'A' Build-up	Each	2	—	8	—	—	—	—	—	—	—	—	—	—	10
503.1097	Type 'B' Build-up	Each	2	56	—	—	19	8	—	16	—	—	—	22	—	143
503.1098	Type 'C' Build-up	Each	—	18	—	—	4	—	8	—	—	—	—	10	—	40
503.1099	Type 'D' Build-up	Each	2	—	—	—	—	—	—	—	—	—	—	—	—	2
503.1100	Access Holes	Each	8	—	8	—	—	—	—	—	—	—	—	—	—	16
503.1101	Counterforts	Each	—	—	—	—	—	—	—	16	—	—	—	—	—	16
507.2510	Upgrade Metal Bridge Rail – Three-Rail	L.F.	—	—	—	—	—	—	—	725	—	—	—	—	—	725
507.7010	Type A Upgrade Concrete Bridge Parapet (Including End Post)	L.F.	1352	3831	773	129	1706 ^(A)	582	343	—	118	150	279	1287		10550
507.7020	Type B Upgrade Concrete Bridge Parapet (Including End Post) (End Post Support Concrete Above Ftg.) (End Post Support Ftg. Concrete) (End Post Support Ftg. Excavation) (End Post Support Ftg. Str. Backfill) (End Post Support Reinf. Steel)	L.F.	—	—	68 (13.8 C.Y.) (9.2 C.Y.) (40 C.Y.) (10 C.Y.)* (2290 LB)	—	—	—	—	—	—	—	—	—	—	68
507.7030	Type C Upgrade Concrete Bridge Parapet (Including End Post)	L.F.	—	—	—	—	—	—	—	—	—	154	—	—	—	154
507.7040	Type D Upgrade Concrete Bridge Parapet	L.F.	—	—	—	88	—	—	—	—	—	—	—	—	—	88
514.1010	Type I Restrainers	Each	—	—	—	—	—	—	—	—	—	—	—	—	12	12
514.1020	Type II Restrainers	Each	—	—	—	—	—	—	—	—	—	—	—	—	11	11
514.1030	Type III Restrainers	Each	—	—	—	—	—	—	—	—	—	—	—	—	12	12
514.1040	Type IV Restrainers	Each	—	12	—	—	2	—	—	—	—	—	—	—	—	14
514.1050	Type V Restrainers	Each	—	24	—	—	3	4	—	—	—	—	—	—	—	31
514.1060	Type VI Restrainers	Each	—	—	—	—	—	4	—	—	—	—	—	—	—	4
514.1070	Type VII Restrainers	Each	—	—	8	—	—	—	—	—	—	—	—	—	—	8
514.1080	Type VIII Restrainers	Each	—	18	—	—	4	—	—	—	—	—	—	14	—	36
514.1090	Type IX Restrainers	Each	2	—	—	—	—	—	—	—	—	—	—	—	—	2
514.1100	Type X Restrainers	Each	2	—	—	—	—	—	—	—	—	—	—	—	—	2
514.1110	Type XI Restrainers	Each	—	—	—	—	10	—	8	—	—	—	—	4	—	22
514.1120	Type XII Restrainers	Each	—	2	—	—	—	—	—	16	—	—	—	—	—	18
514.1130	Type XIII Restrainers	Each	4	—	—	—	—	—	—	—	—	—	—	—	—	4

* Including Porous Fill
** See Details on Sht. S26 Ⓐ Excluding End Posts

Index To Drawings					
S1	Location Map	S14	Structure No. 11 Plan And Sections	S27	Anchor Block Details
S2	General Notes, Index To Drawings & Quantities	S15	Structure Nos. 14 & 15 Plan And Sections	S28	Halawa Quarry Viaduct Plan & Longitudinal Elevation — 1
S3	Structure No. 3A Plan And Sections	S16	Structure Nos. 14 & 15 Details	S29	Halawa Quarry Viaduct Plan & Longitudinal Elevation — 2
S4	Structure No. 3 Plan And Sections — 1	S17	Structure No. 16 Plan And Sections	S30	Halawa Quarry Viaduct Plan & Longitudinal Elevation — 3
S5	Structure No. 3 Plan And Sections — 2	S18	Build-up Details	S31	Halawa Quarry Viaduct Pier And Abutment Elevations
S6	Structure No. 4 Plan And Sections	S19	Typical Upgrade Details For Bridge Parapet And End Post	S32	Halawa Quarry Viaduct Retrofit Plans Piers #2, #3, #5, #7, #9 and #11
S7	Structure No. 4 Deck Widening Details —1	S20	Typical Upgrade Details For Three-Rail Metal Railing —1	S33	Halawa Quarry Viaduct Retrofit Plans Piers #21 and #25, Abutment #2
S8	Structure No. 4 Deck Widening Details — 2	S21	Typical Upgrade Details For Three-Rail Metal Railing — 2	S34	Halawa Quarry Viaduct Retrofit Details — Restrainers
S9	Structure No. 4 Deck Widening Details — 3	S22	Typical Upgrade Details For Three-Rail Metal Railing — 3	S35	Halawa Quarry Viaduct Retrofit Details — Creep Block
S10	Structure No. 5 Plan And Sections	S23	Restrainer Details — 1		
S11	Structure No. 6 Plan And Sections	S24	Restrainer Details — 2		
S12	Structure No. 7 Plan And Sections	S25	Creep Block Details — 1		
S13	Structures No. 9 & 13 Plan And Sections	S26	Creep Block Details — 2		

2/27/95	Revised number of restrainers and build-up for structure nos.4 & 11
DATE	REVISION



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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

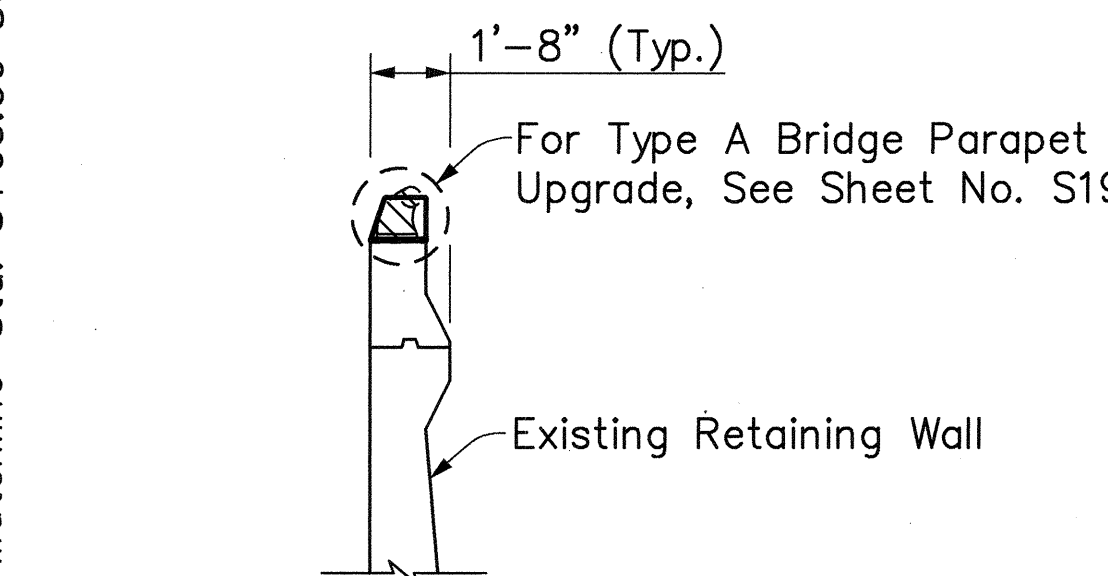
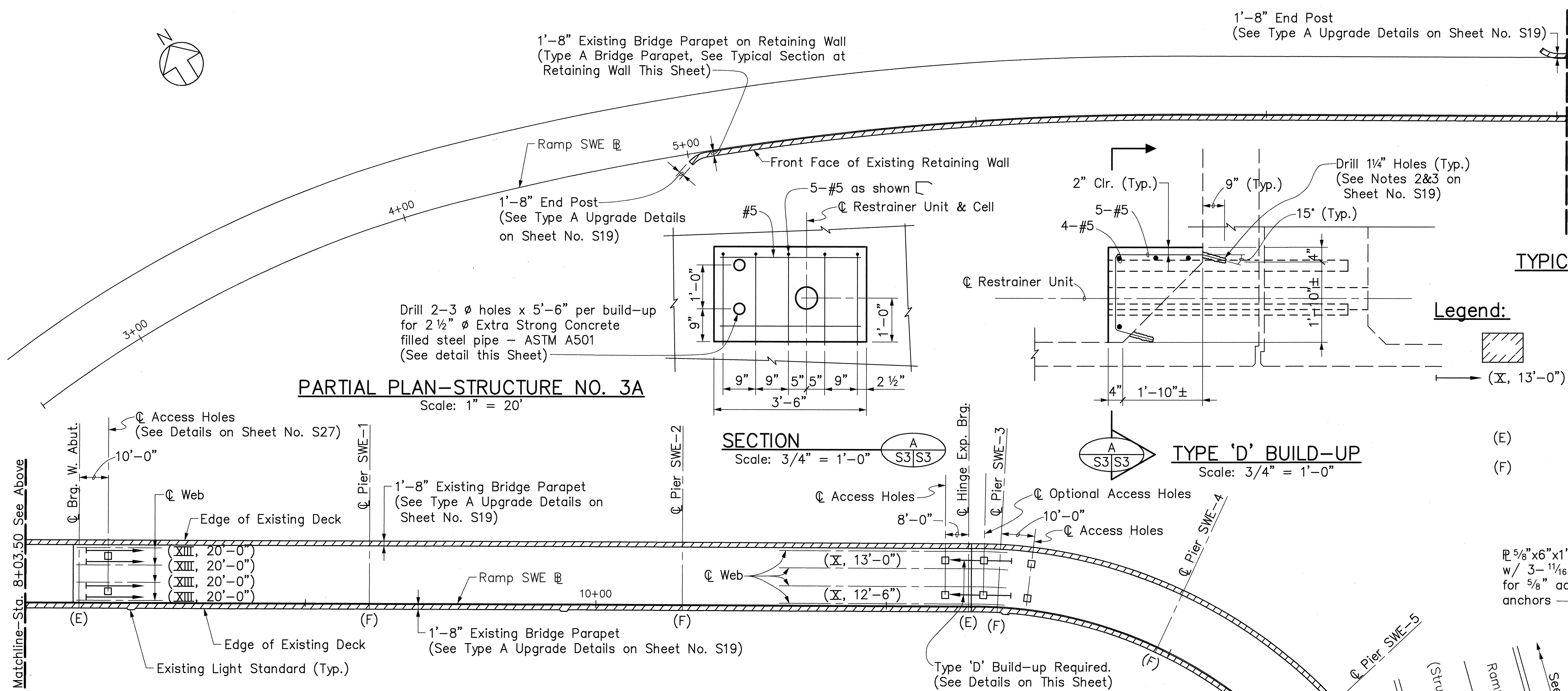
GENERAL NOTES,
INDEX TO DRAWINGS
AND QUANTITIES

H-3 — HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

SCALE: NONE DATE: AUGUST 1994

SHEET NO. S2 OF 35 SHEETS

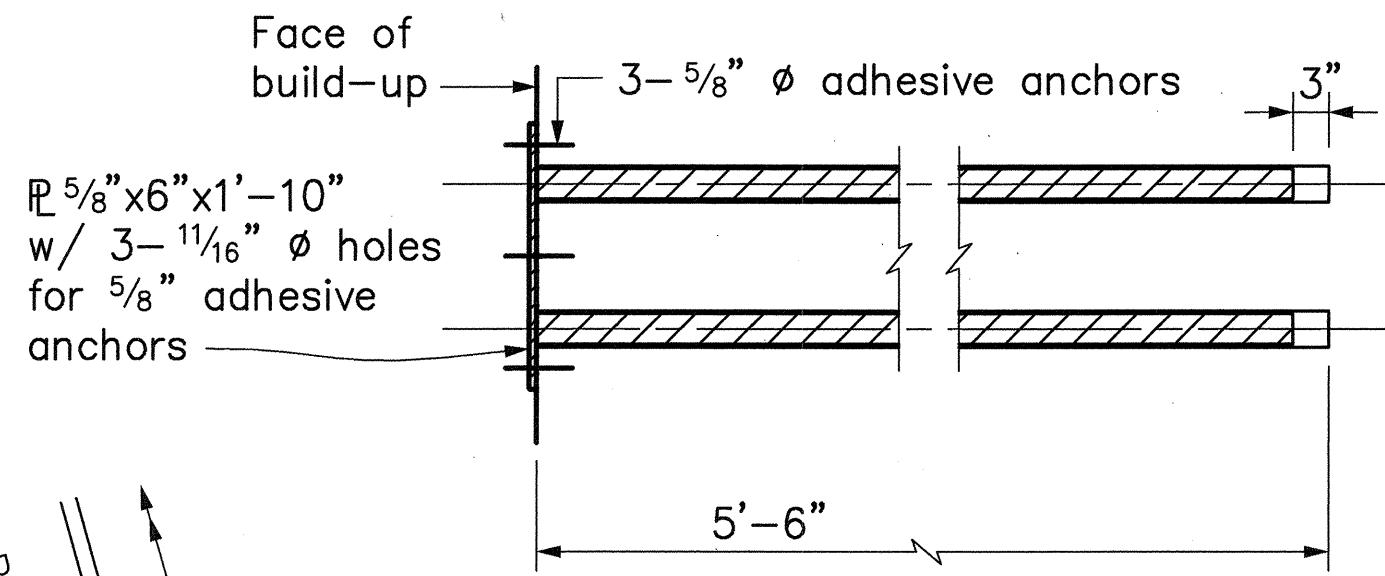
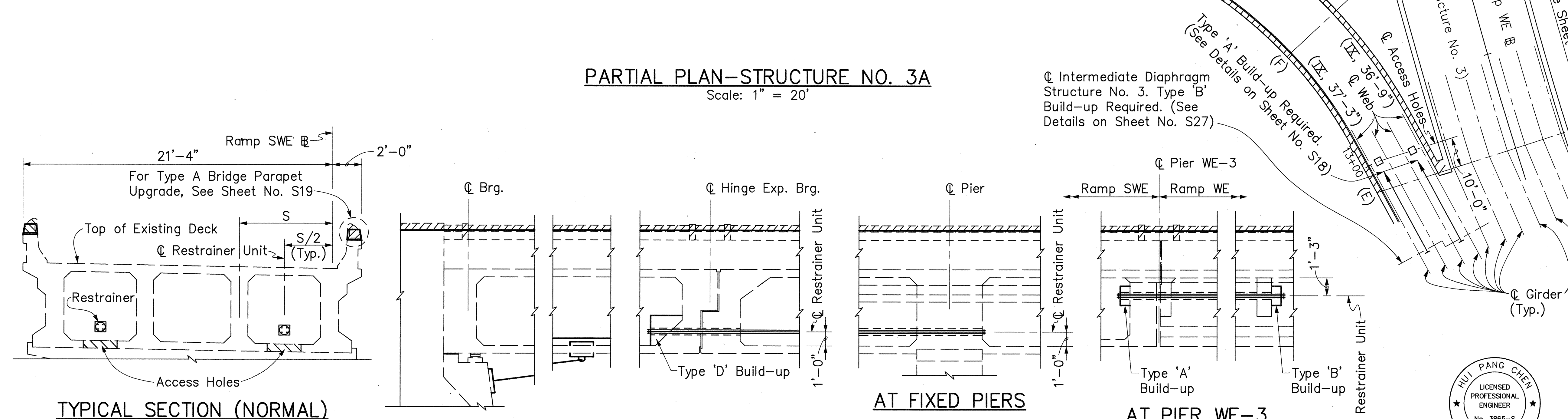
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	258	325



TYPICAL SECTION AT RETAINING WALL
Scale: 1/4" = 1'-0"

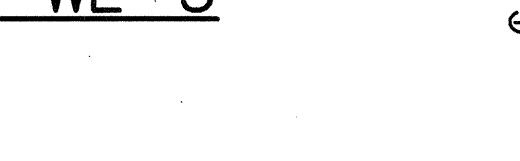
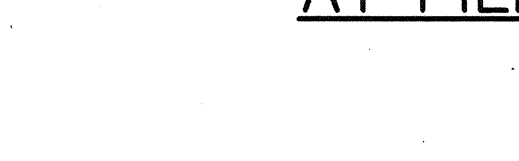
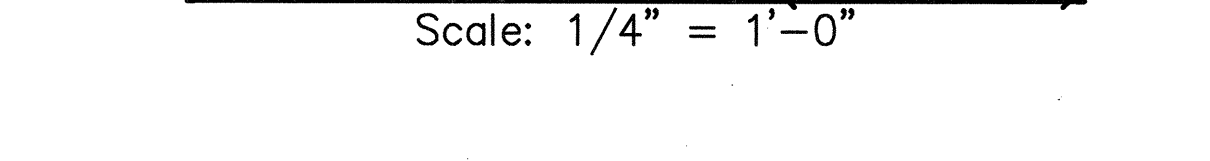
Legend:

- (X, 13'-0") Denotes existing bridge parapet to be upgraded.
- (X, 13'-0") Denotes restraints type and approx. cable length required for seismic retrofit. (See Sheet Nos. S23 & S24)
- (E) Denotes existing expansion bearing.
- (F) Denotes existing fixed bearing.

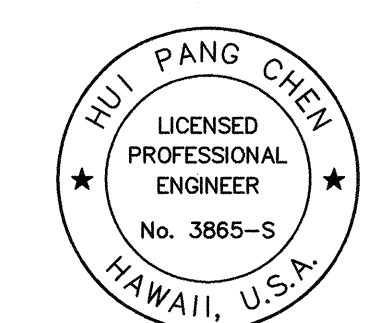


DETAIL
Scale: 3/4" = 1'-0"

SHEAR TRANSFER DEVICE



LONGITUDINAL SECTION THROUGH BEARING
Scale: 1/4" = 1'-0"



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**STRUCTURE NO. 3A
PLAN AND SECTIONS**

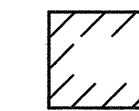
H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

SCALE: AS SHOWN DATE: AUGUST 1994

SHEET NO. S3 OF 35 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	259	325

Legend:



Denotes existing bridge parapet to be upgraded.

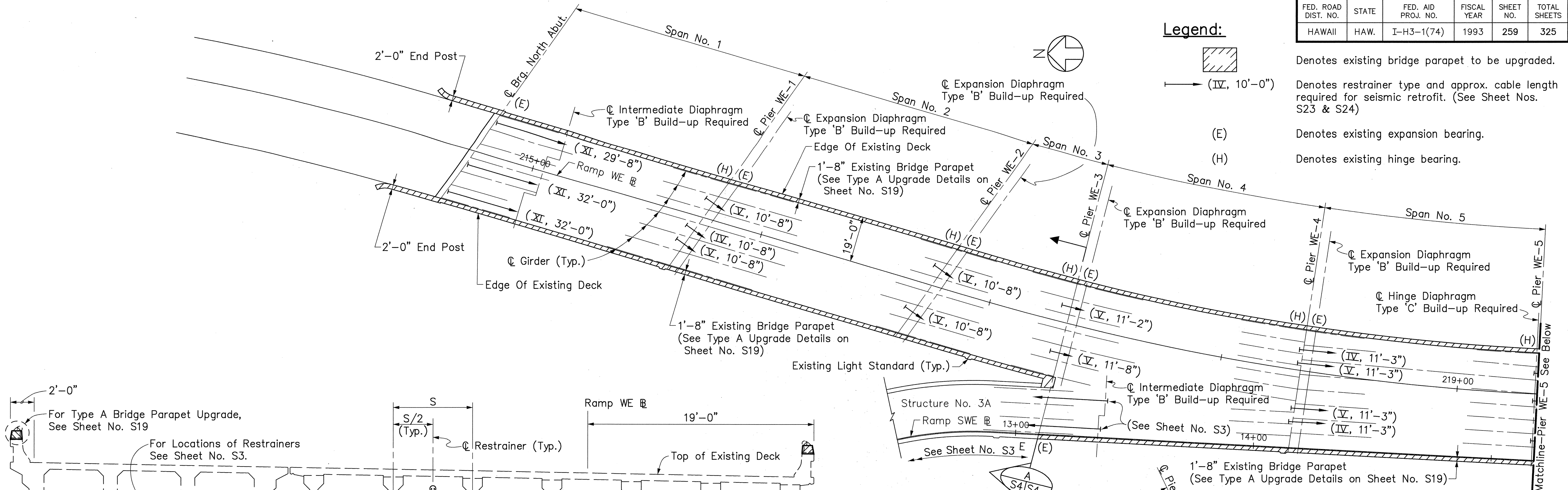
→ (IV, 10'-0")

(E)

(H)

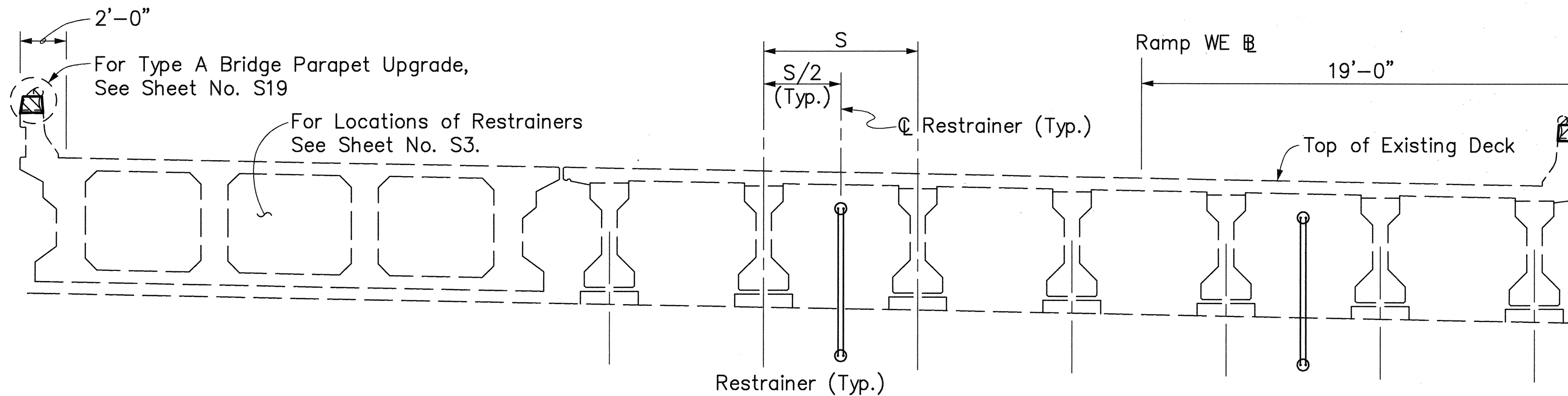
Denotes existing expansion bearing.

Denotes existing hinge bearing.



PARTIAL PLAN STRUCTURE NO. 3

Scale: 1" = 20"



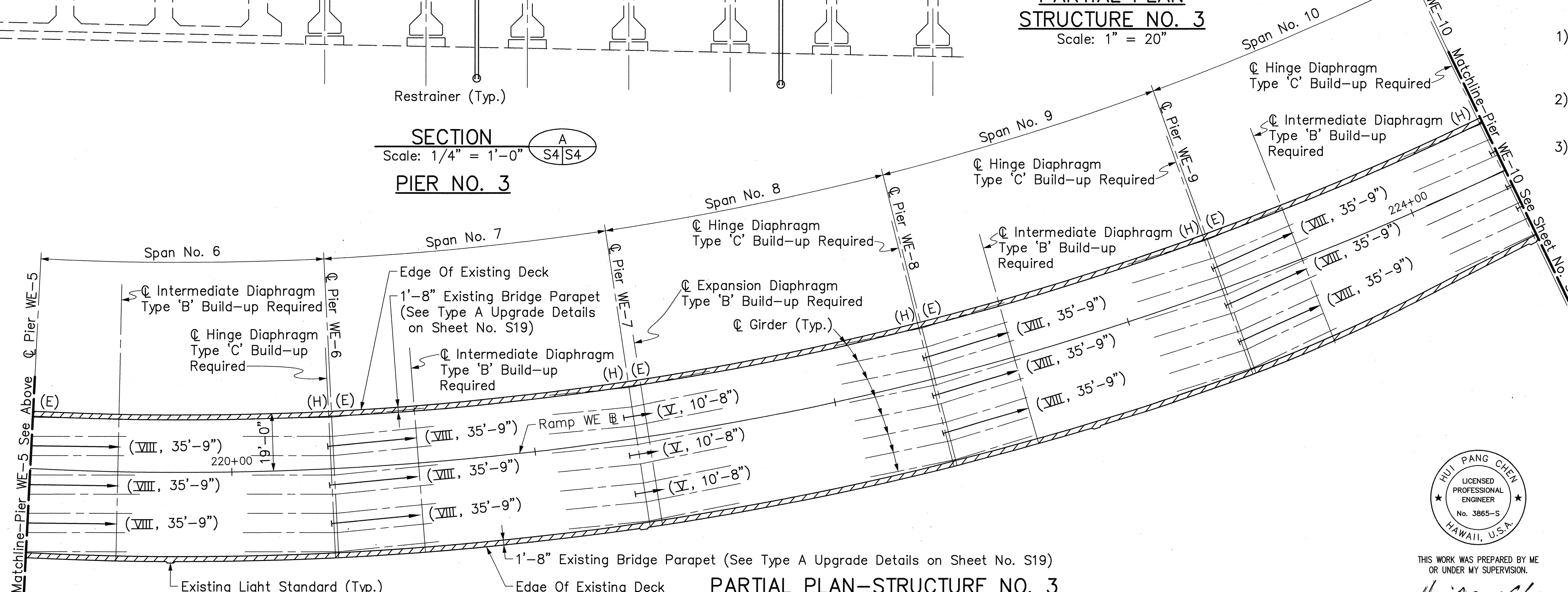
SECTION

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

PIER NO. 3

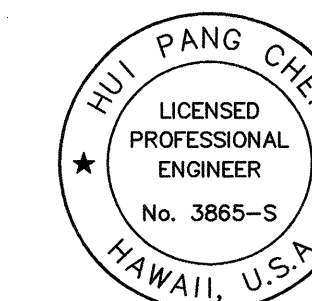
Notes:

- 1) AT Pier Nos. WE-4 & WE-10 adjust location of longitudinal restrainer to clear girder lines in adjacent spans.
- 2) Adjust location of restrainers to clear horizontal and vertical reinforcing steel in diaphragms.
- 3) For Type 'B' & Type 'C' build-up details. See sheet no. S18.



PARTIAL PLAN-STRUCTURE NO. 3

Scale: 1" = 20'



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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE NO. 3 PLAN AND SECTIONS-1

H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

SCALE: AS SHOWN DATE: AUGUST 1994

SHEET NO. S4 OF 35 SHEETS

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

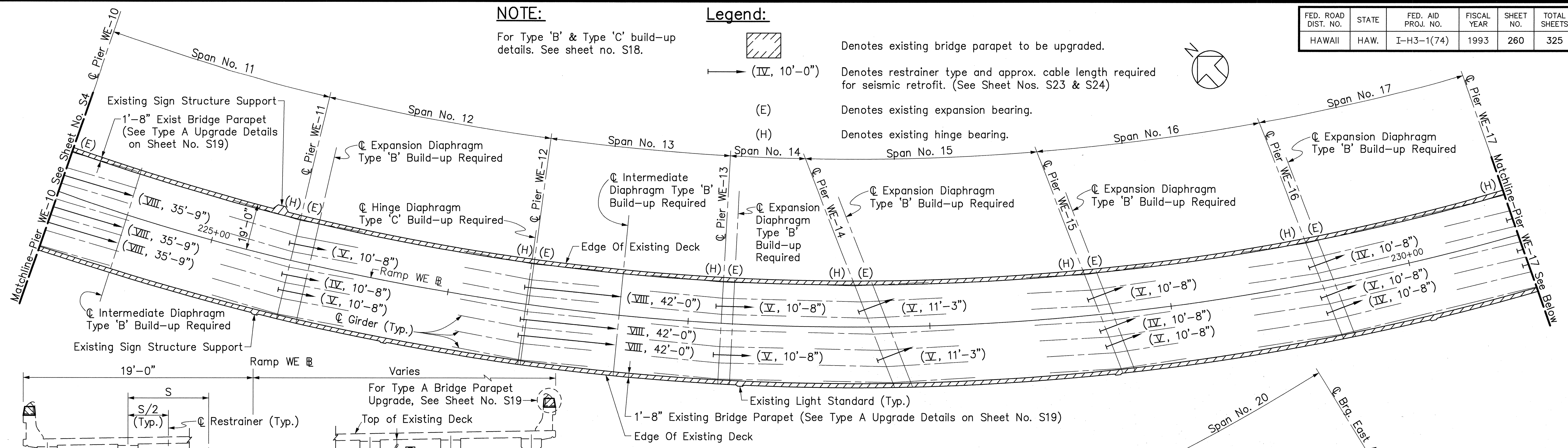
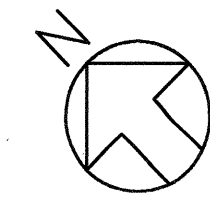
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	260	325

NOTE:

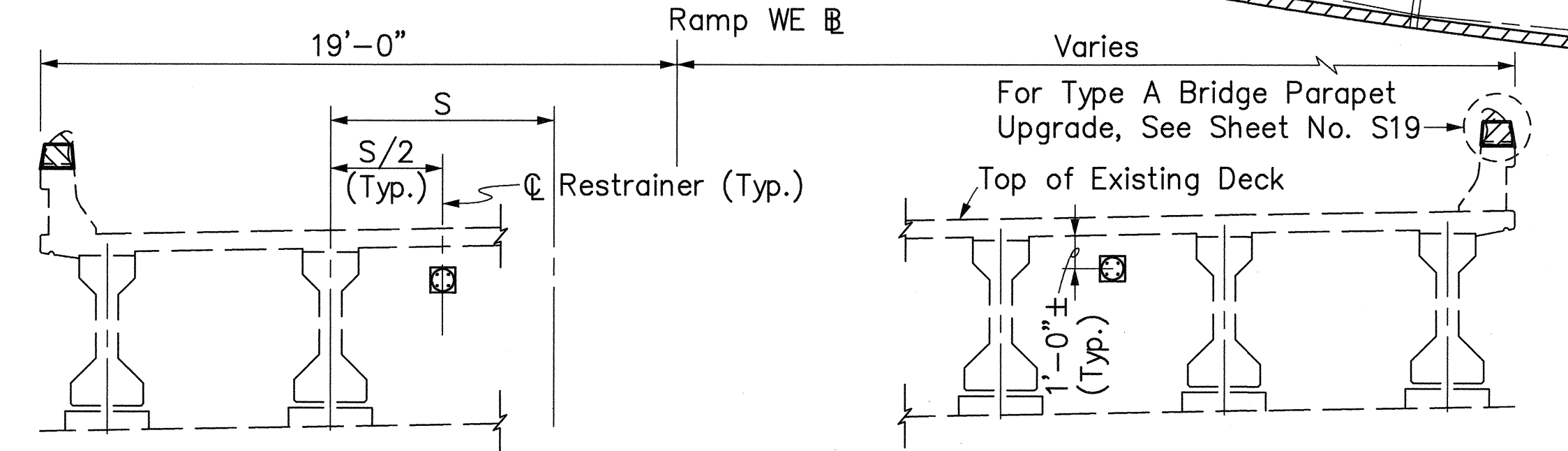
For Type 'B' & Type 'C' build-up details. See sheet no. S18.

Legend:

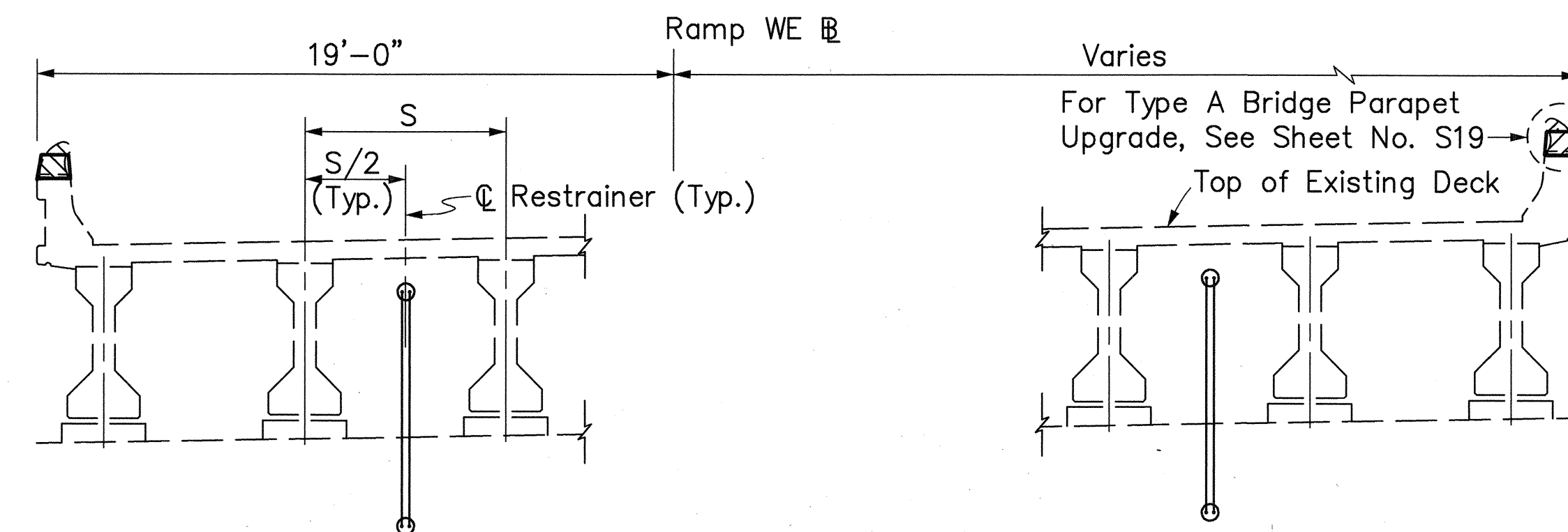
- Denotes existing bridge parapet to be upgraded.
- Denotes restrainer type and approx. cable length required for seismic retrofit. (See Sheet Nos. S23 & S24)
- Denotes existing expansion bearing.
- Denotes existing hinge bearing.



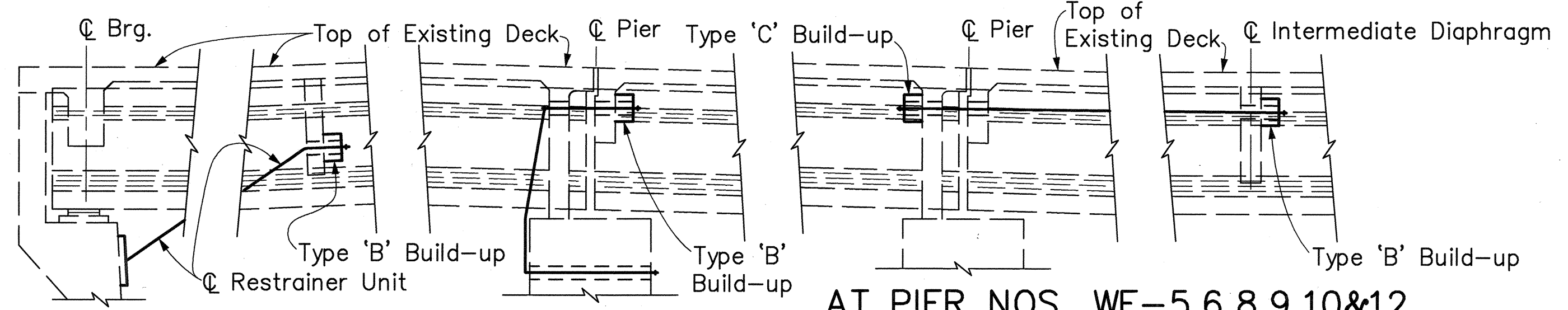
PARTIAL PLAN-STRUCTURE NO. 3
Scale: 1" = 20'-0"



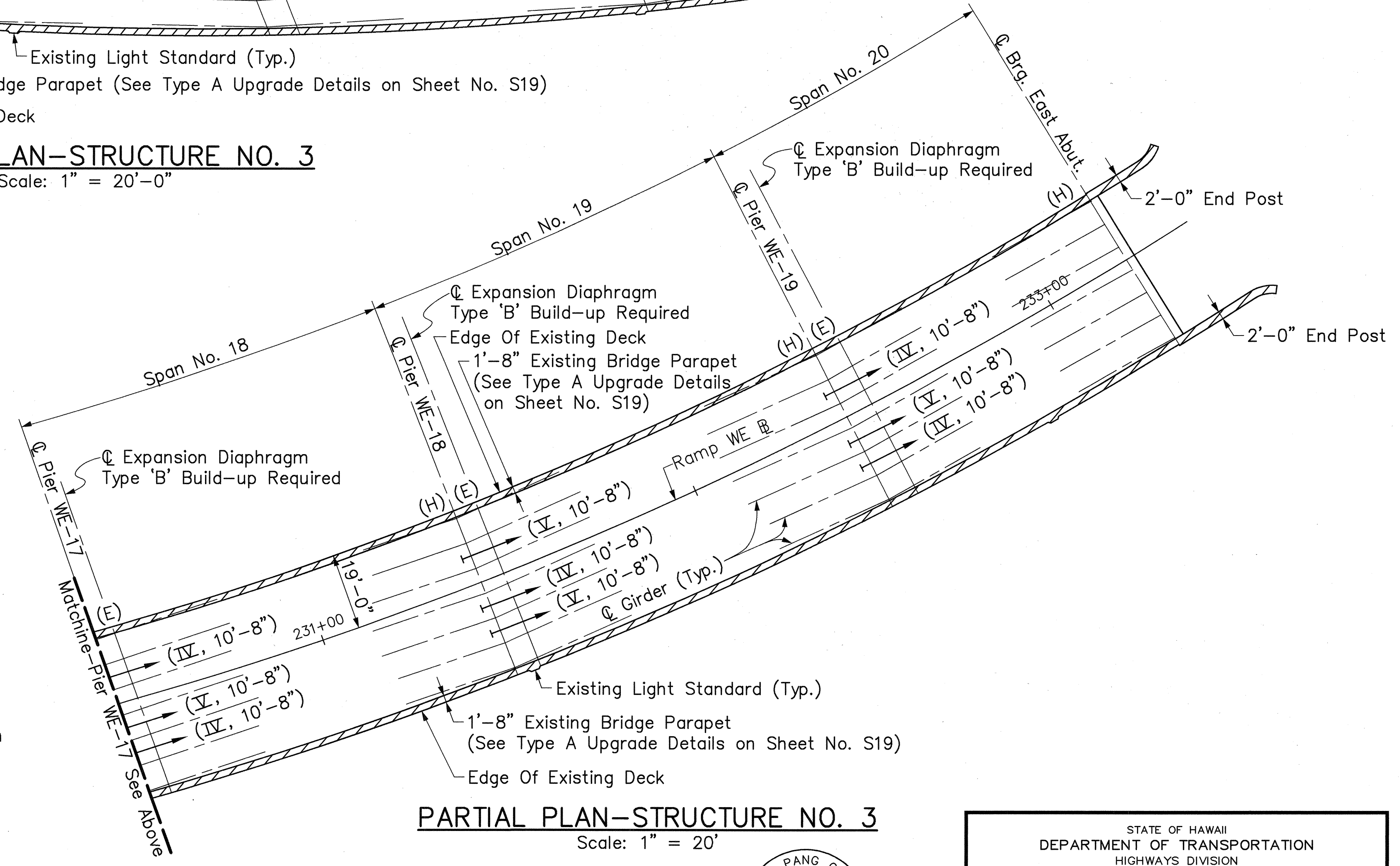
TYPICAL SECTION (NORMAL) PIER NOS. WE-5,6,8,9,10&12 FOR PARALLEL STRINGERS
Scale: 1/4" = 1'-0"



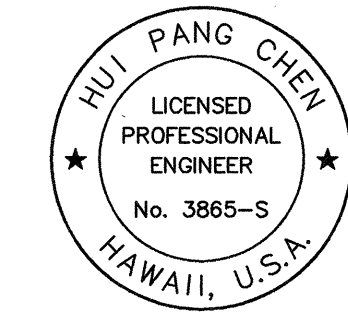
TYPICAL SECTION (NORMAL) ALL OTHER PIERS
Scale: 1/4" = 1'-0"



AT NORTH ABUTMENT
AT PIERS
EXCEPT PIER NOS. WE-5,6,8,9,10&12
LONGITUDINAL SECTION THROUGH BEARING
Scale: 1/4" = 1'-0"



PARTIAL PLAN-STRUCTURE NO. 3
Scale: 1" = 20'



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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

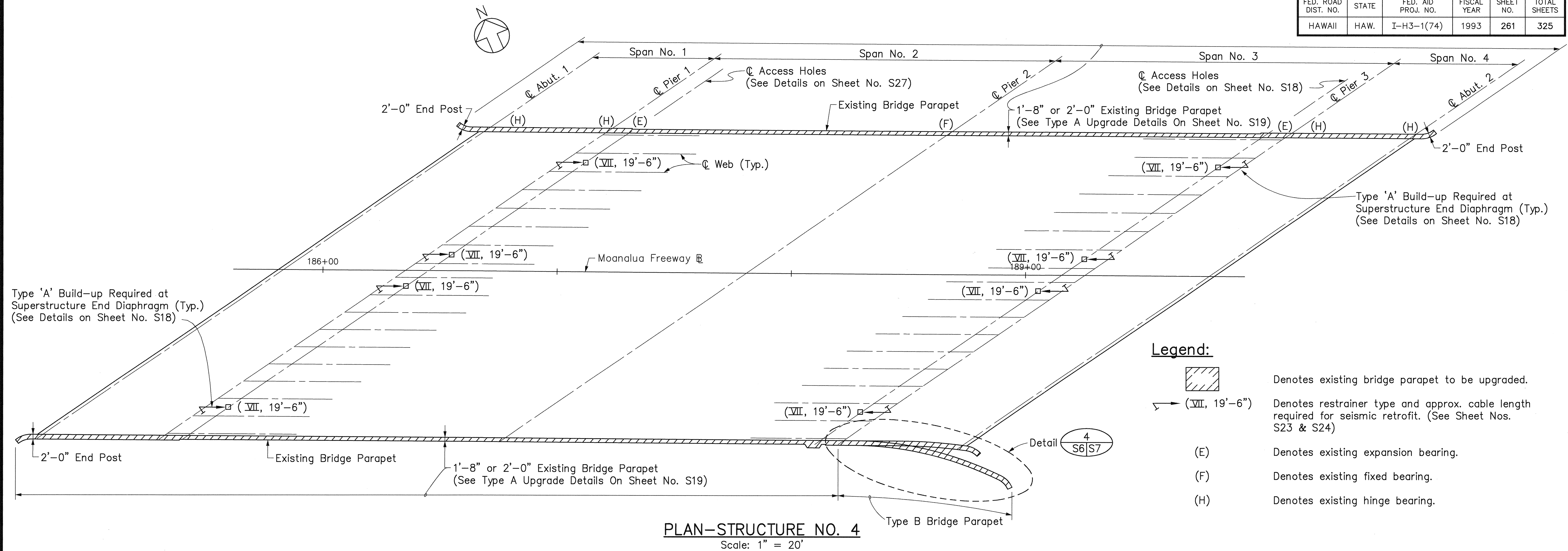
STRUCTURE NO. 3
PLAN AND SECTIONS-2
H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

SCALE: AS SHOWN
DATE: AUGUST 1994
SHEET NO. S5 OF 35 SHEETS

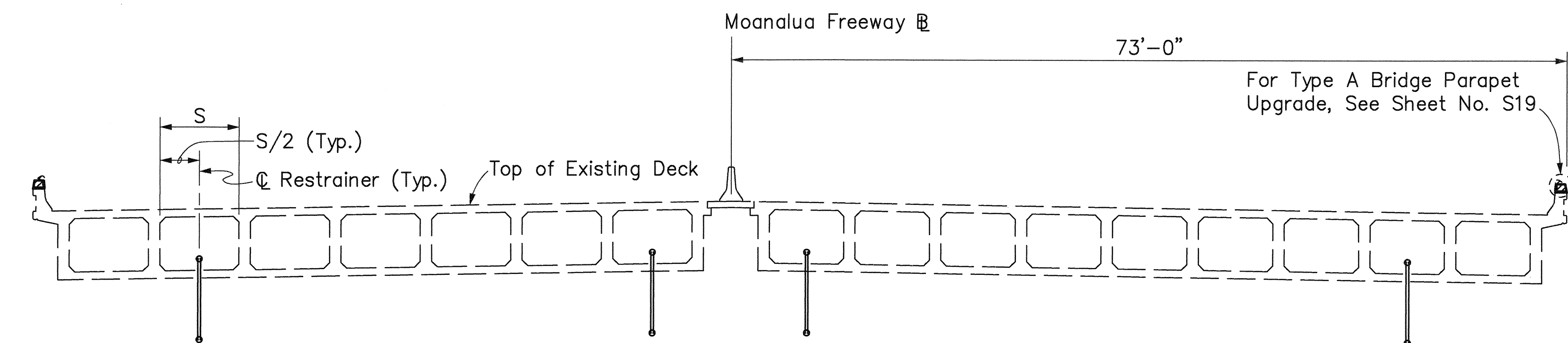
DATE: _____
DRAWN BY: _____
CHECKED BY: _____
DESIGNED BY: _____
QUANTITIES BY: _____
No. _____

CAD By: J. Minura, 55-52

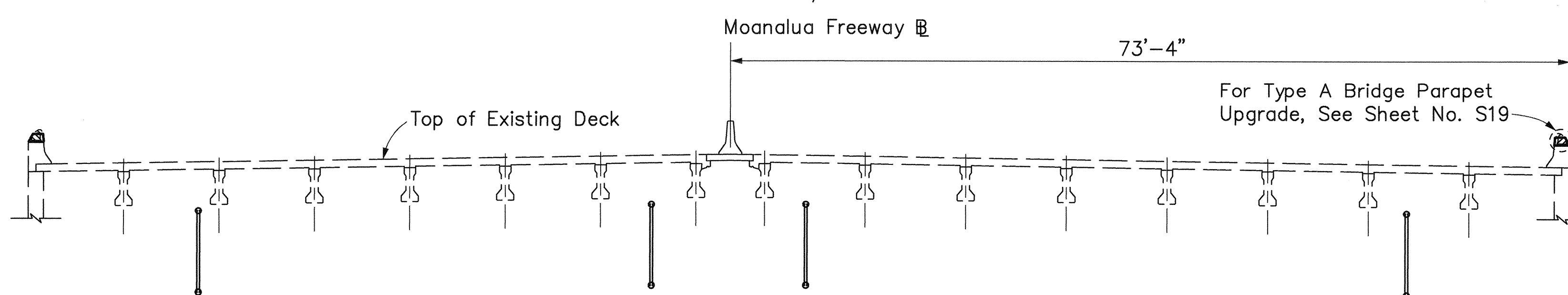
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	261	325



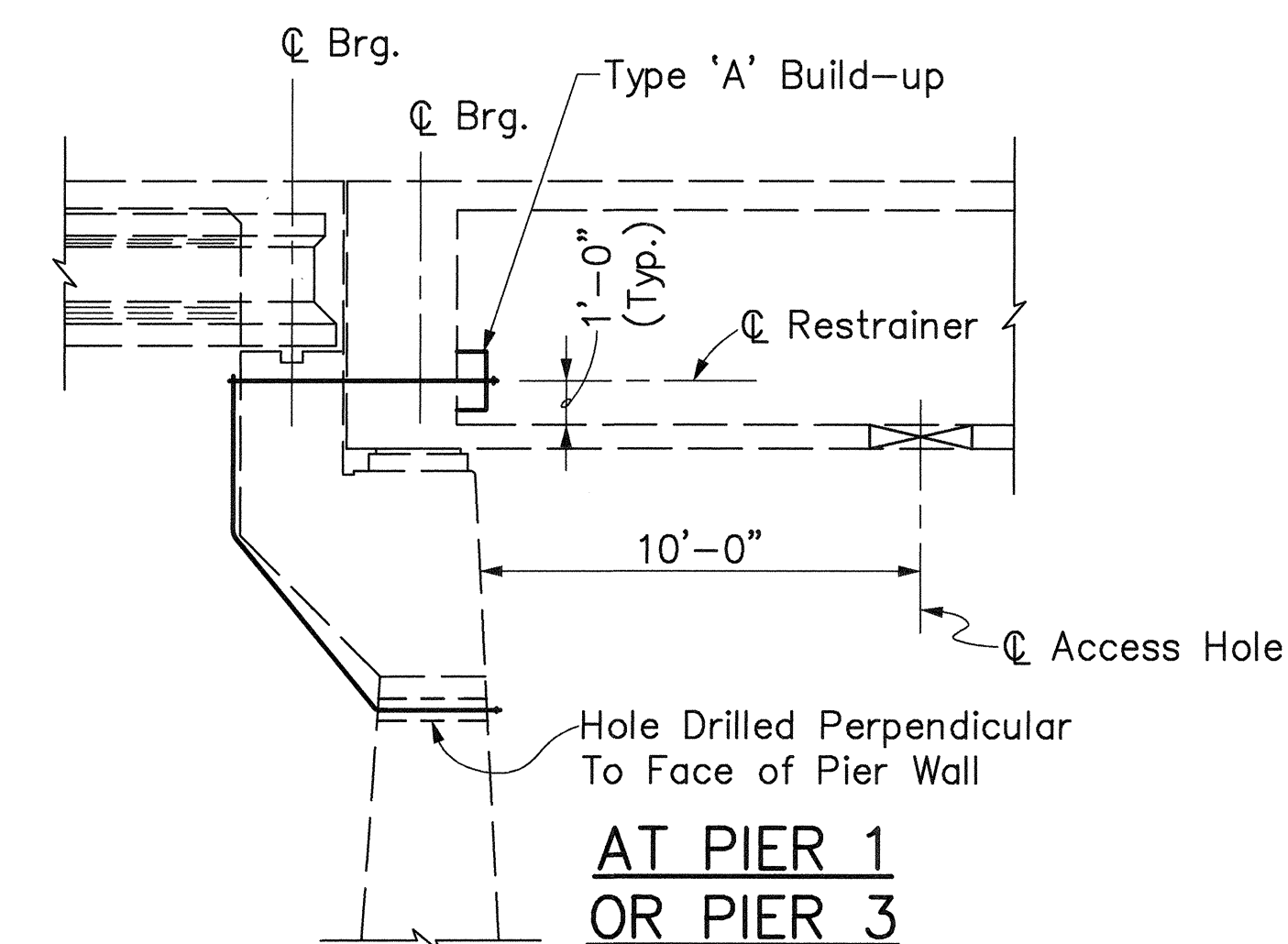
PLAN-STRUCTURE NO. 4
Scale: 1" = 20'



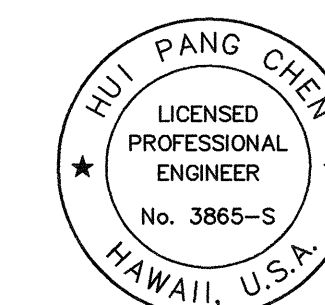
TYPICAL SECTION (NORMAL) SPAN NOS. 2 & 3
Scale: 1/8" = 1'-0"



TYPICAL SECTION (NORMAL) SPAN NOS. 1 & 4
Scale: 1/8" = 1'-0"



LONGITUDINAL SECTION THROUGH BEARING
Scale: 1/4" = 1'-0"



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2/27/95	Revised number of restrainers
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE NO. 4
PLAN AND SECTIONS

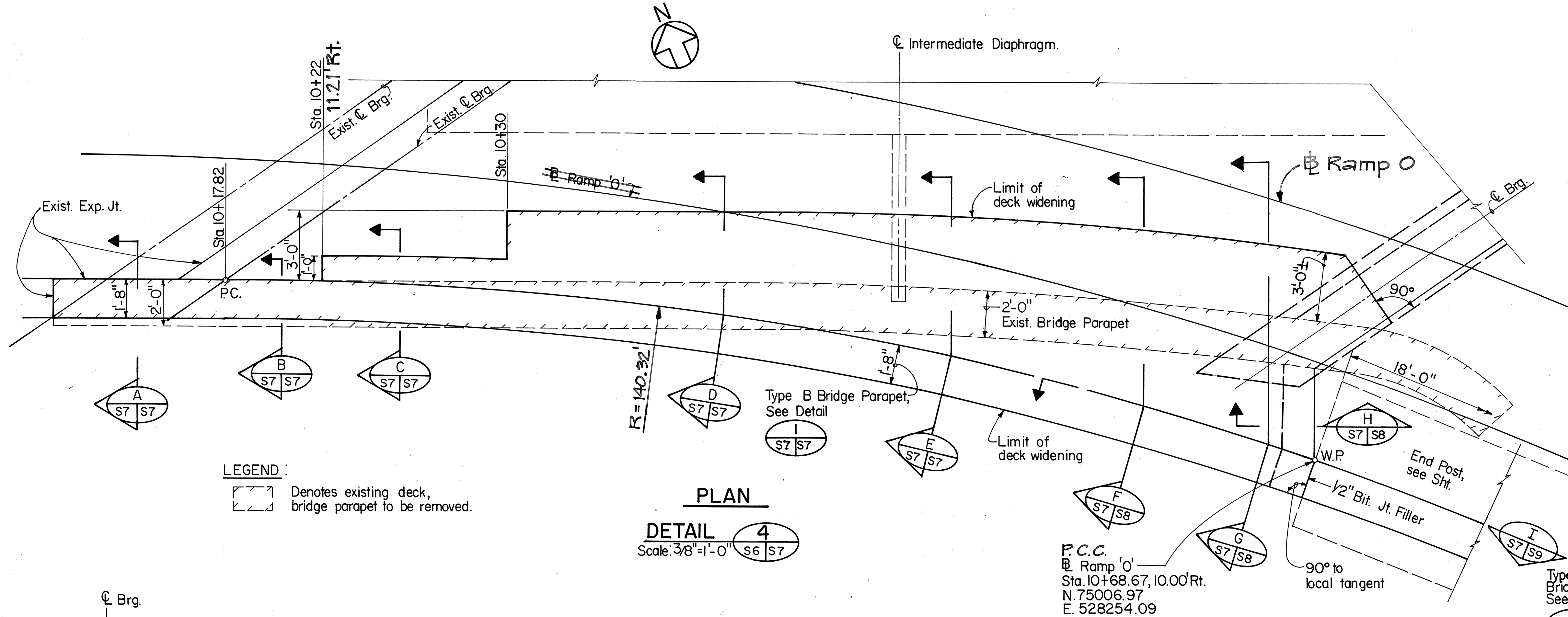
H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

SCALE: AS SHOWN DATE: AUGUST 1994

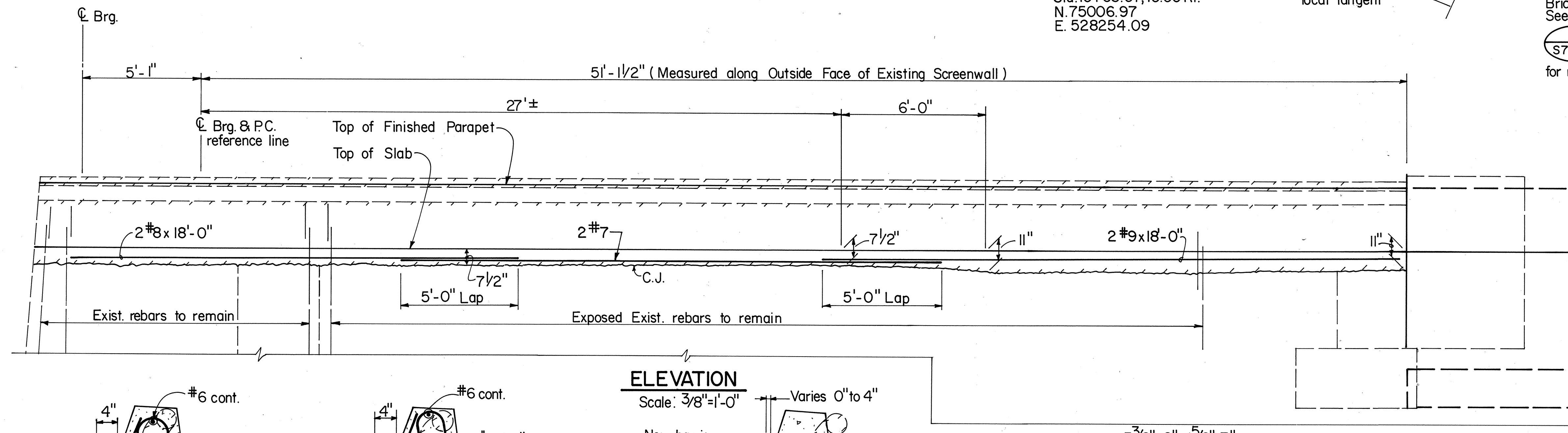
SHEET NO. S6 OF 35 SHEETS

ADD. 261

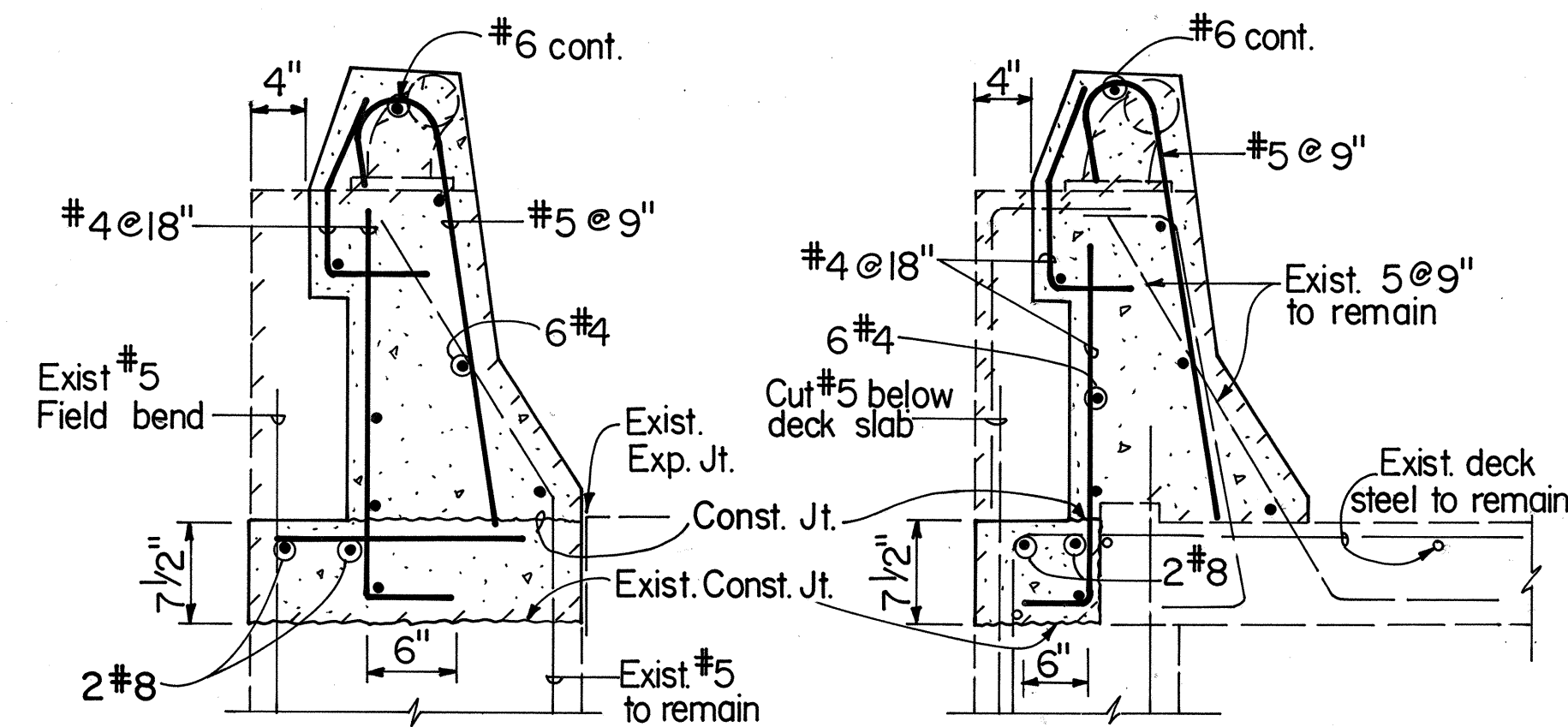
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	262	325



PLAN
DETAIL 4
Scale: 3/8"=1'-0"

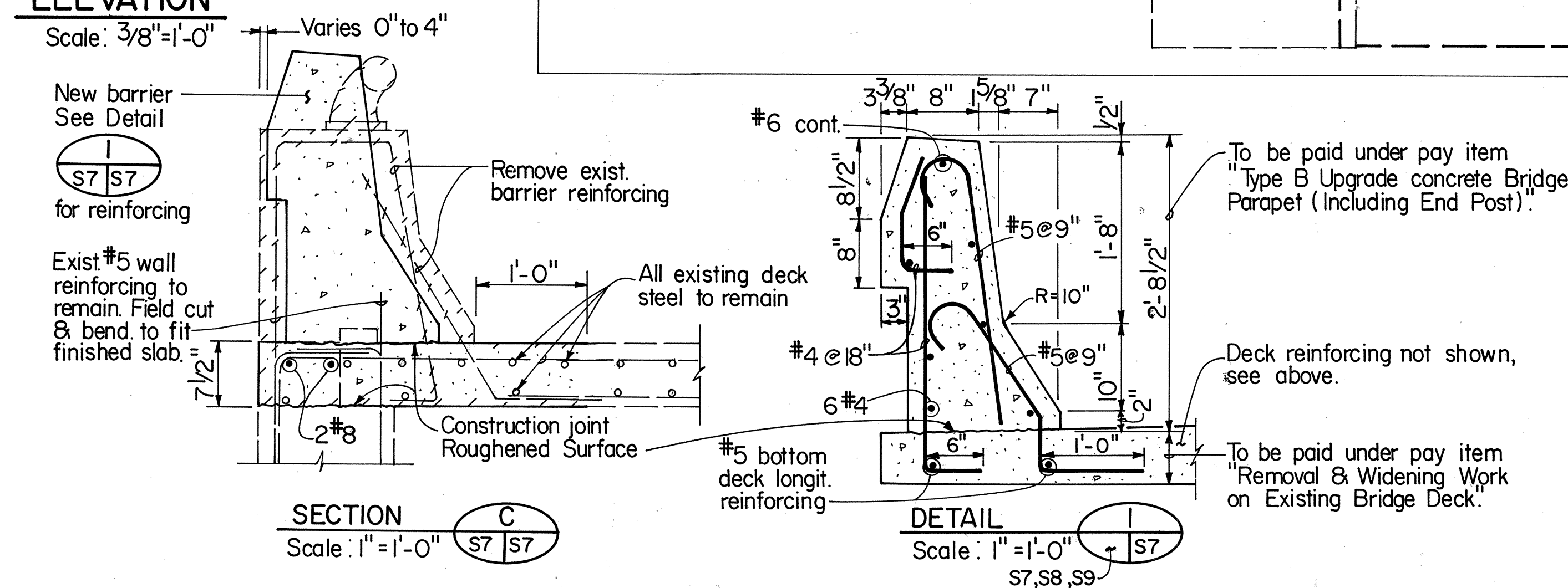


ELEVATION
Scale: 3/8"=1'-0"



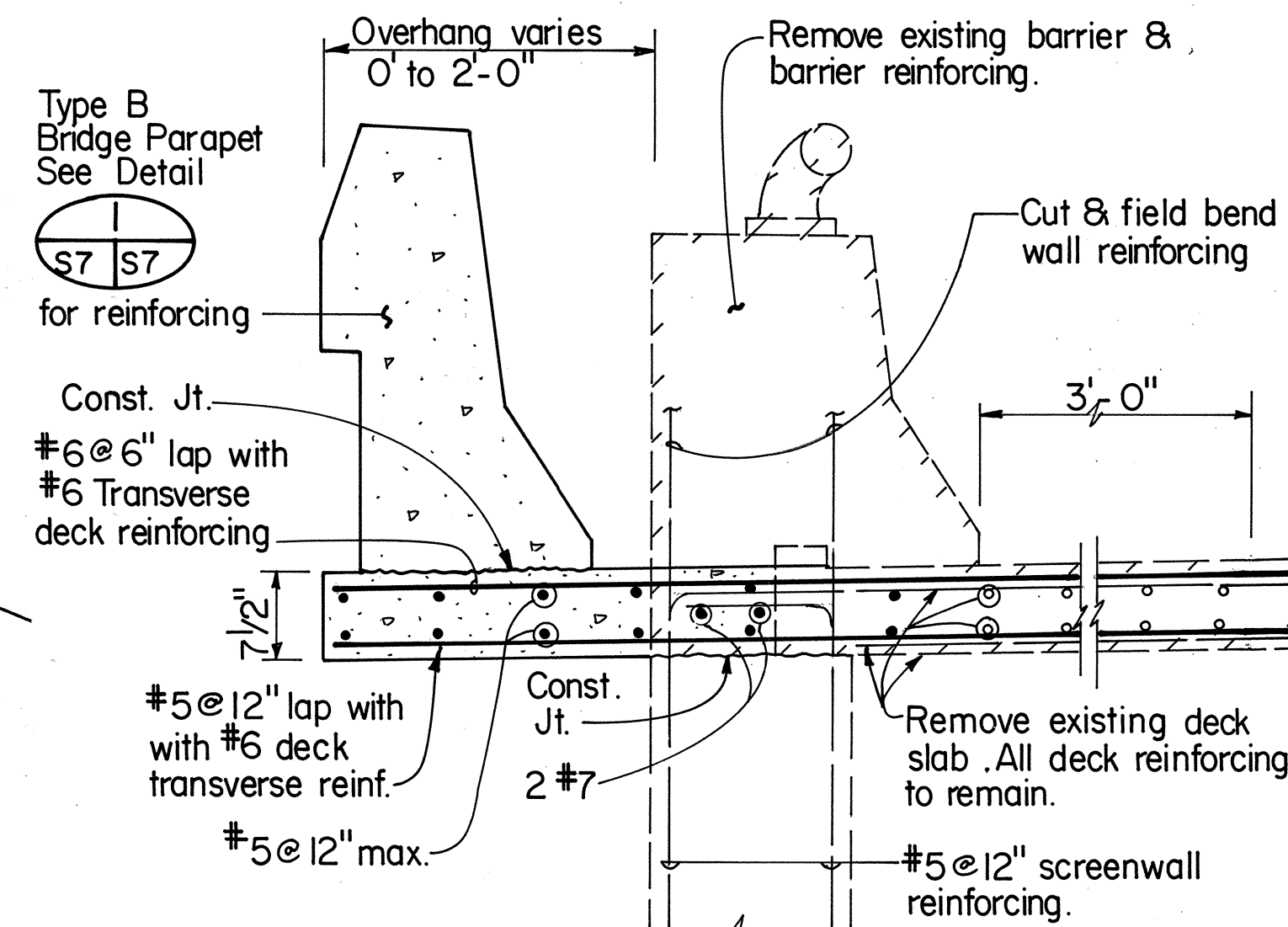
SECTION A
Scale: 1"=1'-0"

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

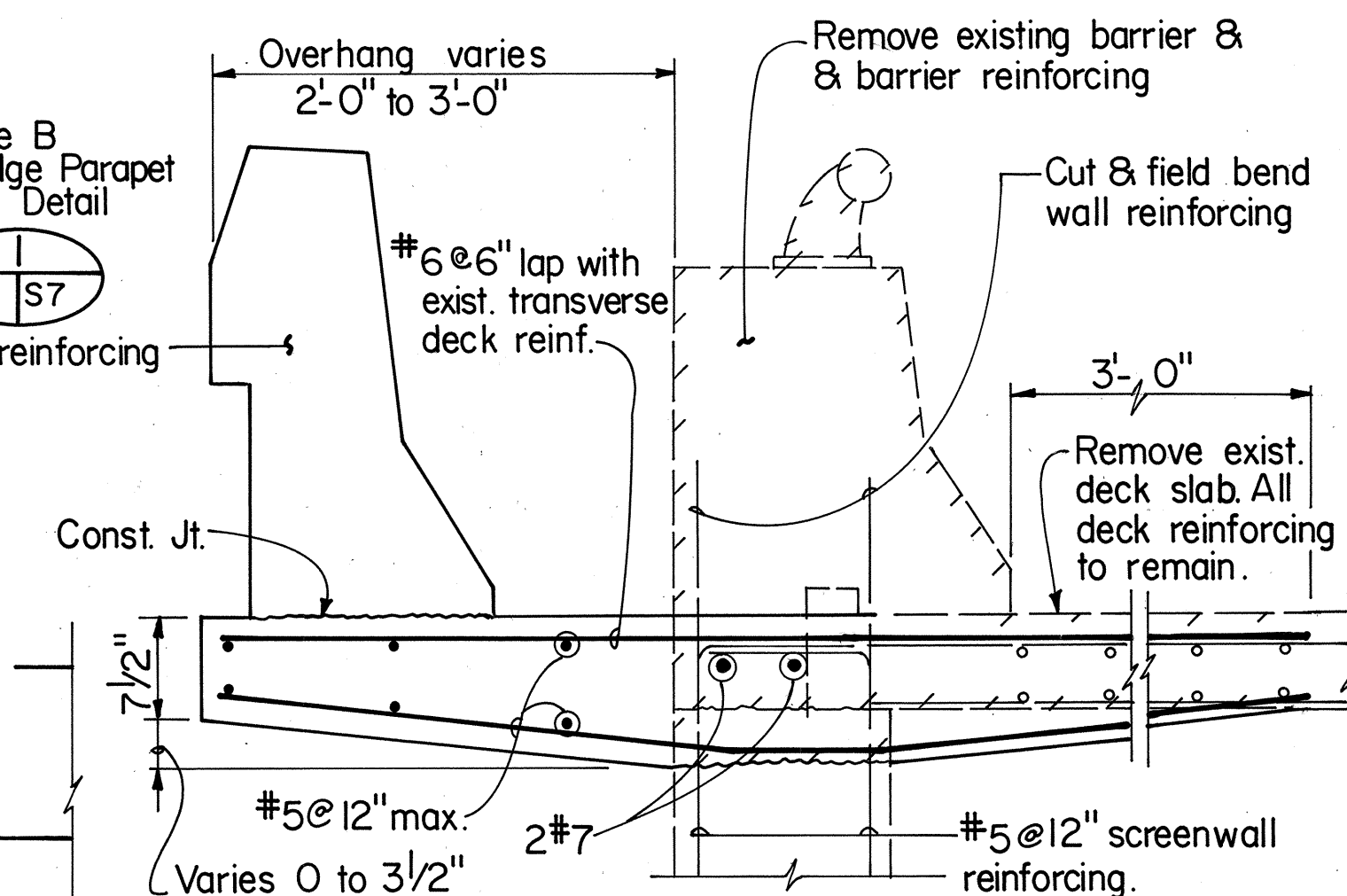


SECTION C
Scale: 1"=1'-0"

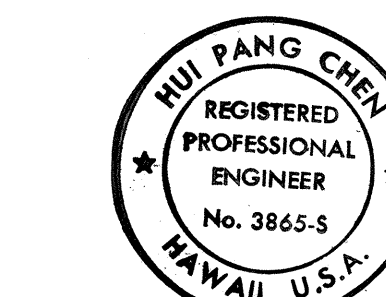
DETAIL 1
Scale: 1"=1'-0"



SECTION D
Scale: 1"=1'-0"



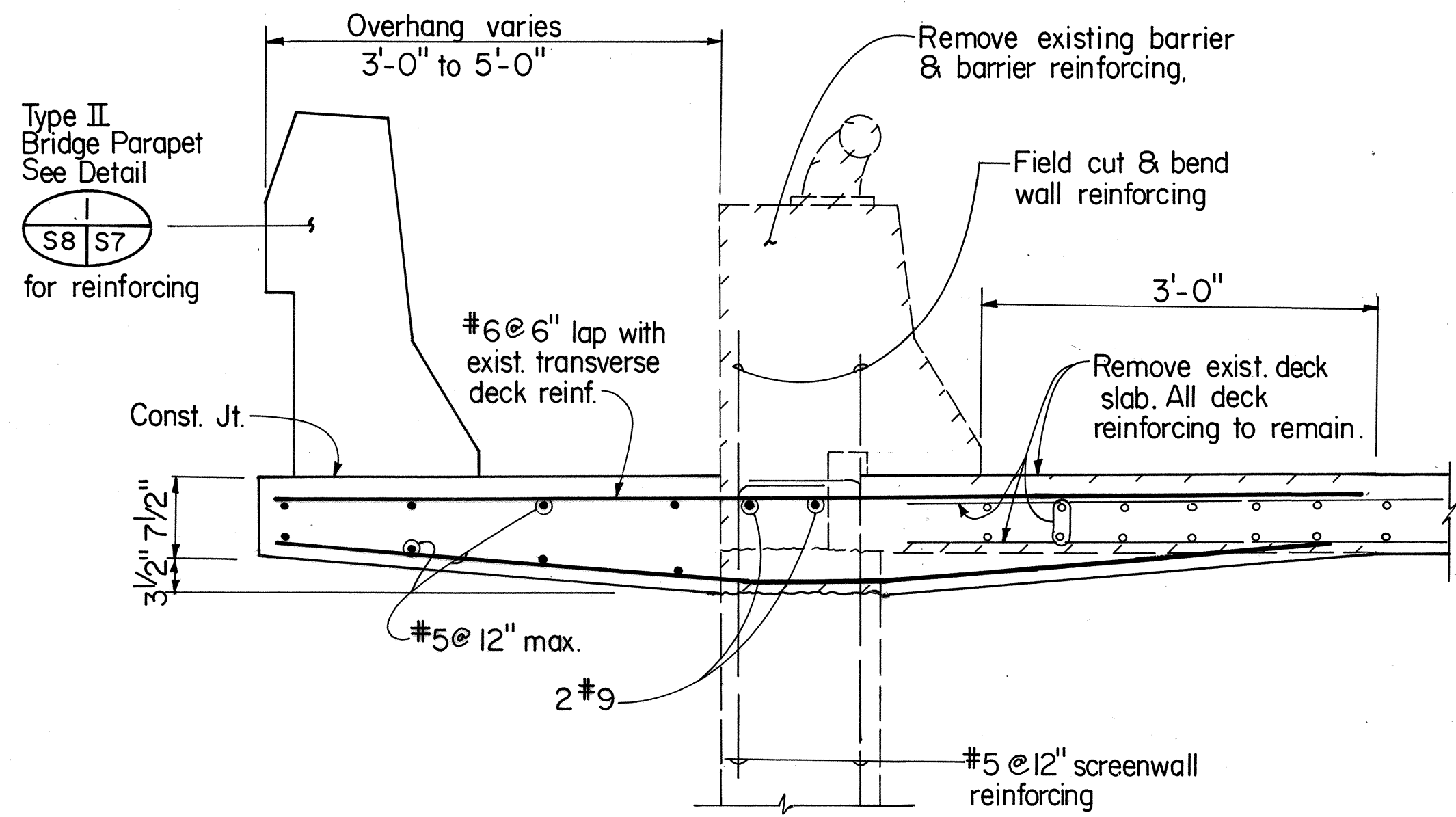
SECTION E
Scale: 1"=1'-0"



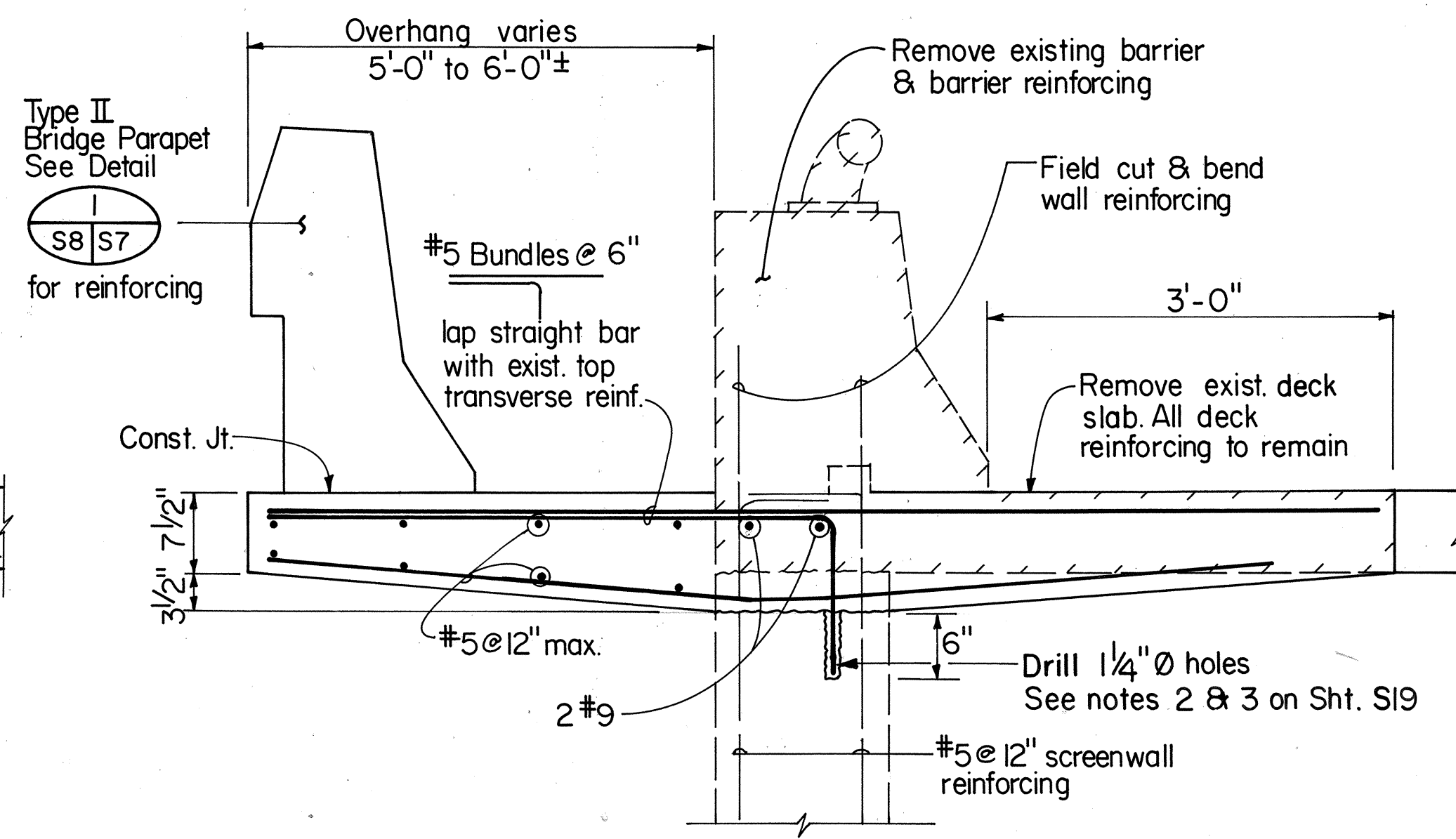
THIS WORK WAS PREPARED BY ME
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STRUCTURE NO. 4
DECK WIDENING DETAILS -1
H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)
SCALE: AS SHOWN DATE: AUG 1996
SHEET NO. S7 OF 35 SHEETS

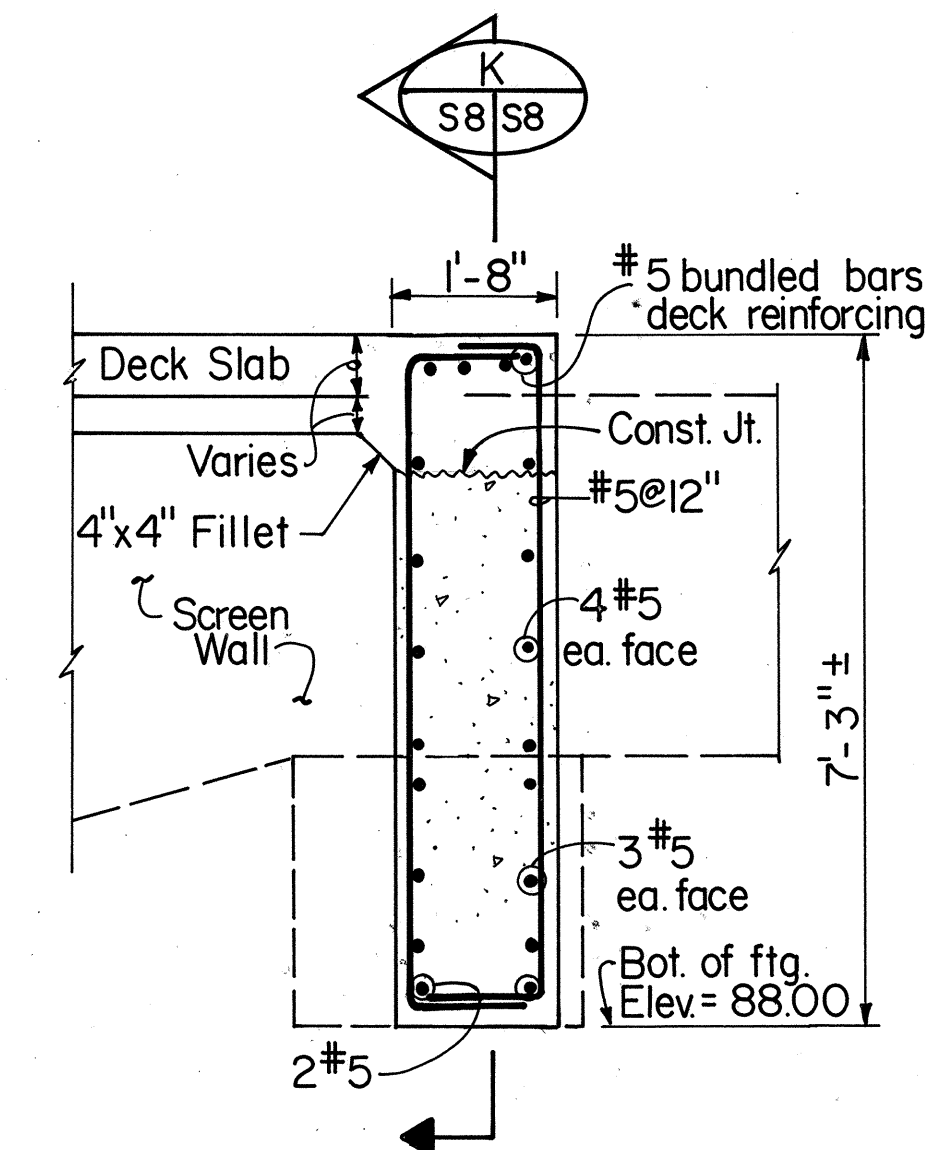
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (74)	1993	263	325



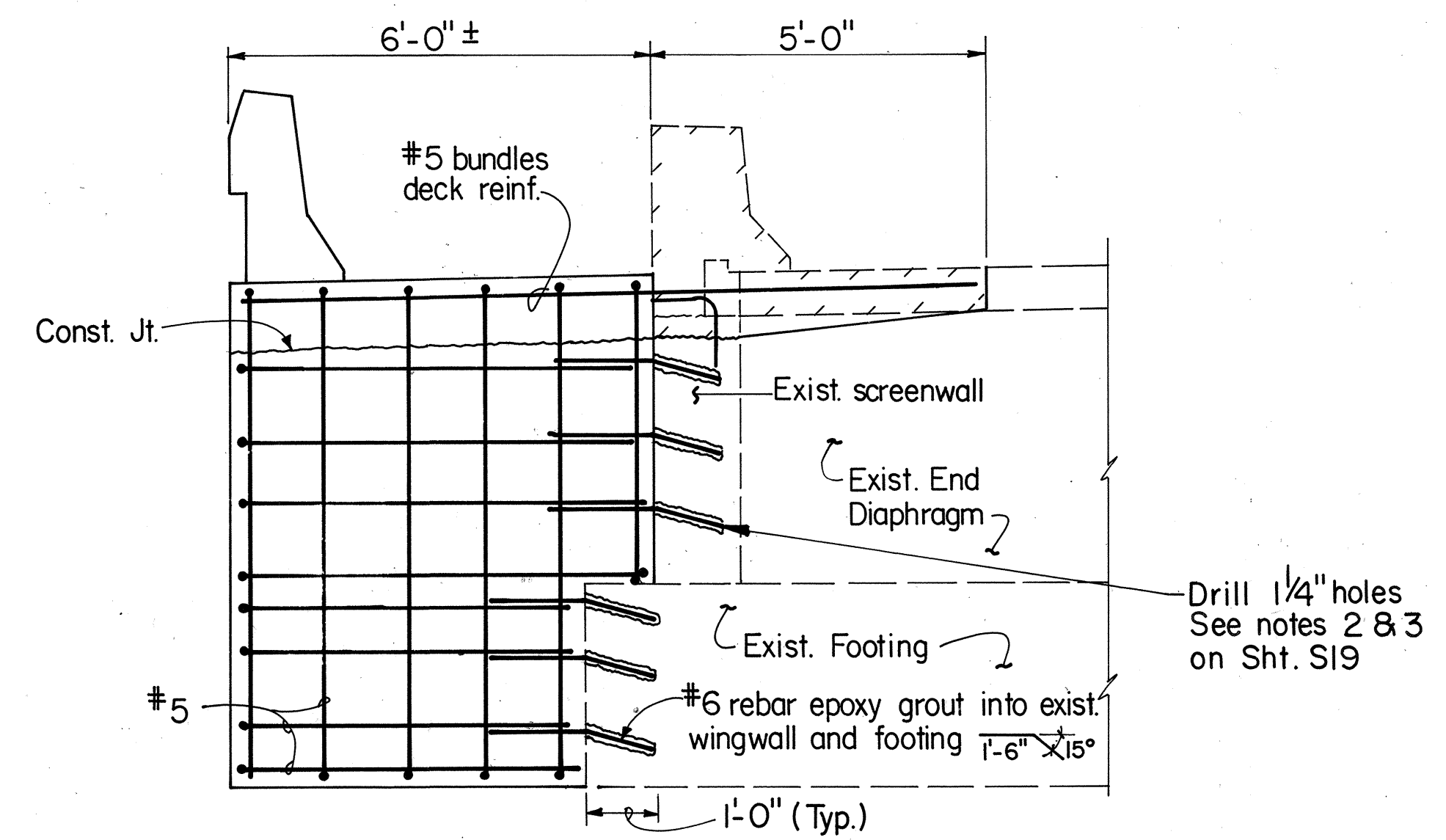
SECTION F
Scale: 1"=1'-0" S7 S8



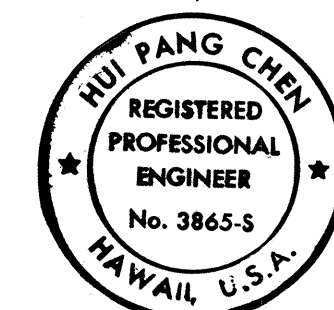
SECTION G
Scale: 1"=1'-0" S7 S8



SECTION H
Scale: 1/2"=1'-0" S7 S8



SECTION K
Scale: 1/2"=1'-0" S8 S8



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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE NO.4
DECK WIDENING DETAILS -2

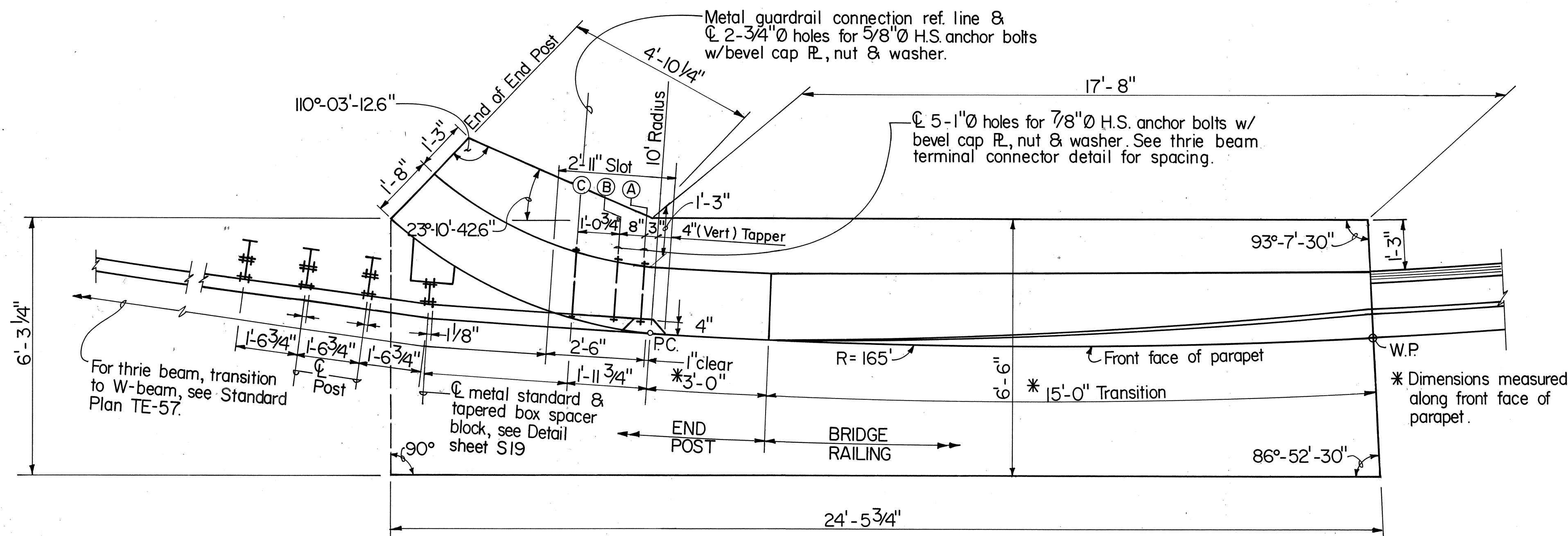
H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1 (74)

SCALE: AS SHOWN DATE: AUG 1994

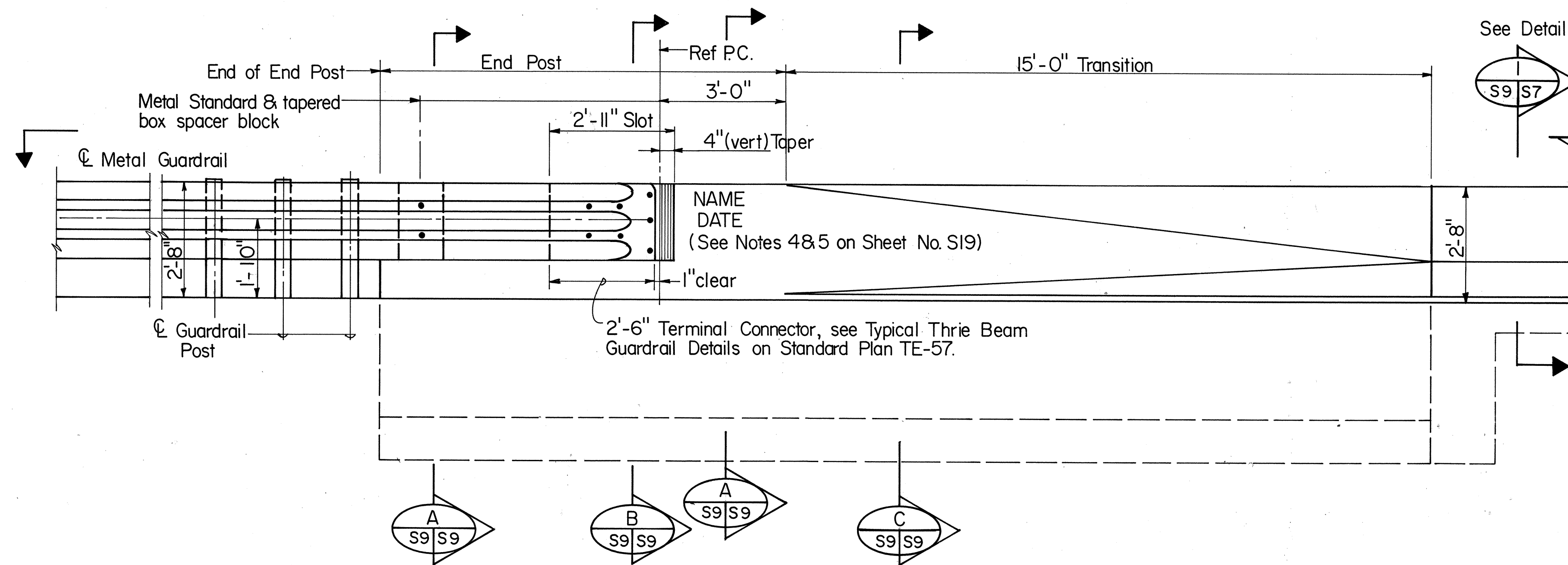
SHEET No. S8 OF 35 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I- H3-1(74)	1993	264	325

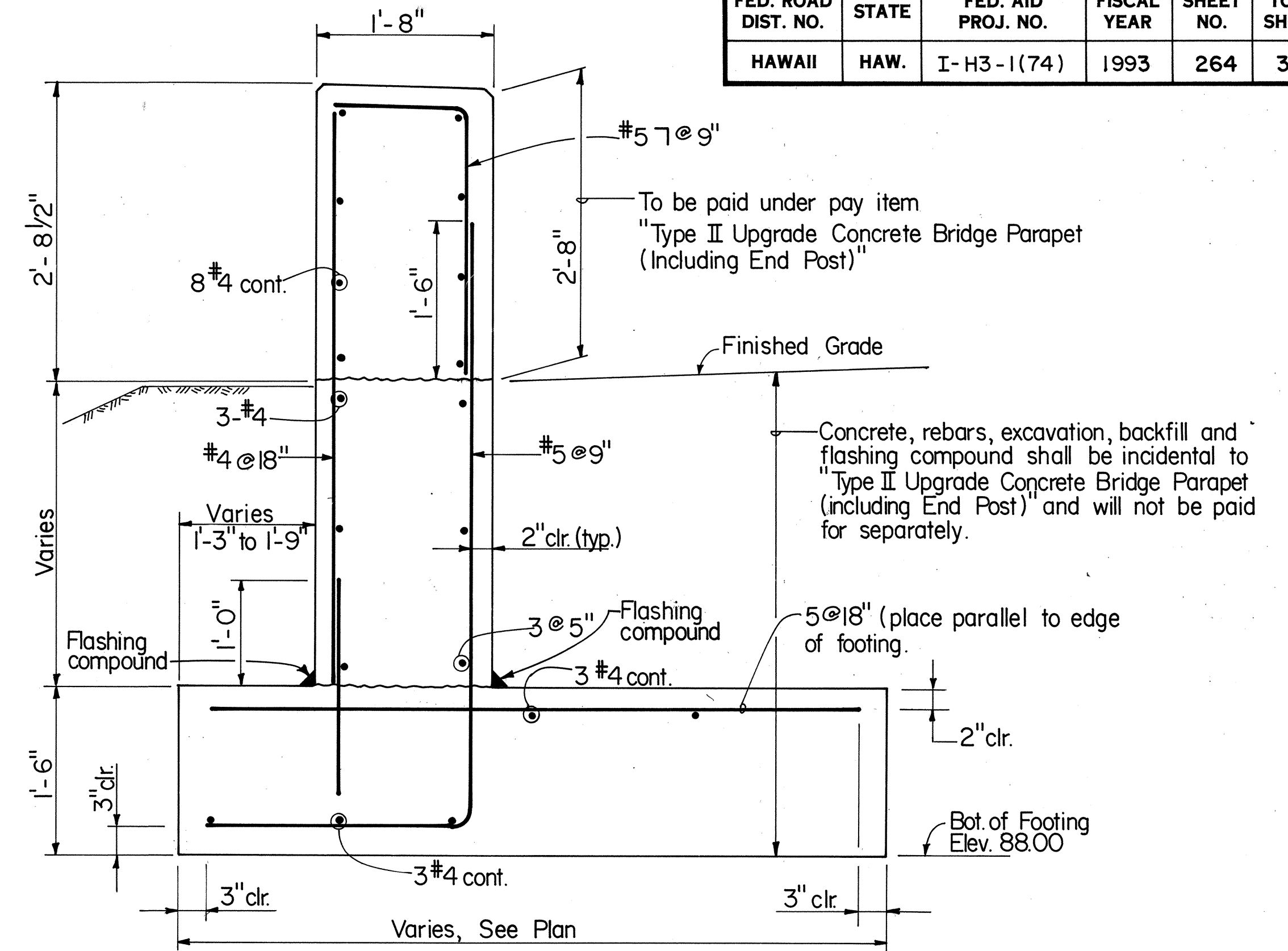


VIEW
S9/S9

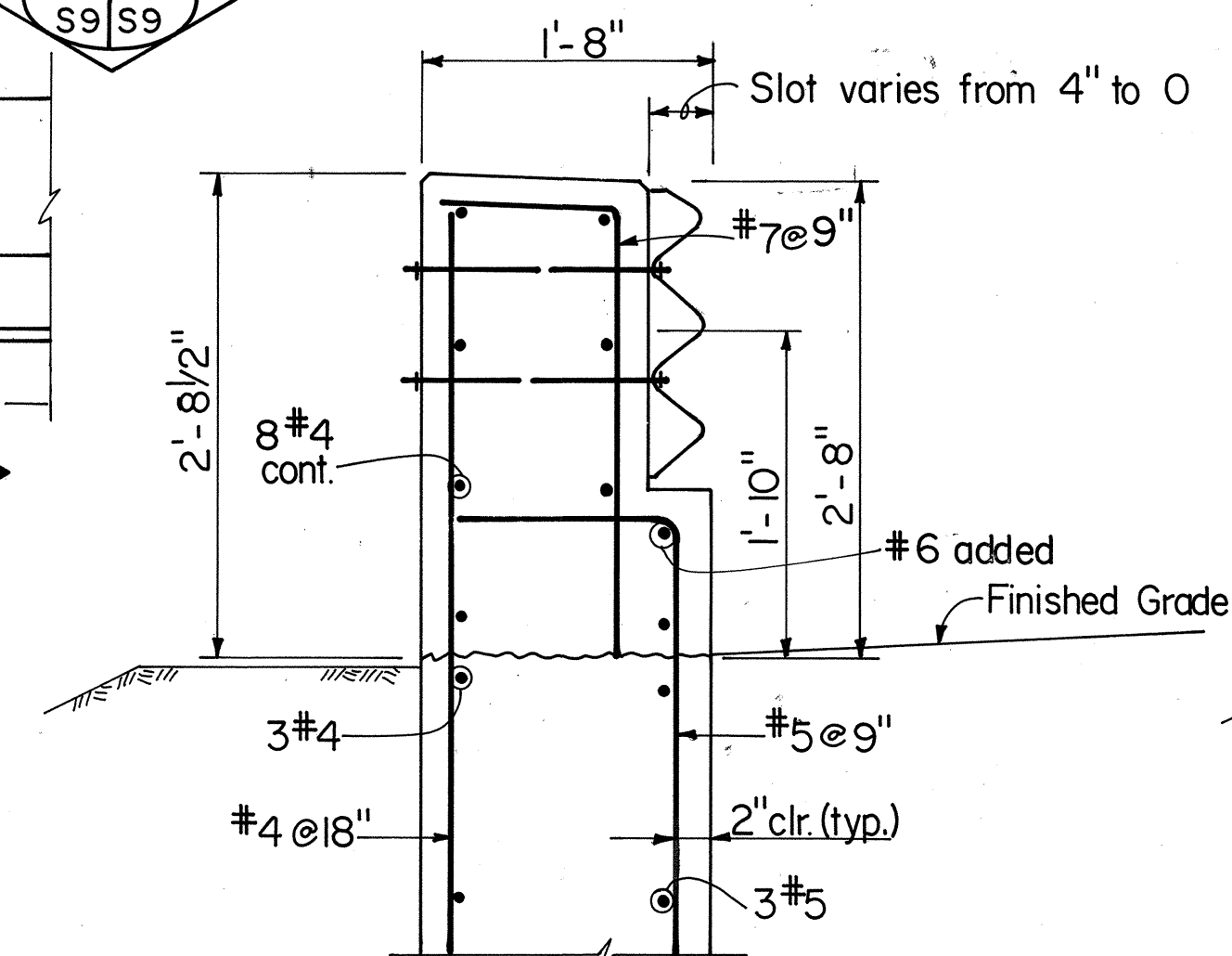


SECTION
S7/S9

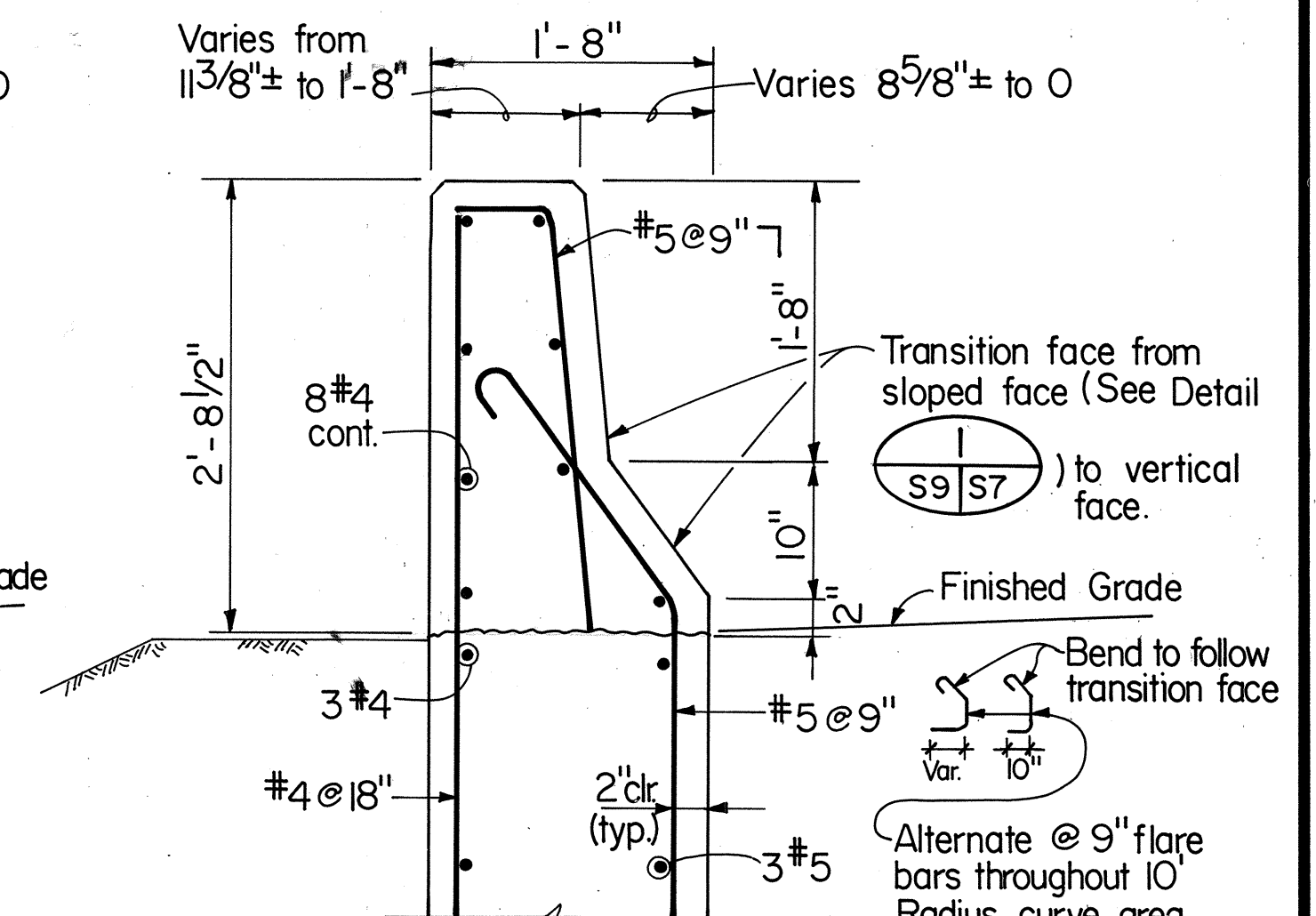
TYPE B BRIDGE PARAPET AND END POST
Scale: 1/2"=1'-0"



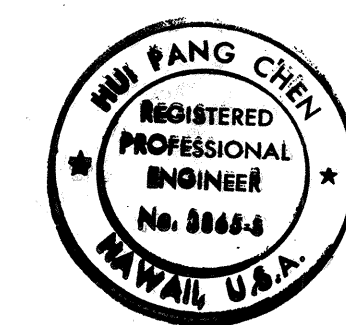
SECTION
Scale: 1"=1'-0"



SECTION
Scale: 1"=1'-0"



SECTION
Scale: 1"=1'-0"



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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

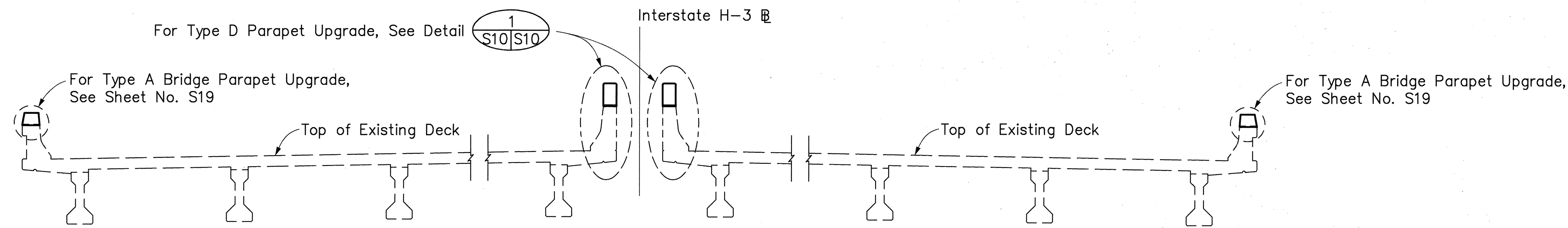
STRUCTURE NO. 4
DECK WIDENING DETAILS - 3

H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

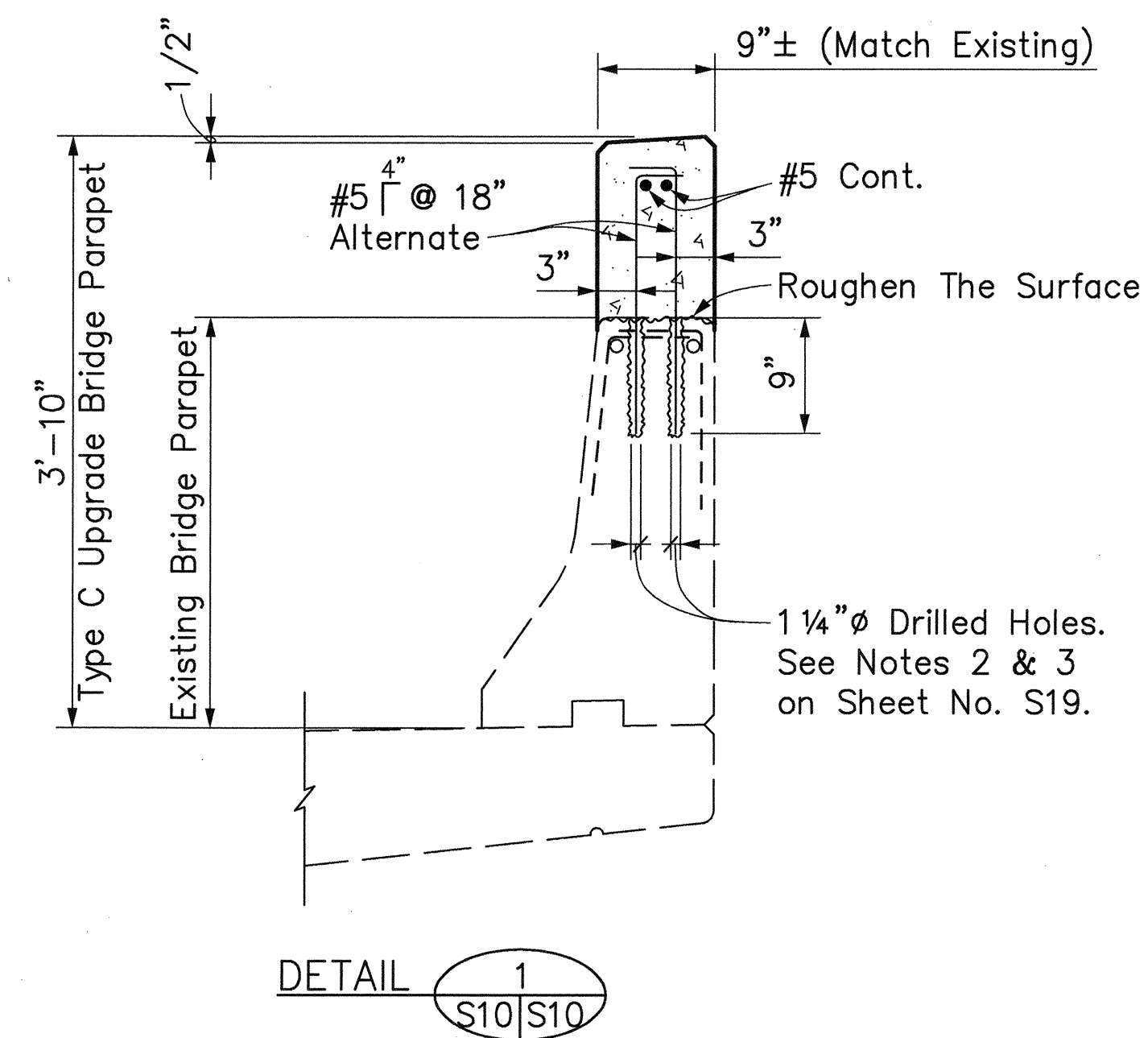
SCALE: AS SHOWN DATE: AUG 1994

SHEET No. S9 OF 35 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	265	325



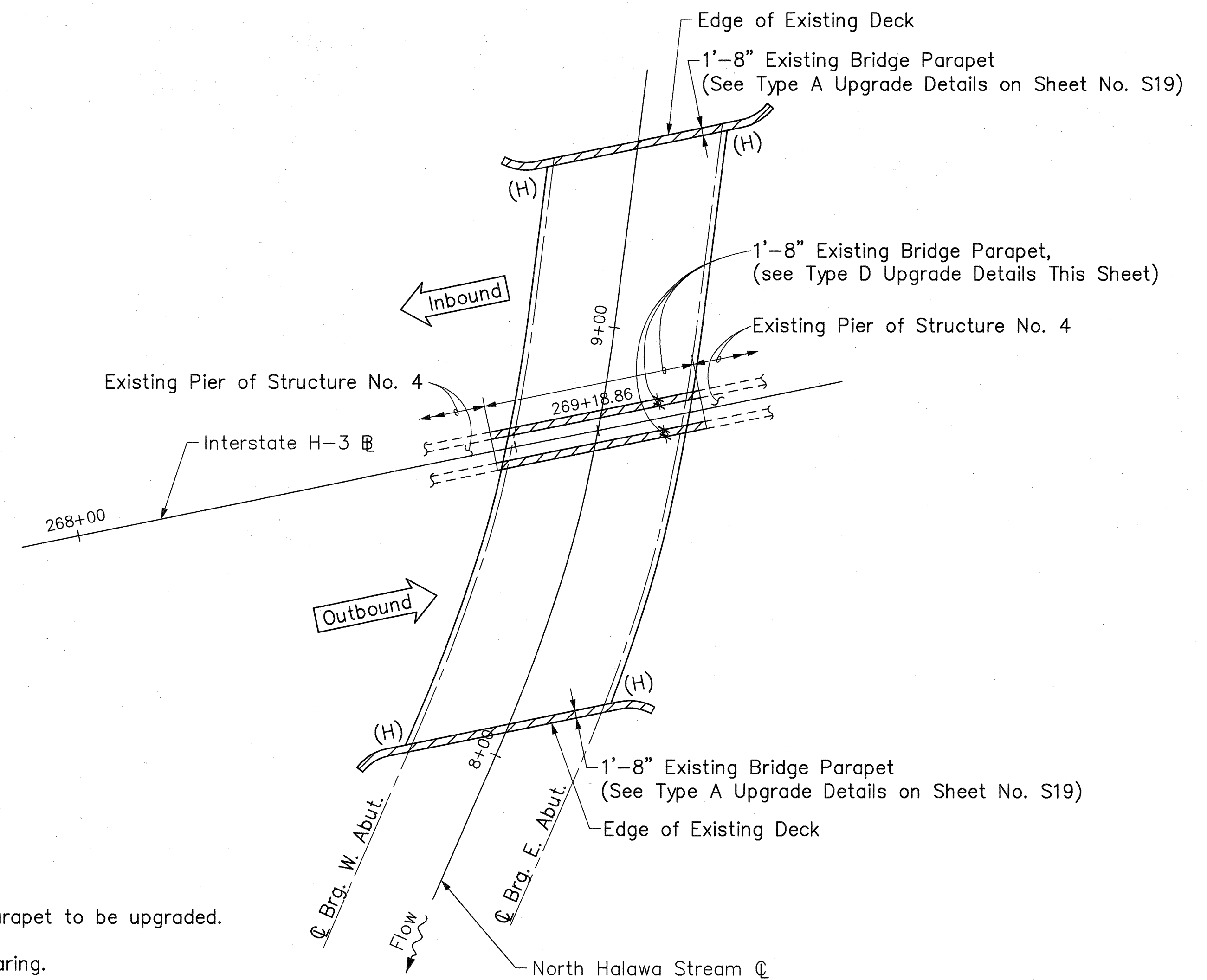
NORMAL BRIDGE SECTION
Scale: 1/4" = 1'-0"



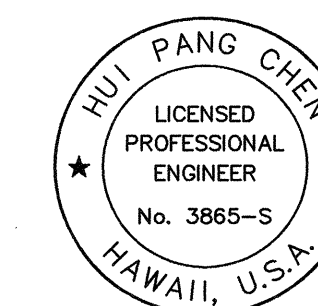
TYPE D PARAPET UPGRADE
Scale: 1" = 1'-0"

Legend:

-  Denotes existing bridge parapet to be upgraded.
- (H) Denotes existing hinge bearing.



PLAN-STRUCTURE NO. 5
Scale: 1" = 20'



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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

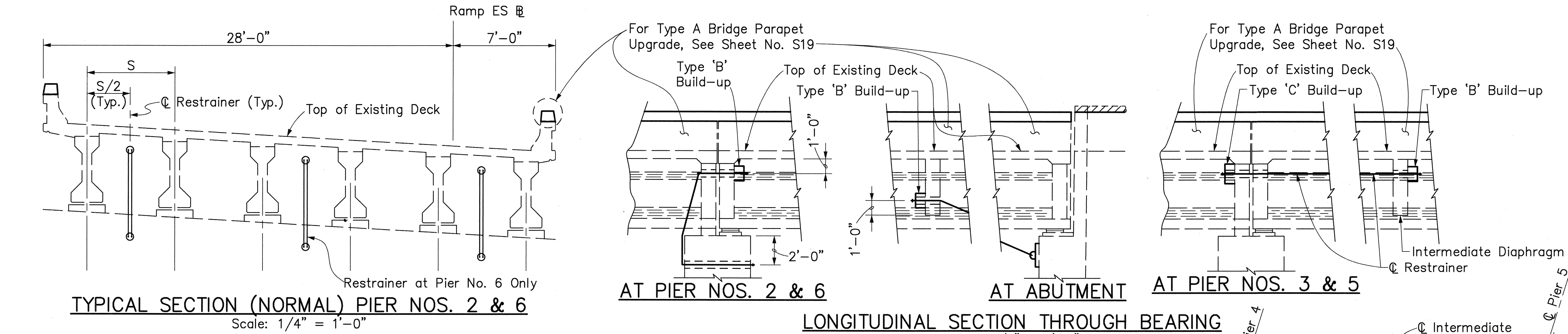
**STRUCTURE NO. 5
PLAN AND SECTIONS**

H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

SCALE: AS SHOWN DATE: AUGUST 1994
SHEET NO. S10 OF 35 SHEETS

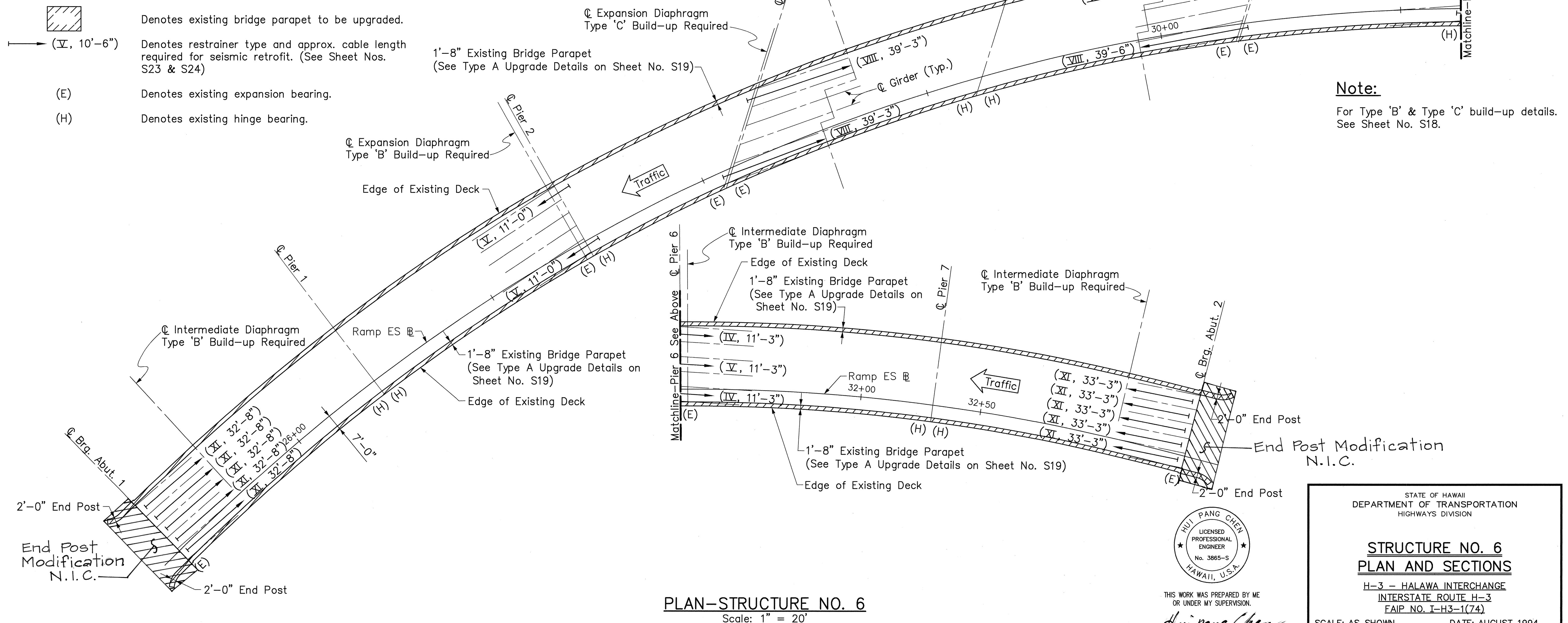
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	266	325



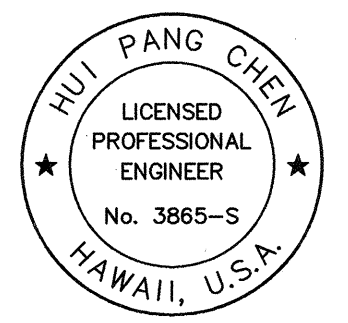
Legend:

- Denotes existing bridge parapet to be upgraded.
- Denotes restrainer type and approx. cable length required for seismic retrofit. (See Sheet Nos. S23 & S24)
- (E) Denotes existing expansion bearing.
- (H) Denotes existing hinge bearing.



Note:

For Type 'B' & Type 'C' build-up details. See Sheet No. S18.



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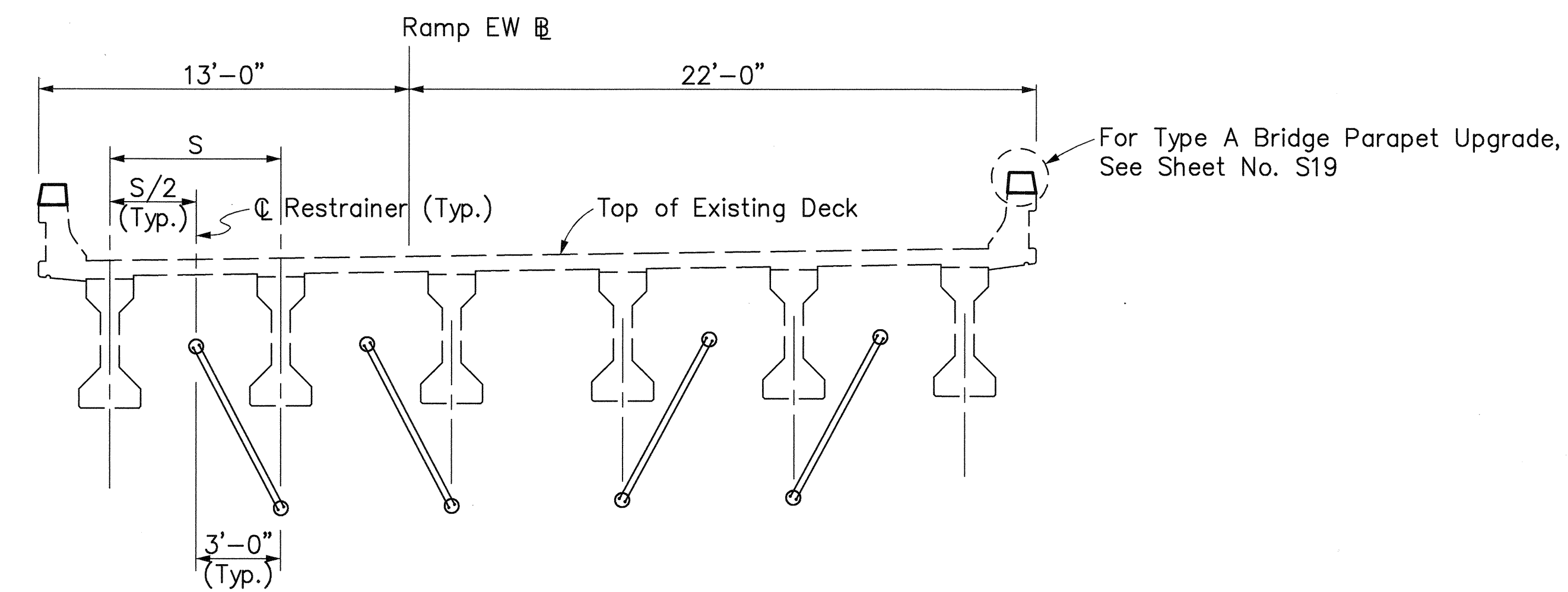
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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

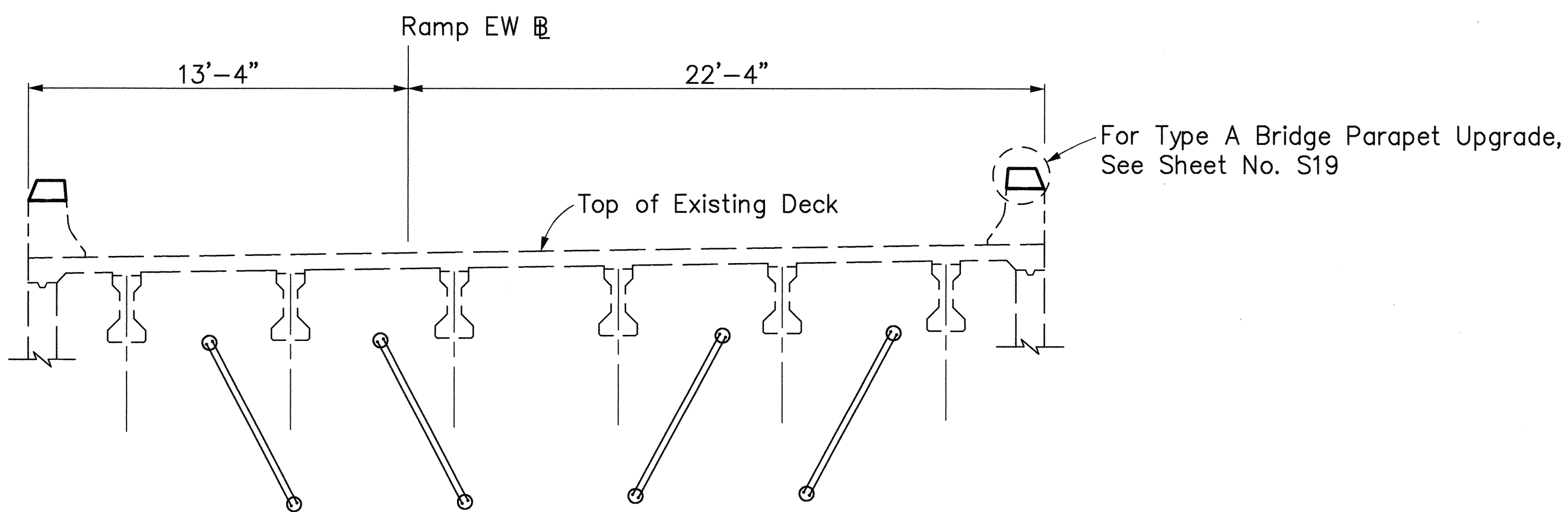
STRUCTURE NO. 6
PLAN AND SECTIONS
H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

SCALE: AS SHOWN
DATE: AUGUST 1994
SHEET NO. S11 OF 35 SHEETS

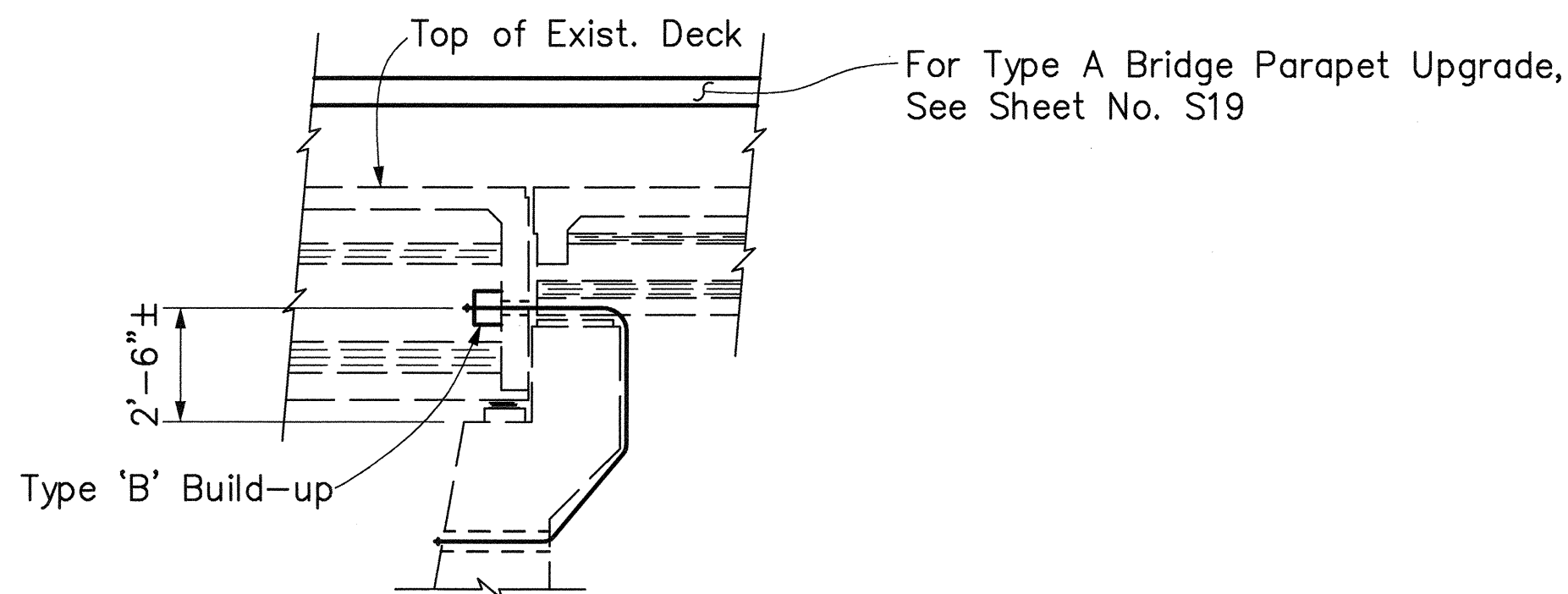
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	267	325



NORMAL DECK SECTION AT SPAN NOS. 2 & 3
Scale: 1/4" = 1'-0"

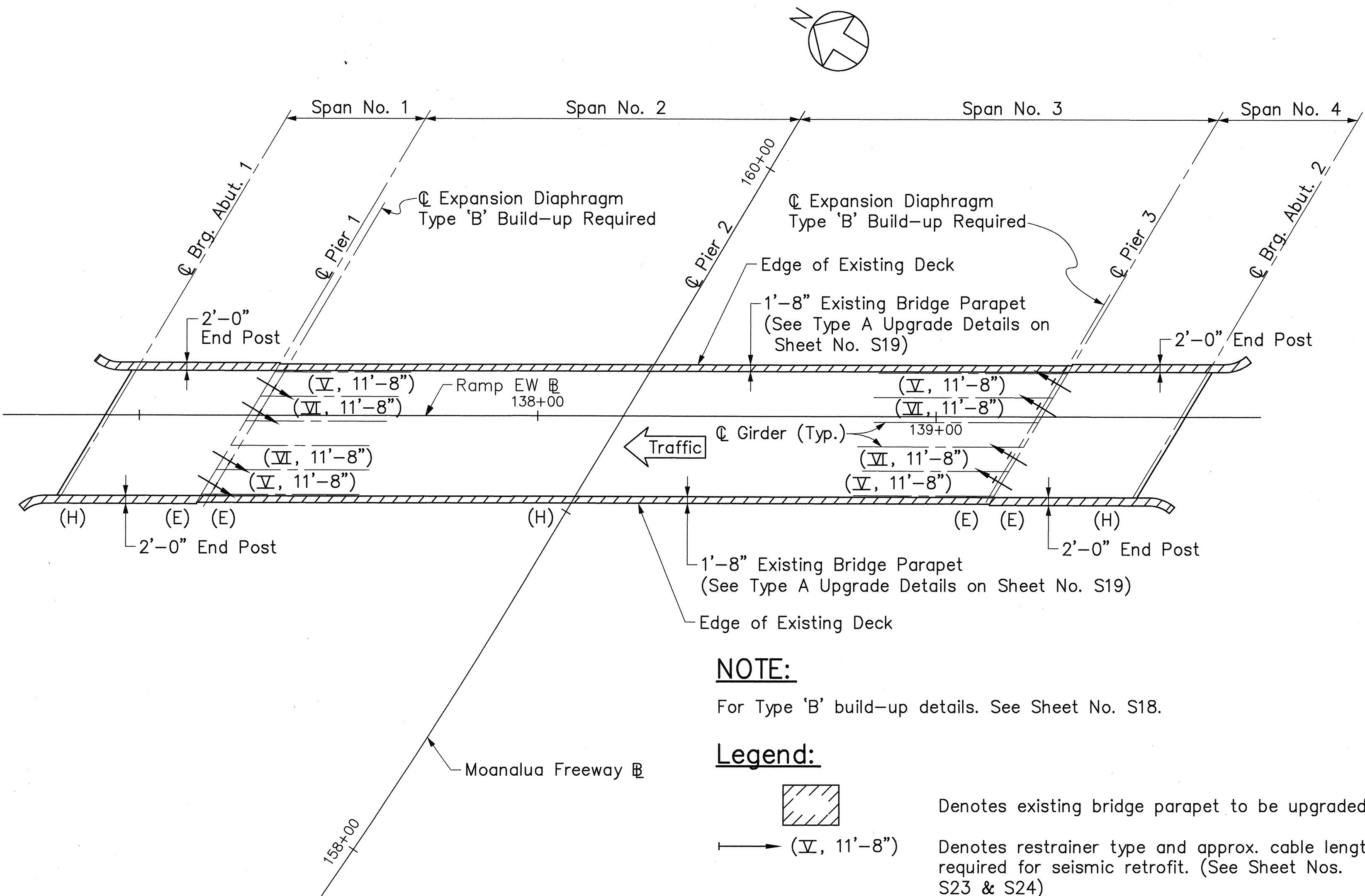


NORMAL DECK SECTION AT SPAN NOS. 1 & 4
Scale: 1/4" = 1'-0"



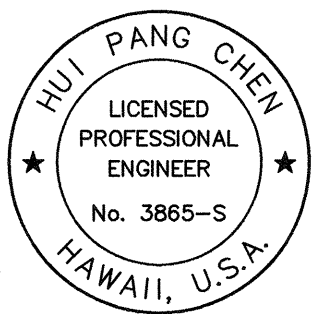
AT PIER #3 (AS SHOWN)
AT PIER #1 (SIMILAR EXCEPT OPPOSITE HAND)

LONGITUDINAL SECTION THROUGH BEARING
Scale: 1/4" = 1'-0"



PLAN-STRUCTURE NO. 7
Scale: 1" = 20'

- NOTE:**
For Type 'B' build-up details. See Sheet No. S18.
- Legend:**
- Denotes existing bridge parapet to be upgraded.
 - Denotes retractor type and approx. cable length required for seismic retrofit. (See Sheet Nos. S23 & S24)
 - (E) Denotes existing expansion bearing.
 - (H) Denotes existing hinge bearing.



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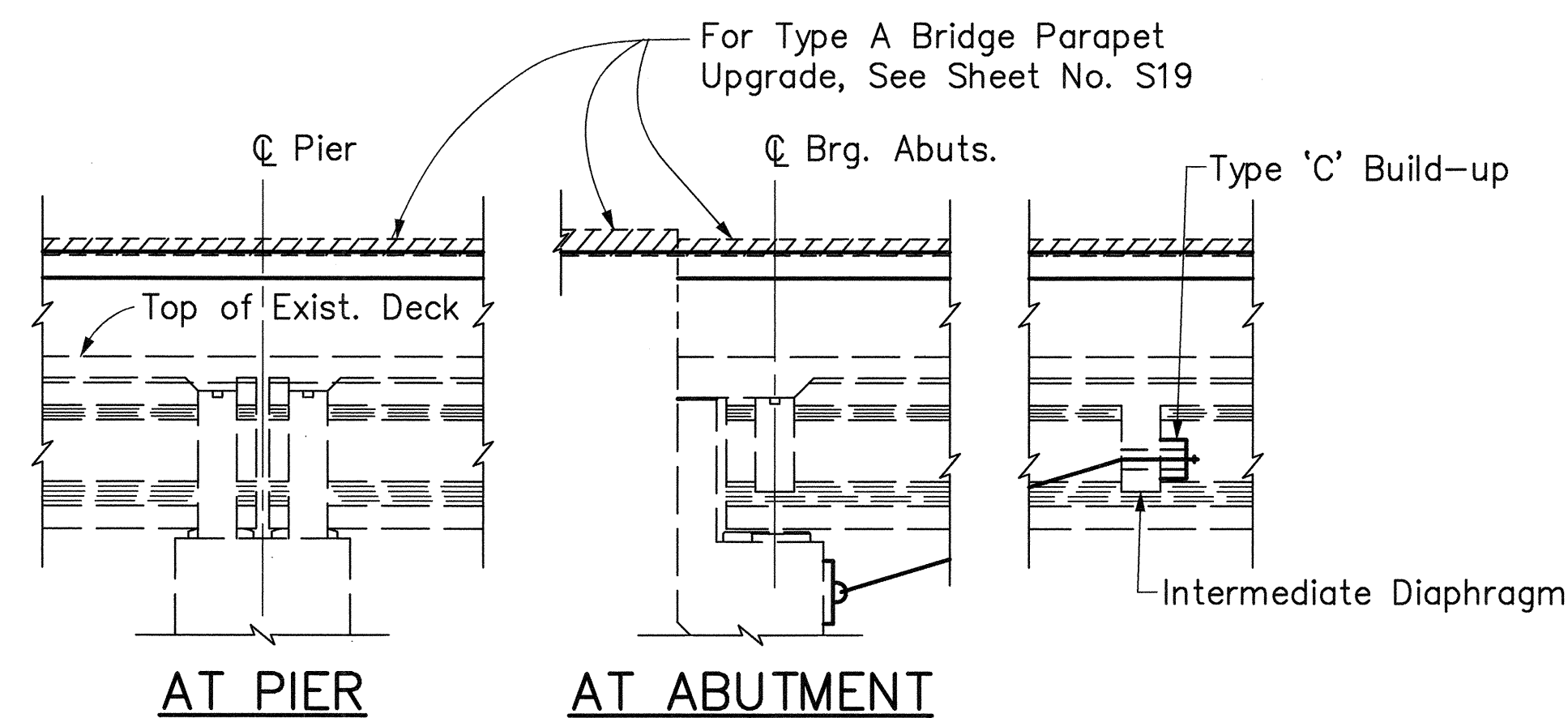
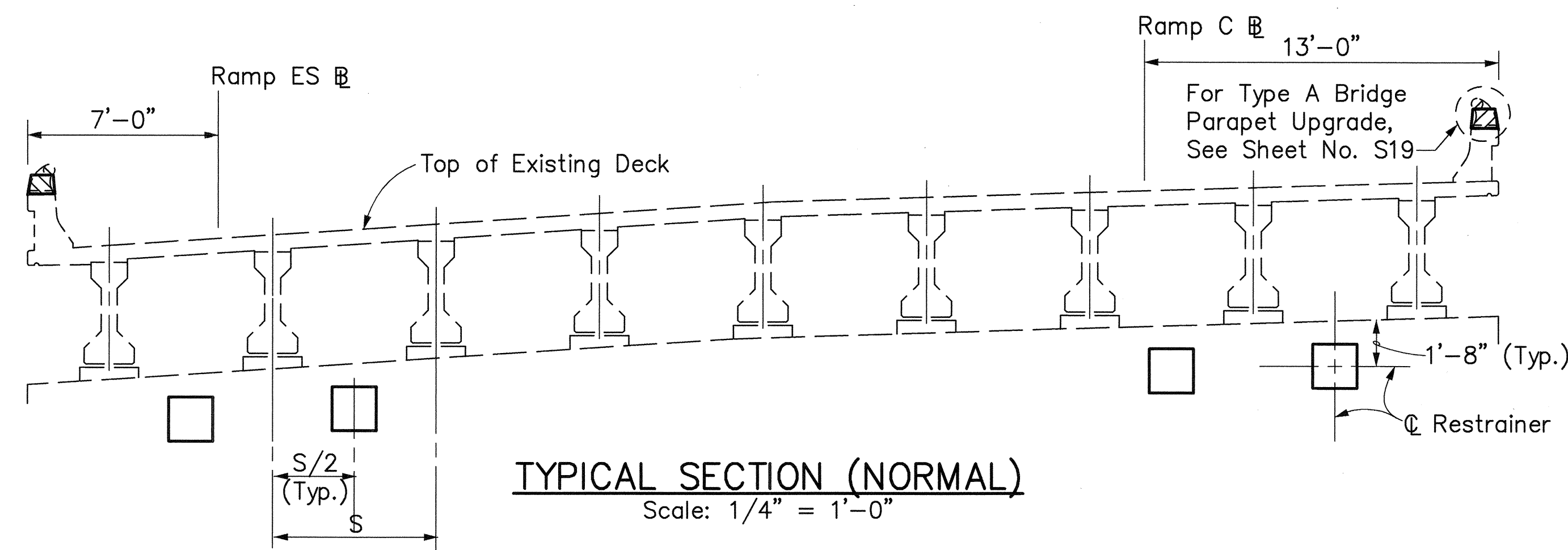
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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

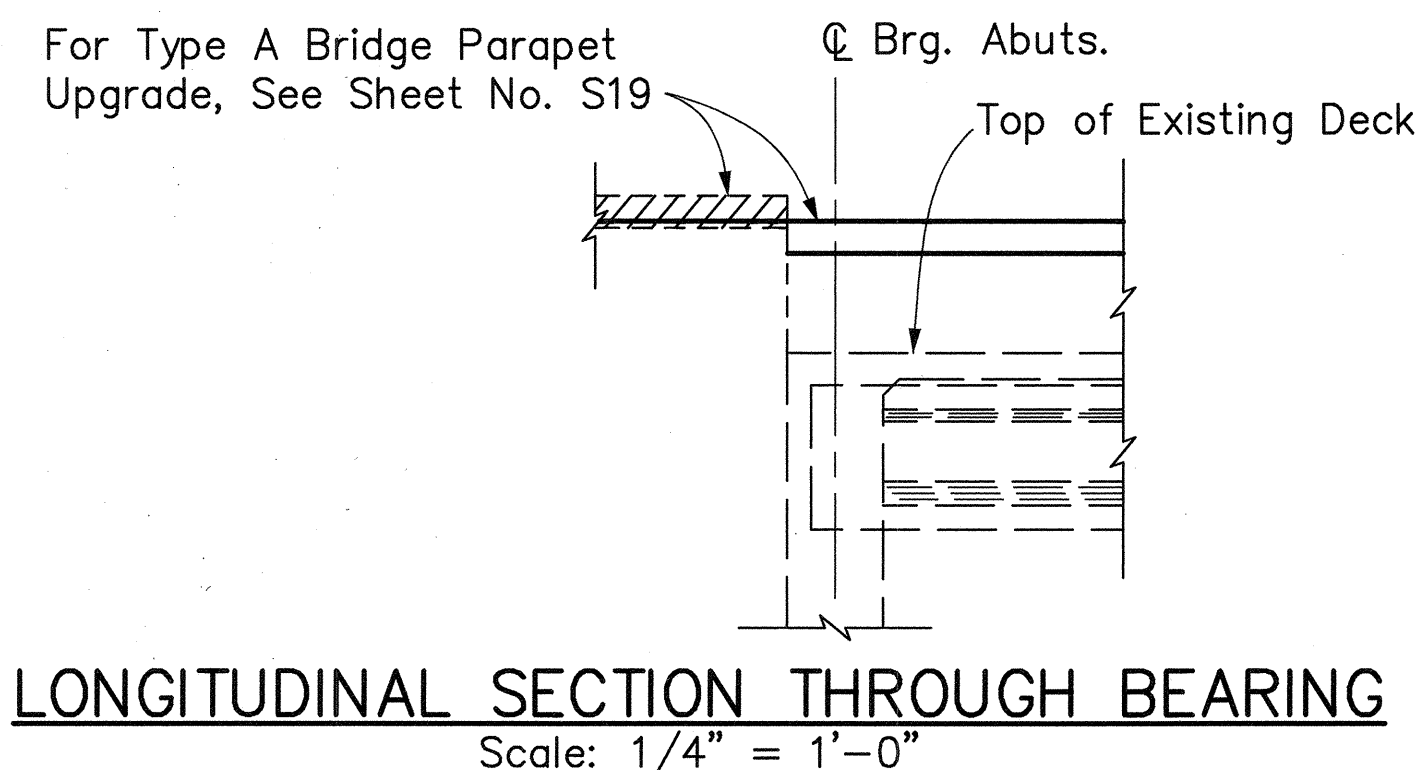
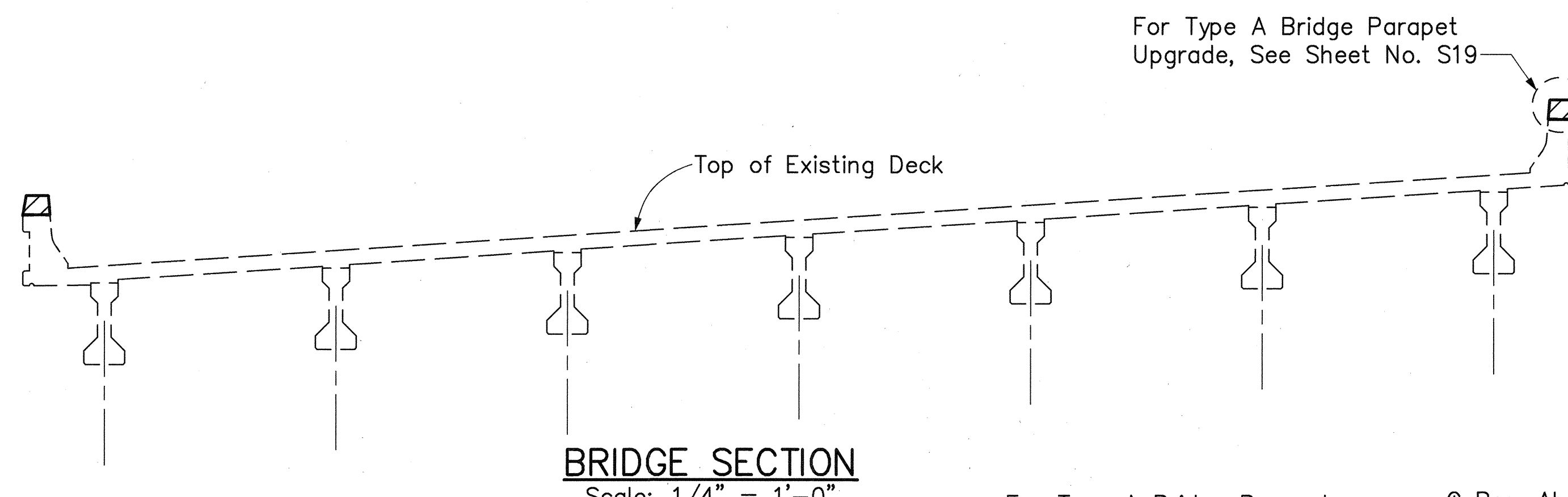
STRUCTURE NO. 7
PLAN AND SECTIONS
H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

SCALE: AS SHOWN
DATE: AUGUST 1994
SHEET NO. S12 OF 35 SHEETS

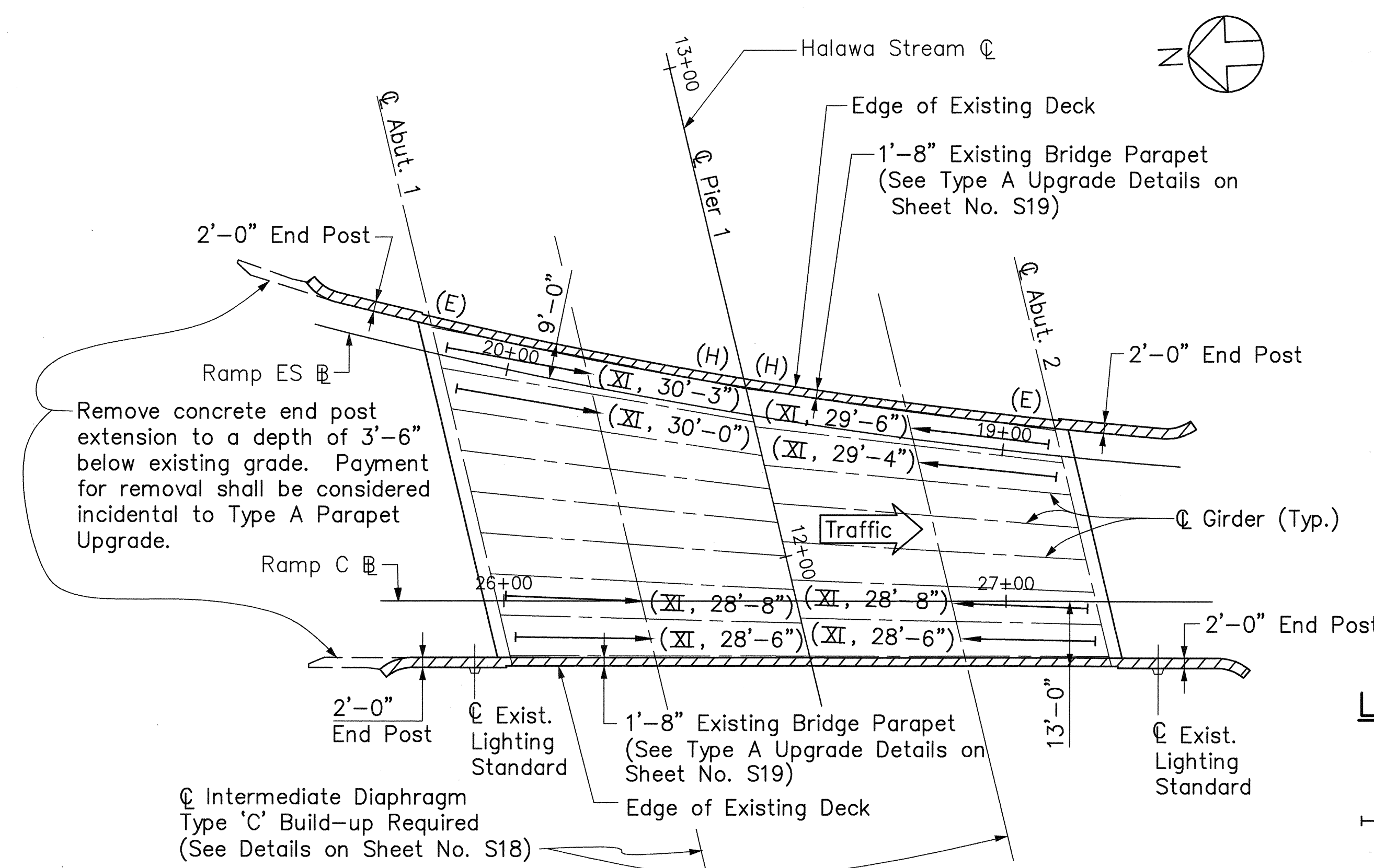
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	268	325



LONGITUDINAL SECTION THROUGH BEARING
Scale: 1/4" = 1'-0"



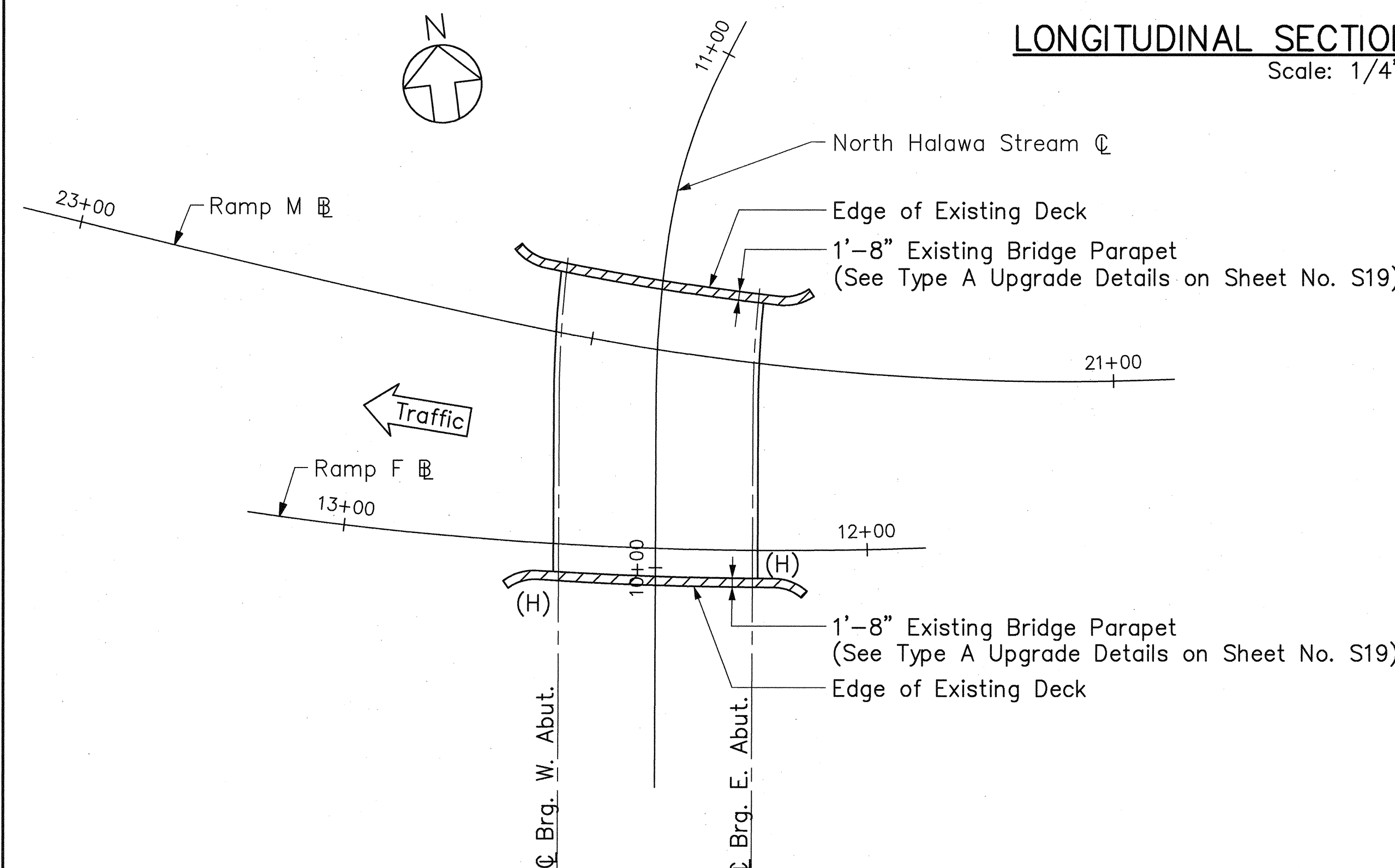
LONGITUDINAL SECTION THROUGH BEARING
Scale: 1/4" = 1'-0"



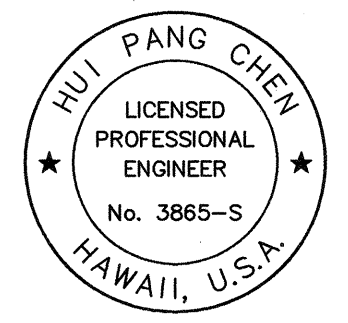
PLAN-STRUCTURE NO. 9
Scale: 1" = 20'

Legend:

- Denotes existing bridge parapet to be upgraded.
- Denotes restrainer type and approx. cable length required for seismic retrofit. (See Sheet No. S24)
- (E) Denotes existing expansion bearing.
- (H) Denotes existing hinge bearing.



PLAN-STRUCTURE NO. 13
Scale: 1" = 20'



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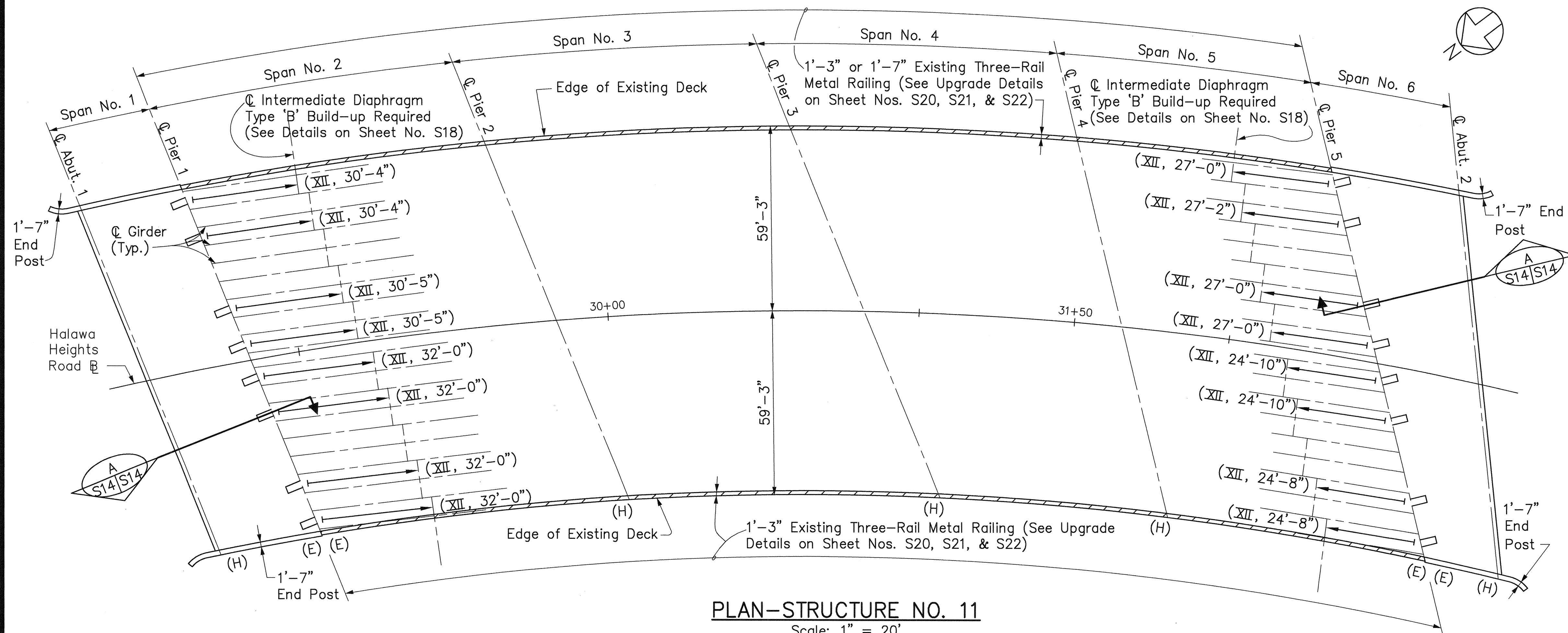
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURES NO.9 & NO. 13
PLAN AND SECTIONS

H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

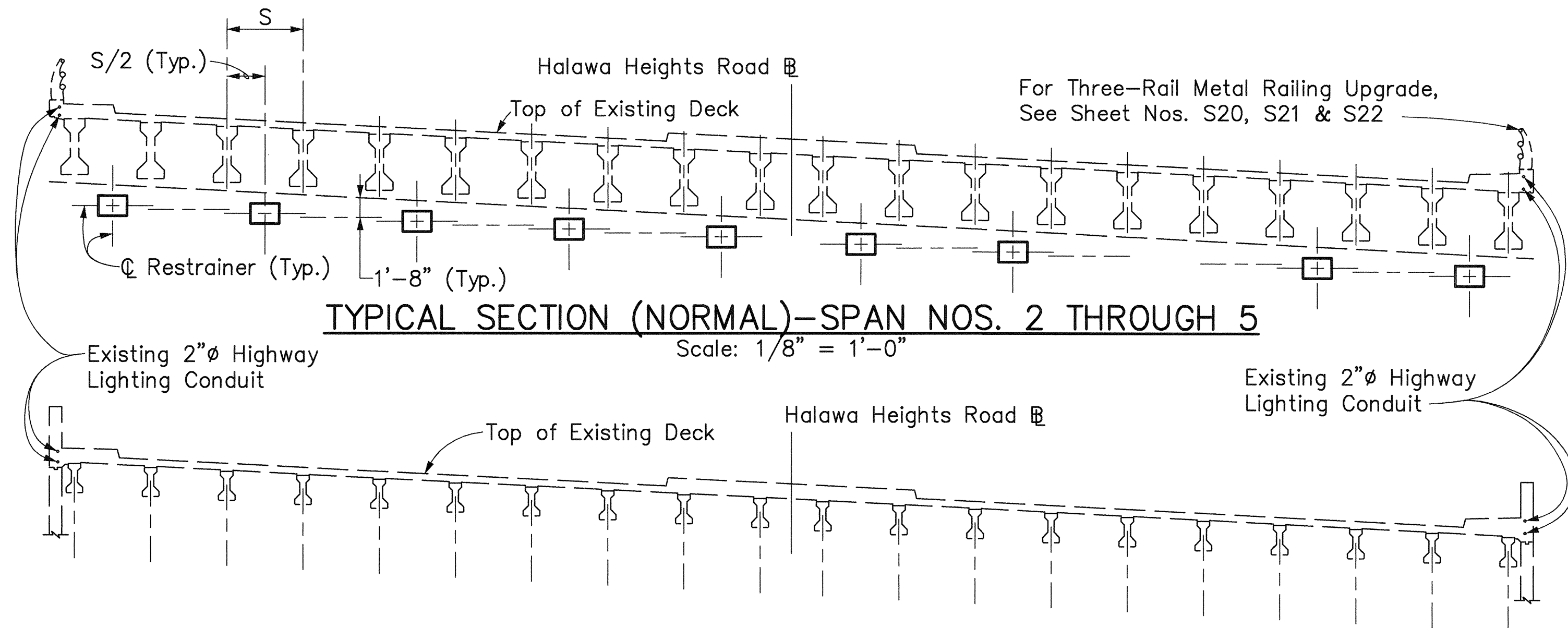
SCALE: AS SHOWN DATE: AUGUST 1994
SHEET NO. S13 OF 35 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	269	325



PLAN-STRUCTURE NO. 11

Scale: 1" = 20'



TYPICAL SECTION (NORMAL)-SPAN NOS. 2 THROUGH 5

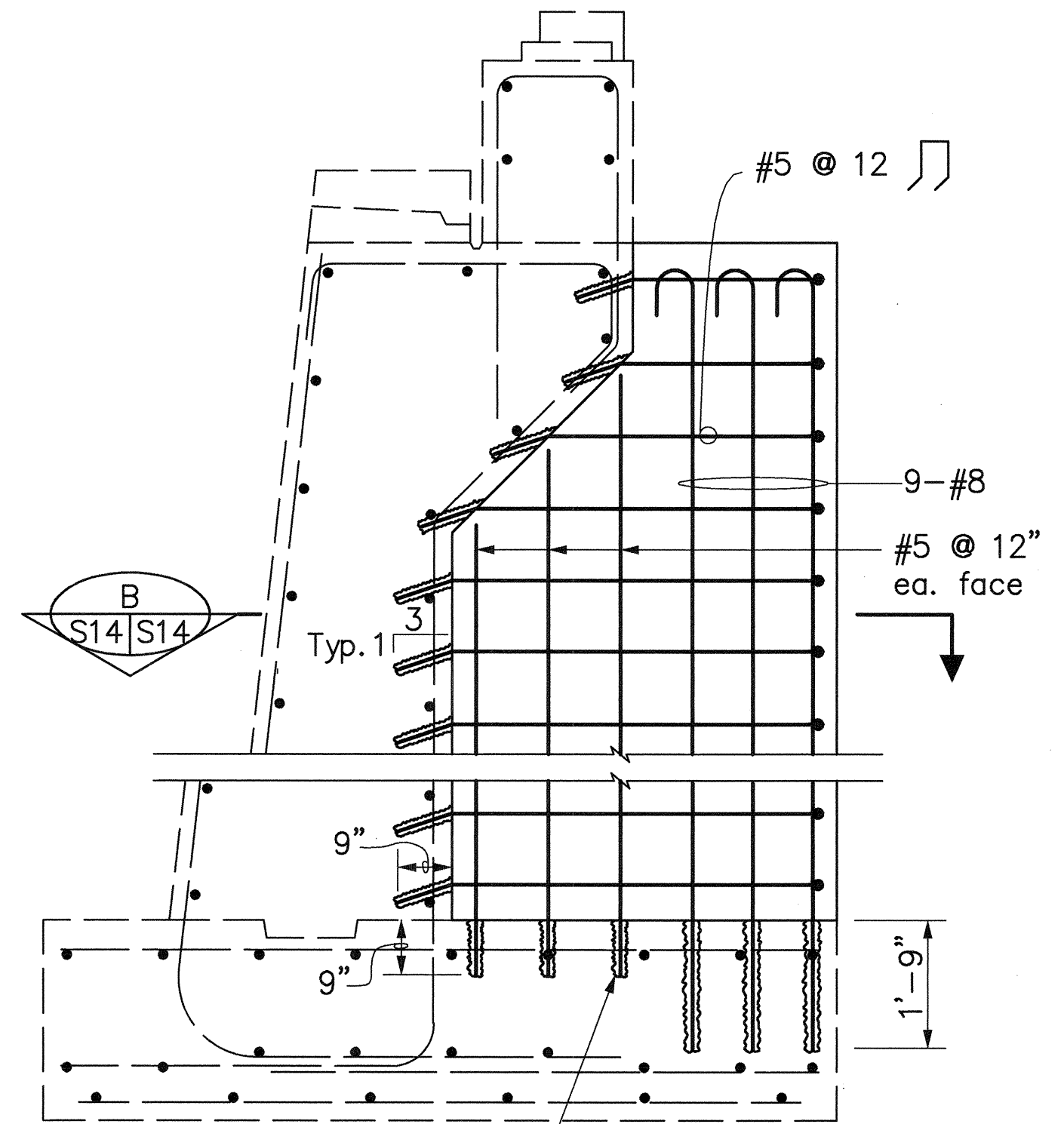
Scale: 1/8" = 1'-0"

TYPICAL SECTION (NORMAL)-SPAN NOS. 1 AND 6

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

Legend:

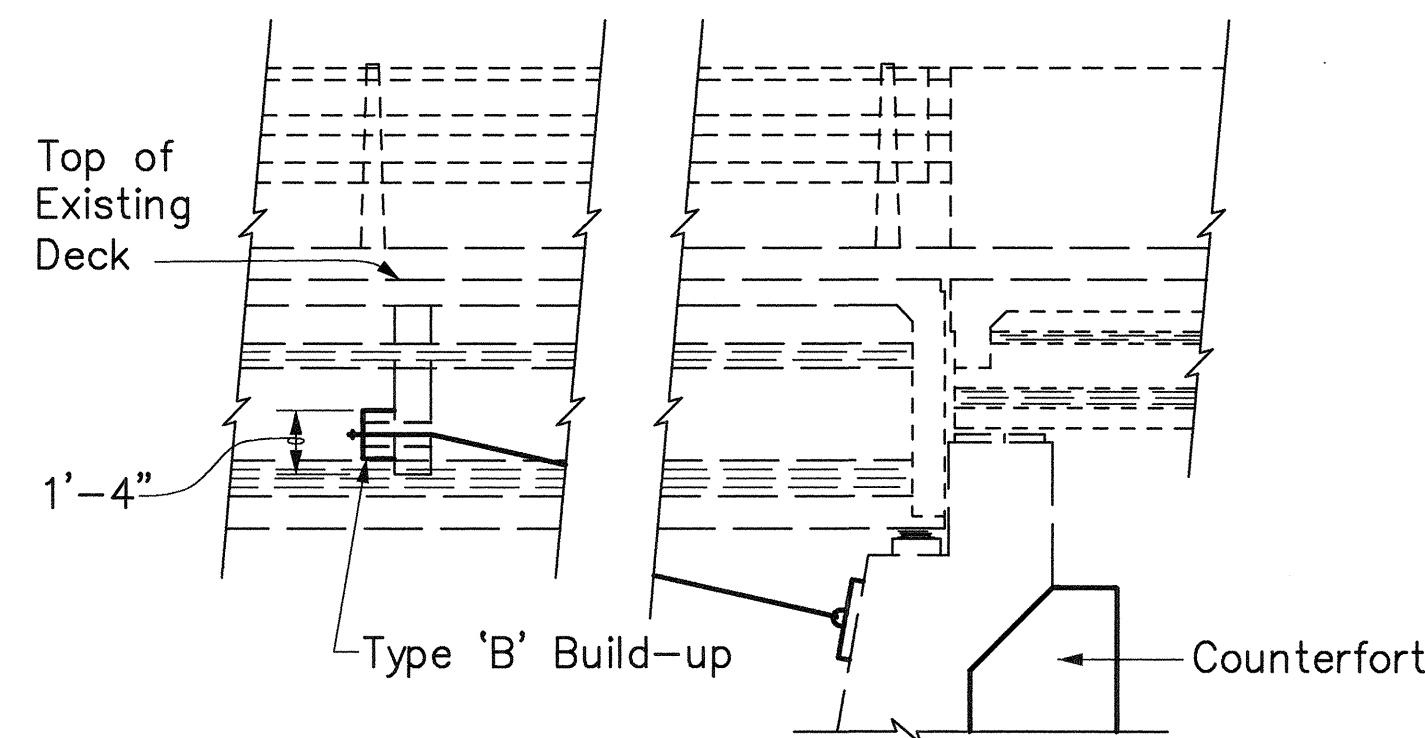
- Denotes existing bridge parapet to be upgraded.
- Denotes restrainer type and approx. cable length required for seismic retrofit. (See Sheet No. S24)
- (E) Denotes existing expansion bearing.
- (H) Denotes existing hinge bearing.



ABUTMENT COUNTERFORTS

SECTION A

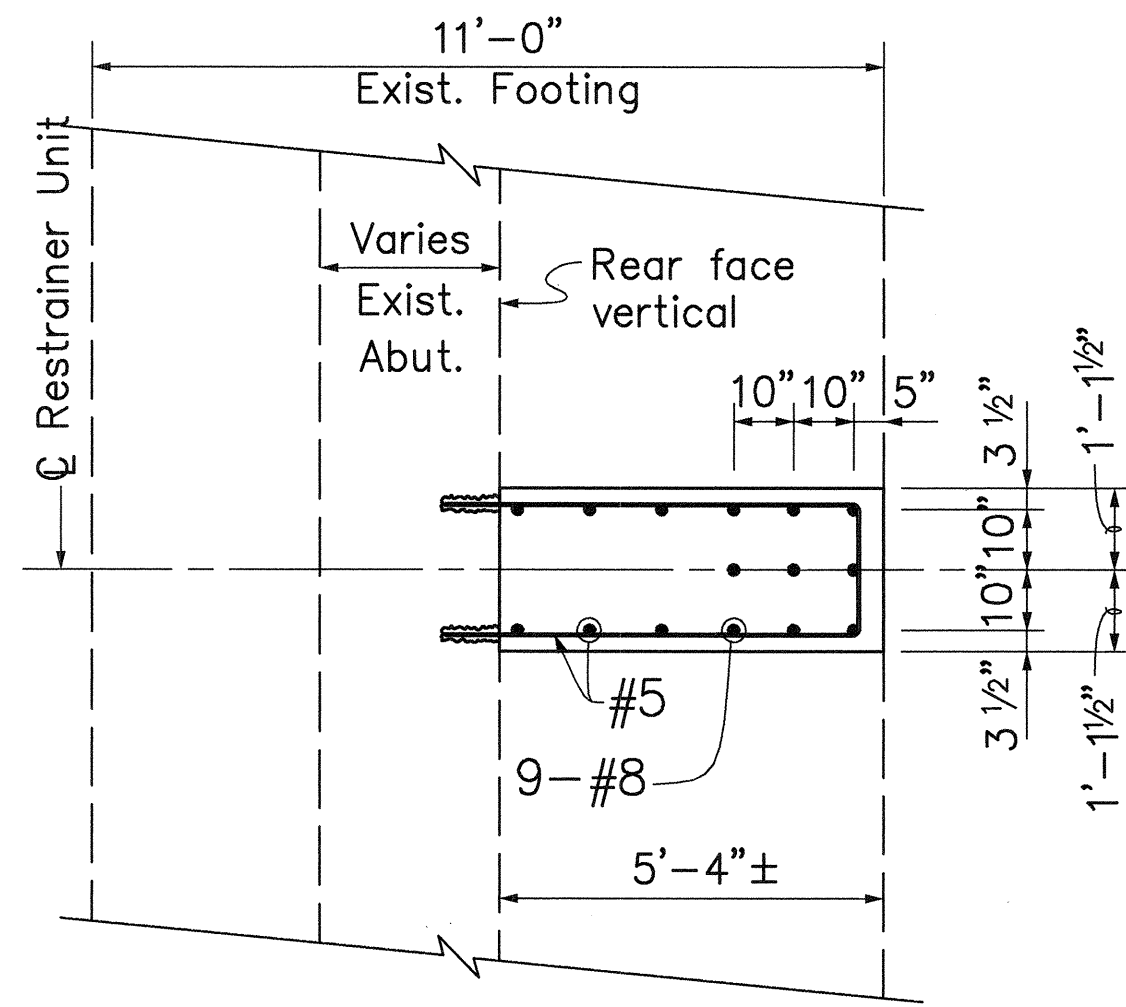
Scale: 1/2" = 1'-0"



AT PIER #5 (AS SHOWN)
AT PIER #1 (SIMILAR EXCEPT OPPOSITE HAND)

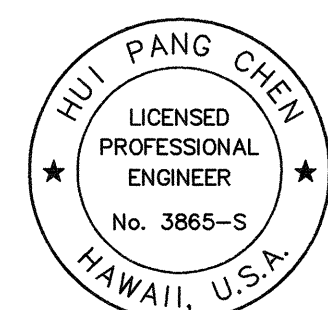
LONGITUDINAL SECTION THROUGH BEARING

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



SECTION B

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



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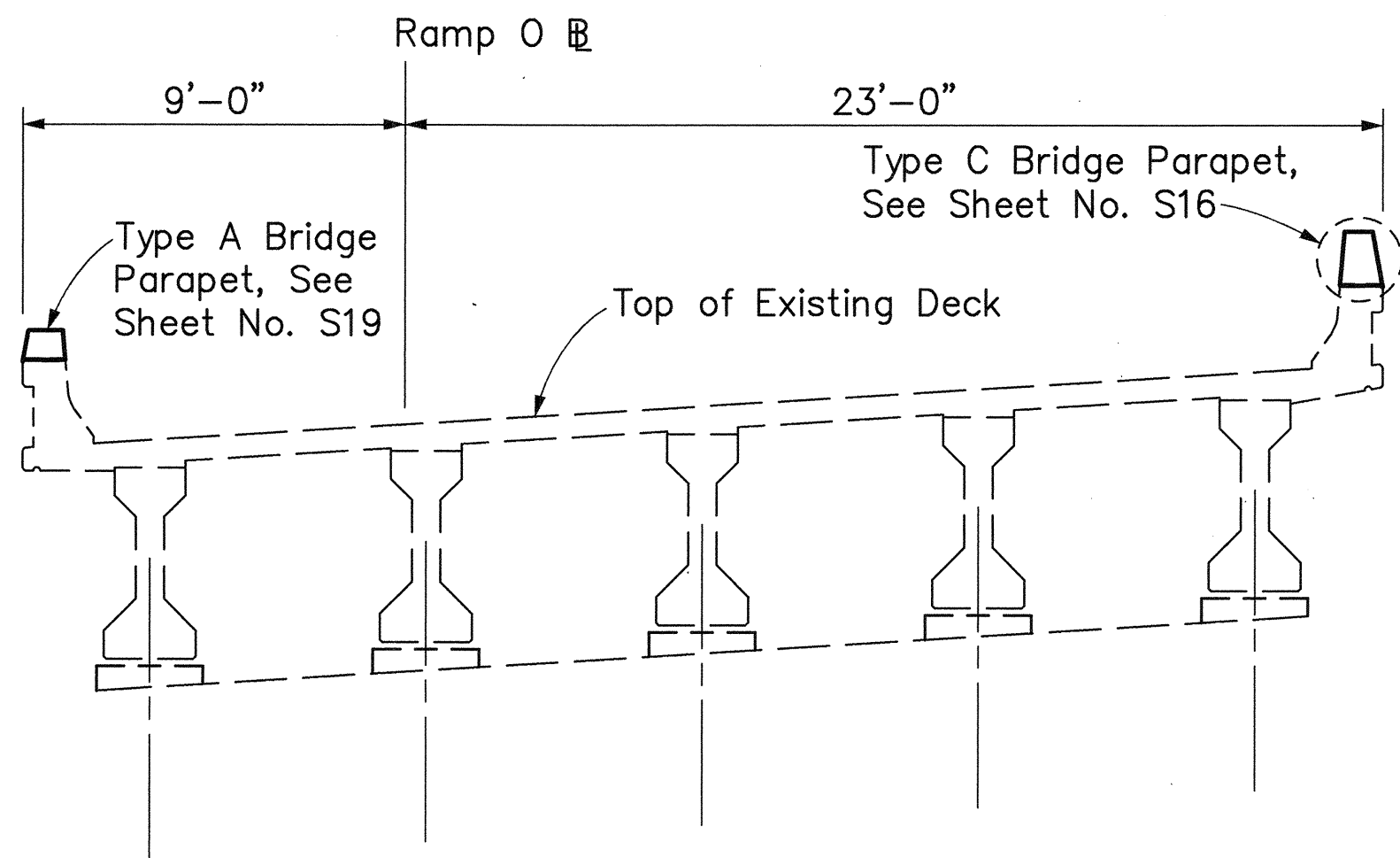
STRUCTURE NO. 11
PLAN AND SECTIONS-1

H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

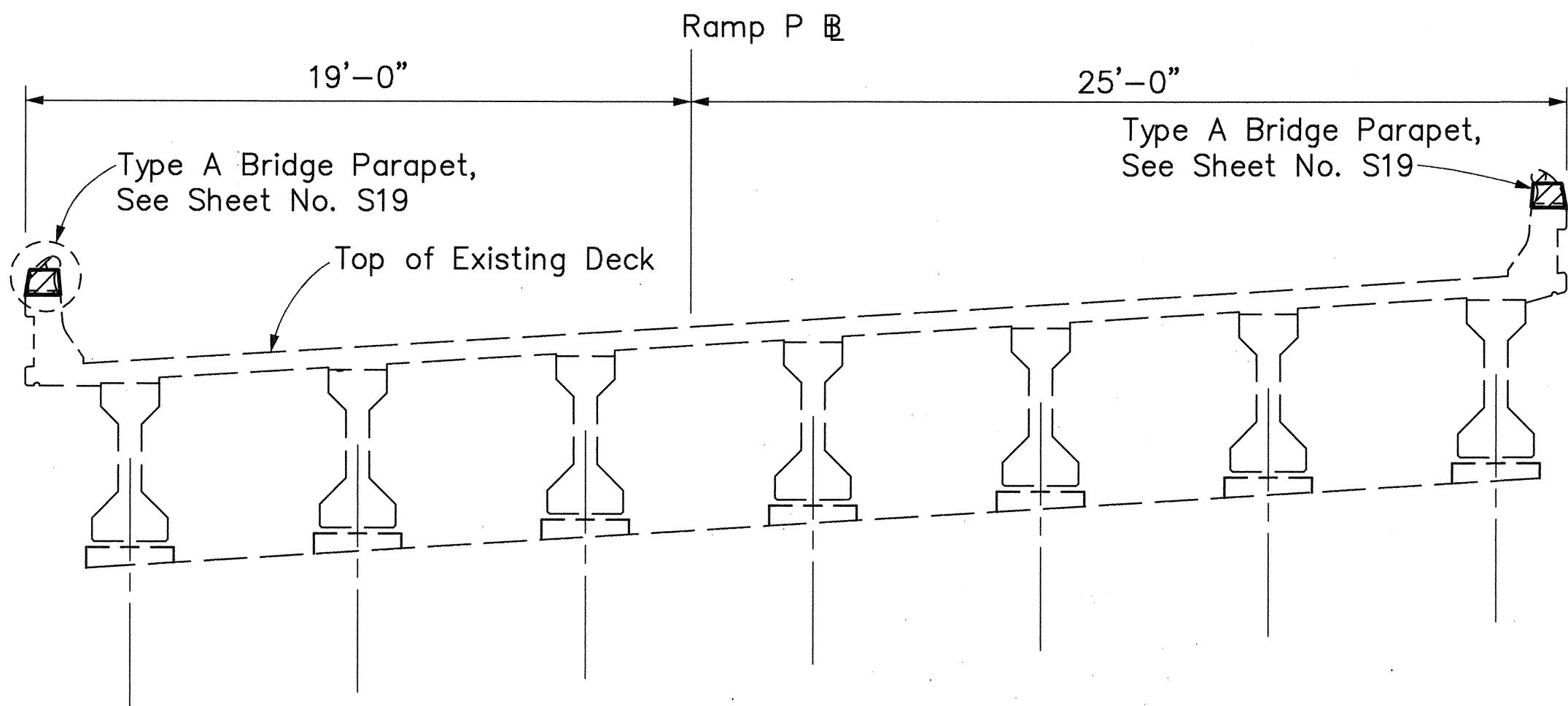
SCALE: AS SHOWN DATE: AUGUST 1994
SHEET NO. S14 OF 35 SHEETS

ADD. 269

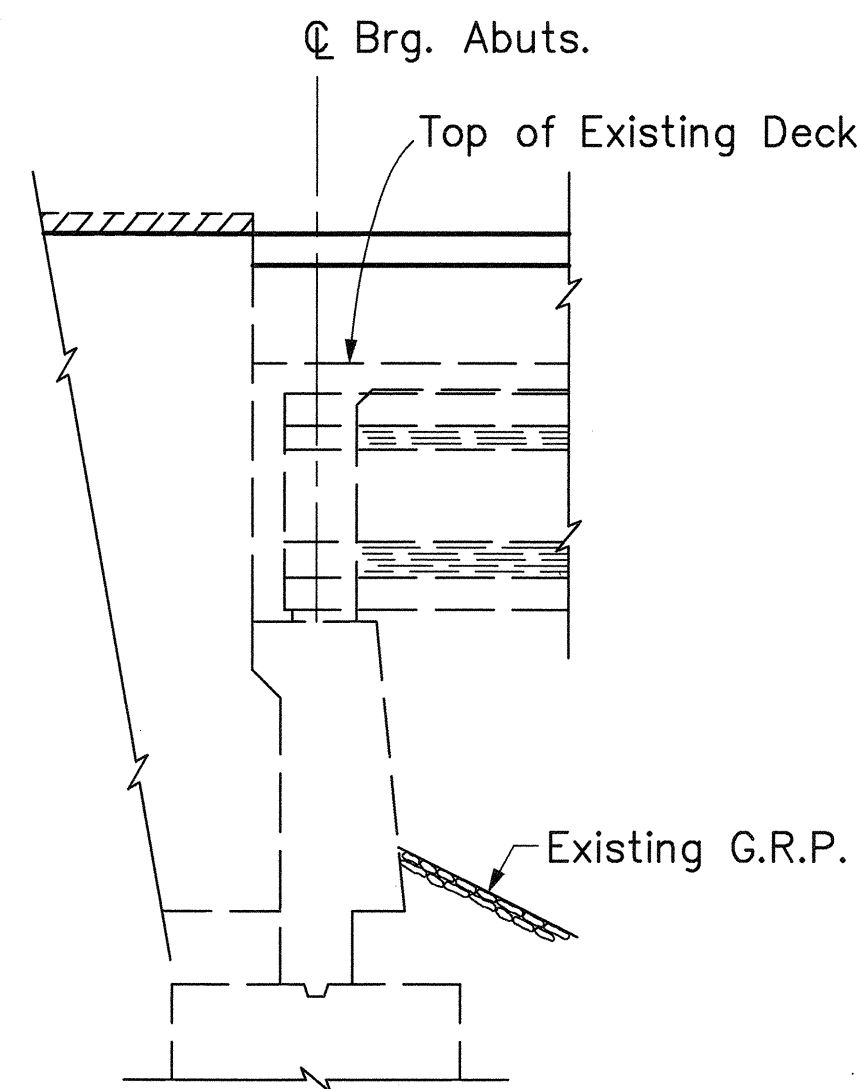
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	270	325



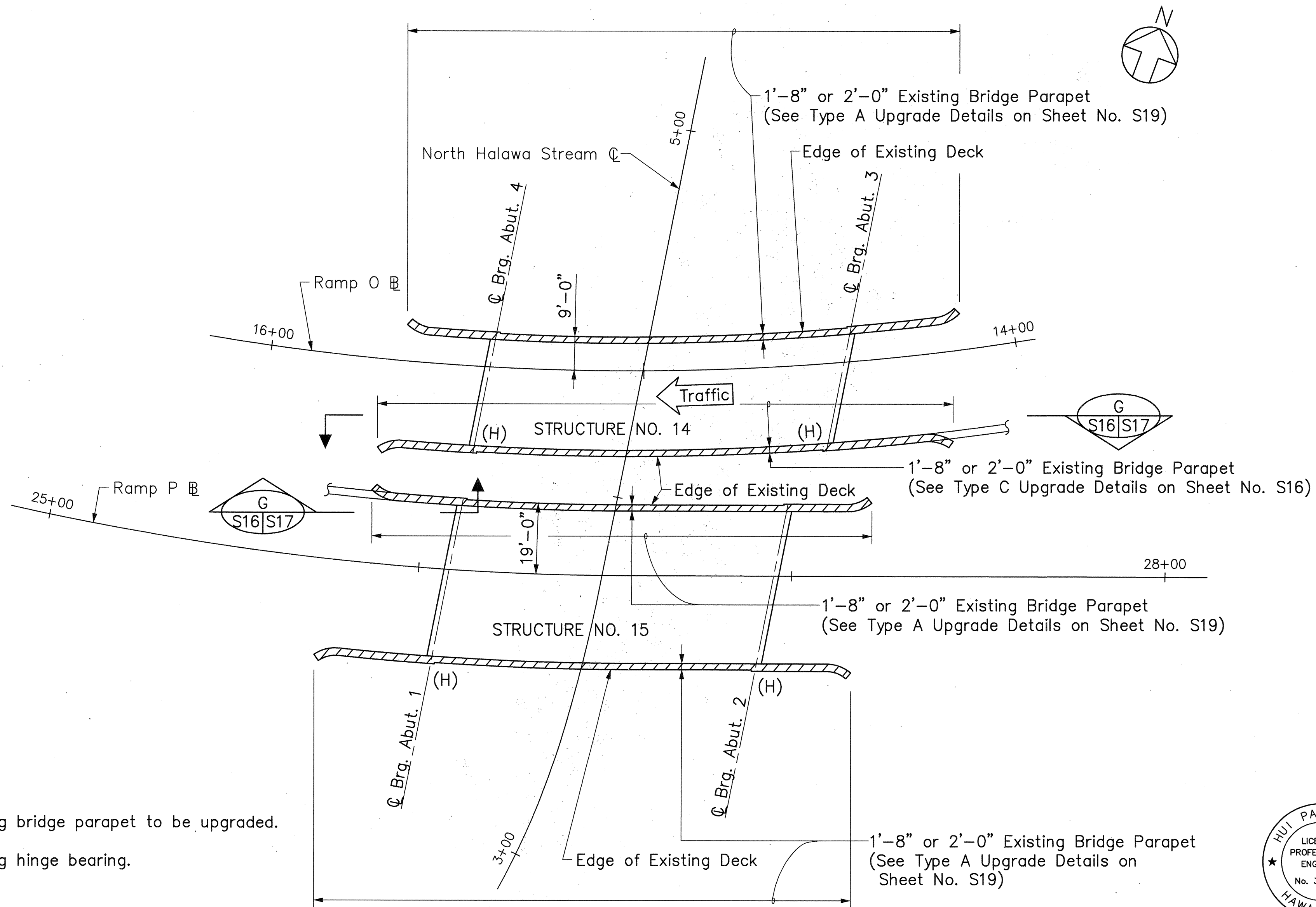
TYPICAL SECTION (NORMAL) STRUCTURE NO. 14
Scale: 1/4" = 1'-0"



TYPICAL SECTION (NORMAL) STRUCTURE NO. 15
Scale: 1/4" = 1'-0"



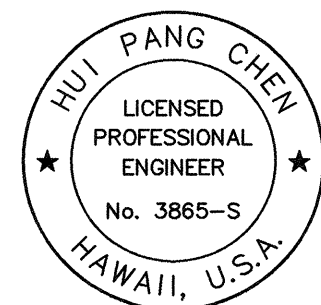
LONGITUDINAL SECTION AT ABUTMENT
Scale: 1/4" = 1'-0"



PLAN-STRUCTURE NOS. 14 & 15
Scale: 1" = 20'

Legend:

-  Denotes existing bridge parapet to be upgraded.
- (H) Denotes existing hinge bearing.



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE NOS. 14 & 15
PLAN AND SECTIONS
H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)
SCALE: AS SHOWN DATE: AUGUST 1994
SHEET NO. S15 OF 35 SHEETS

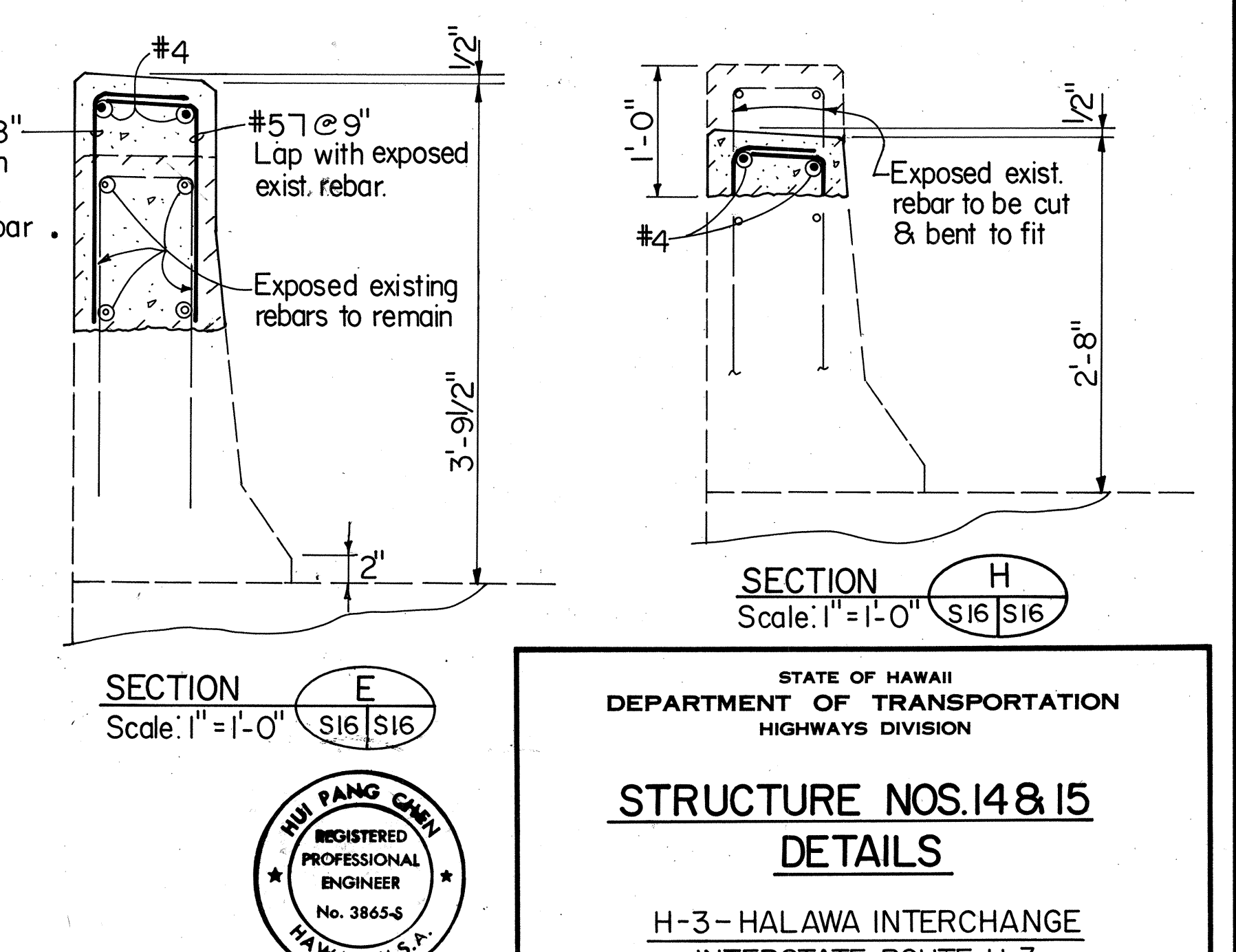
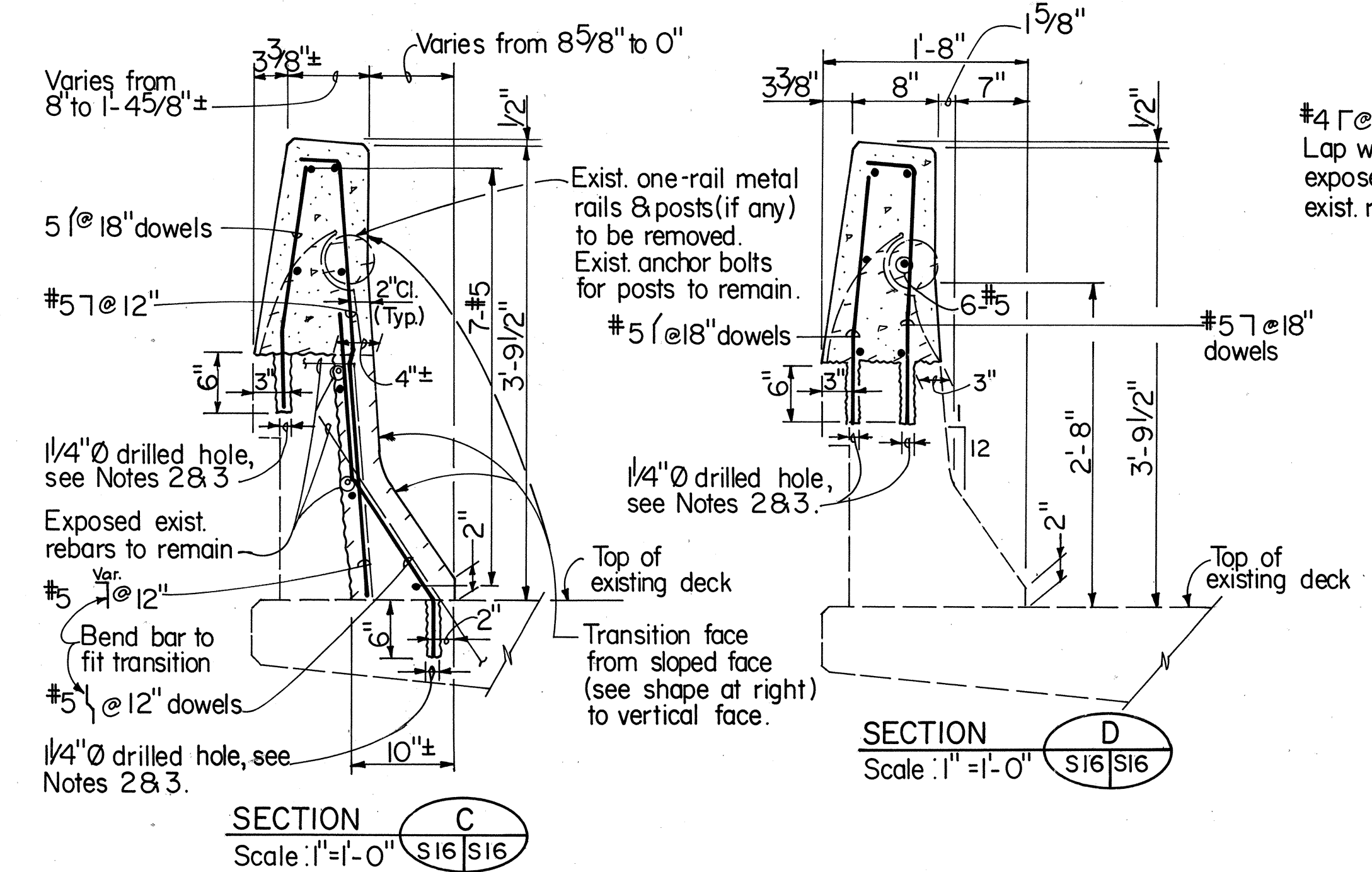
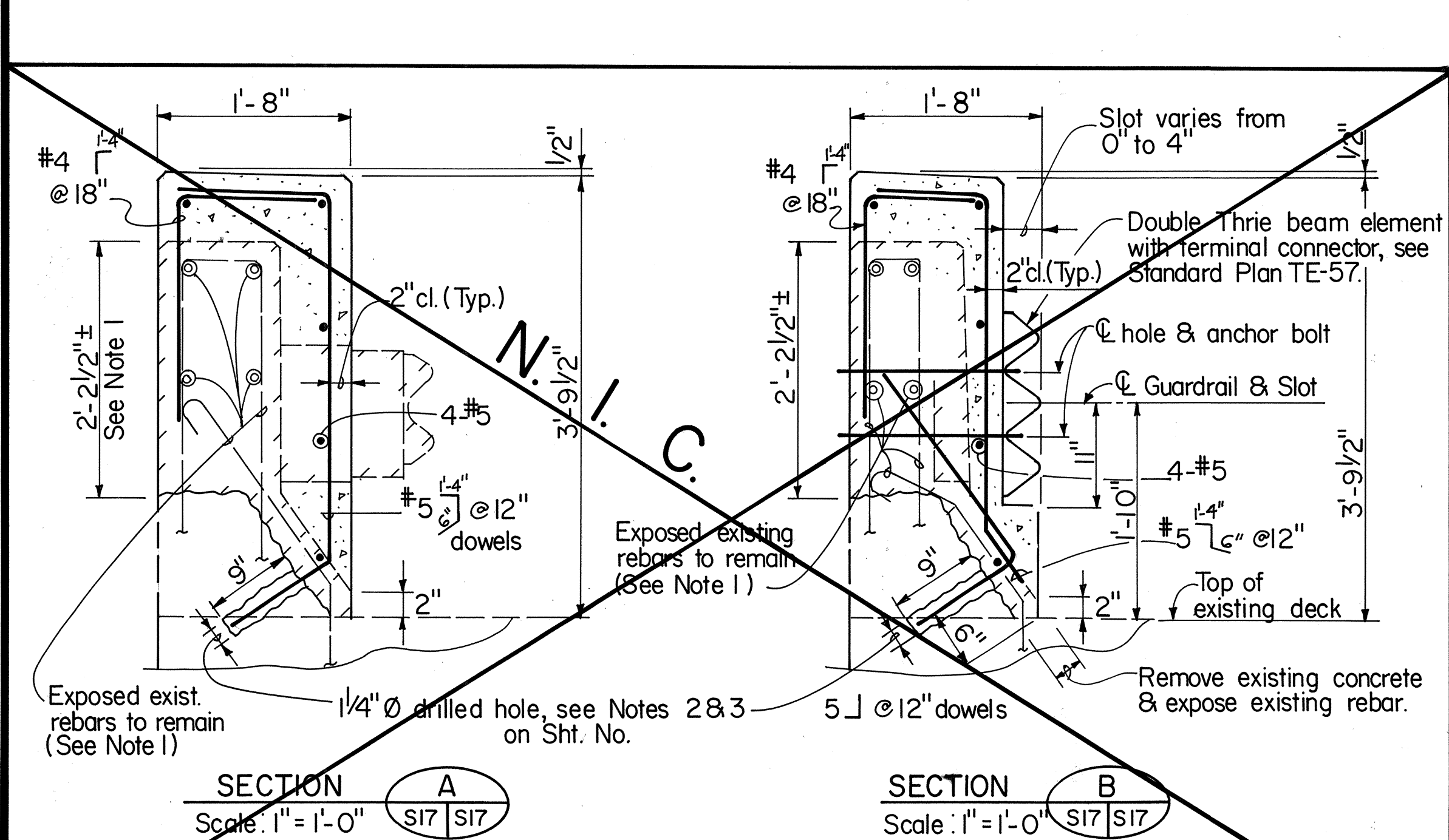
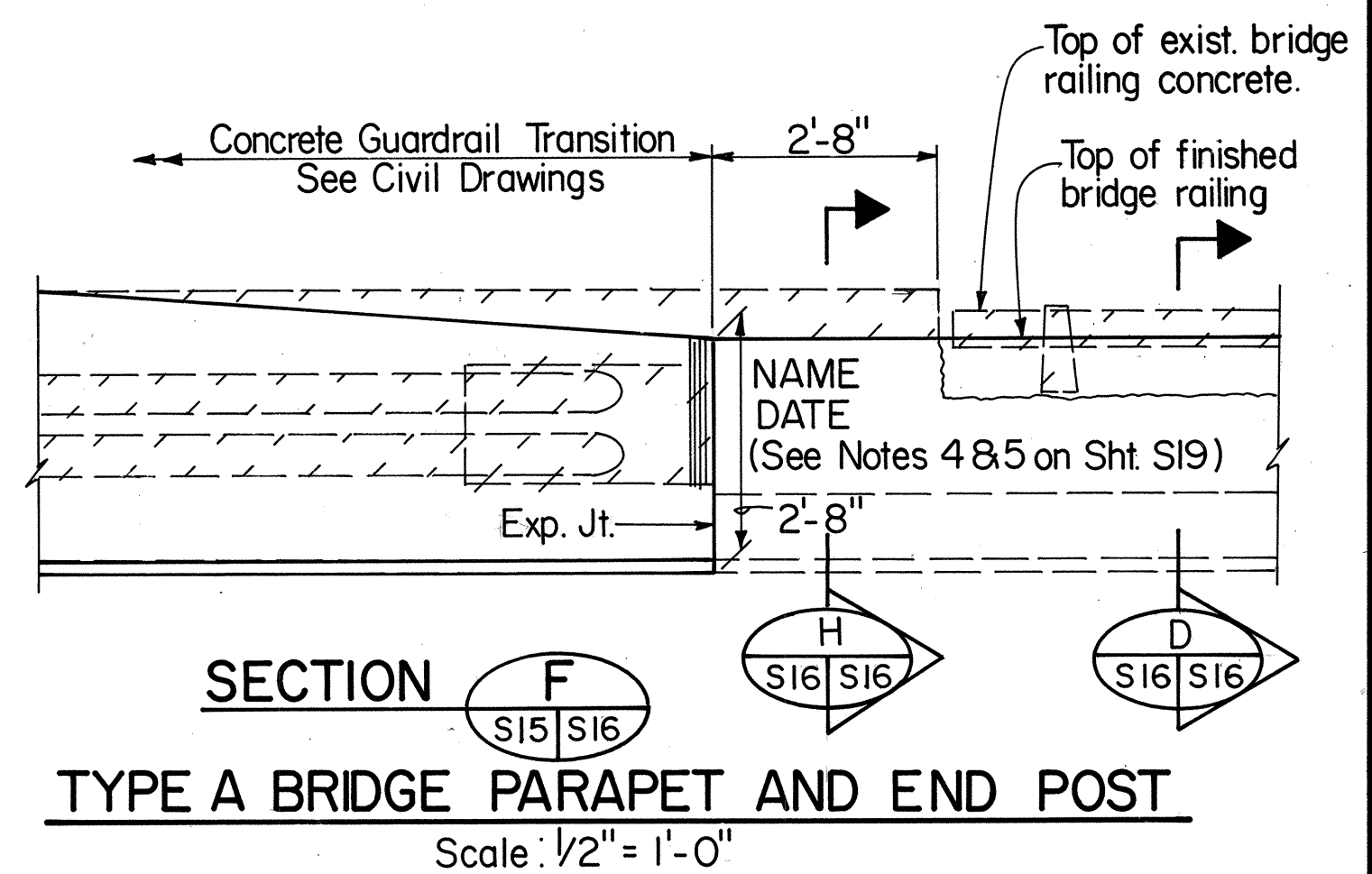
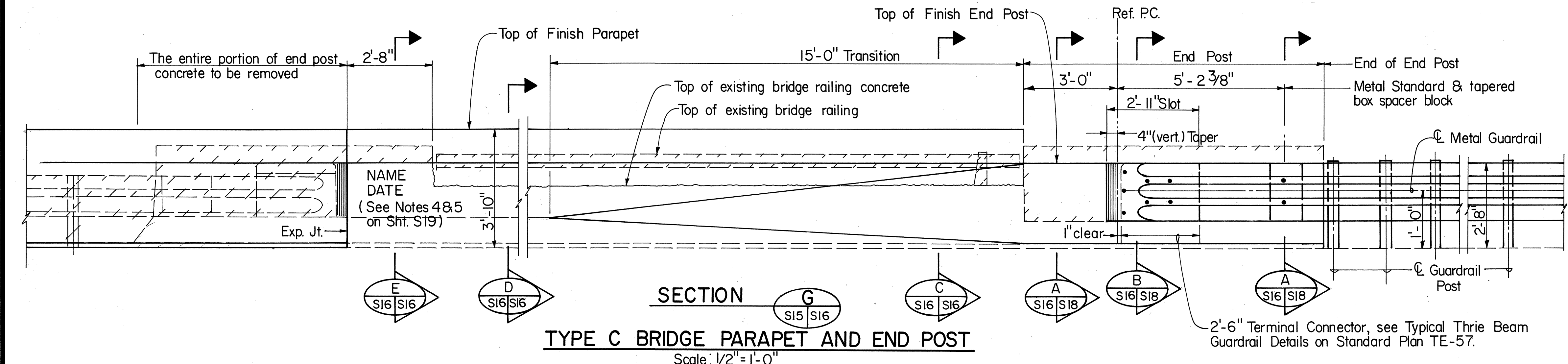
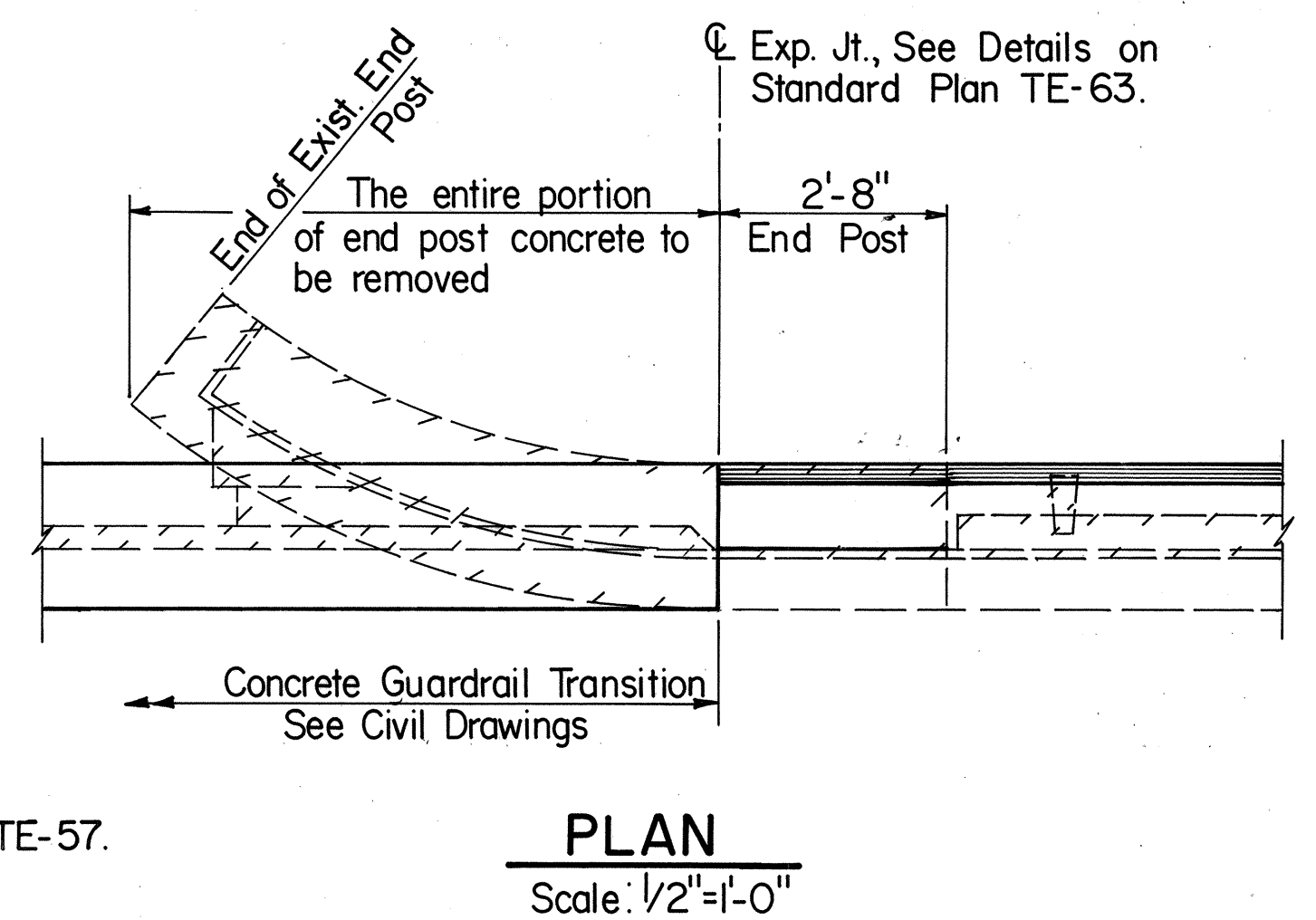
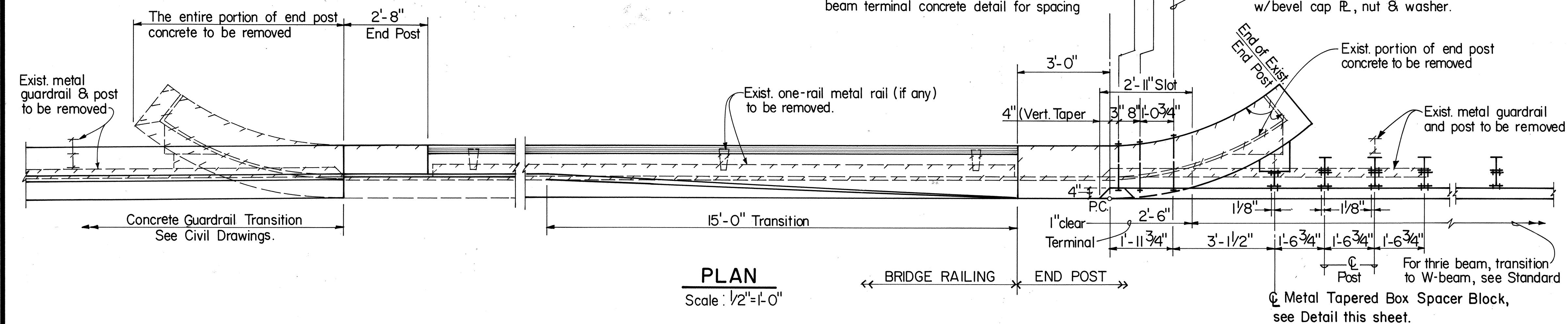
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (74)	1993	271	325

LEGEND

Denotes existing end post concrete & metal railing to be removed.

5-1"Ø holes for 7/8"Ø H.S. anchor bolts w/bevel cap R, nut & washer. See thrie beam terminal concrete detail for spacing

Metal guardrail connection ref. line & 2-3/4"Ø holes for 5/8"Ø H.S. anchor bolts w/bevel cap R, nut & washer.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**STRUCTURE NOS. 14 & 15
DETAILS**

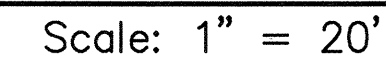
H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

SCALE: AS SHOWN DATE: AUG 1994

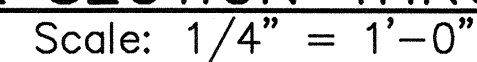
SHEET No. S16 OF 35 SHEETS

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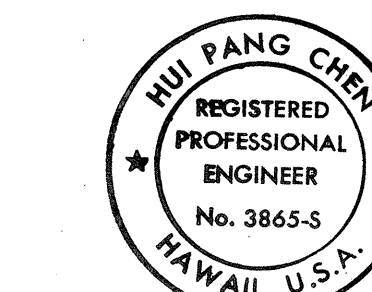
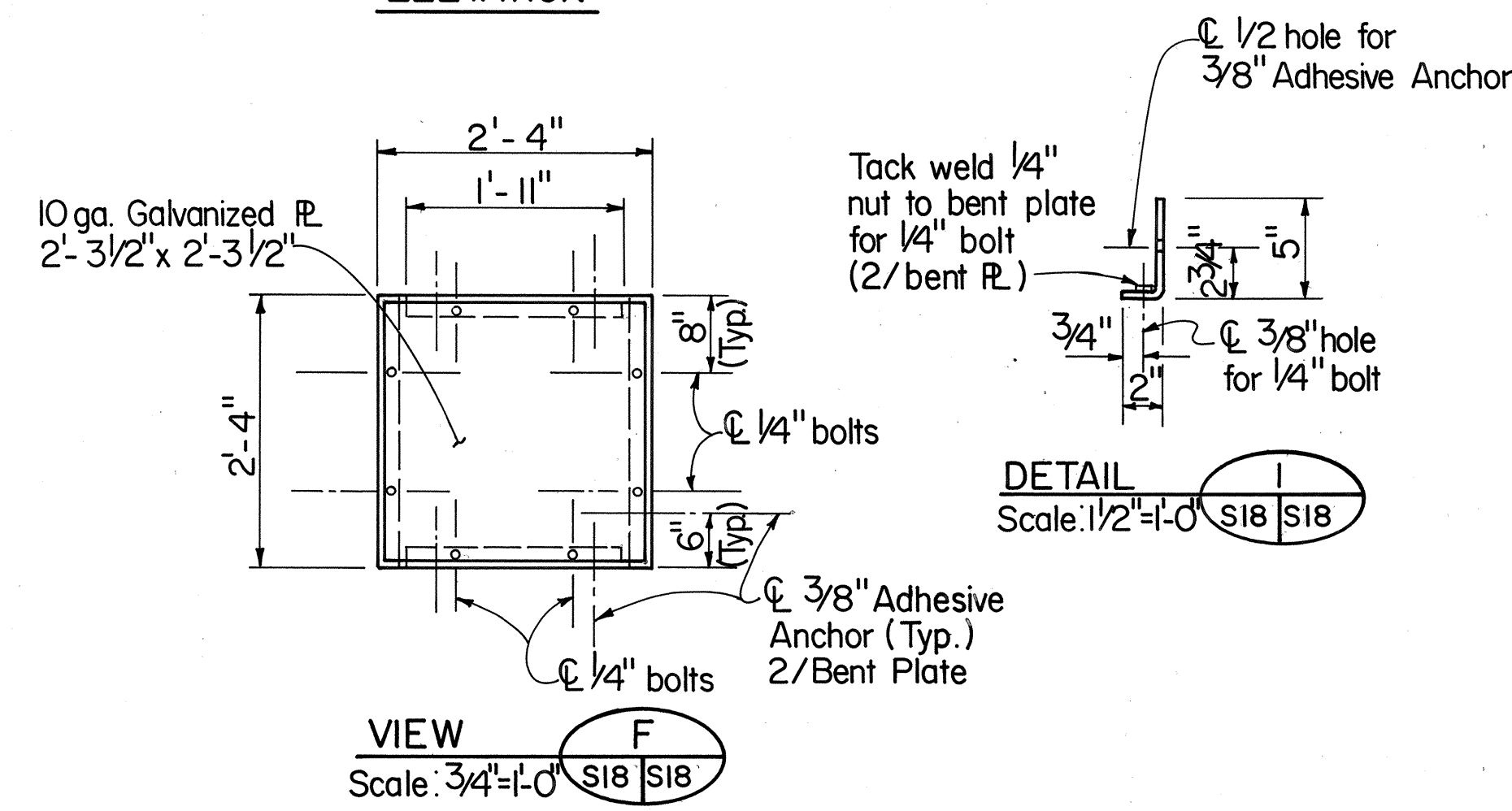
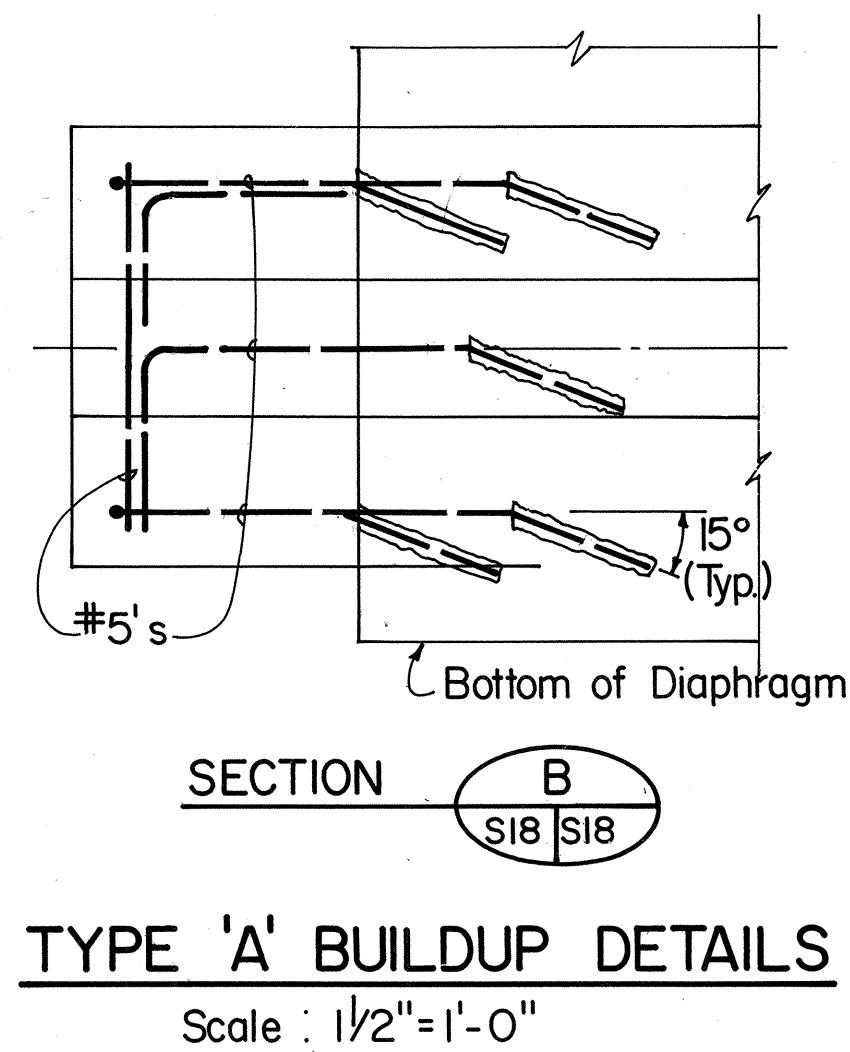
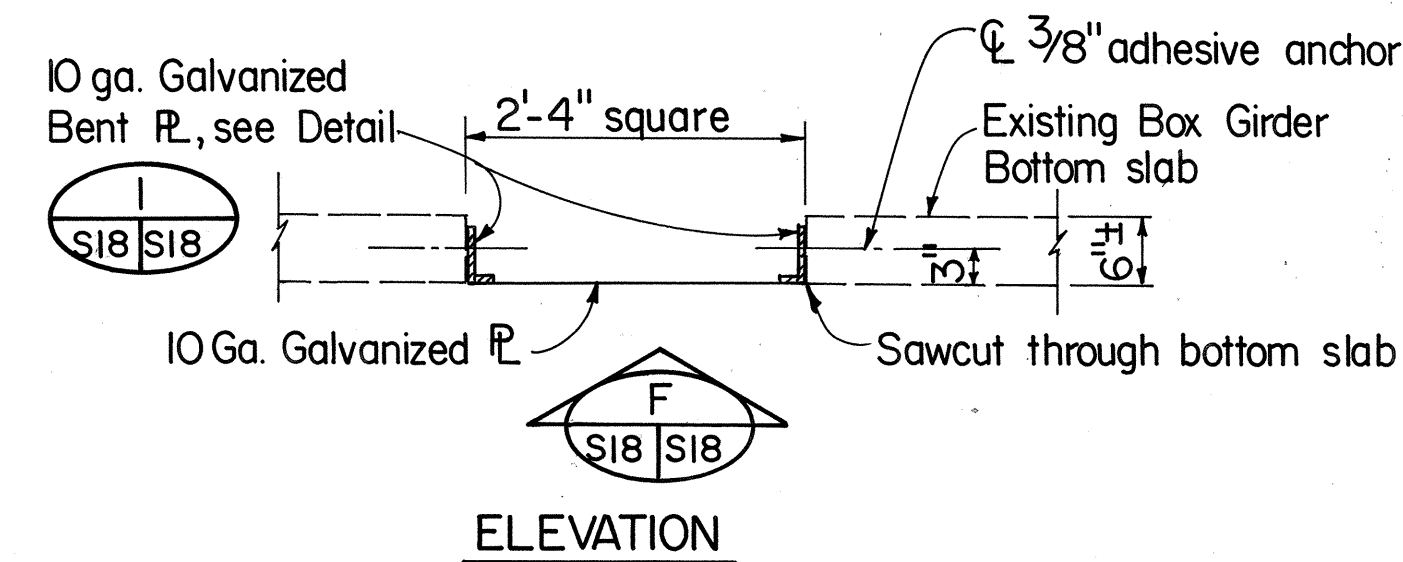
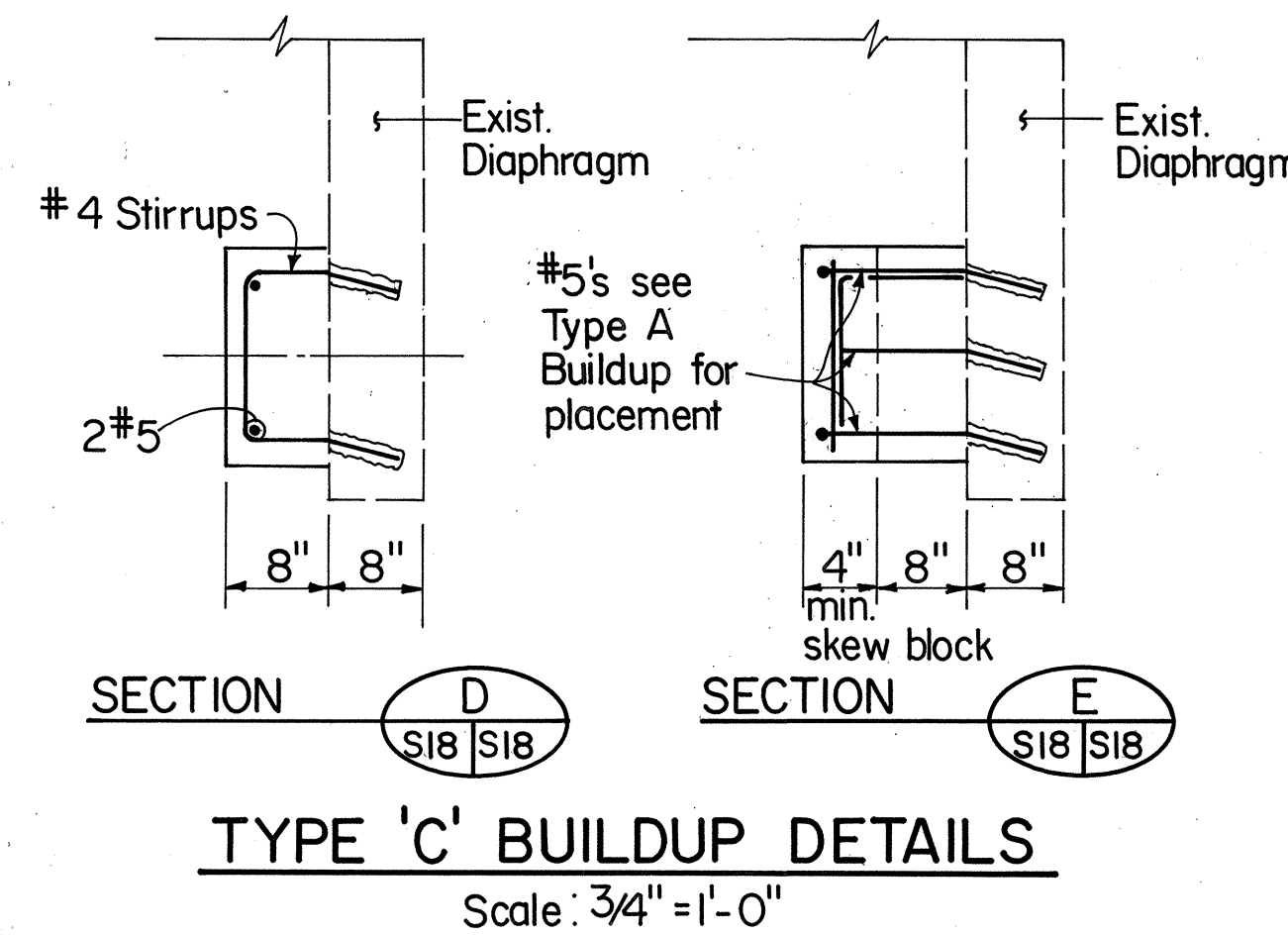
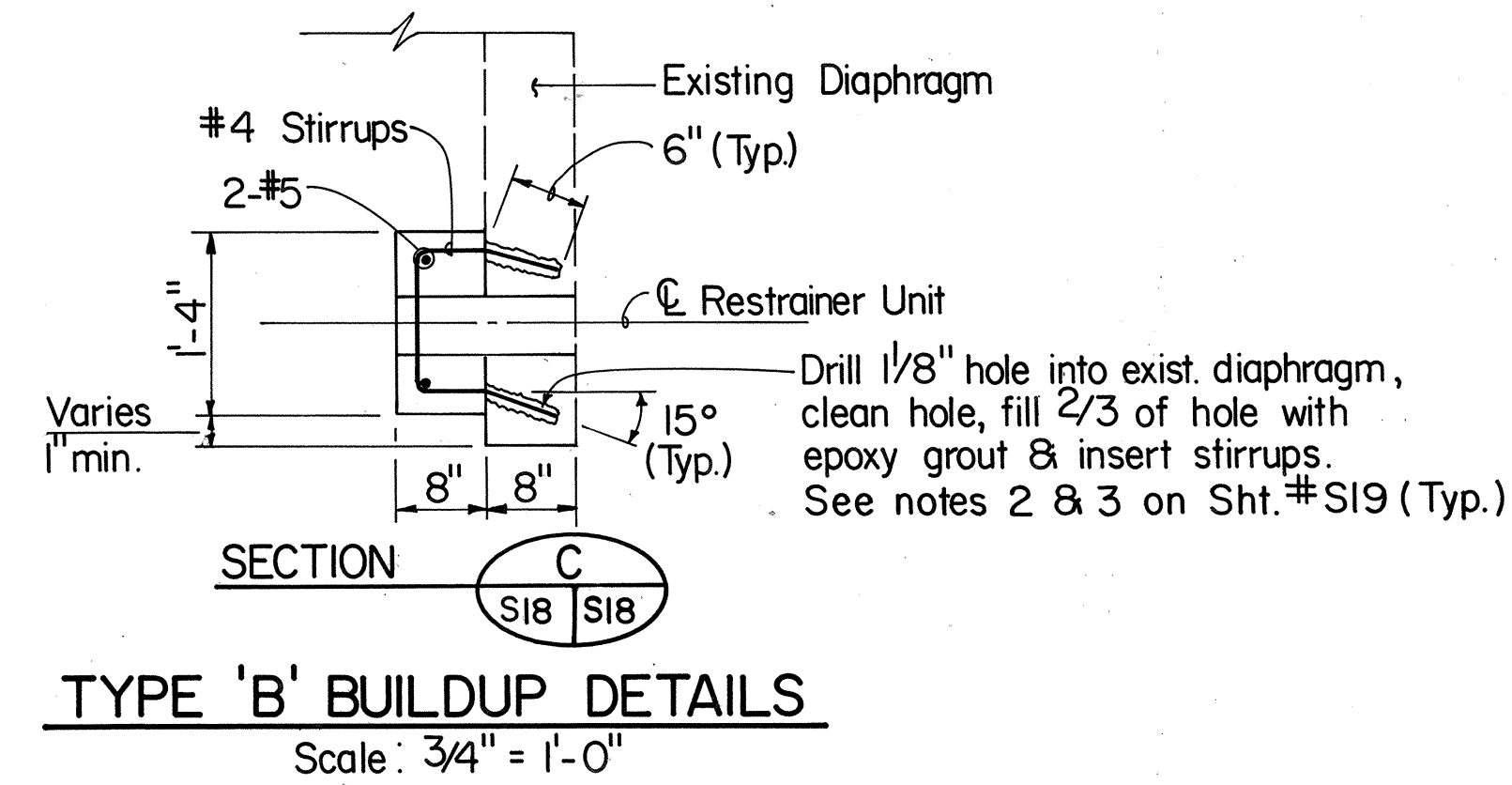
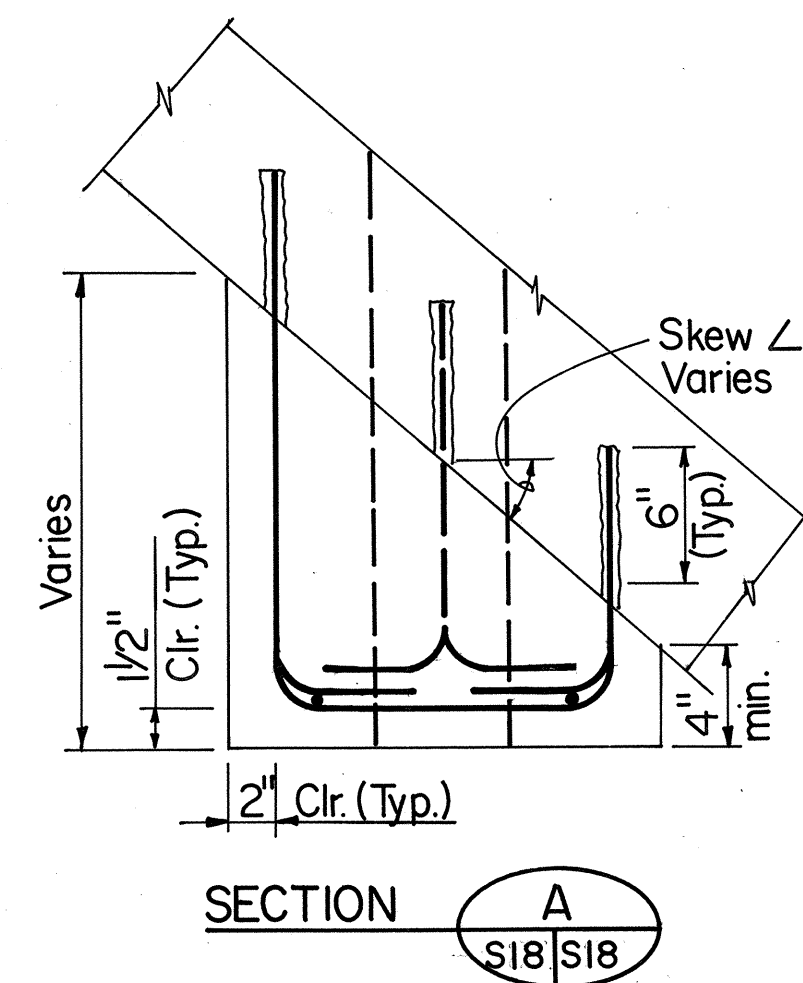
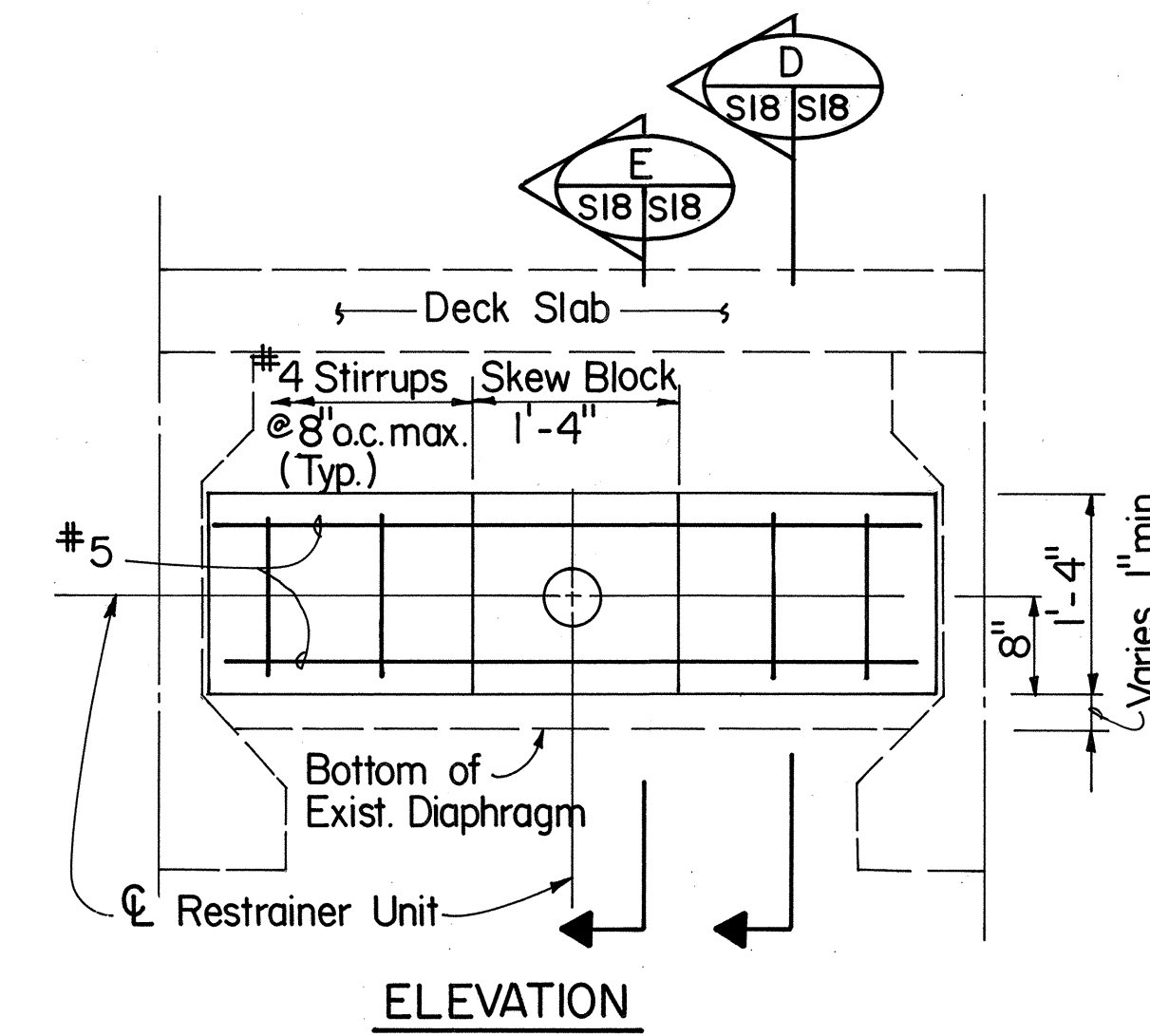
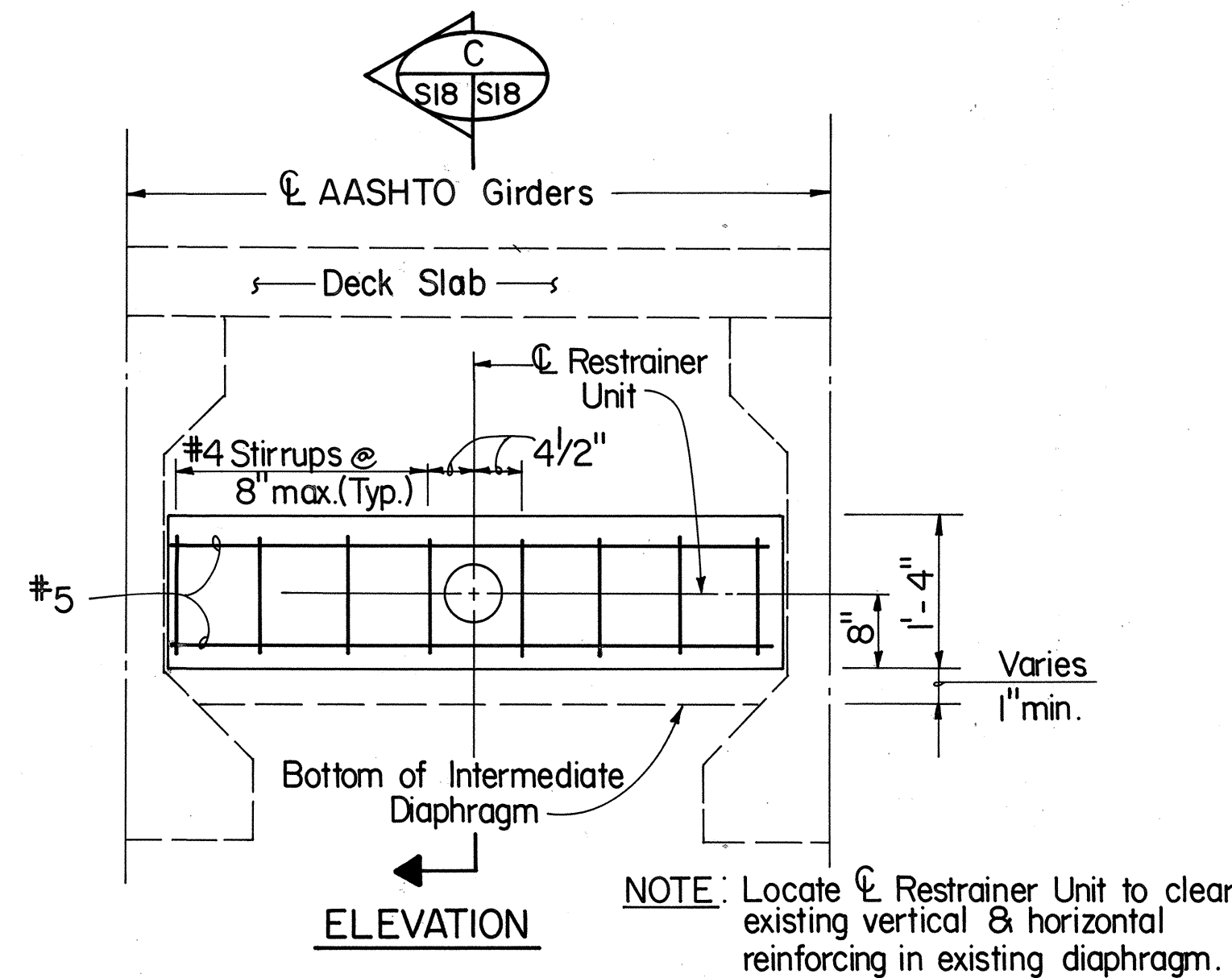
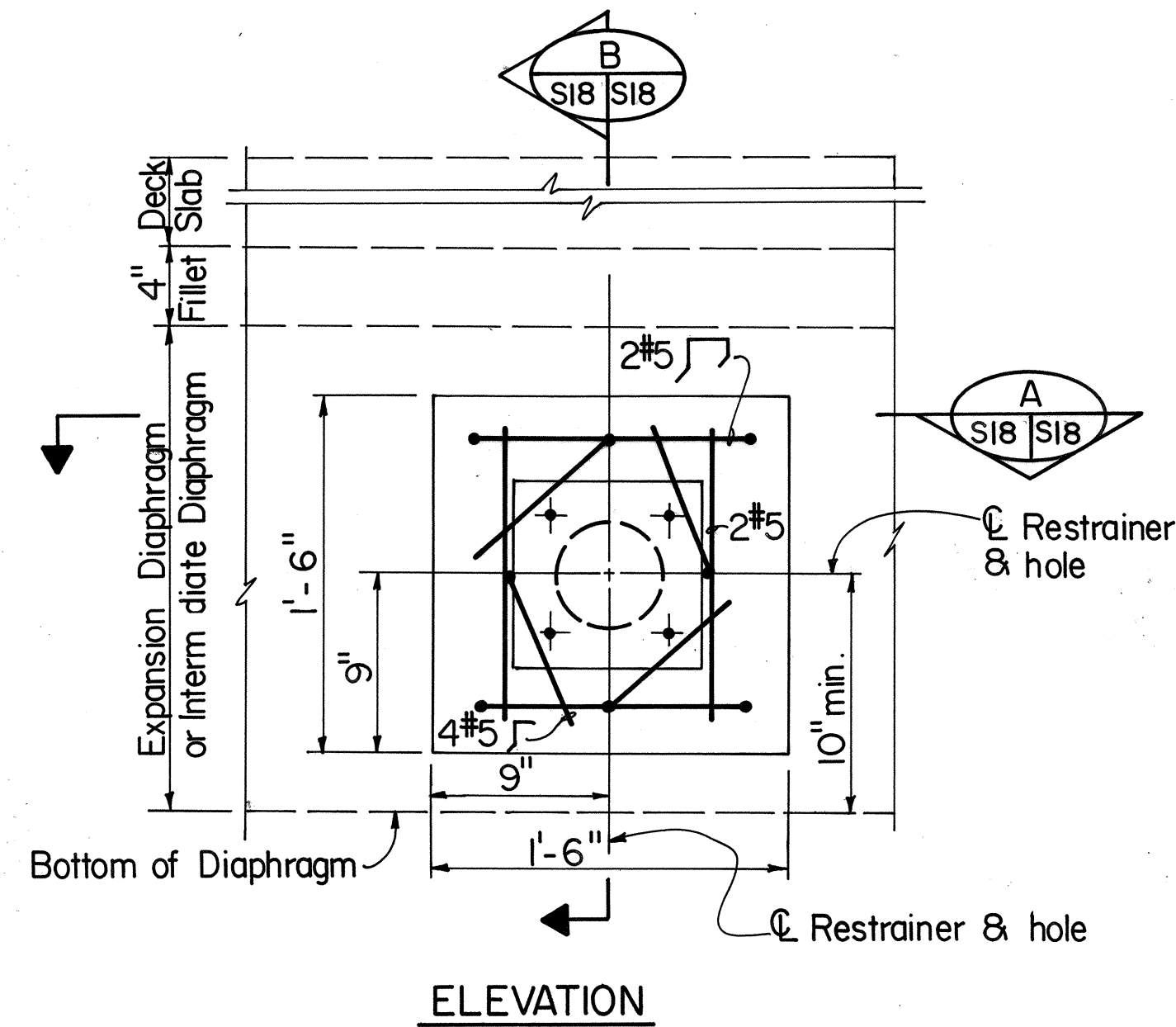


Denotes existing hinge bearing.



272

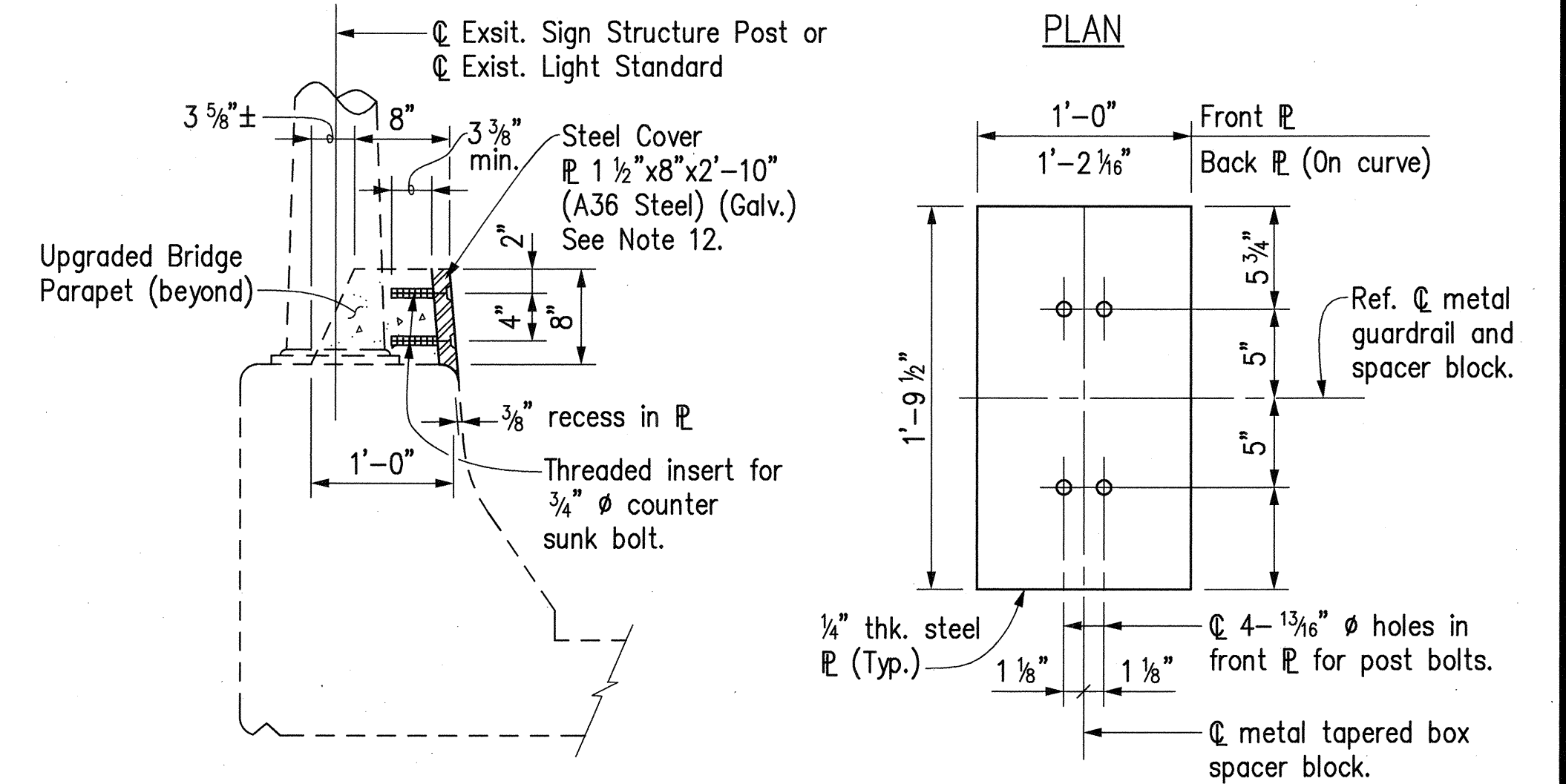
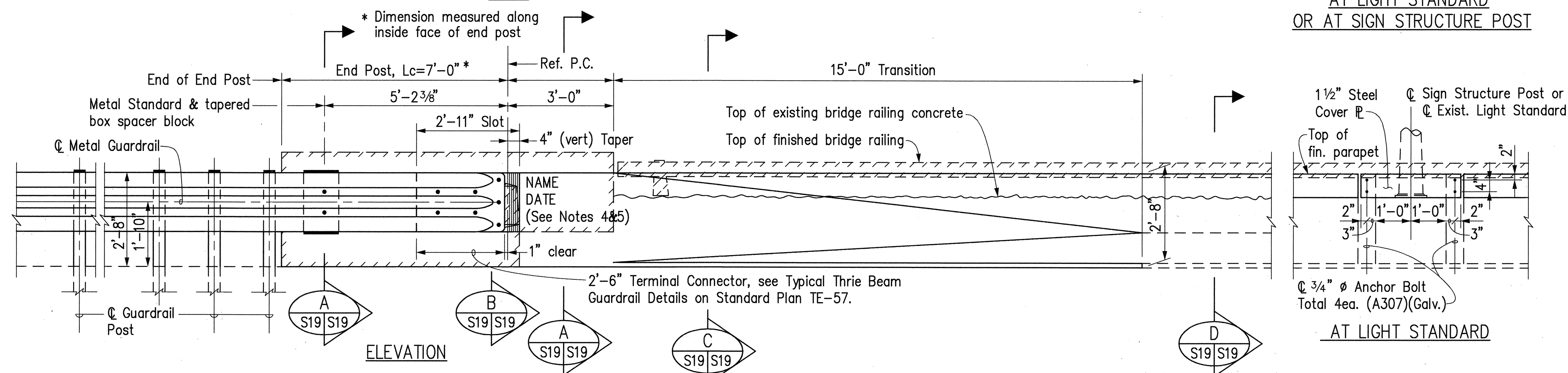
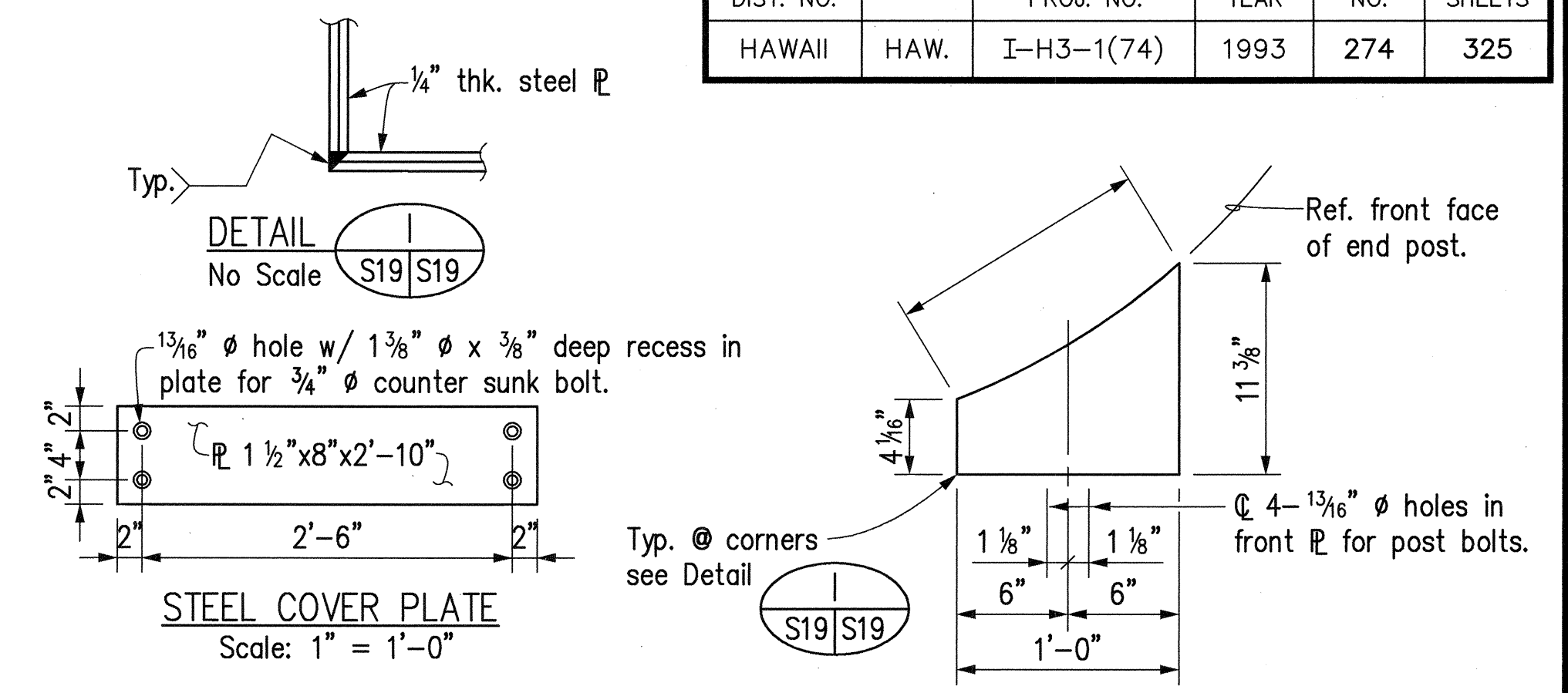
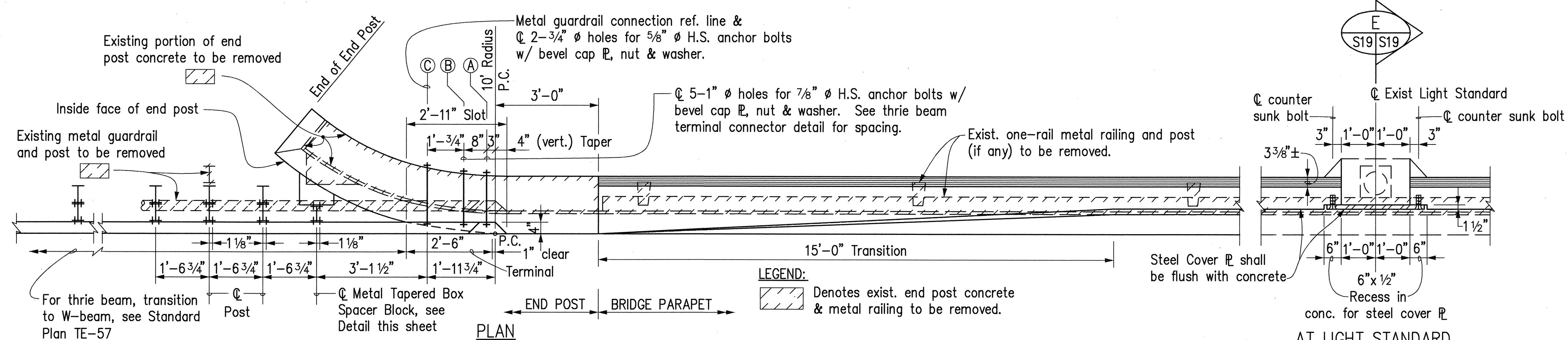
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I - H3-1(74)	1993	273	325



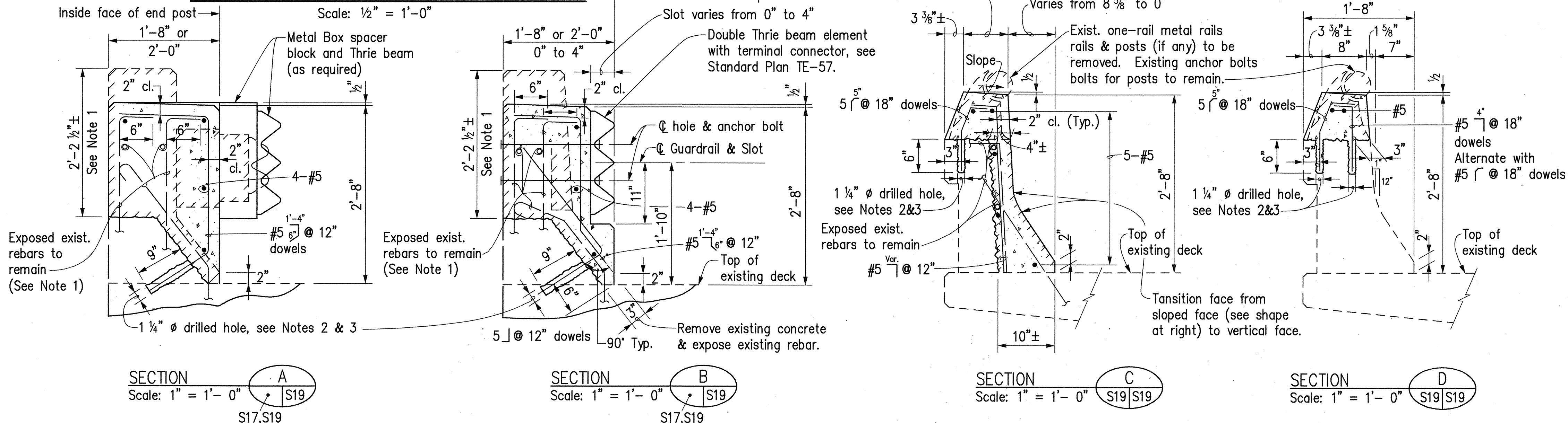
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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
DIAPHRAGM BUILD-UP DETAILS-I
H-3 - HALAWA INTERCHANGE INTERSTATE ROUTE H-3 FAIP NO. I-H3-1(74)
SCALE: AS SHOWN DATE: AUG 1994
SHEET No. S18 OF 35 SHEETS

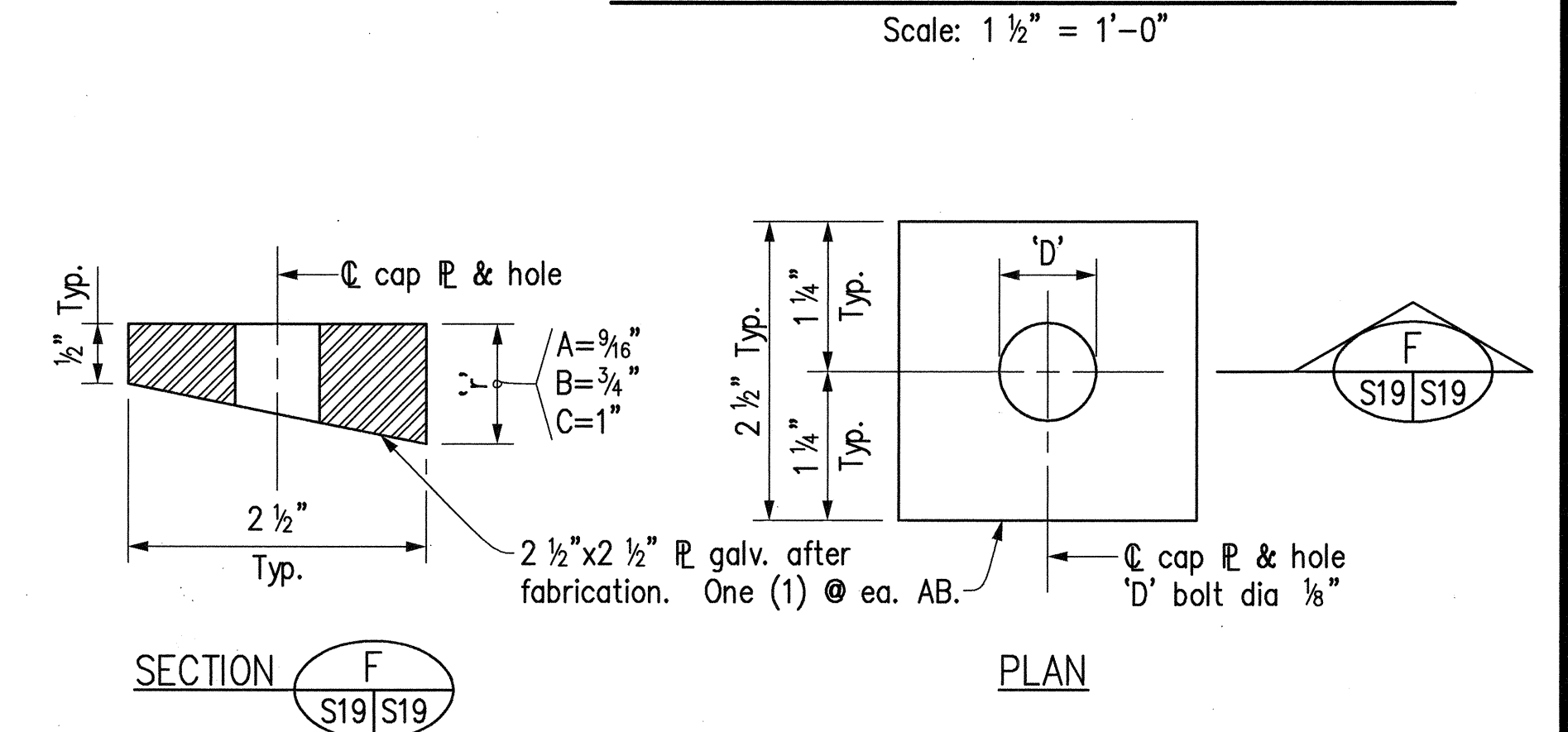
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	274	325



TYPE A BRIDGE PARAPET AND END POST



METAL TAPERED BOX SPACER BLOCK



CAP (BEARING) PLATE DETAIL

- NOTES:

1. Remove the existing end post concrete as shown. The exposed rebars shall be cut to the dimension shown and bent into finished concrete.
2. The interface between new and old concrete shall be roughened, clean and free of laitance. Drill $1\frac{1}{4}"$ $\emptyset$ hole into existing concrete, clean the hole, fill $\frac{2}{3}$ depth of the drilled hole with epoxy grout and insert the dowels.
3. The holes of dowels shall be drilled as shown into the existing concrete surfaces. When the drill contacts any existing rebar, the hole shall be filled with epoxy grout and a replacement hole shall be drilled so that the spacing of dowels will be maintained. Contractor shall avoid cutting existing rebars.
4. Prior to removal of end post concrete, Contractor shall record the name and date of each structure. The same name and date of each structure shall be placed on the same side of the finished end post.
5. For letter size and detail of name and date of each structure, see Standard Plan B-01.
6. All concrete shall be Class A.
7. All rebars shall be ASTM A615 Grade 40.
8. Cap P and tapered box spacer shall be fabricated from ASTM A36 steel and hot-dip galvanized after fabrication.
9. Cap P's, tapered box spacer, anchor bolts including nuts and washers and other appurtenances shall be incidental to beam type guardrail and will not be paid for separately.
10. All anchor bolts shall be high strength conforming to the requirements of ASTM A325 and shall be galvanized.
11. All open joint in existing concrete parapet shall be maintained.
12. Steel cover plate, counter sunk bolts, inserts shall be incidental to Bridge Parapet and will not be paid for separately.



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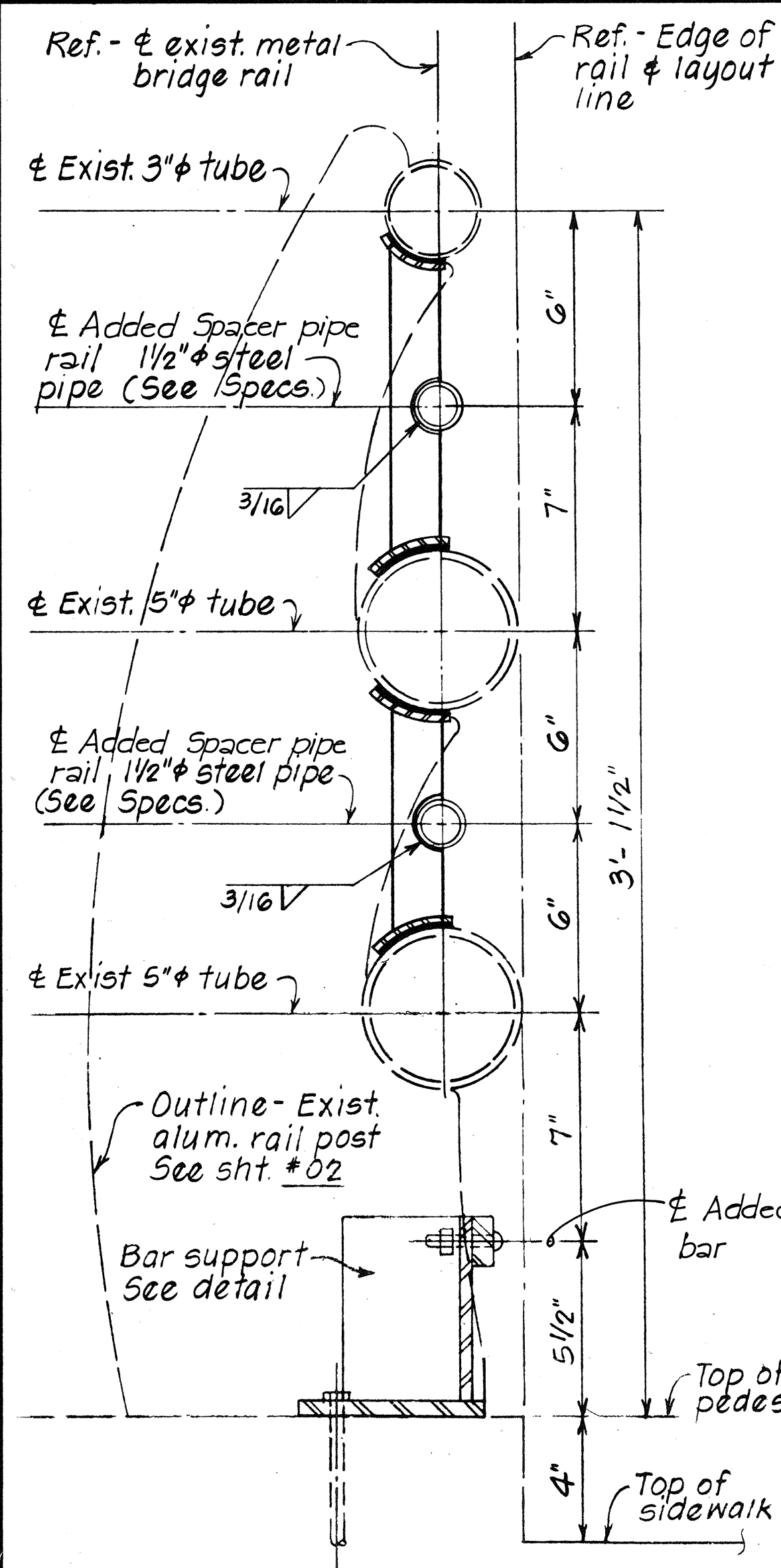
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL UPGRADE DETAILS FOR
BRIDGE PARAPET & END POST

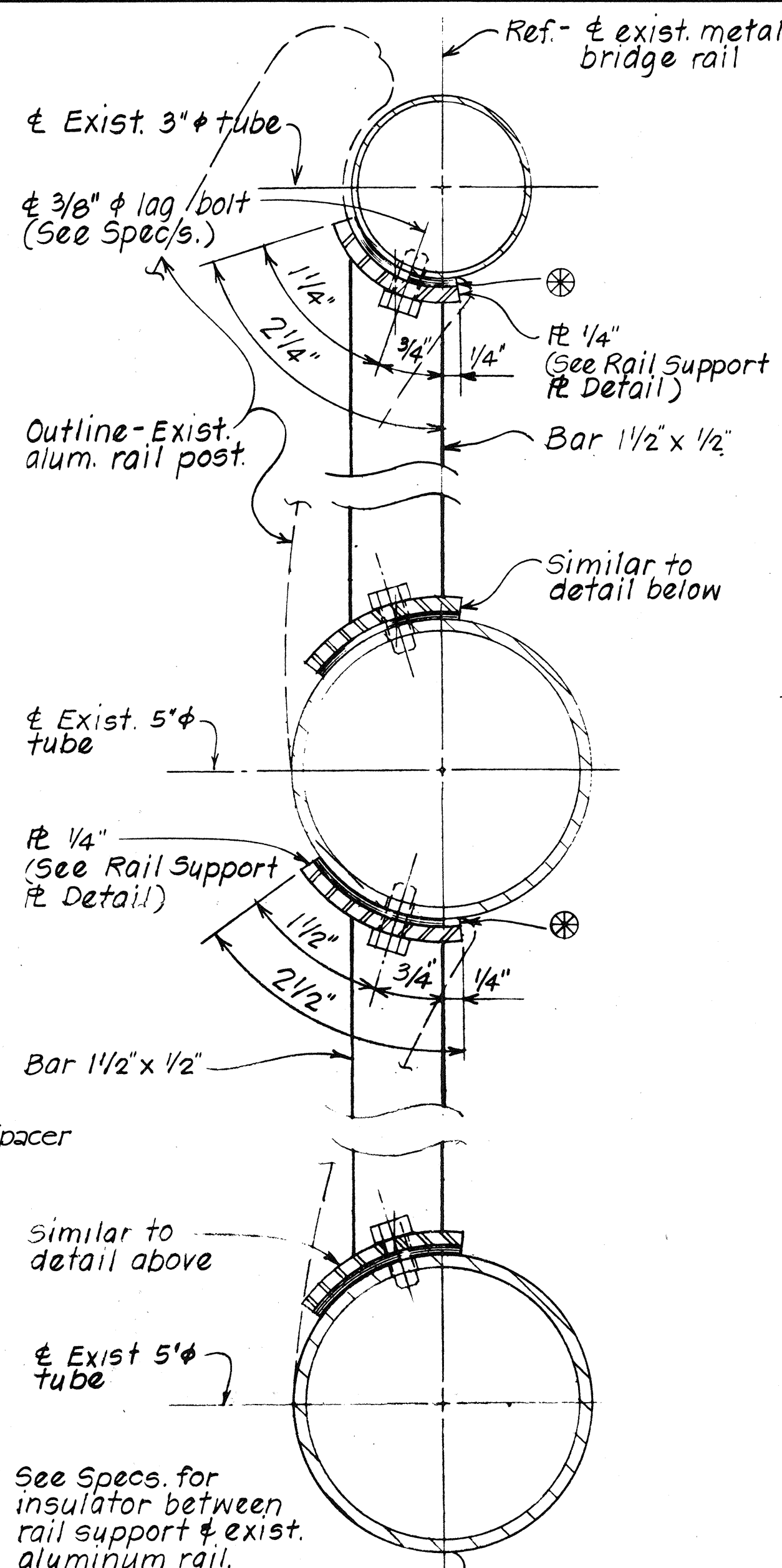
H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

SCALE: AS SHOWN DATE: AUGUST 1994
SHEET NO. S19 OF 35 SHEETS

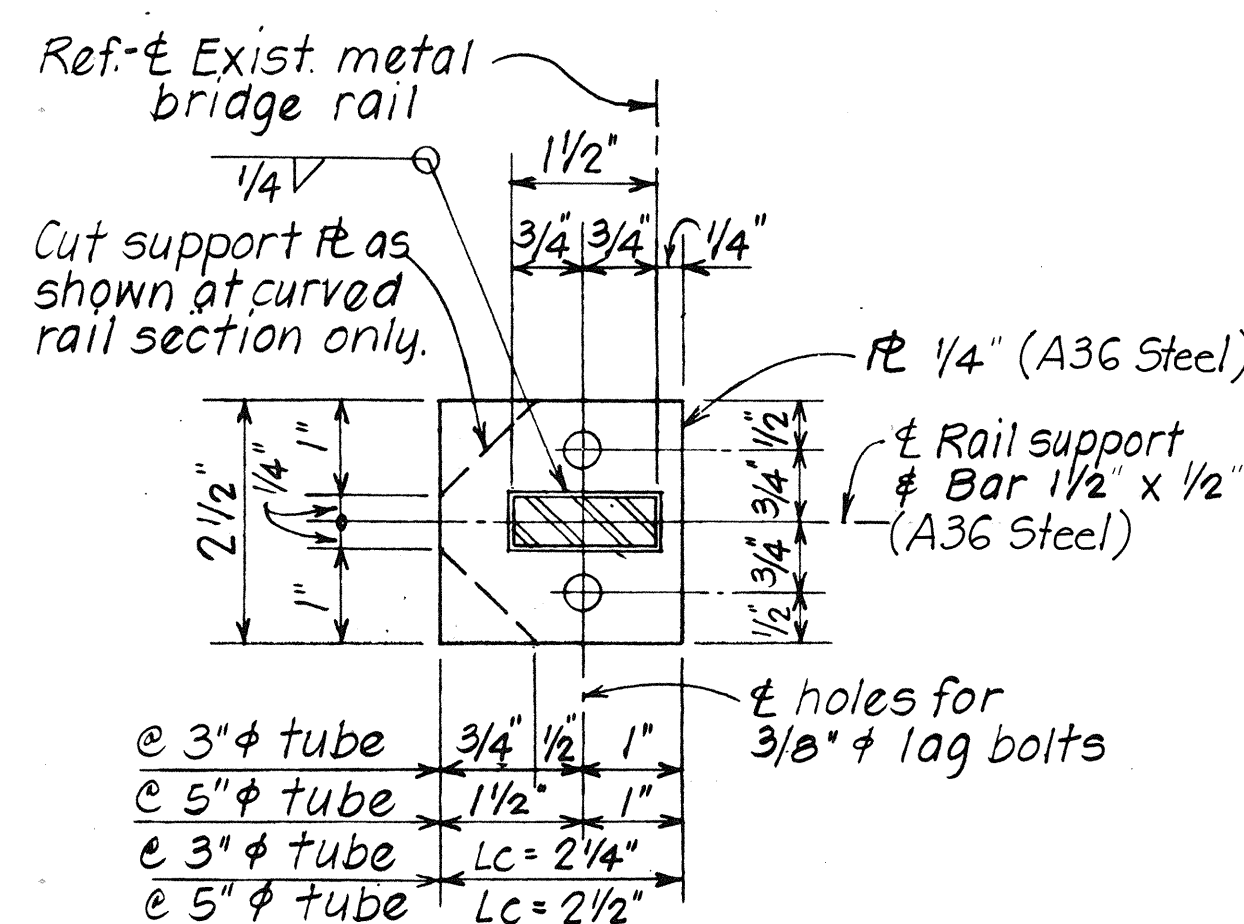
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
HAWAII	HAW.	I-H3-1(74)	1993	275	325



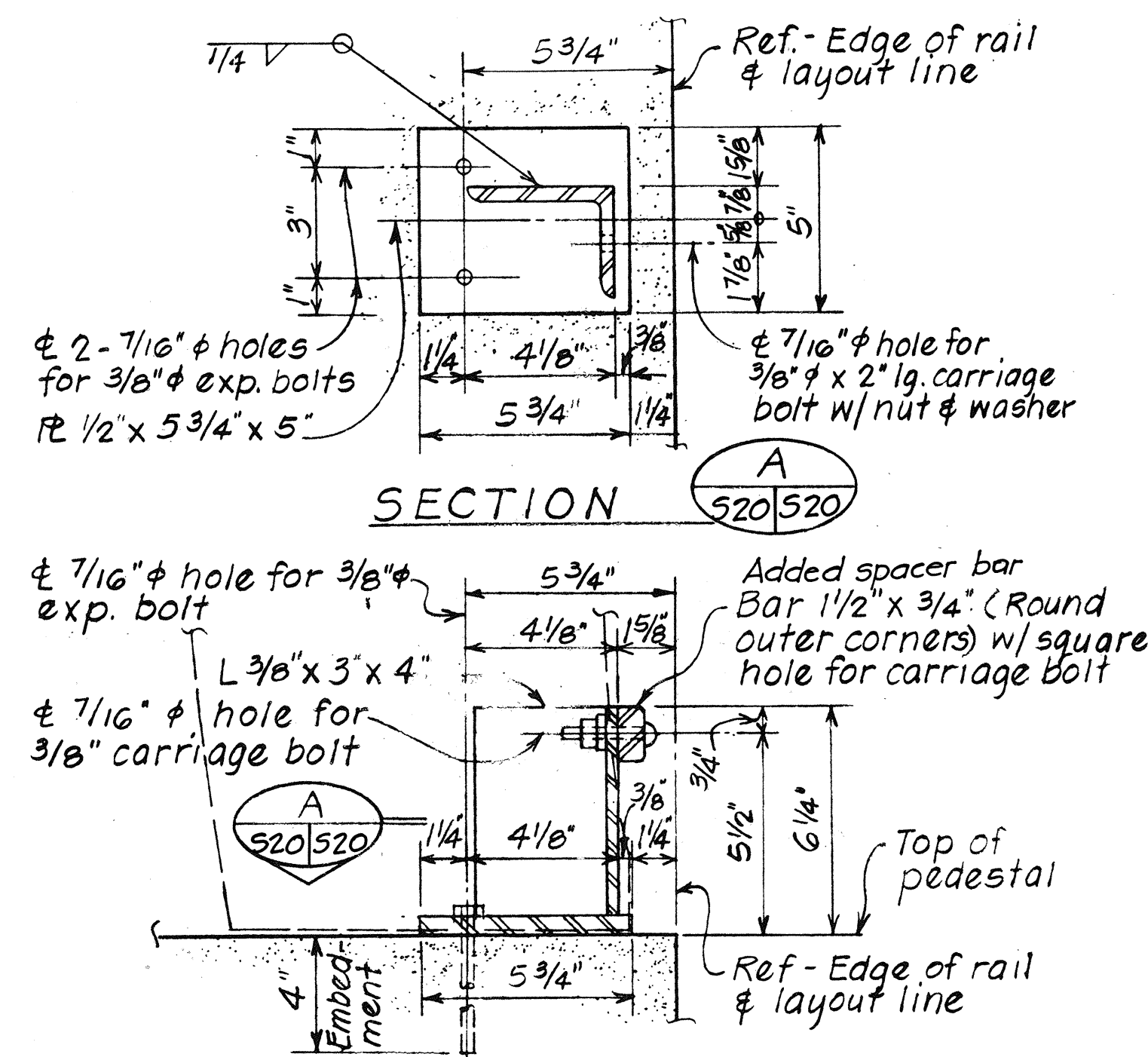
TYPICAL SECTION
Scale: 3" = 1'-0"



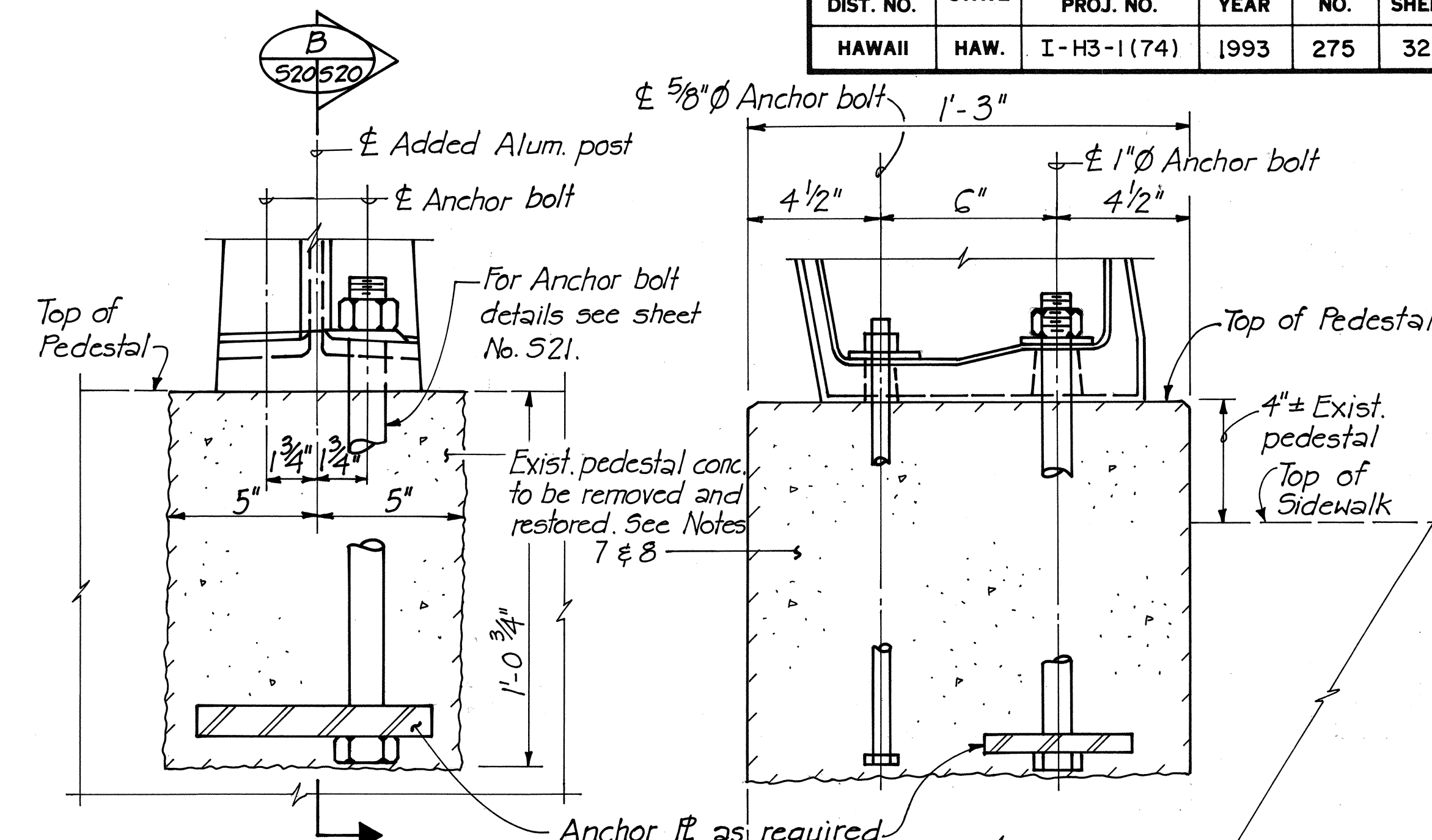
TYPICAL ADDED SPACER PIPE
RAIL SUPPORT DETAIL
Scale: 1/2" = 1"



RAIL SUPPORT & DETAIL Scale: $\frac{1}{2}" = 1'$



ELEVATION
ADDED SPACER BAR SUPPORT DETAIL
Scale: 3" = 1'-0"

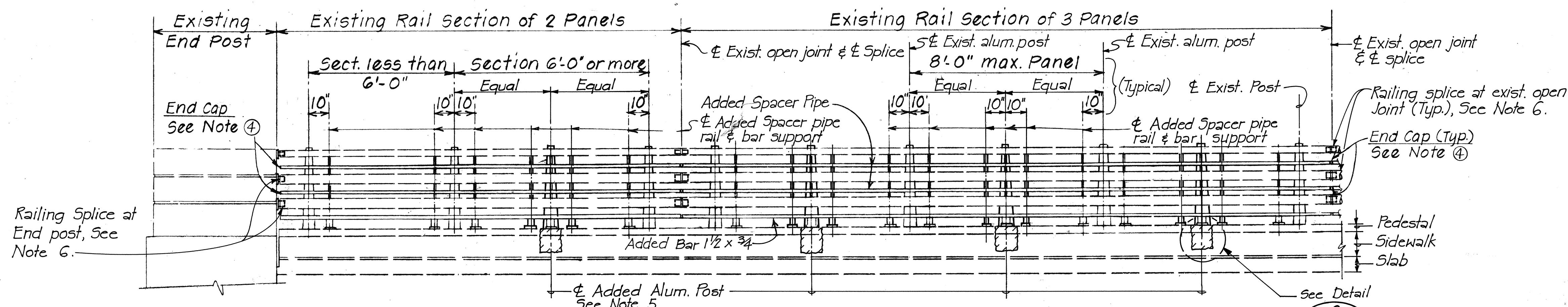


DETAIL  2
Scale: 3" = 1'-0"  520

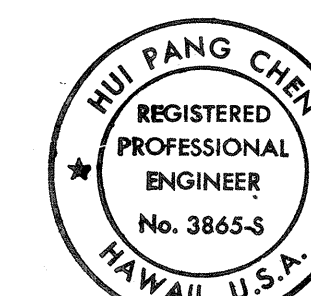
SECTION B
Scale: 3" = 1'-0" 520 | 520

NOTES :

1. See Standard Specifications for Road and Bridge Construction, 1985 Edition.
2. Added rail supports shall be hot dip galvanized after fabrication.
3. Items noted incidental will not be paid for separately.
4. End cap shall be $\frac{3}{16}$ " thick PL, shaped, welded and ground smooth to match pipe.
5. When spacings of existing aluminum posts exceed 6'-0", an additional aluminum post shall be added at the midpoint as shown. For details of the added aluminum post, see sheet No. 521.
6. For splice details at existing open joint and end post, see sheet No. 522.
7. Remove the existing pedestal concrete in the pocket as shown. The exposed rebars and light conduits shall remain.
8. The interface between new and old concrete shall be roughened, clean and free of laitance. Install anchor bolts and anchor plates and fill the pocket with non-shrink, non-metallic grout.



ELEVATION - TYPICAL RAIL SUPPORT SPACING
Scale: $3/8" = 1'-0"$



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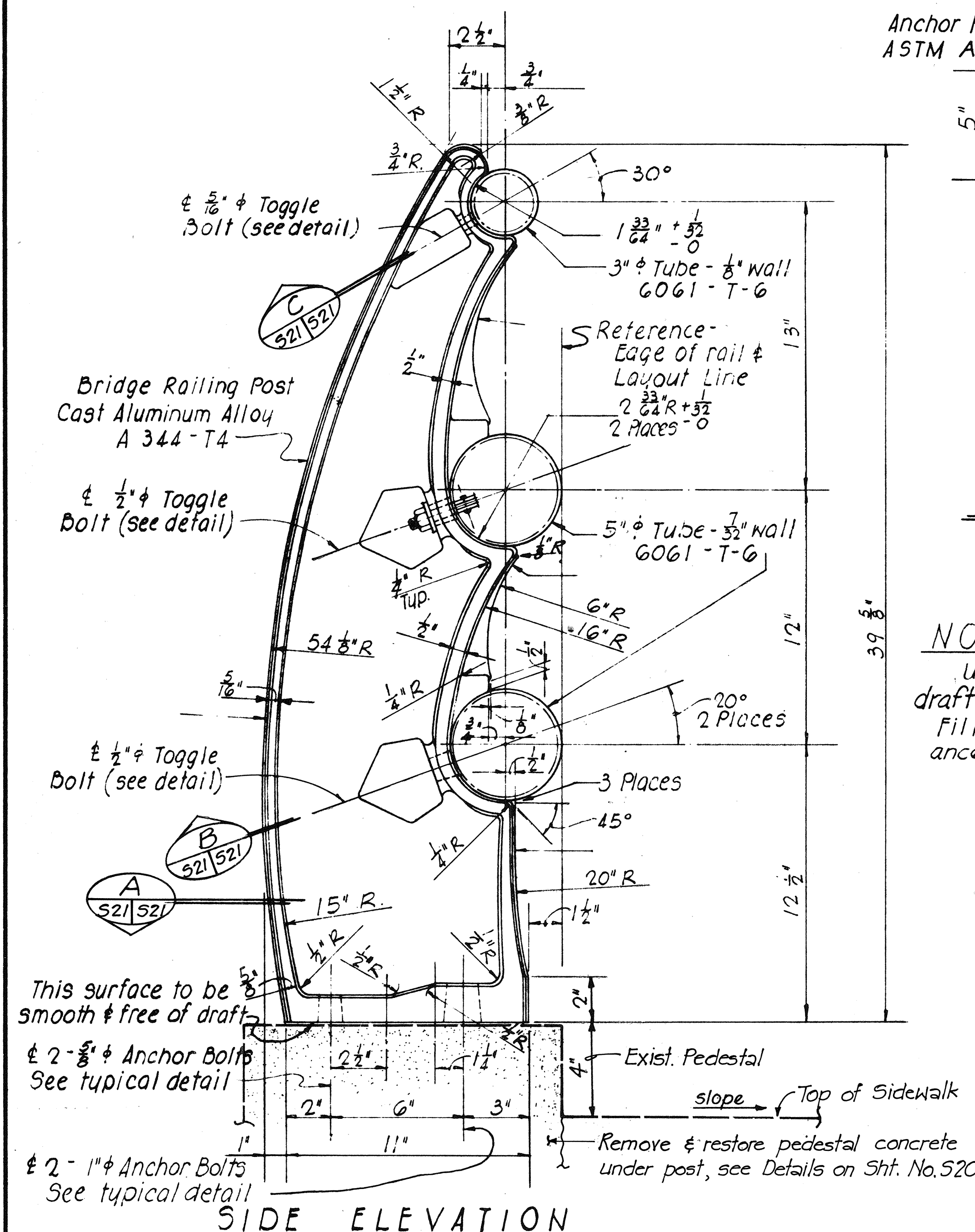
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL UPGRADE DETAILS FOR
THREE-RAIL METAL RAILING - I

H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1 (74)

SCALE: AS SHOWN DATE: AUG 1994
SHEET No. S20 OF 35 SHEETS

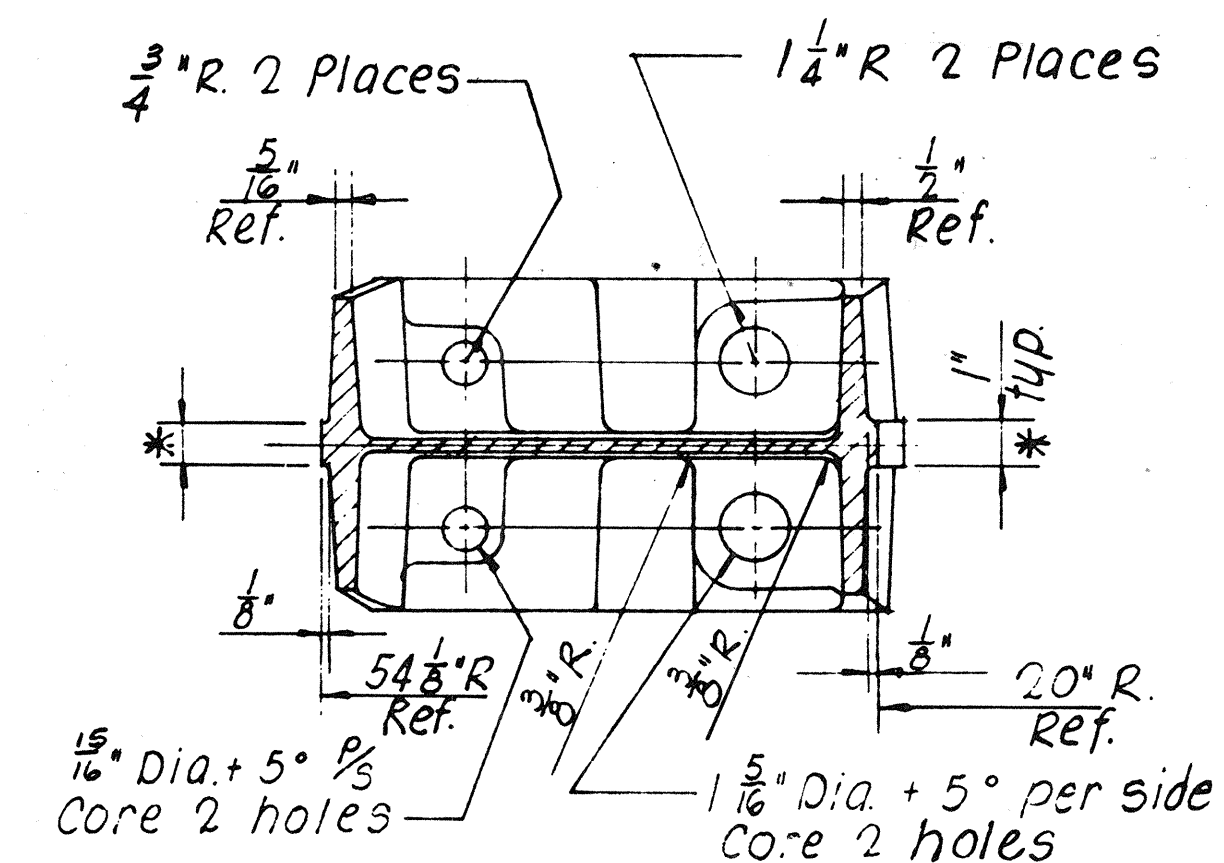
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (74)	1993	276	325



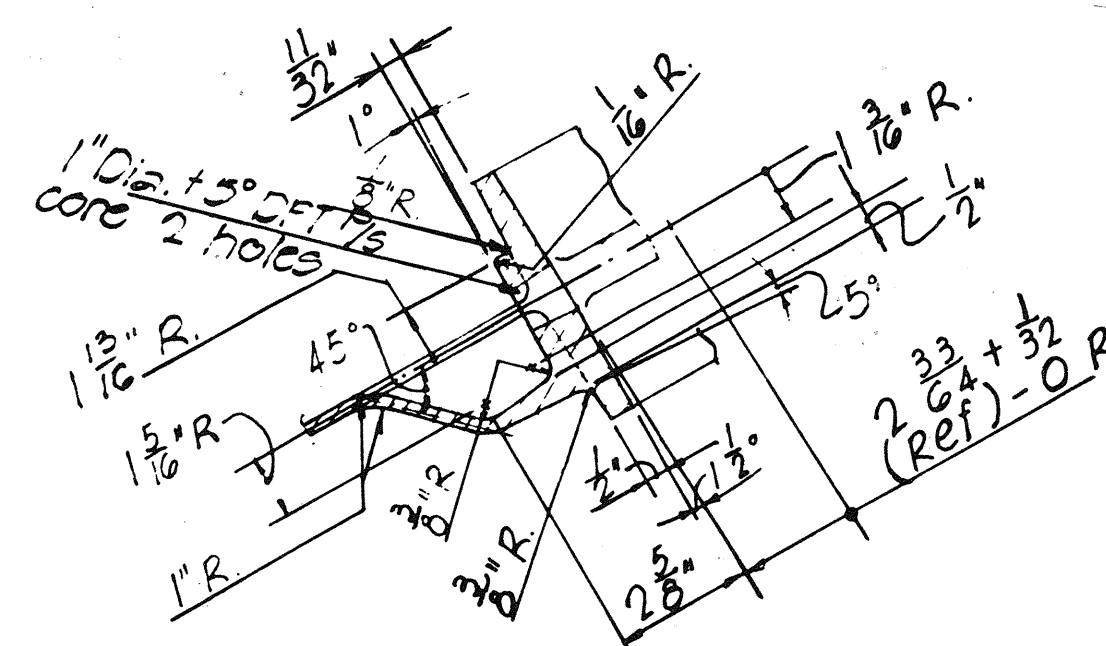
SIDE ELEVATION

TYPICAL ADDED ALUMINUM RAIL POST DETAILS

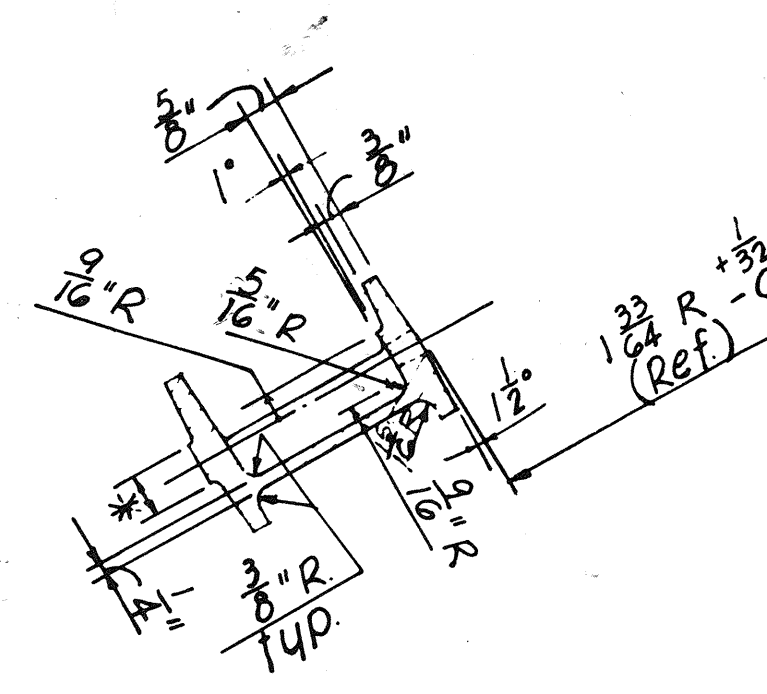
SCALE: 3" = 1'-0"



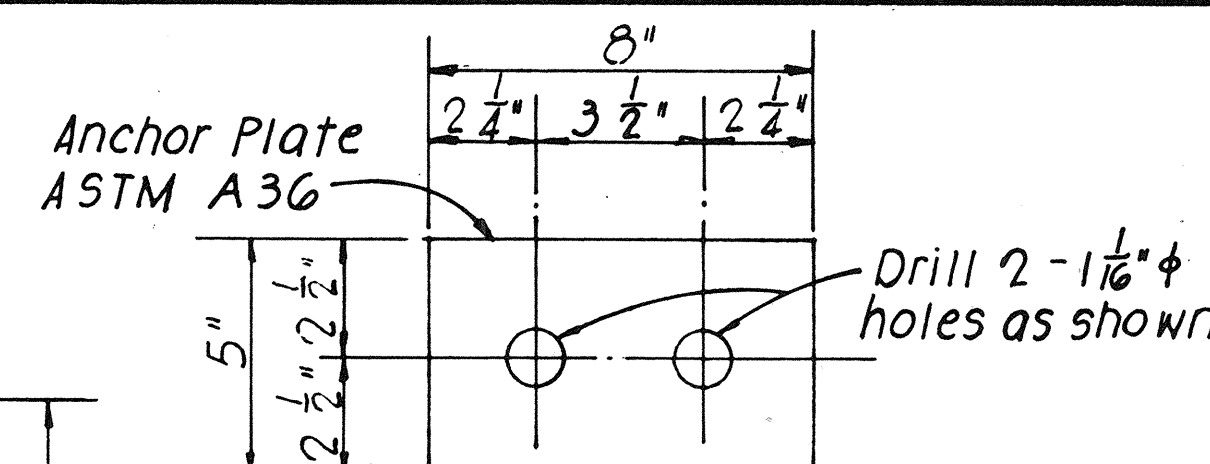
SECTION A
SCALE: 3" = 1'-0"



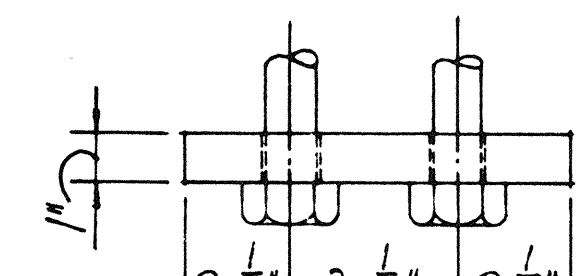
SECTION B
SCALE: 3" = 1'-0"



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



PLAN

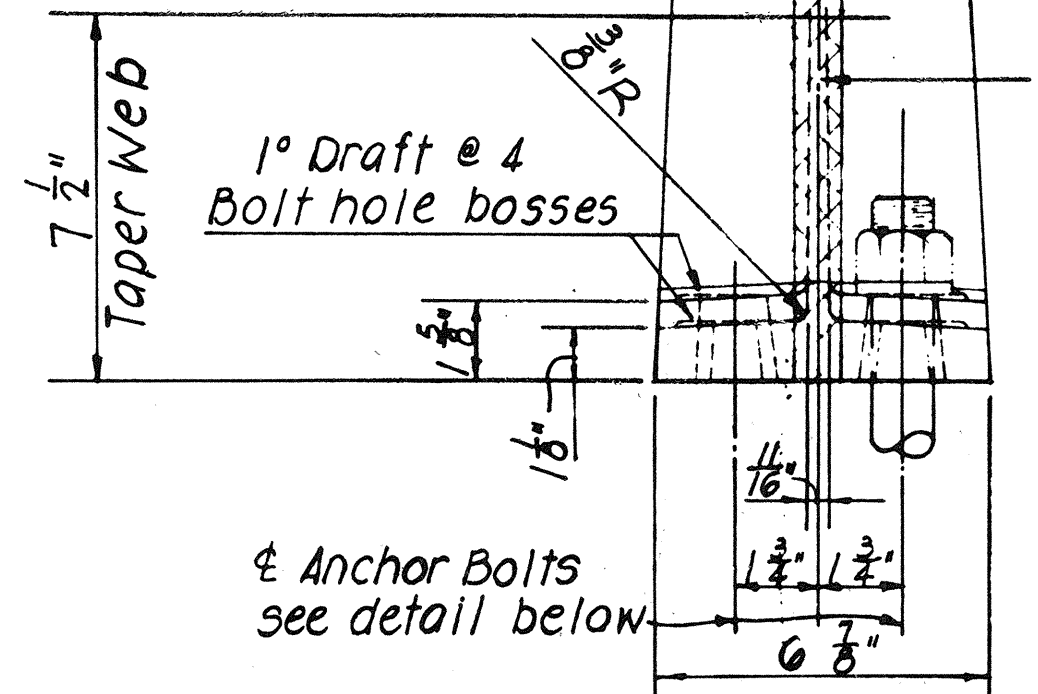


ELEVATION

ANCHOR PLATE DETAIL

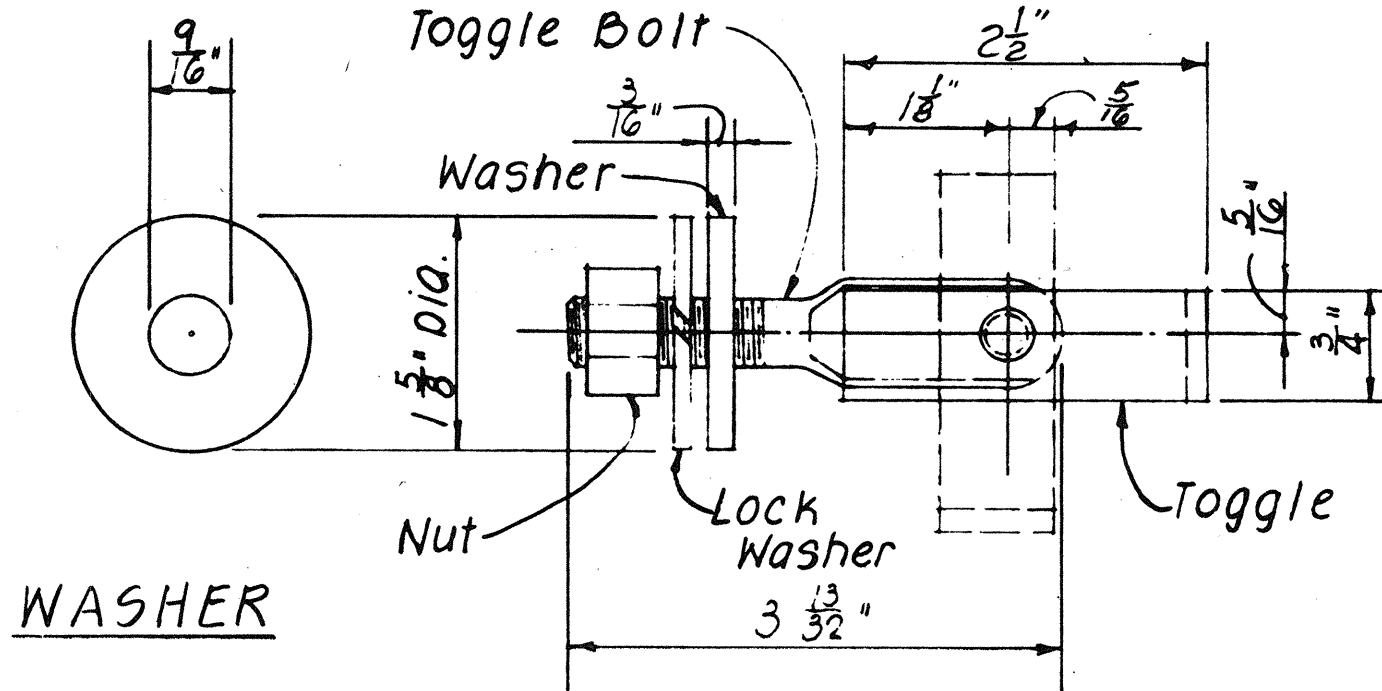
SCALE: 3" = 1'-0"

NOTE!!
Unless otherwise specified,
draft angles - 3°; corner radii - 1/8" R;
Fillet radii - 3/8" radii; casting toler-
ance - ± 1/16", and wall thickness = ± 1/32".
2" (2 Places)



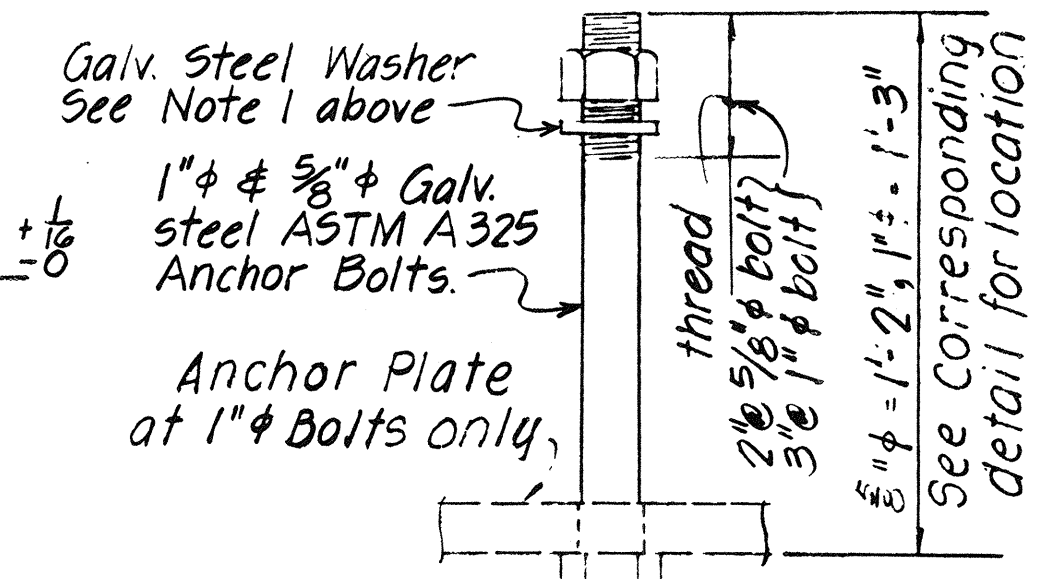
END ELEVATION

NOTE:
Toggle Bolt- Cadmium plating on steel- Type NS 0.0005" thick
ASTM- A165. (all parts).

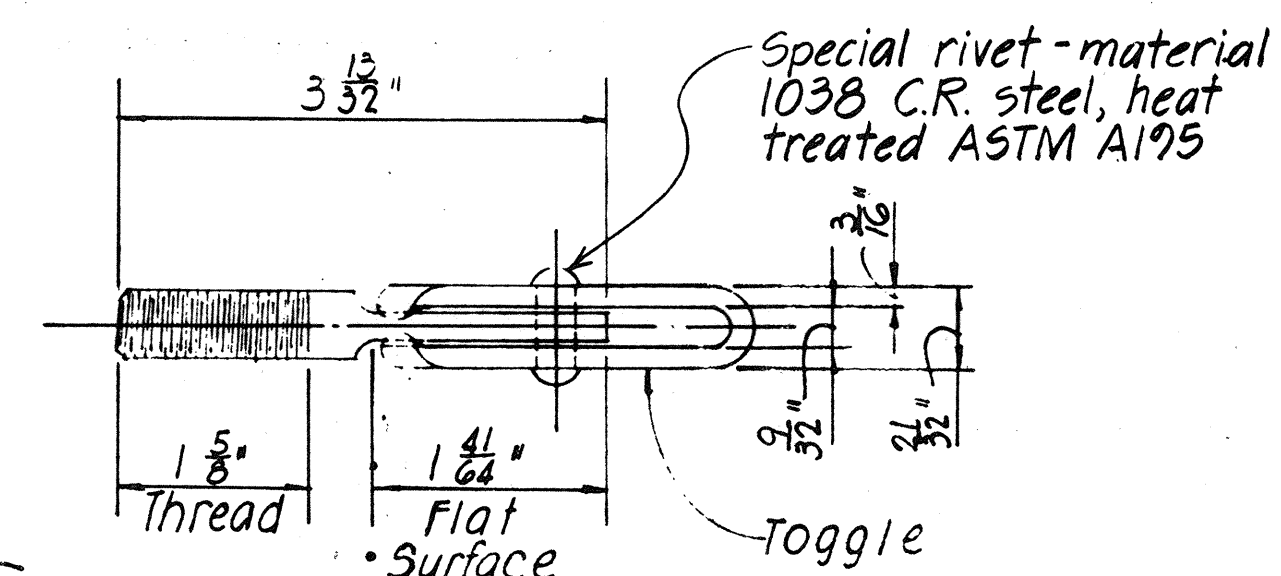


WASHER SIDE ELEVATION ASSEMBLY

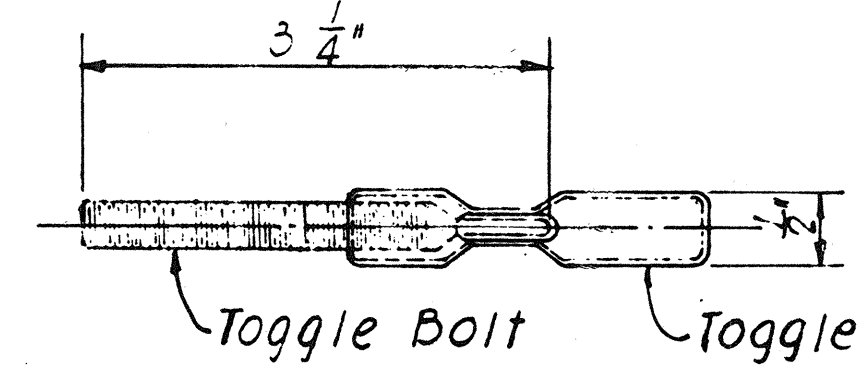
NOTE!!
1. 1" dia. bolt washer size 2 1/2"
O.D. x 1 1/4" I.D. x 1/4" thick.
5/8" dia. bolt washer size 1 3/4"
O.D. x 1 1/4" I.D. x 1/4" thick.
2. Anchor bolts shall be embedded
such that the threads are
excluded from the shear
plane and approximately 2
threads are exposed above
the nut.



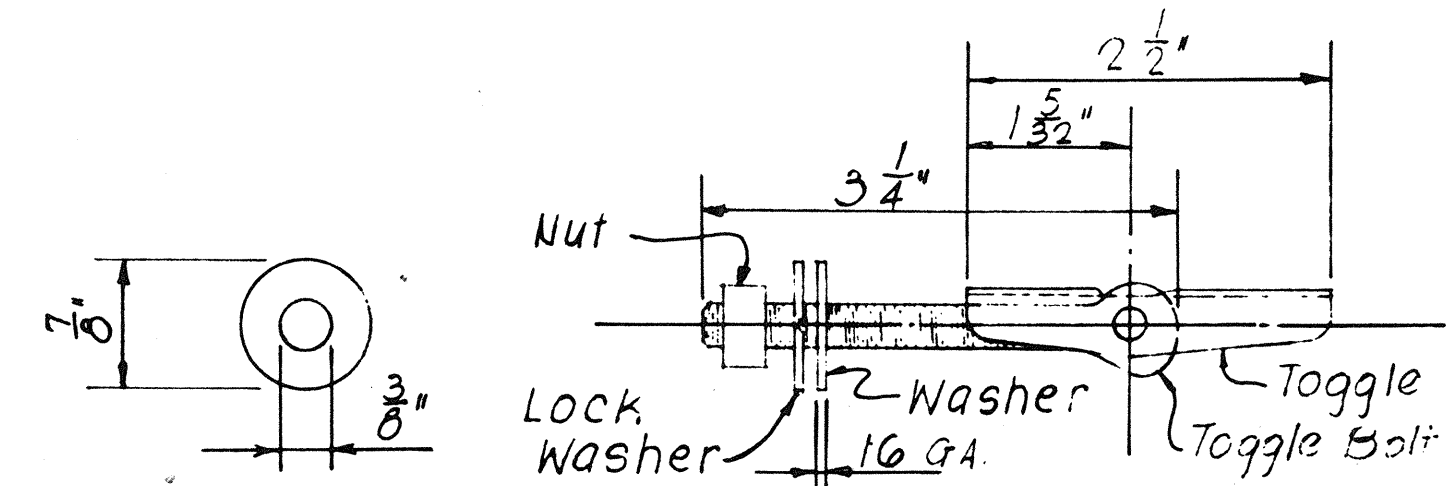
TYPICAL ANCHOR BOLT DETAIL
Scale: 3" = 1'-0"



TOP PLAN
1/2" STEEL TOGGLE BOLT DETAIL

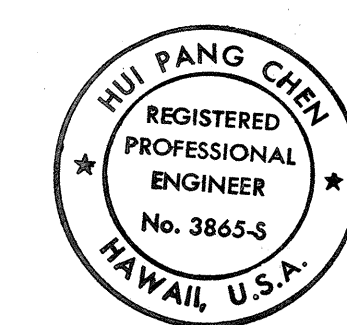


TOP PLAN



WASHER ELEVATION ASSEMBLY

5/16" STEEL TOGGLE BOLT DETAIL



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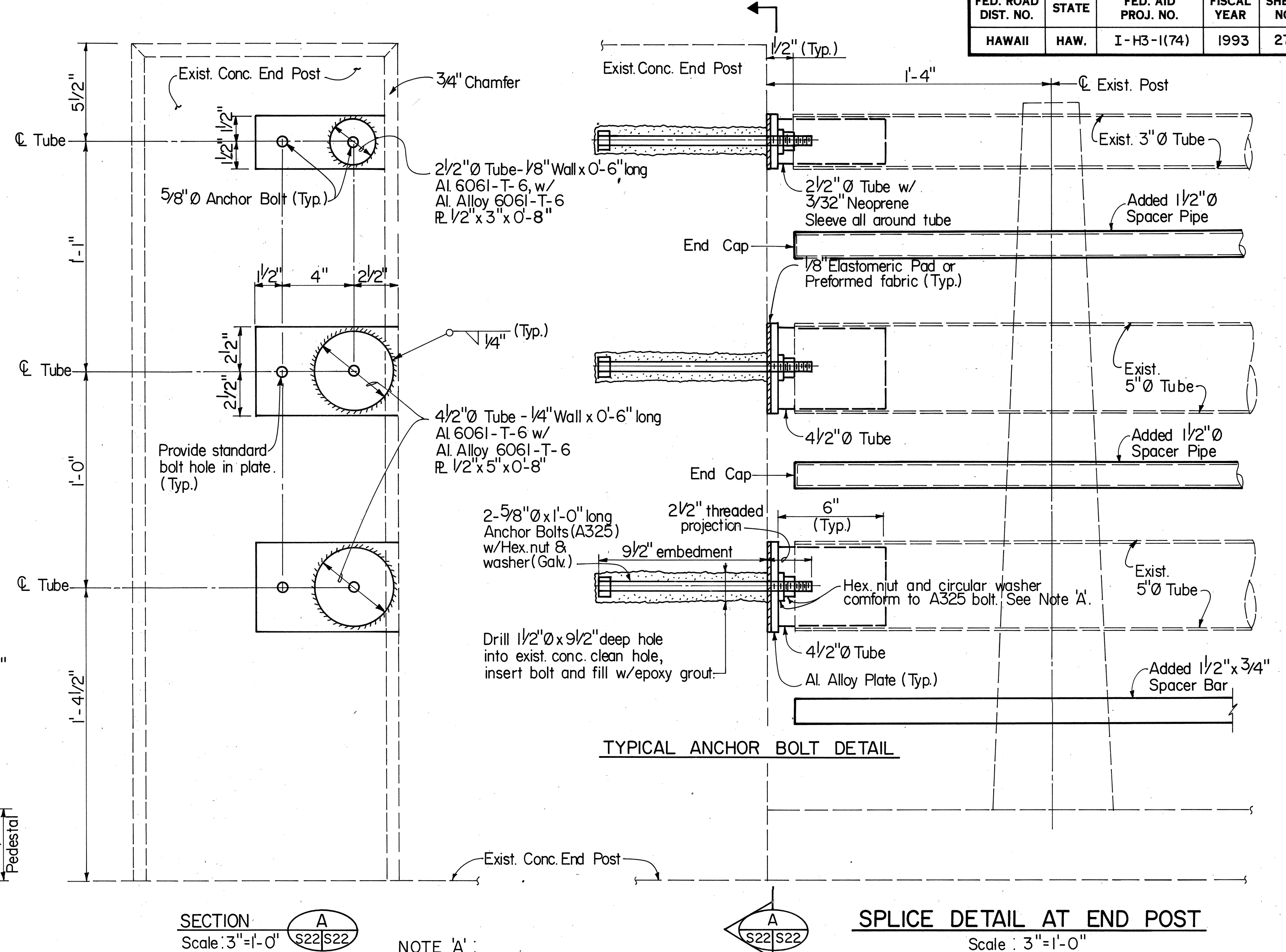
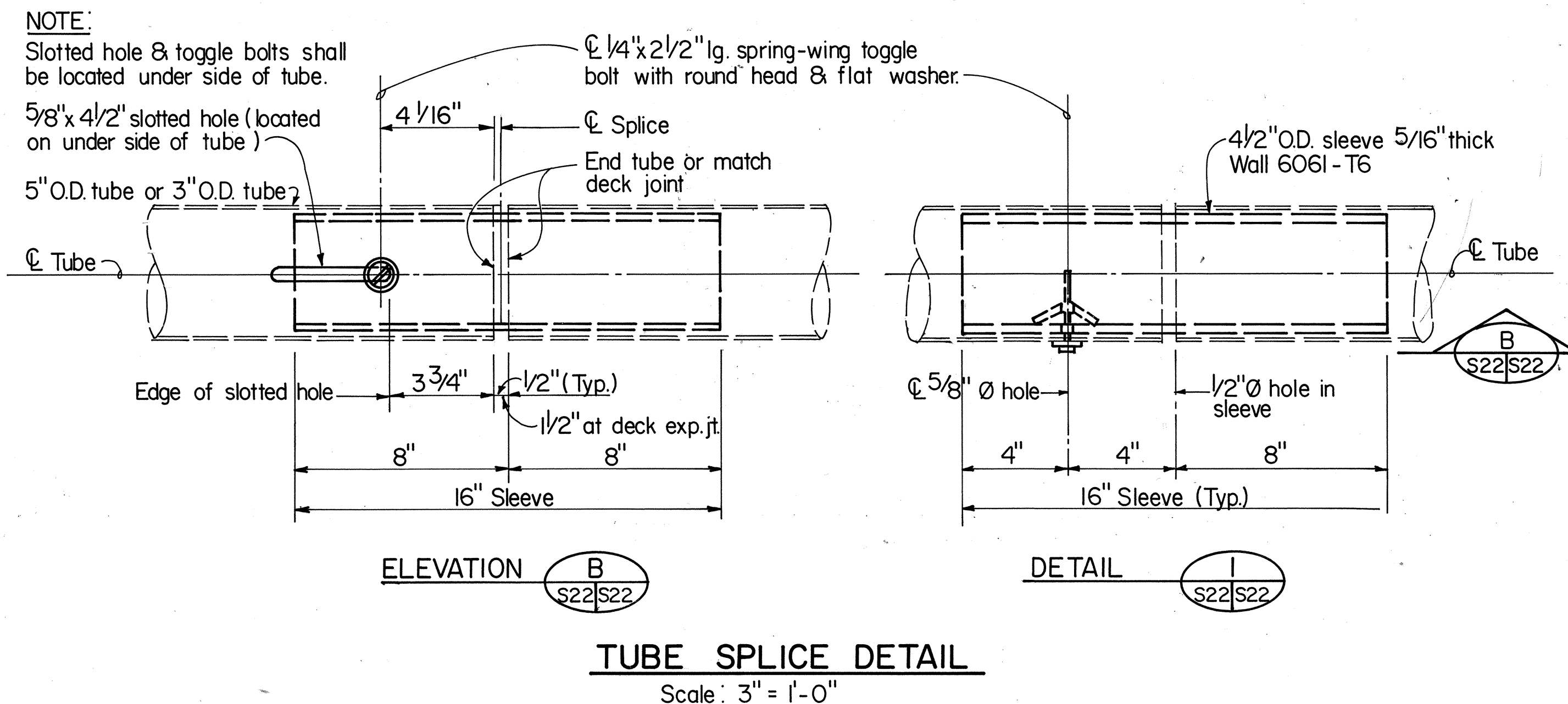
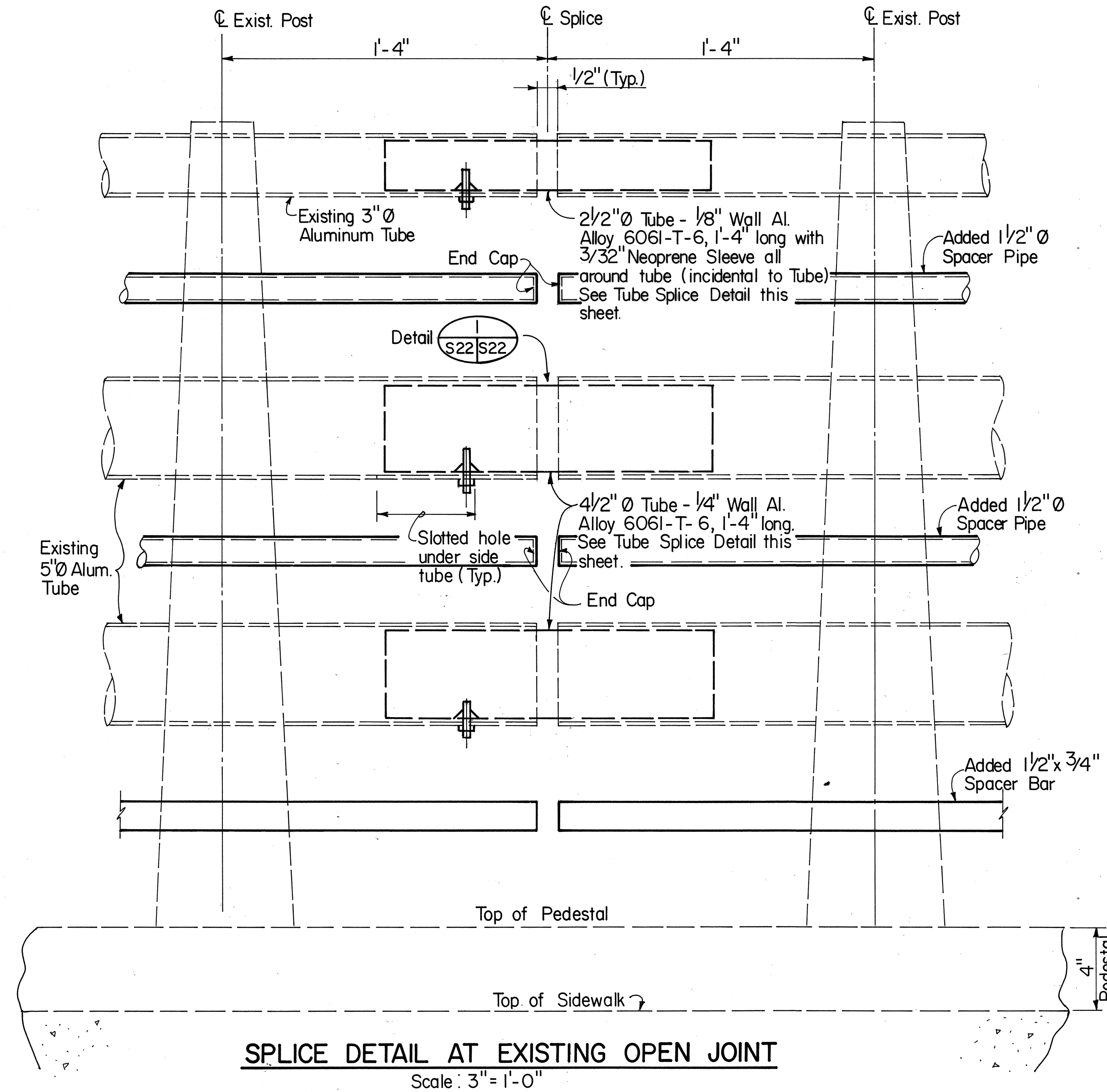
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL UPGRADE DETAILS FOR
THREE-RAIL METAL RAILING- 2

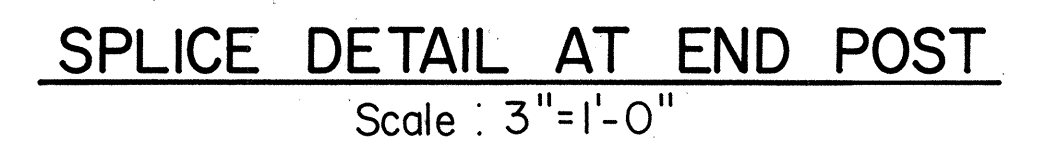
H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1 (74)

SCALE: AS SHOWN DATE: AUG 1994
SHEET No. S21 OF 35 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	277	325



NOTE 'A':
Provide 1/8" thick neoprene rubber gasket between washer & aluminum plate.



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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

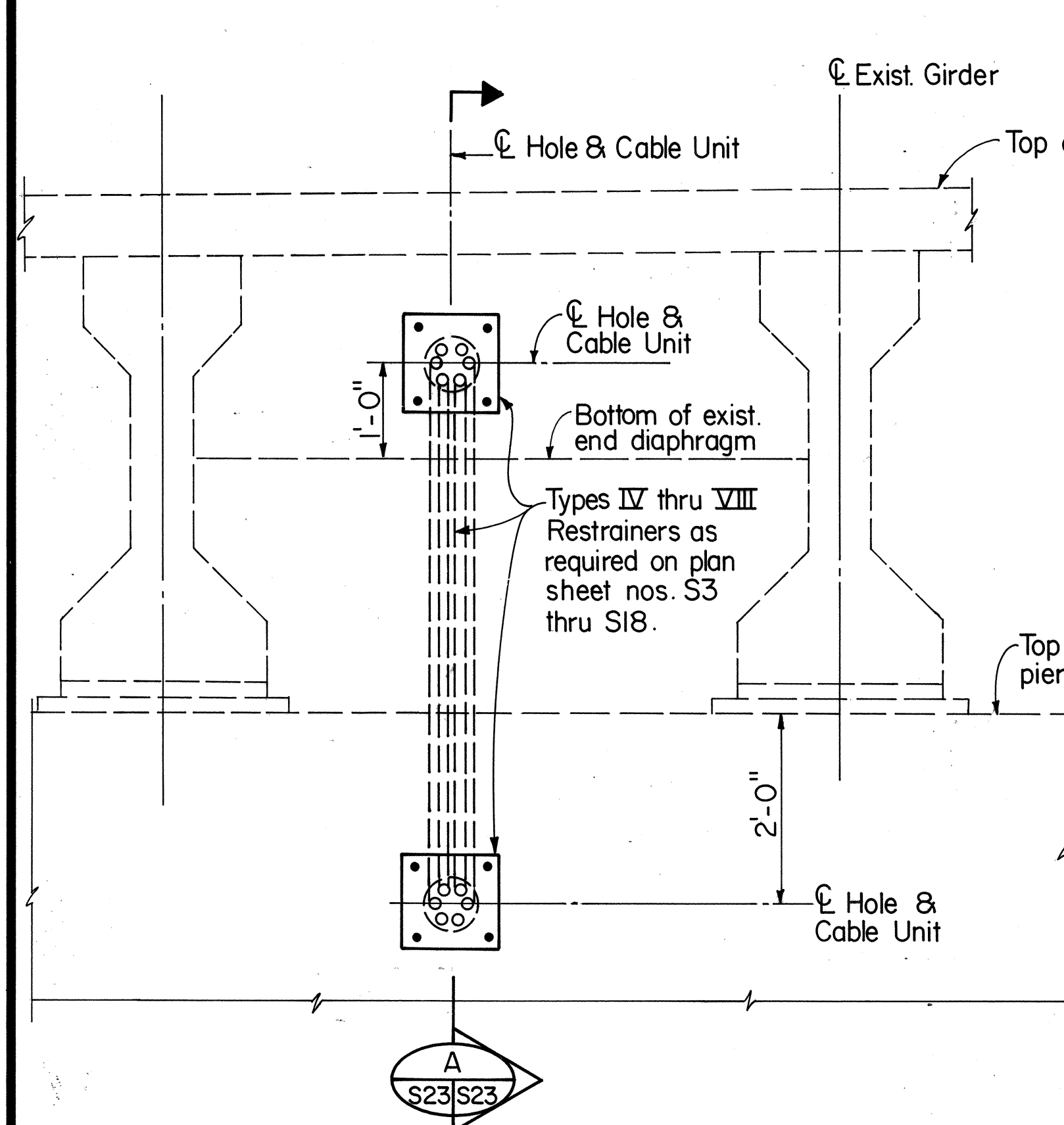
**TYPICAL UPGRADE DETAILS FOR
THREE-RAIL METAL RAILING-3**

H-3-HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

SCALE: AS SHOWN DATE: AUG 1994

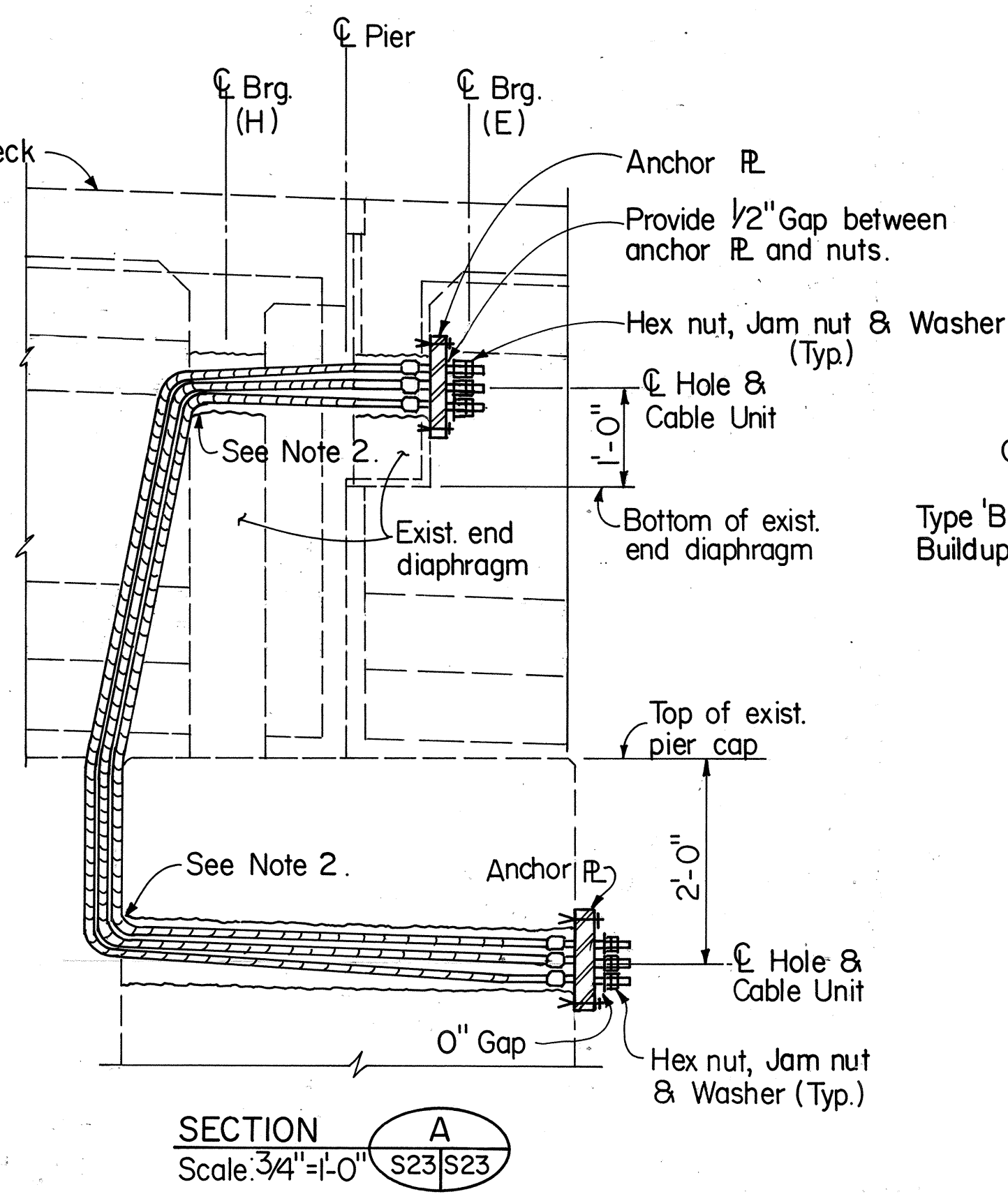
SHEET No. S22 OF 35 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	278	325



TYPE IV THRU VII RESTRAINER DETAILS

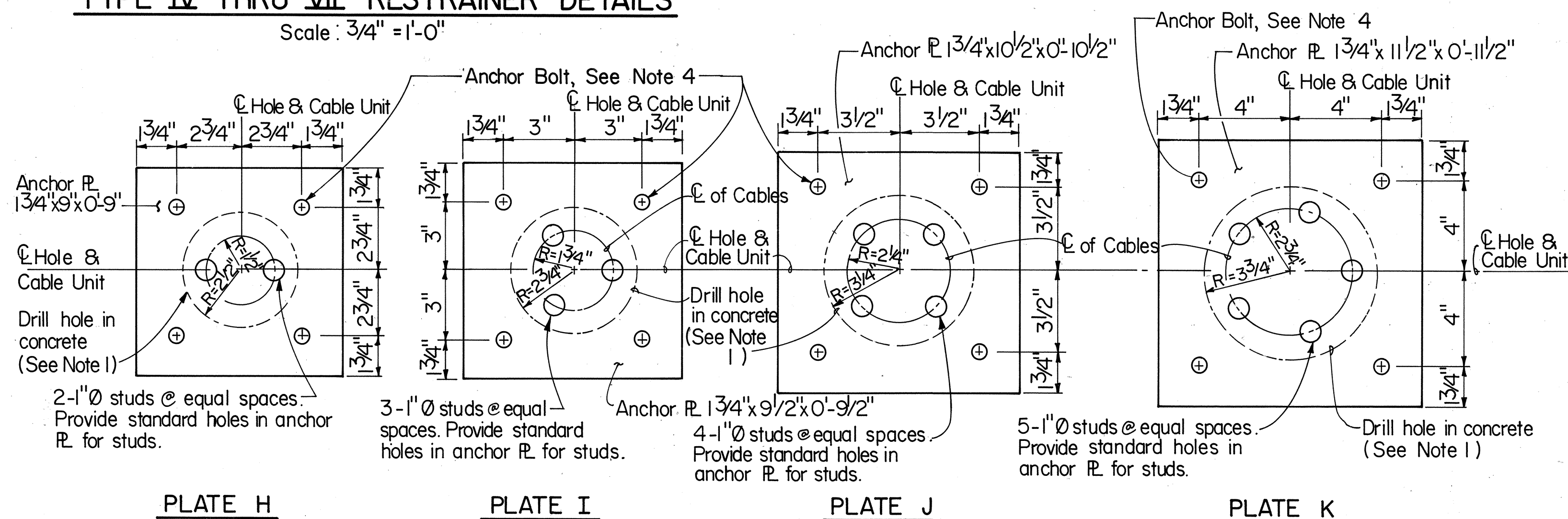
Scale: 3/4" = 1'-0"



TYPE VIII, IX, X RESTRAINER DETAILS

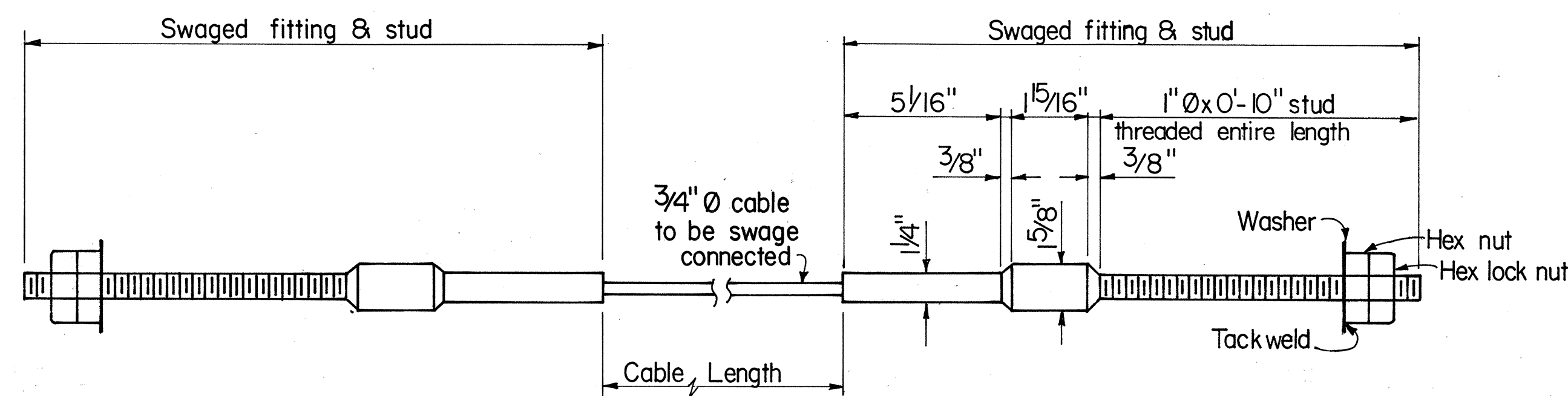
NOTES:

1. Prior to drilling the hole shown, a rebar detecting device shall be applied to verify any conflict between the existing rebars and the drilling hole. The location of the drilling hole shown may be adjusted in field to avoid cutting any existing rebars as possible.
2. The concrete at the corner of the drilling hole that contacts the restrainer cable bends shall be chipped to a smoothly curved surface of 4" radius.
3. The anchor nuts should be snugged to take slack out of the cables, then tightened one turn per 5 feet of restrainer length. The nut should then be backed off a distance equal to 1/2" and locked with a jam nut.
4. Anchor bolts for plates shall be 3/4"Ø x 5 1/2" long adhesive type meeting the requirements of ASTM A307. Where buildups are required threaded ferrule loop inserts may be used. Provide standard size hole in anchor plate for bolt.



RESTRAINER ANCHOR DETAILS

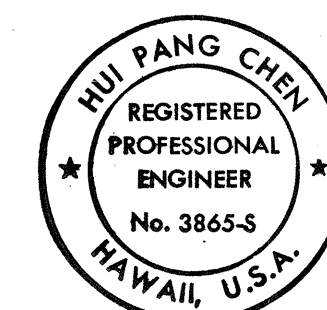
Scale: 3" = 1'-0"



CABLE END ANCHORAGE (RESTRAINER UNITS TYPE IV THRU X)

N.T.S.

RESTRAINER TYPE	PLATE ASSEMBLY TYPE	NO. OF CABLES
IV	H (2)	2
V	I (2)	3
VI	J (2)	4
VII	K (2)	5
VIII	H (2)	2
IX	I (2)	3
X	J (2)	4



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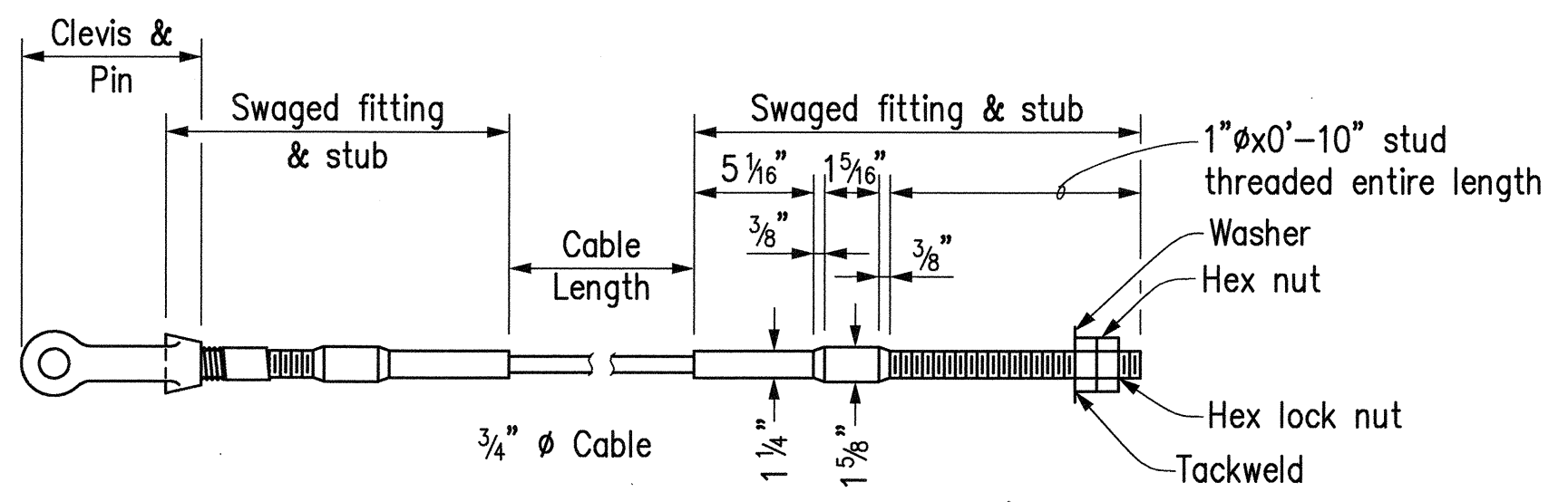
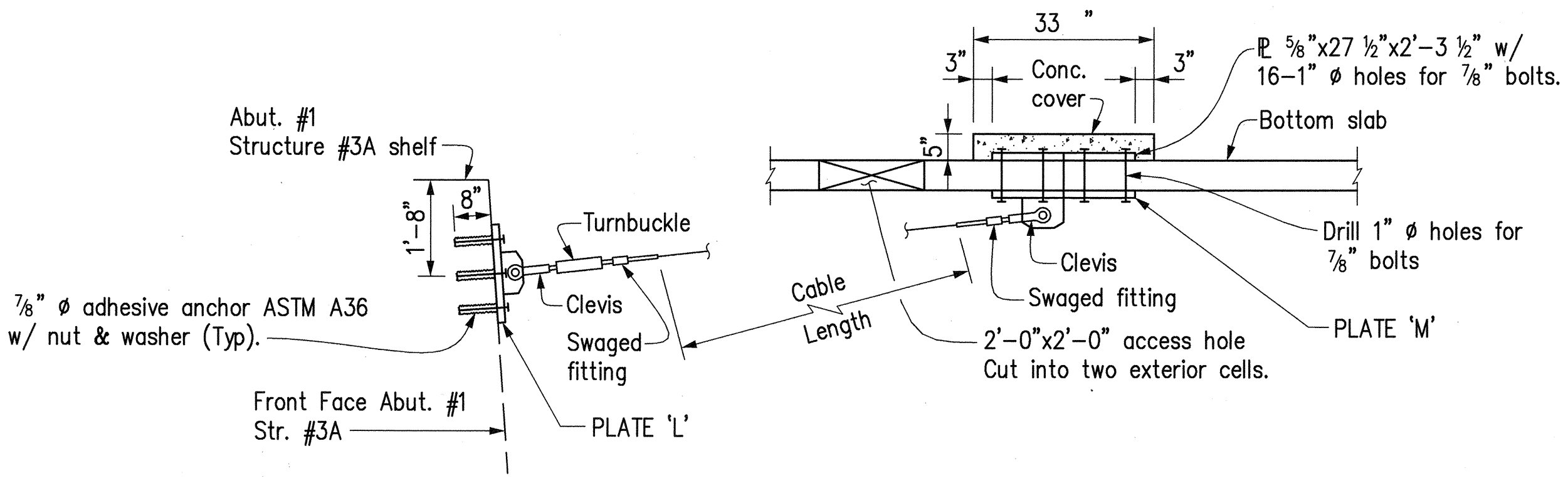
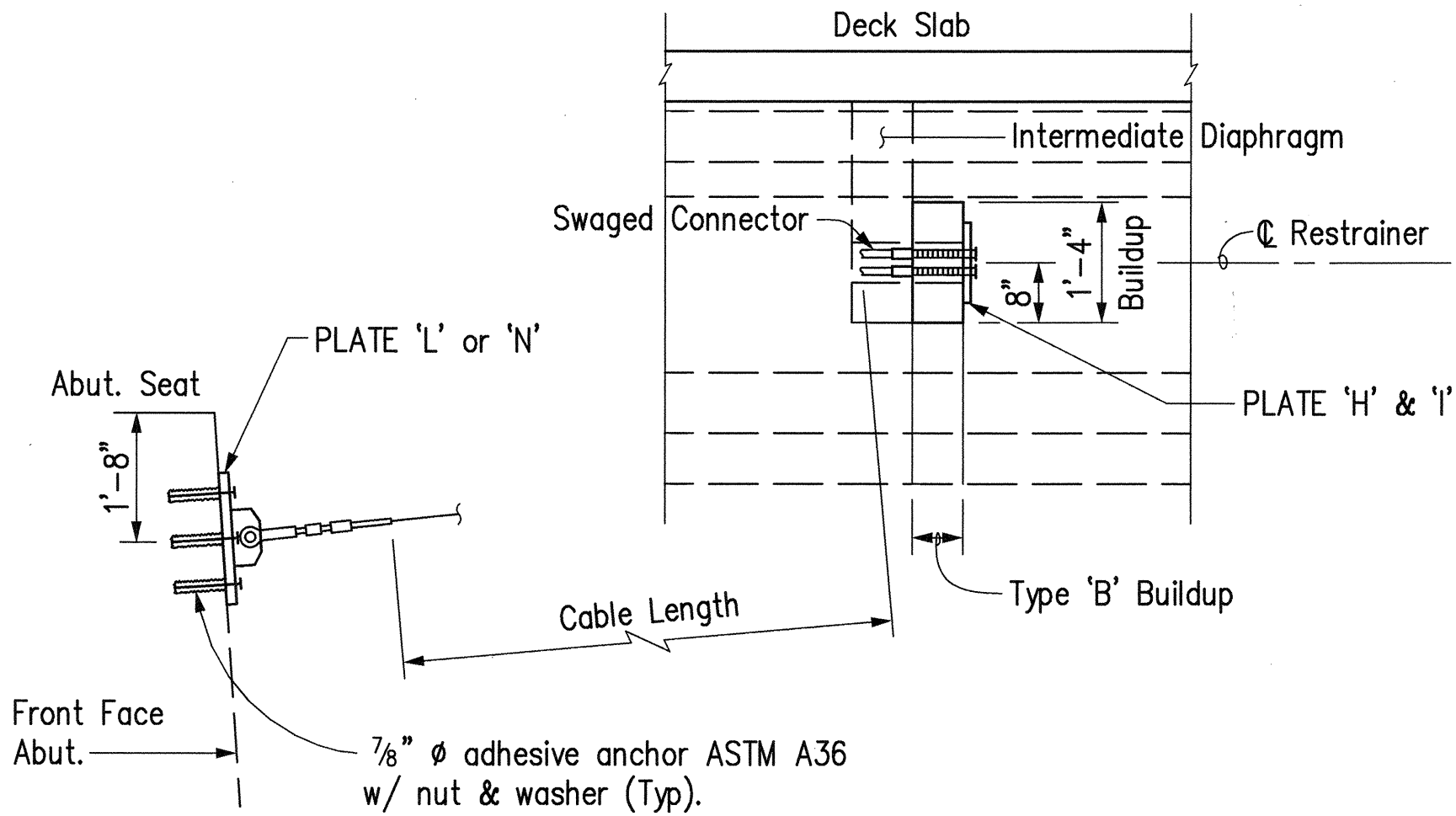
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RESTRAINER DETAILS-I

H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

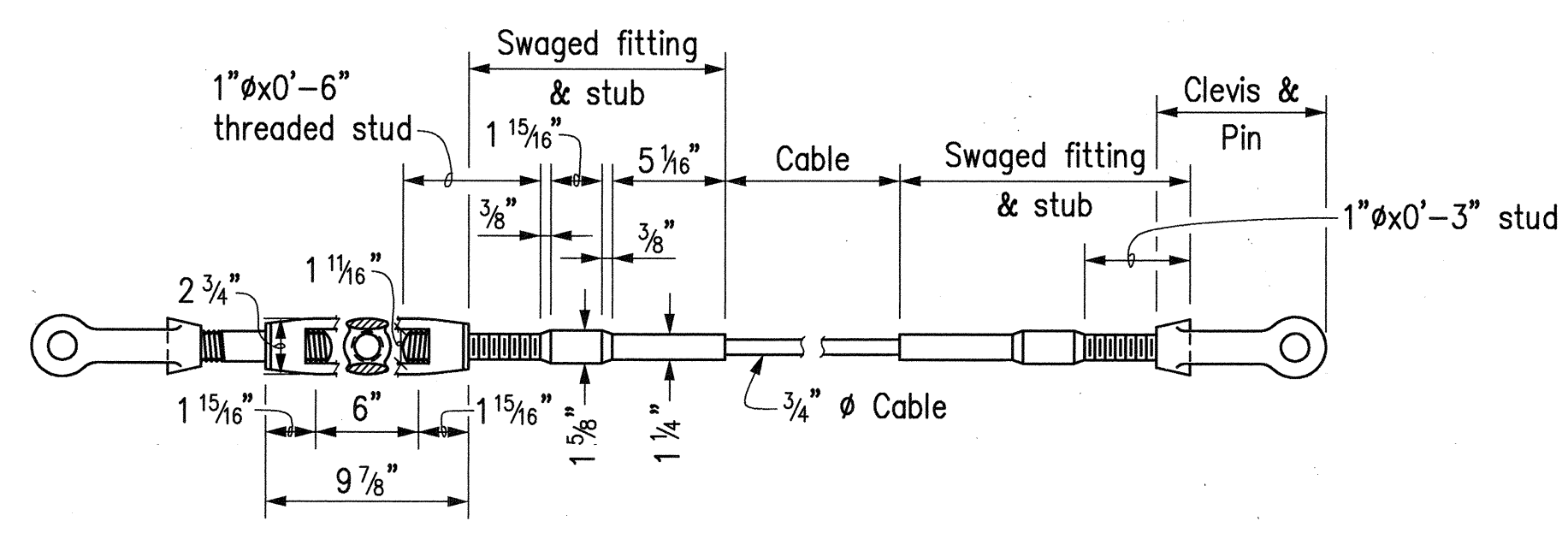
SCALE: AS SHOWN DATE: AUG 1994
SHEET NO. S23 OF 35 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	279	325



CABLE END ANCHORAGE

TYPE XI & XII RESTRAINER UNITS
Not To Scale



CABLE END ANCHORAGE

TYPE XIII RESTRAINER UNITS
Not To Scale

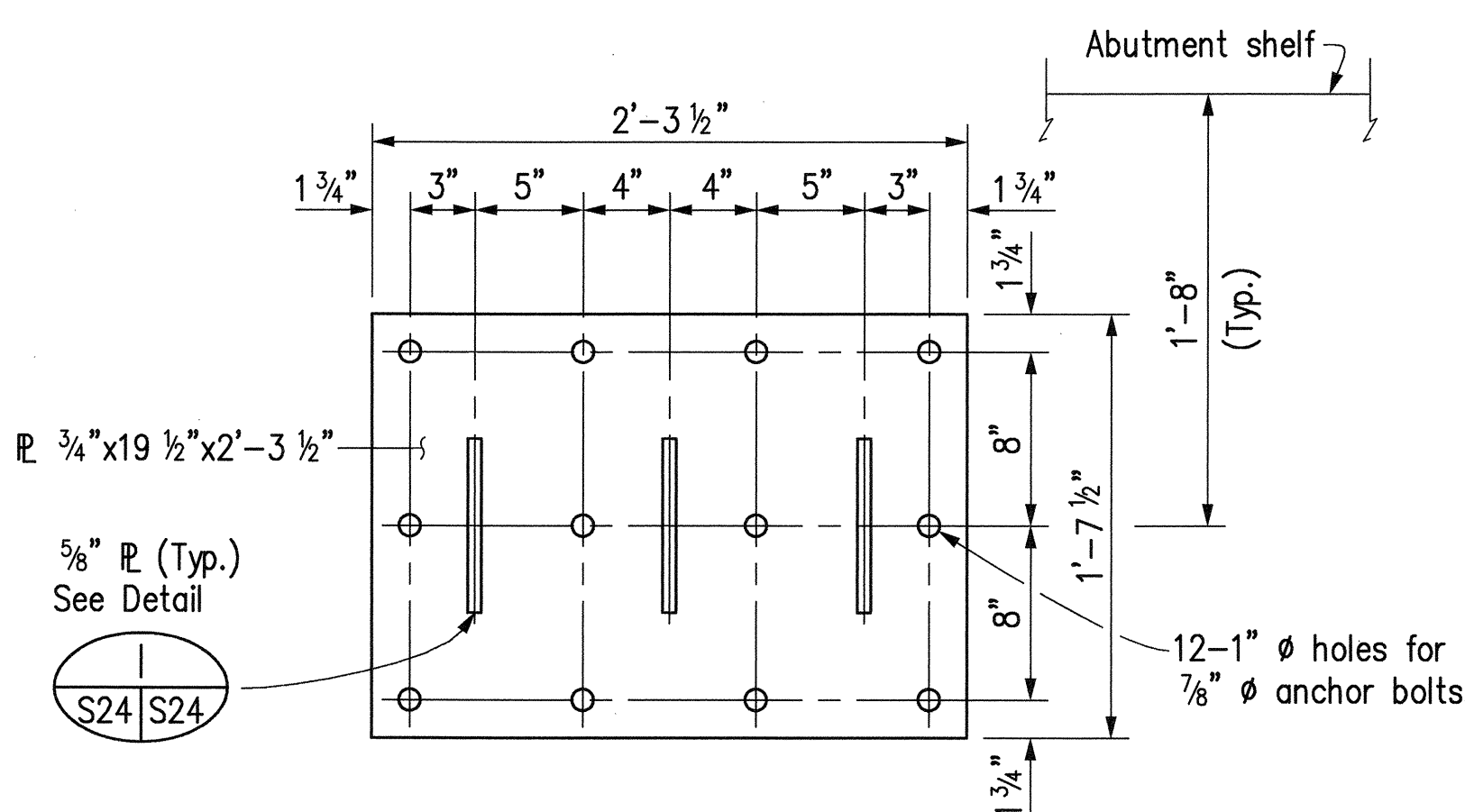


PLATE L
Scale: 1 1/2" = 1'-0"

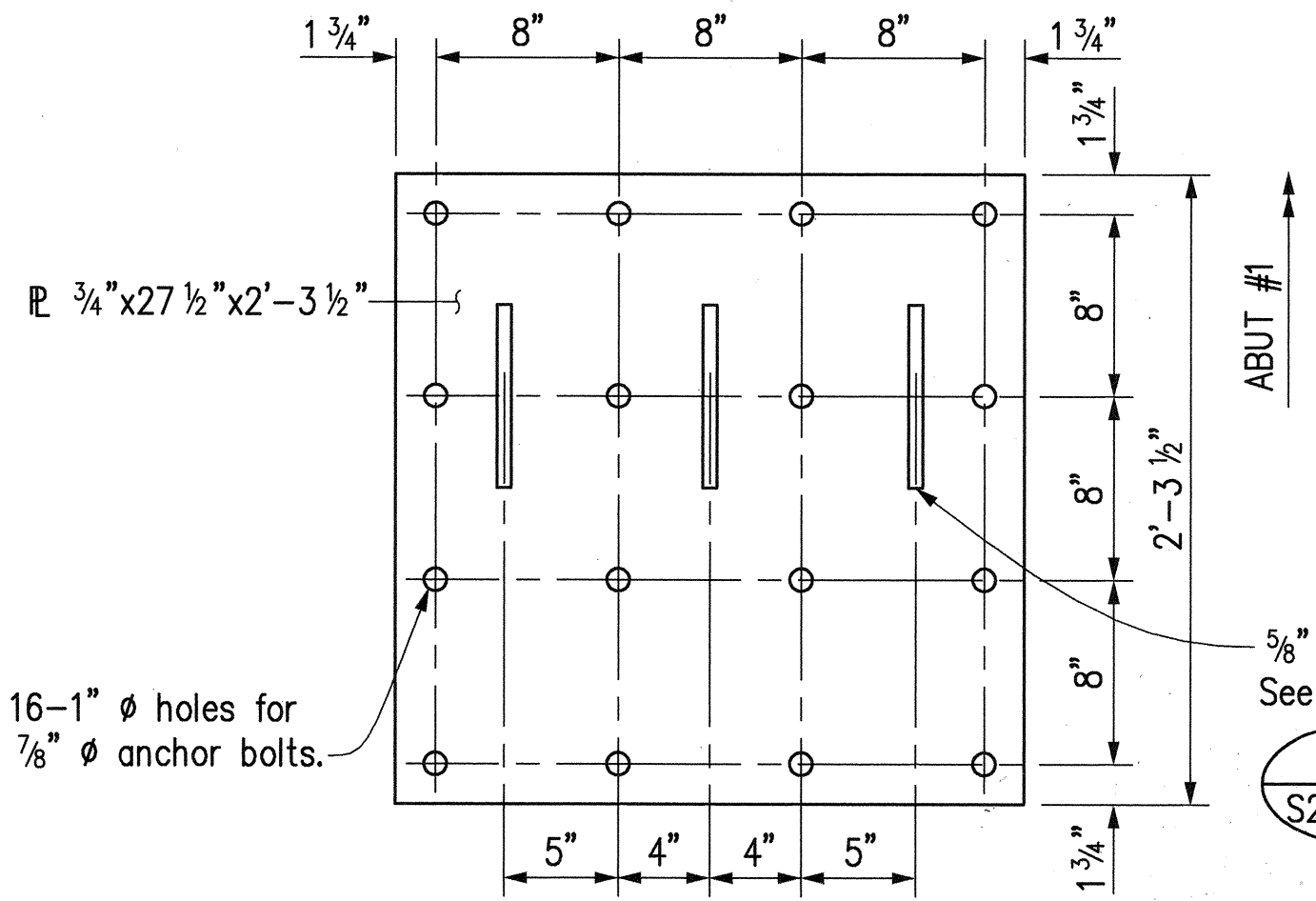


PLATE M
Scale: 1 1/2" = 1'-0"

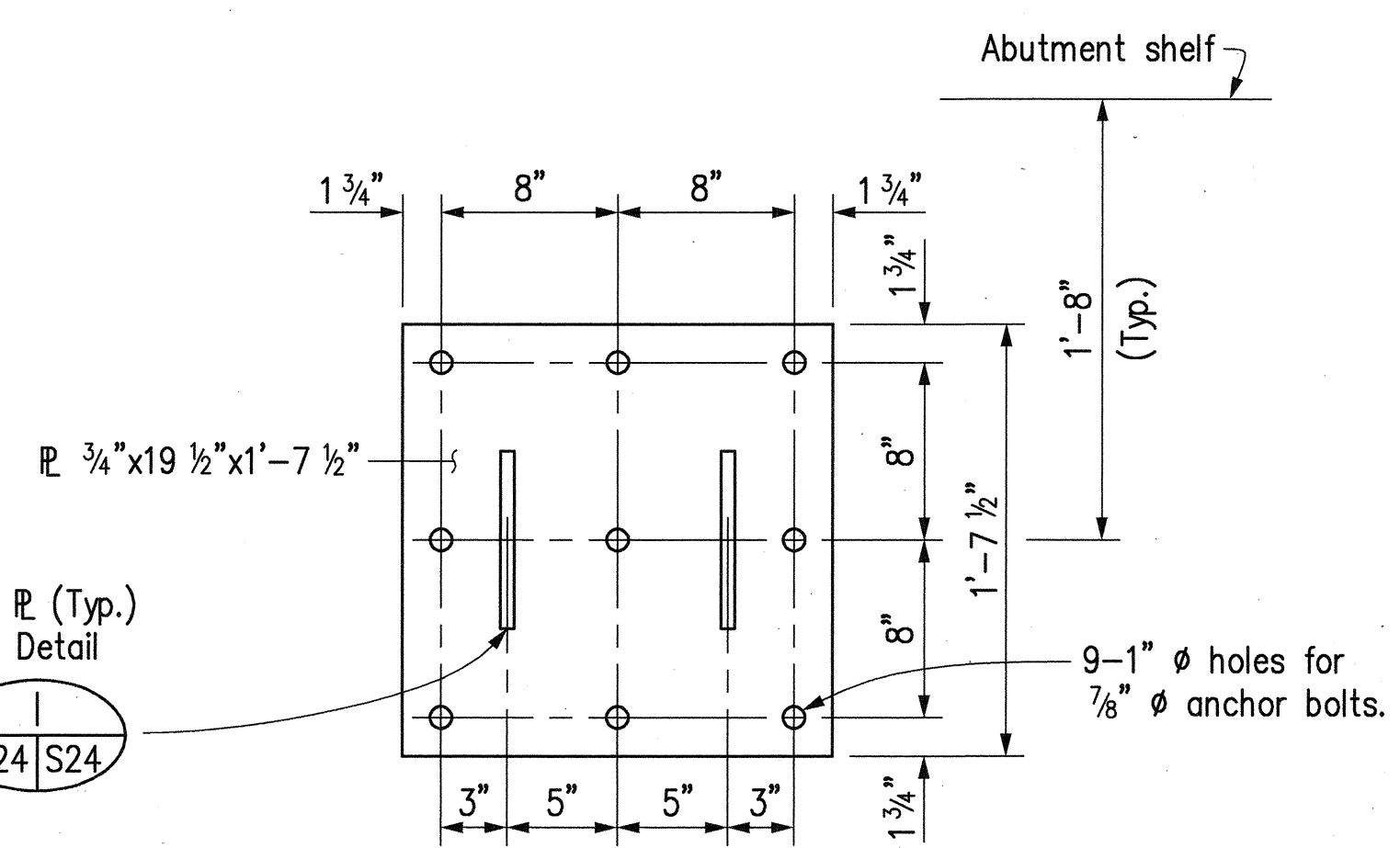
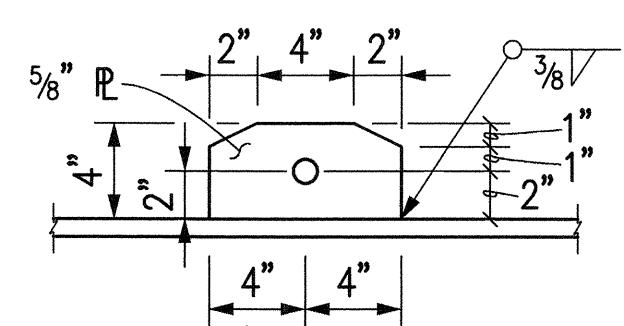


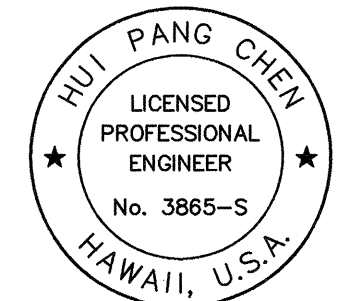
PLATE N
Scale: 1 1/2" = 1'-0"



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

RESTRAINER TYPE	PLATE ASSEMBLY TYPE	NO. OF CABLES
XI	N, H	2
XII	L, I	3
XIII	L, M	3

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



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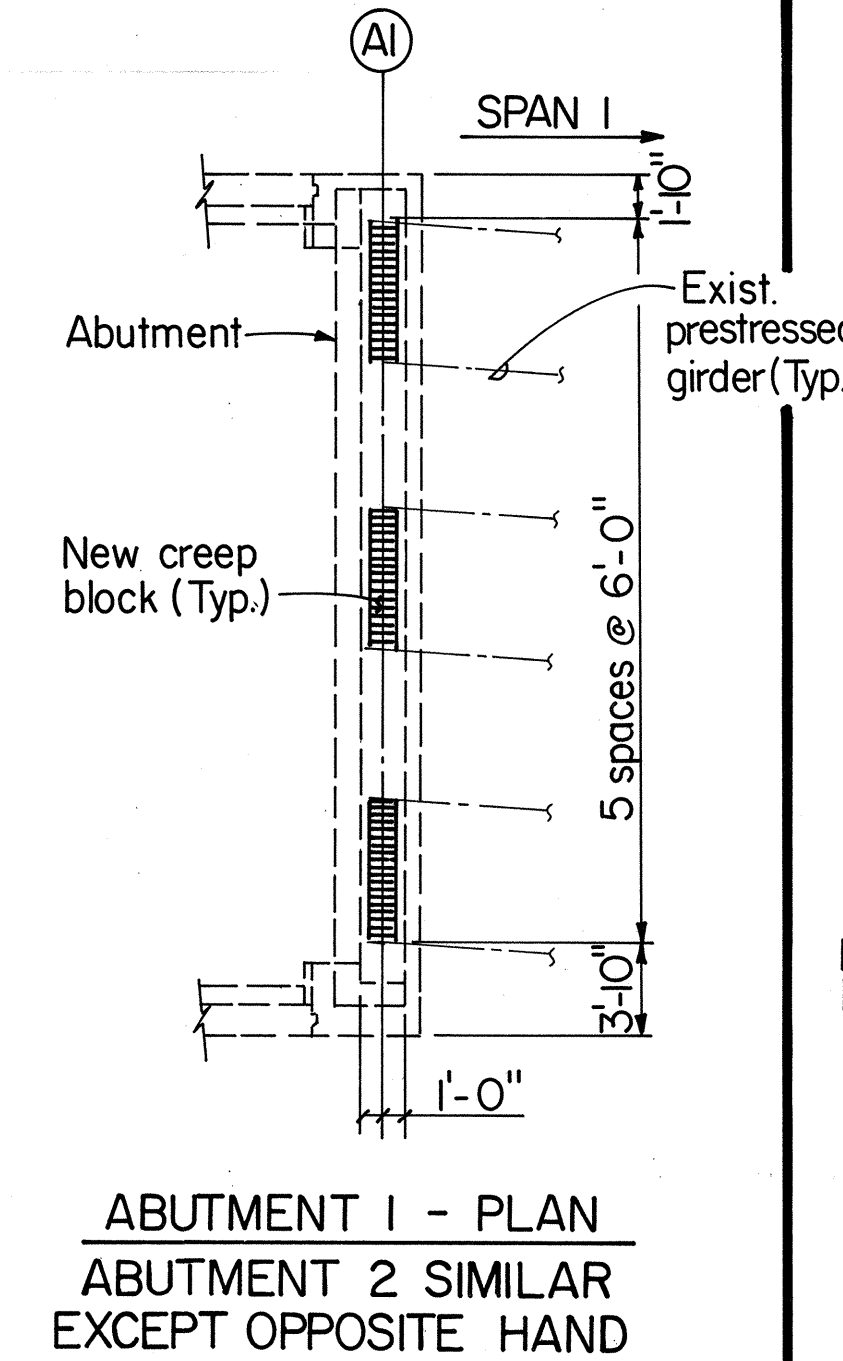
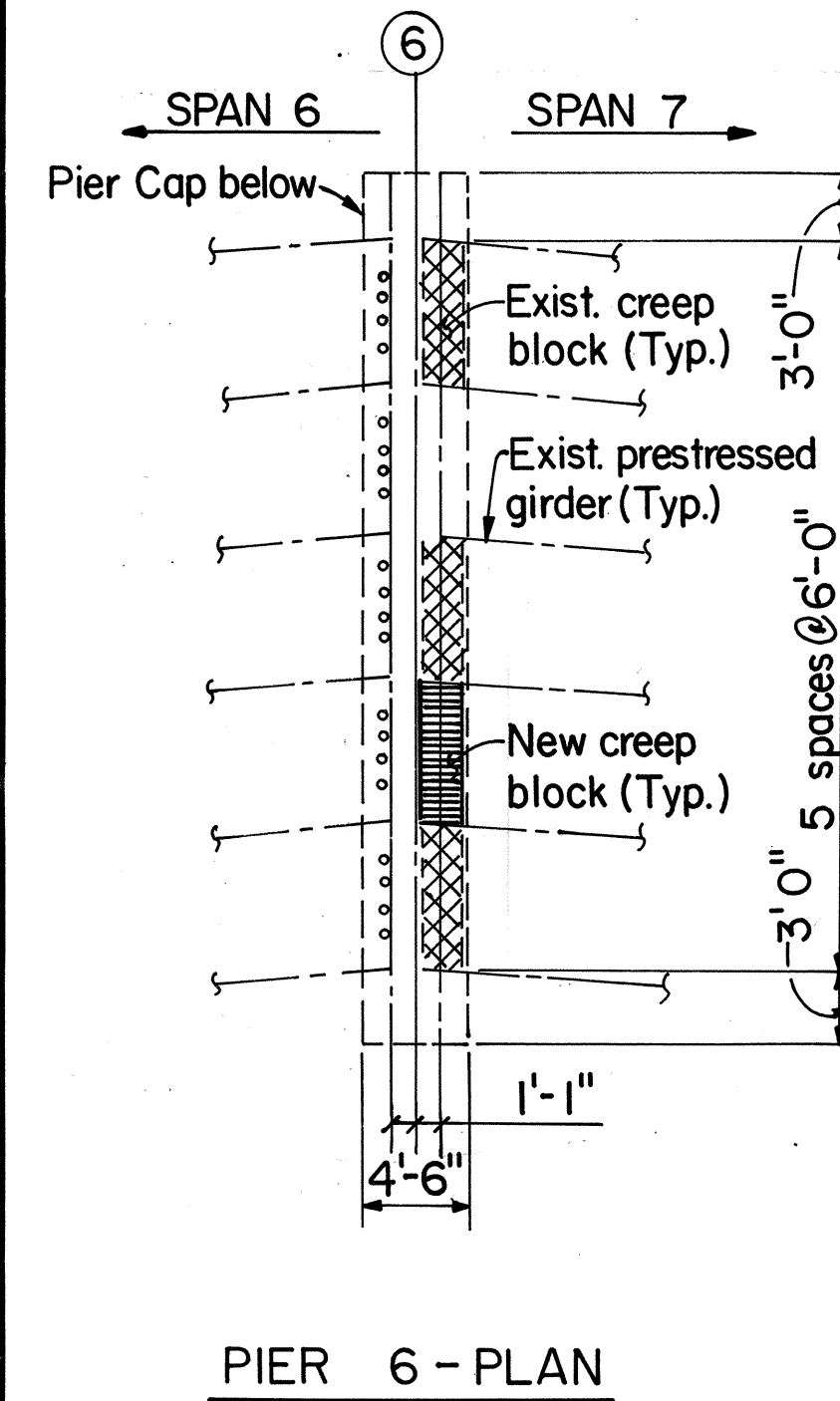
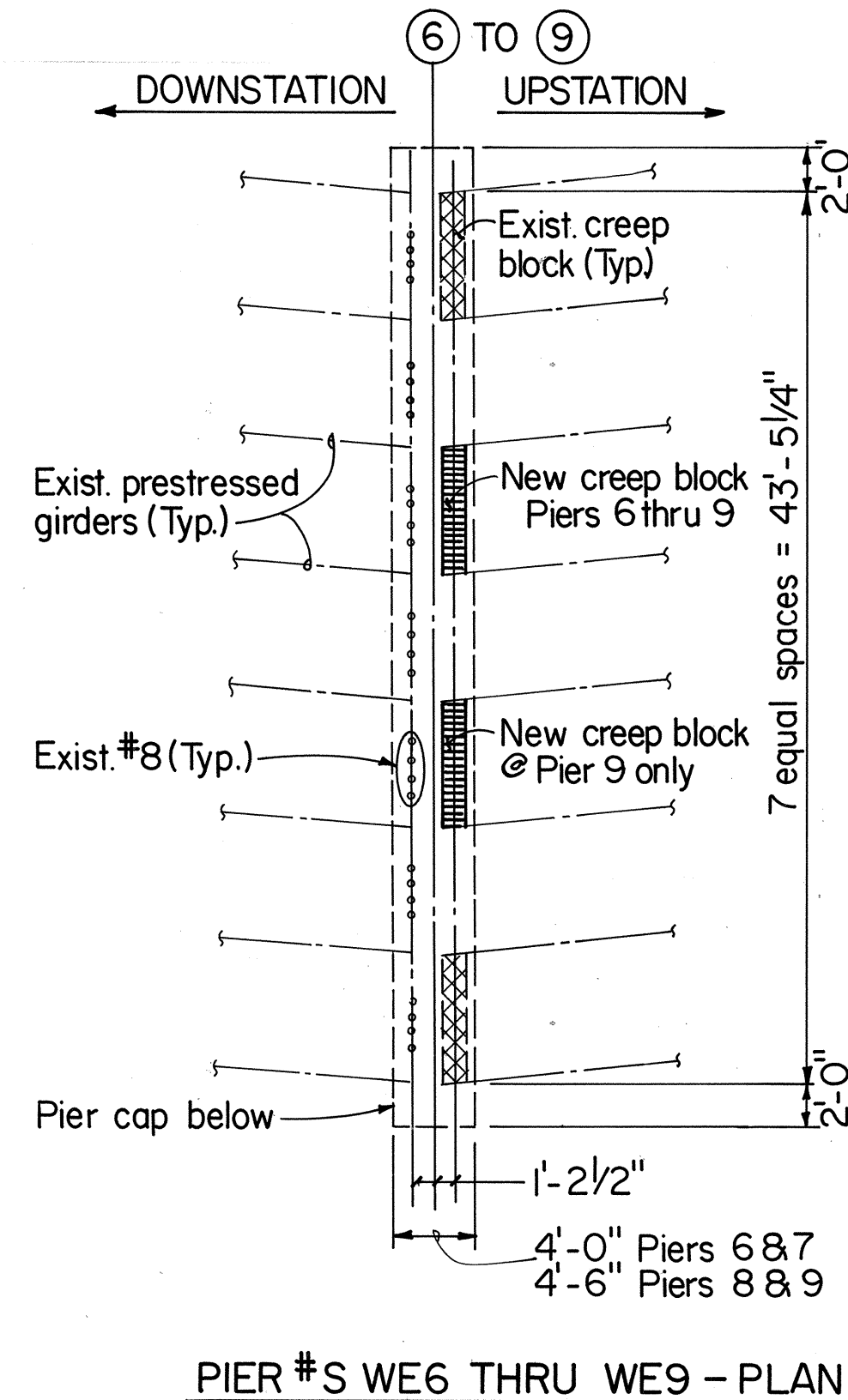
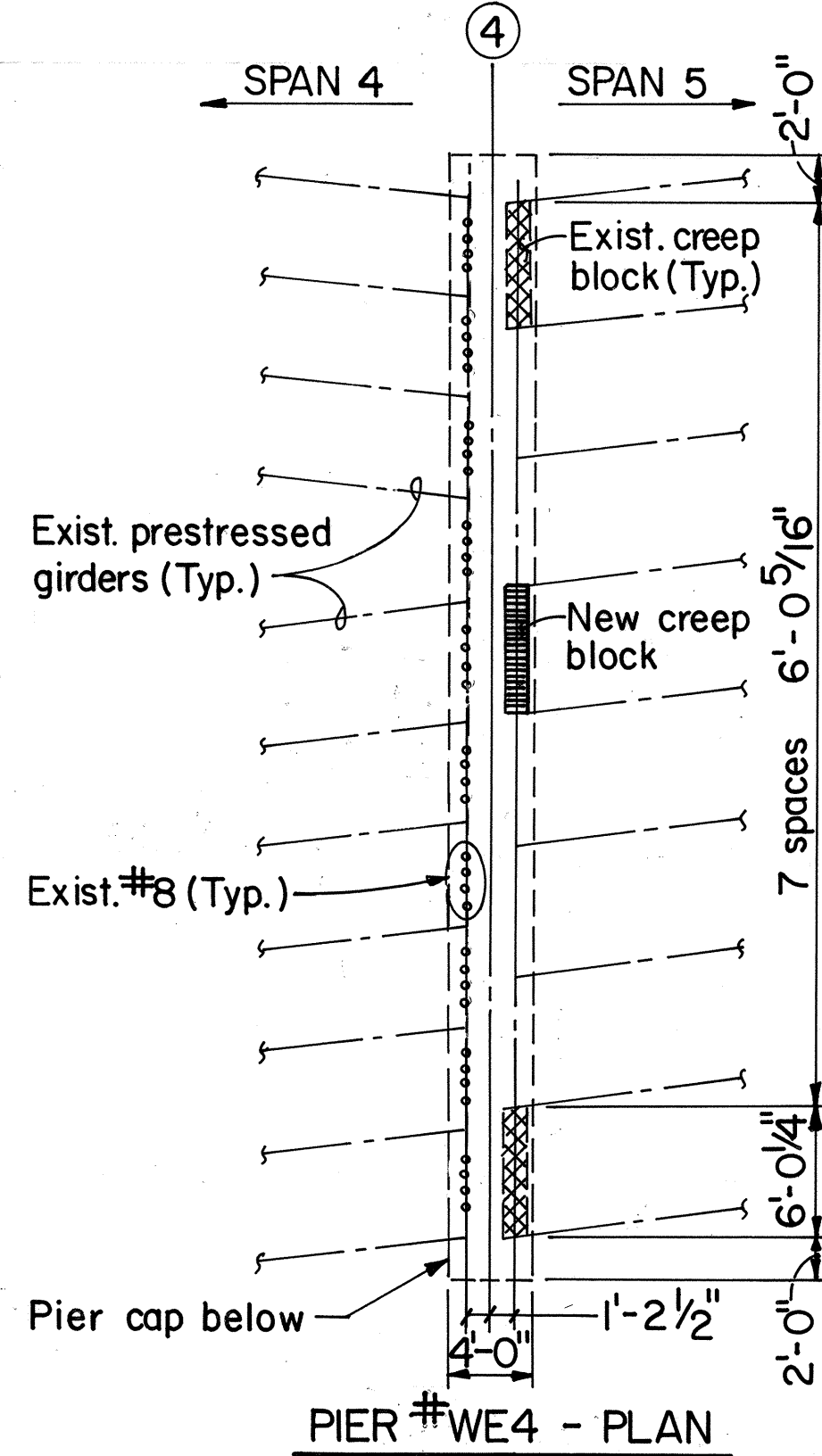
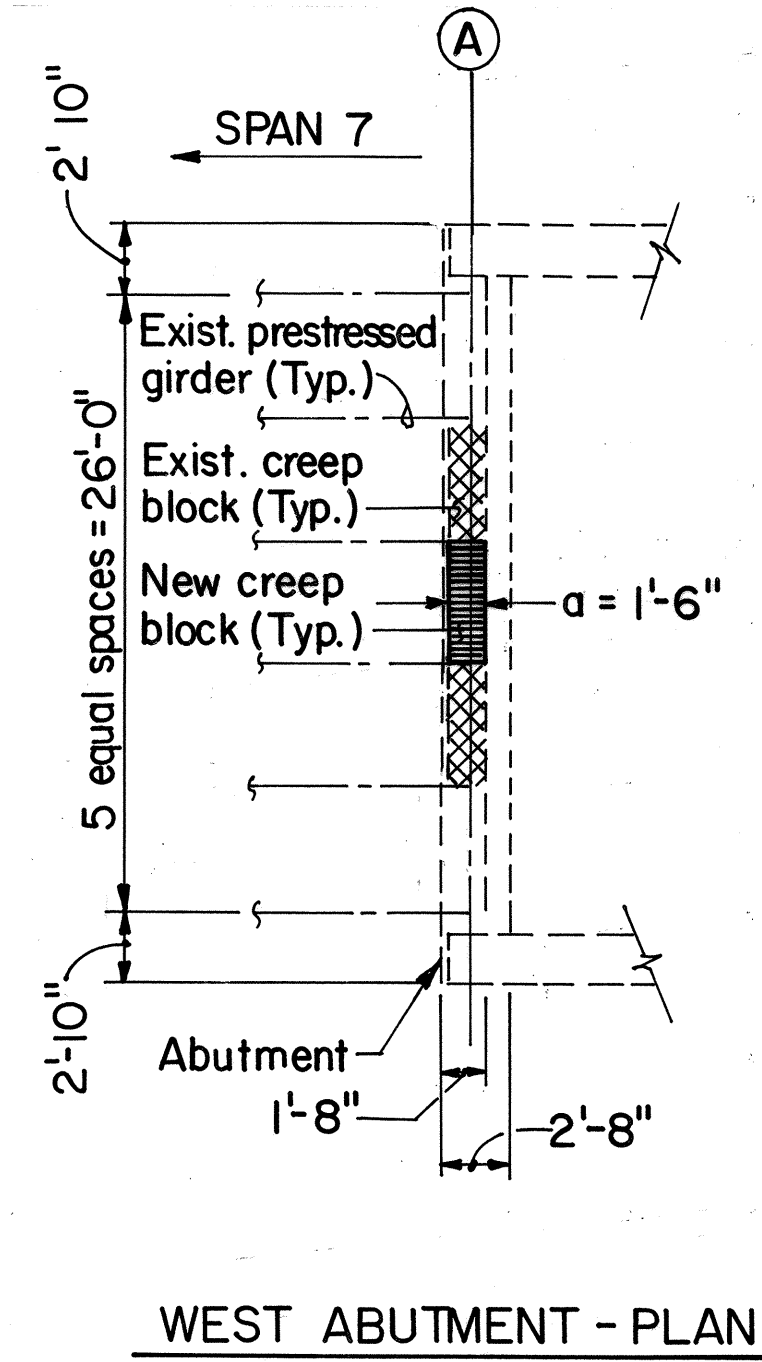
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RESTRAINER DETAILS-2

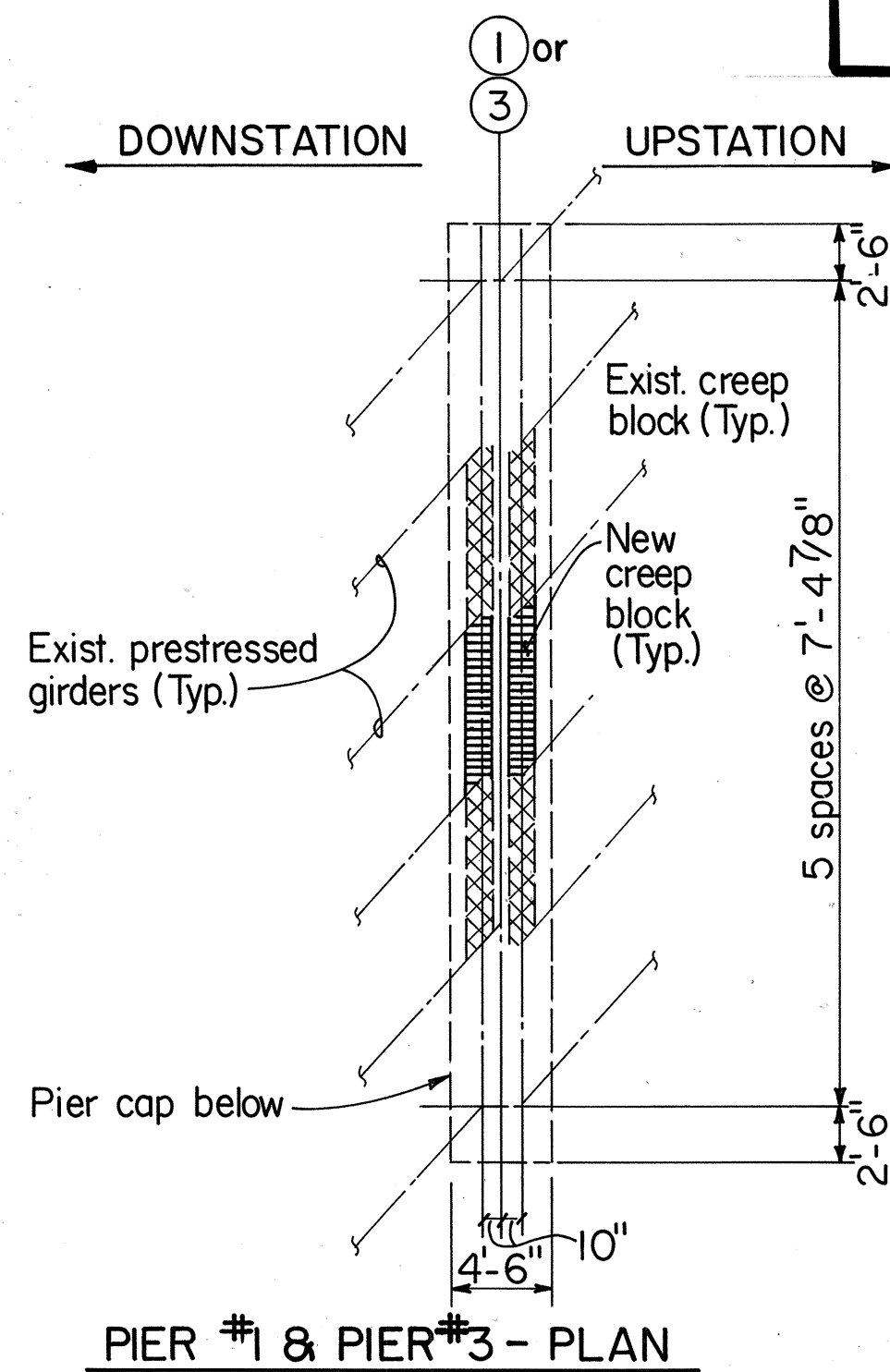
H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

SCALE: AS SHOWN DATE: AUGUST 1994
SHEET NO. S24 OF 35 SHEETS

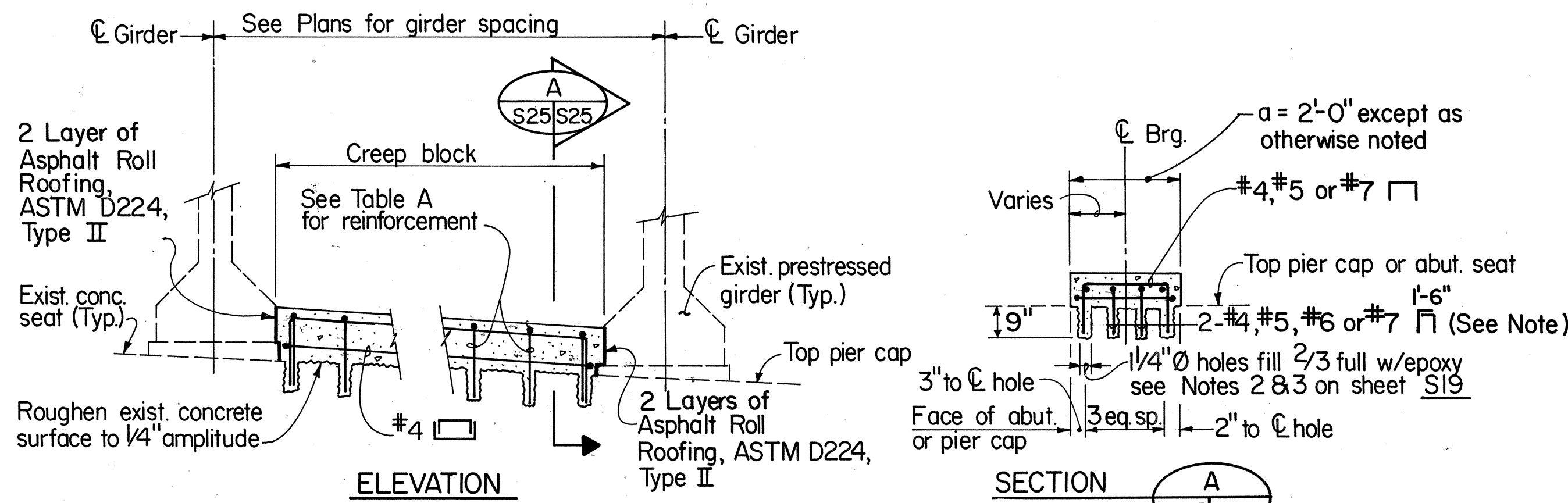
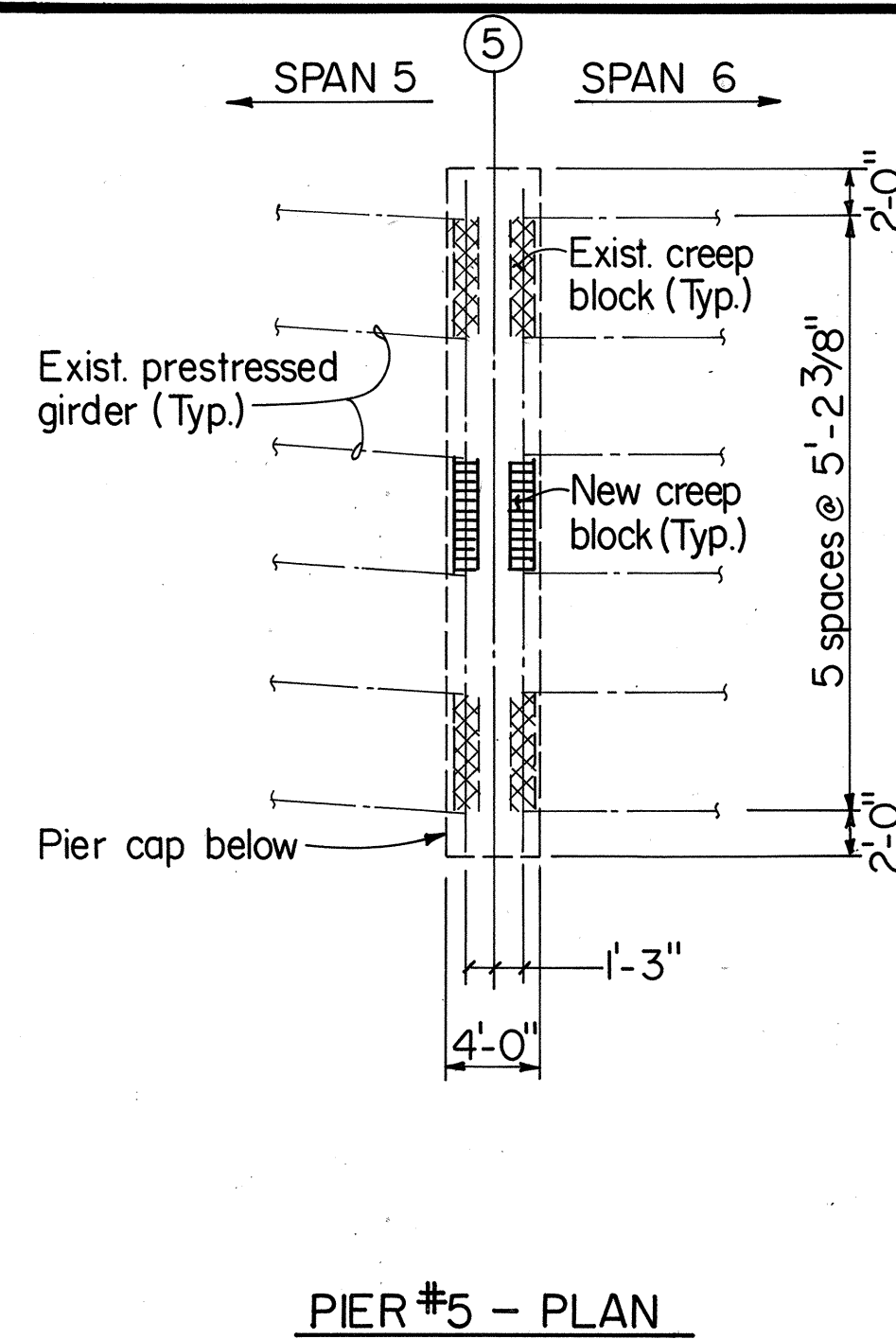
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	280	325



STRUCTURE NO. 6
Scale: 1/8"=1'-0"



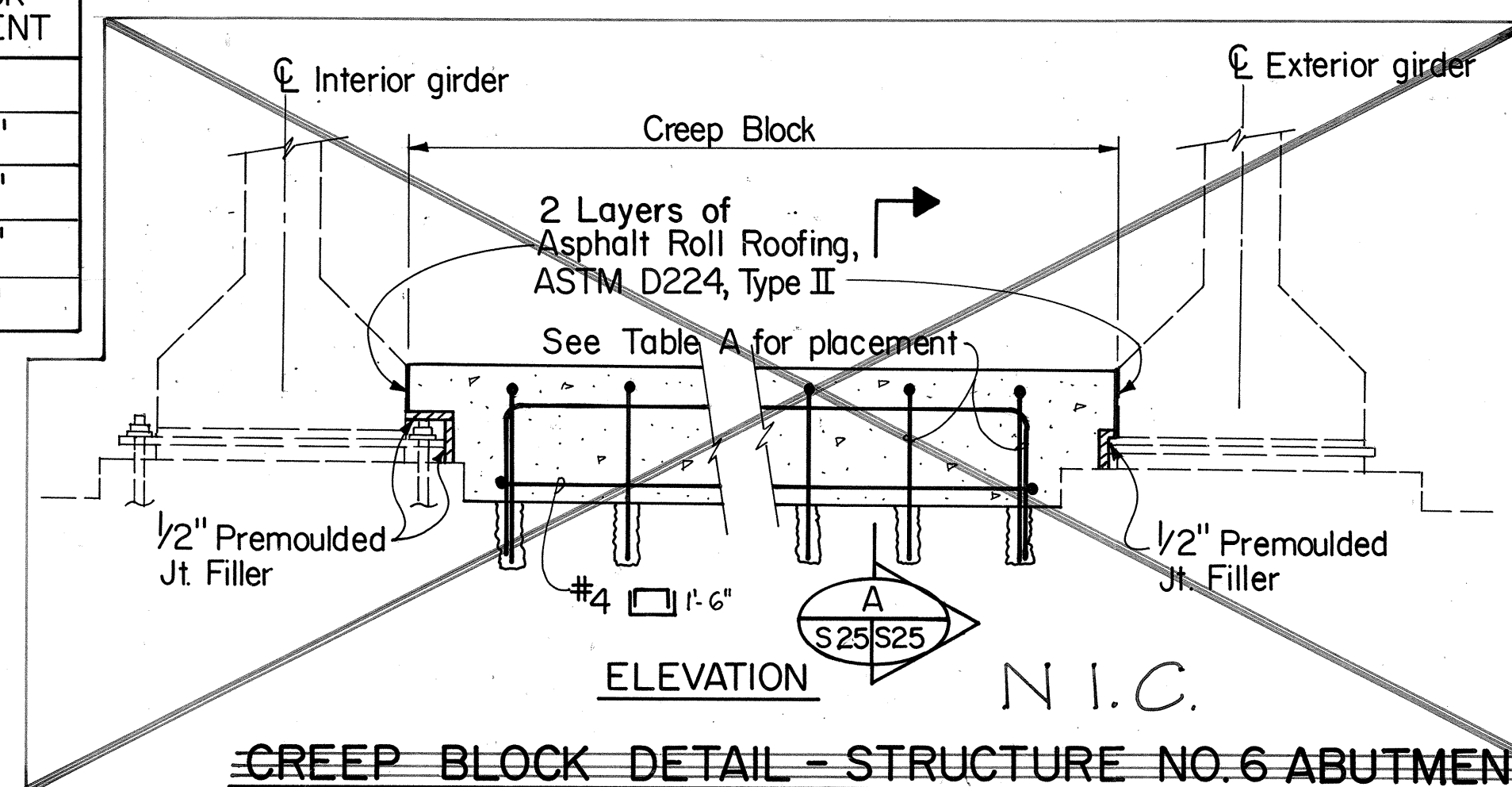
STRUCTURE NO. 16
Scale: 1/8"=1'-0"



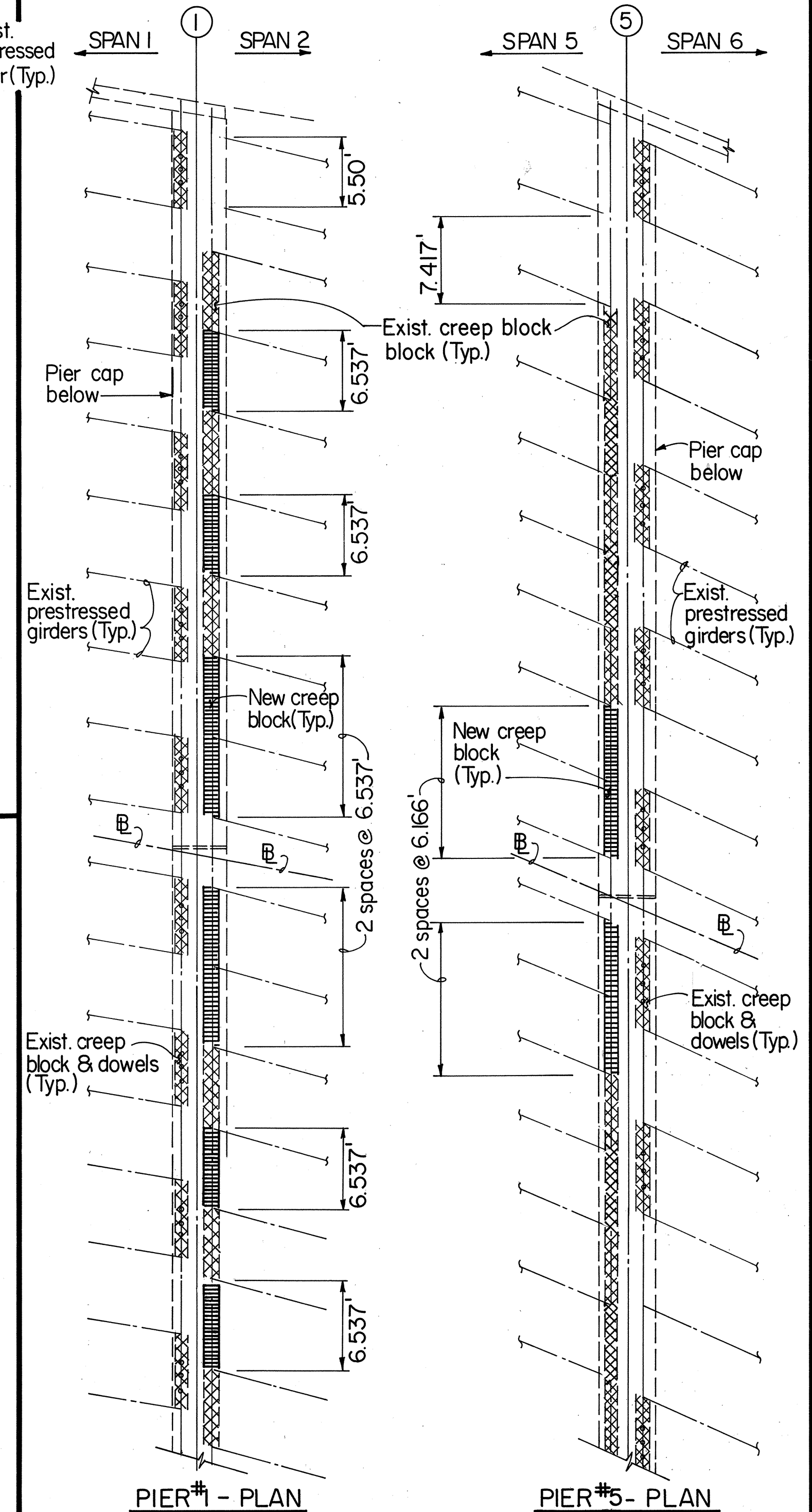
CREEP BLOCK DETAIL - STRUCTURE NOS. 3, 7, 11, 16
Scale: 1/2"=1'-0"

STRUCTURE NO.	CREEP BLOCK REINFORCEMENT
3	#4 @ 9"
6	#6 @ 12"
11	#7 @ 9"
16	#4 @ 12"
7	#5 @ 9"

Note: 1'-6" not required where a < 2'-0"



CREEP BLOCK DETAIL - STRUCTURE NO. 6 ABUTMENTS



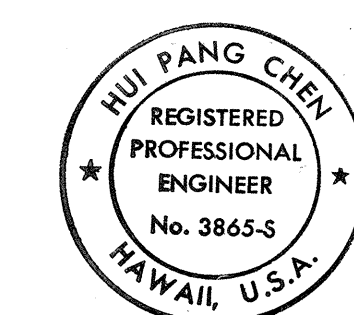
STRUCTURE NO. 11
Scale: 1/8"=1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CREEP BLOCK DETAILS-1

H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

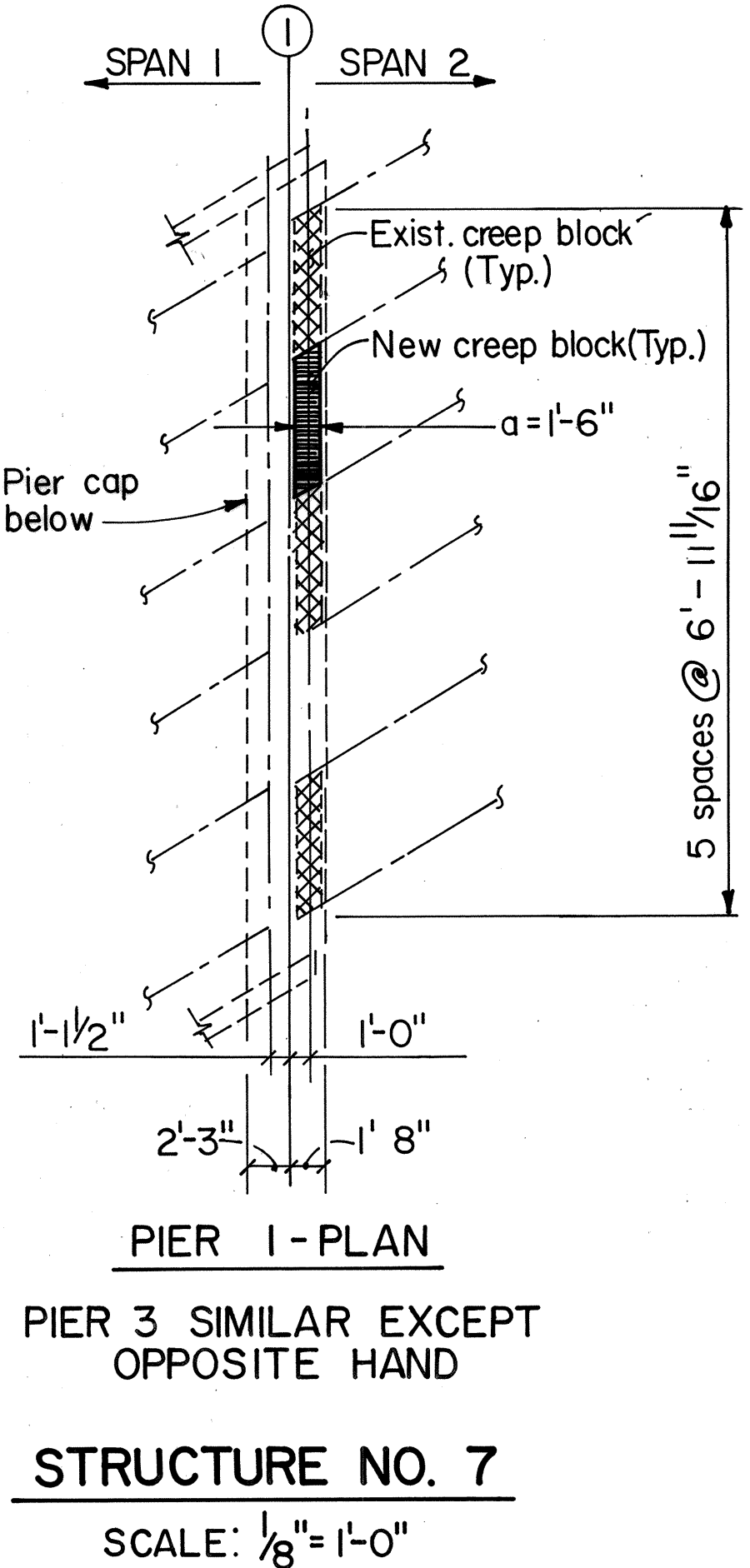
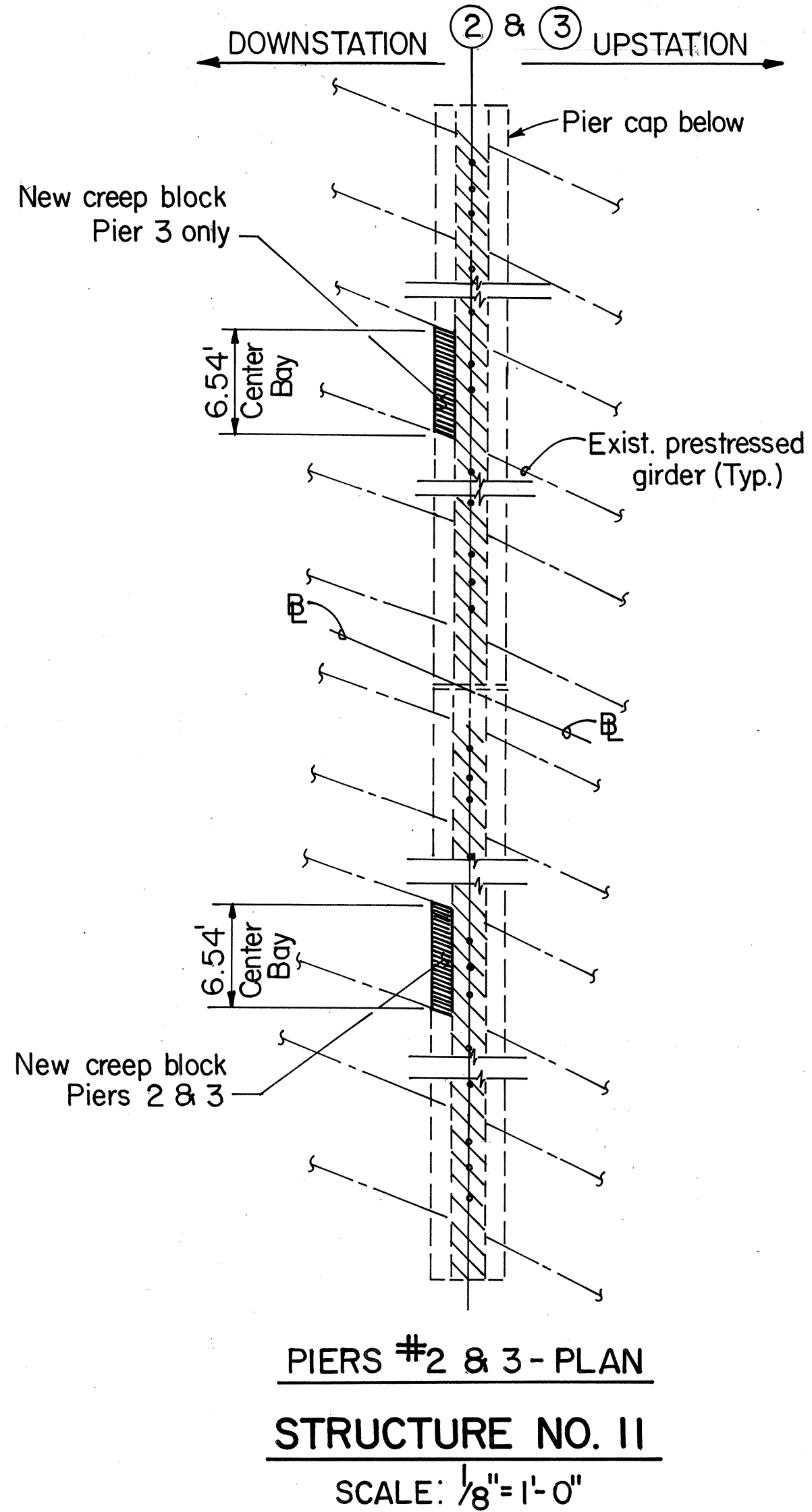
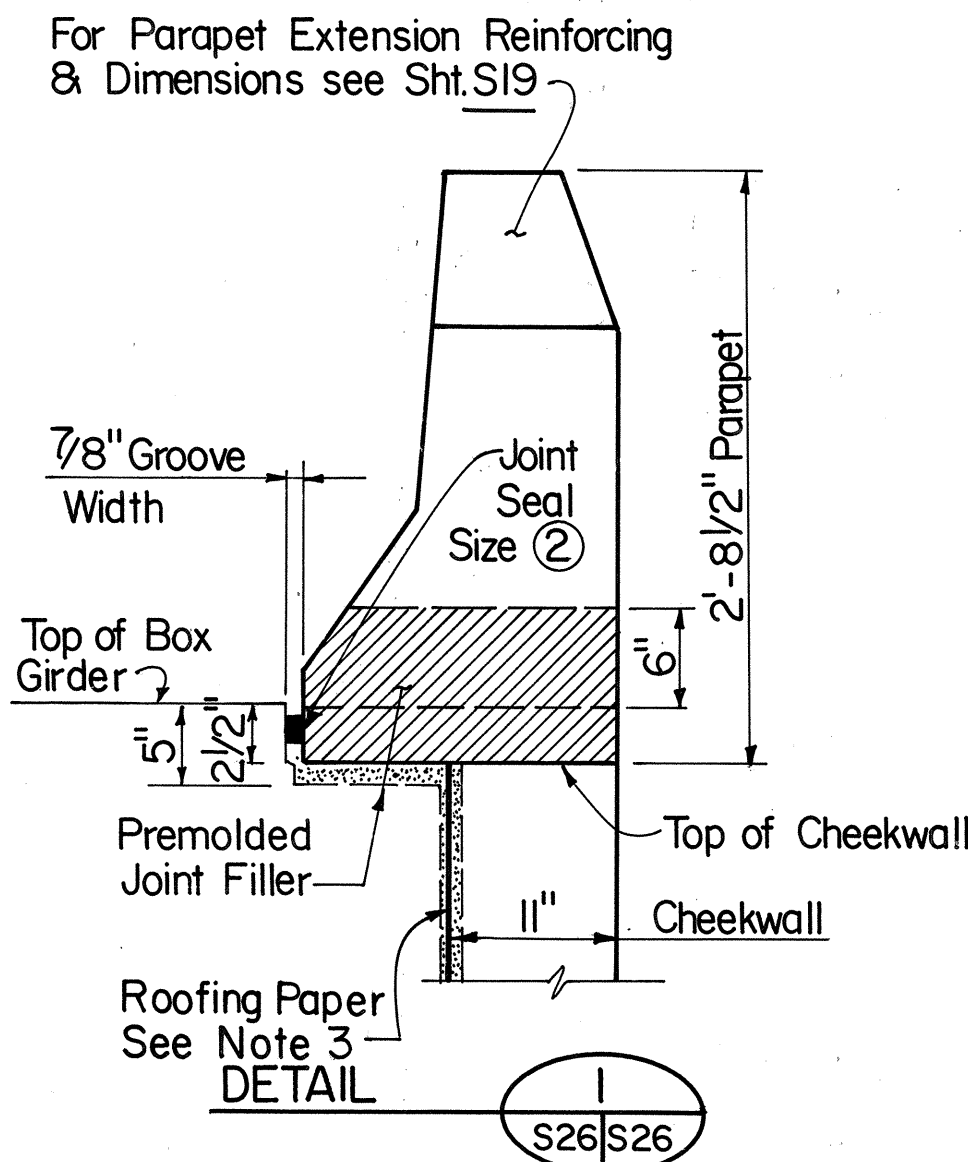
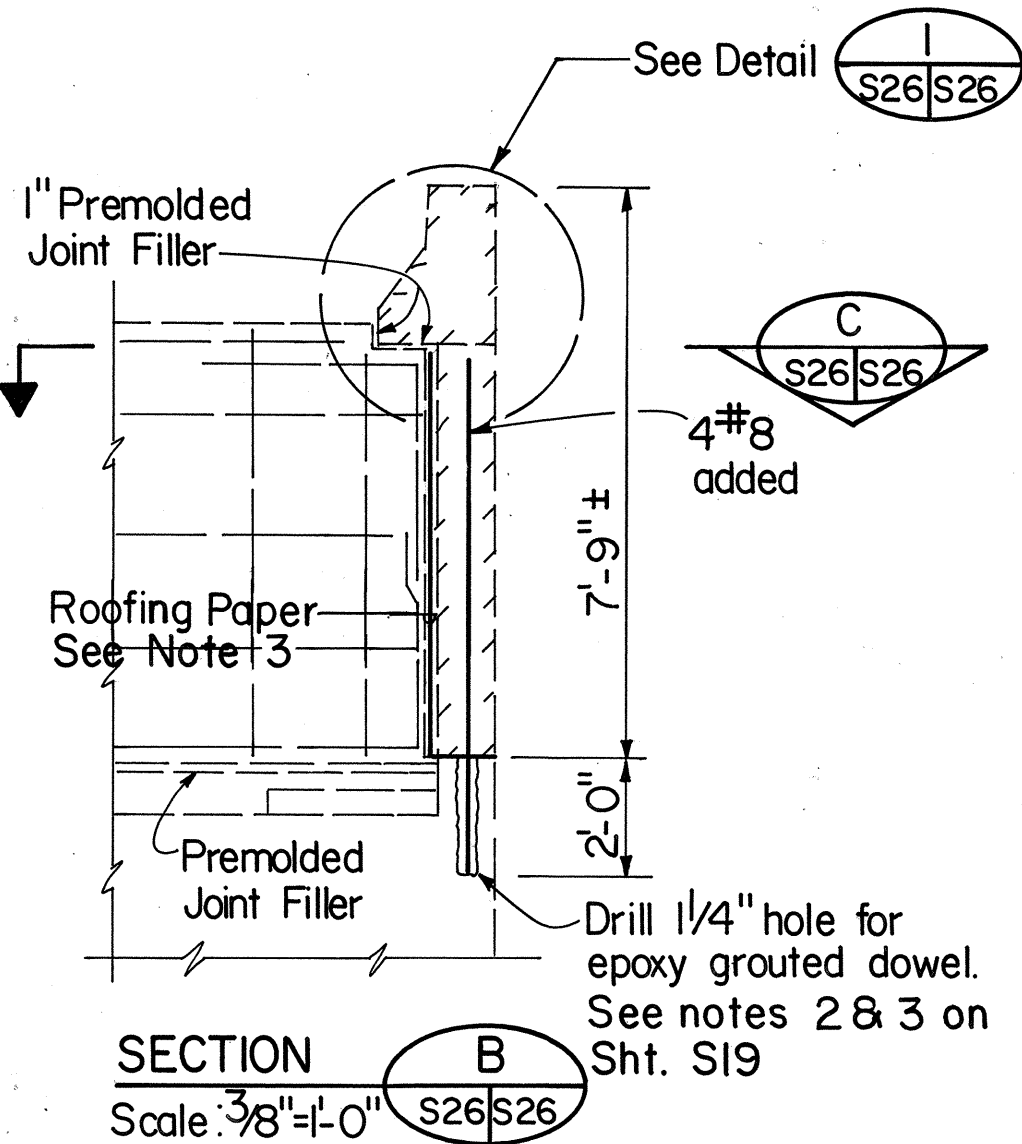
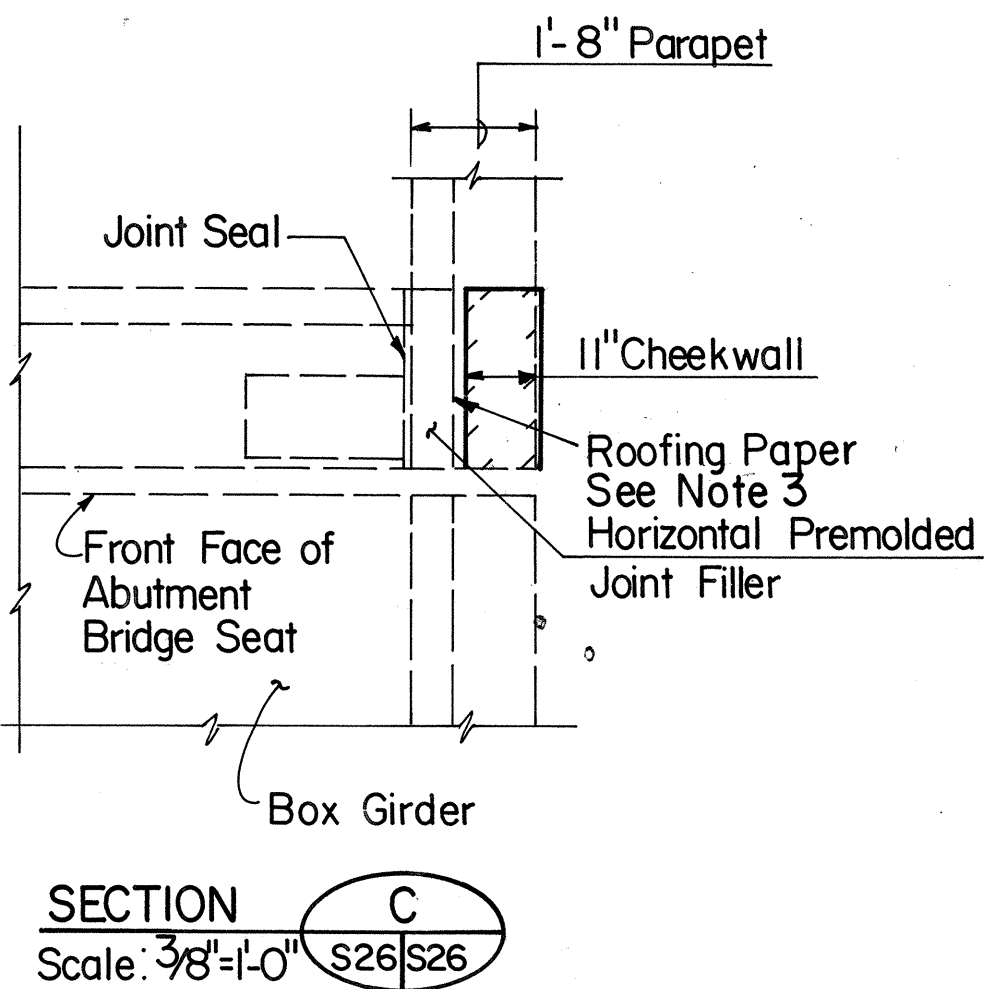
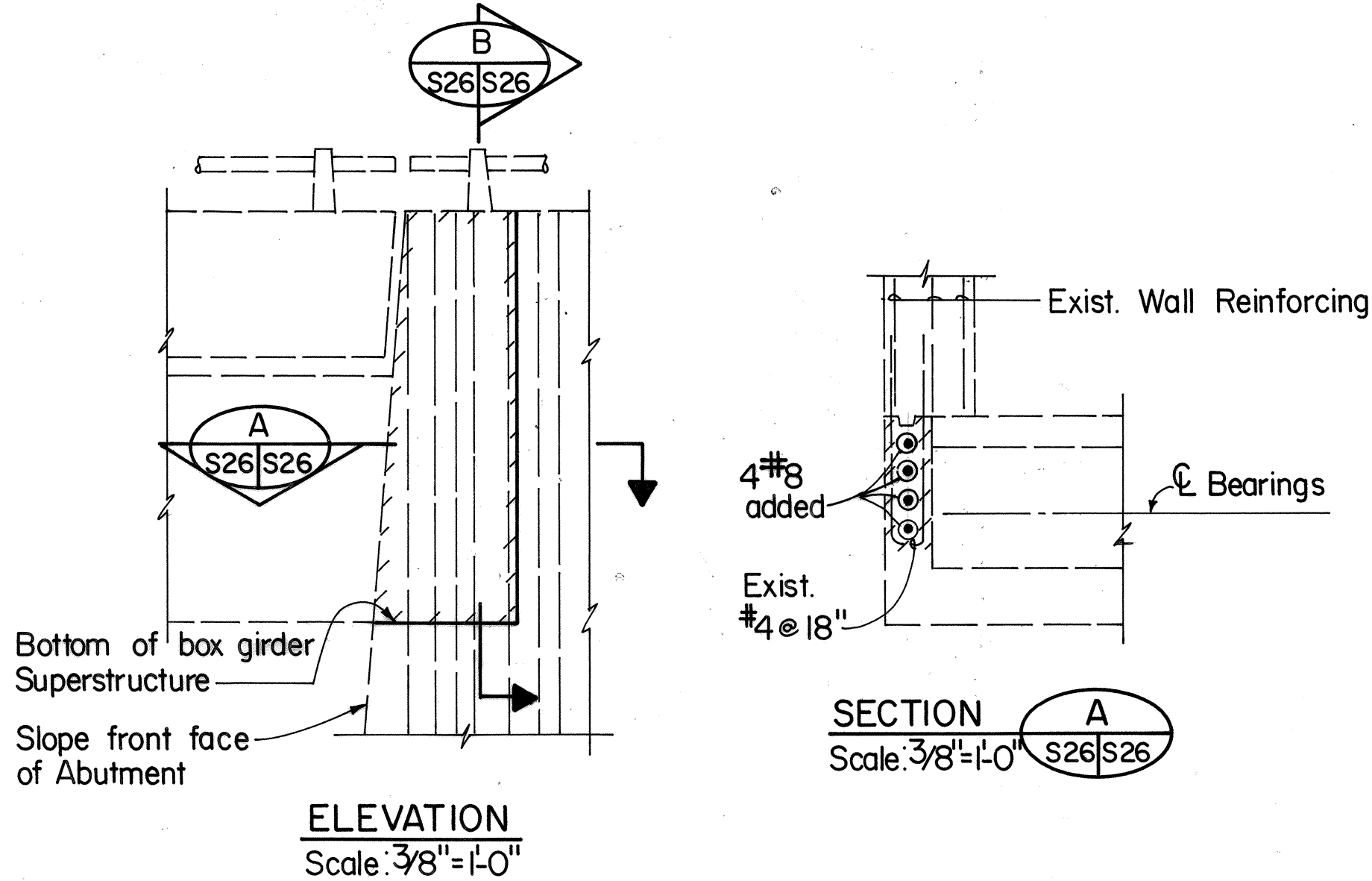
SCALE: AS SHOWN DATE: AUG 1994
SHEET NO. S25 OF 35 SHEETS



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OR UNDER MY SUPERVISION.
Rui Pang Chen

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	281	325

Note: Creep block detail on Sht. No. S25.



BRIDGE #3A CHEEKWALL MODIFICATIONS (Payment under Creep Blocks)

NOTES:

1. Remove 10" cheekwall, 1'-8" parapet and 1" premoulded joint filler to superstructure soffit. Existing reinforcing to remain.
2. Drill 1/4" holes at 8" centers in abutment and epoxy in 4#8 rebars.
3. Place two layers Asphalt Roll Roofing Paper, ASTM D224, Type II against superstructure and recast cheekwall and bridge parapet.
4. New concrete to receive surface treatment to match adjacent surfaces.

ORIGINAL PLAN	DATE
NOTED BY	DATE
DESIGNED BY	DATE
CHECKED BY	DATE
NO.	



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Hui Fang Chen

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CREEP BLOCK DETAILS-2

H-3-HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)
SCALE: AS SHOWN
DATE: AUG 1994
SHEET No. S26 OF 35 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	282	325

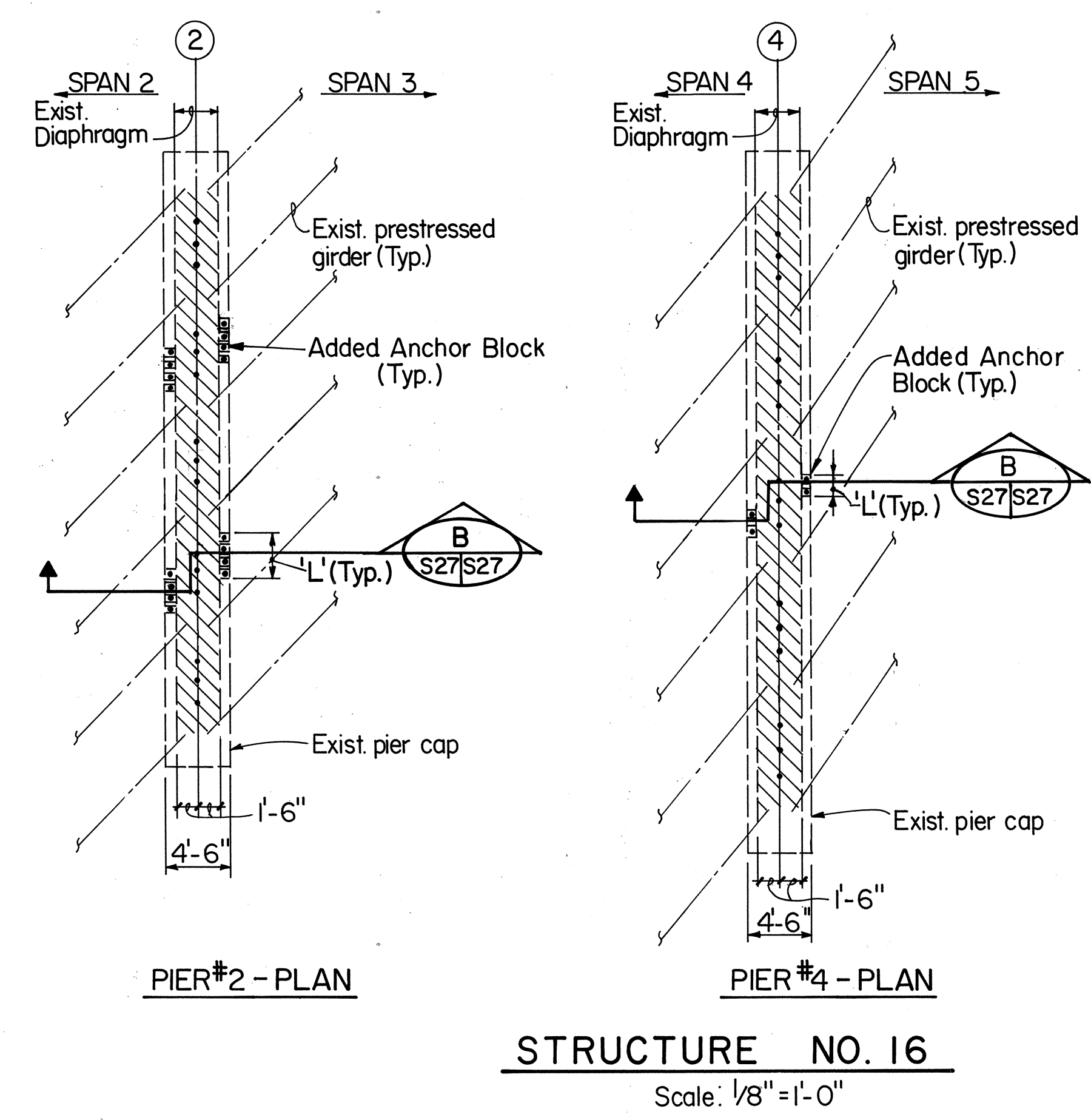
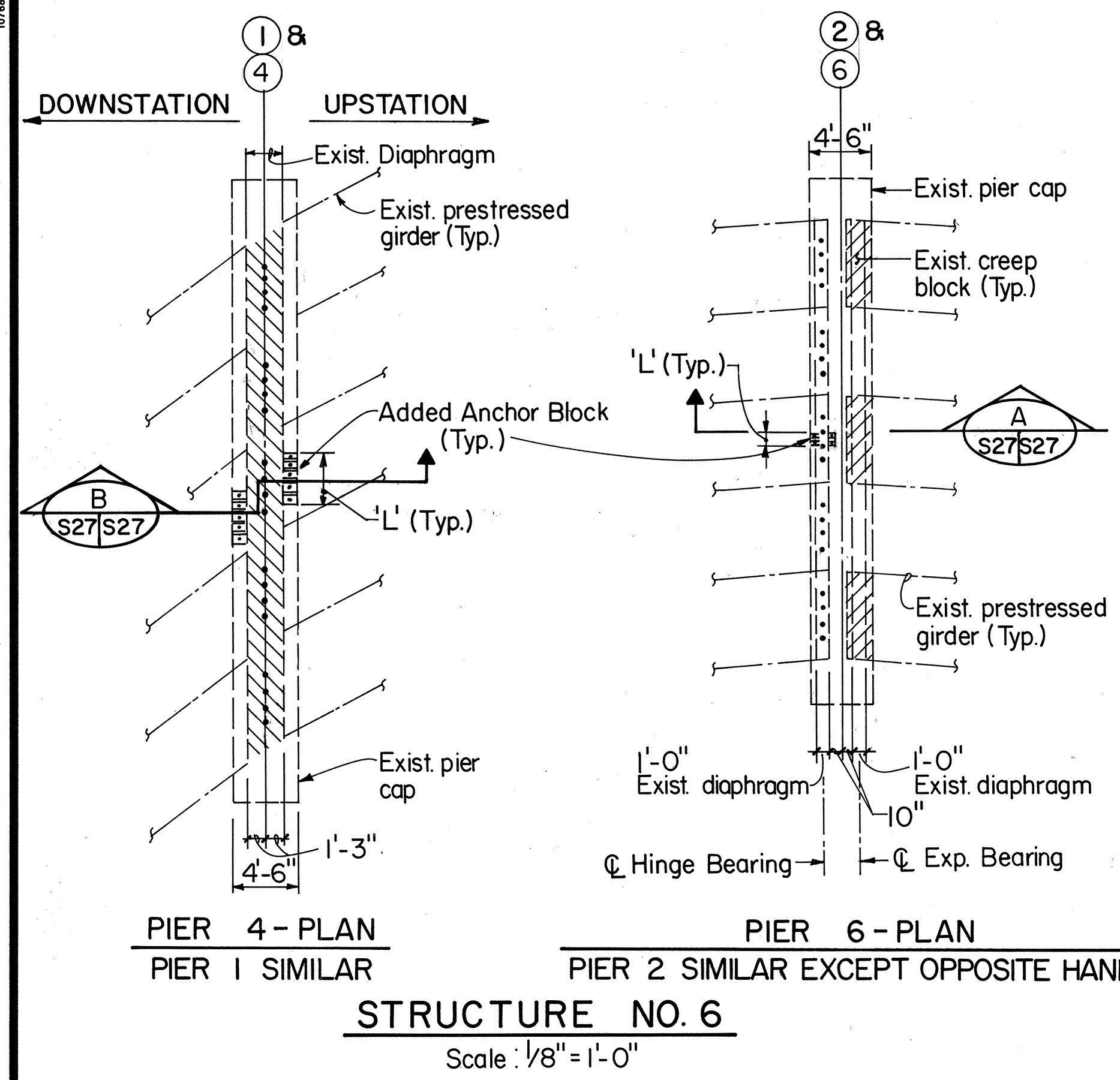
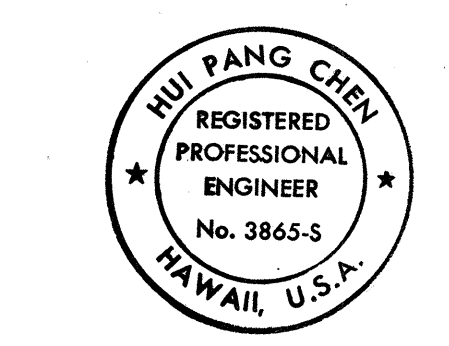
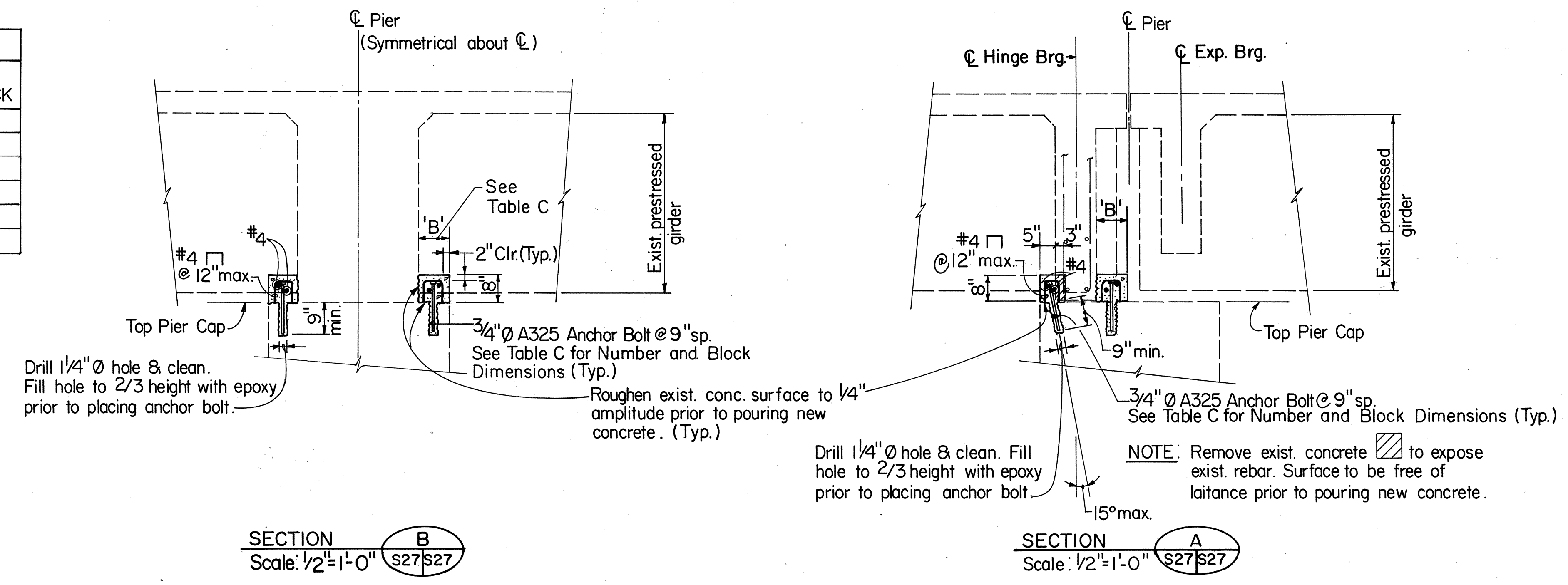


TABLE C				
STRUCTURE NO.	PIER NO.	LENGTH L	WIDTH B	NO. OF ANCHOR BOLTS PER BLOCK
6	1	1'-9"	1'-3"	2
	2	1'-9"	1'-0"	2
	4	4'-0"	1'-0"	5
	6	1'-9"	1'-0"	2
16	2	3'-3"	0'-9"	4
	4	1'-9"	0'-9"	2



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

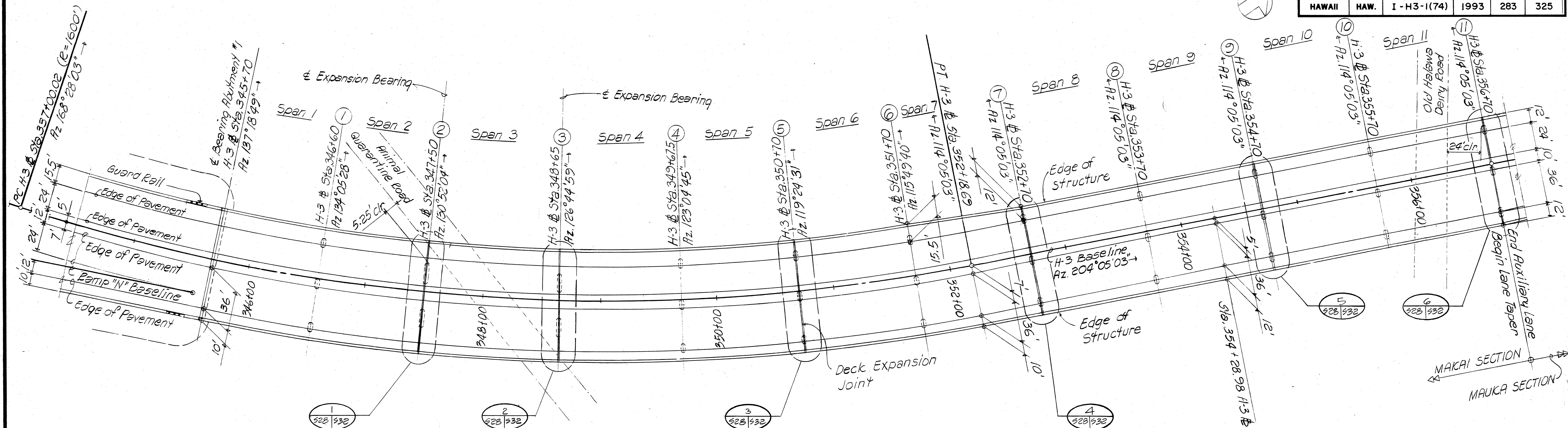
ANCHOR BLOCK DETAILS

H-3-HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

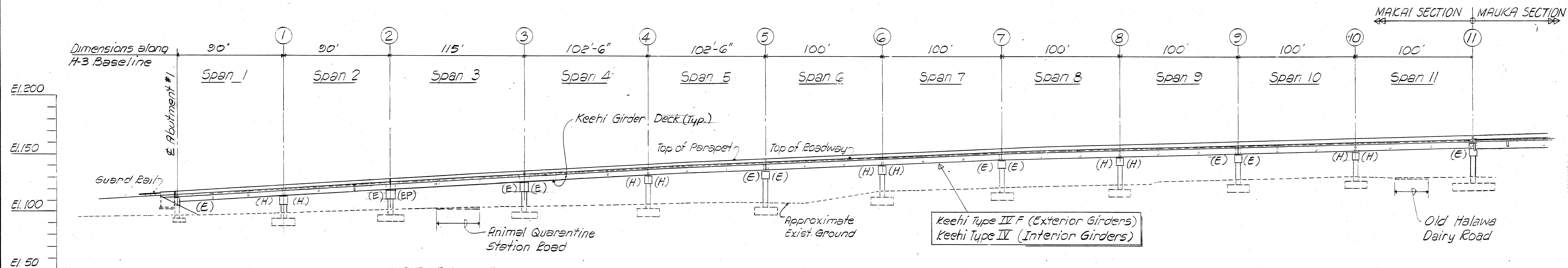
SCALE: AS SHOWN DATE: AUG 1994

SHEET NO. 27 OF 35 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I - H3-1(74)	1993	283	325

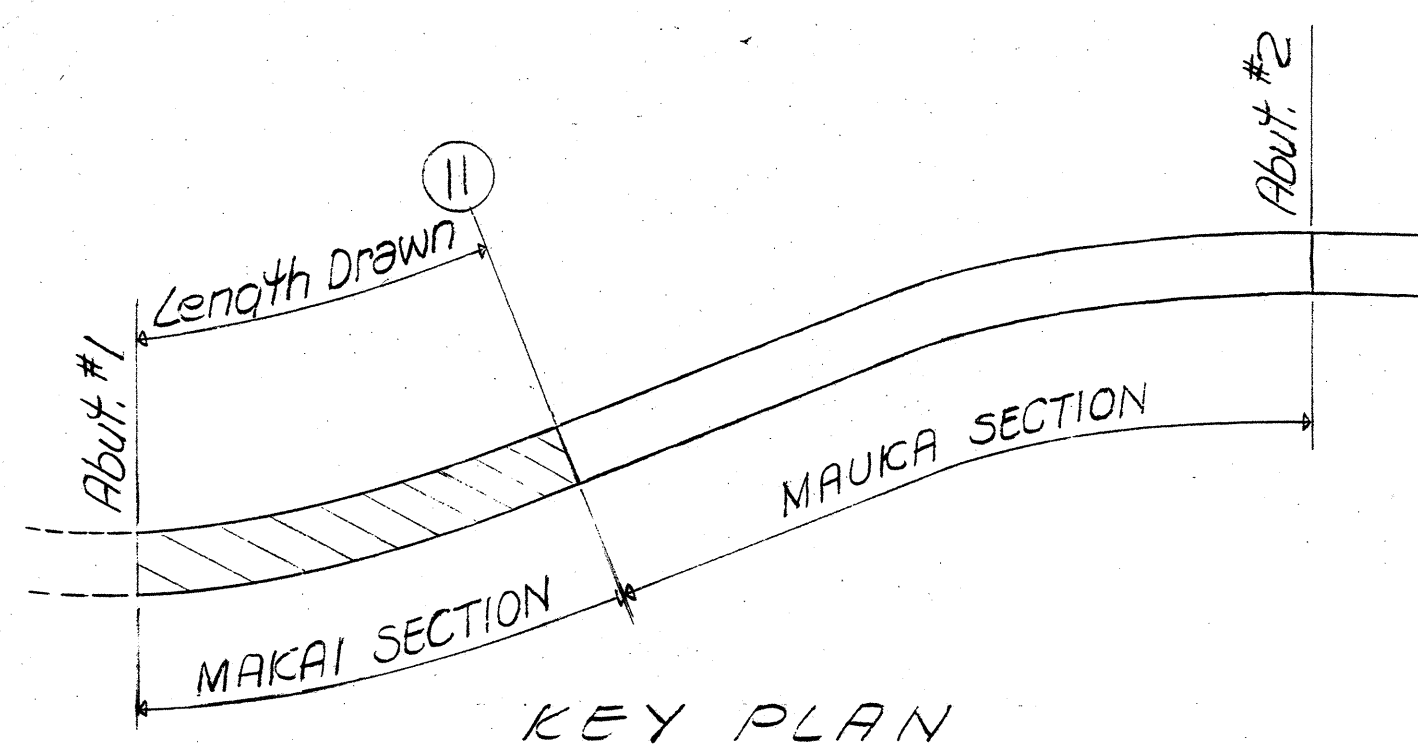


PARTIAL LAYOUT PLAN
Scale: 1" = 40'-0"



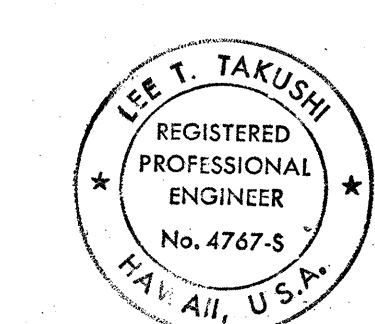
PARTIAL LONGITUDINAL ELEVATION
Scale: 1" = 40'-0"

LEGEND
(E) = Expansion Bearing
(H) = Hinged Bearing
(EP) = Expansion End-Packed



KEY PLAN

SSFM ENGINEERS, INC.
CONSULTING ENGINEERS
501 SUMNER STREET, SUITE 502
HONOLULU, HAWAII 96817

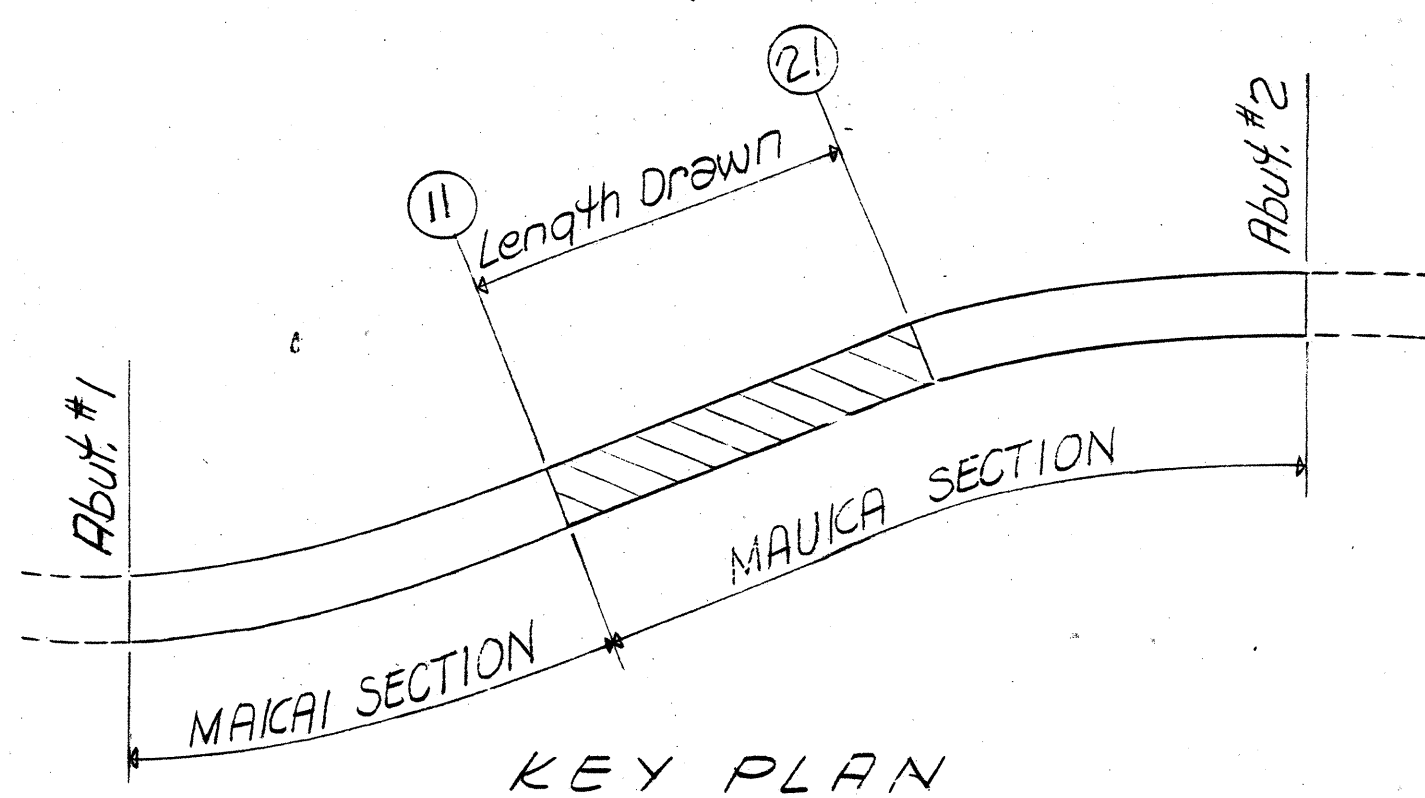
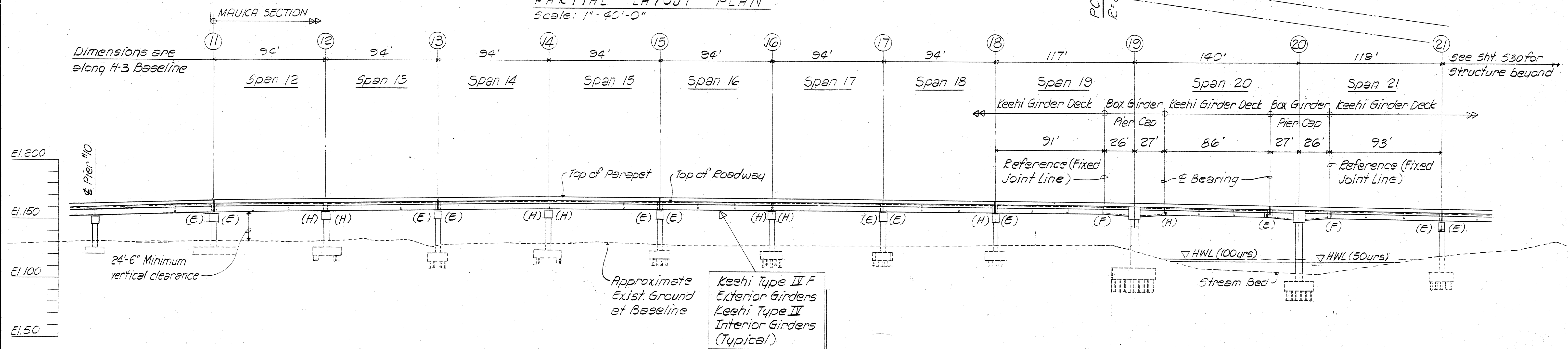
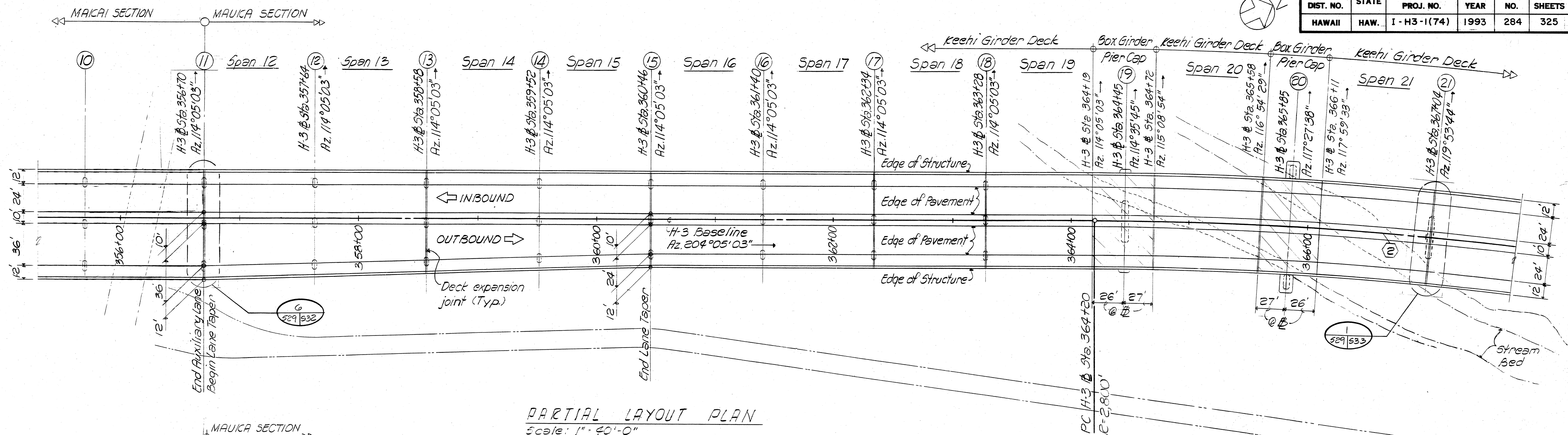


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[Signature]

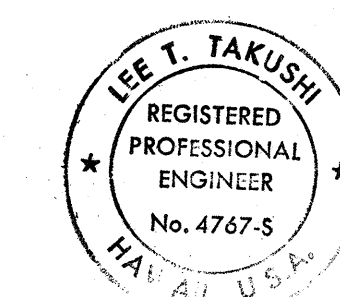
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HALAWA QUARRY VIADUCT
PLAN & LONGITUDINAL
ELEVATION-1
H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

SCALE: AS NOTED
DATE: AUG 1994
SHEET No. S28 OF 35 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	284	325



SSFM ENGINEERS, INC.
CONSULTING ENGINEERS
501 SUMNER STREET, SUITE 502
HONOLULU, HAWAII 96817



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

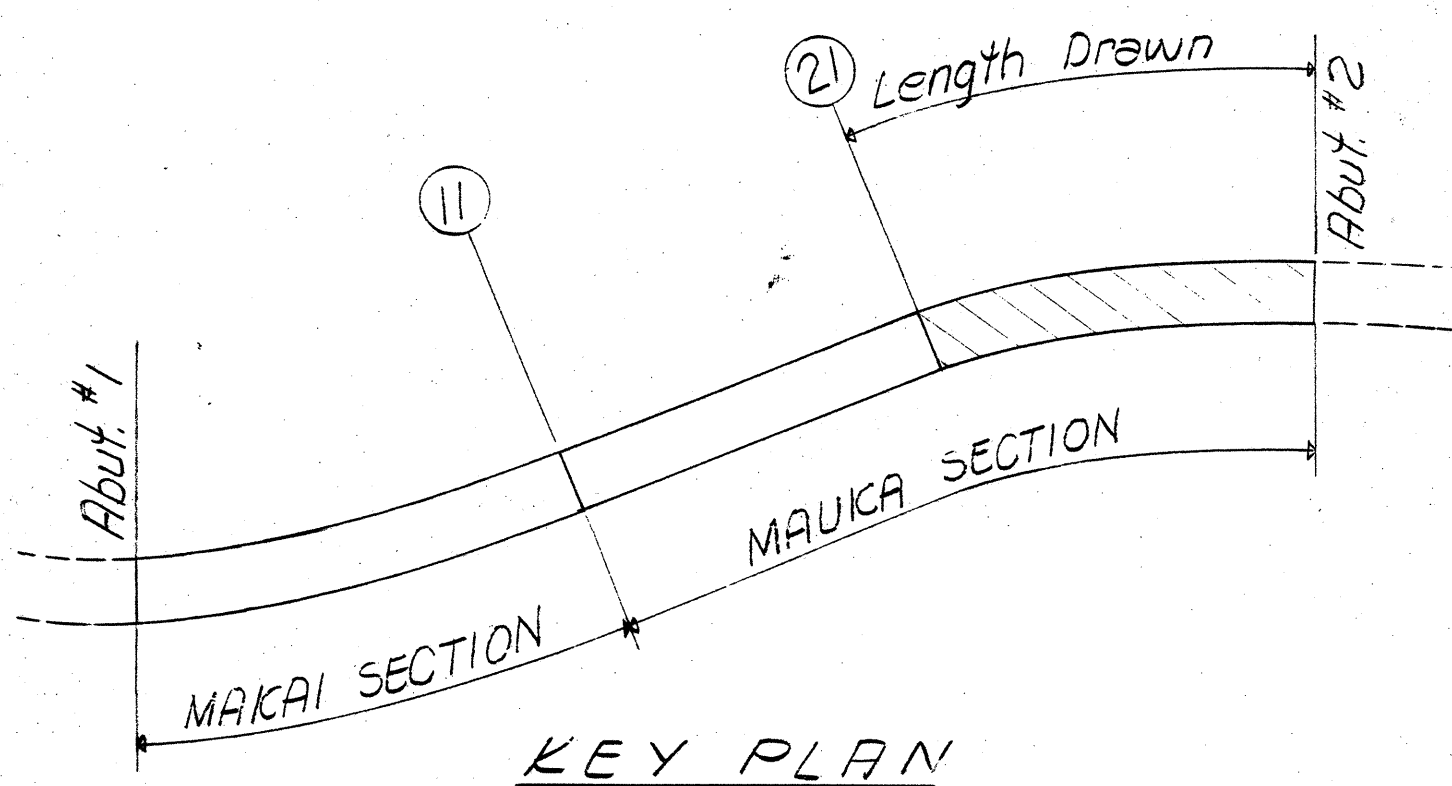
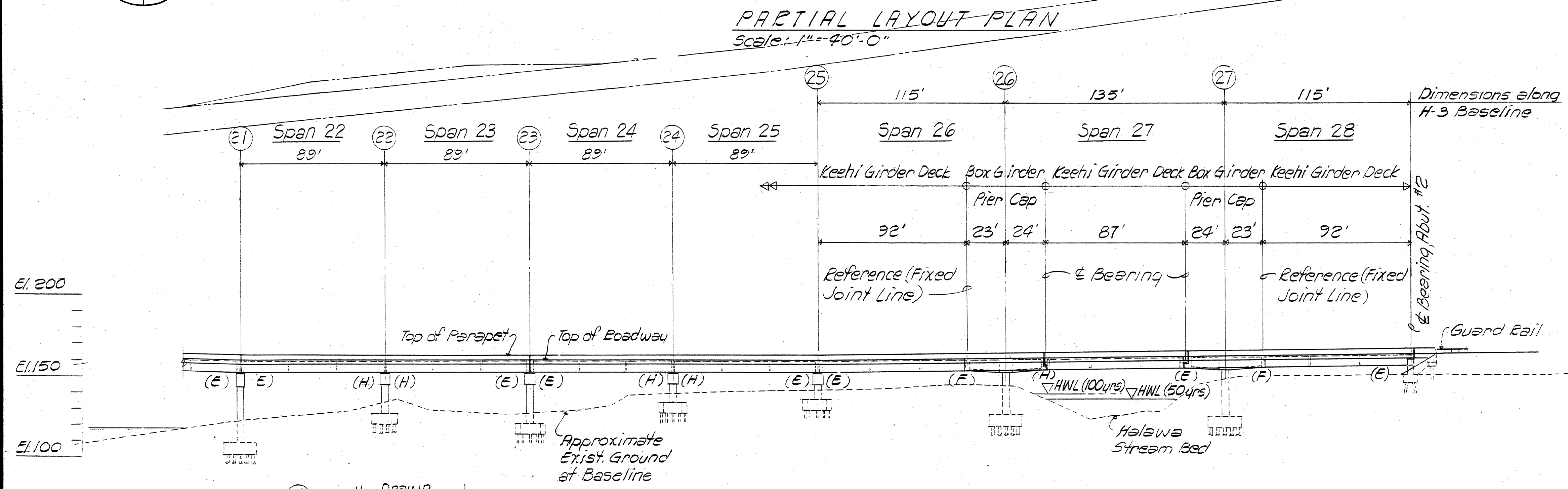
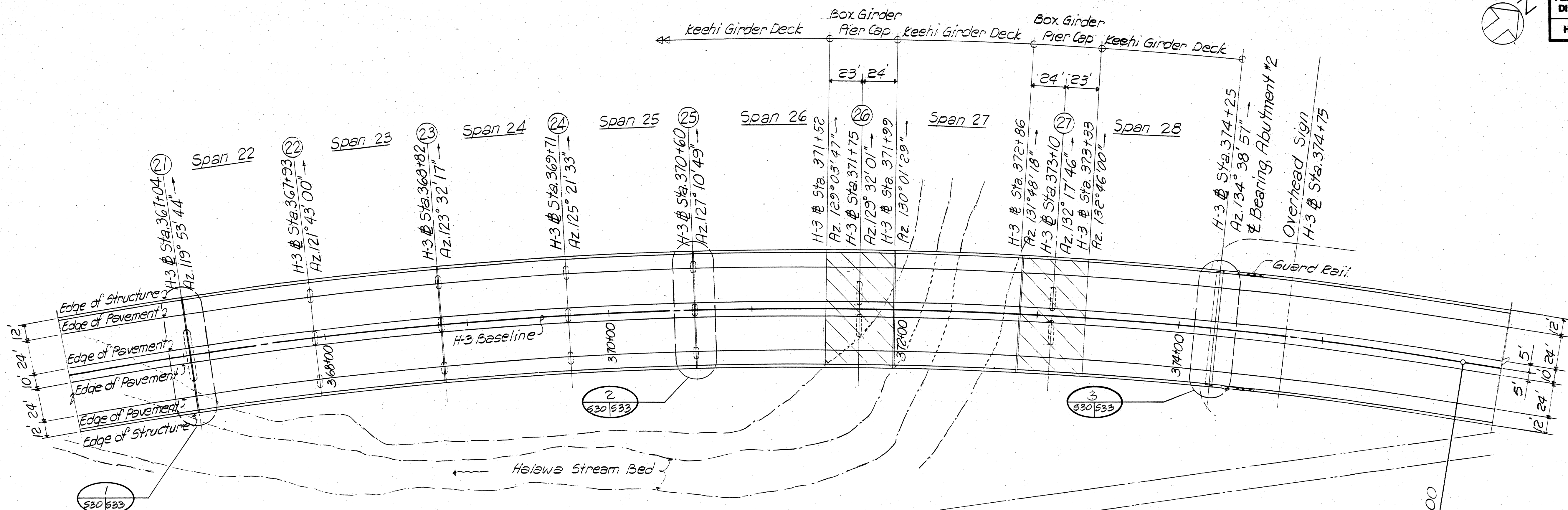
**HALAWA QUARRY VIADUCT
PLAN & LONGITUDINAL
ELEVATION-2**

H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

SCALE: AS NOTE DATE: AUG 1994

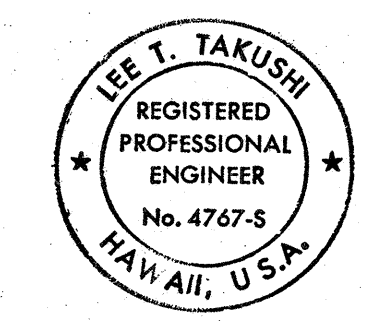
SHEET No. S29 OF 35 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	285	325



LEGEND:
(E) = Expansion Bearing
(F) = Fixed Joint
(H) = Hinge Bearing

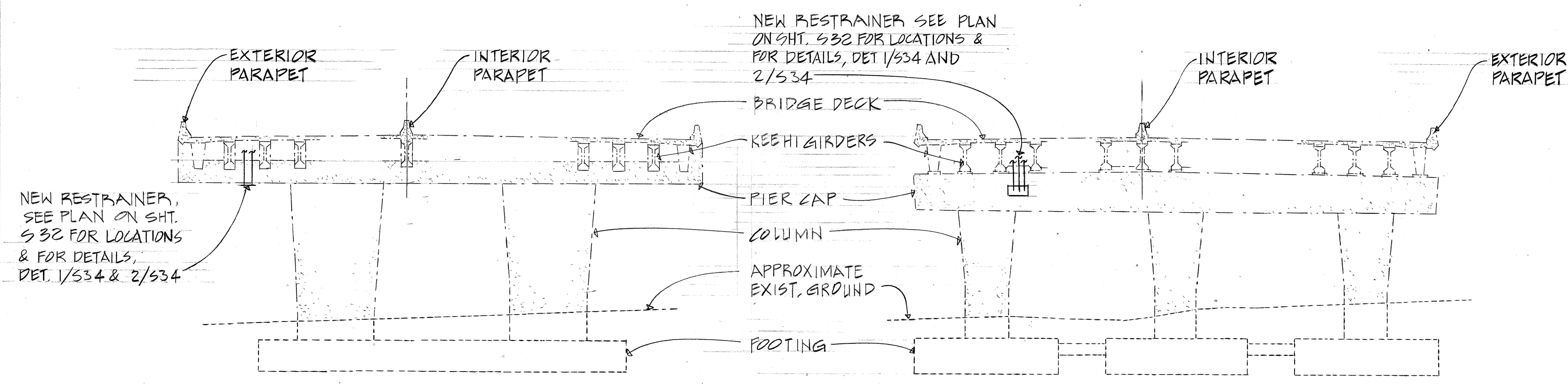
SSFM ENGINEERS, INC.
CONSULTING ENGINEERS
501 SUMNER STREET, SUITE 502
HONOLULU, HAWAII 96817



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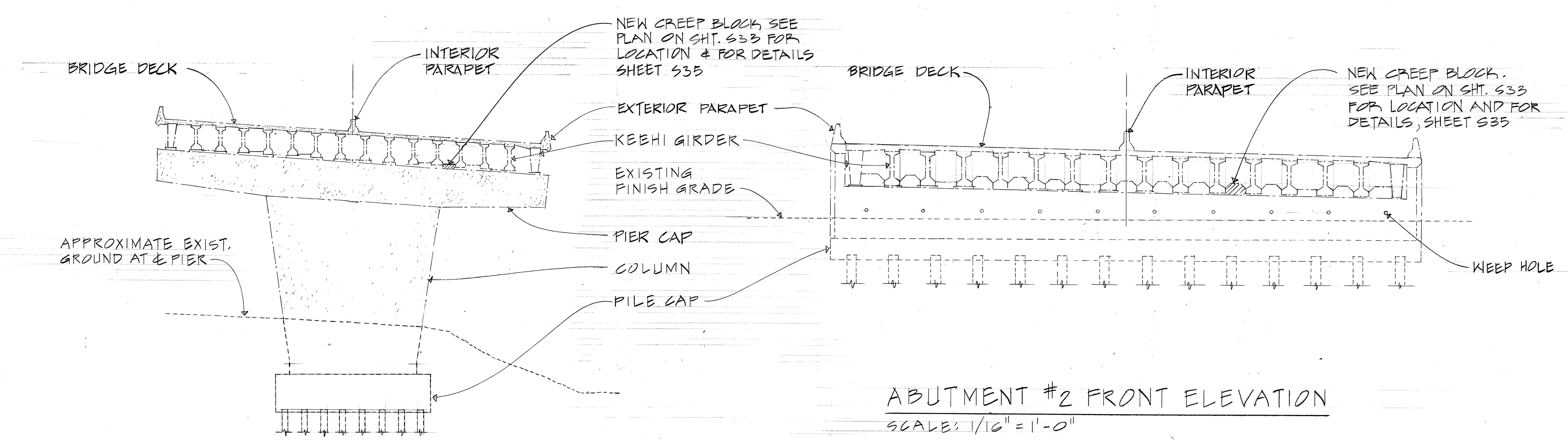
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**HALAWA QUARRY VIADUCT
PLAN & LONGITUDINAL
ELEVATION-3**
H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)
SCALE AS NOTED DATE: AUG 1994
SHEET No. S30 OF 35 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	286	325



PIER #2 & PIER #3 ELEVATIONS
SCALE: 1/16" = 1'-0" (LOOKING UP STATION)

TYPICAL PIER ELEVATION
SCALE: 1/16" = 1'-0" (LOOKING UP STATION)



PIER #2 ELEVATION
SCALE: 1/16" = 1'-0" (LOOKING UP STATION)

ABUTMENT #2 FRONT ELEVATION
SCALE: 1/16" = 1'-0"

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

SEEM ENGINEERS, INC.
CONSULTING ENGINEERS
501 SUMNER STREET, SUITE 502
HONOLULU, HAWAII 96817

LEE T. TAKUSHI
REGISTERED PROFESSIONAL ENGINEER
No. 4767-S
HAWAII, U.S.A.

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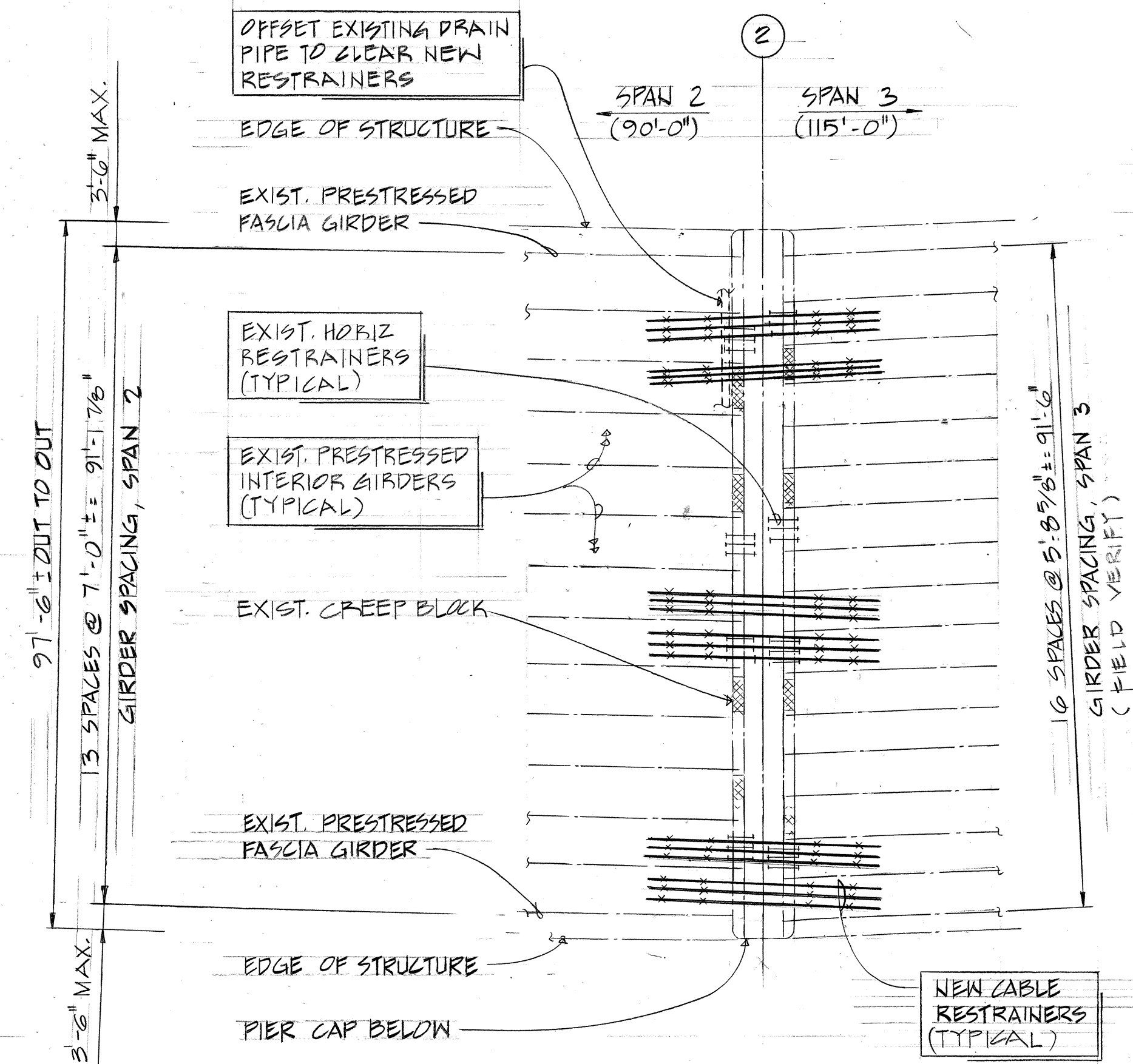
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**HALAWA QUARRY VIADUCT
PIER AND ABUTMENT
ELEVATIONS**

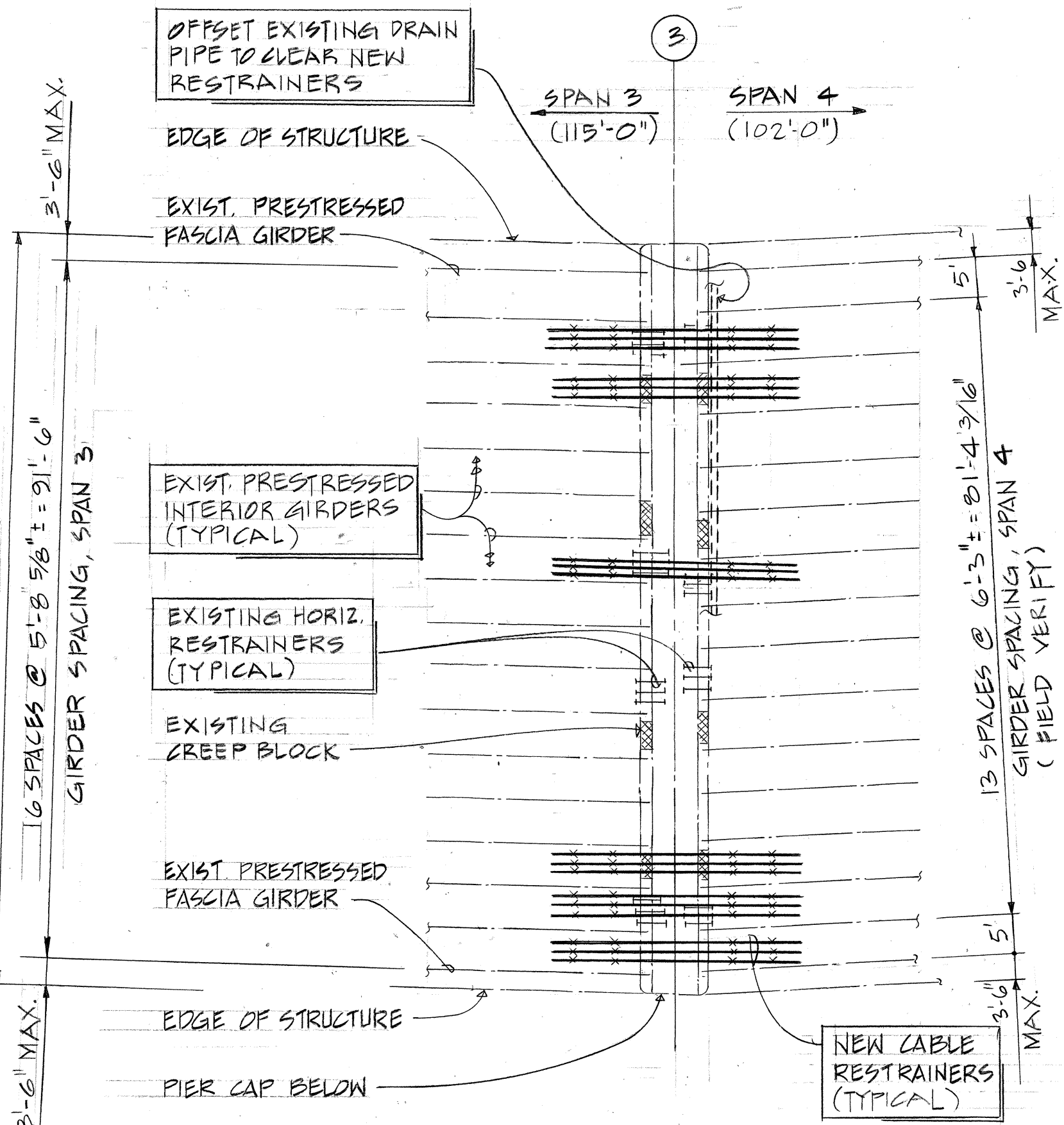
H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H3
FAIP NO. I-H3-1(74)

SCALE: AS NOTED DATE: AUG 1994
SHEET No.S31 OF 35 SHEETS

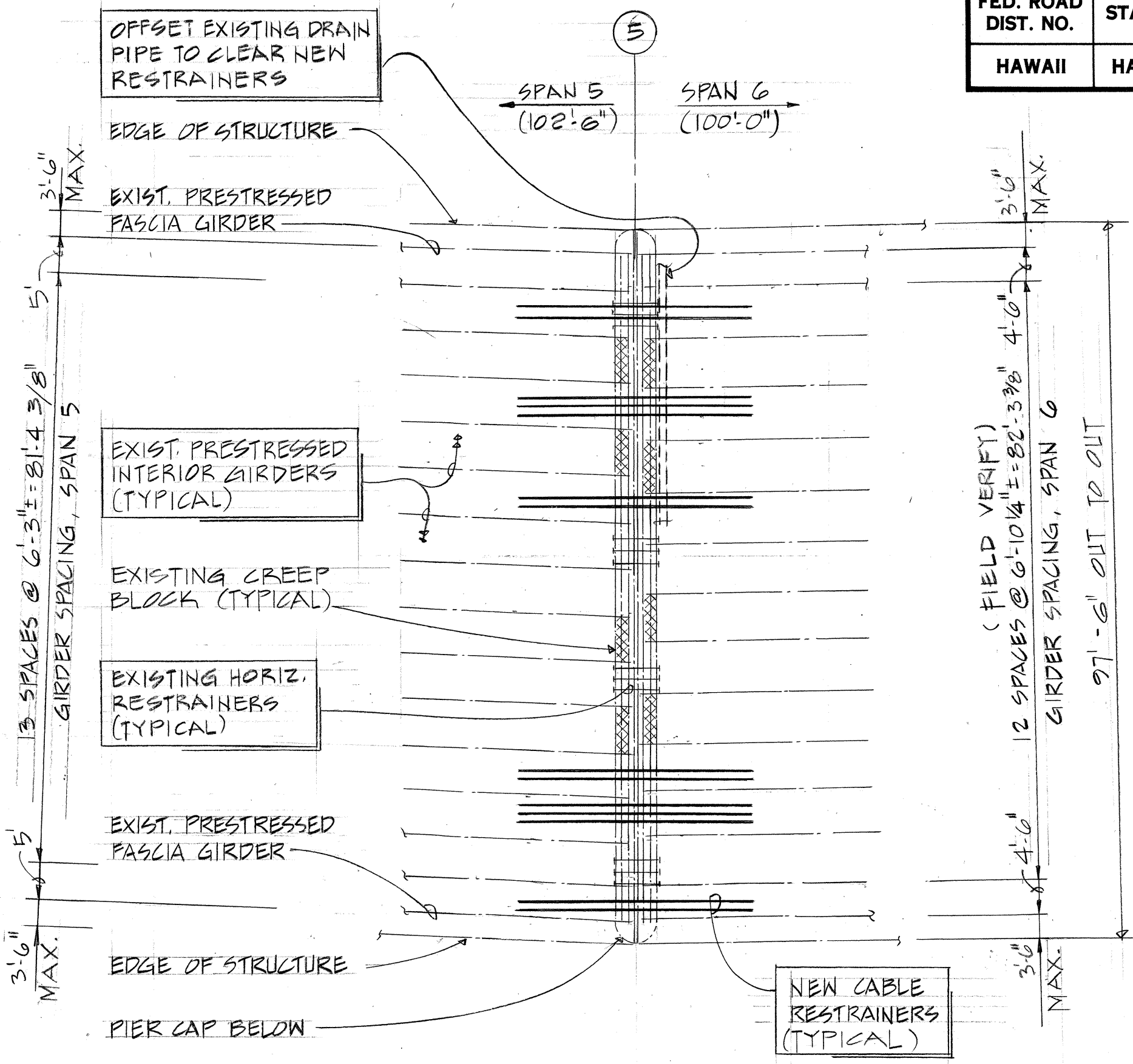
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	287	325



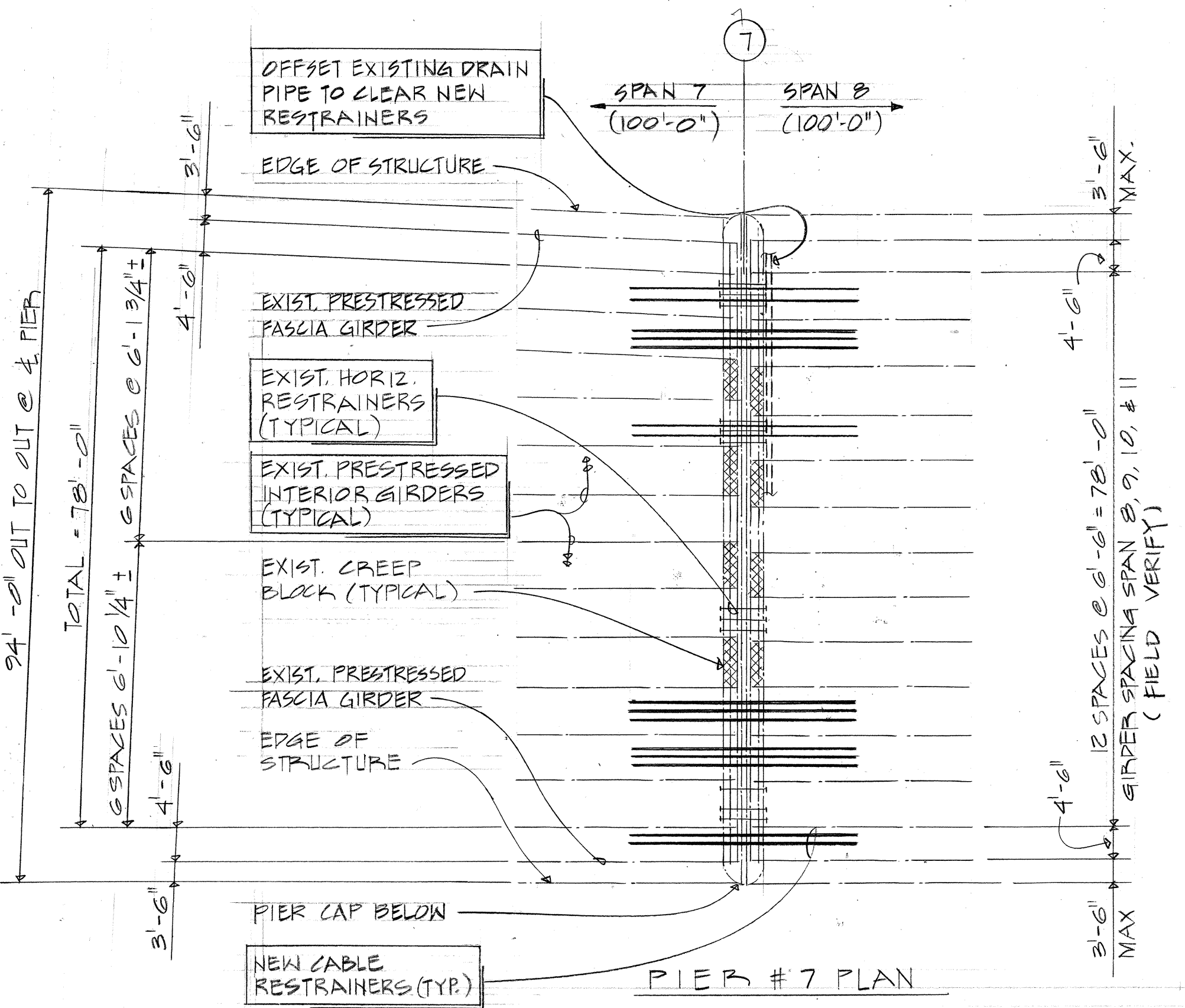
PIER #2 PLAN
DETAIL 1
SCALE: 1/16" = 1'-0"
S28/S32



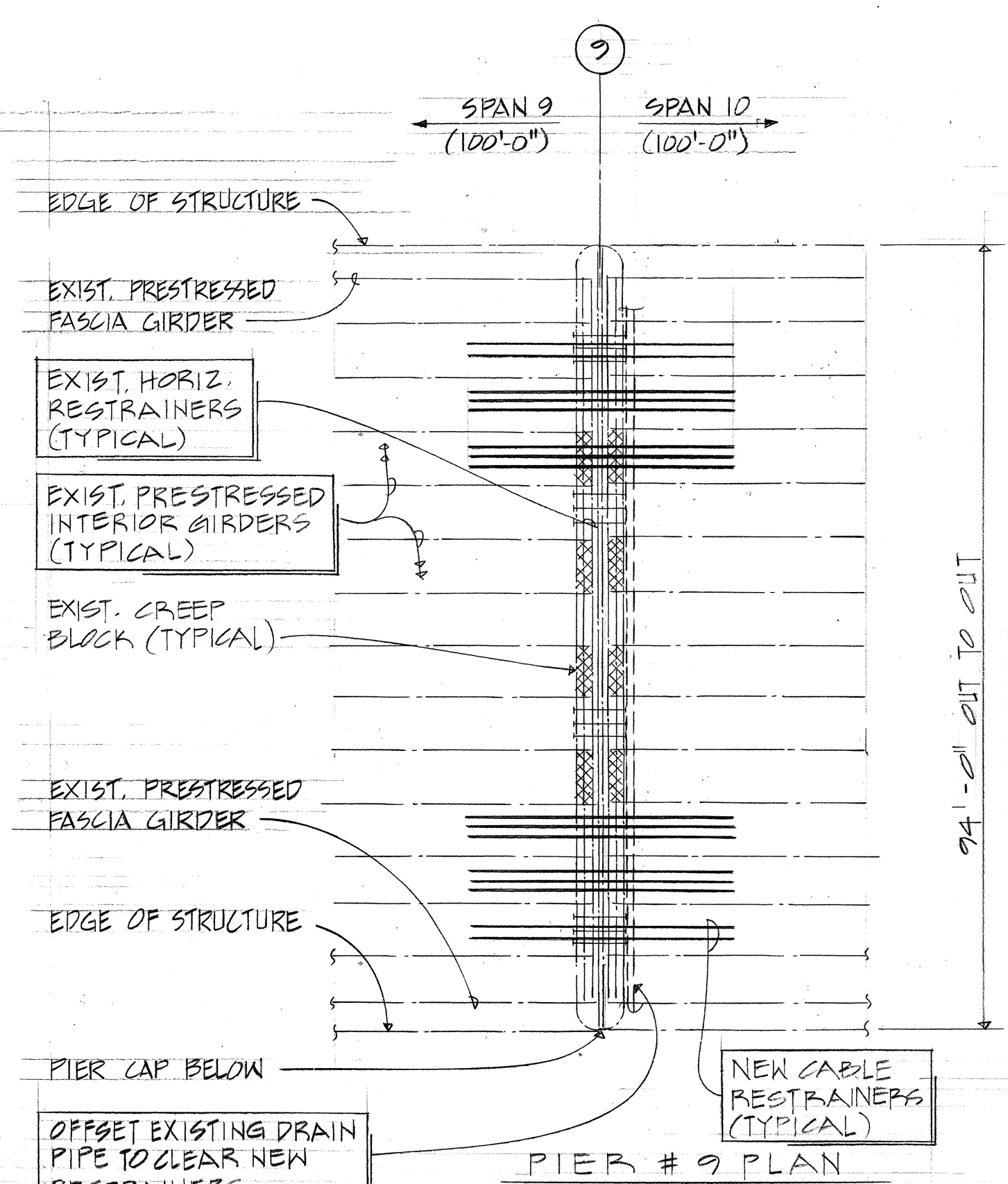
PIER #3 PLAN
DETAIL 2
SCALE: 1/16" = 1'-0"
S28/S32



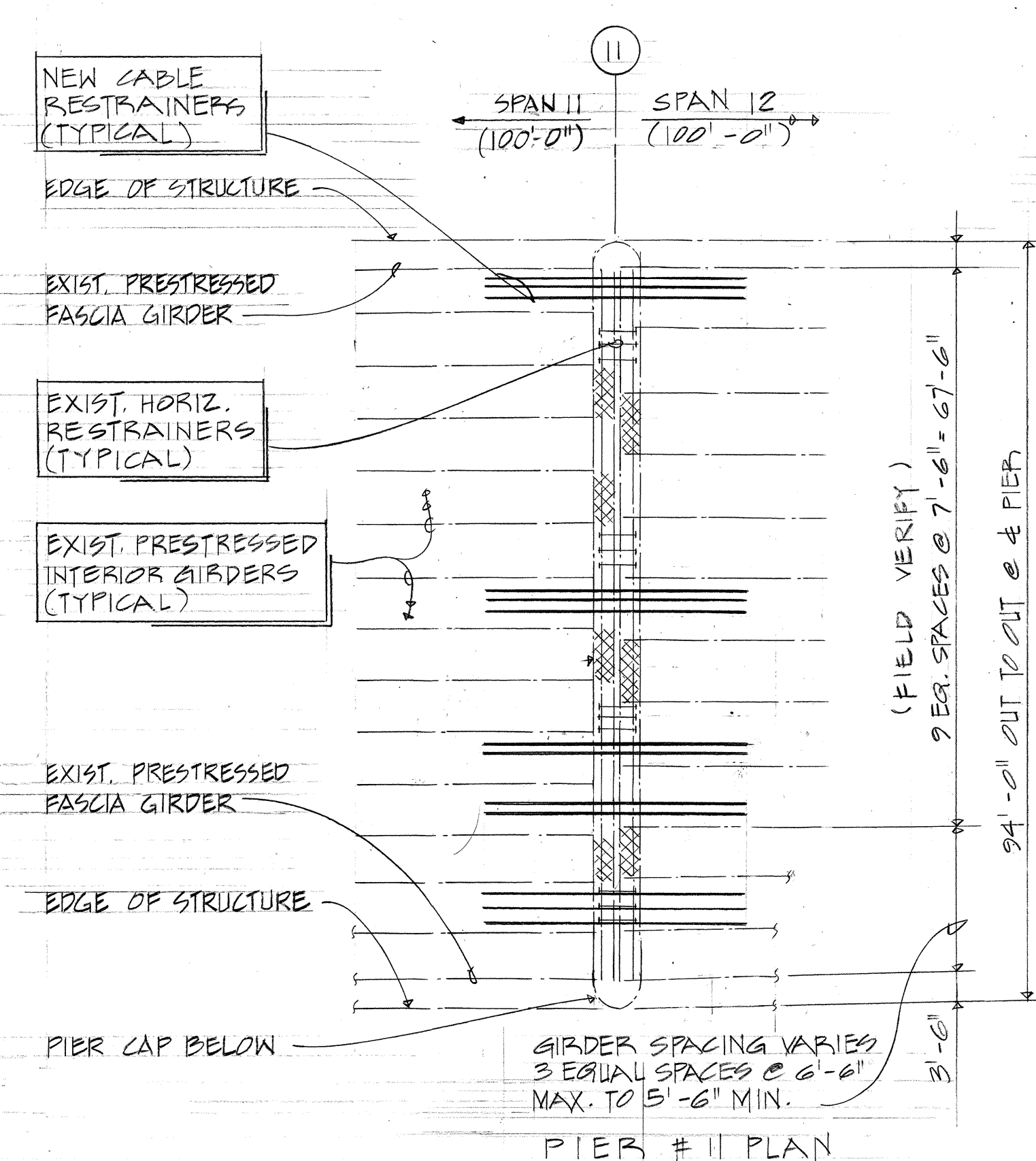
PIER #5 PLAN
DETAIL 3
SCALE: 1/16" = 1'-0"
S28/S32



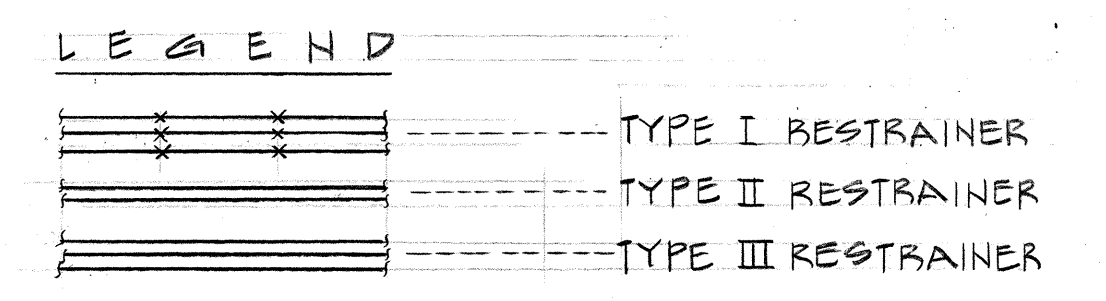
PIER #7 PLAN
DETAIL 4
SCALE: 1/16" = 1'-0"
S28/S32



PIER #9 PLAN
DETAIL 5
SCALE: 1/16" = 1'-0"
S28/S32

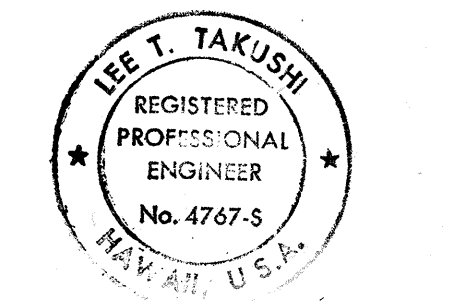


PIER #11 PLAN
DETAIL 6
SCALE: 1/16" = 1'-0"
S28/S32



NOTE:
SEE SHEET S33 FOR NEW
PIPE STRAP DETAIL FOR
SUPPORTING EXISTING
DRAIN PIPE OFFSET TO
CLEAR NEW RESTRAINERS

SSPM ENGINEERS, INC.
CONSULTING ENGINEERS
801 SUMNER STREET, SUITE 502
HONOLULU, HAWAII 96817

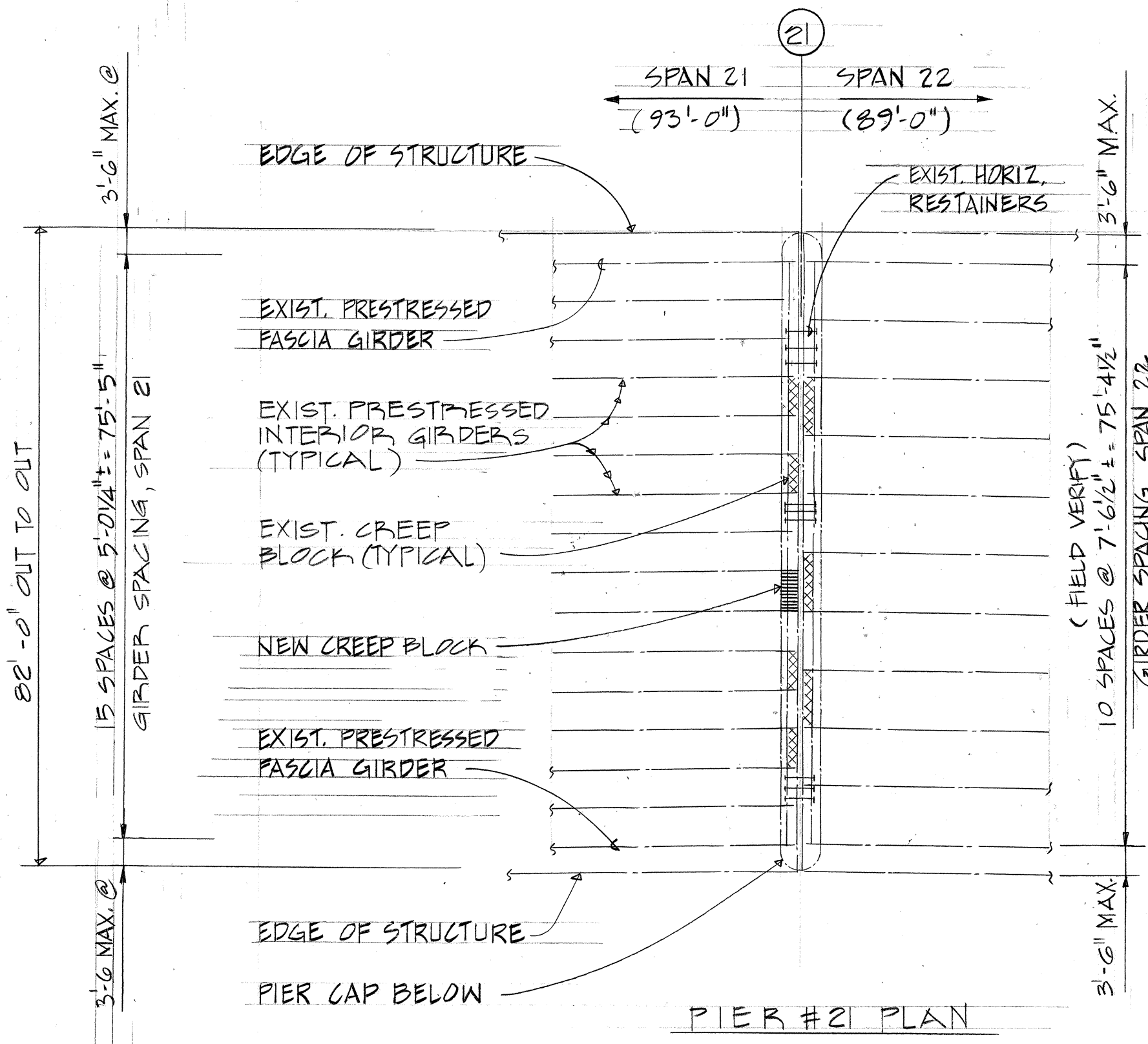


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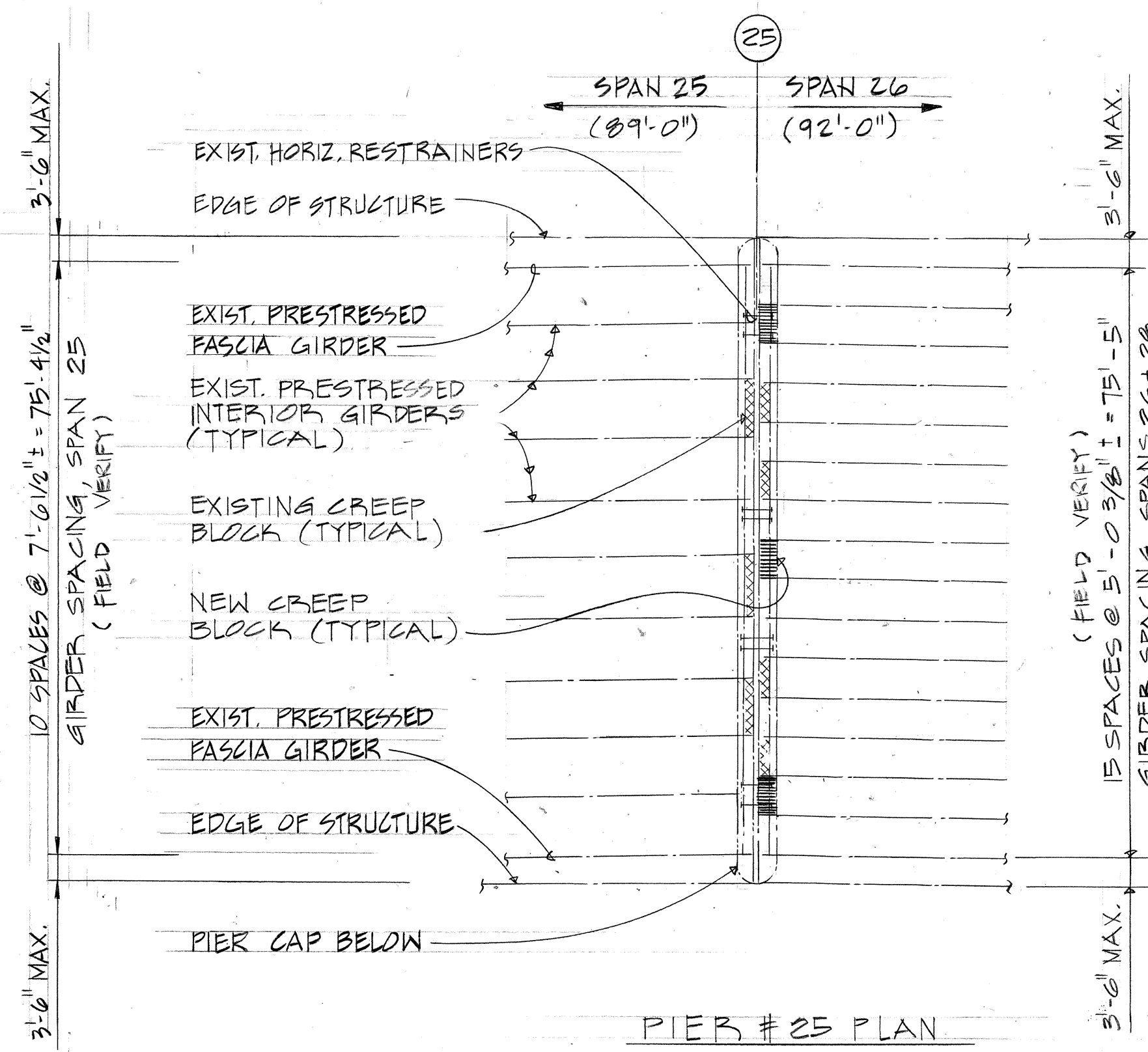
3/1/95	RELOCATED RESTRAINERS, ADDED NOTE TO OFFSET EXISTING DRAIN PIPE
DATE	REVISIONS
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION HALAWA QUARRY VIADUCT RETROFIT PLANS PIERS # 2, 3, 5, 7, 9, AND 11 H-3 - HALAWA INTERCHANGE INTERSTATE ROUTE H-3 FAIP NO. I-H3-1(74) SCALE: AS NOTED DATE: AUG 1994 SHEET No. S32 OF 35 SHEETS	

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NO.	

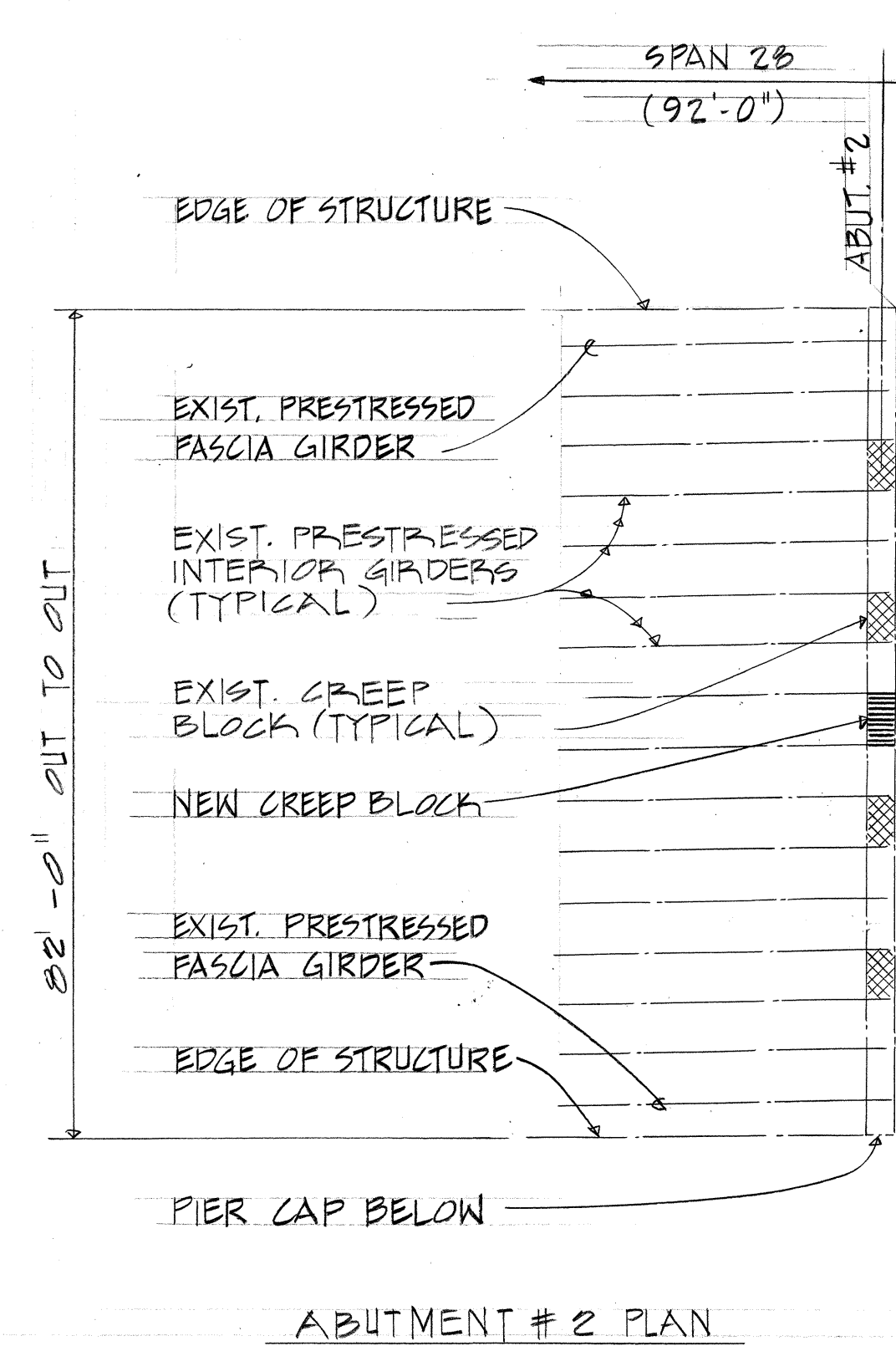
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	288	325



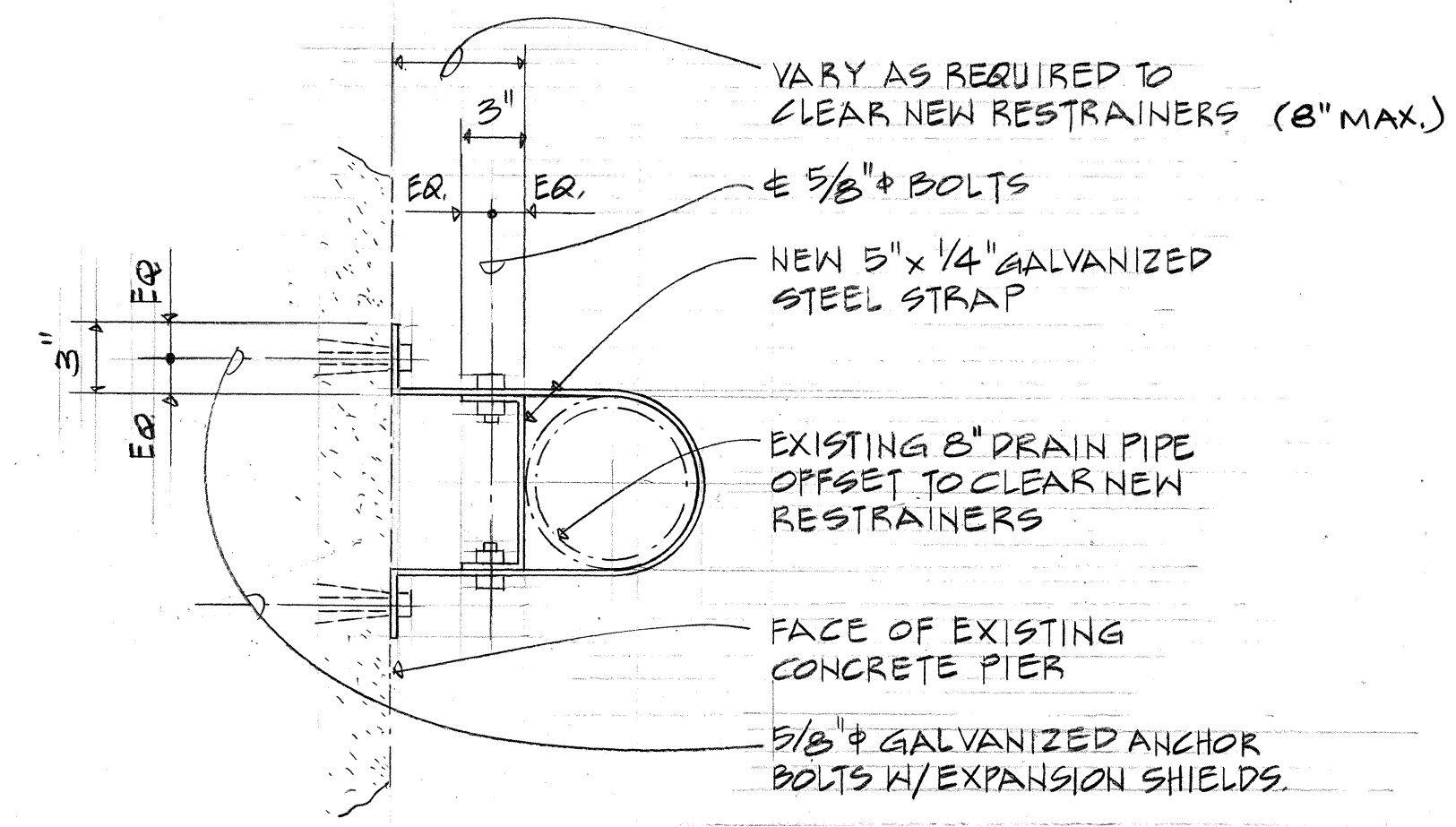
DETAIL 1
SCALE: 1/16" = 1'-0"
S33



DETAIL 2
SCALE: 1/16" = 1'-0"
S30/S33



DETAIL 3
SCALE: 1/16" = 1'-0"
S30/S33

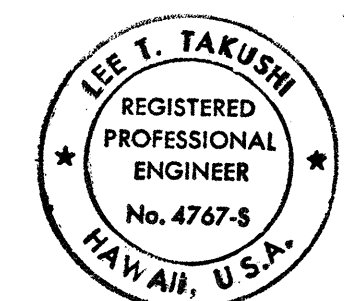


DRAIN PIPE STRAP DETAIL
SCALE: 1/8" = 1'-0"

- NOTES:
1. PROVIDE NEW PIPE STRAPS AS REQUIRED TO SUPPORT EXISTING OFFSET DRAIN PIPES
 2. SPACING OF NEW STRAPS SHALL NOT EXCEED EXISTING STRAP SPACING.

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

SEFM ENGINEERS, INC.
CONSULTING ENGINEERS
801 SUMNER STREET, SUITE 502
HONOLULU, HAWAII 96817



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3/1/95	RELOCATED CREEP BLOCK AT PIER 25, ADDED PIPE STRAP DETAIL
DATE	REVISIONS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HALAWA QUARRY VIADUCT

RETROFIT PLANS

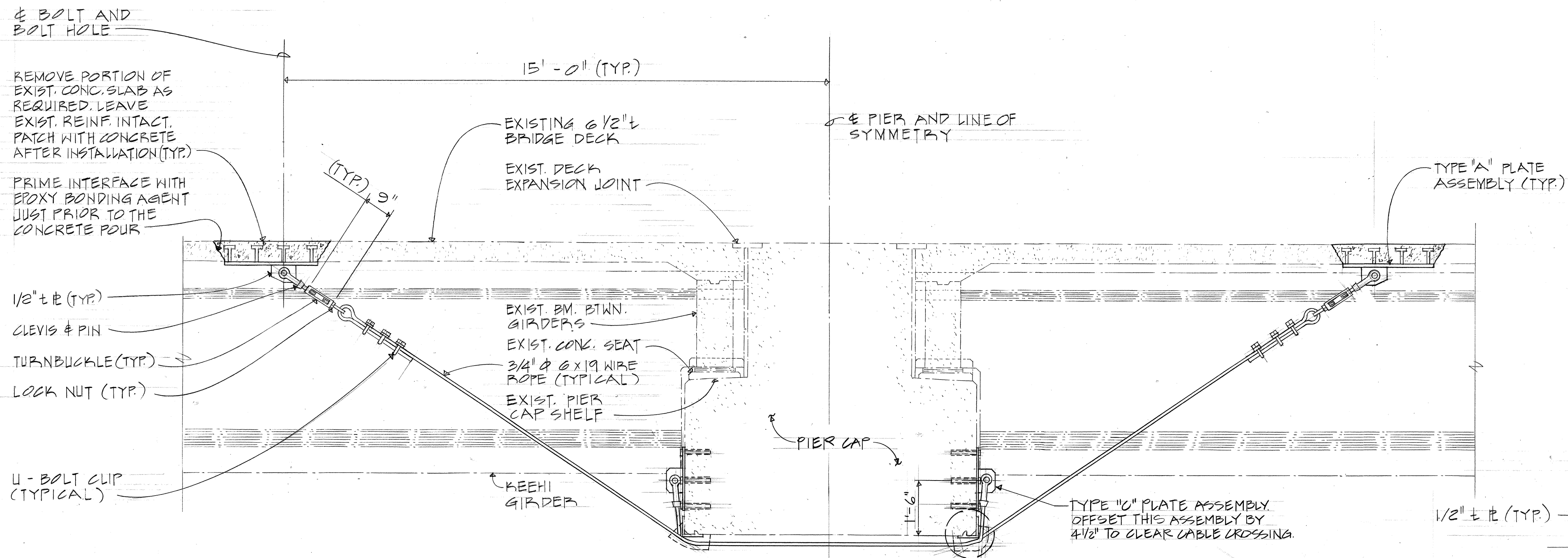
PIERS # 21 AND # 25, ABUTMENT # 2

H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)

SCALE: AS NOTED DATE: AUG 1994

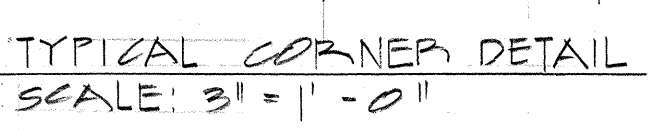
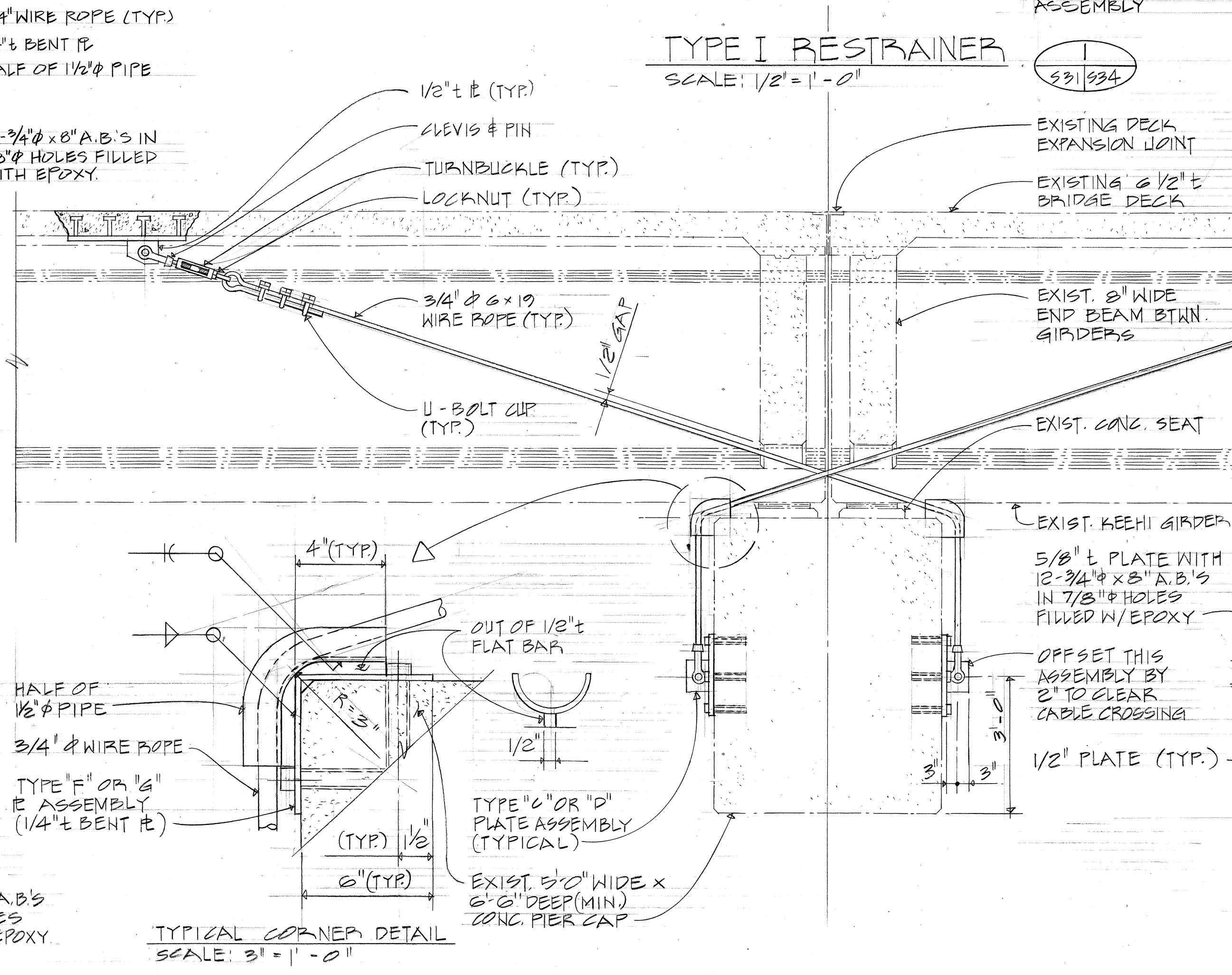
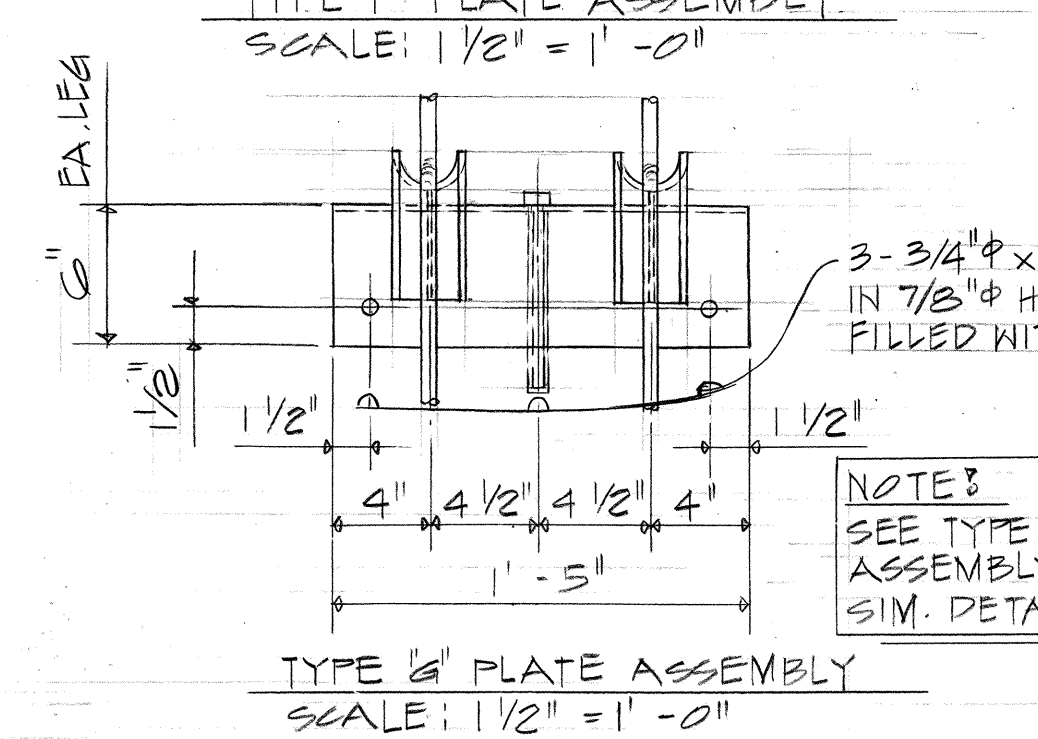
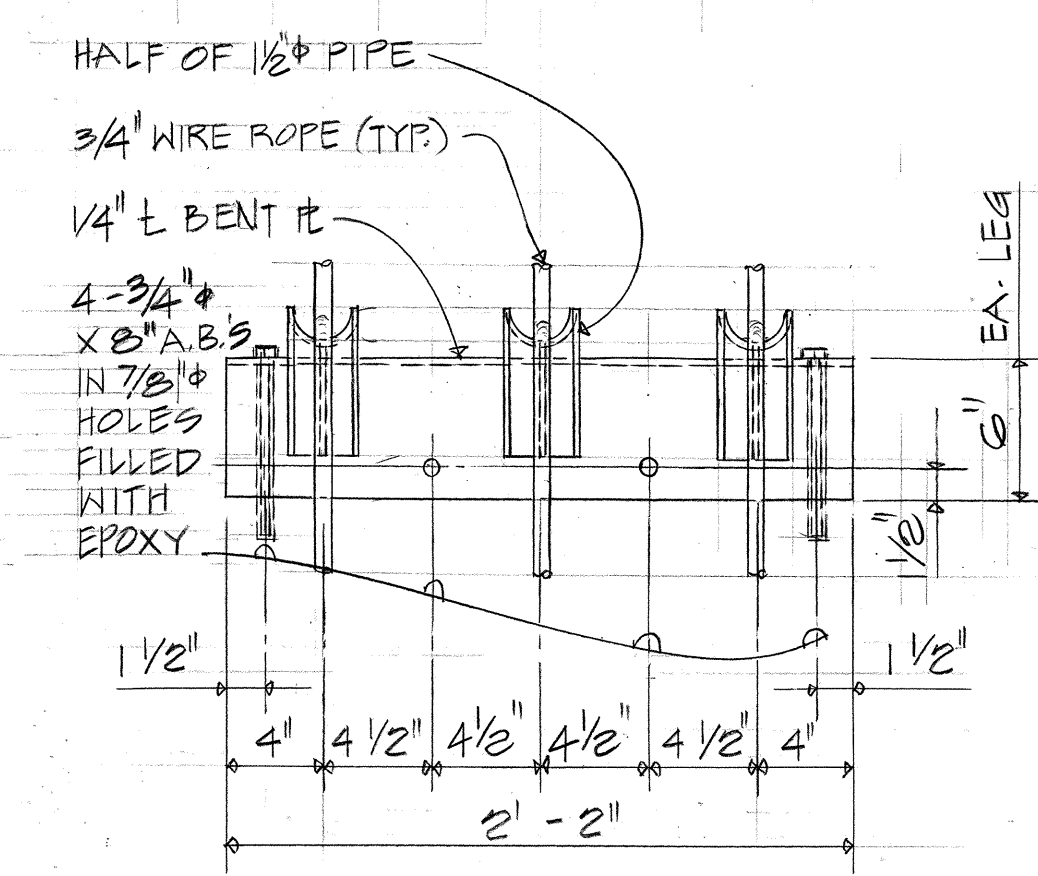
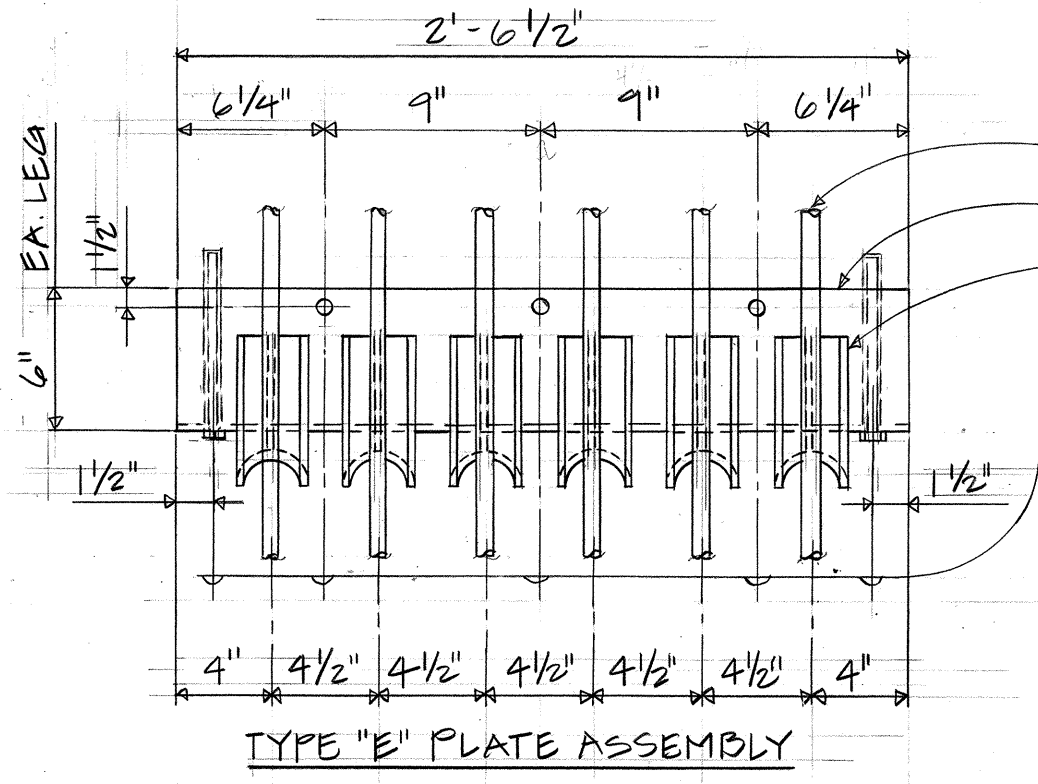
SHEET No. S33 OF 35 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(74)	1993	289	325

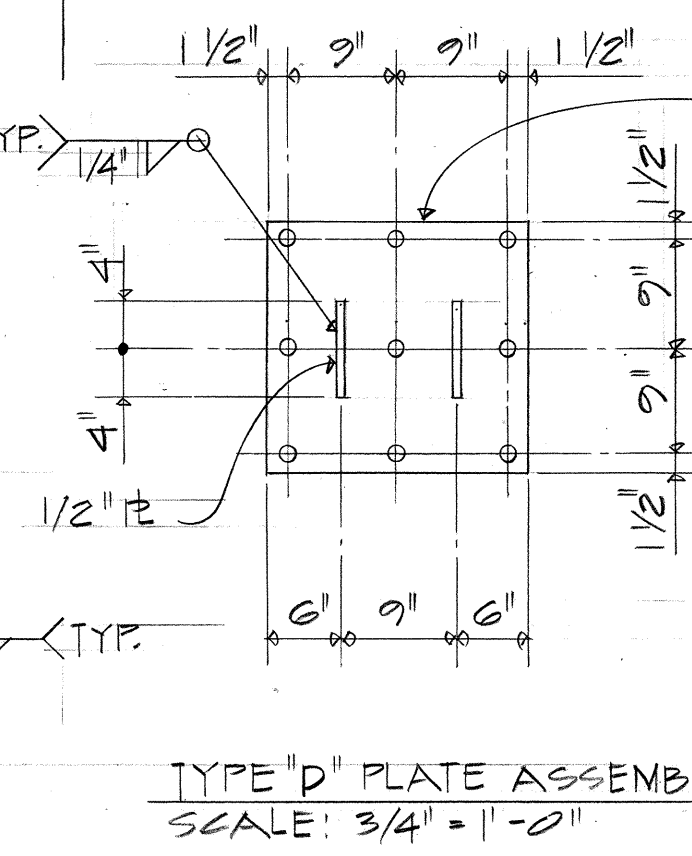
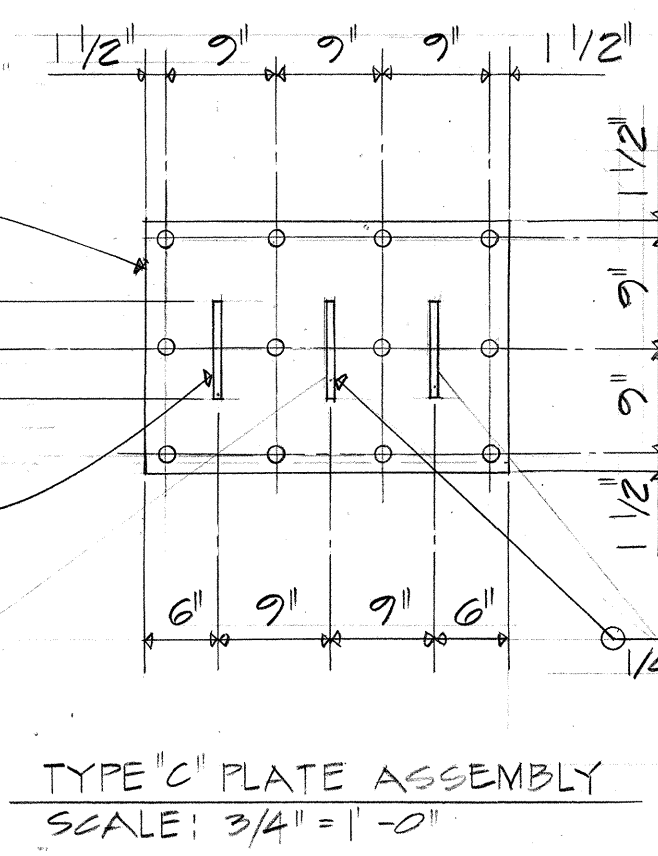
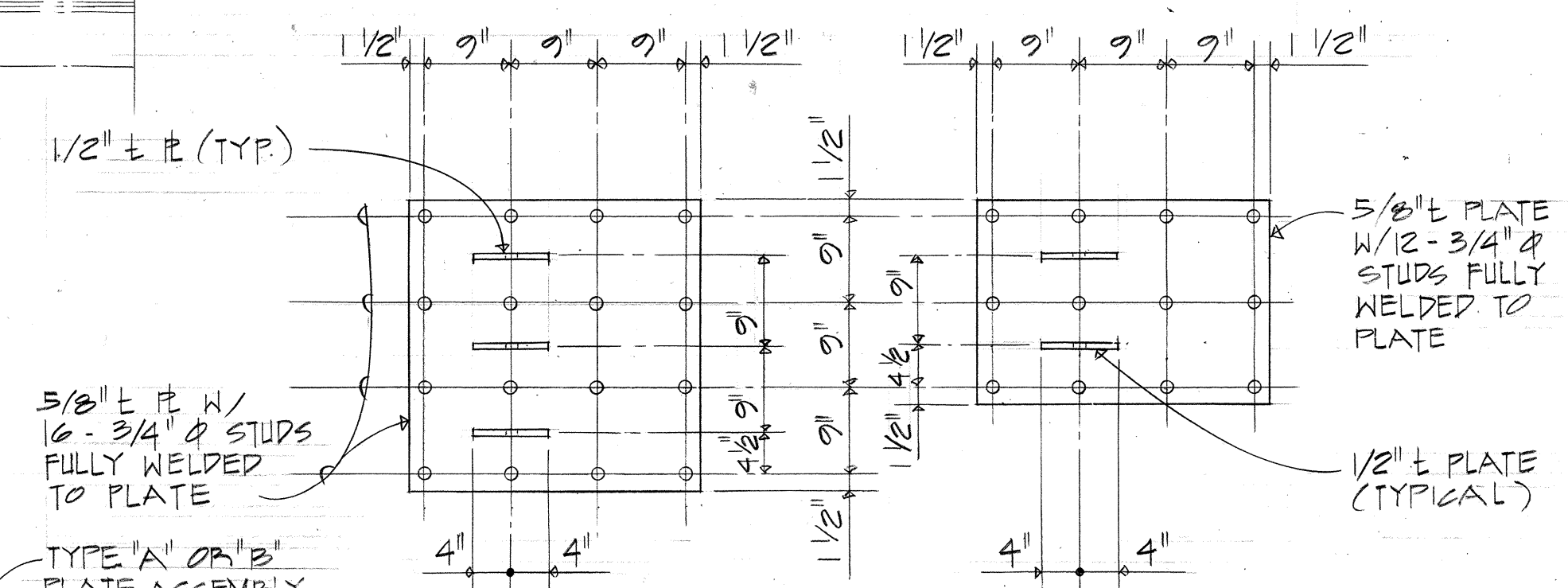


RESTRAINER SCHEDULE		
RESTRAINER TYPE	PLATE ASSEMBLY TYPE	NO. OF CABLES
I	A(2), C(2) & E(2)	6
II	B(2), D(2) & G(2)	4
III	A(2), C(2) & F(2)	6

- NOTES:
- ALL PLATES SHALL BE FABRICATED FROM ASTM A-36 HOT-DIPPED GALVANIZED AFTER FABRICATION.
 - ALL TURN-BUCKLES & FITTINGS SHALL BE GALVANIZED & SHALL DEVELOP THE BREAKING STRENGTH OF THE CABLE.



TYPE II & III RESTRAINERS
SCALE: 1/2" = 1'-0"



5/8" x 1/2" PLATE WITH 1/2" x 3/4" STUDS FULLY WELDED TO PLATE

3/1/95 ADDED RESTRAINER NOTES, REVISED RESTRAINER FITTINGS

DATE REVISIONS

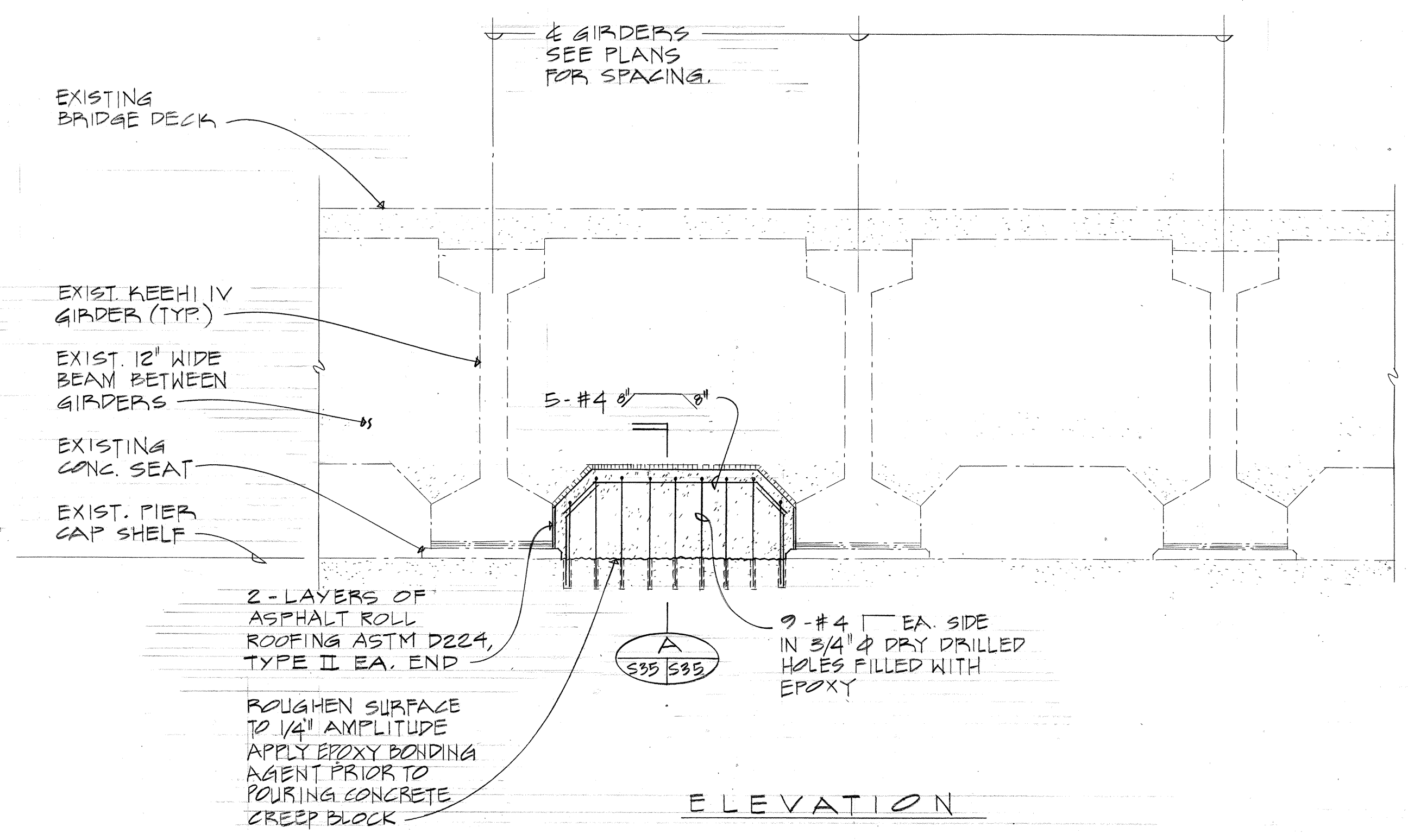
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**HALAWA QUARRY VIADUCT
RETROFIT DETAILS
RESTRAINERS**
H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H-3
FAIP NO. I-H3-1(74)
SCALE: AS NOTED DATE: AUG 1994
SHEET No. S34 OF 35 SHEETS

This work was prepared by me or under my supervision.

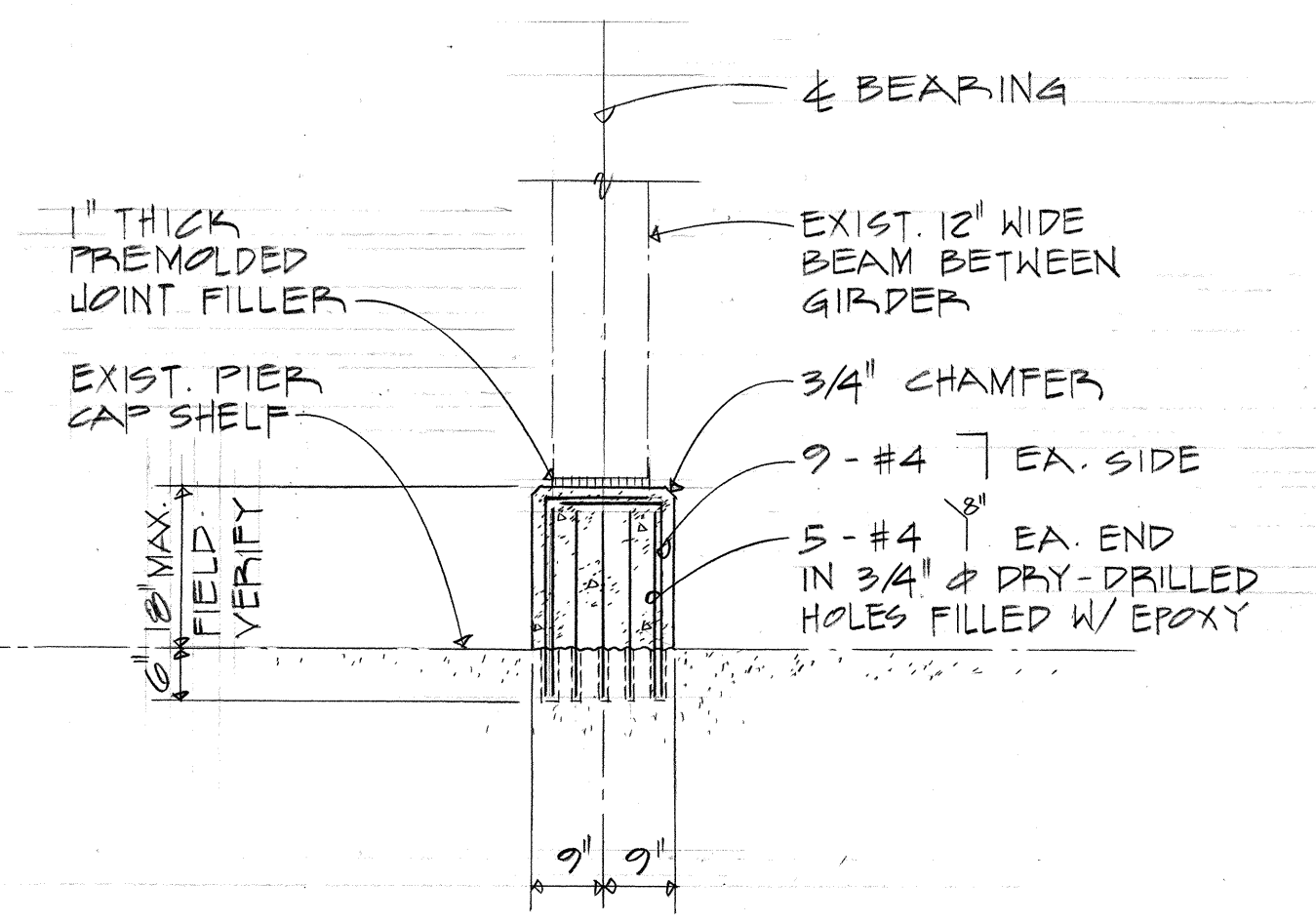
107088

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (74)	1993	290	325

- SPECIAL NOTES**
1. THE CONTRACTOR SHALL CHIP OUT PORTION OF EXISTING PIER CAP TO EXPOSE TOP REINFORCING PRIOR TO DRILLING 3/4" HOLES.
 2. HOLES SHALL BE DRILLED WITHOUT DAMAGING EXISTING PIER CAP REINFORCING.



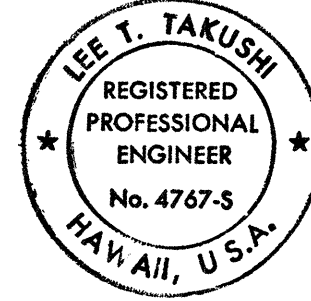
CREEP BLOCK DETAIL
SCALE: 1/2" = 1'-0"



SECTION
SCALE: 1/2" = 1'-0"

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

SSFM ENGINEERS, INC.
CONSULTING ENGINEERS
501 SUMNER STREET, SUITE 502
HONOLULU, HAWAII 96817



This work was prepared by me or under my supervision.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**HALAWA QUARRY VIADUCT
RETROFIT DETAILS
CREEP BLOCK**

H-3 - HALAWA INTERCHANGE
INTERSTATE ROUTE H3
FAIP NO. I - H3-1 (74)

SCALE: AS NOTED DATE: AUG 1994

SHEET NO. S35 OF 35 SHEETS