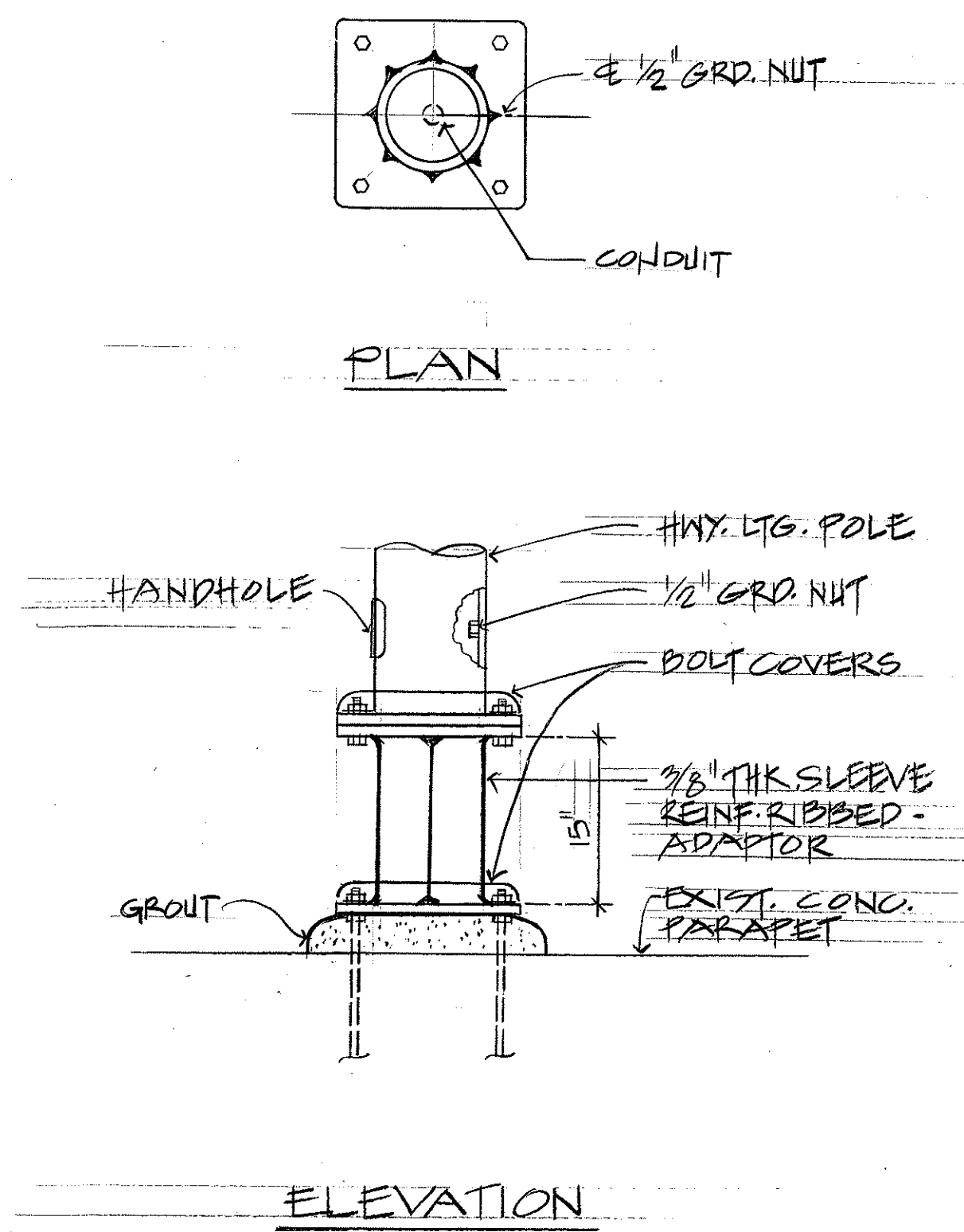
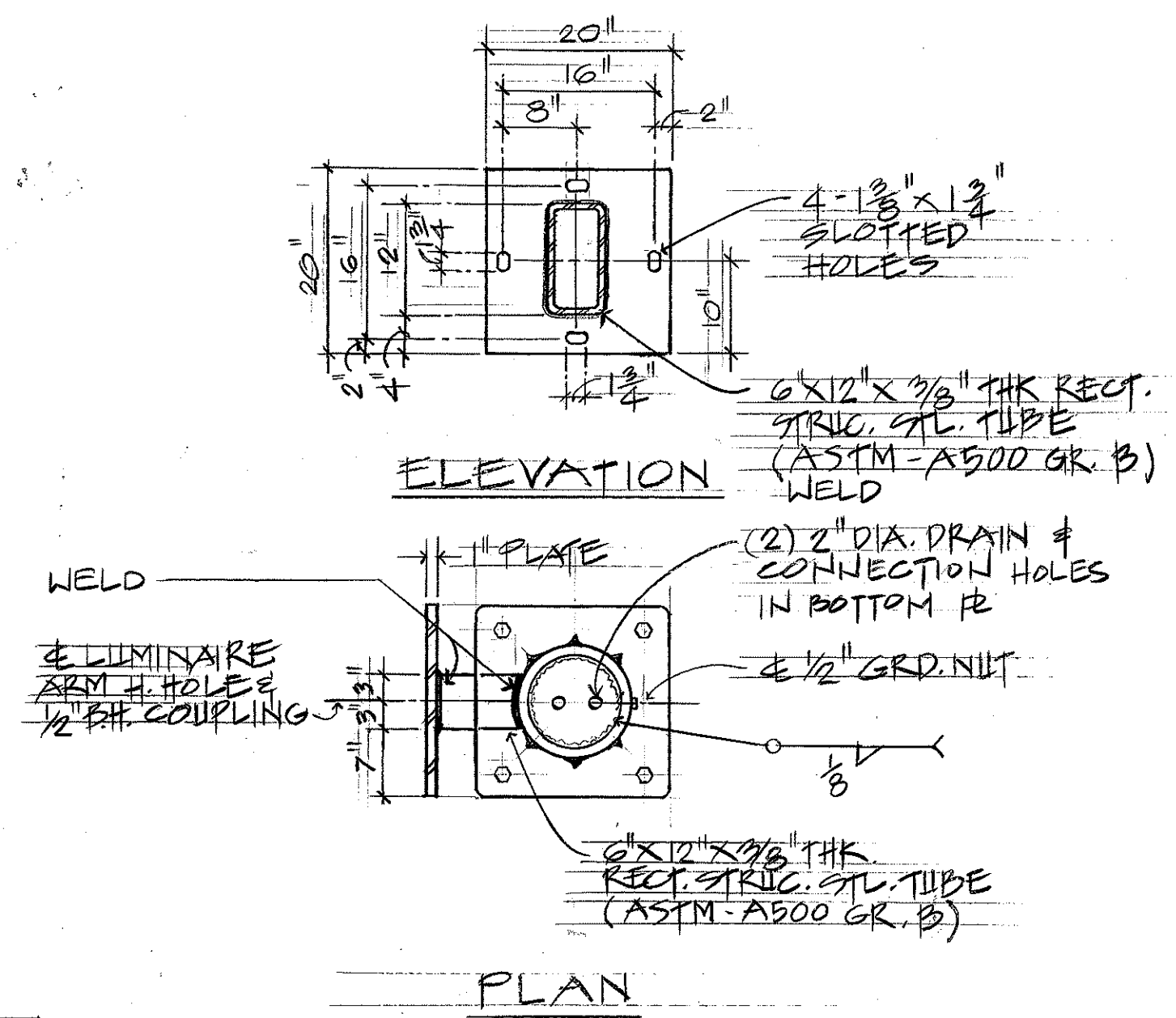
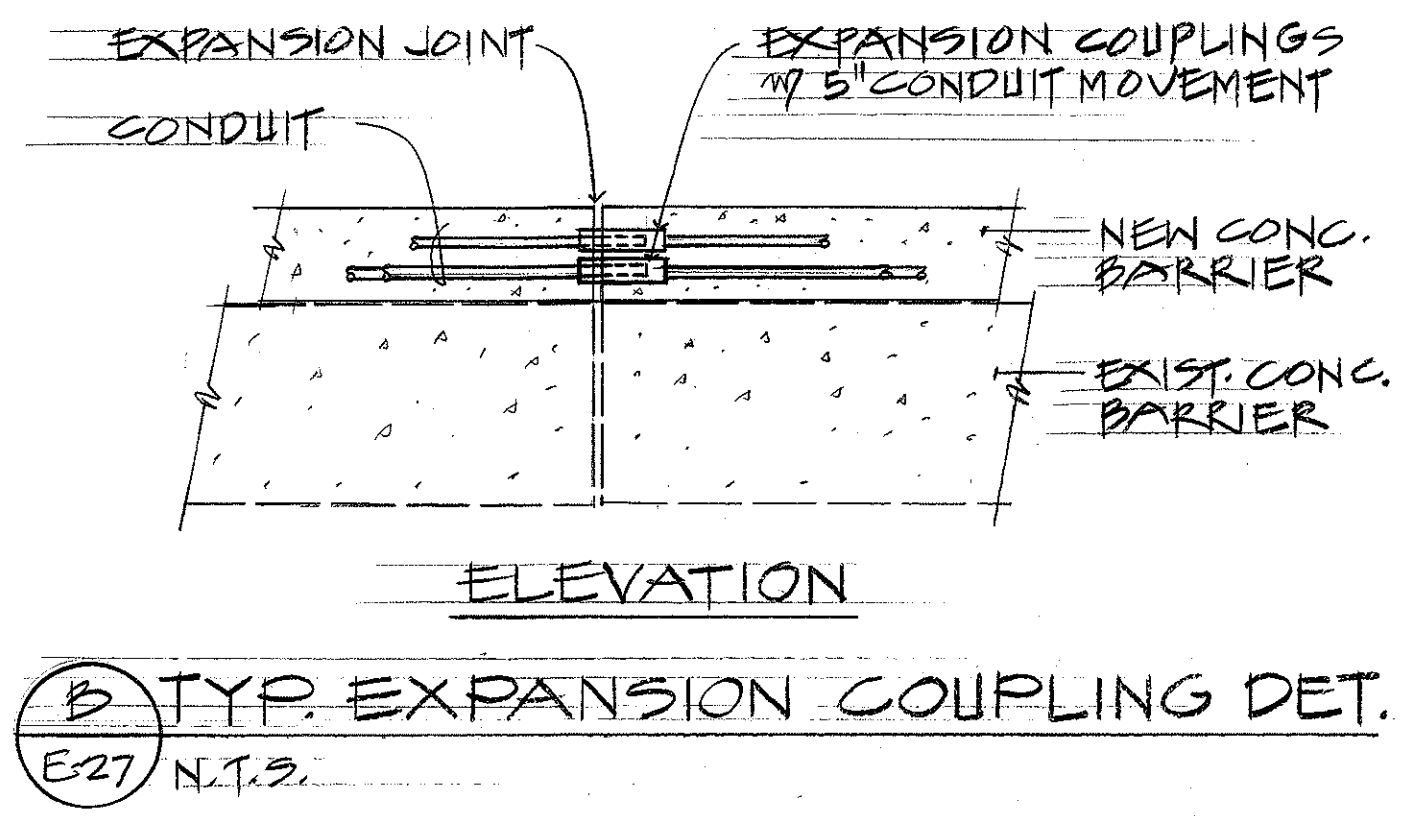
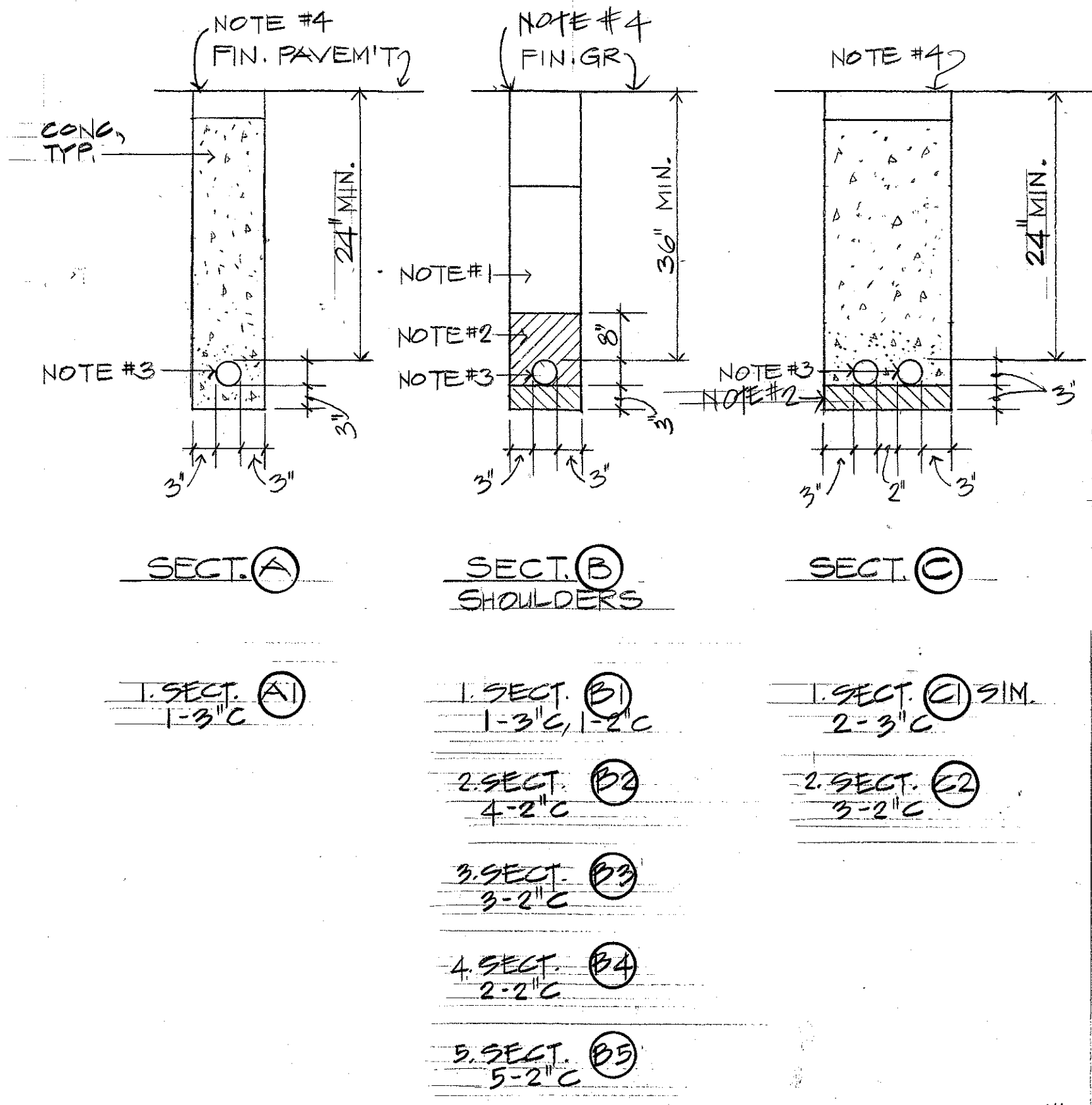
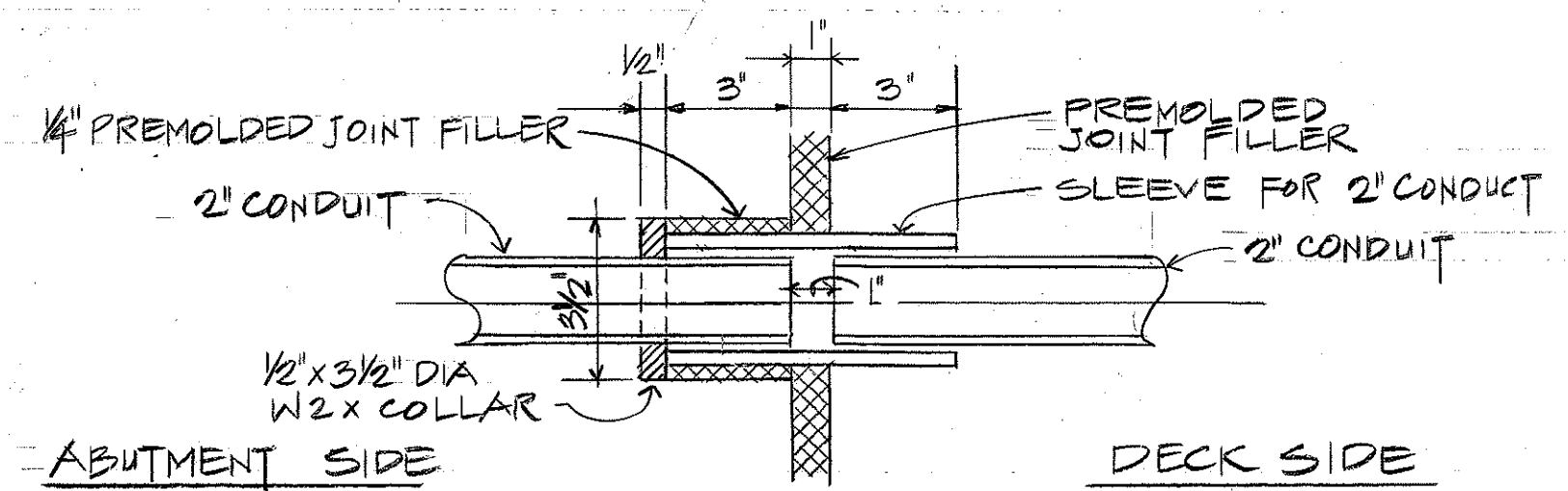


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(186)	1987	92	97

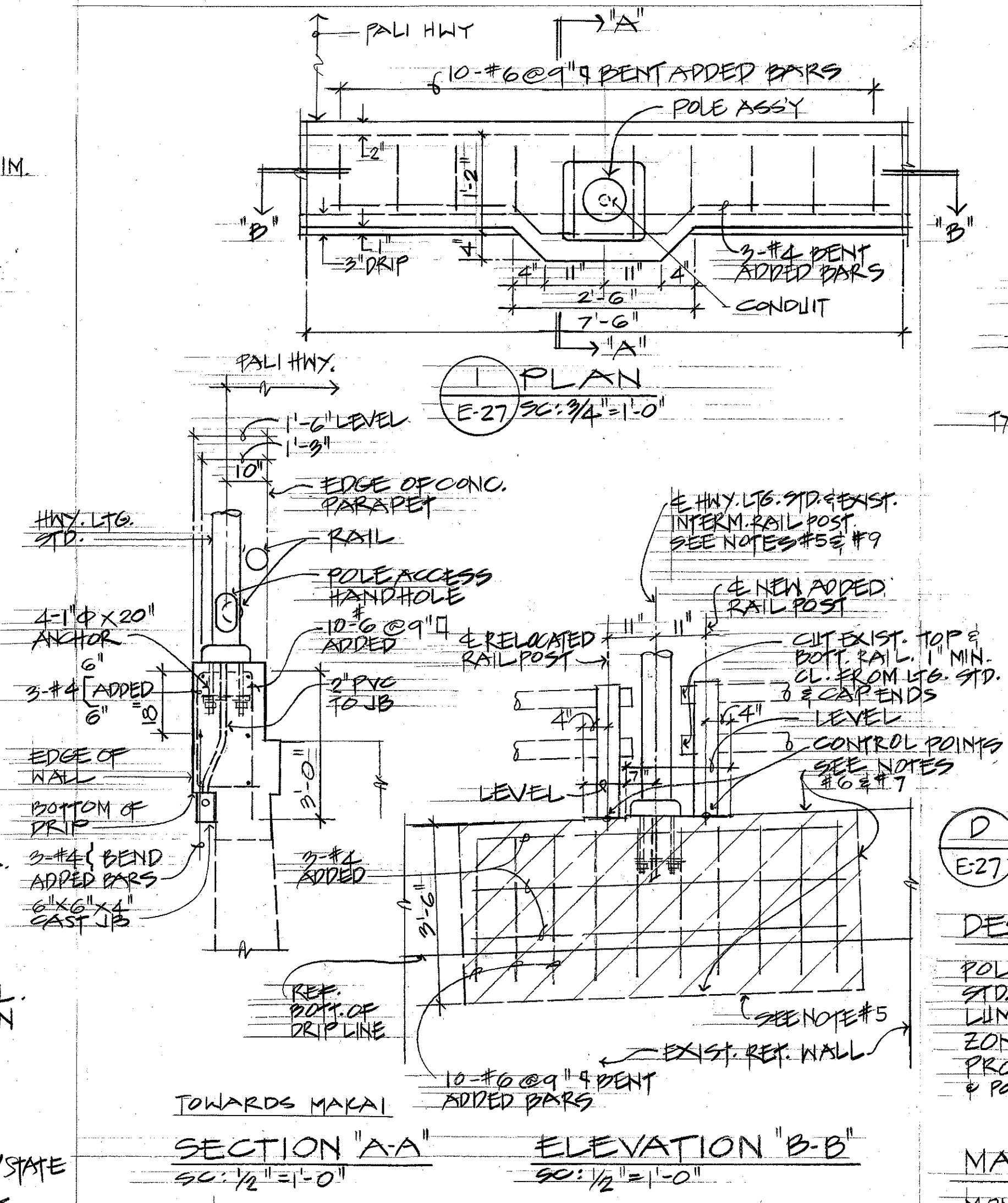


A DUCT SECTIONS E-27 N.T.S.

- NOTES:**
1. TYPE "A" BACKFILL, BEACH SAND, EARTH OR EARTH & GRAVEL. IF EARTH & GRAVEL THE MAX. ROCK SIZE SHALL BE 1" & THE MAX. SHALL NOT CONTAIN MORE THAN 50% BY VOLUME OF ROCK PARTICLES.
 2. TYPE "B" BACKFILL, BEACH SAND, EARTH OR EARTH & GRAVEL. IF EARTH & GRAVEL THE MAX. MUST PASS A 1/2" MESH SCREEN & CONTAIN NOT MORE THAN 20% BY VOLUME OF ROCK PARTICLES.
 3. CONDUIT, 2" PVC SCHEDULE 40 & 3" WHEN INDICATED.
 4. SAWCUT PAVEMENT OR CONC. WALK & REPAIR TO MATCH. COMPLY WITH STATE D.O.T. STD. SPECS. FOR ROAD & BRIDGE CONST. & SPECIAL PROVISIONS.



F BARRIER EXTENSION EXPANSION SLEEVE FOR CONDUIT AT ENDS OF BRIDGE E-27 N.T.S.



C LIGHT STANDARD AT EXIST. STRUC. E-27 N.T.S.

- NOTES:**
5. CENTER LINE OF LT. STD. 3'-0" MIN. FROM ANY LTS. & TO BE PLACED AT 1/2" OF EXIST. INTERM. RAIL POST. POSTS AT APPROX. STA. SHOWN ON HWY. LTG. PLAN.
 6. EXIST. STRUC. LIMITS OF REMOVAL OF EXIST. CONC. WALL SHOWN HATCHED AREA. REMOVE CONC. ONLY ALL EXIST. EXPOSED REINF. TO REMAIN & CLEANED EXIST. REINF. NOT SHOWN IN DETAILS.
 7. EXIST. STRUC. SAW CUT TOP & BOTH SIDES OF EXIST. WALL IN A STRAIGHT & CLEAN LINE TO THE PLANE OF THE OUTER EDGE OF THE REINF.
 8. DETAIL APPLICABLE HWY. LTG. POLES PAU HWY. (OUT BOUND) AT STA'S 40+70, 43+30
 9. REMOVE & RELOCATE EXIST. INTERM. RAIL POST AS SHOWN.

D HWY. LTG. STANDARD ON PARAPET E-27 N.T.S.

- DESIGN CRITERIA**
- POLE ADAPTORS ARE TO BE IN ACCORDANCE WITH THE 1975 "AASHTO" STD. SPECS. FOR STRUC. SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES & TRAFFIC SIGNALS FOR A 100 MPH WIND ZONE WHEN SUPPORTING LUMINAIRES HAVING A MAX. PROJ. AREA OF 3.3 SQ. FT. & MAX. HEIGHT OF 75 LBS. EACH & POLE ASSY 450 LBS. APPROX.

- MATERIAL SPECIFICATION**
- MONOTUBE - ASTM - A595 GR. A
PLATE - ASTM - A96
PIPE - ASTM - A593 GR. B

- FINISH**
- H.D. GALV. PER ASTM - A123 AFTER FABRICATION

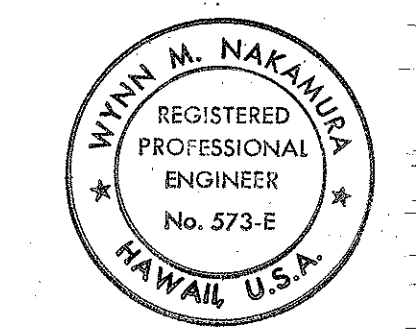
E HWY. LTG. STANDARD ON PARAPET ADAPTOR E-27 N.T.S.

- DESIGN CRITERIA**
- POLE ADAPTORS ARE TO BE IN ACCORDANCE WITH THE 1975 "AASHTO" STD. SPECS. FOR STRUC. SUPPORTS FOR HWY. SIGNS LUMINAIRES & TRAFFIC SIGNALS FOR A 100 MPH WIND ZONE WHEN SUPPORTING LUMINAIRES HAVING A MAX. PROJ. AREA OF 3.3 SQ. FT. & MAX. HEIGHT OF 75 LBS. EACH & POLE ASSY 450 LBS. APPROX.

- MATERIAL SPECIFICATION**
- MONOTUBE - ASTM - A595 GR. A
PLATE - ASTM - A96
PIPE - ASTM - A593 GR. B

- FINISH**
- H.D. GALV. PER ASTM - A123 AFTER FABRICATION

WYNN M. NAKAMURA, OYAMA & ASSOC., INC.
REGISTERED PROFESSIONAL ENGINEER
No. 573-E
HAWAII U.S.A.



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISC. ELECTRICAL DETS.

INTERSTATE ROUTE H-1
HIGHWAY LIGHTING IMPROVEMENTS
AALA STREET TO PINCHBOWL STREET
KEEKAUMOKI STREET TO OLD WALAIE ROAD
PROJECT NO. IR-HI-1(186)

SCALE: AS NOTED DATE: 30 JAN '87

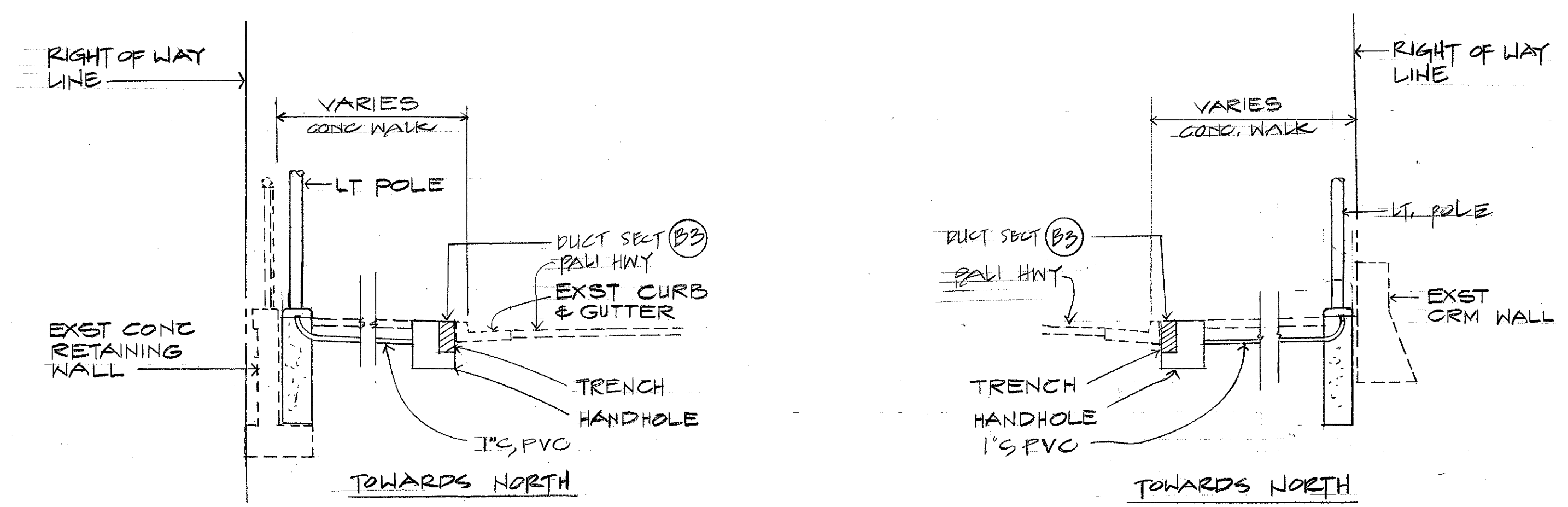
SHEET NO. E-27 OF 32 SHEETS

WYNN M. NAKAMURA
REGISTERED PROFESSIONAL ENGINEER
No. 573-E
HAWAII U.S.A.

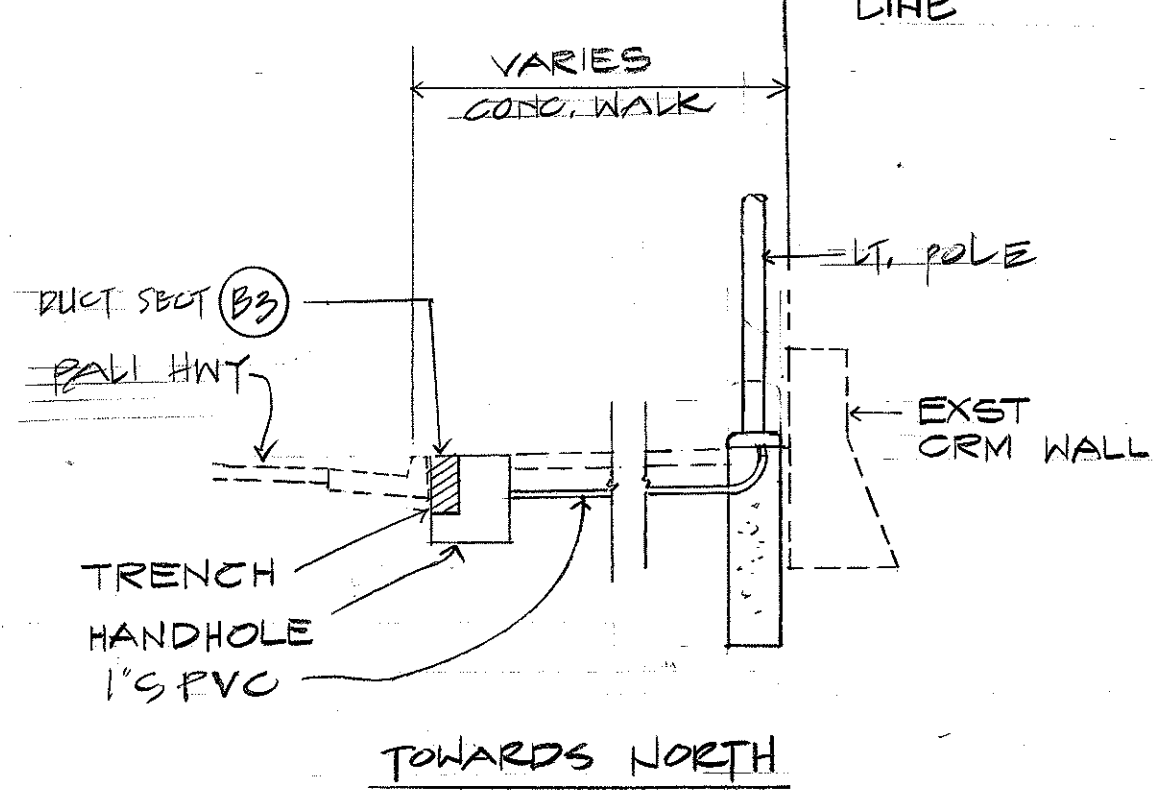
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SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTE BOOK	
CHECKED BY	
ORIGINAL PLAN	

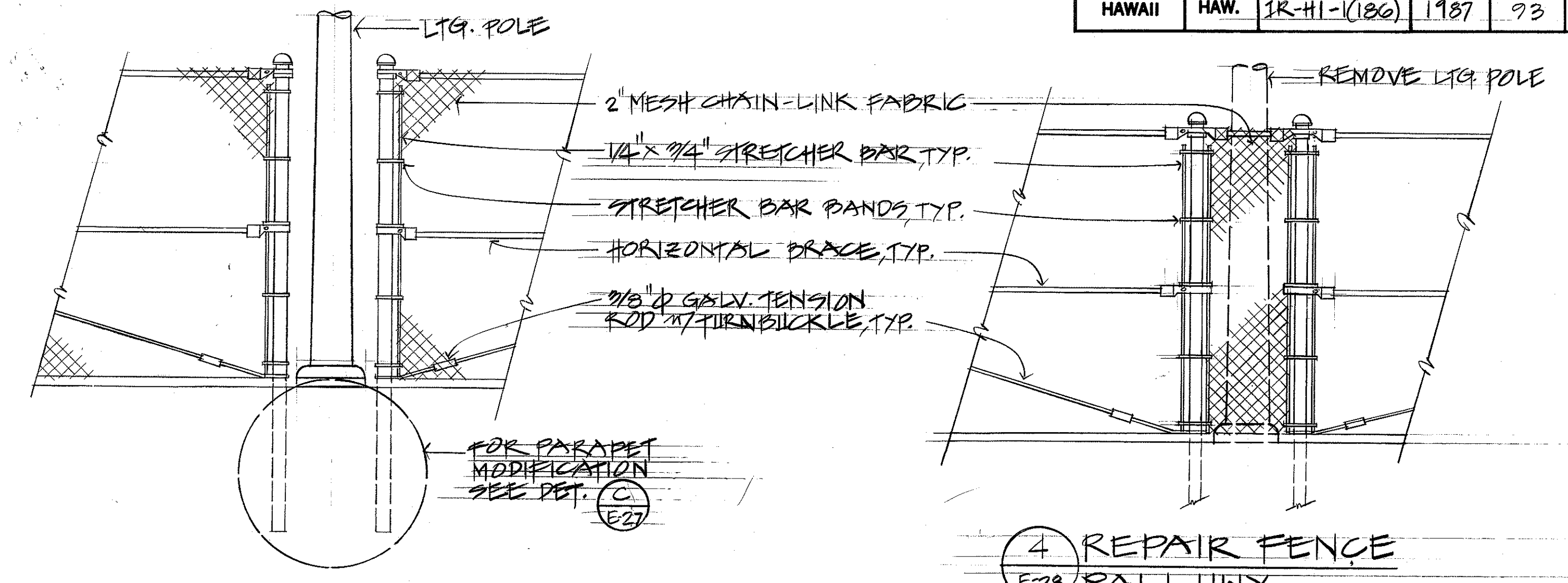
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1R-HI-1(186)	1987	93	97



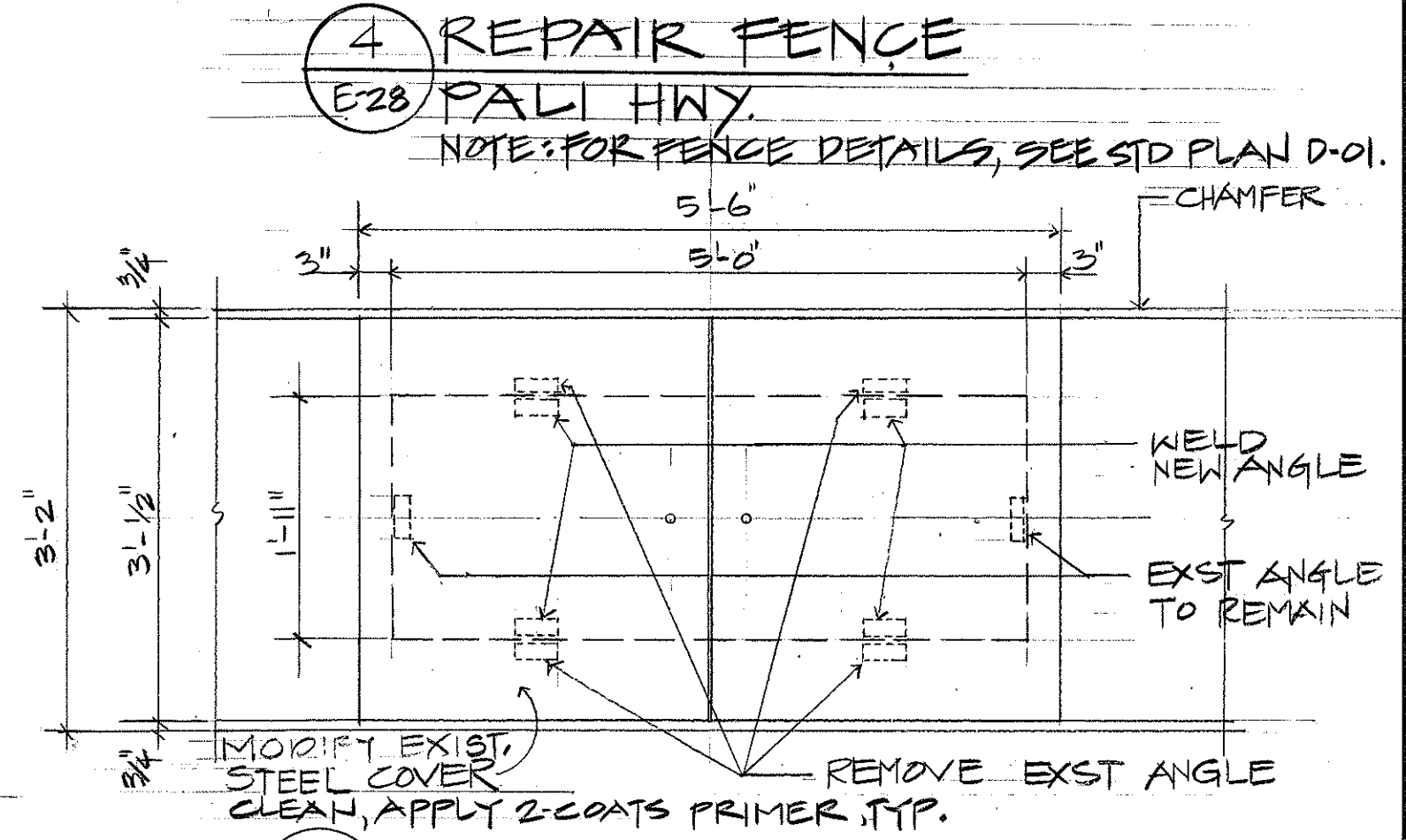
A PALI HWY
E-28
STA 27+25 TO STA 33+82
STA 12+00 TO STA 20+00 SIMILAR
SCALE: 1"=5'-0" EXCEPT FOUNDATION AT RIGHT OF WAY LINE.



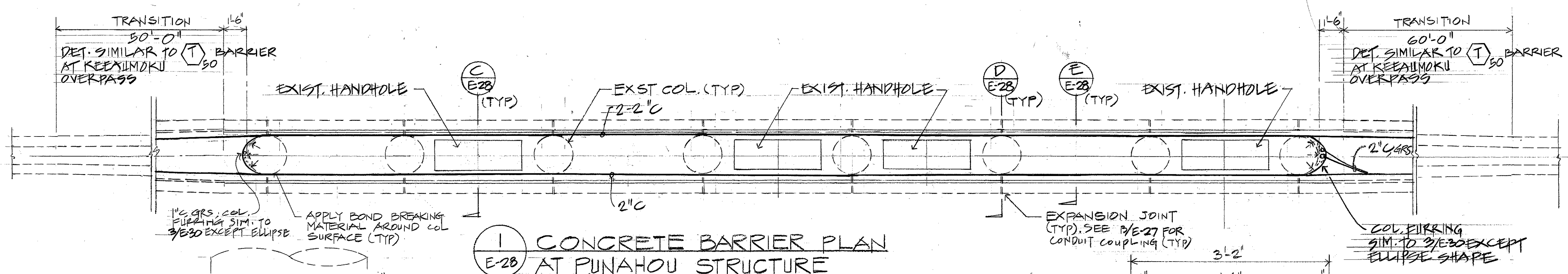
B PALI HWY
E-28
STA 28+00 TO STA 28+71
STA 30+25 TO STA 31+50 SIMILAR
STA 12+00 TO STA 20+00 SIMILAR
SCALE: 1"=5'-0"



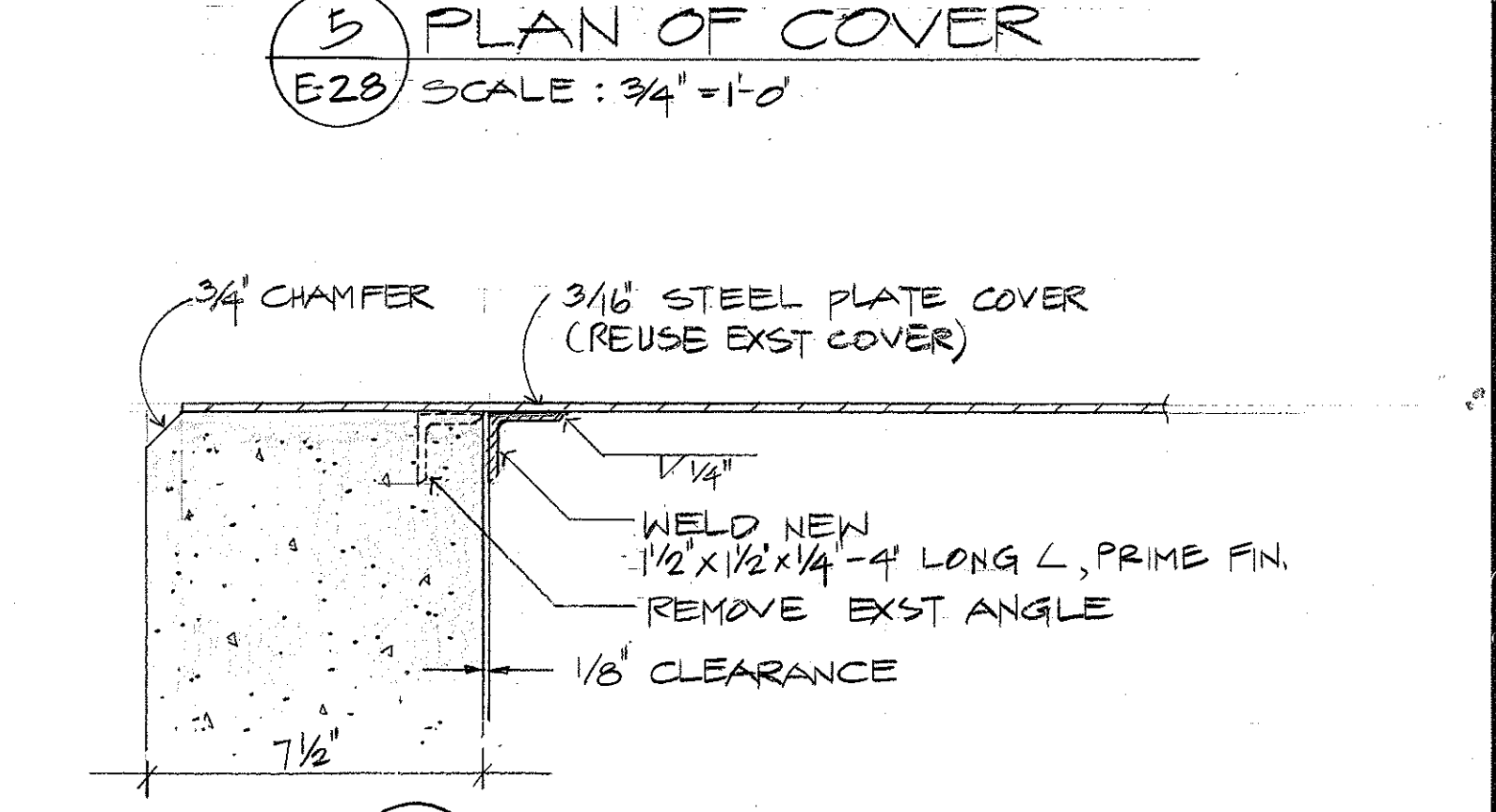
3 FENCE MODIFICATION
E-28 PALI HWY.
NOTE: FOR FENCE DETAILS, SEE STD PLAN D-01.



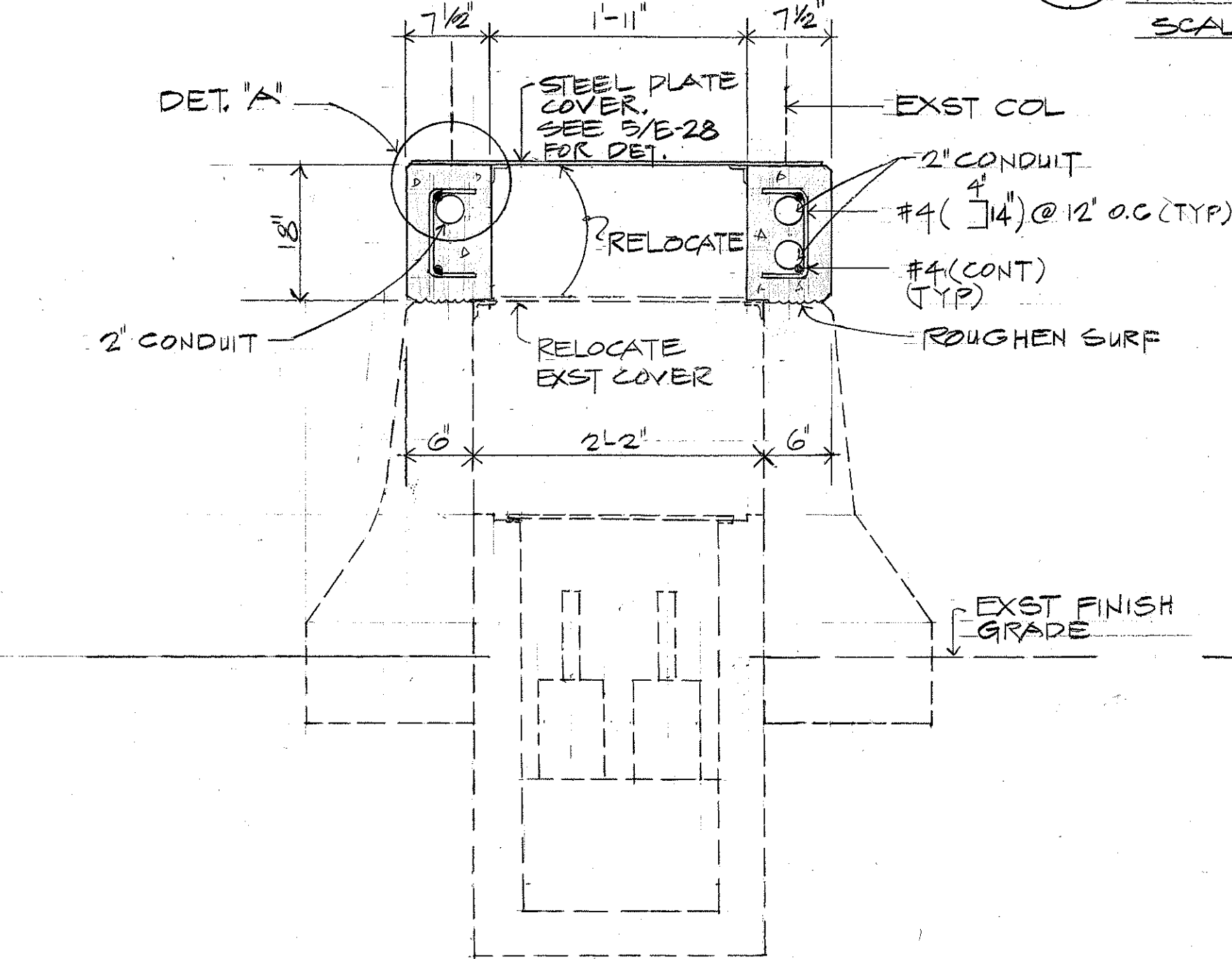
4 REPAIR FENCE
E-28 PALI HWY.
NOTE: FOR FENCE DETAILS, SEE STD PLAN D-01.



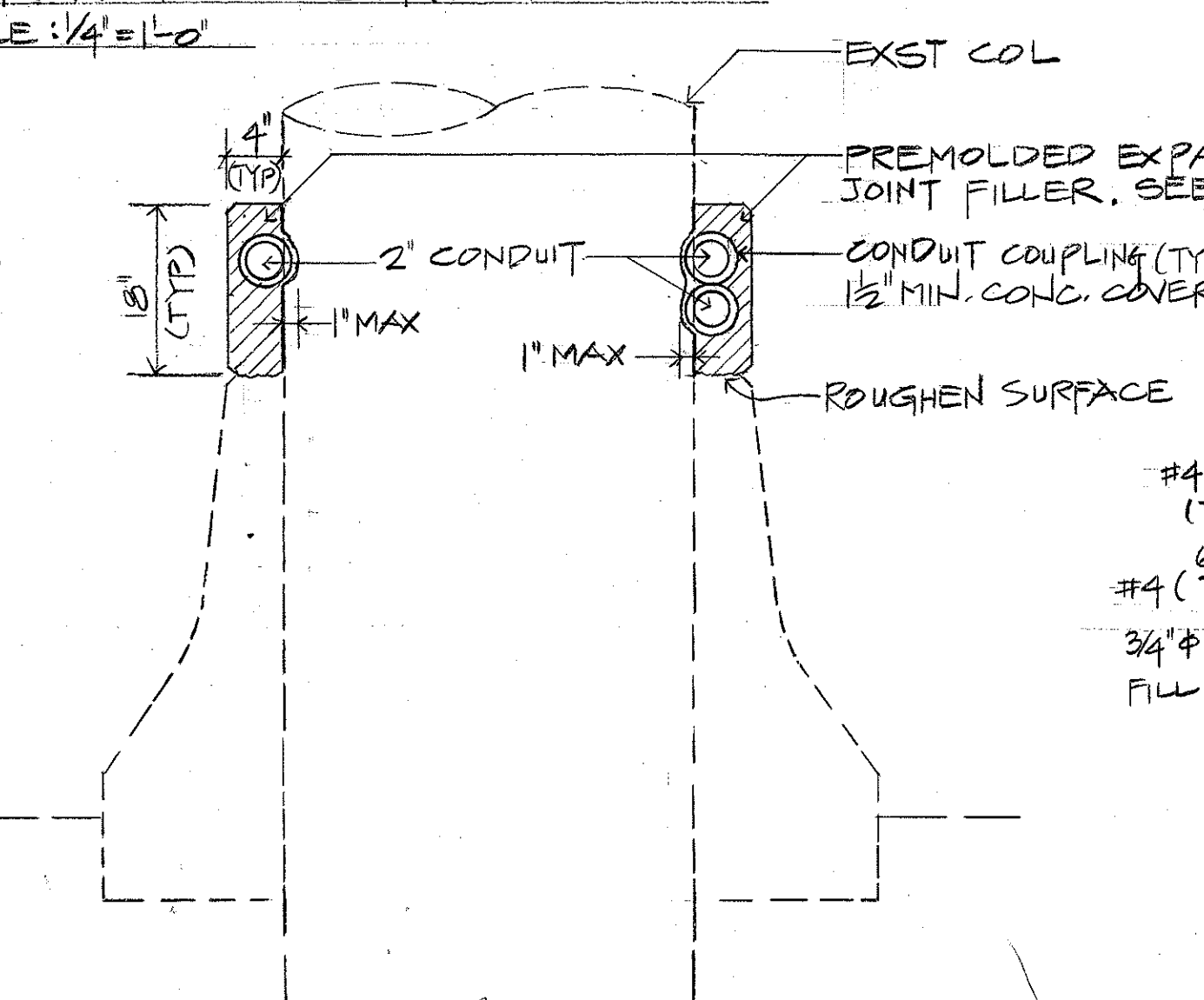
1 CONCRETE BARRIER PLAN AT PUNAHOU STRUCTURE
E-28
SCALE: 1/4"=1'-0"



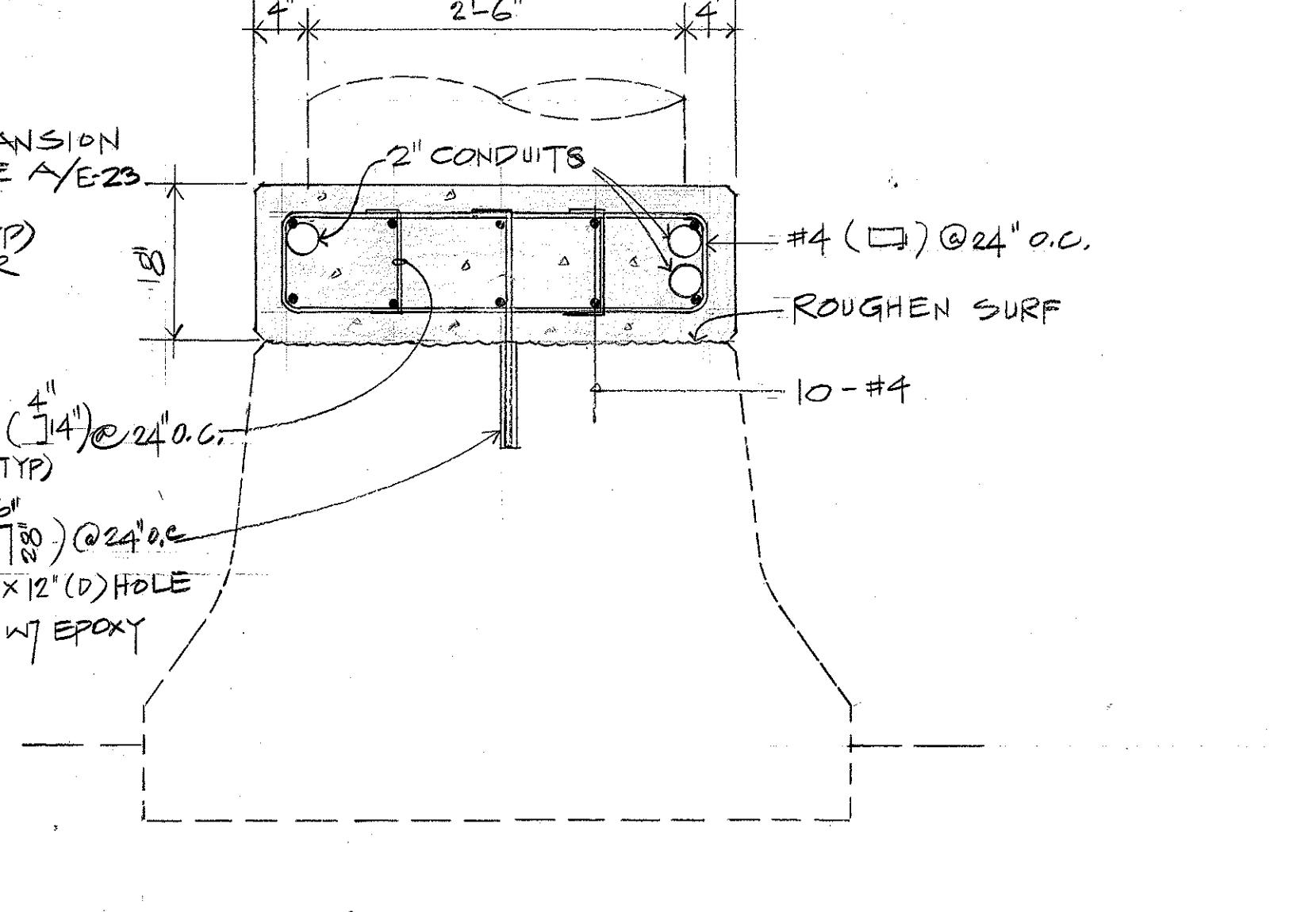
5 PLAN OF COVER
E-28 SCALE: 3/4"=1'-0"



C SECTION AT HANDHOLE
E-28
SCALE: 1"=1'-0"



D SECTION AT COLUMN
E-28
SCALE: 1"=1'-0"

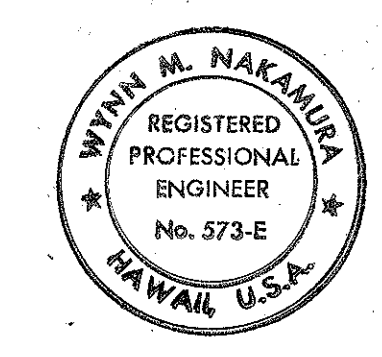


E SECTION - TYPICAL
E-28
SCALE: 1"=1'-0"

6 DETAIL "A"
E-28
SCALE: 3/8"=1'-0"
NOTE: RELOCATE EXST STEEL PLATE COVER AFTER MODIFICATION AS SHOWN

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

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One Kapiolani Blvd., Suite 403
600 Kapiolani Blvd.
Honolulu, Hawaii 96813

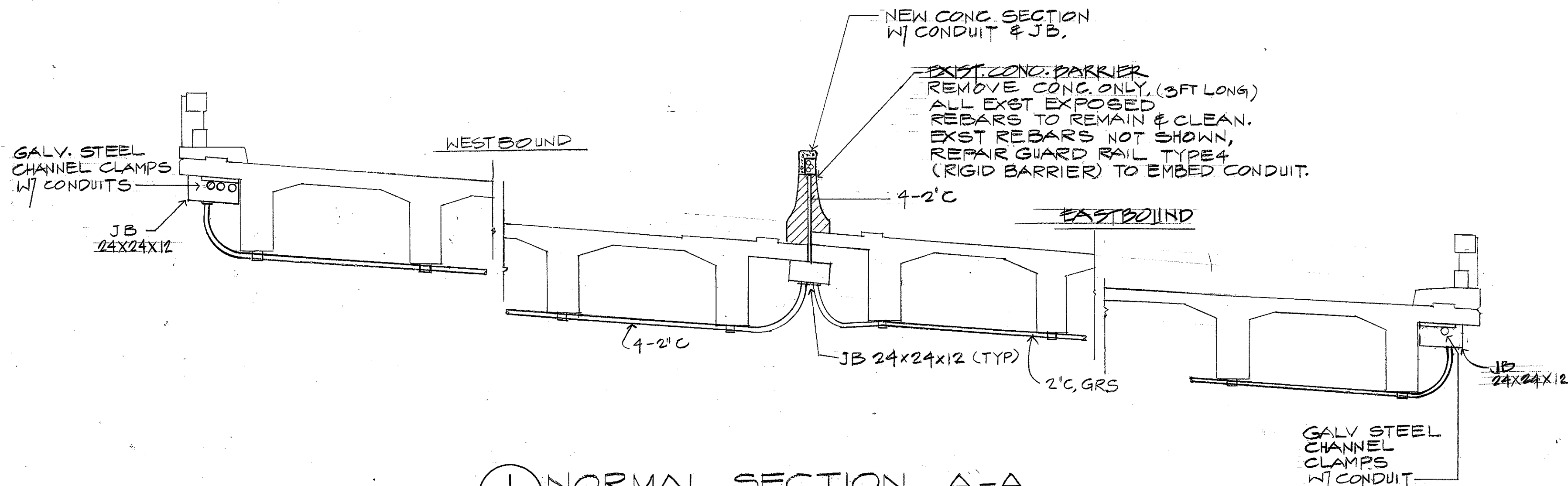


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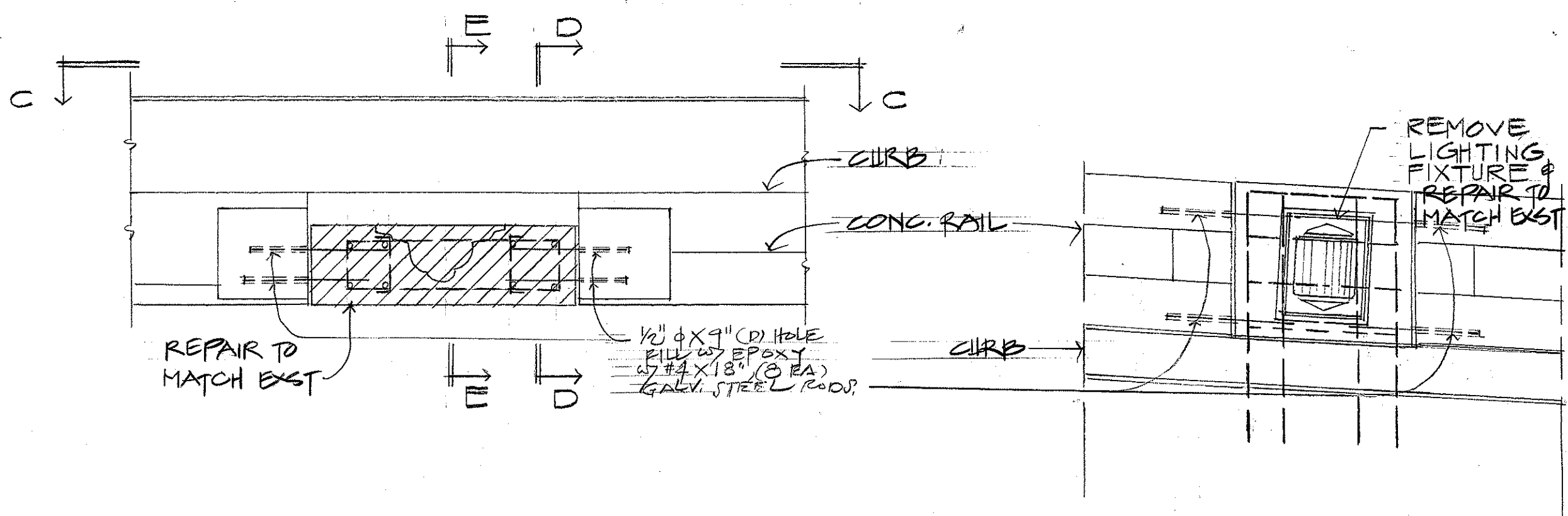
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MISC. ELECTRICAL DETS.

INTERSTATE ROUTE H-1
HIGHWAY LIGHTING IMPROVEMENTS
AALA STREET TO PUNCHBOWL STREET
KEEAUMOKU STREET TO OLD KAAIA LAE ROAD
PROJECT NO. 1R-HI-1 (186)
SCALE: AS NOTED
DATE: 30 JAN '87
SHEET NO. E-28 OF 32 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(186)	1987	94	97

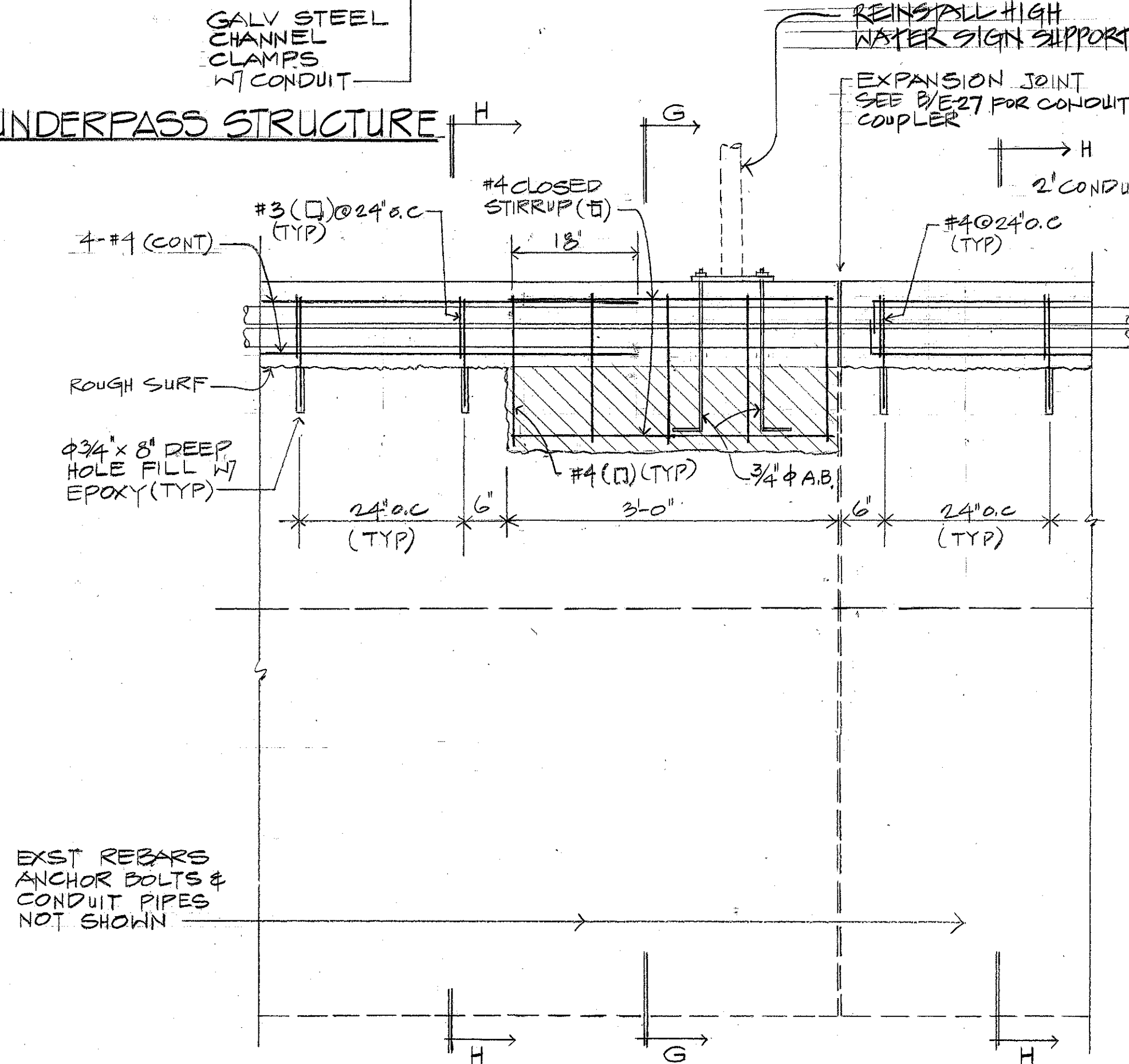


1 NORMAL SECTION A-A
E29 RACEWAYS AT UNIVERSITY AVE UNDERPASS STRUCTURE
SCALE: 1/4" = 1'-0"

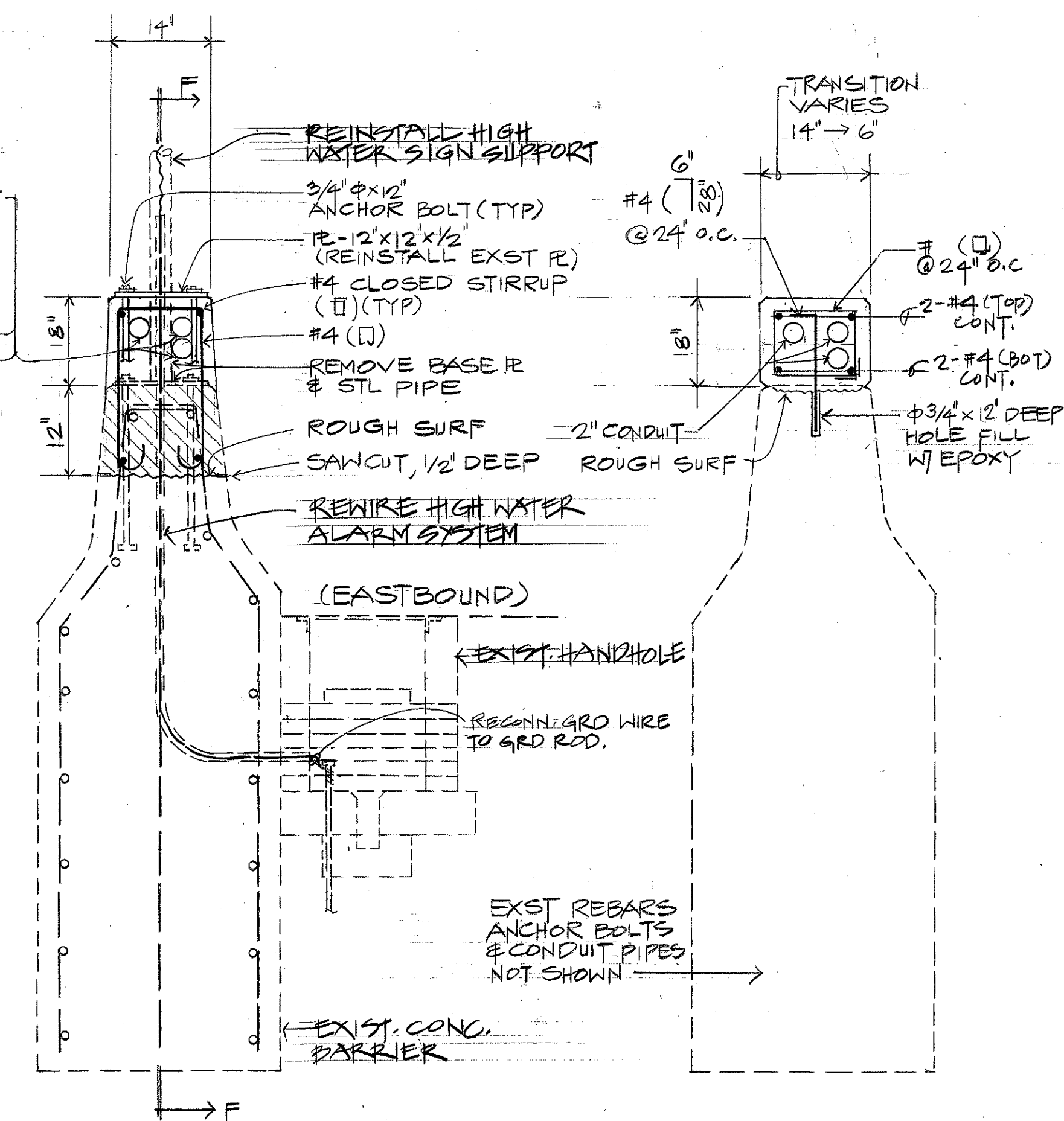


TYPICAL PLAN B-B
SCALE: 3/4" = 1'-0"

ELEVATION C-C
SCALE: 1/2" = 1'-0"

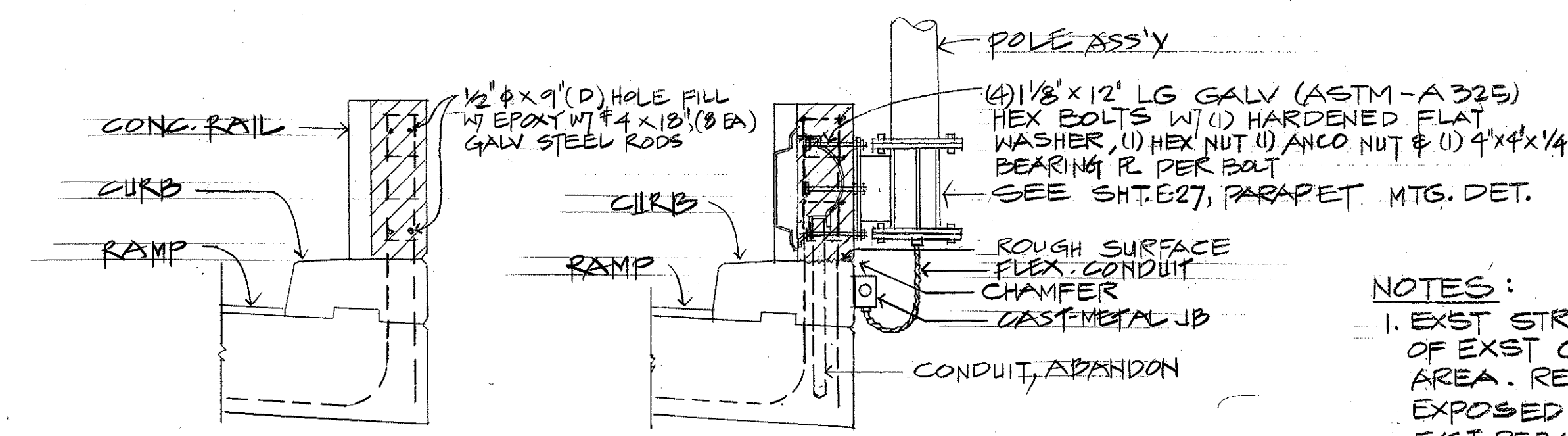


SECTION F-F
SCALE: 3/4" = 1'-0"



SECTION G-G
SCALE: 3/4" = 1'-0"

SECTION H-H
SCALE: 3/4" = 1'-0"



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

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

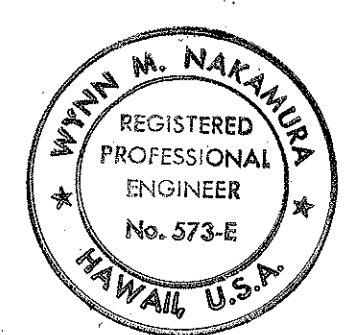
NOTES:
1. EXST STRUC. LIMITS OF REMOVAL OF EXST CONC. WALL SHOWN HATCHED AREA. REMOVE CONC ONLY. ALL EXST EXPOSED REBARS TO REMAIN & CLEANED. EXST REBARS NOT SHOWN IN DETAILS. REPAIR TO MATCH W/ CONC.

2 HIGH WATER ALARM SIGN AND EQUIPMENT CABINET
E29 AT STA. 235+22 ±

2 LIGHT STANDARD AT EXISTING STRUCTURE
E29 RAMP U-1

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

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One Kapiolani Blvd., Suite 408
Honolulu, Hawaii 96813

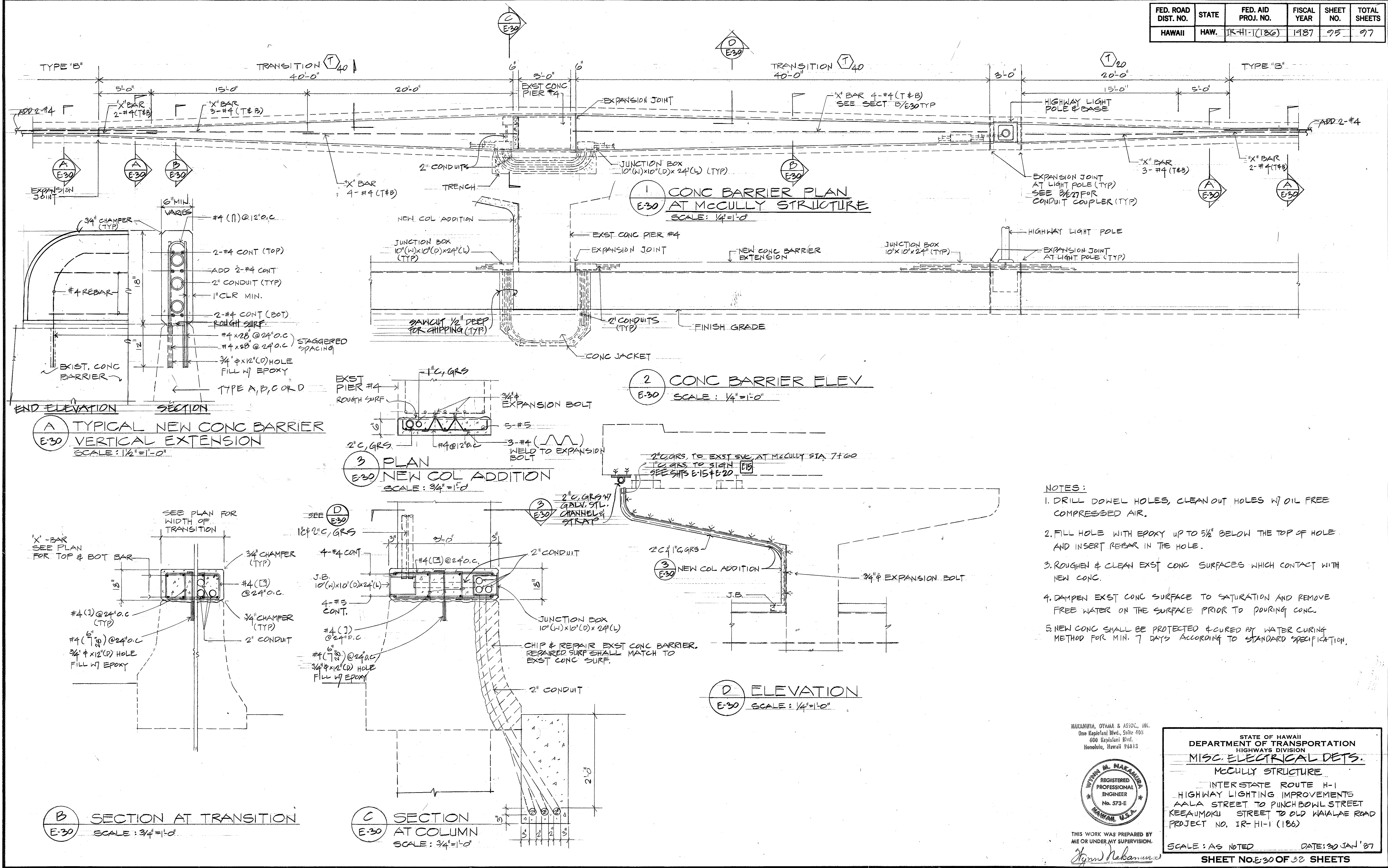


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HIGHWAYS DIVISION

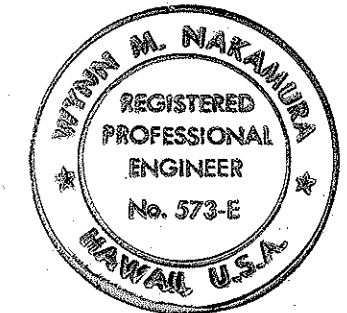
MISC. ELECTRICAL DETS.
INTERSTATE ROUTE H-1
HIGHWAY LIGHTING IMPROVEMENTS
AALA STREET TO PUNCHBOWL STREET
KEEAUMOKU STREET TO OLD WAIALAE ROAD
PROJECT NO. IR-HI-1(186)
SCALE: AS NOTED
DATE: 30 JAN 87
SHEET NO. E-29 OF 32 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1 (186)	1987	95	97



DATE	_____
SURVEY PLANNED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
NOTED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
QUANTITIES BY	_____
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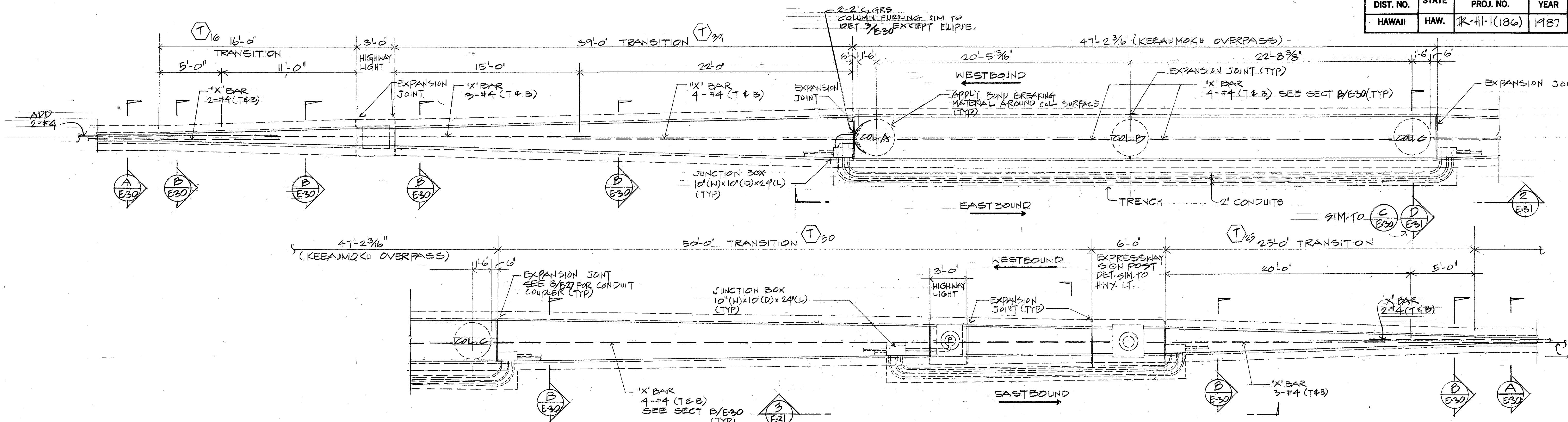
NAKAMURA, OYAMA & ASSOC., INC.
One Kapiolani Blvd., Suite 400
Honolulu, Hawaii 96813



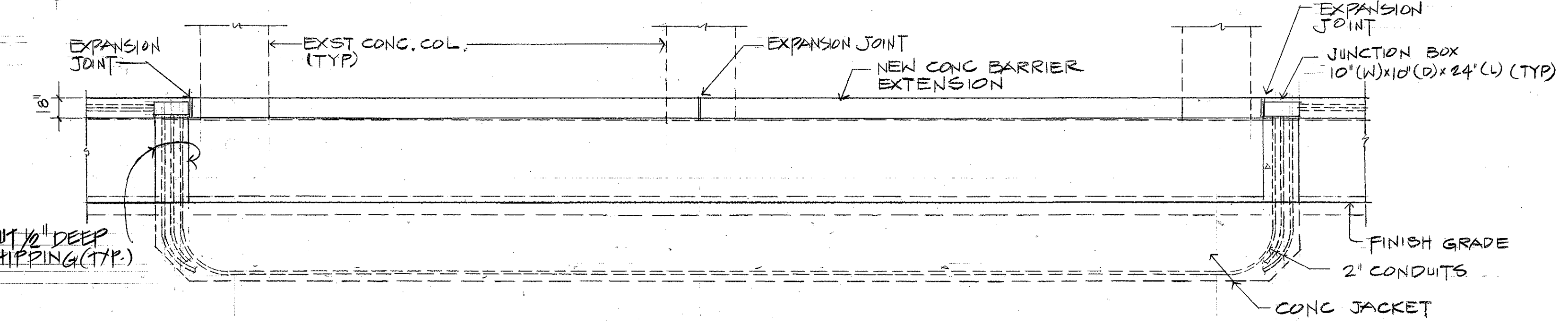
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MISC. ELECTRICAL DETS.
MCCULLY STRUCTURE
INTERSTATE ROUTE H-1
HIGHWAY LIGHTING IMPROVEMENTS
AALA STREET TO PUNCHBOWL STREET
KEEAUMOKU STREET TO OLD WAIALAE ROAD
PROJECT NO. IR-HI-1 (186)
SCALE: AS NOTED DATE: 30 JAN '87
SHEET NO. E-30 OF 32 SHEETS

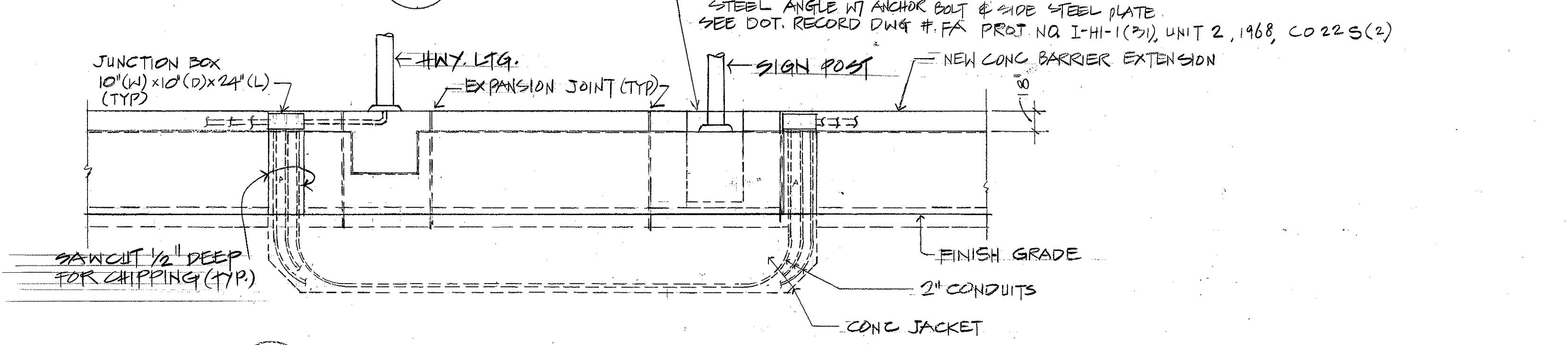
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(186)	1987	96	97



1 CONC. BARRIER PLAN
AT KEEAUMOKU STRUCTURE
SCALE: 1/4"=1'-0"

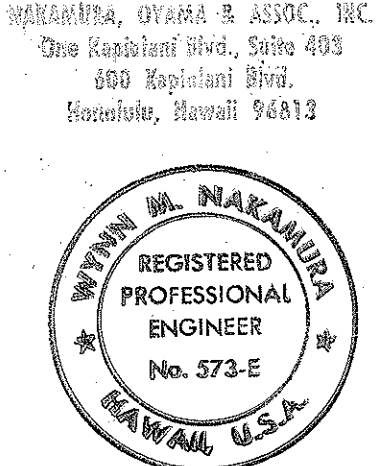


2 CONC. BARRIER ELEV.
SCALE: 1/4"=1'-0"



3 CONC. BARRIER ELEV.
SCALE: 1/4"=1'-0"

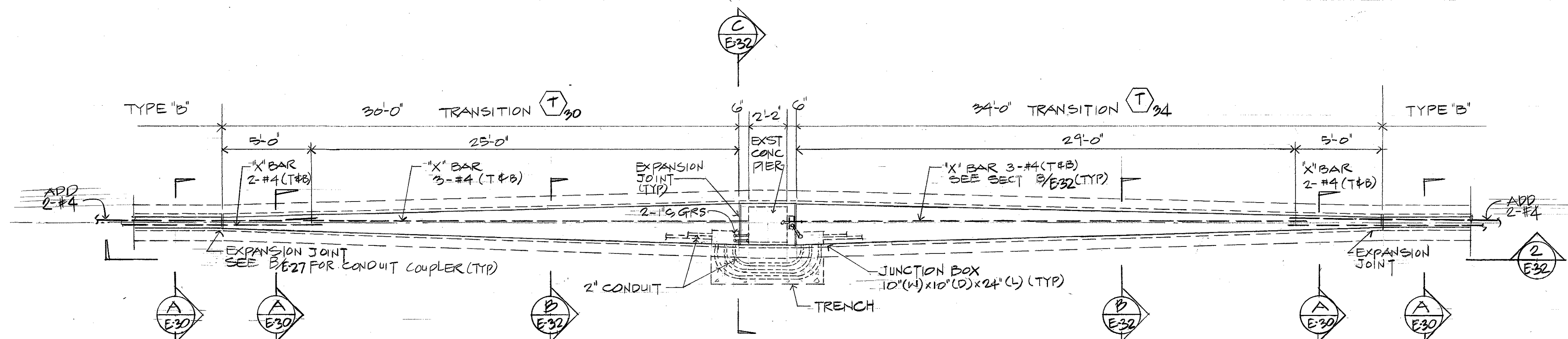
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
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CHECKED BY	



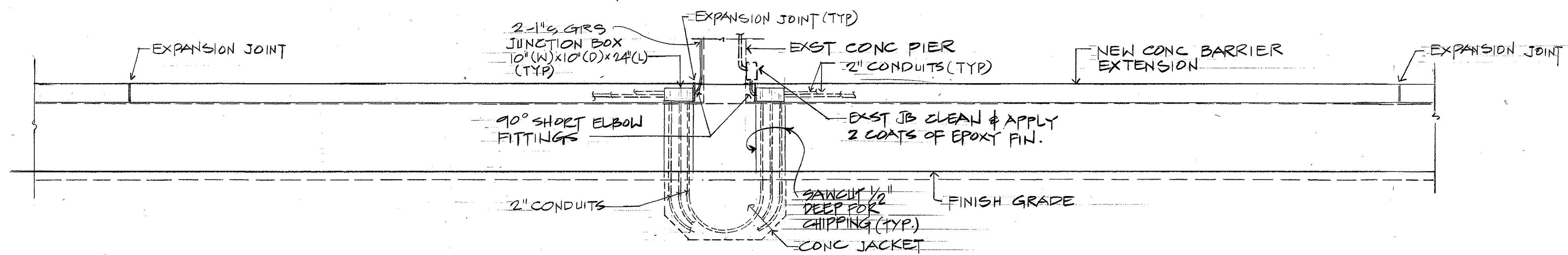
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MISC. ELECTRICAL DETS.
KEEAUMOKU STRUCTURE
INTERSTATE ROUTE H-1
HIGHWAY LIGHTING IMPROVEMENTS
AALA STREET TO PUNCHBOWL STREET
KEEAUMOKU STREET TO OLD WAIALAE ROAD
PROJECT NO. IR-HI-1 (186)
SCALE: AS NOTED DATE: 30 JAN '87
SHEET NO. E-31 OF 32 SHEETS

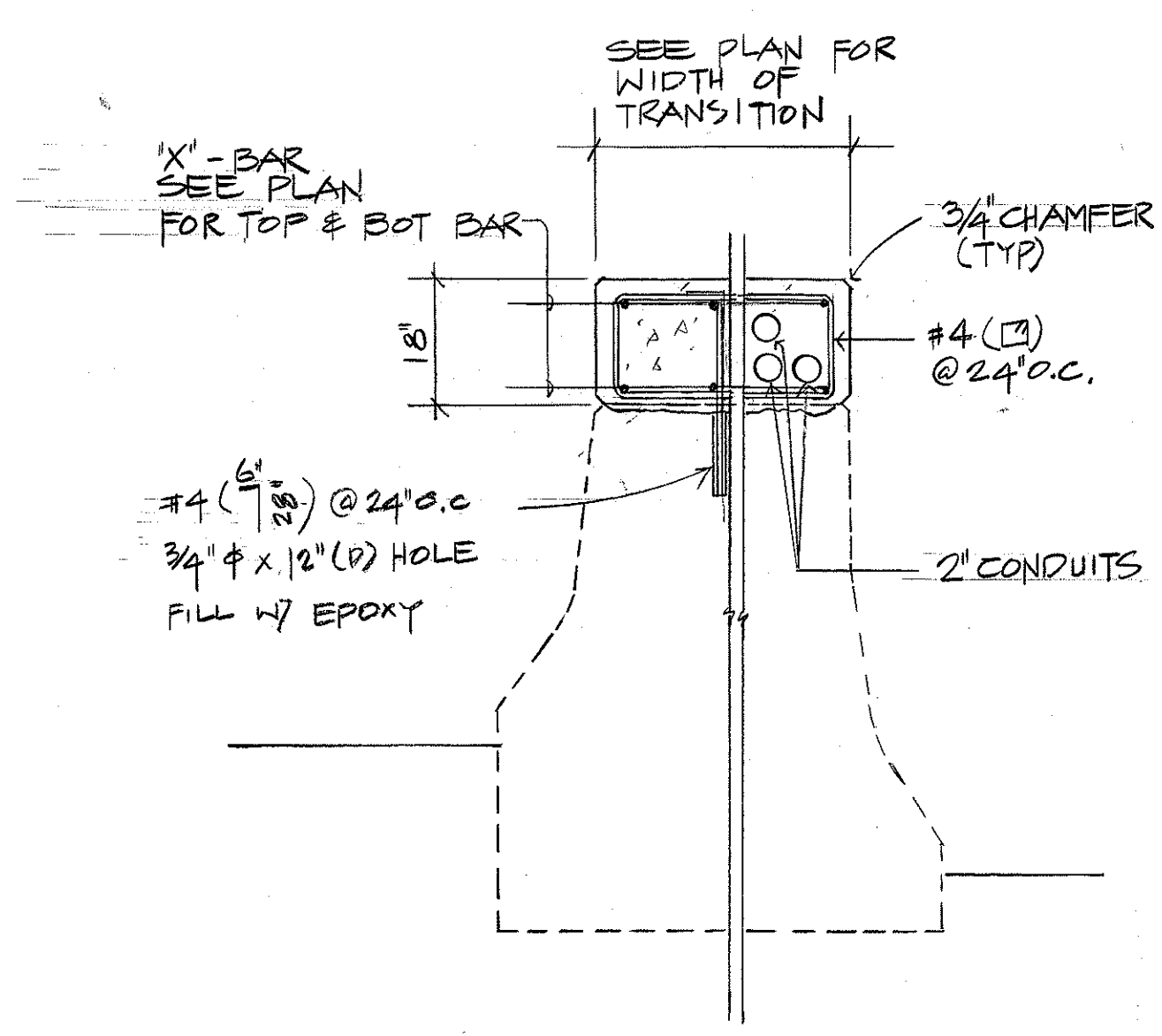
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(186)	1987	97	97



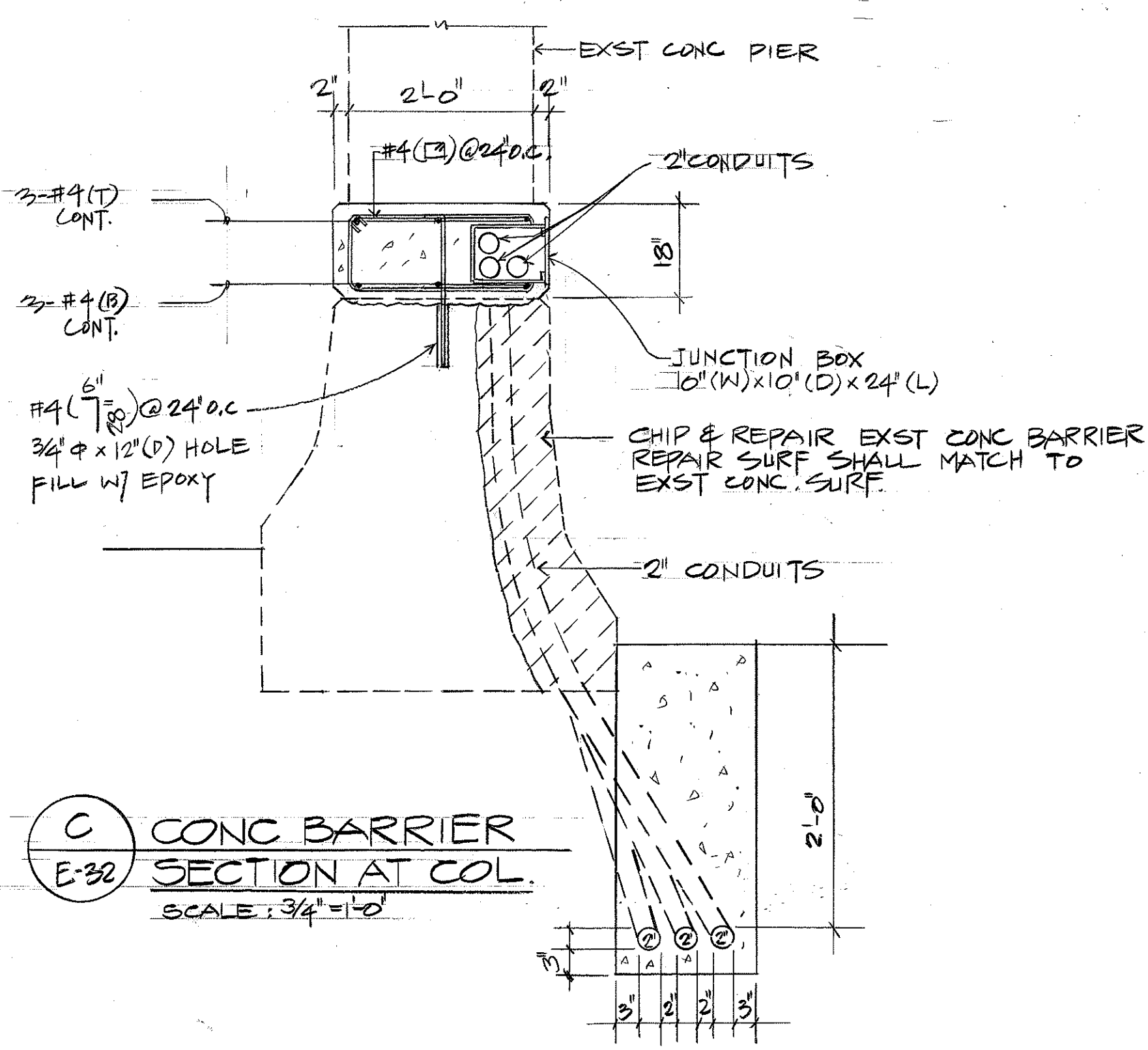
1 CONC BARRIER PLAN
E-32 AT MCCULLY PEDESTRIAN STRUCTURE
SCALE: 1/4" = 1'-0"



2 CONC BARRIER ELEVATION
E-32 SCALE: 1/4" = 1'-0"



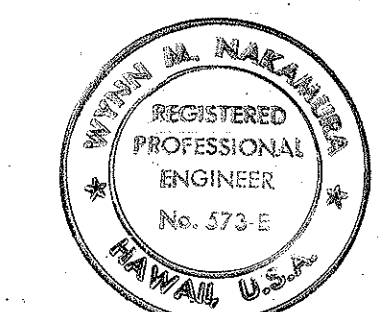
B CONC BARRIER SECTION
E-32 AT TRANSITION
SCALE: 3/4" = 1'-0"



C CONC BARRIER SECTION
E-32 AT COL.
SCALE: 3/4" = 1'-0"

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

MAKABURA, OYAKA & ASSOC., INC.
One Kapiolani Blvd., Suite 403
Honolulu, Hawaii 96813



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H. Makabura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MISC. ELECTRICAL DETS.
MCCULLY PEDESTRIAN STRUC.
INTERSTATE ROUTE HI-1
HIGHWAY LIGHTING IMPROVEMENTS
AALA STREET TO PUNCHBOWL STREET
KEEAUMOKU STREET TO OLD WAIALAE ROAD
PROJECT NO. IR-HI-1 (186)
SCALE: AS NOTED DATE: 30 JAN '87
SHEET NO. E32 OF 32 SHEETS