

INDEX TO DRAWINGS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(13):17	1977	303	394

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ESTIMATED QUANTITIES

ITEM NO.	ITEMS	UNIT	QUANTITIES
401.0500	Asphalt Concrete Pavement Mix No. II	Ton	640 Tons
206.6000	Structure Excavation For Bridges	cu.yd.	290 cu.yd.
206.7000	Structure Backfill	cu.yd.	256 cu.yd.
206.8000	Filter Materials	cu.yd.	34 cu.yd.
206.8500	Crusher Screenings	cu.yd.	124 cu.yd.
503.1870	Concrete in Bridges	L.B.	427 cu.yd.
503.1950	Concrete in Bridge Footings	L.B.	92 cu.yd.
504.7110	Prestressed Concrete Girders	L.F.	1212 L.F.
505.0010	Pile Load Tests	Eq.	1 pc.
505.0430	Precast, Prestressed Concrete Piles - furnished (16 1/2" Oct.)	L.F.	9448 L.F.
505.4300	Precast, Prestressed Concrete Piles - Driven (16 1/2" Oct.)	L.F.	9220 L.F.
507.2500	Metal Bridge Railing - Three Rail	L.F.	590 L.F.
602.1350	Reinforcing Steel in Bridges	L.B.	93,970 lbs.
606.336	Guard Rail Type 3 - Double with Rub Rail on Steel Posts Mounted on Concrete Structure	L.F.	189 L.F.
660.0100	Bitumen Coating	Sq.yd.	2464 Sq.yd.
505.6100	Sleeved Hole, 24 inch dia.	L.F.	570 L.F.
505.8100	Pile Driving Shoe	Eq.	57 Eq.

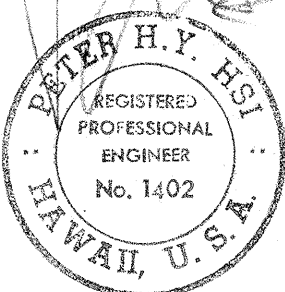
SURVEY PLOTTED BY	DATE
PLAN	
DESIGNED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
No.	

Revised Estimated Quantities of the following Pay Items:	
206.6000	206.7000
206.8000	206.8500
503.1870	503.1950
507.2500	602.1350
8/31/78	

DATE	REVISION
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PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

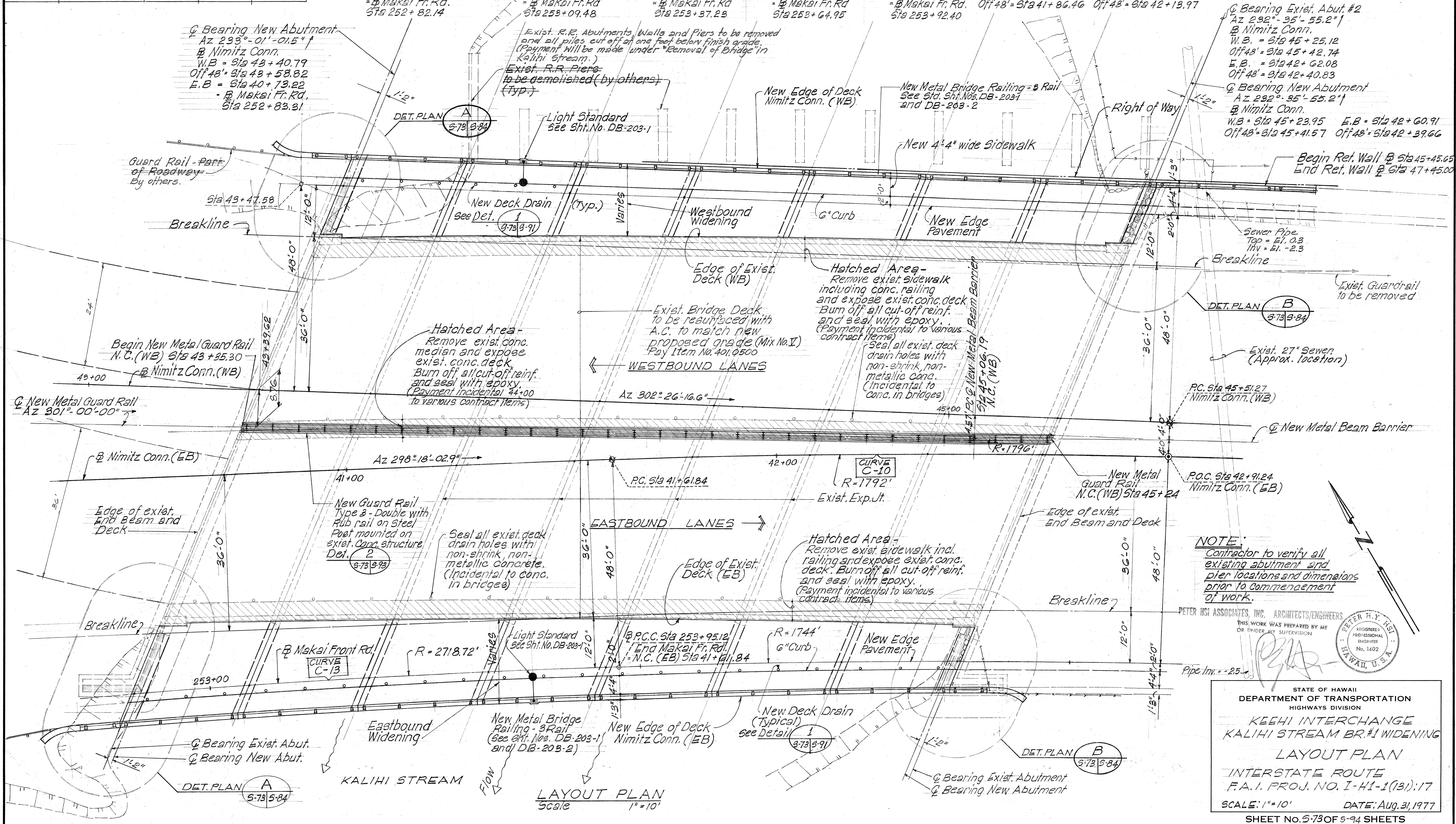
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION



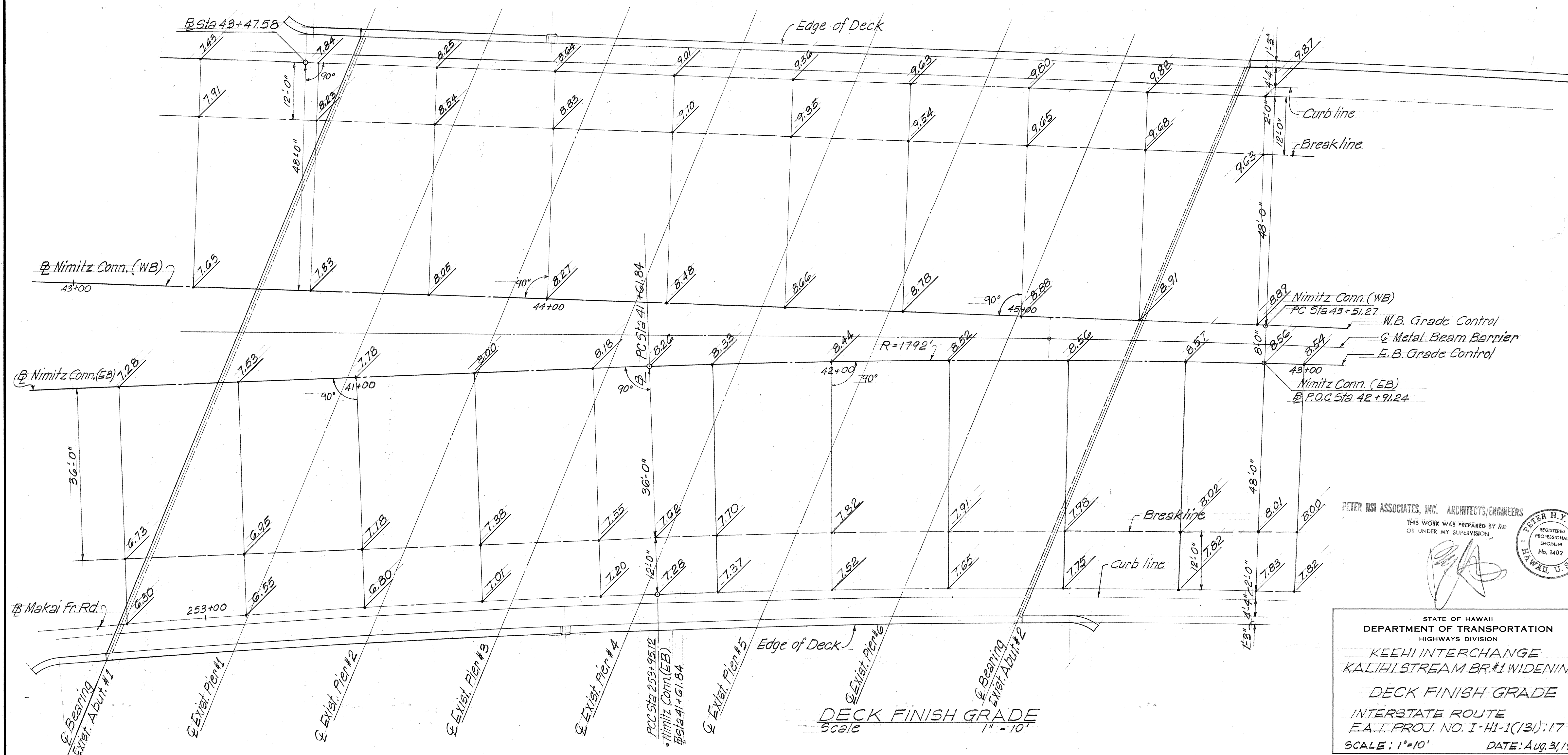
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KEEHI INTERCHANGE
KALIHI STREAM BR.#1 WIDENING
INDEX TO DRAWINGS
ESTIMATED QUANTITIES
INTERSTATE ROUTE
F.A.I. PROJ. NO. I-HI-1(13):17
Scale: Date: Aug. 31, 1977
SHEET NO. 3-72 OF 5-94 SHEETS

BASELINE CURVE DATA				
CURVE NO.	Δ	R	L	T
C-10	40°-21'-51.2"	1792.0'	1262.44'	658.69'
C-13	15°-01'-26.0"	2718.72'	712.89'	358.50'

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H1-1(131):17	1977	304	394

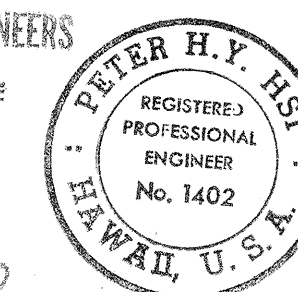


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET:
HAWAII	HAW.	1-HI-1(131):17	1977	306	394



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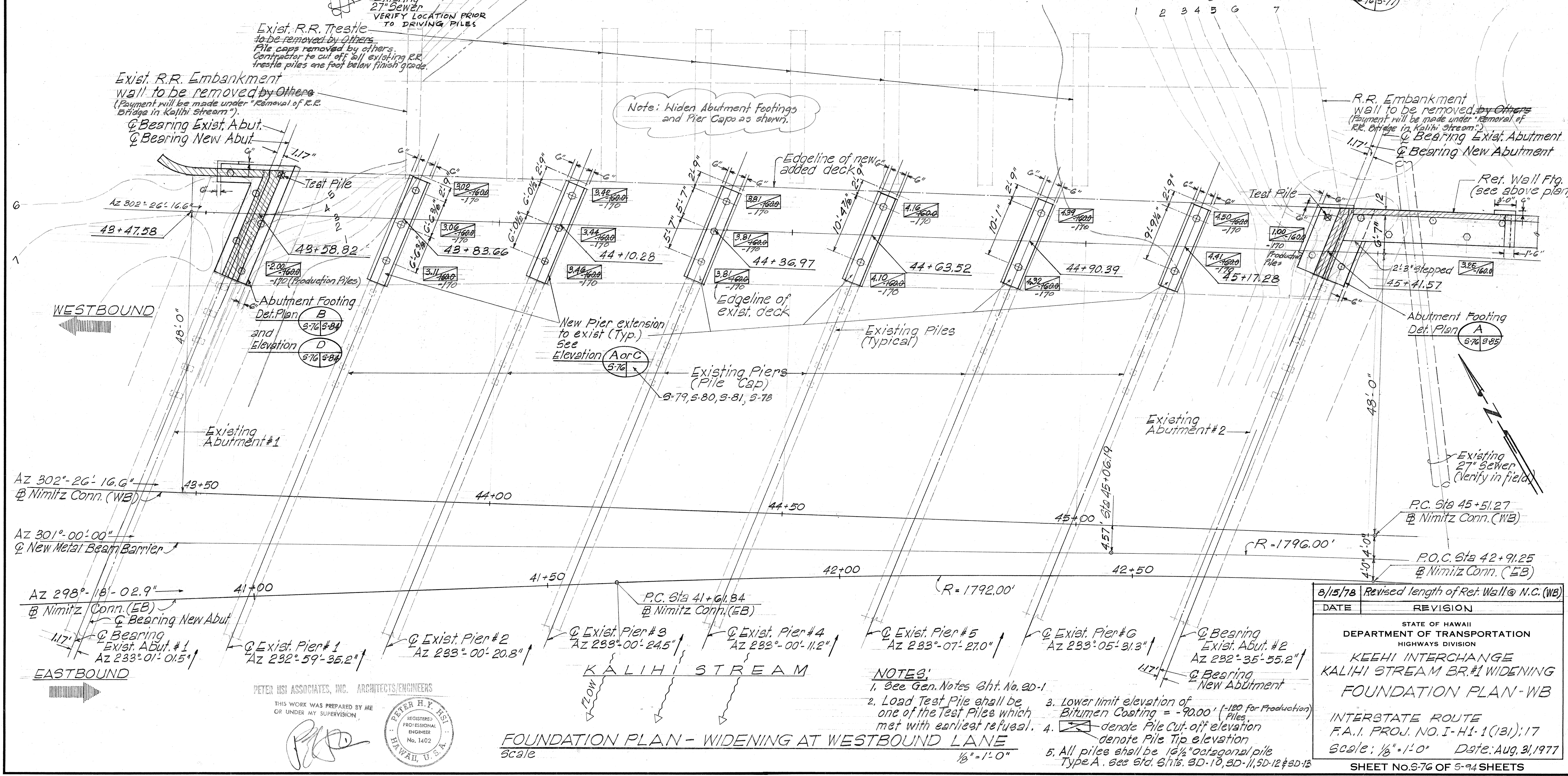
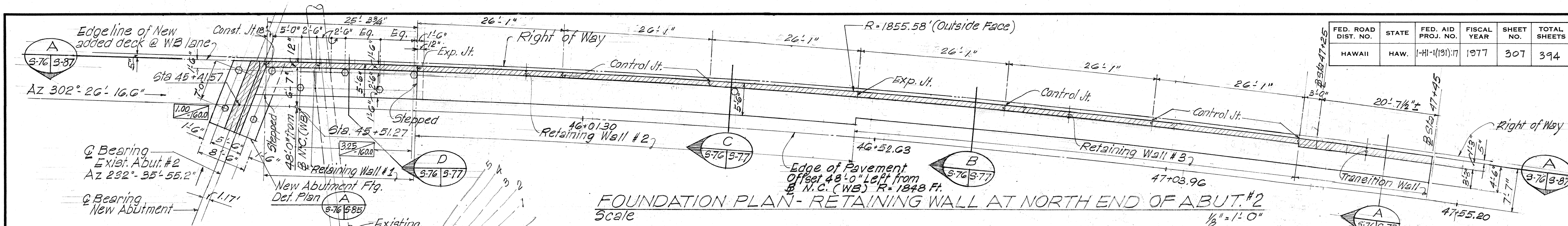


STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KEEHI INTERCHANGE
KALIHI STREAM BR.#1 WIDENING
DECK FINISH GRADE
INTERSTATE ROUTE
E.A.I. PROJ. NO. I-HI-1(13):17
SCALE: 1"=10' DATE: Aug. 31, 1971

SHEET NO. 575 OF 574 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131);17	1977	307	394



DATE: _____
 SURVEY PLOTTED BY: _____
 DRAWN BY: _____
 DESIGNED BY: _____
 CHECKED BY: _____
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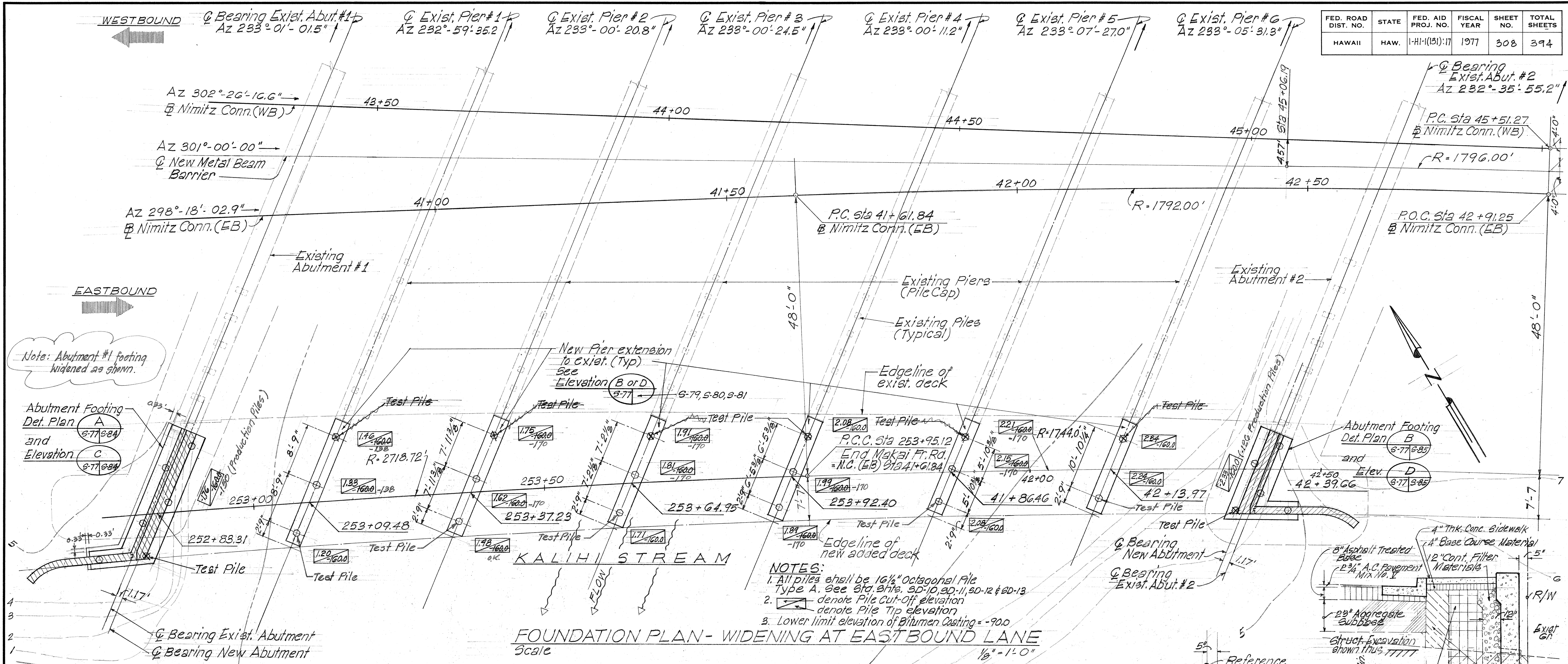
PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS
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 PETER H. HSI
 REGISTERED PROFESSIONAL ENGINEER
 No. 1402
 HAWAII, U.S.A.

- NOTES:**
- See Gen. Notes Sht. No. 30-1
 - Load Test Pile shall be one of the Test Piles which met with earliest refusal.
 - Lower limit elevation of Bitumen Coating = -90.00' (-120 for Production)
 - denote Pile Cut-off elevation
denote Pile Tip elevation
 - All piles shall be 16 1/2" octagonal/pile Type A. see Std. Shts. 3D-10, 3D-11, 3D-12 & 3D-13

DATE	REVISION
8/15/78	Revised length of Ret. Wall @ N.C. (WB)

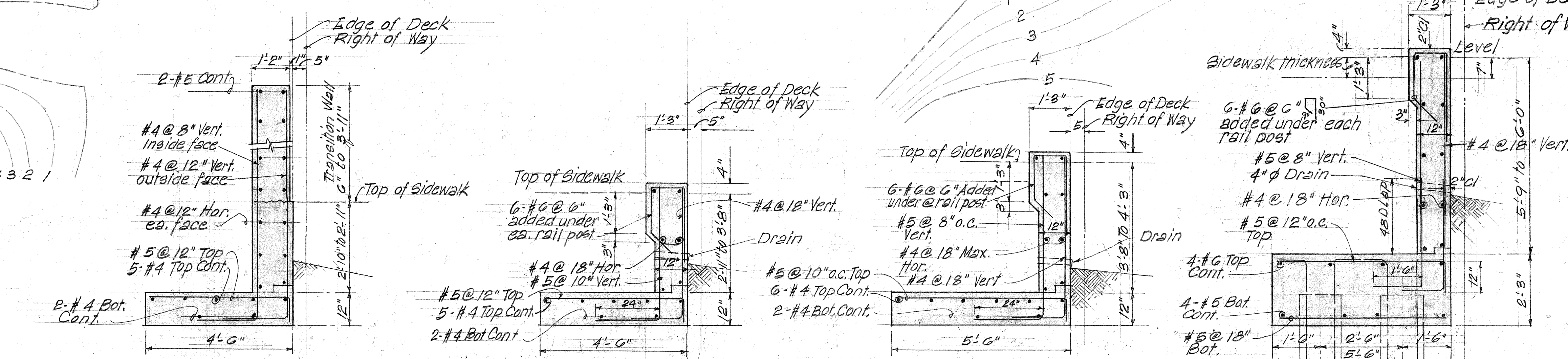
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
 KEEHI INTERCHANGE
 KALIHI STREAM BR.#1 WIDENING
 FOUNDATION PLAN-WB
 INTERSTATE ROUTE
 F.A.I. PROJ. NO. I-HI-1(131);17
 Scale: 1/8" = 1'-0" Date: Aug. 31, 1977
 SHEET No. 3-76 OF 5-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1977	308	394

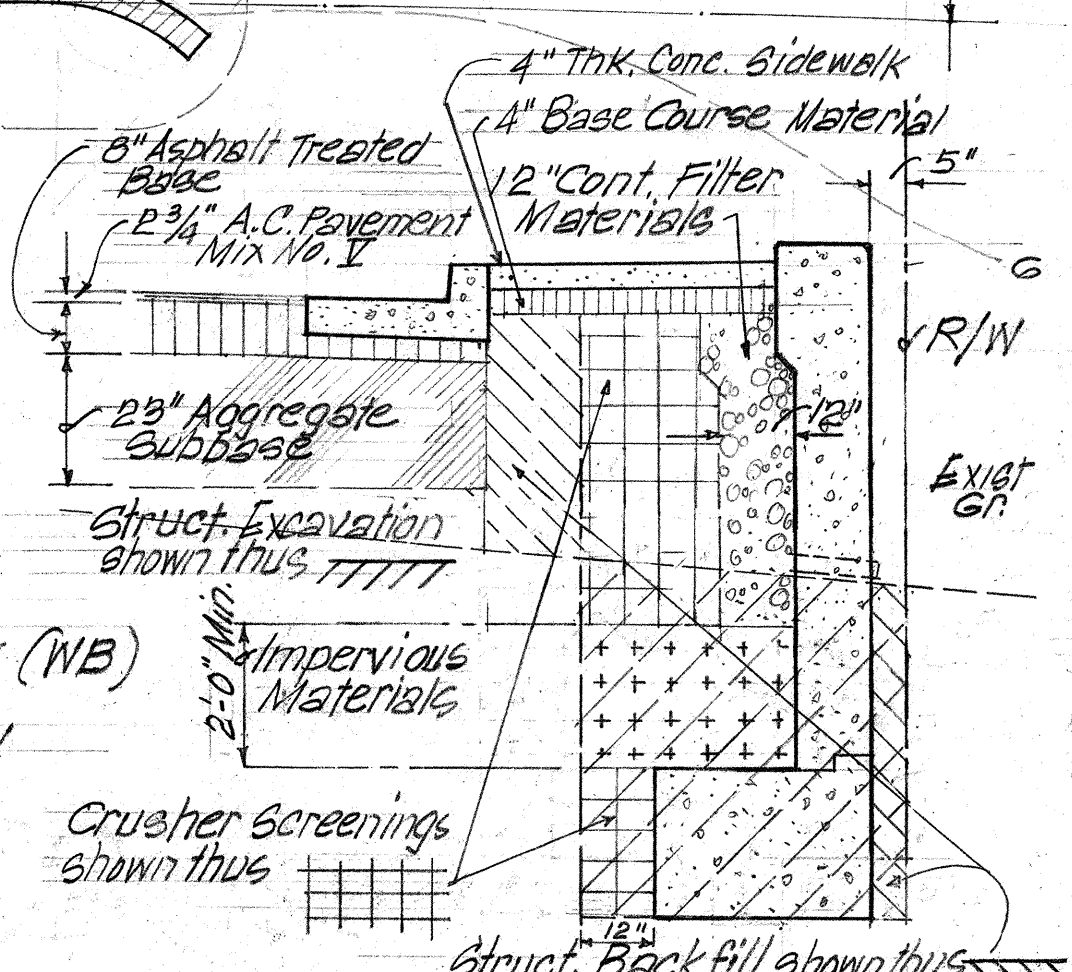


NOTES:
 1. All piles shall be 16 1/2" Octagonal Pile Type A. See Std. B11a, 30-10, 30-11, 50-12 & 50-13.
 2. denote Pile Cut-Off elevation
 denote Pile Tip elevation
 3. Lower limit elevation of Bitumen Coating = -90.0

FOUNDATION PLAN - WIDENING AT EASTBOUND LANE
 Scale 1/8" = 1'-0"



A SECTION-TRANSITION WALL Scale 1/8" = 1'-0"
B SECTION-RET. WALL #3 Scale 1/8" = 1'-0"
C SECTION-RET. WALL #2 Scale 1/8" = 1'-0"
D SECTION-RET. WALL #1 Scale 1/8" = 1'-0"



RETAINING WALL PAY LIMITS
 Scale N.T.S.

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

**KEEHI INTERCHANGE
 KALIHU STREAM BR.#1 WIDENING
 FOUNDATION PLAN-EB**

INTERSTATE ROUTE
 F.A.I. PROJ. NO. I-HI-1(131):17
 Scale: 1/8" = 1'-0" Date: Aug. 31, 1977

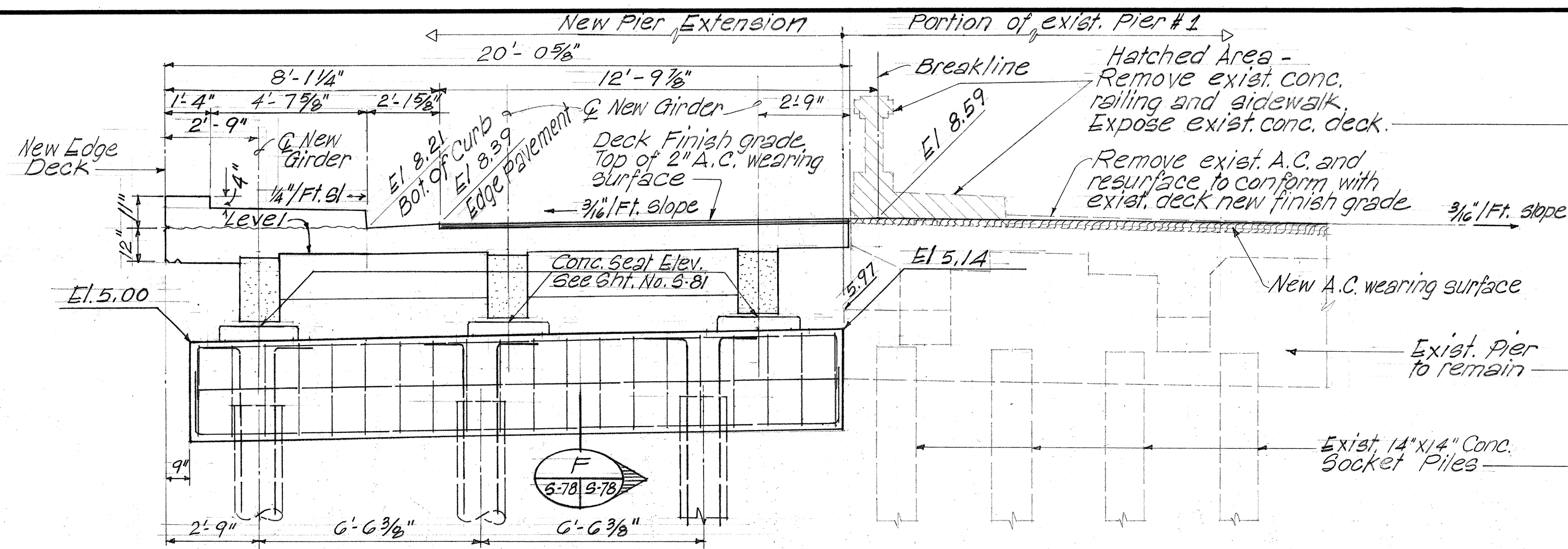
SHEET NO. 577 OF 594 SHEETS

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 DATE: _____
 DRAWN BY: _____
 CHECKED BY: _____
 ORIGINAL PLAN: _____
 NOTE BOOK: _____
 NO. _____

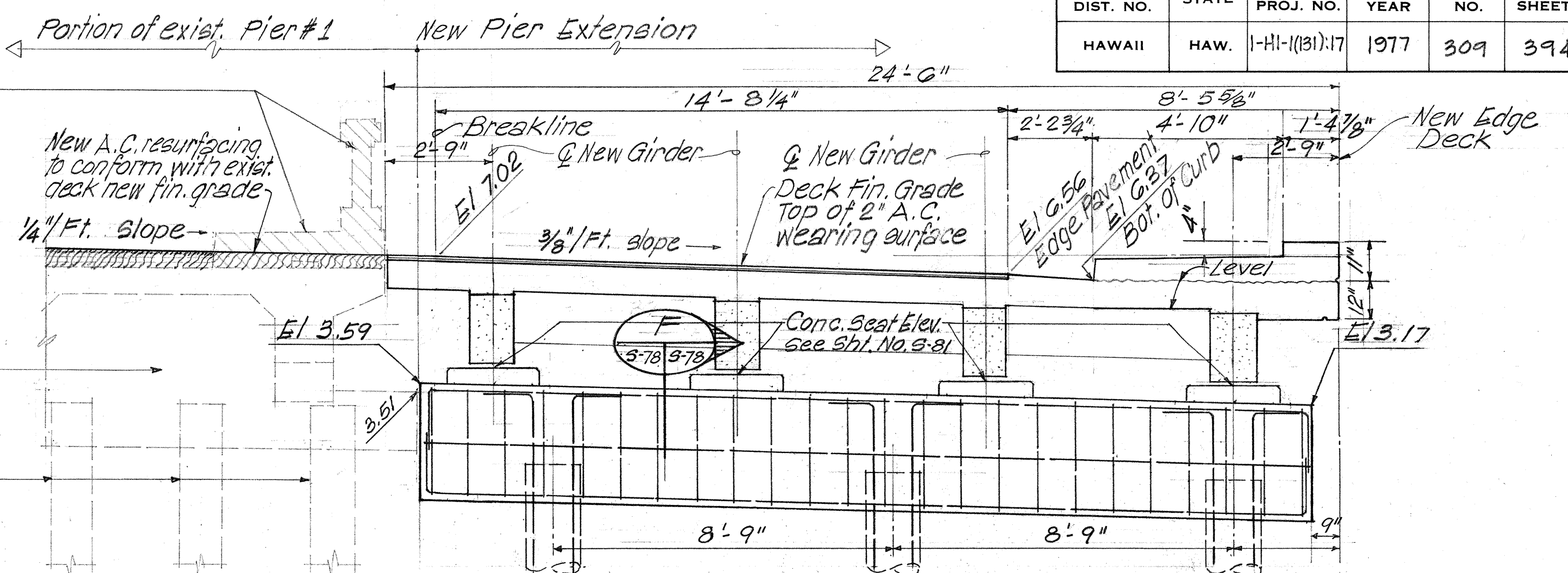
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PETER H.V. HO
 REGISTERED PROFESSIONAL ENGINEER
 No. 1402
 HAWAII, U.S.A.

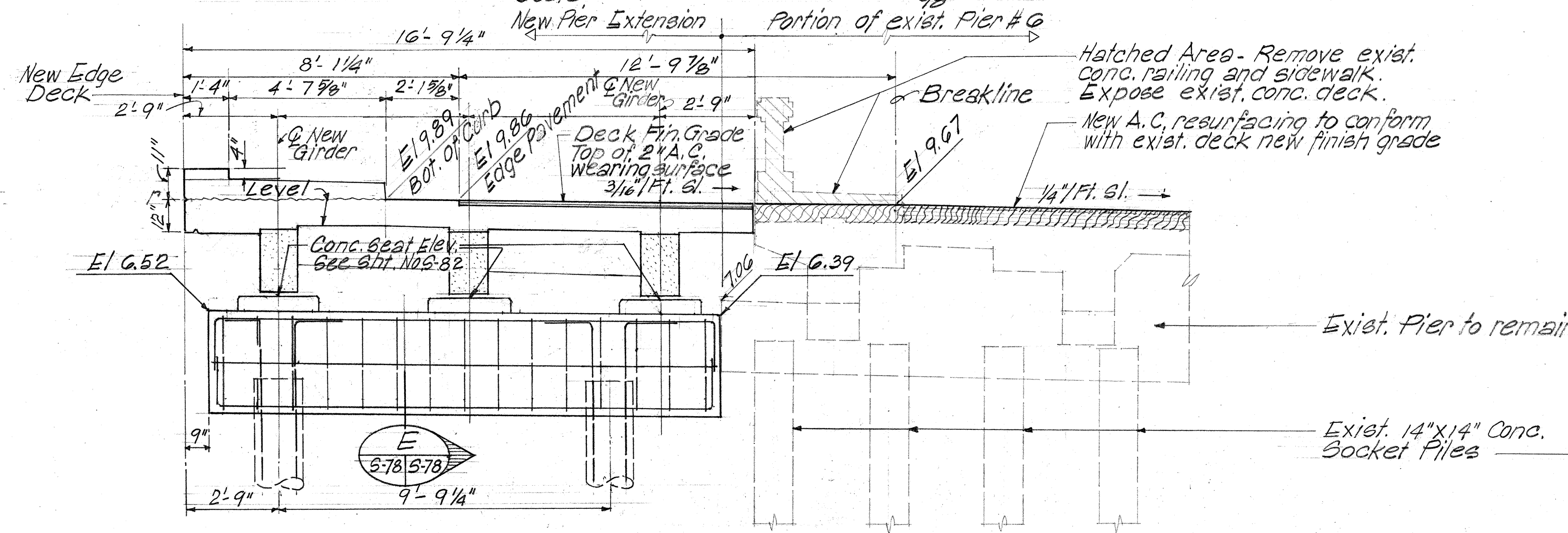
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H1-(131):17	1977	309	394



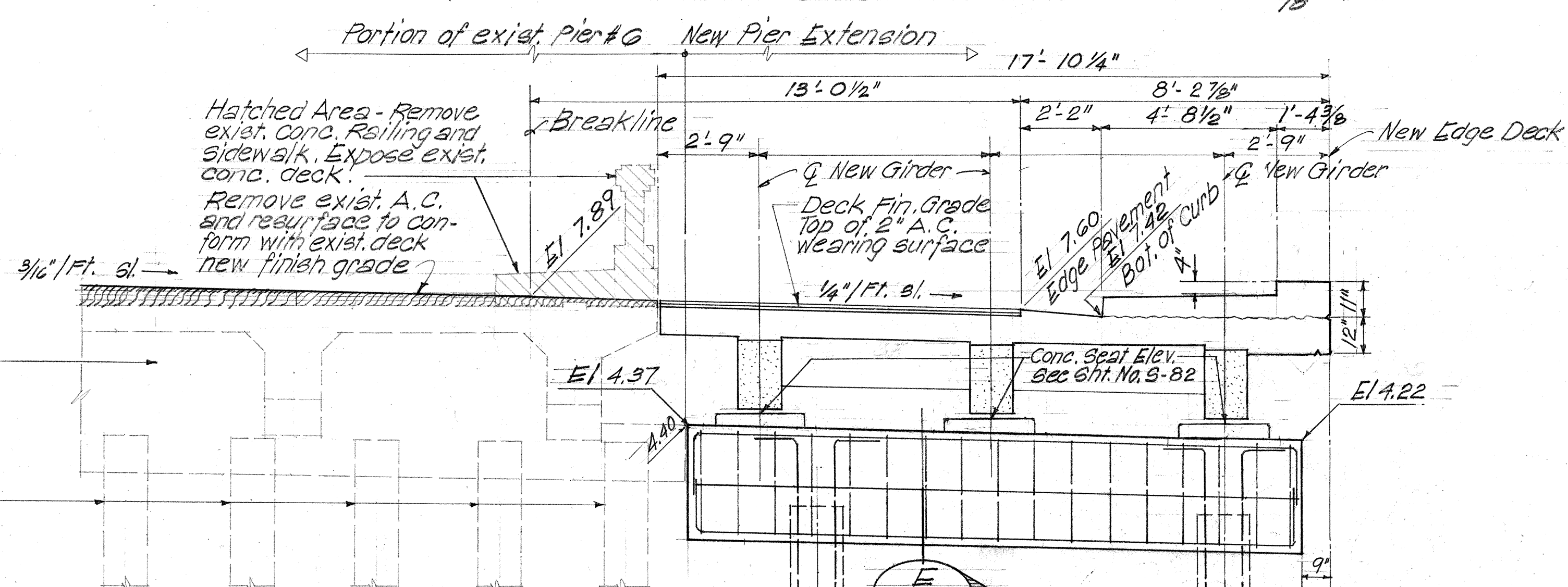
A ELEVATION - EXISTING PIER #1 WIDENING AT WESTBOUND LANE
Scale 3/8" = 1'-0"



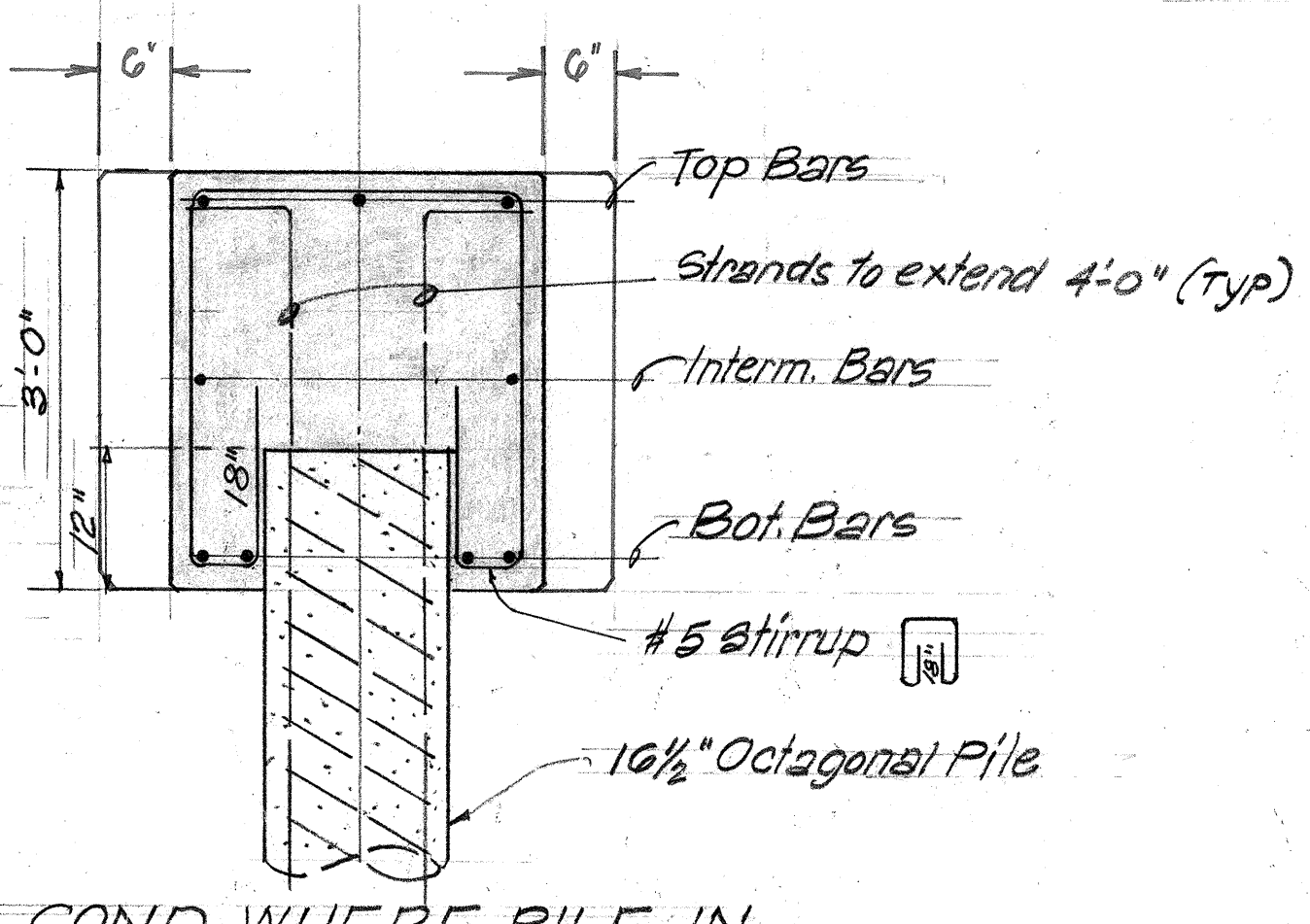
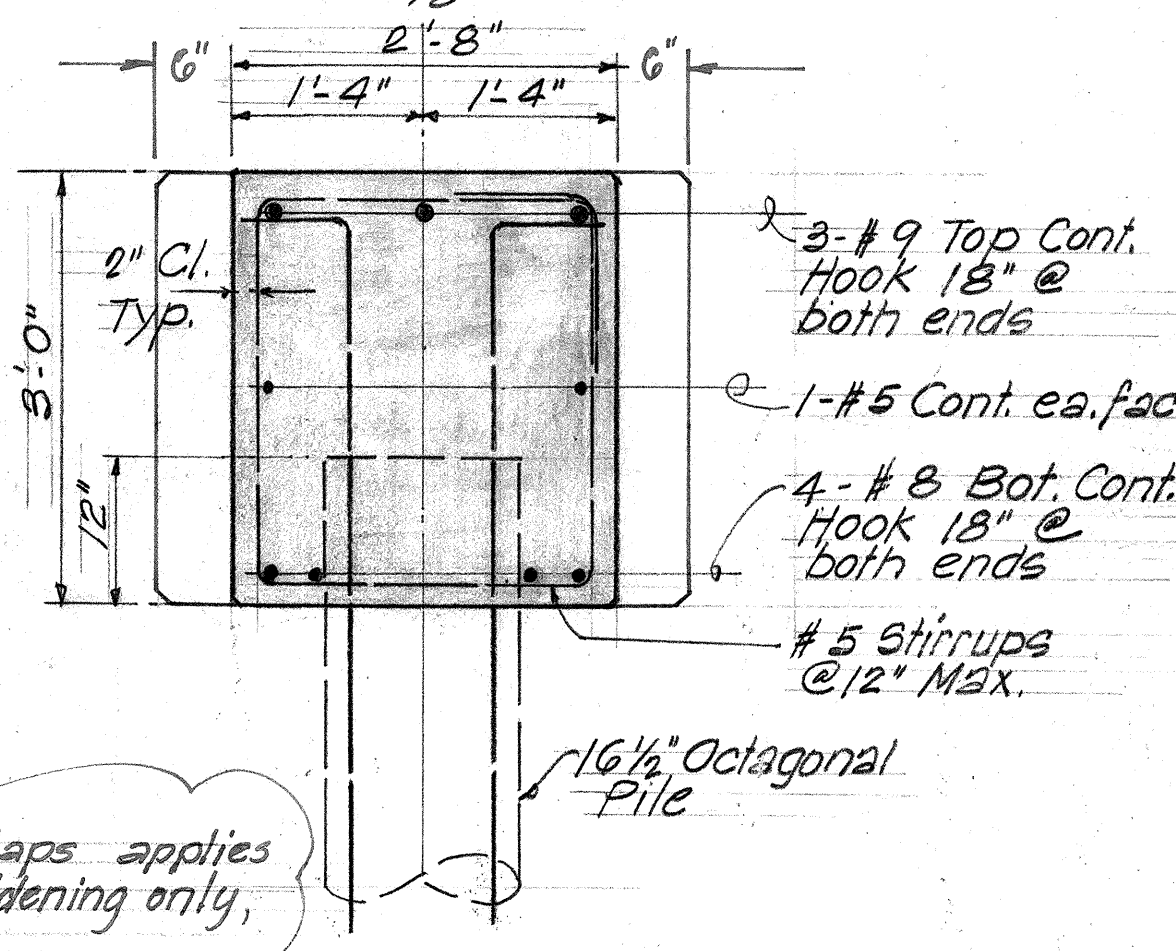
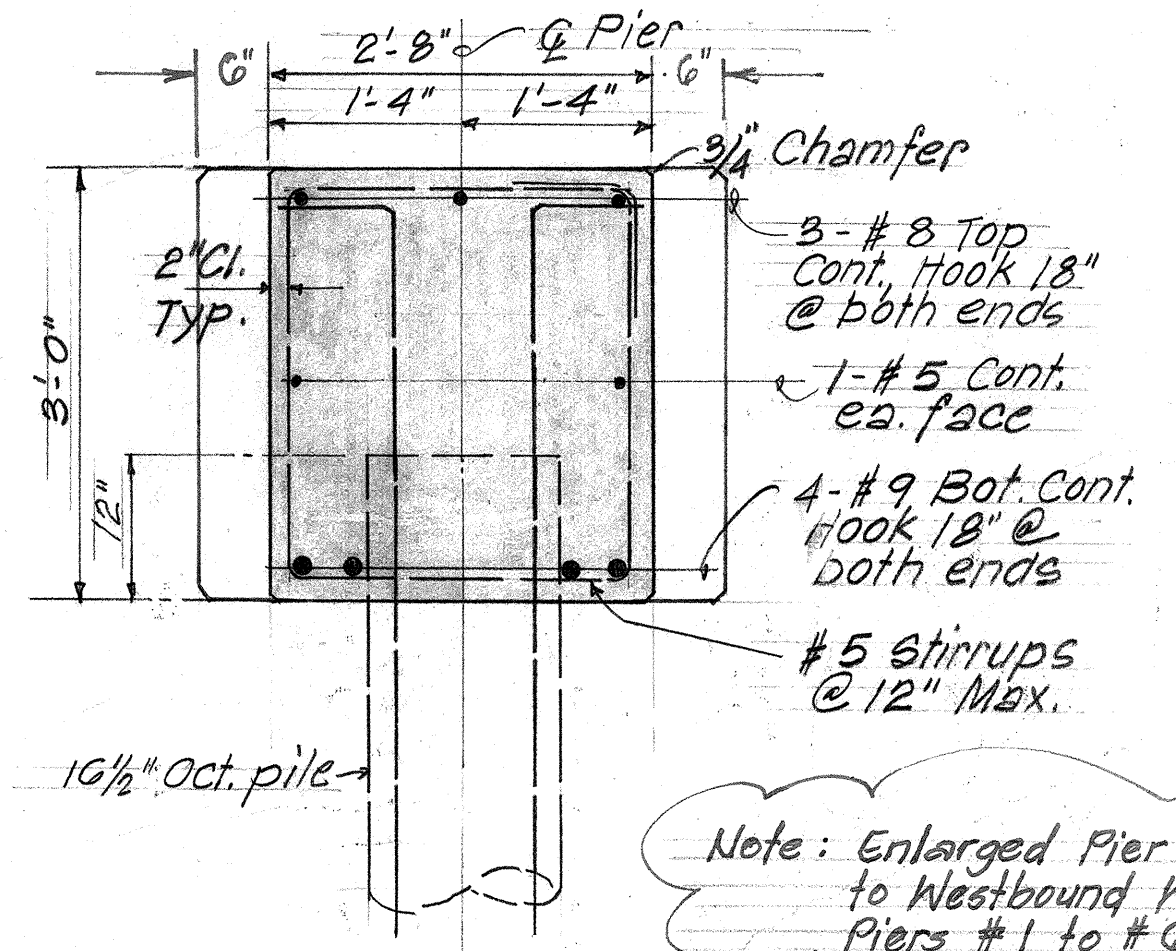
B ELEVATION - EXISTING PIER #1 WIDENING AT EASTBOUND LANE
Scale 3/8" = 1'-0"



C ELEVATION - EXISTING PIER #6 WIDENING AT WESTBOUND LANE
Scale 3/8" = 1'-0"

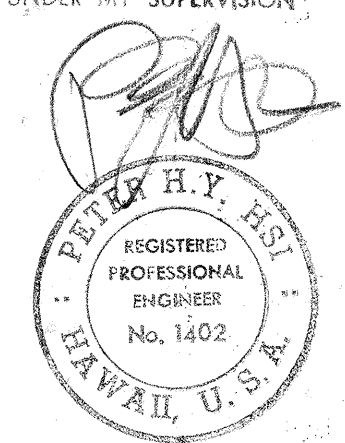


D ELEVATION - EXISTING PIER #6 WIDENING AT EASTBOUND LANE
Scale 3/8" = 1'-0"



E PIER SECTION - 2 PILE PILE CAP Scale 3/4" = 1'-0"
F PIER SECTION - 3 PILE PILE CAP Scale 3/4" = 1'-0"

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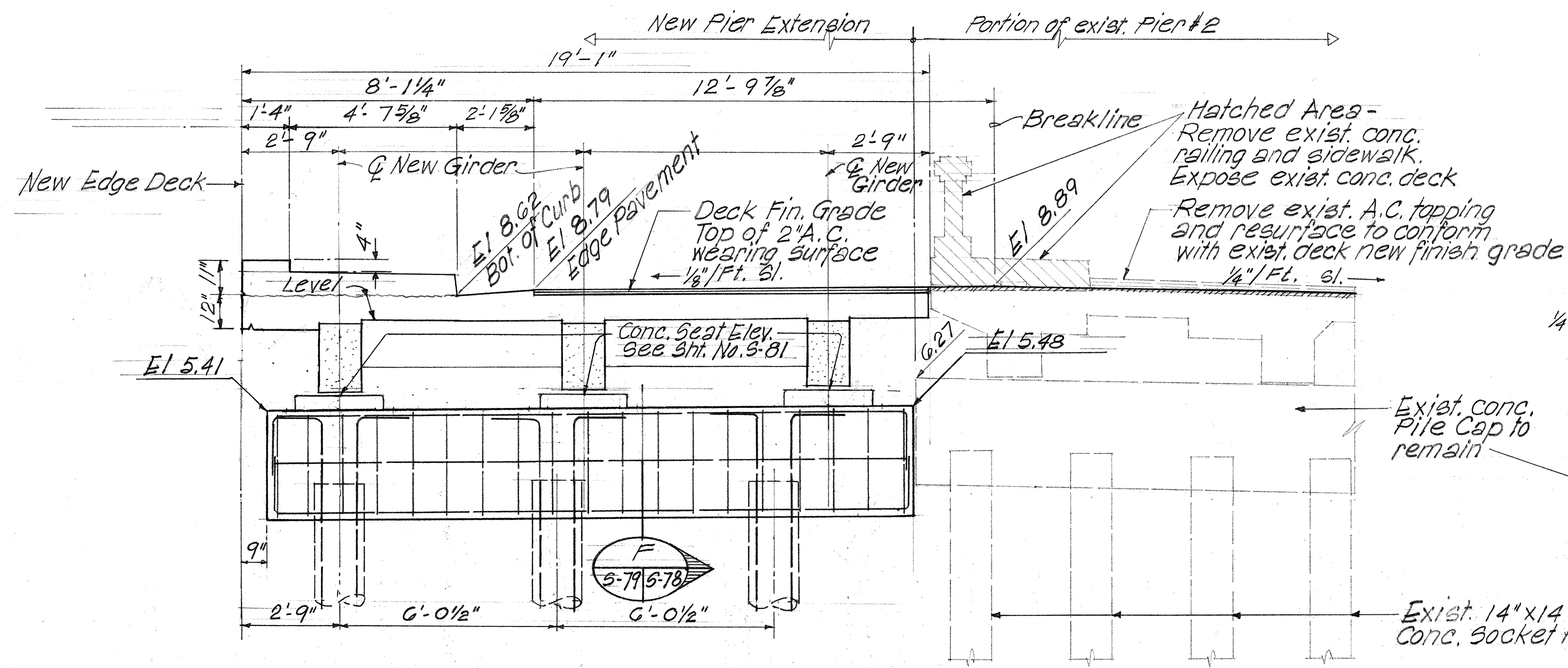
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**KEEHI INTERCHANGE
KALIHI STREAM BR.#1 WIDENING
ELEVATION - PIERS #1 & #6**

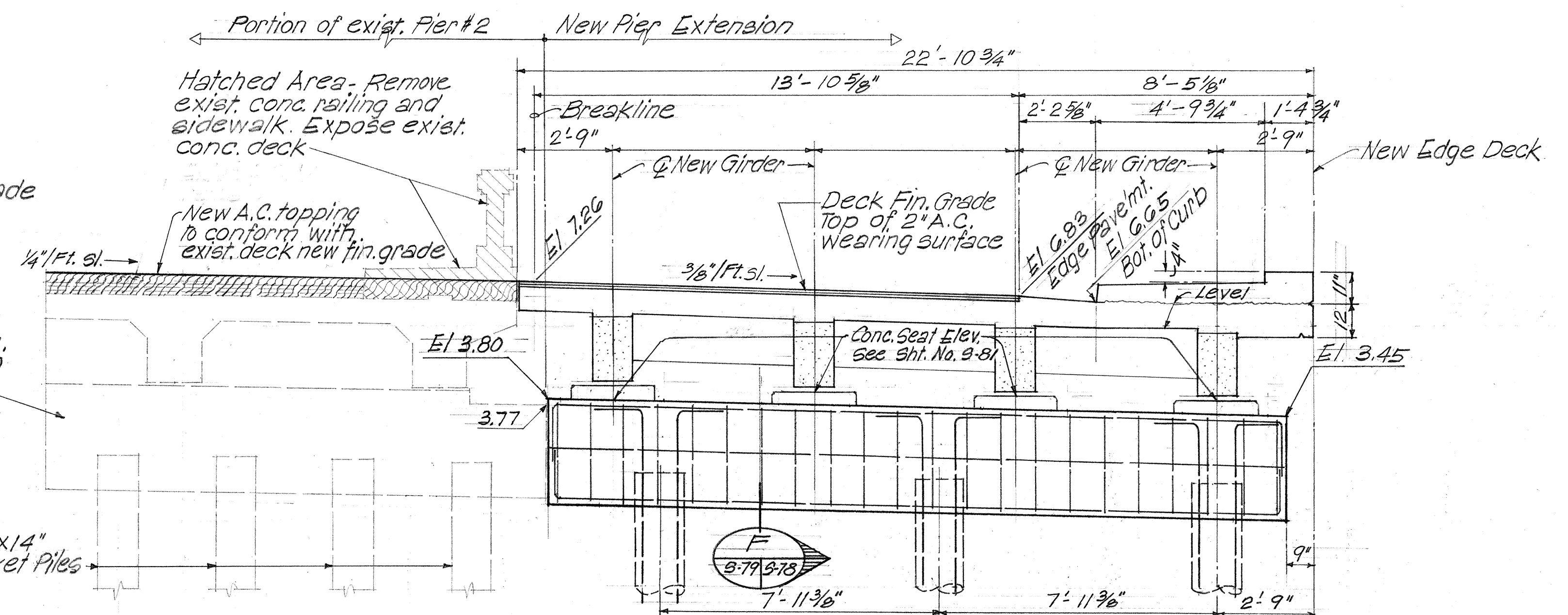
INTERSTATE ROUTE
F.A.I. PROJ. NO. I-H1-1(131):17
Scale: 3/8" = 1'-0" Date: Aug. 31, 1977

SHEET NO. 5-78 OF 5-94 SHEETS

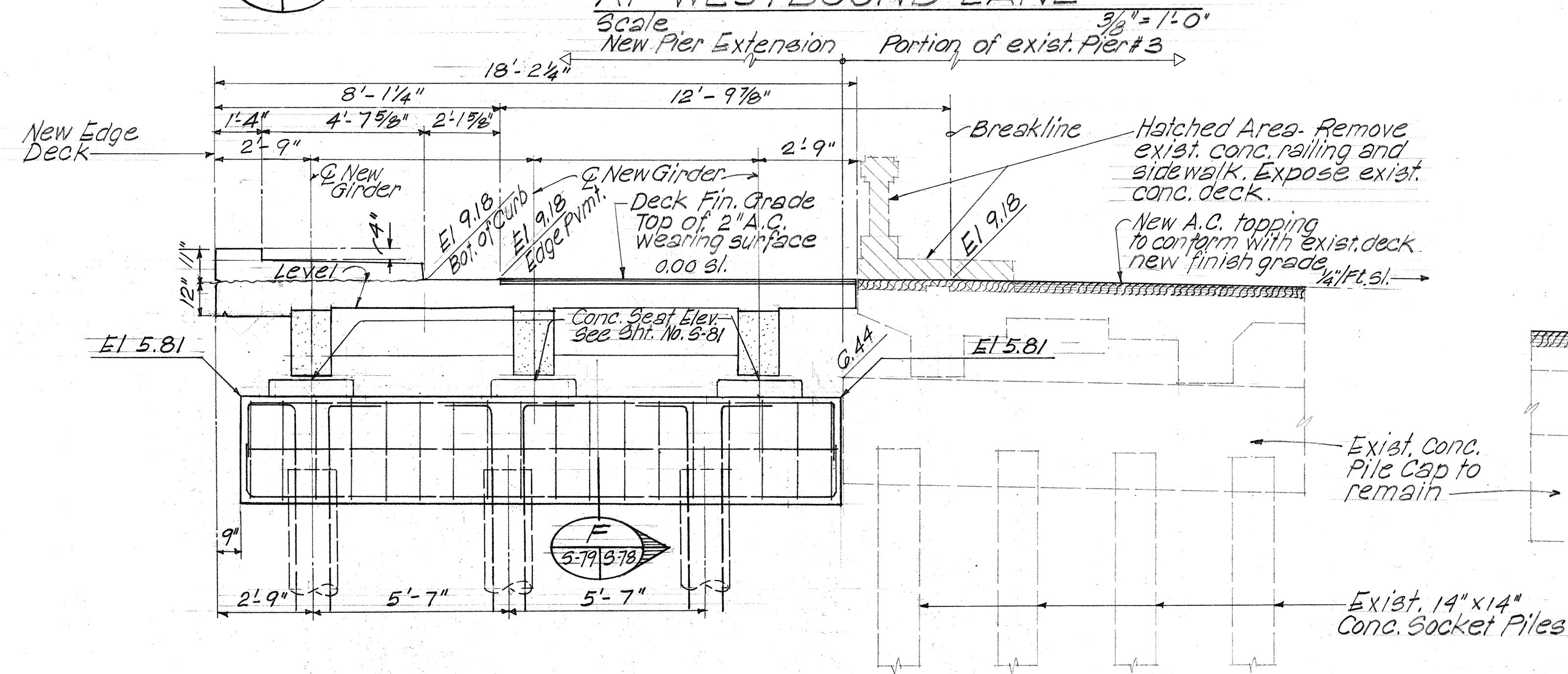
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	111-1(13):17	1977	310	394



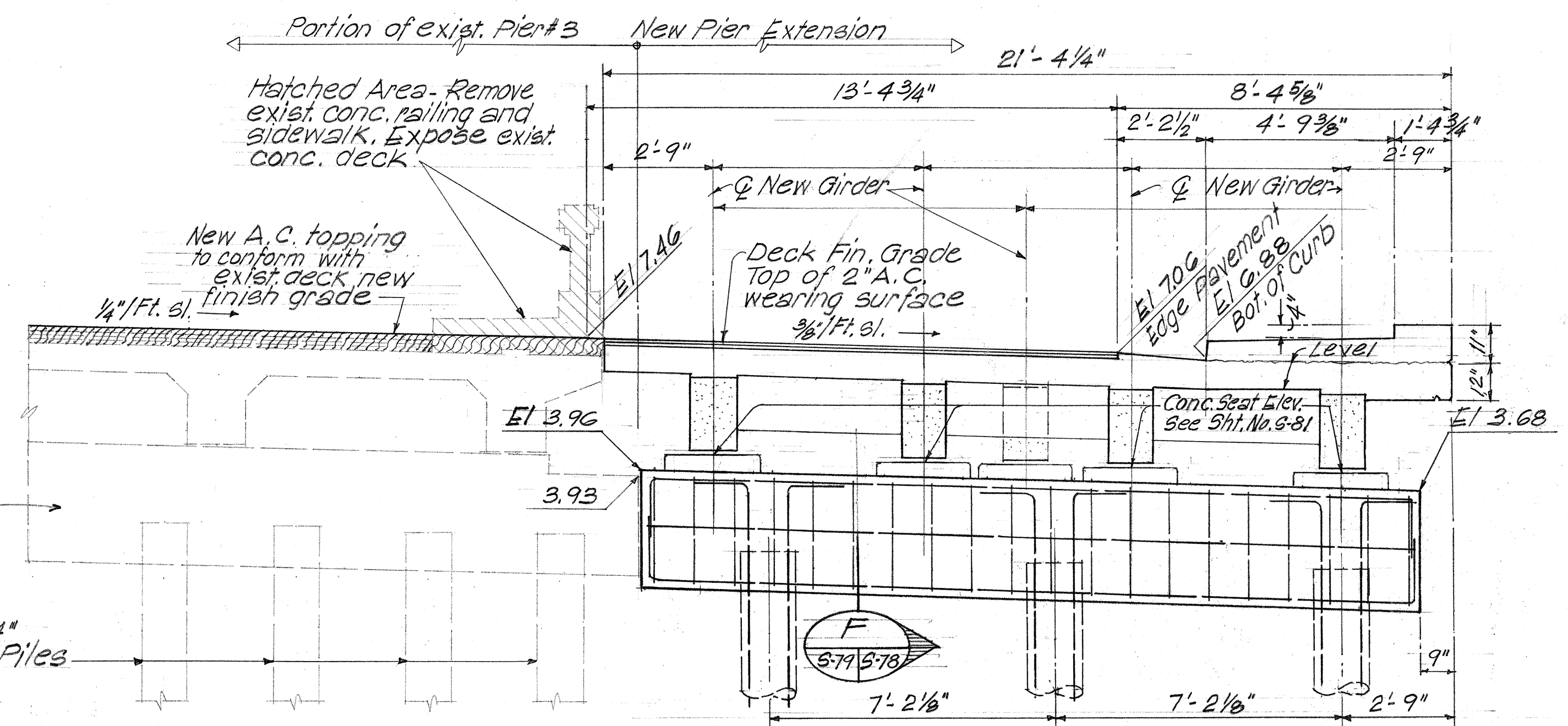
A ELEVATION - EXISTING PIER #2 WIDENING AT WESTBOUND LANE
Scale 3/8" = 1'-0"



B ELEVATION - EXISTING PIER #2 WIDENING AT EASTBOUND LANE
Scale 3/8" = 1'-0"



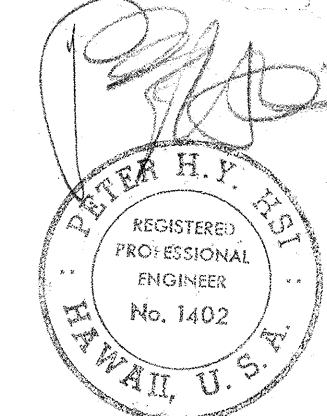
C ELEVATION - EXISTING PIER #3 WIDENING AT WESTBOUND LANE
Scale 3/8" = 1'-0"



D ELEVATION - EXISTING PIER #3 WIDENING AT EASTBOUND LANE
Scale 3/8" = 1'-0"

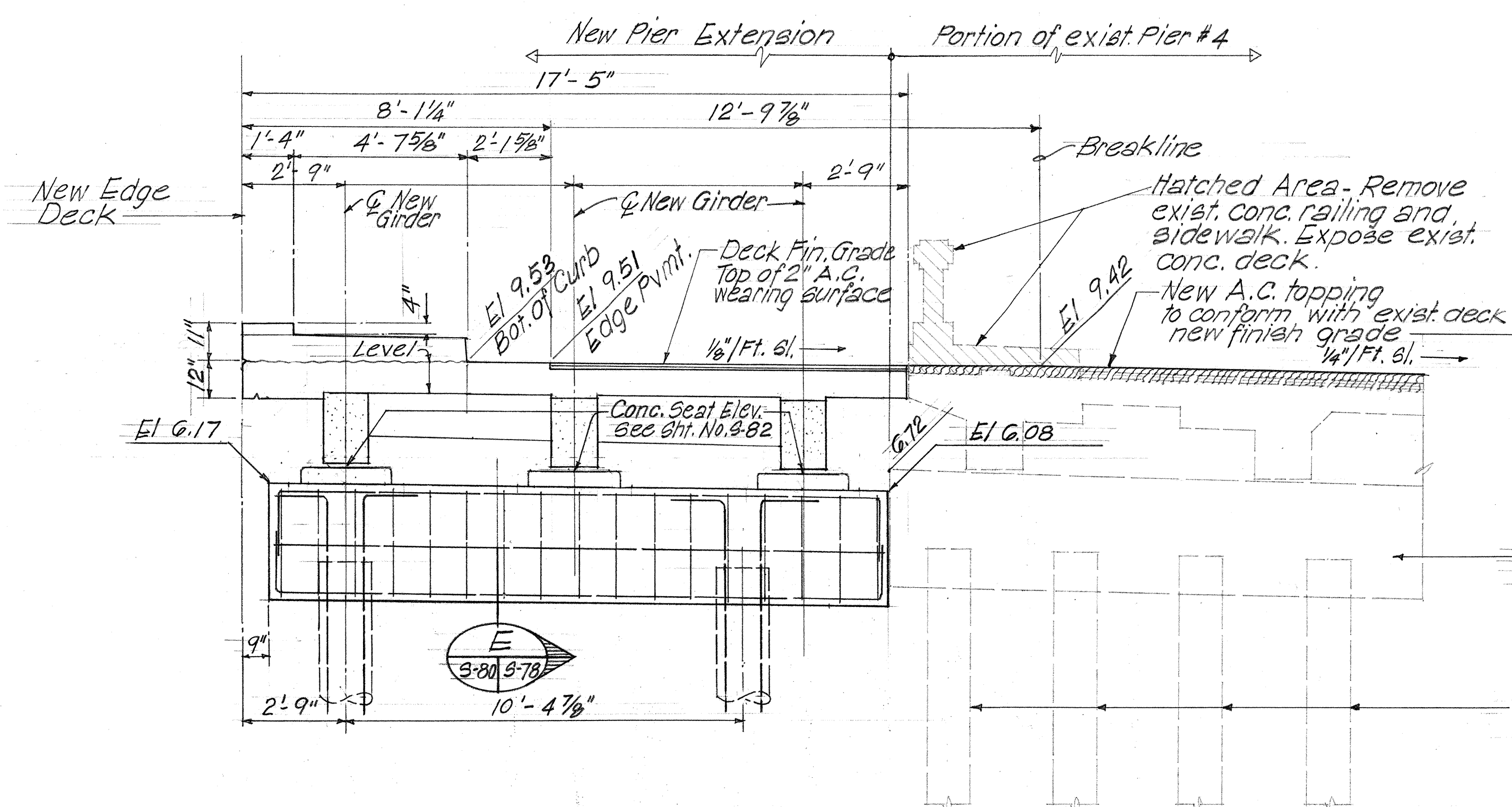
DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____

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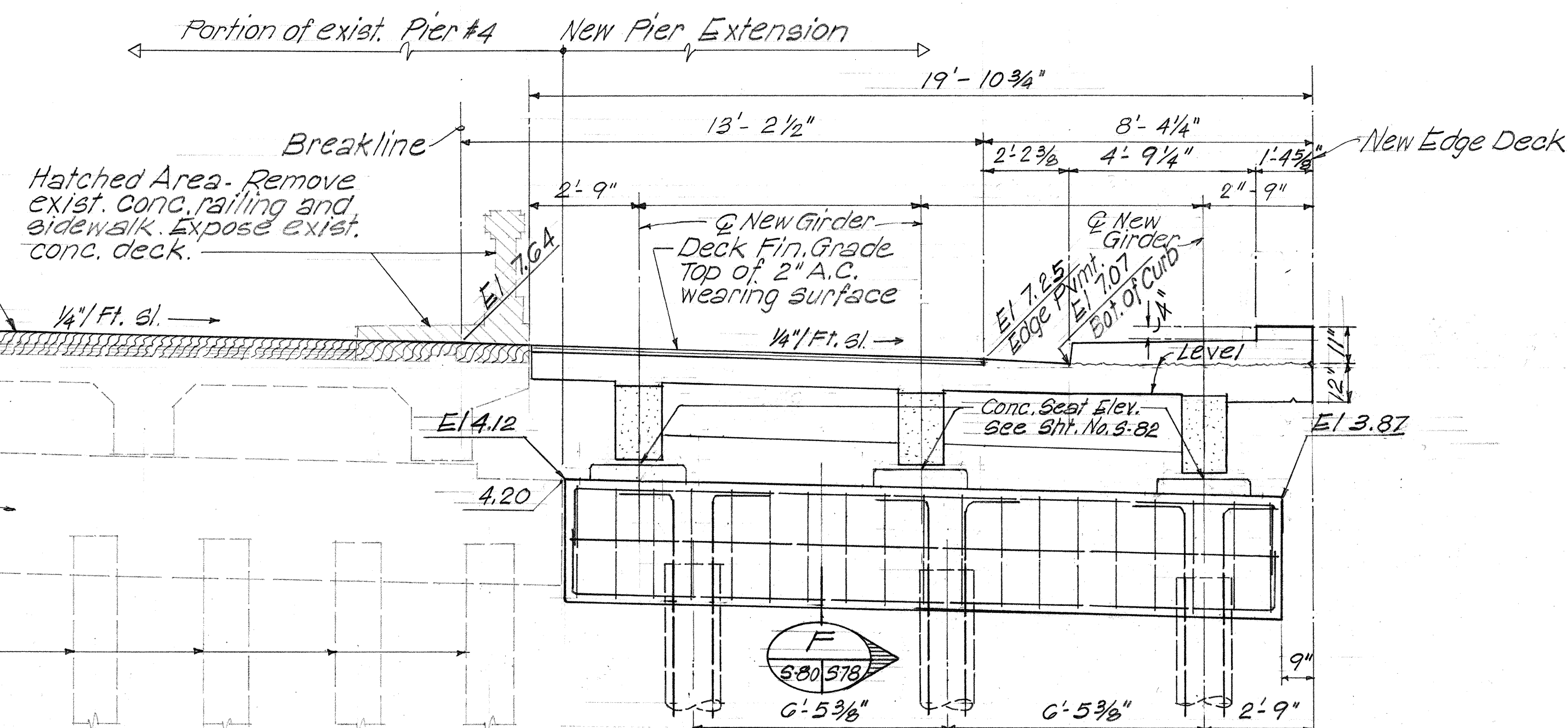


STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**KEEHI INTERCHANGE
KALIHI STREAM BR.#1 WIDENING
ELEVATION - PIERS #2 & #3**
INTERSTATE ROUTE
F.A.I. PROJ. NO. I-H-1-1(13):17
Scale: 3/8" = 1'-0" Date: Aug. 31, 1977
SHEET NO. 579 OF 5-94 SHEETS

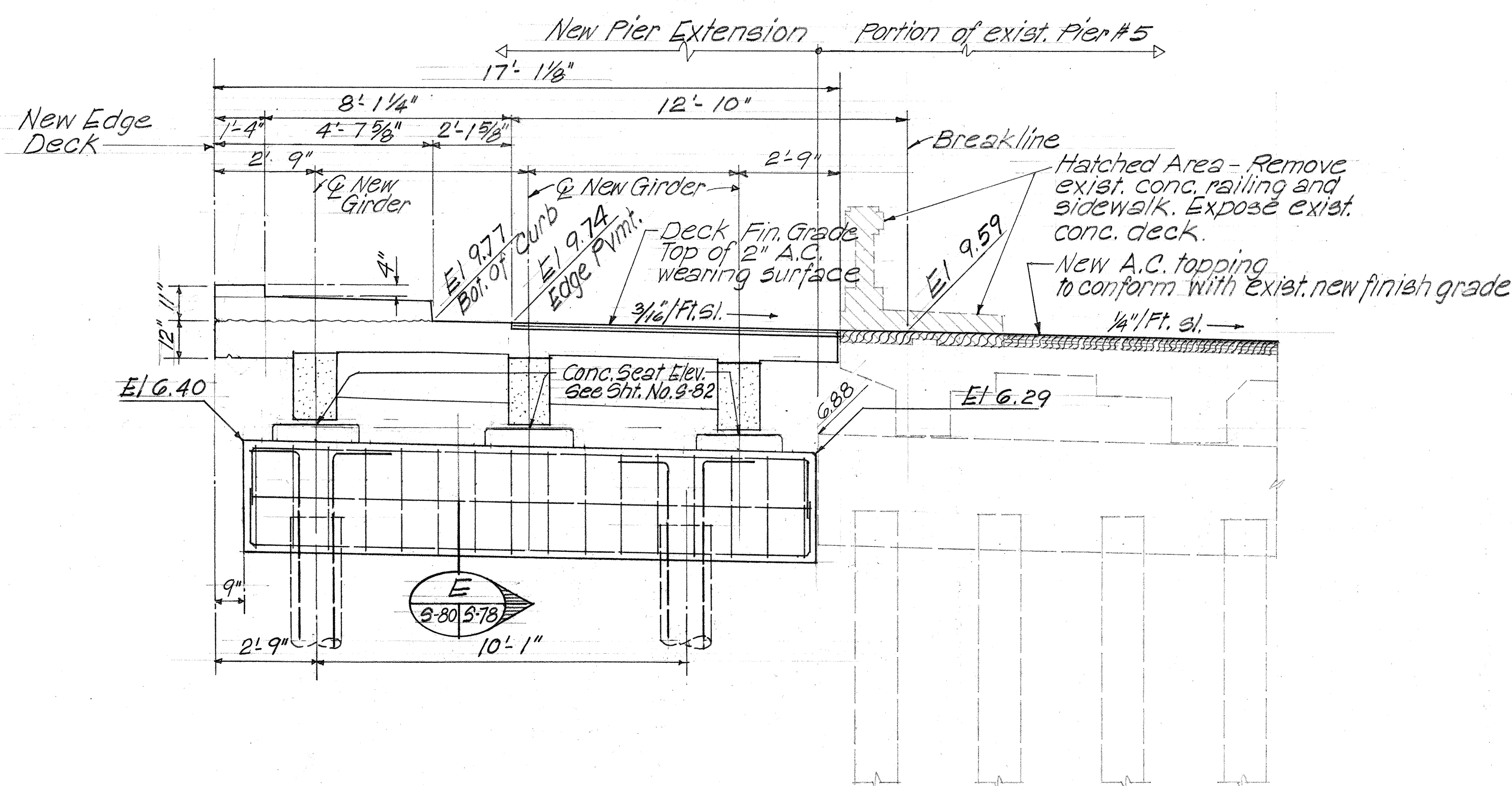
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1977	311	394



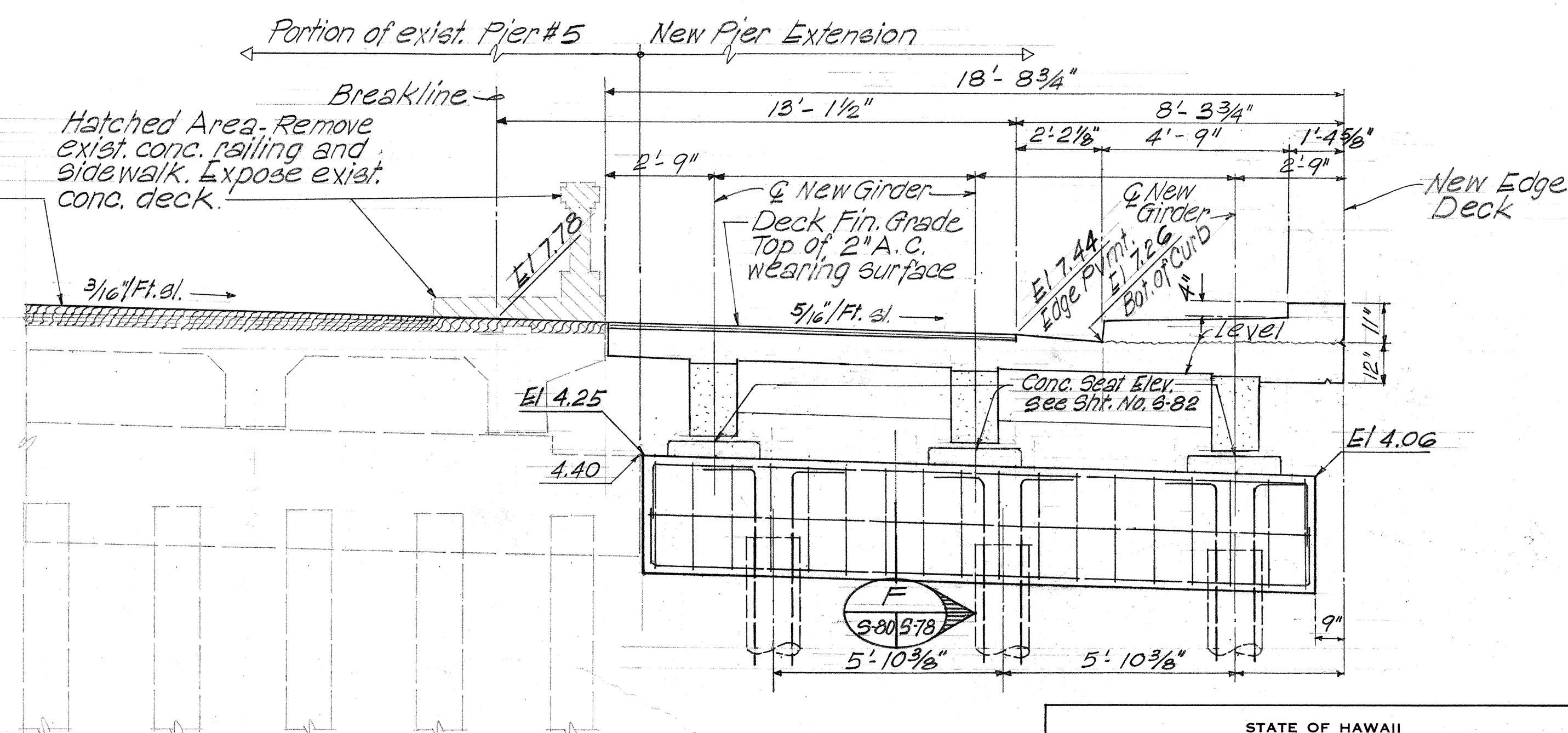
A ELEVATION - EXISTING PIER #4 WIDENING AT WESTBOUND LANE
Scale 3/8" = 1'-0"



B ELEVATION - EXISTING PIER #4 WIDENING AT EASTBOUND LANE
Scale 3/8" = 1'-0"



C ELEVATION - EXISTING PIER #5 WIDENING AT WESTBOUND LANE
Scale 3/8" = 1'-0"



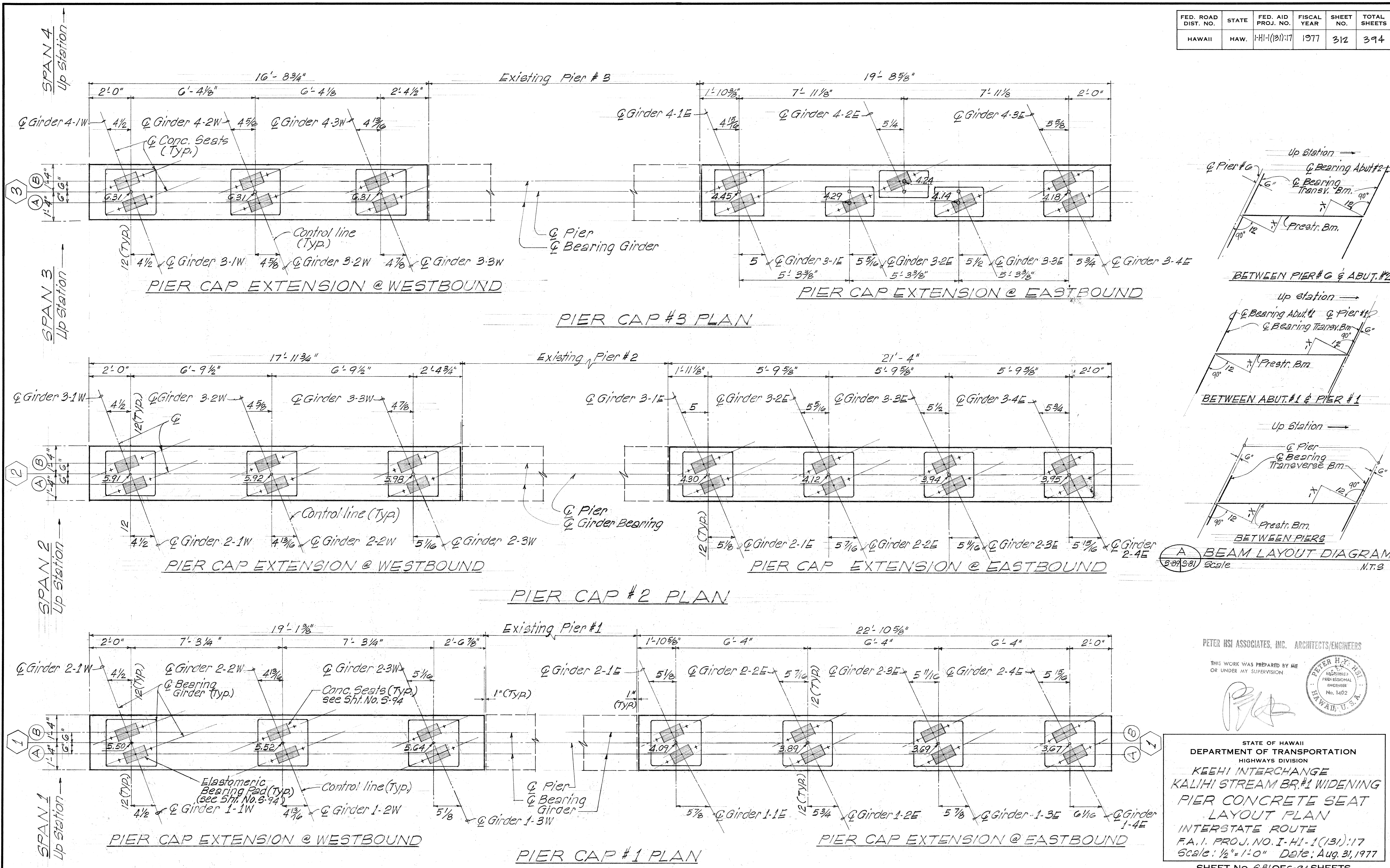
D ELEVATION - EXISTING PIER #5 WIDENING AT EASTBOUND LANE
Scale 3/8" = 1'-0"

SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
QUANTITIES BY	
NO.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KEEHI INTERCHANGE
KALIHI STREAM BR.#1 WIDENING
ELEVATION - PIERS #4 & #5
INTERSTATE ROUTE
F.A.I. PROJ. NO. I-HI-1(131):17
Scale: 3/8" = 1'-0" Date: Aug. 31, 1977
SHEET No. 5-80 OF 5-94 SHEETS

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PETER H. HSI
REGISTERED
PROFESSIONAL
ENGINEER
No. 1402
HAWAII, U.S.A.

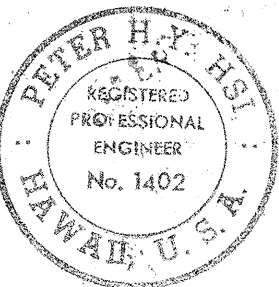
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HAWAII	HAW.	I-HI-1(131):17	1977	312	394



DATE: _____
 SURVEY PLOTTED BY: _____
 DRAWN BY: _____
 CHECKED BY: _____
 NO. _____

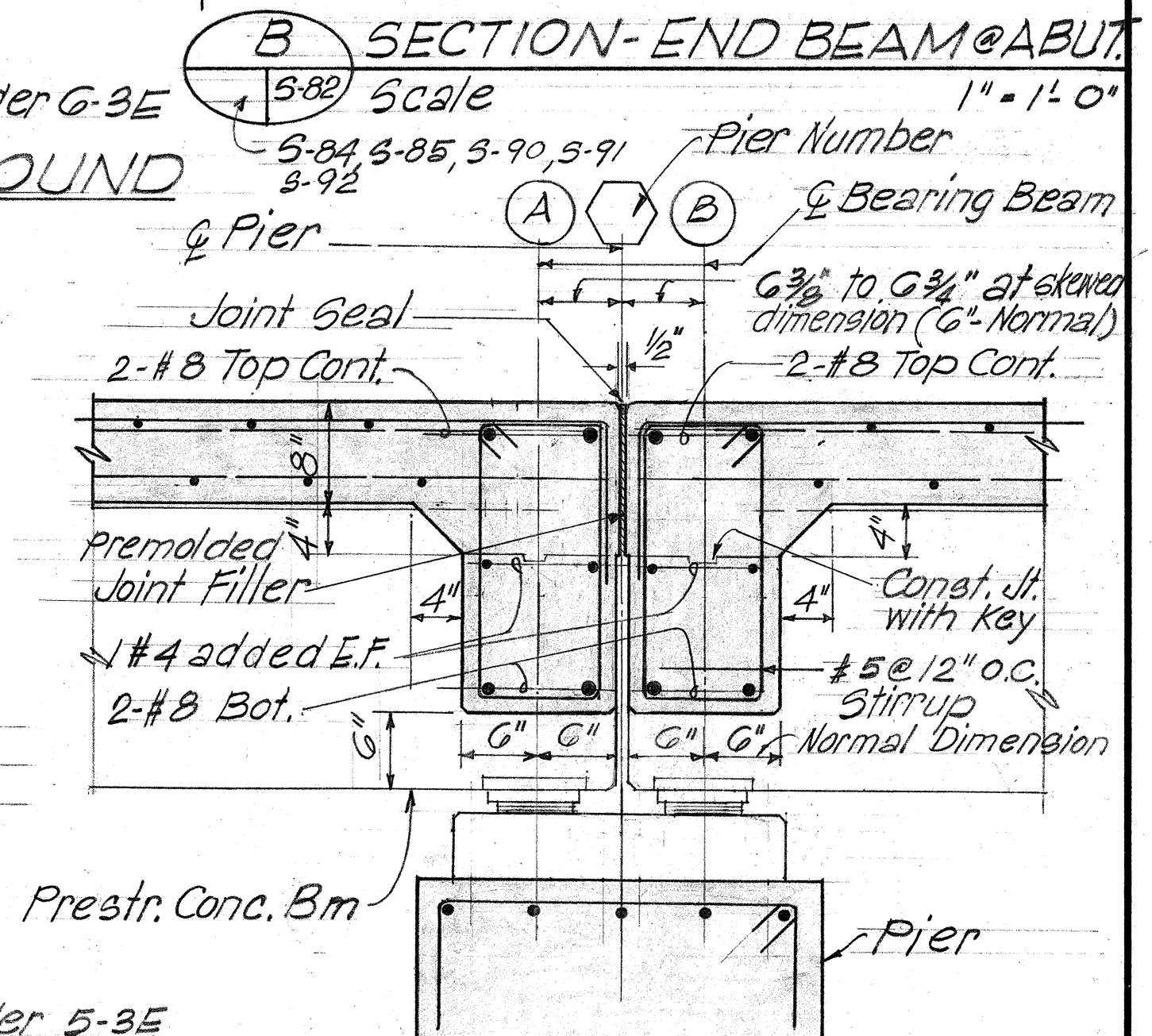
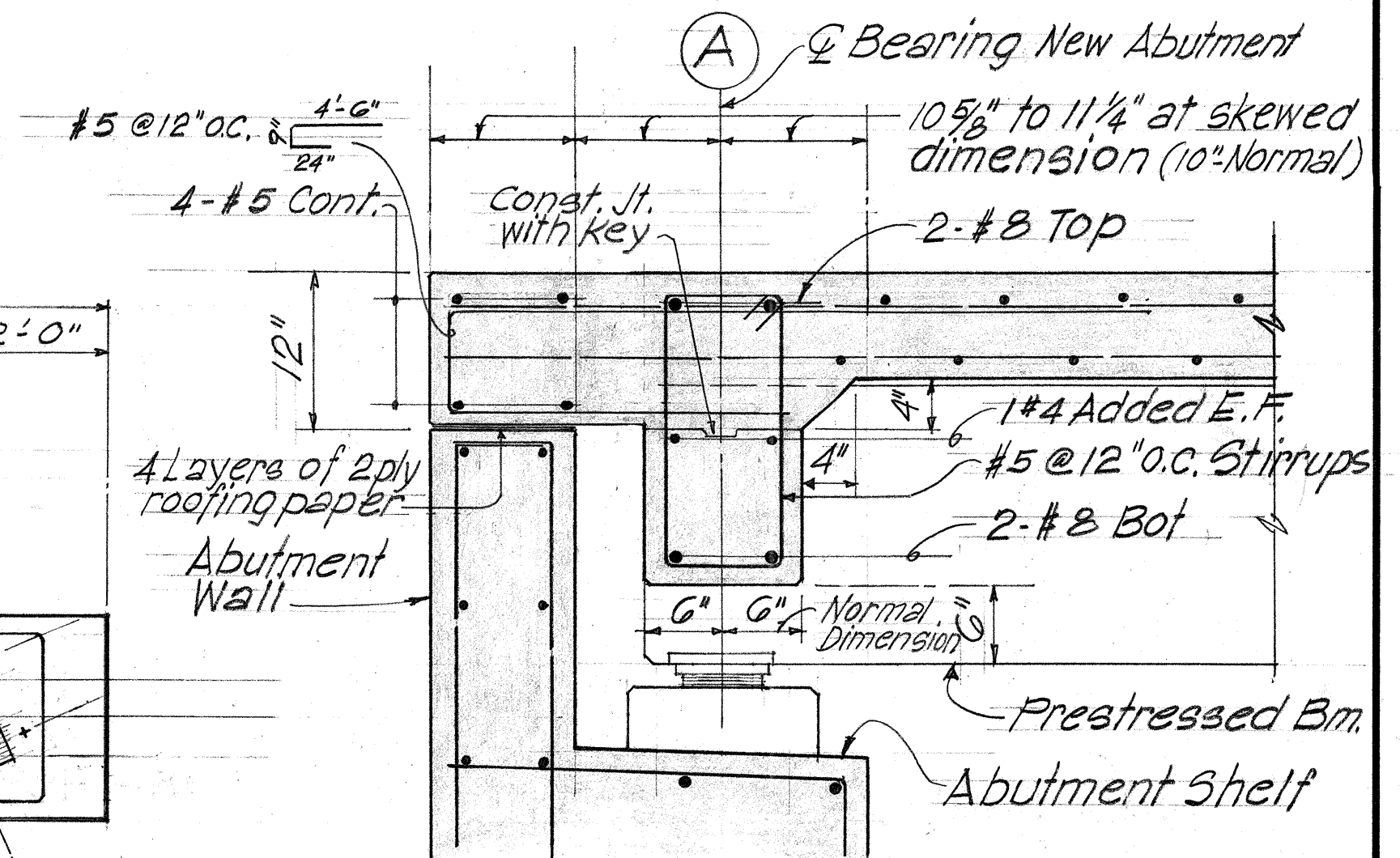
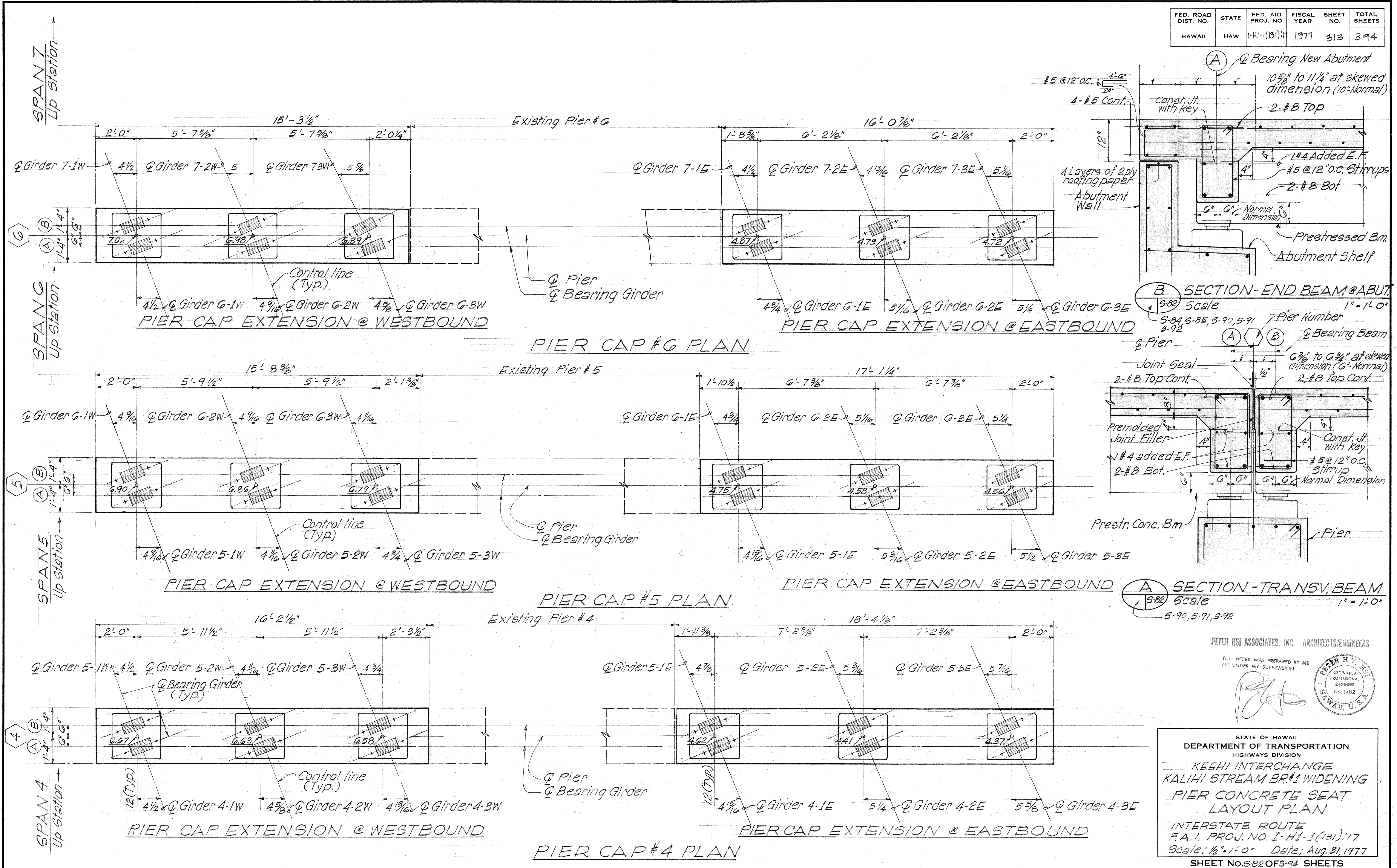
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STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
**KEEHI INTERCHANGE
 KALIHI STREAM BR.#1 WIDENING
 PIER CONCRETE SEAT
 LAYOUT PLAN**
 INTERSTATE ROUTE
 F.A.I. PROJ. NO. I-HI-1(131):17
 Scale: 1/2" = 1'-0" Date: Aug. 31, 1977
 SHEET NO. 58/OF 5-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H1-1(131):17	1977	313	394



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[Signature]

PETER H. HSI
REGISTERED PROFESSIONAL ENGINEER
No. 1402
HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KEEHI INTERCHANGE
KALIHI STREAM BR#1 WIDENING
PIER CONCRETE SEAT
LAYOUT PLAN

INTERSTATE ROUTE
F.A.I. PROJ. NO. I-H1-1(131):17
Scale: 1/2" = 1'-0" Date: Aug. 31, 1977

SHEET NO. S82 OF 594 SHEETS

DATE: _____

SURVEY PLOTTED BY: _____

ORIGINAL PLAN: _____

TRACED BY: _____

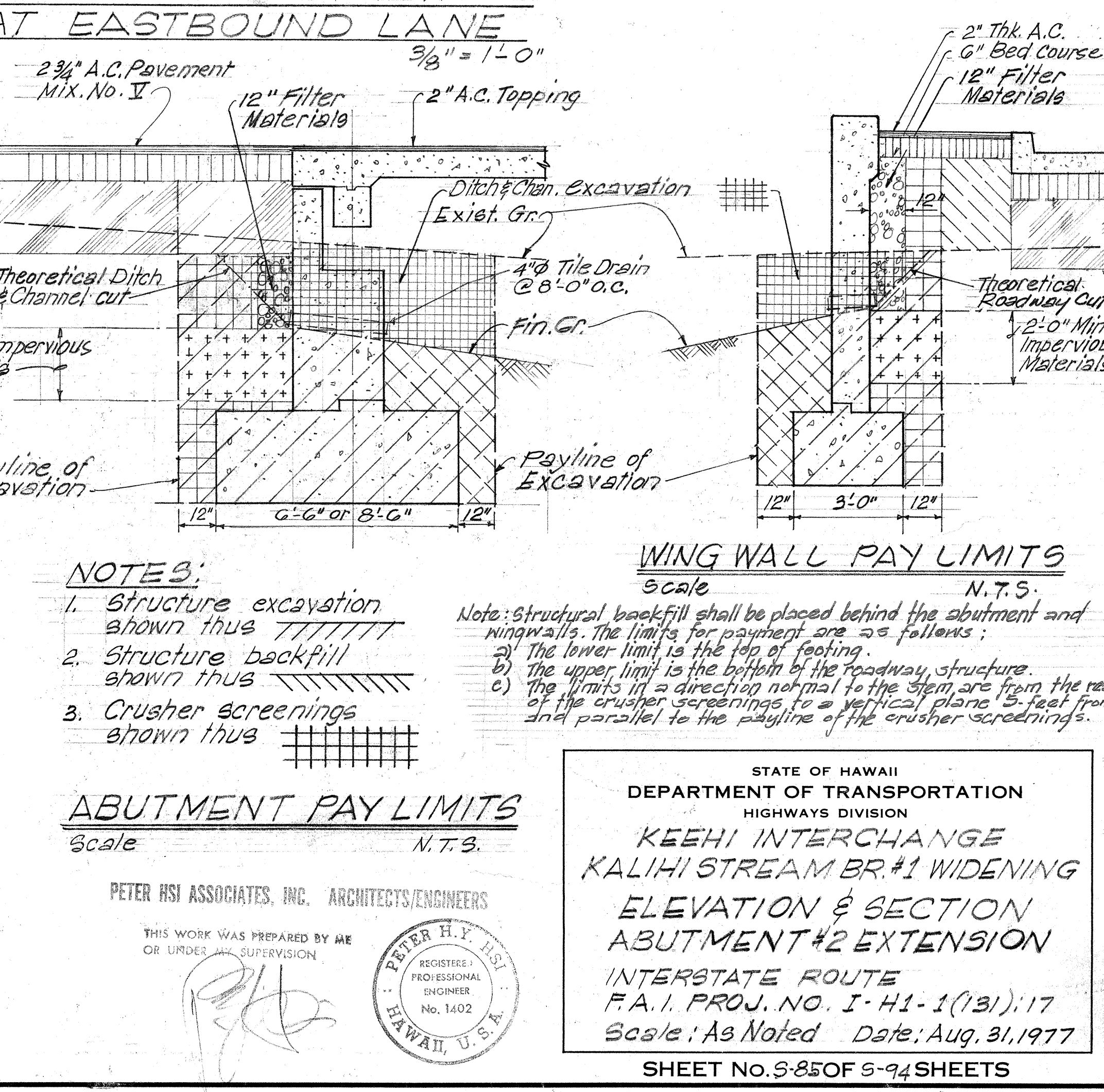
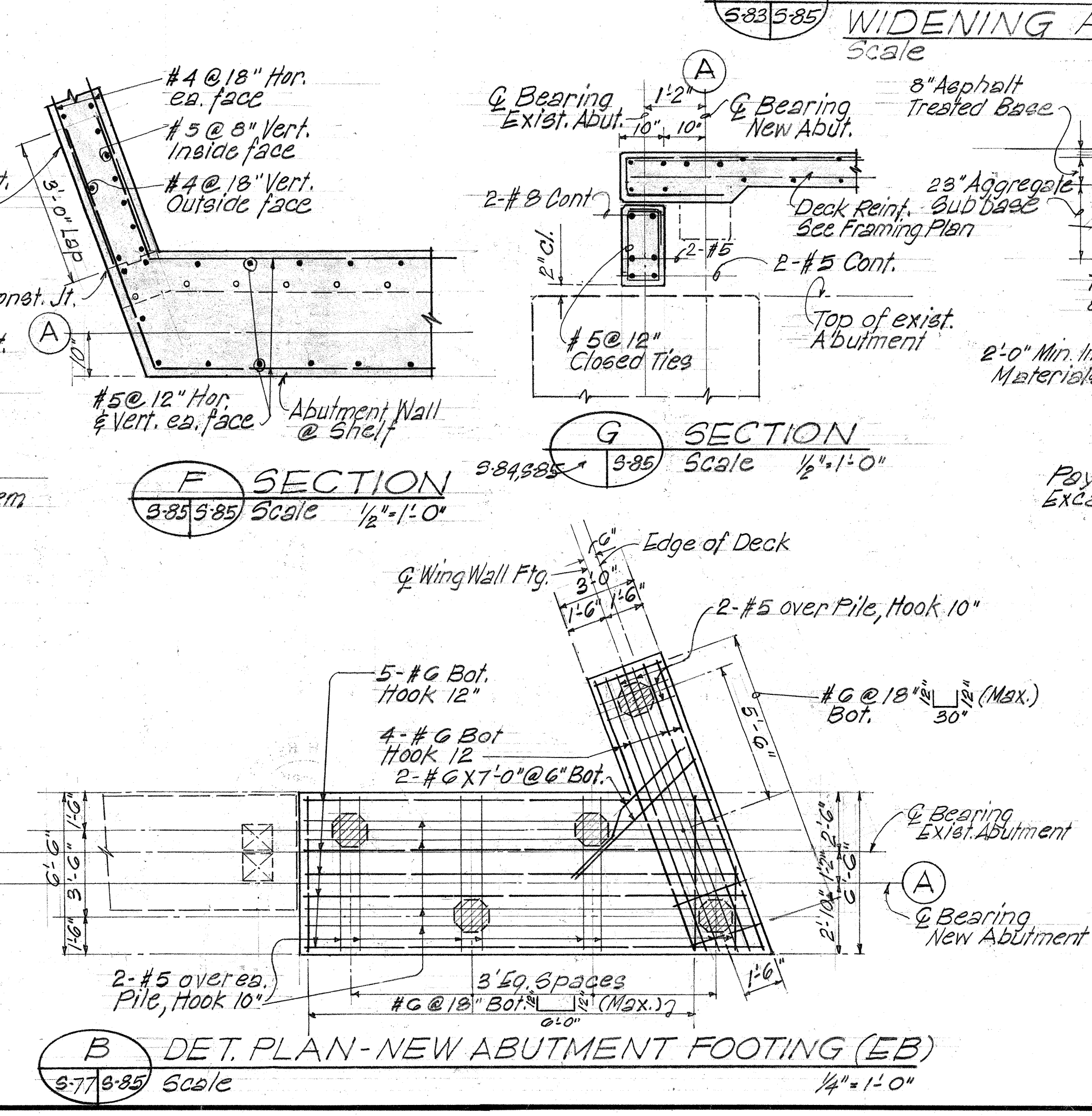
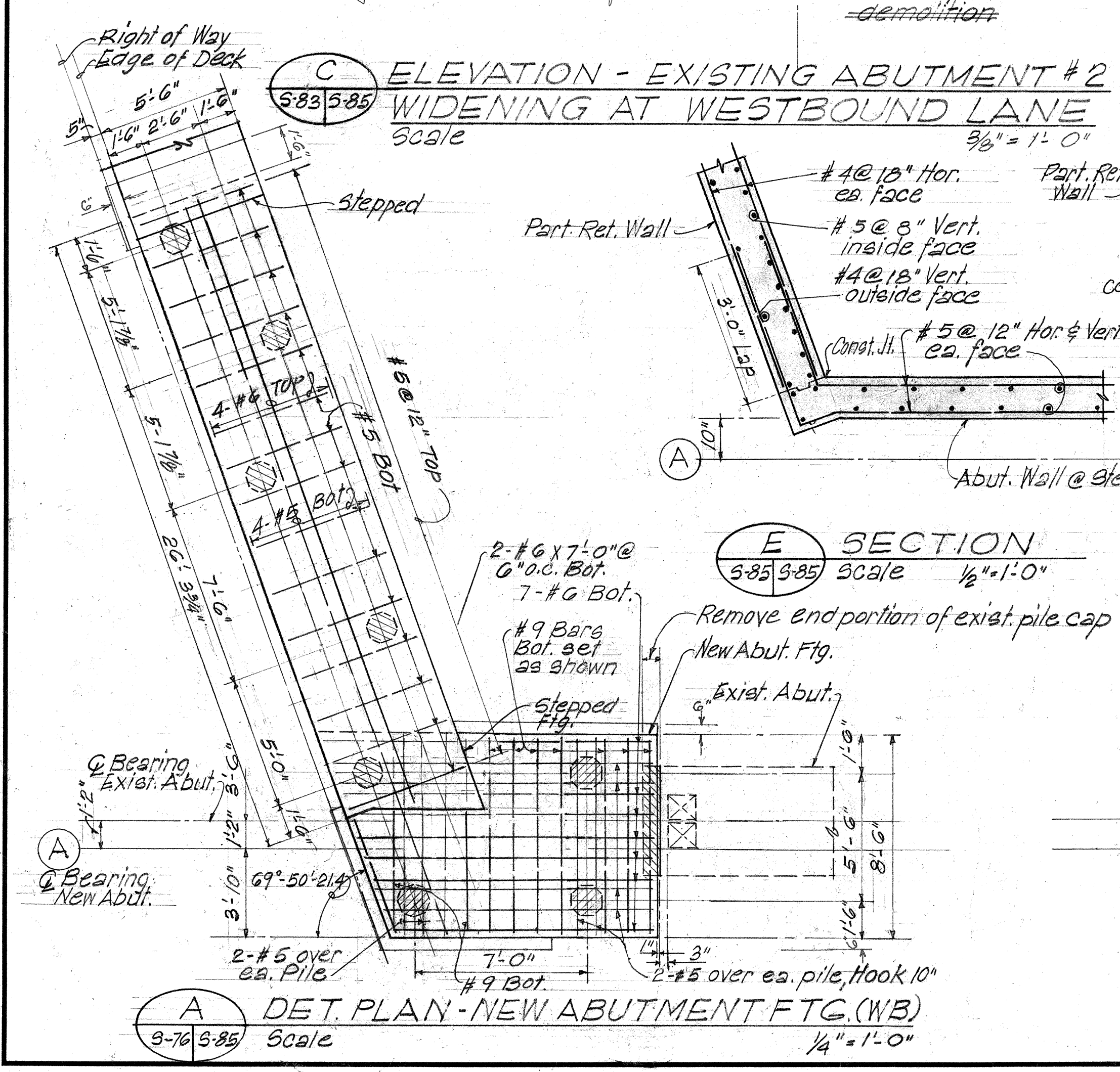
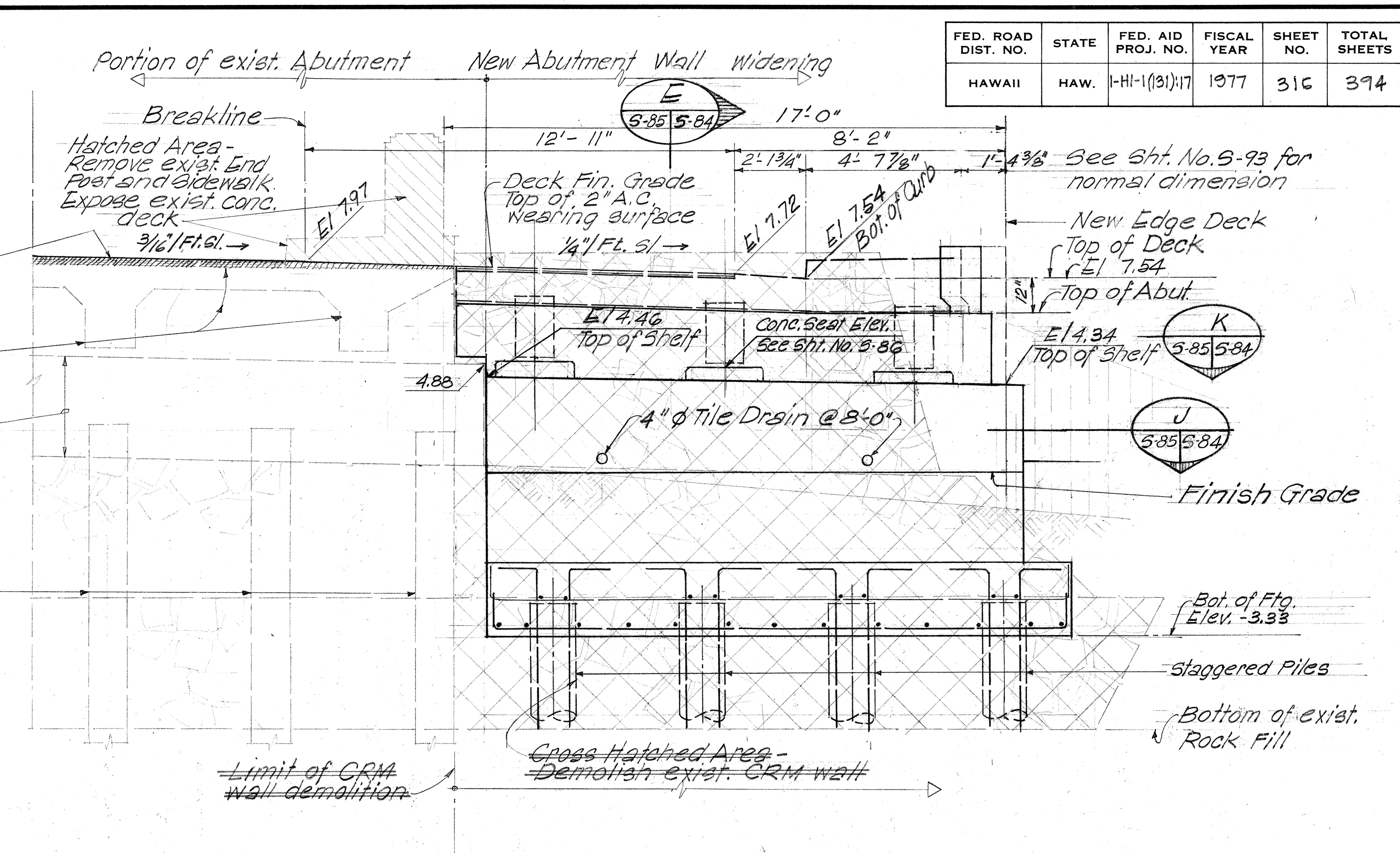
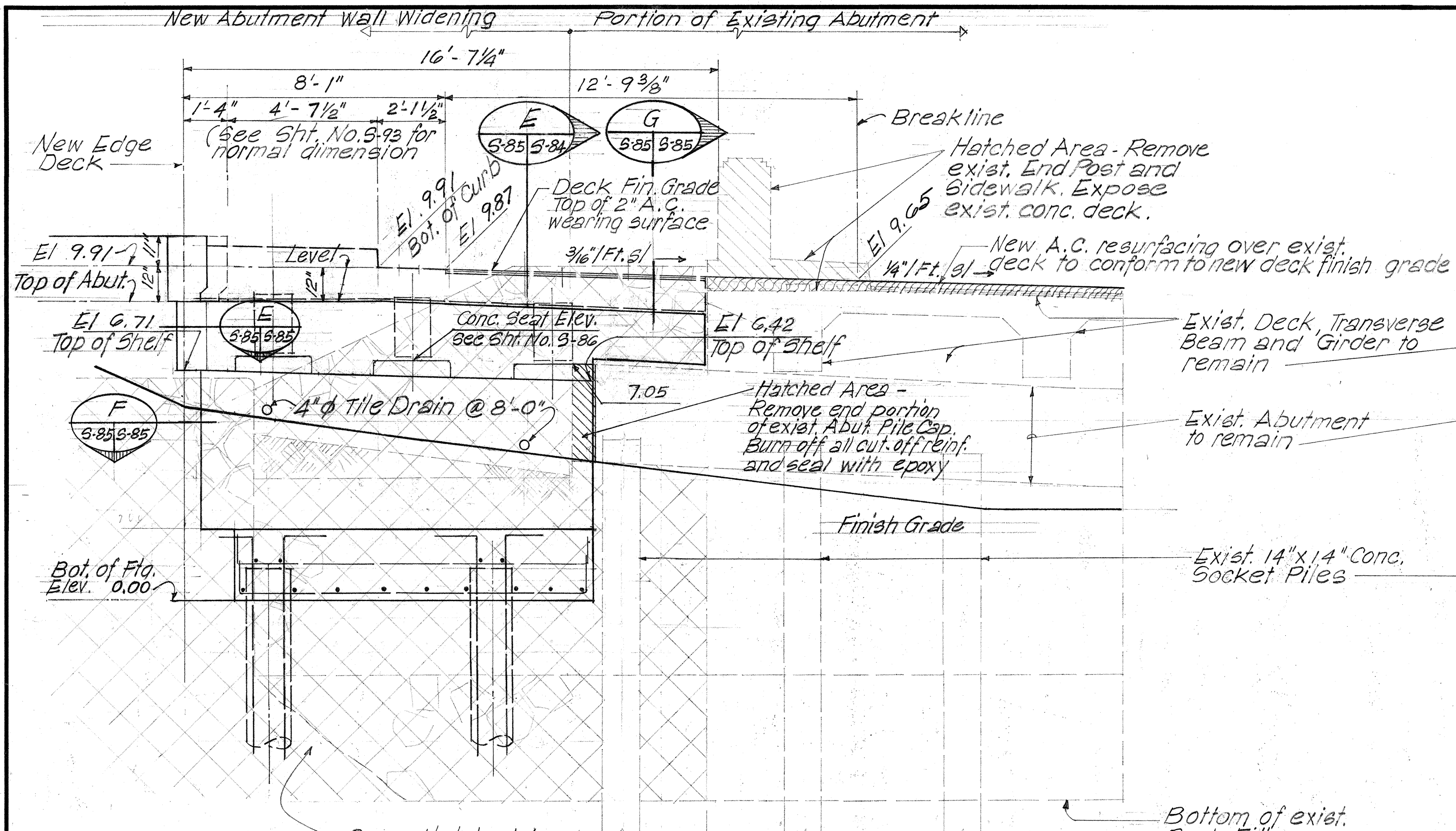
NOTE BOOK: _____

QUANTITIES BY: _____

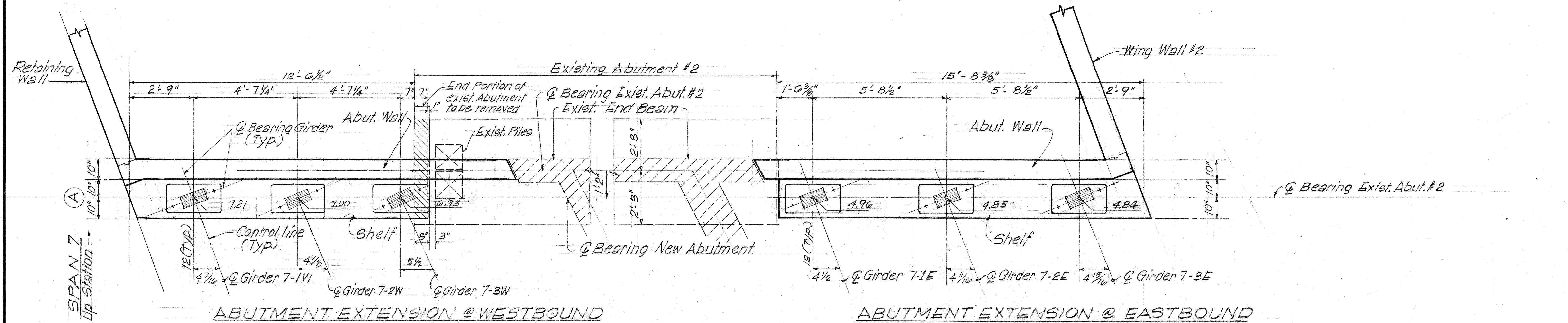
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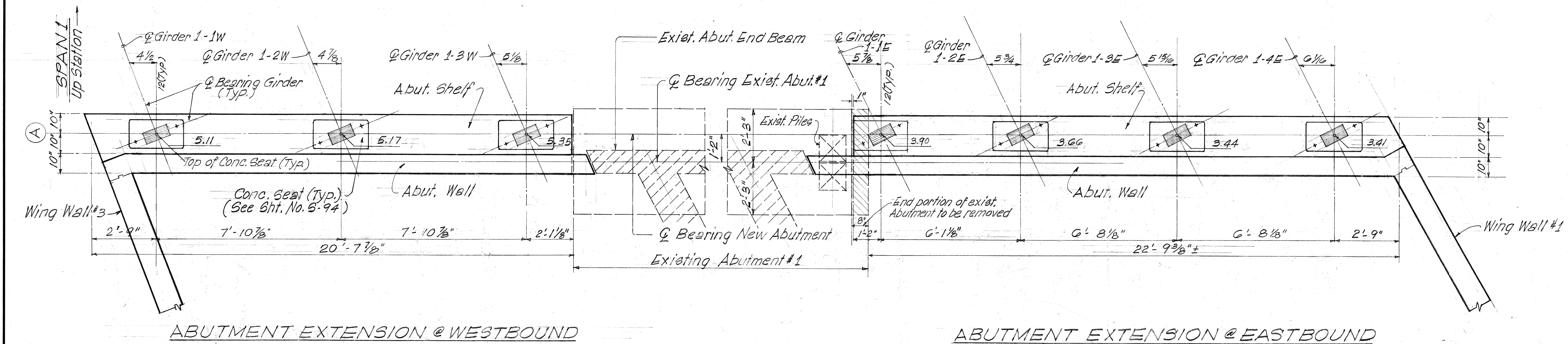
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1977	316	394



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-111(131):17	1977	317	394



ABUTMENT #2 PLAN

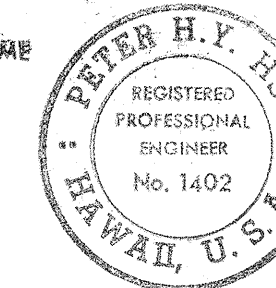


ABUTMENT #1 PLAN

SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	

PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

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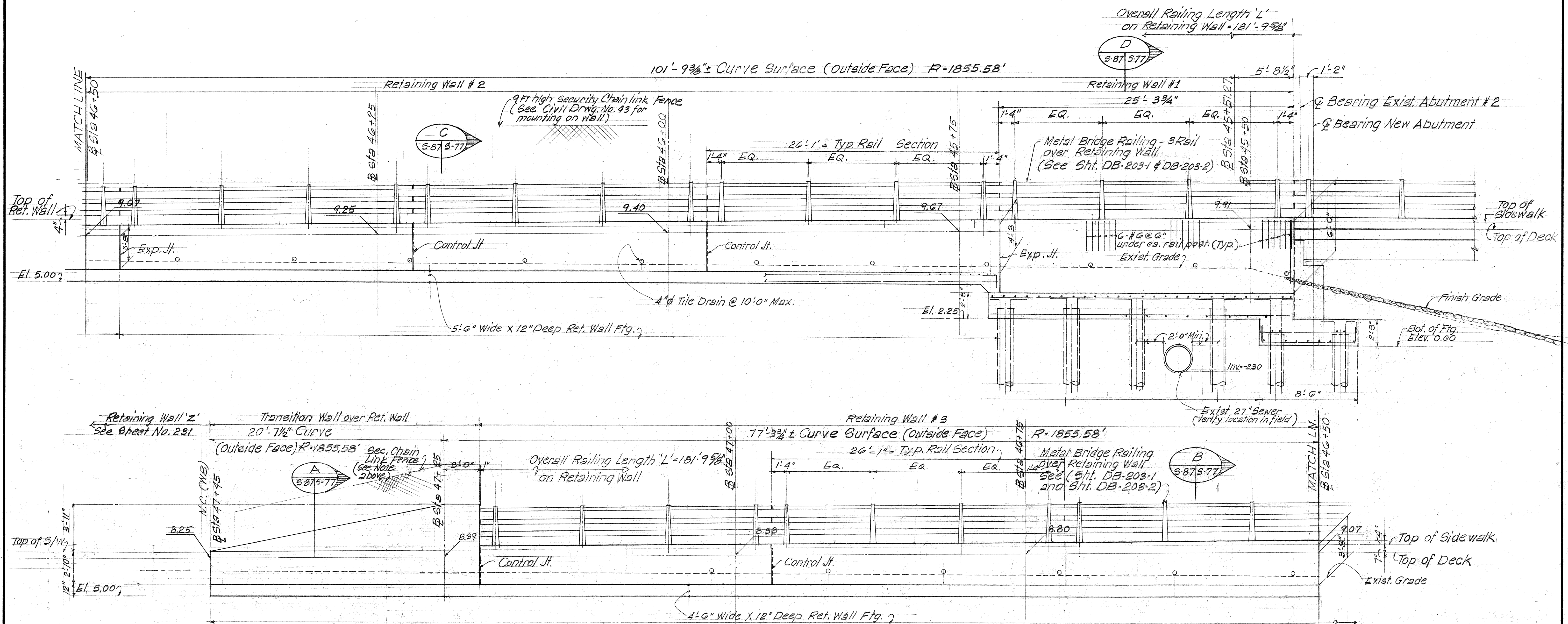


STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KEEHI INTERCHANGE
KALIHI STREAM BR.#1 WIDENING
ABUTMENT CONC. SEAT
LAYOUT PLAN

INTERSTATE ROUTE
F.A.I. PROJ. NO. I-H1-1(131):17
Scale: 1/2"=1'-0" Date: Aug. 31, 1977
SHEET No. 3-30 OF 3-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H1-1(13):17	1977	318	394

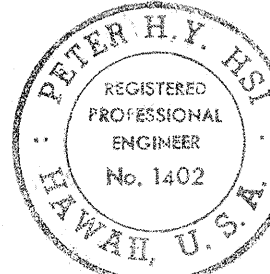


SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	
NO.	

A DEVELOPED ELEVATION - RETAINING WALL
Scale 1/4" = 1'-0"

PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

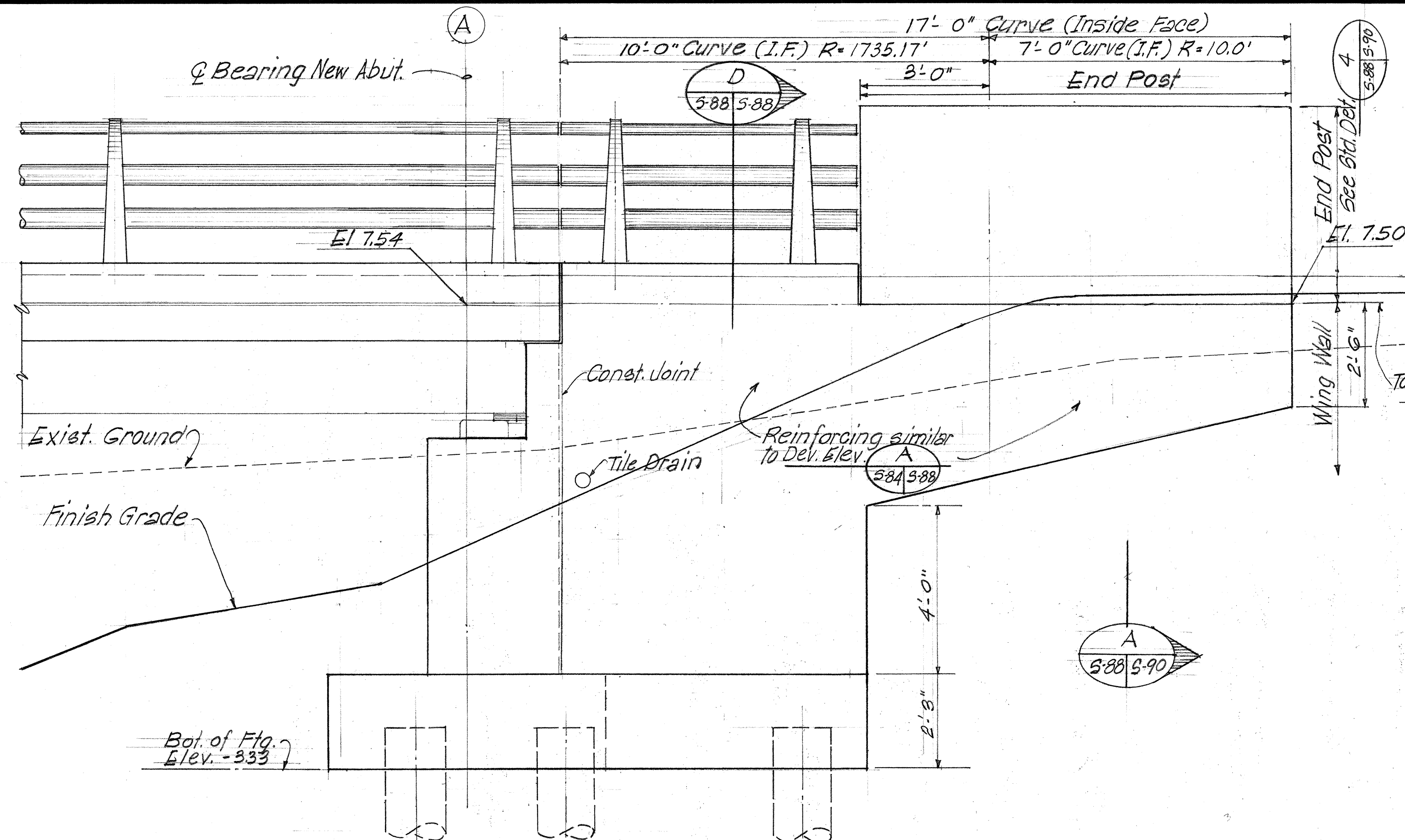
THIS WORK WAS PREPARED BY ME
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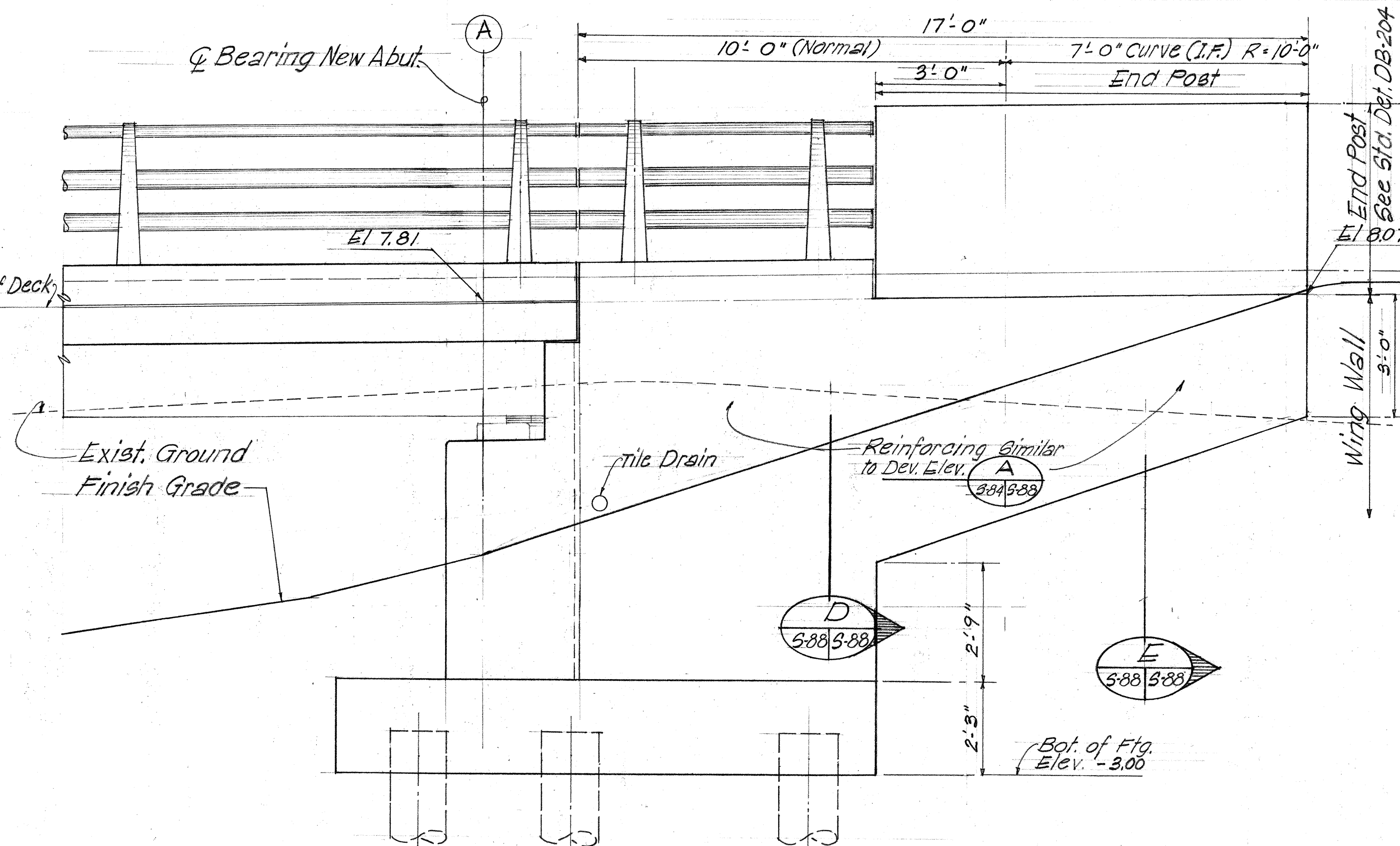
8/15/78	Revised length of Railing and length of Ret. Wall @ N.C. (WB)
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION KEEHI INTERCHANGE KALIHI STREAM BR.#1 WIDENING ELEVATION-RETAINING WALL INTERSTATE ROUTE F.A.I. PROJ. NO. I-H1-1(13):17 Scale: 1/4" = 1'-0" Date: Aug. 31, 1977 SHEET NO. 318 OF 394 SHEETS	

C.O. 318

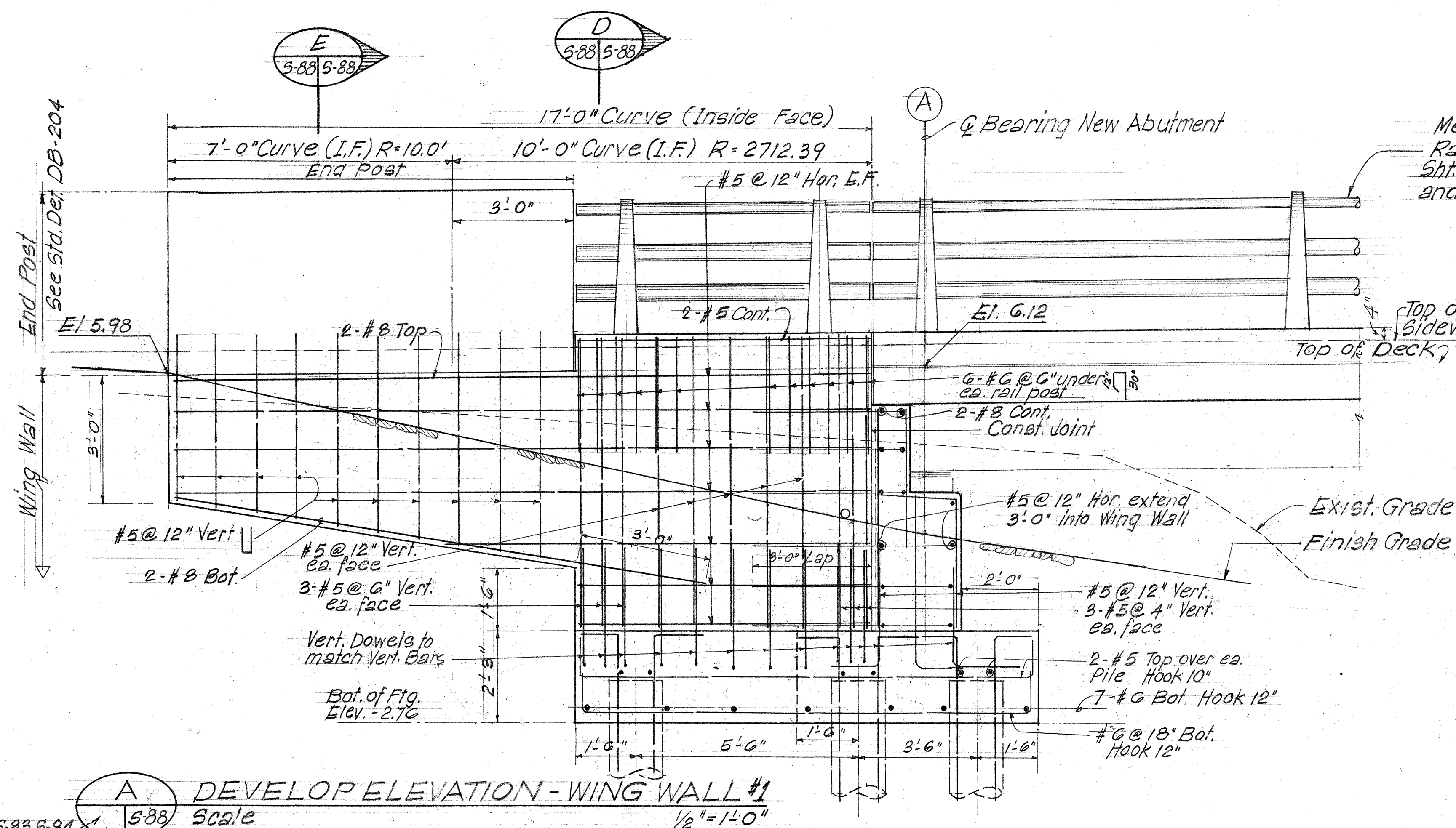
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H-1(131):17	1977	319	394



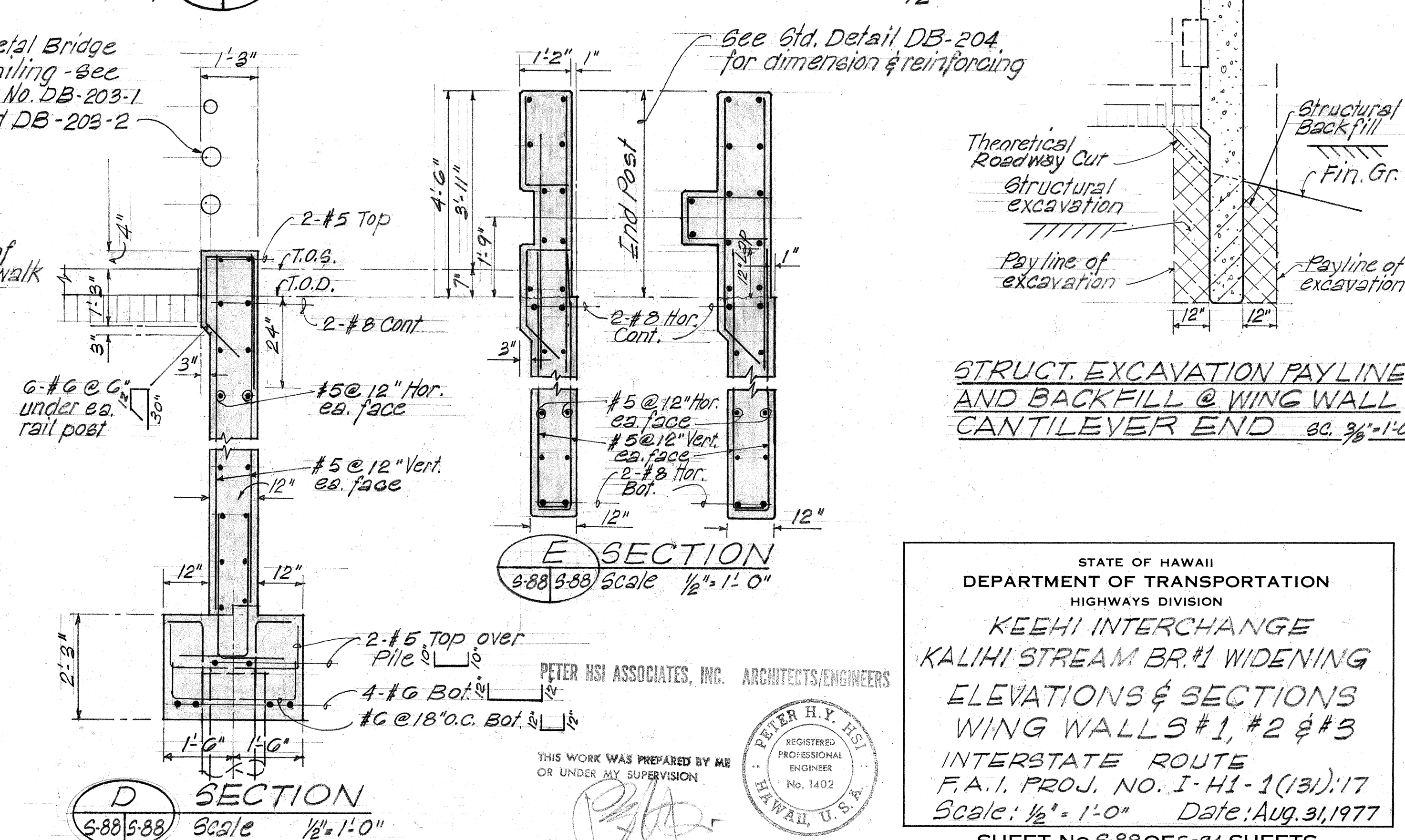
B DEVELOP ELEVATION - WING WALL #2
Scale: 1/2" = 1'-0"



C DEVELOP ELEVATION - WING WALL #3
Scale: 1/2" = 1'-0"



A DEVELOP ELEVATION - WING WALL #1
Scale: 1/2" = 1'-0"



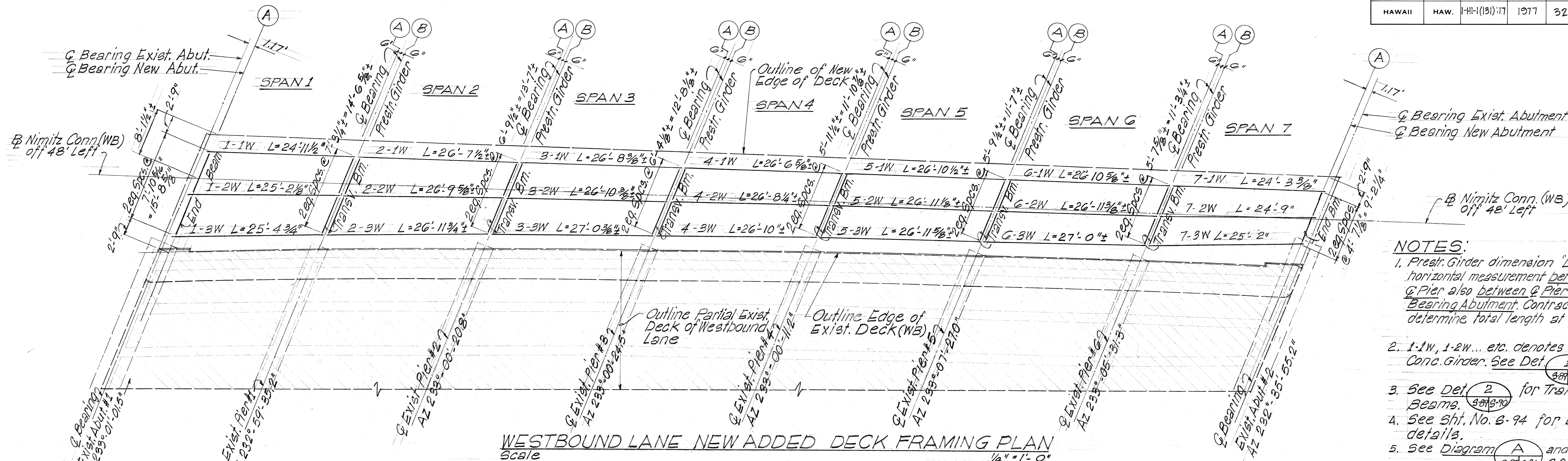
STRUCT. EXCAVATION PAYLINE AND BACKFILL @ WING WALL CANTILEVER END
Scale: 3/8" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KEEHI INTERCHANGE
KALIHI STREAM BR#1 WIDENING
ELEVATIONS & SECTIONS
WING WALLS #1, #2 & #3
INTERSTATE ROUTE
F.A.I. PROJ. NO. I-H-1(131):17
Scale: 1/2" = 1'-0" Date: Aug. 31, 1977
SHEET NO. S-88 OF 5-94 SHEETS

PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS
REGISTERED PROFESSIONAL ENGINEER
No. 1402
HAWAII, U.S.A.
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OR UNDER MY SUPERVISION

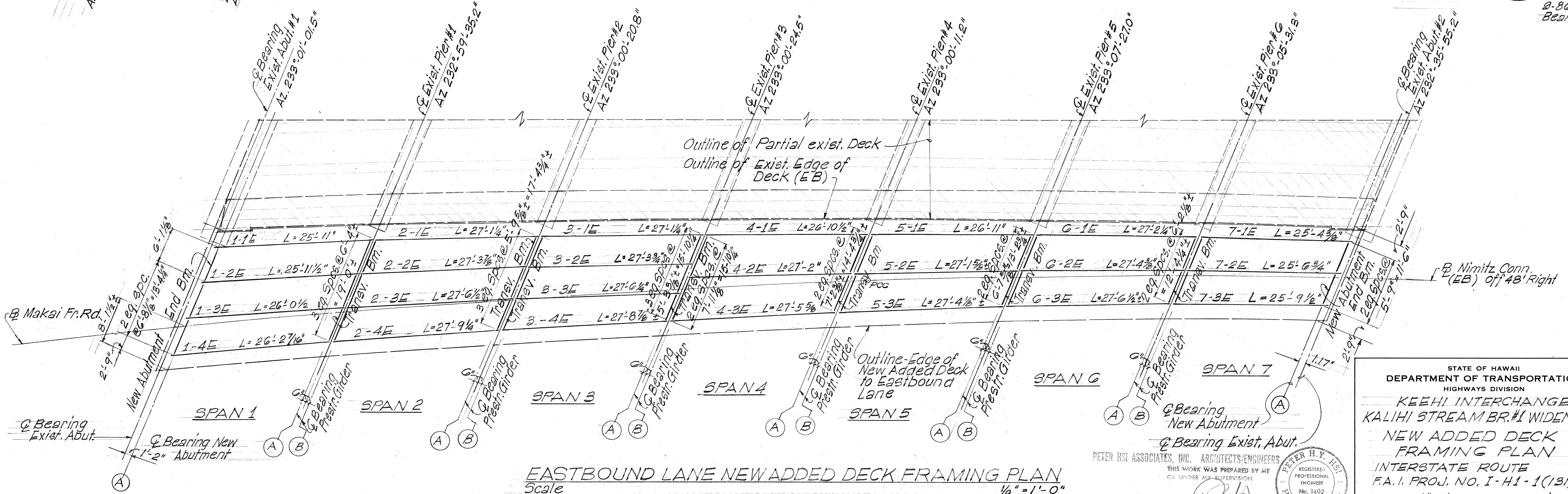
SURVEY PLOTTED BY: DATE: _____
DRAWN BY: _____
CHECKED BY: _____
ORIGINAL PLAN: _____
NOTE BOOK: _____
NO. _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	-H-1(131):17	1977	320	394



- NOTES:**
1. Prest. Girder dimension "L" equal horizontal measurement between G Pier also between G Pier and G Bearing Abutment. Contractor shall determine total length at G Bearing.
 2. 1-1W, 1-2W... etc. denotes Prest. Conc. Girder. See Det. 1 388/5-90
 3. See Det. 2 for Transverse Beams. 388/9-90
 4. See Sht. No. 6-94 for bearing details.
 5. See Diagram A and Sht. Nos. 5-81, 5-82 & 9-86 for Prest. Beam layout.

WESTBOUND LANE NEW ADDED DECK FRAMING PLAN
Scale 1/8" = 1'-0"



EASTBOUND LANE NEW ADDED DECK FRAMING PLAN
Scale 1/8" = 1'-0"

SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	
NO.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

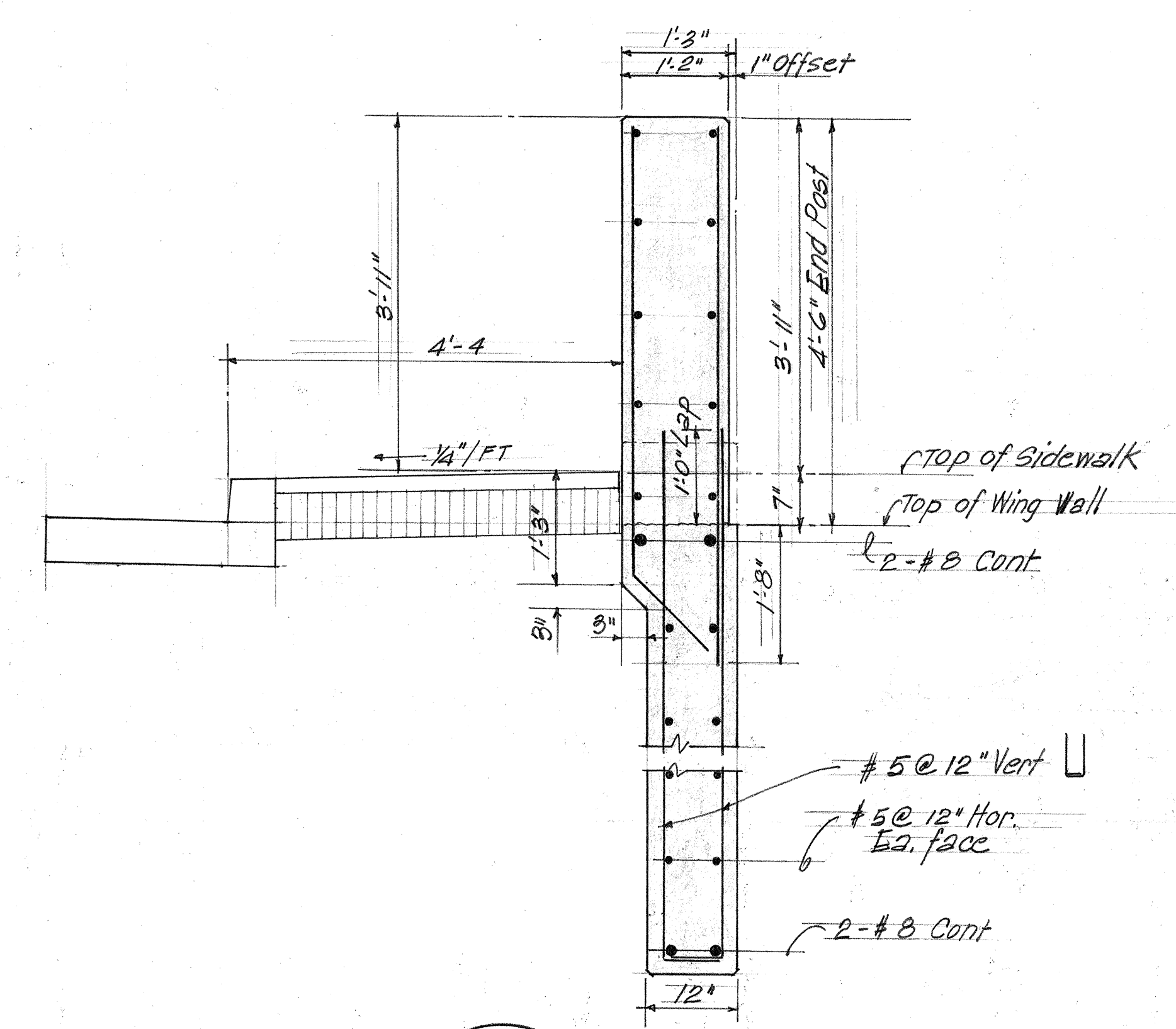
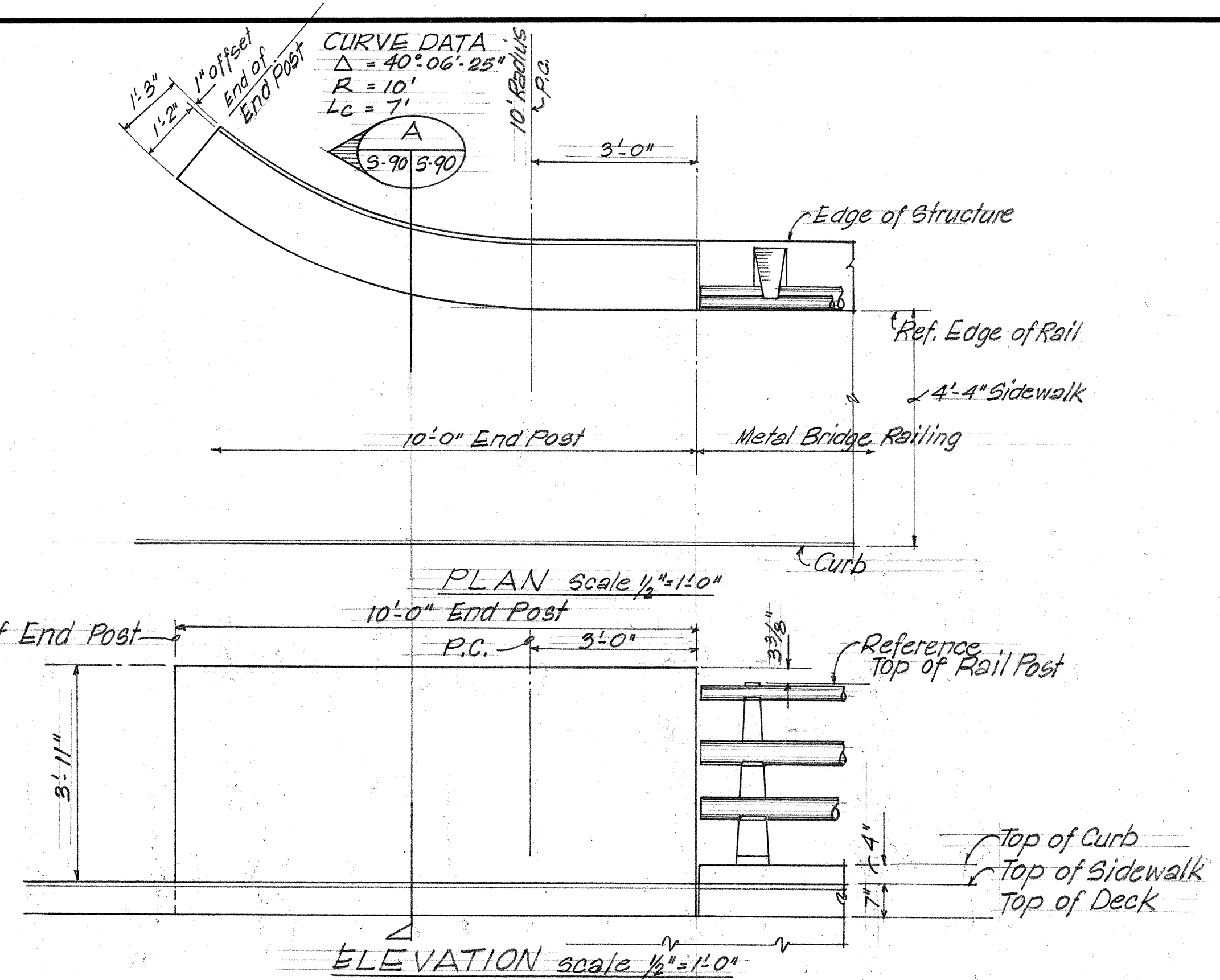
KEEHI INTERCHANGE
KALIHI STREAM BR.#1 WIDENING
NEW ADDED DECK
FRAMING PLAN
INTERSTATE ROUTE
F.A.1. PROJ. NO. I-H-1(131):17
SCALE: 1/8" = 1'-0" DATE: AUG. 31, 1977
SHEET NO. 389 OF 5-94 SHEETS

PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
REGISTERED PROFESSIONAL ENGINEER
No. 1402
HAWAII, U.S.A.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H1-1(131):17	1977	321	394

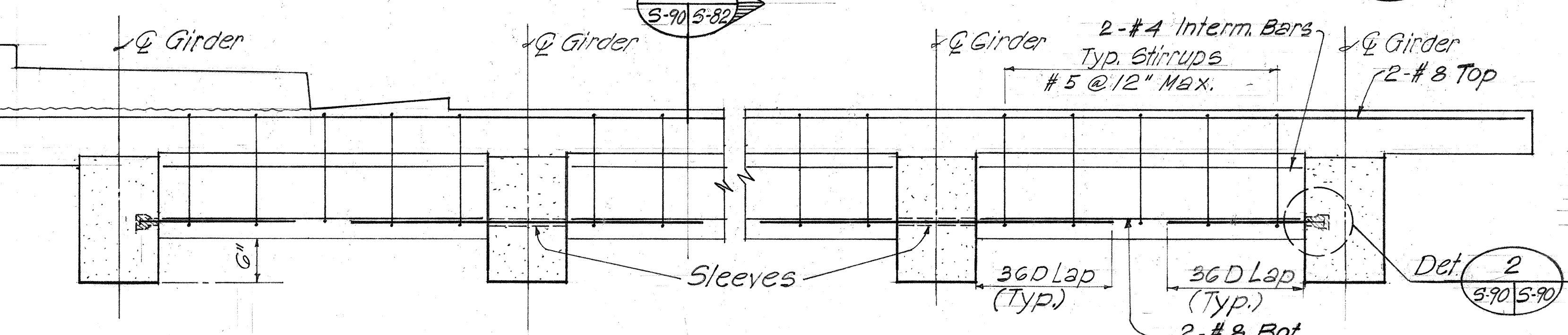
NOTES FOR PRESTRESSED BEAMS: PRETENSIONING

- Concrete shall have a minimum ultimate 28 day cylinder strength of 6000 psi.
- Pretensioned strands shall be 7 wire $\frac{1}{2}$ " ϕ stress-relieved steel strands (area = 0.153 in.²) with an ultimate strength of 270 ksi. For properties see State Standard Specifications.
Initial strand stress (before any losses): 199 ksi.; Initial loss = 20,000 psi.
Total loss due to creep, shrinkage, elastic shortening and relaxation of steel = 45,000 psi.
- Non-prestressed reinforcing steel shall be Grade 40 unless otherwise noted. For properties see State Standard Specifications.
- The calculated camber includes the effect of the initial prestress force and the weight of the beam after removal from bed. Negative values shown for calculated camber indicate a net upward deflection. Calculated camber values shown do not account for any camber growth of the beam. The actual camber shall not exceed the calculated camber shown on the plans by more than 100%.
- The dead load deflection includes the combine effects of the weight of slab, haunch and diaphragm.
- Strand pattern shall be symmetrical about the longitudinal ϕ of the beam.
- Strand release sequence shall not induce any lateral deflection of the beam.
- Contractor shall submit his proposed strand pattern and releasing sequence to the Engineer for approval.
- During curing care shall be taken to avoid any lateral deflection of the beam due to improper orientation.
- Lifting devices shall be placed as close as possible to the center line of bearing of the beam. Details and locations of lifting devices shall be submitted to the Engineer for approval. Such approval does not relieve the Contractor of his responsibilities if beam is damaged due to failure of lifting device.
- See Framing Plans for locations of diaphragms, type, mark number and length of individual girders. Lengths shown do not include effect of elastic shortening.
- In lieu of the 7-wire $\frac{1}{2}$ " dia. stress-relieved steel strands (area = 0.153 in.²) with an ultimate strength of 270 ksi, the Contractor at his option may use 7-wire .0.6" dia. stress-relieved steel strands (area = 0.217 in.²) with an ultimate strength of 270 ksi. For properties of .0.6" dia. strands see special provisions. However the final prestressed force and its center of gravity, as stated shall not be revised.

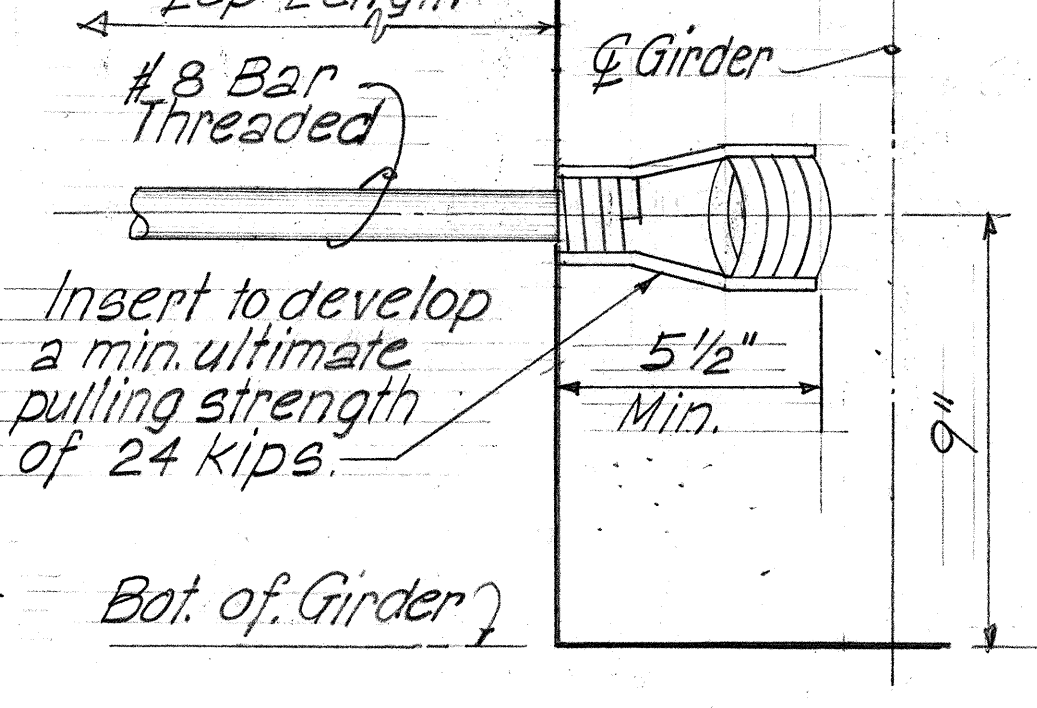


4 DETAIL - END POST OVER WING WALL #2
Scale 1/4" = 1'-0"

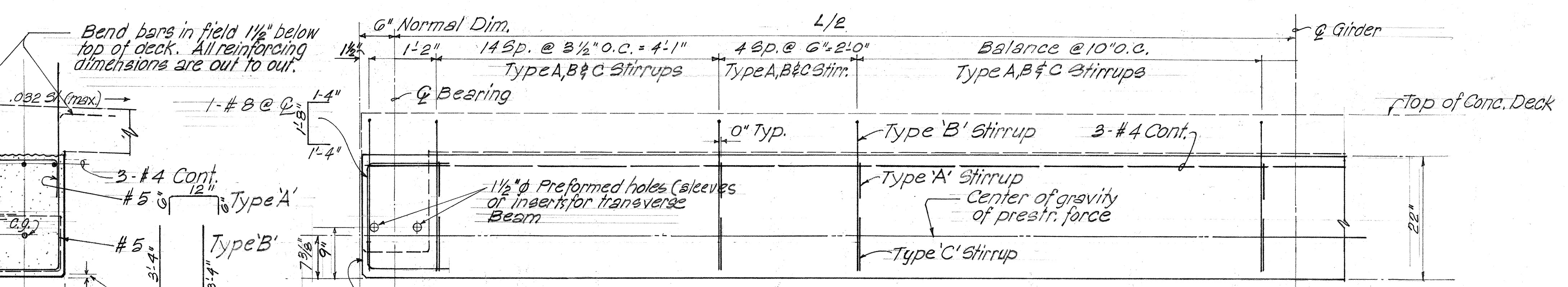
SECTION A-A
Scale 1/4" = 1'-0"



3 TYPICAL TRANSVERSE BEAM DETAIL
Scale 3/4" = 1'-0"



2 TYP. INSERT DET.
Scale 3/4" = 1'-0"



1 TYP. PRESTRESSED CONC. GIRDER DETAIL
Scale 1" = 1'-0"

NOTE:

P(initial) = 487.2 K
P(after losses) = 377.0 K
* Initial Stress = 199 Ksi

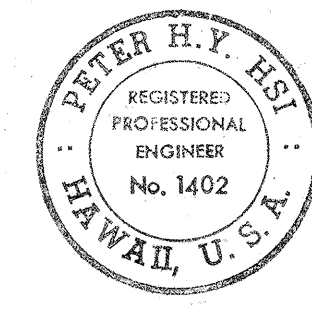
ELEVATION

Concrete strength at release for all girders = 4400 psi
Calculated camber for all girders = -3/8"
Dead Load Deflection for all girders = 3/16"

NOTE:
Inserts and sleeves incidental to Prest. Conc. Girder (Item No. 504.7110)

PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

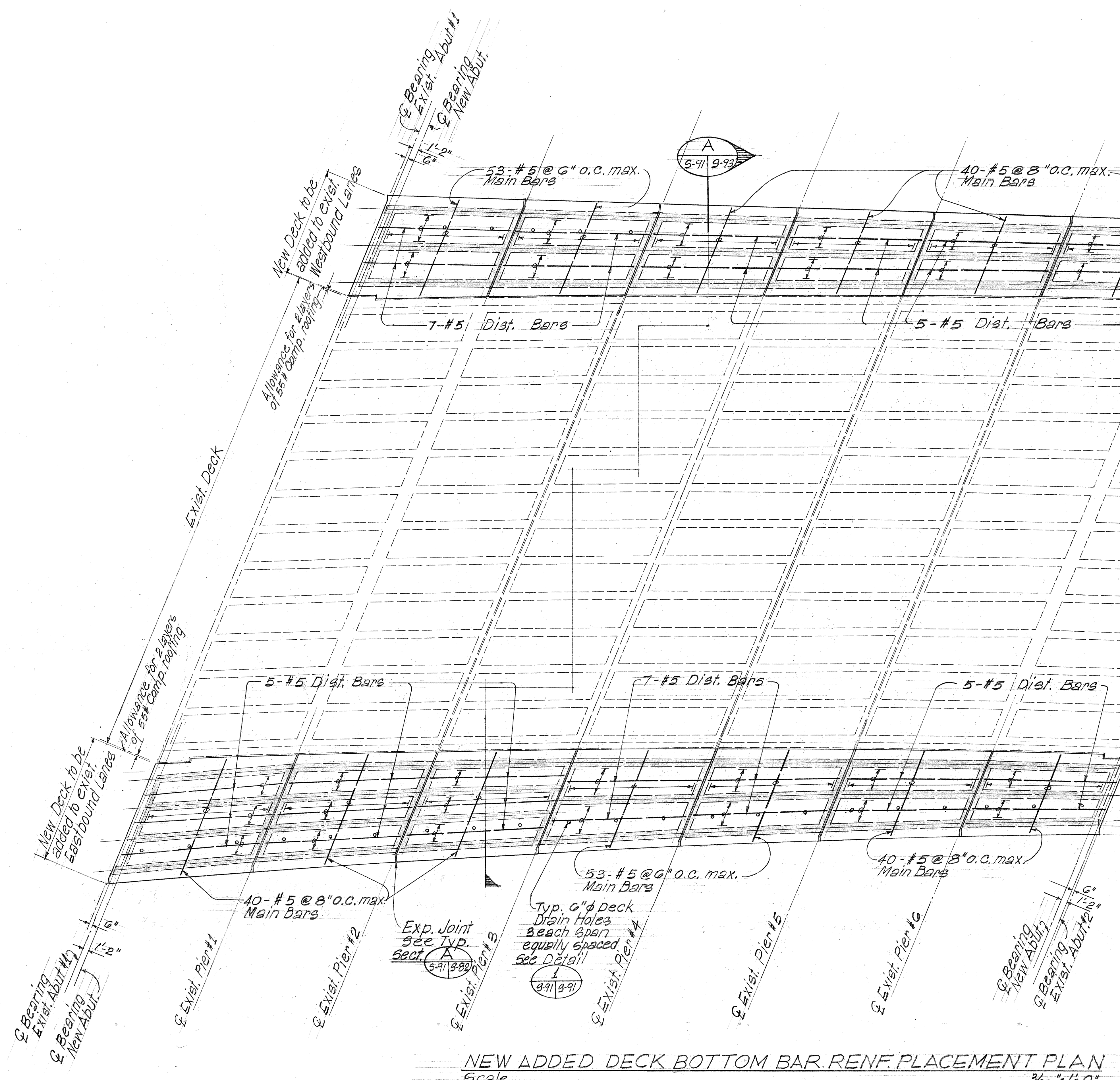
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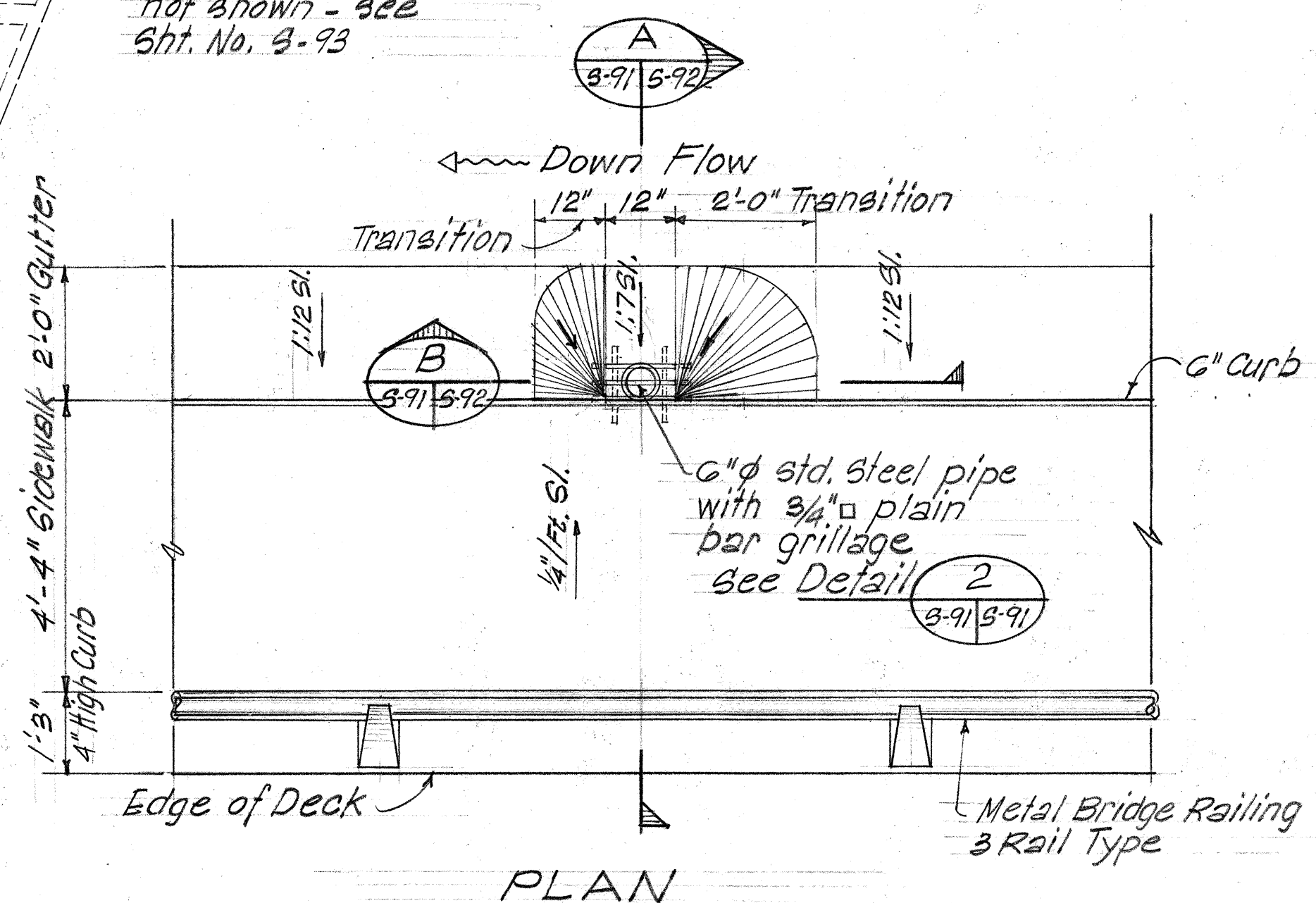
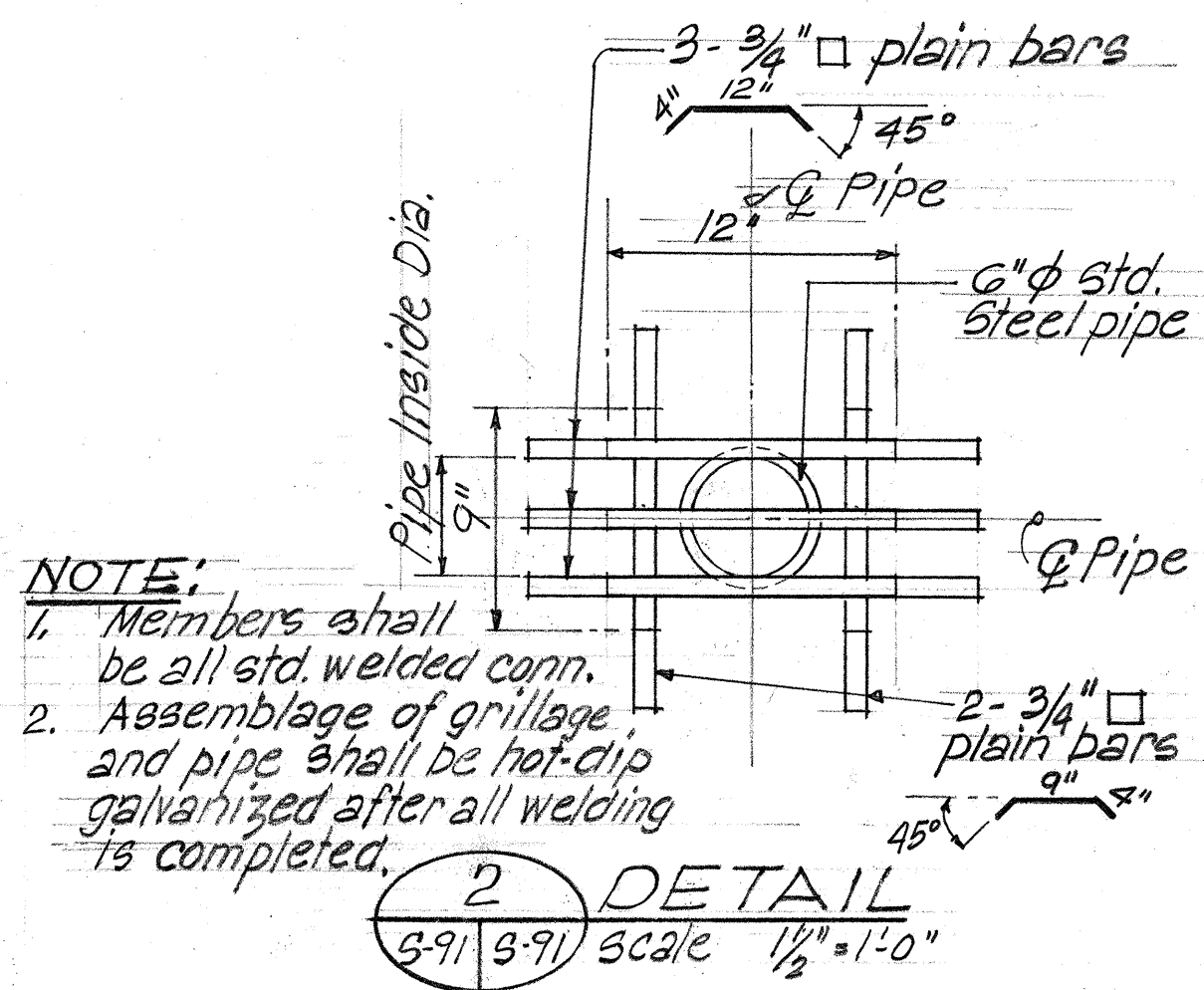
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KEEHI INTERCHANGE
KALIHI STREAM BR. #1 WIDENING
PRESTR. CONC. GIRDER
& TRANSVERSE BEAM DETAIL
INTERSTATE ROUTE
F.A.1. PROJ. NO. I-H1-1(131):17
Scale: As Shown Date: Aug. 31, 1977
SHEET No. 3-90 OF 5-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(131):17	1977	322	394

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



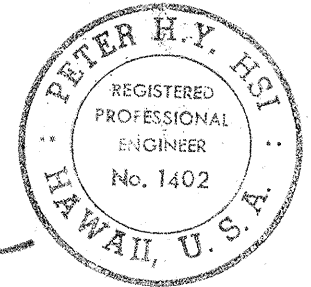
NEW ADDED DECK BOTTOM BAR REINFORCEMENT PLAN
Scale 3/32" = 1'-0"



- NOTES:
- See General Note No. 6 of Sht. No. 3D-1
 - For main and distribution bar arrangement see Sht. No. 3-93
 - For expansion joint at abutments see Sect. B
 - For expansion joint at piers see Sect. A
 - Horizontal and transverse deck joints incidental to concrete in bridges.

PETER ISI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

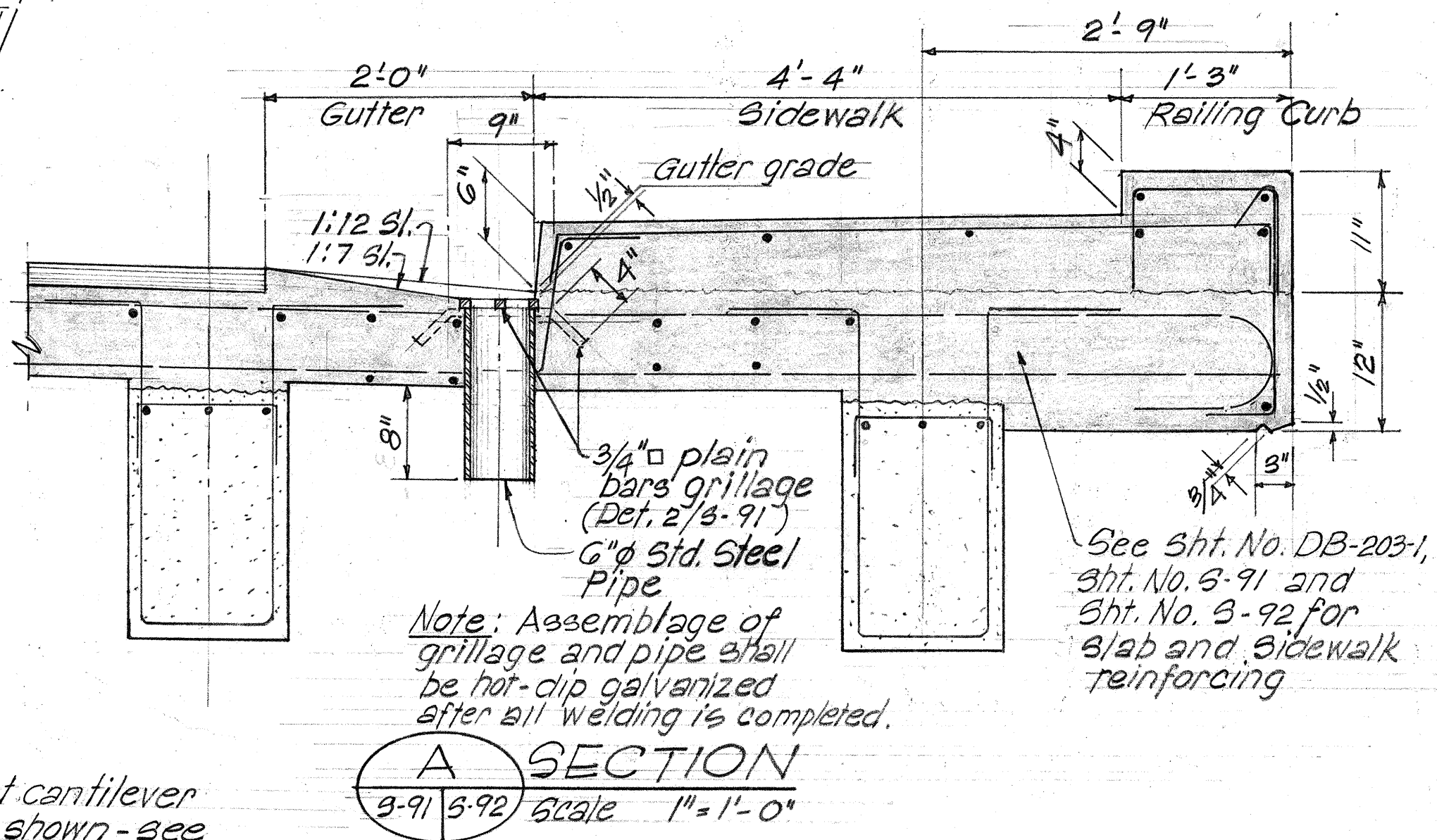
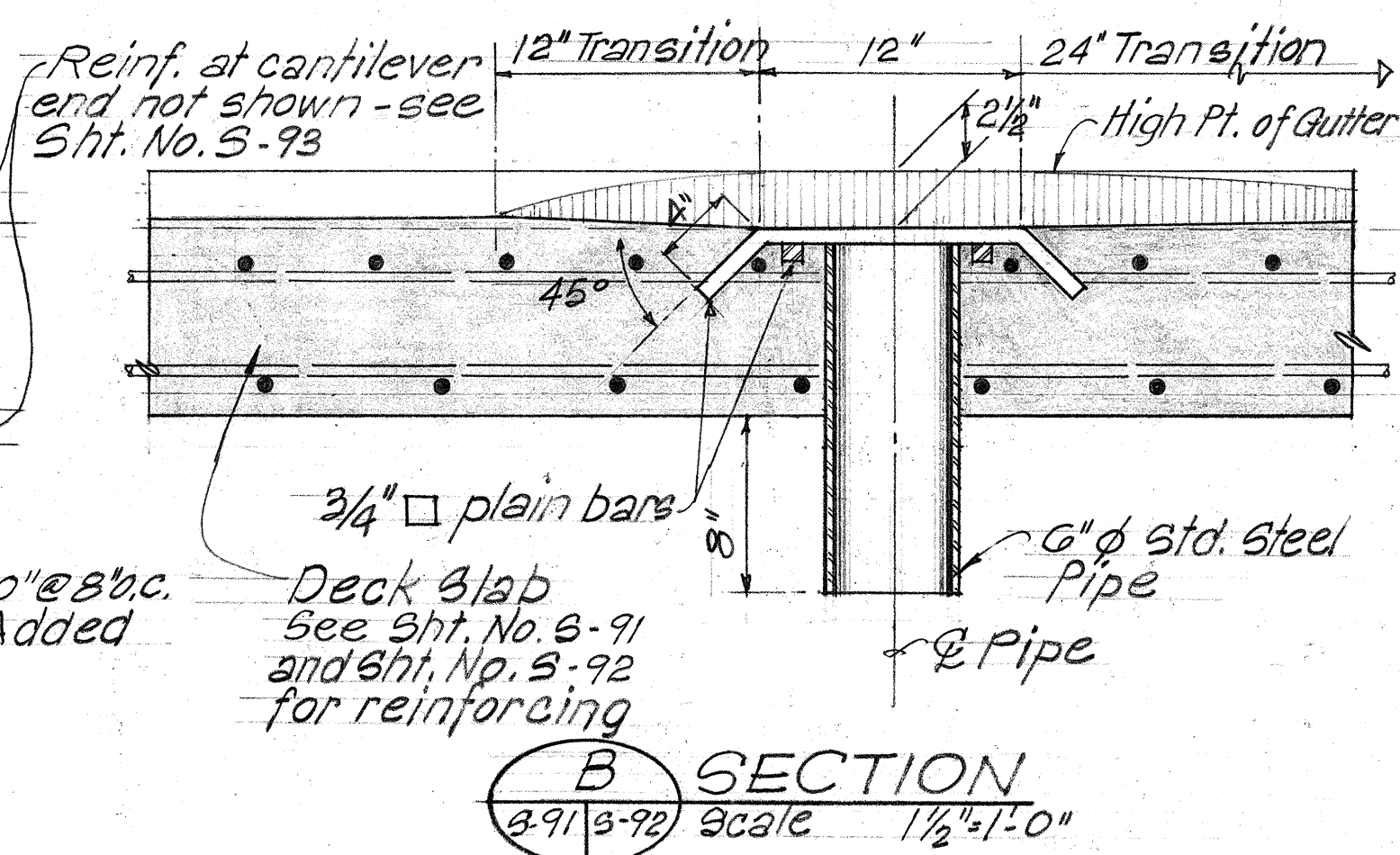
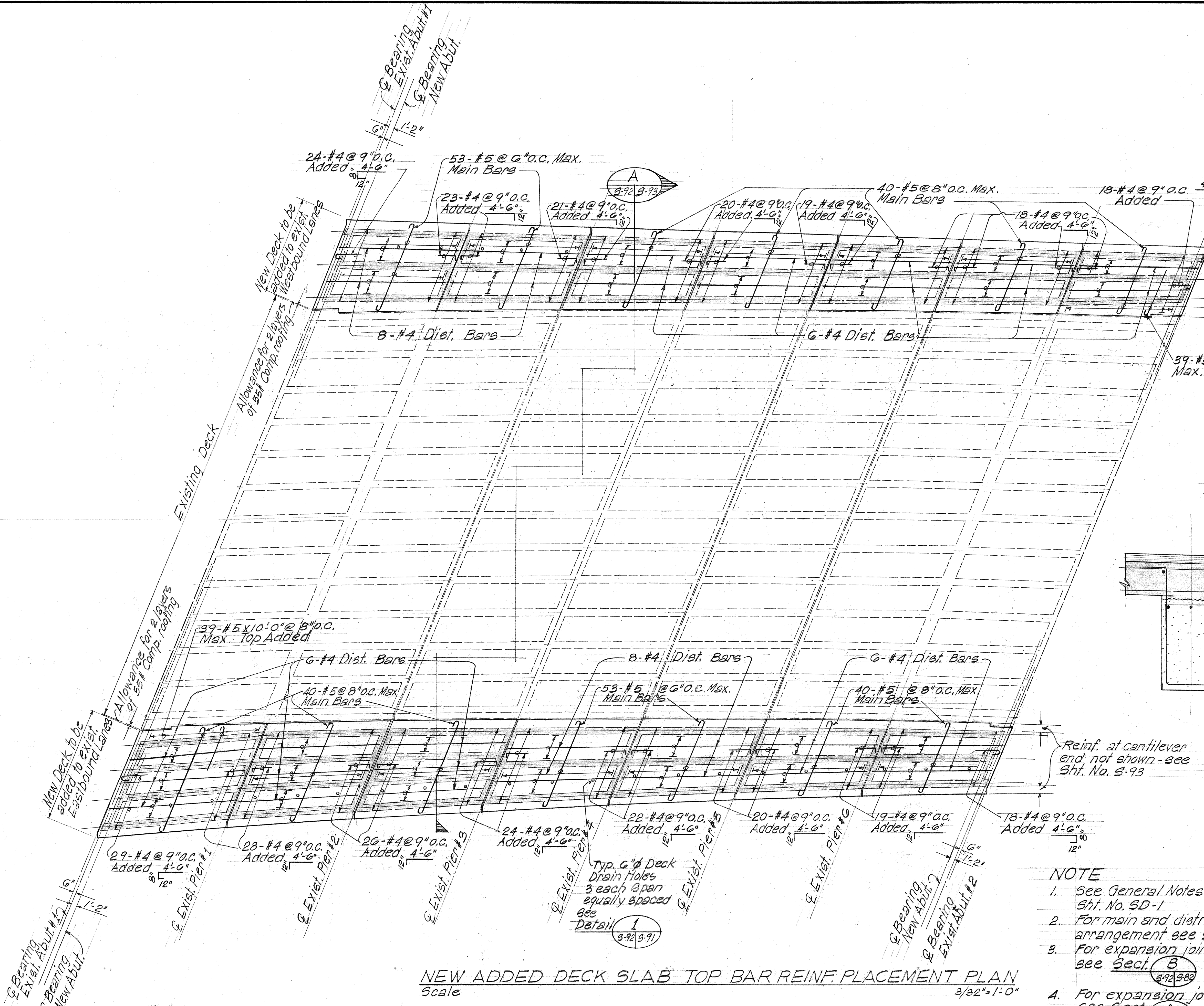
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KEEHI INTERCHANGE
KALIHI STREAM BR.#1 WIDENING
ADDED DECK SLAB BOT.
REINF. PLACEMENT PLAN
INTERSTATE ROUTE
F.A.I. PROJ. NO. I-H-1(131):17
SCALE: 3/32" = 1'-0" DATE: Aug. 31, 1977
SHEET NO. 5-91 OF 5-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(131):17	1977	323	394

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



- NOTE**
1. See General Notes No. 6 of Sht. No. SD-1
 2. For main and distribution bar arrangement see Sht. No. 3-93
 3. For expansion joint at abutments see Sect. B (3-92/3-93)
 4. For expansion joint at piers see Sect. A (3-92/3-93)

NEW ADDED DECK SLAB TOP BAR REINF. PLACEMENT PLAN
Scale 3/32"=1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**KEEHI INTERCHANGE
KALIHI STREAM BR.#1 WIDENING
ADDED DECK SLAB TOP
REINF. PLACEMENT PLAN**

INTERSTATE ROUTE
F.A.I. PROJ. NO. I-H-1(131):17
SCALE: 3/32"=1'-0" DATE: Aug. 31, 1977
SHEET NO. 3-92 OF 3-94 SHEETS

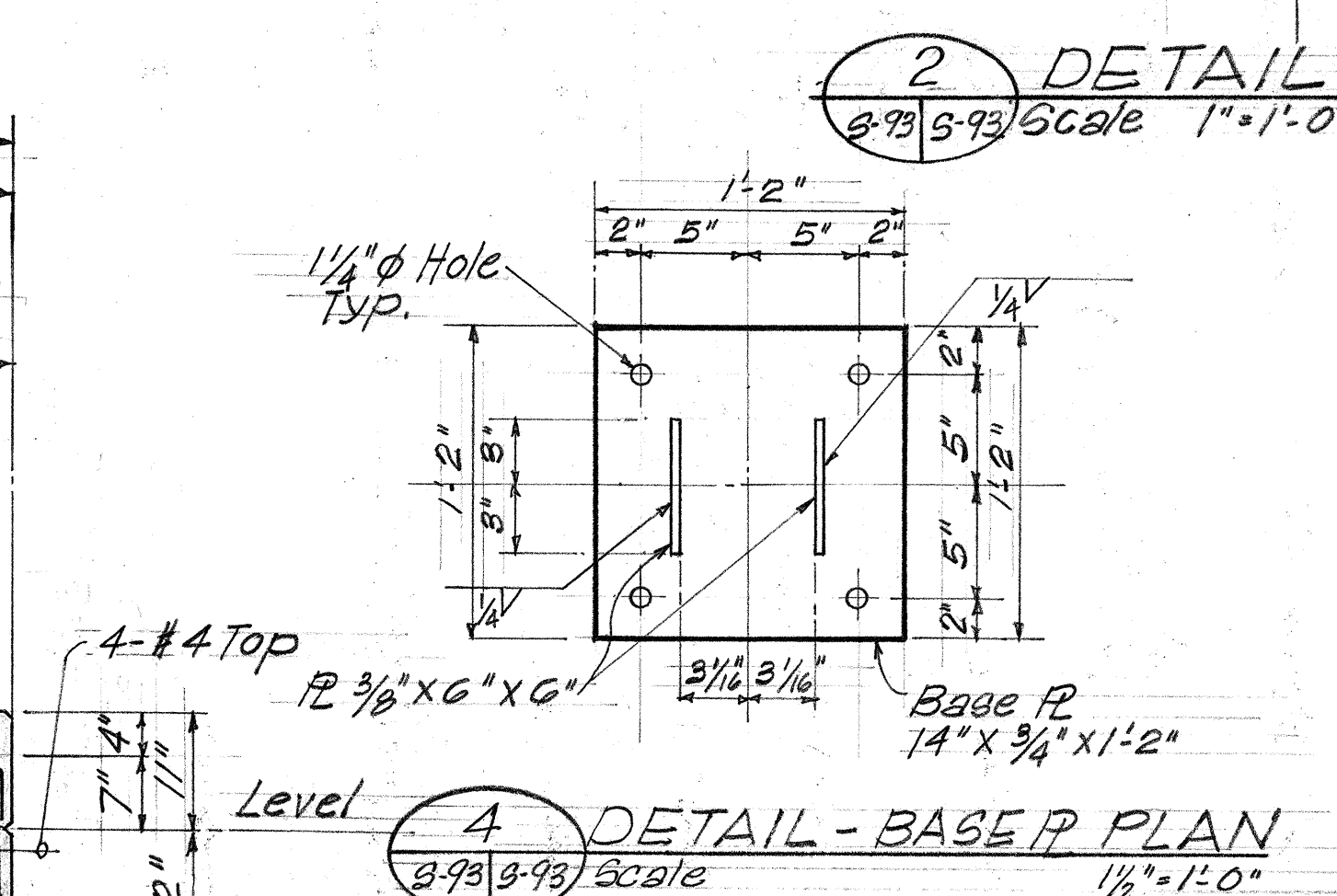
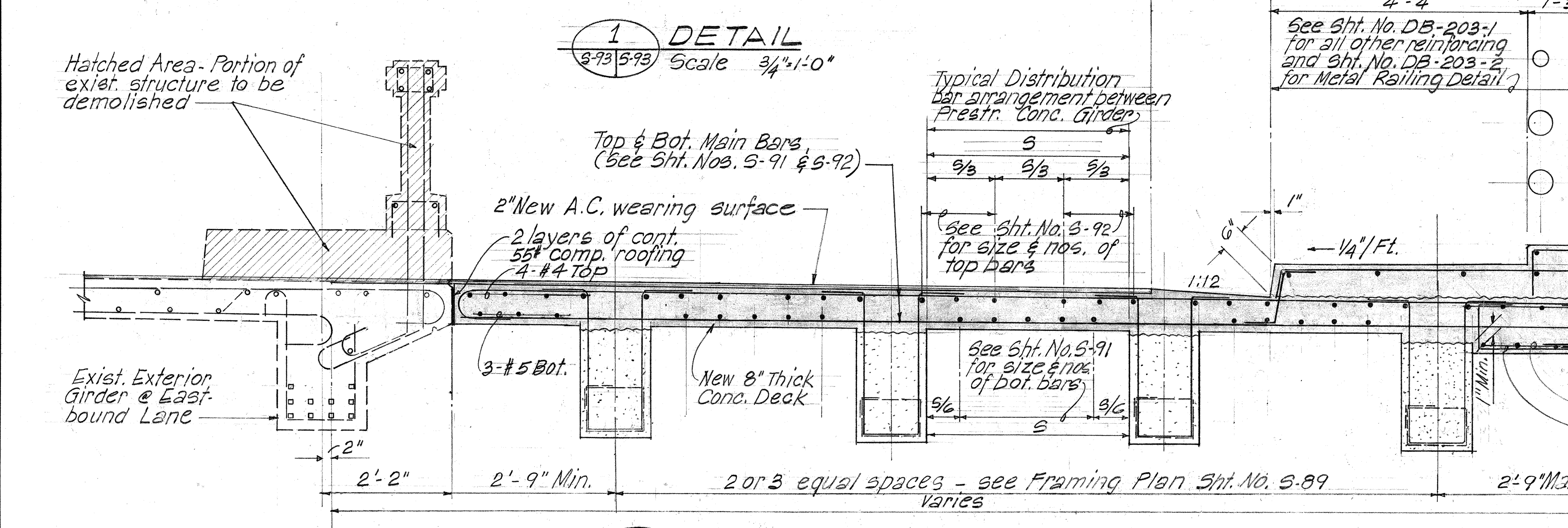
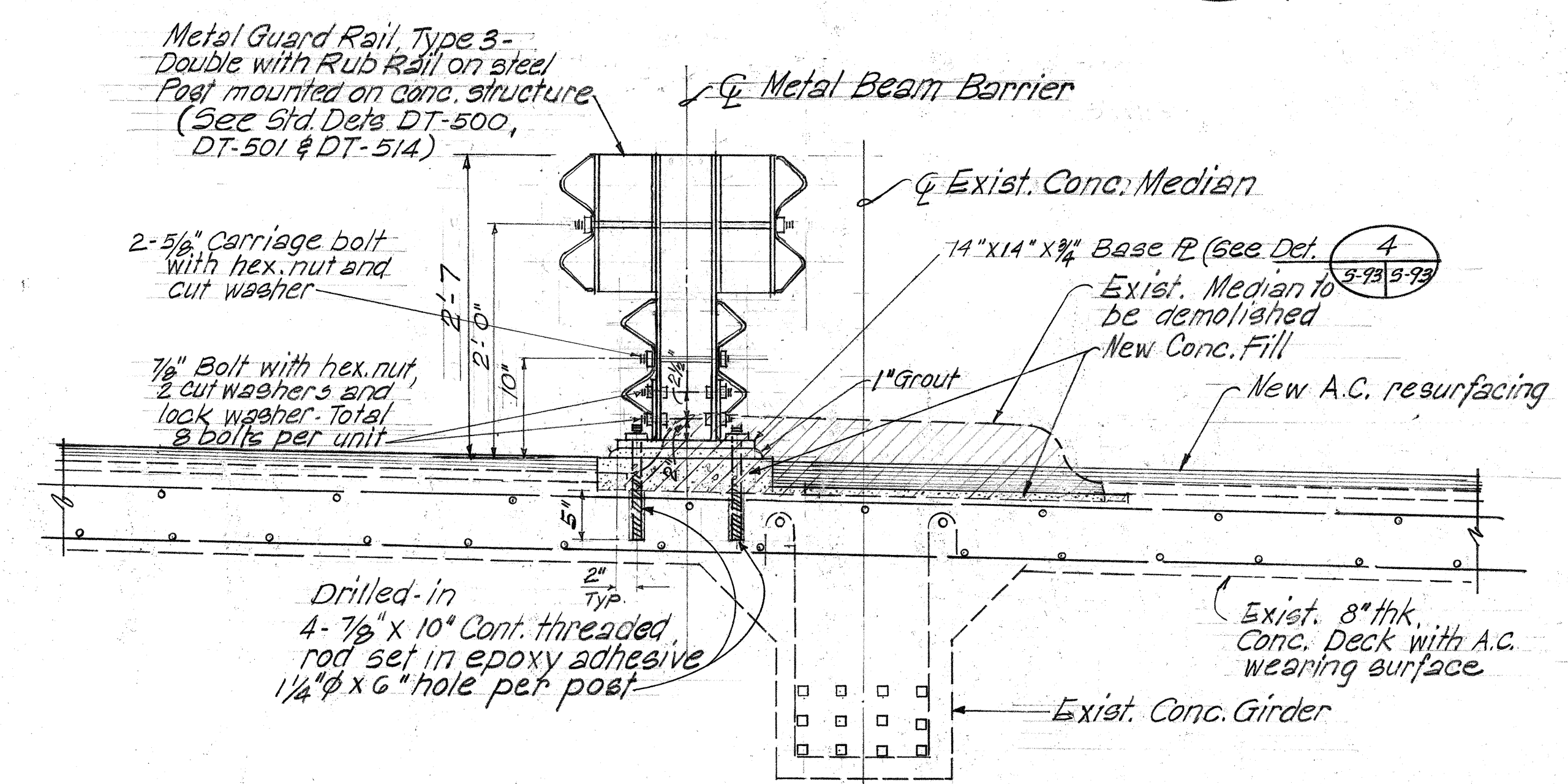
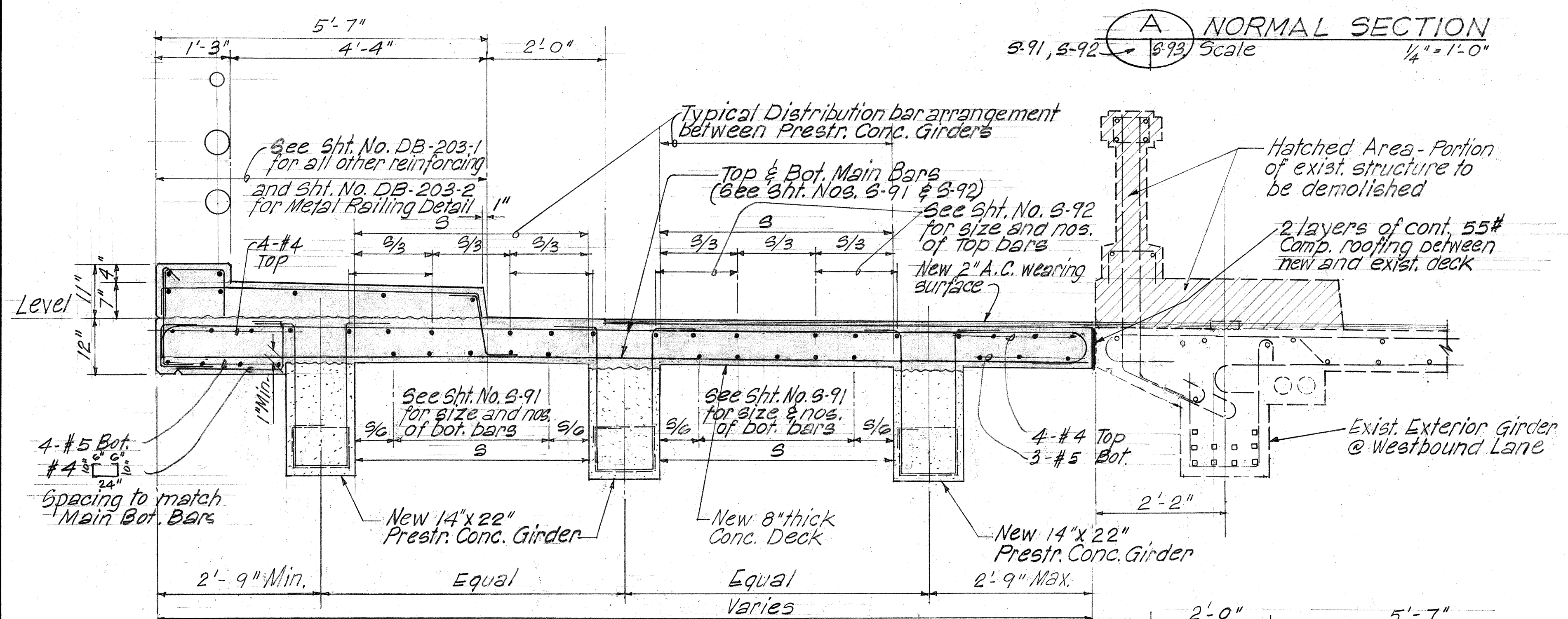
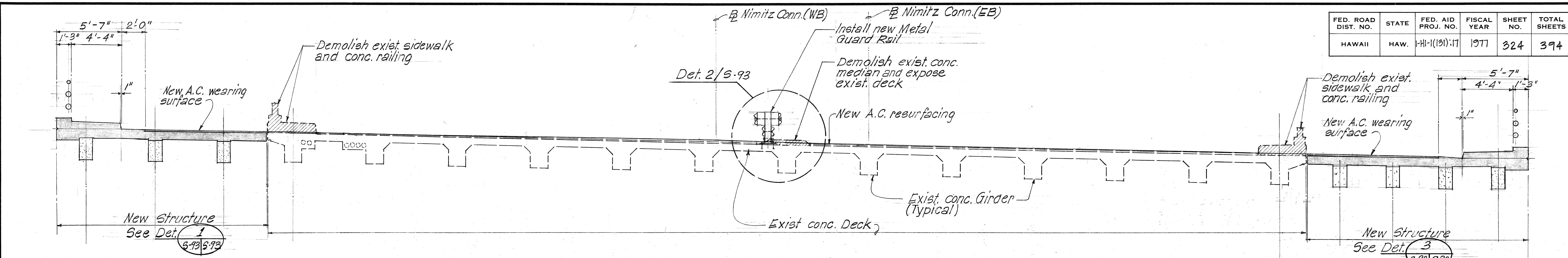
PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

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Peter Hsi

REGISTERED PROFESSIONAL ENGINEER
No. 1402
HAWAII, U.S.A.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H1-1(131):17	1977	324	394



PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
 PETER H. HSI
 REGISTERED PROFESSIONAL ENGINEER
 No. 1402
 HAWAII, U.S.A.

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
 KEEHI INTERCHANGE
 KALIHI STREAM BR#1 WIDENING
 NORMAL SECTION
 INTERSTATE ROUTE
 F.A.I. PROJ. NO. I-H1-1(131):17
 SCALE: AS NOTED DATE: Aug. 31, 1977
 SHEET NO. 5-93 OF 5-94 SHEETS

DATE
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