

FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	ADD. 114	238

NOTES:

- REFERENCE STATIONS ARE MEASURED ALONG BASELINE OF KAHKILI HIGHWAY UNLESS NOTED OTHERWISE.
- THE ASSUMED SIZE FOR THE MECHANICALLY STABILIZED EARTH RETAINING WALL (MSERW) PANELS IS 5'-0" X 5'-0" ACTUAL SIZE AND SHAPE (SQUARE, "CRUCIFORM", HEXAGONAL, ETC.) WILL BE DETERMINED BY THE ACTUAL MSERW SYSTEM CHOSEN.
- MSERW PANELS ALONG CURVES WILL BE FORMED BY A SERIES OF CHORDS TO MATCH, AS CLOSELY AS POSSIBLE, THE DESIRED WALL ALIGNMENT, EXCEPT AS NOTED AND APPROVED BY THE ENGINEER.
- TOP OF FOOTING (T.O.F.) ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE. FINAL T.O.F. ELE-VATIONS WILL BE DETERMINED BY ACTUAL SITE CONDITIONS AND THE MSERW MANUFACTURER. SHOP DRAWINGS INDICATING ACTUAL T.O.F. ELEVATIONS SHALL BE PREPARED BY THE CONTRAC-TOR AND SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. FINAL T.O.F. ELEVATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF THE CONCRETE LEVELING PAD.
- CONCRETE LEVELING PAD SIZE AND REINFORCING SHALL BE DETERMINED BY THE MSERW MANUFACTURER.
- EXPANSION JOINTS (96'-0" MAXIMUM) AND CONTROL JOINTS (32'-0") SHALL BE PROVIDED FOR C.I.P. CONCRETE CAP, CONCRETE BARRIER AND FOOTING. ACTUAL SPACINGS OF JOINTS, DETAILS AND REINFORCING SHALL BE DETERMINED BY THE MSERW MANUFACTURER AND APPROVED BY THE ENGINEER.
- BRACE ALL C.I.P. (CAST-IN-PLACE) STRUCTURES AS REQUIRED DURING CONSTRUCTION.
- MSERW MANUFACTURER TO VERIFY THE ADEQUACY OF THE REINFORCING STEEL FOR THE VARIOUS STRUCTURES. ADDITIONAL REINFORCING STEEL FOR A PARTICULAR SYSTEM SHALL BE ADDED, AS REQUIRED BY THE MSERW MANUFACTURER. NO PAYMENT SHALL BE MADE FOR ADDITIONAL REINFORCING STEEL REQUIRED FOR THE DESIGN OF THE PARTICULAR MSERW SYSTEM USED
- FINISH FOR MSERW SHALL BE:
 - SMOOTH SURFACE
 - HEAVY SANDBLAST TEXTURE FINISH USING FORMLINERS FOR PRECAST CONCRETE WALL PANEL AND DRAIN INLET
 - SMOOTH SURFACE
 - LIGHT SANDBLAST TEXTURE FINISH USING FORMLINERS FOR CONCRETE BARRIER AND CAP.

INSPECTION ELEMENT NOTES:

- INSPECTION ELEMENTS FOR INSPECTING CORROSION OF METAL REINFORCING STRIP OR MESH AT FUTURE DATE SHALL BE INSTALLED ON EACH MSERW AT A UNIFORM SPACING OF 50 FEET (MAXIMUM HORIZONTALLY ALONG THE WALL. THE INSPECTION ELEMENTS SHALL BE LOCATED VERTICALLY IN THE FIRST EXPOSED PANELS ABOVE FINAL FINISH GRADE.
- INSPECTION ELEMENTS SHALL BE FABRICATED FROM AN ELEMENT REPRESENTATIVE OF THE ELEMENTS USED TO STABILIZE THE WALL.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS INDICATING LOCATIONS OF THE INSPECTION ELE-MENTS ON EACH WALL, COMPLETE DETAILS OF THE INSPECTION ELEMENT INSTALLATION AND PROVISIONS FOR REMOVAL OF THESE ELEMENTS.
- INSPECTION ELEMENTS WILL NOT BE MEASURED AND SHALL BE CONSIDERED INCIDENTAL TO MSERW MATERIAL AND NO SEPARATE PAYMENT SHALL BE MADE.



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[Signature]
KONG, INC.
850 PARK ENGINEERING

NOTE:
CONCRETE COLLARS BEHIND MSERW WILL NOT BE MEASURED SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO RCP AND NO SEPARATE PAYMENT SHALL BE MADE.

6/07/94	REVISED CONC. BARRIER DETAIL
DATE	REVISION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION MECHANICALLY STABILIZED EARTH RETAINING WALL (MSERW) TYPICAL SECTION AND DETAILS KAHKILI HIGHWAY WIDENING Likelike Hwy. to Vicinity of Haiku Road F.A. PROJECT NO. NH-083-1(26) SCALE: AS NOTED DATE: APRIL 1994 SHEET No. W1 OF W21 SHEETS	
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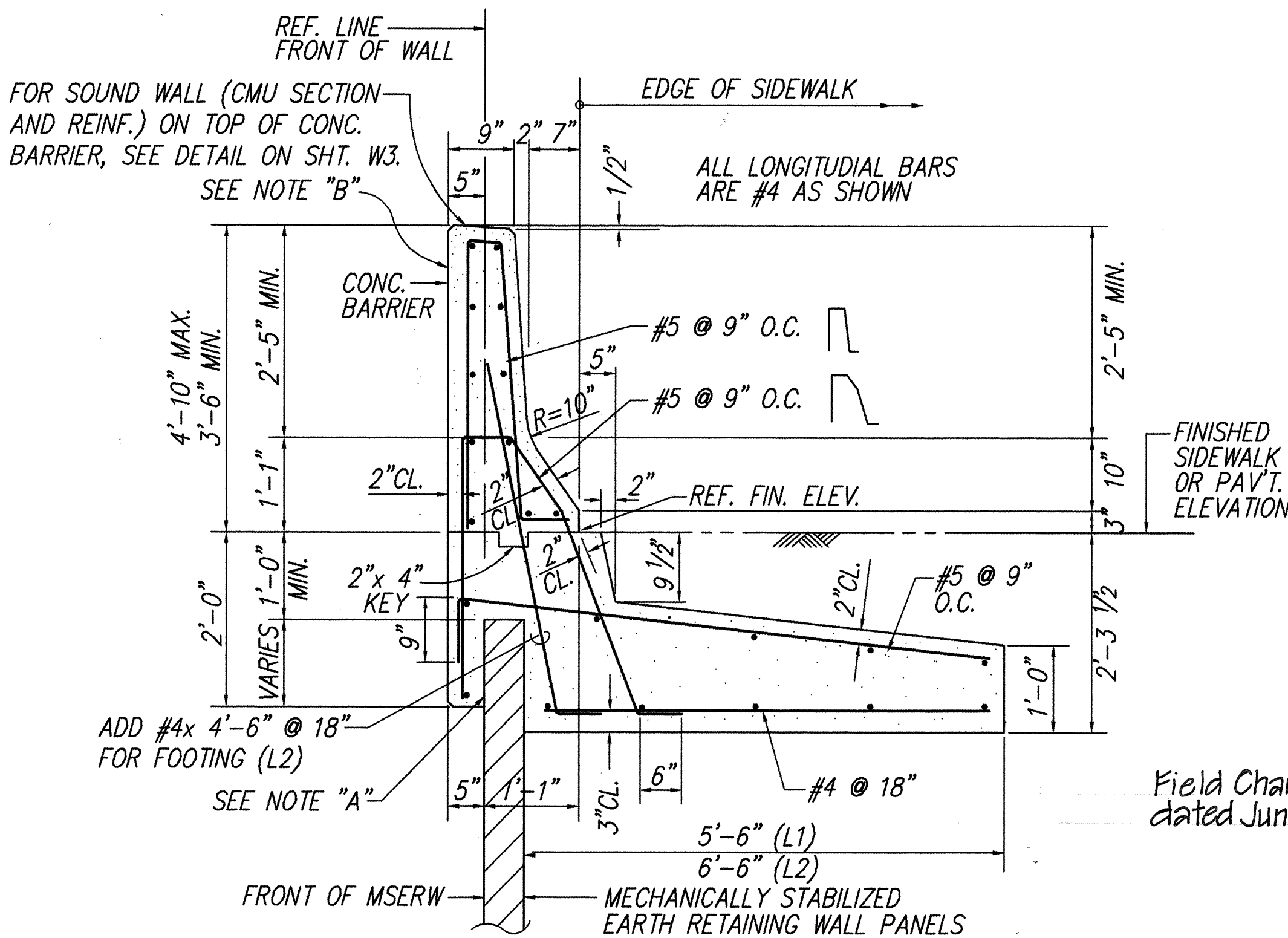
AS-BUILT ADD. 114

NOTE "A":

POSITIVE BOND BREAKER SHALL BE PROVIDED BETWEEN CAST-IN-PLACE CONC. AND PRE-CAST CONC. WALL.

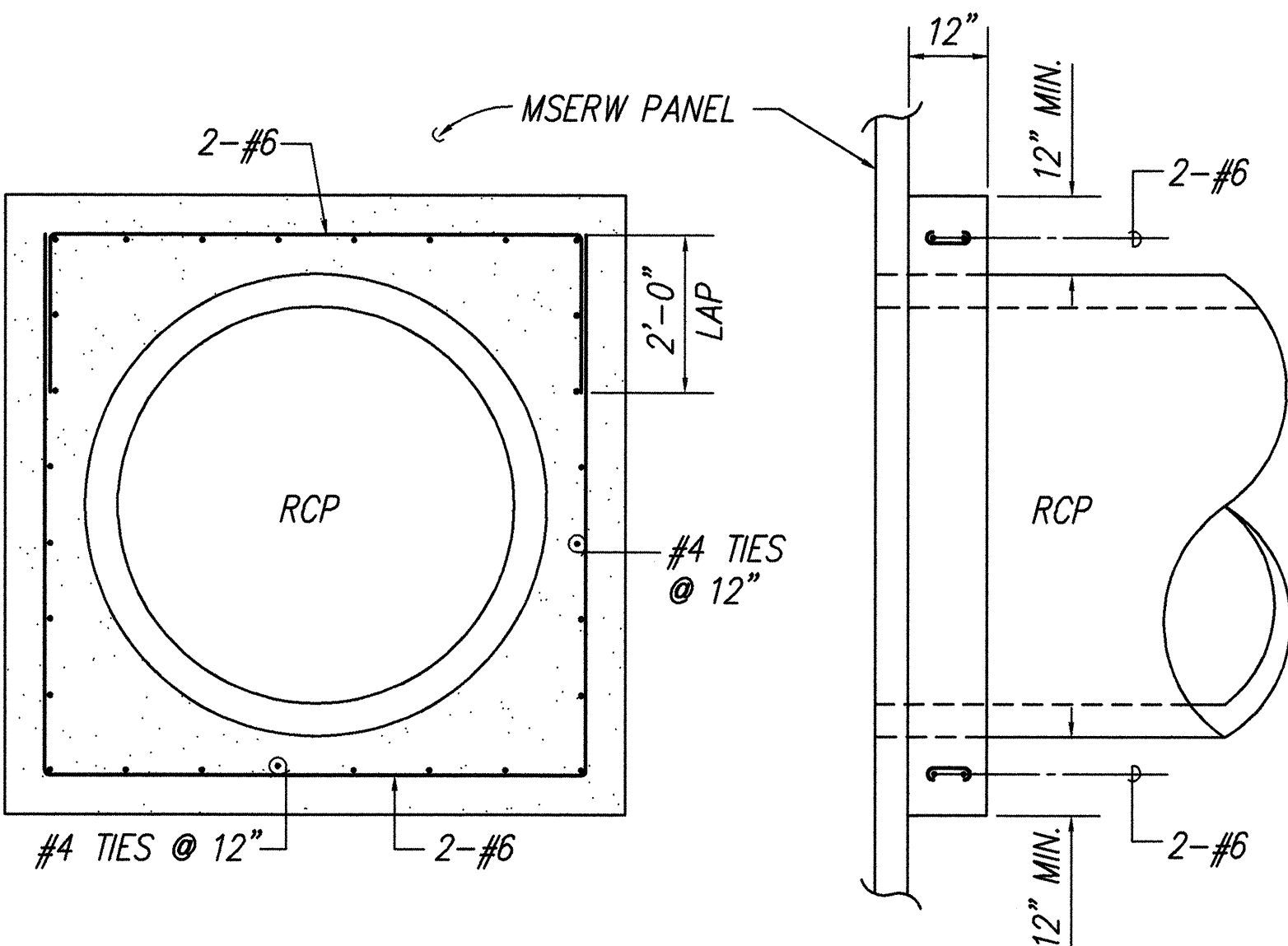
NOTE "B":

SEE STANDARD PLAN B-01 FOR JOINT DETAILS. PROVIDE EXPANSION JOINTS @ 96'-0" O.C. MAX. AND CONTROL JOINTS @ 32'-0" O.C. MAX. EXPANSION JOINTS FOR CONC. BARRIER & FOOTING ONLY.



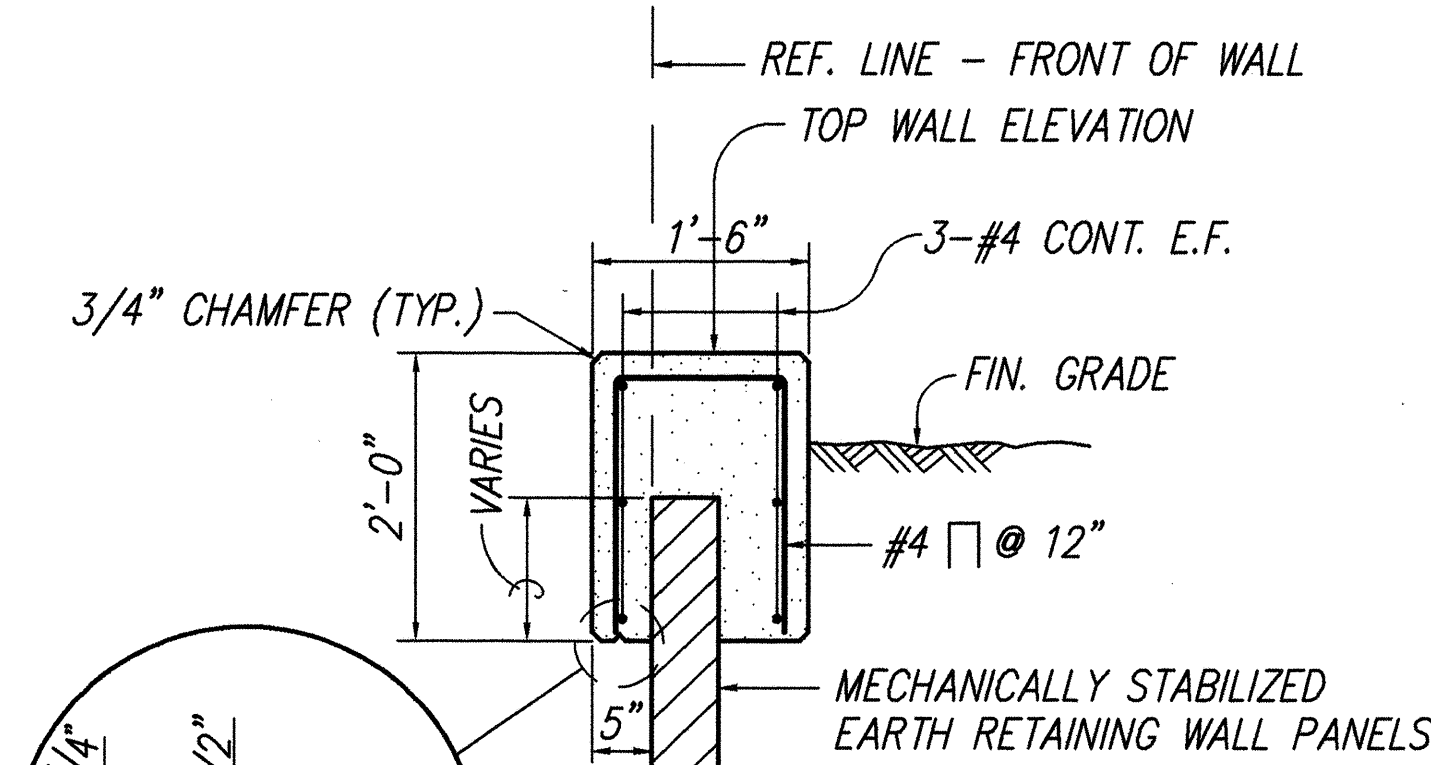
SECTION - CONCRETE BARRIER DETAIL

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



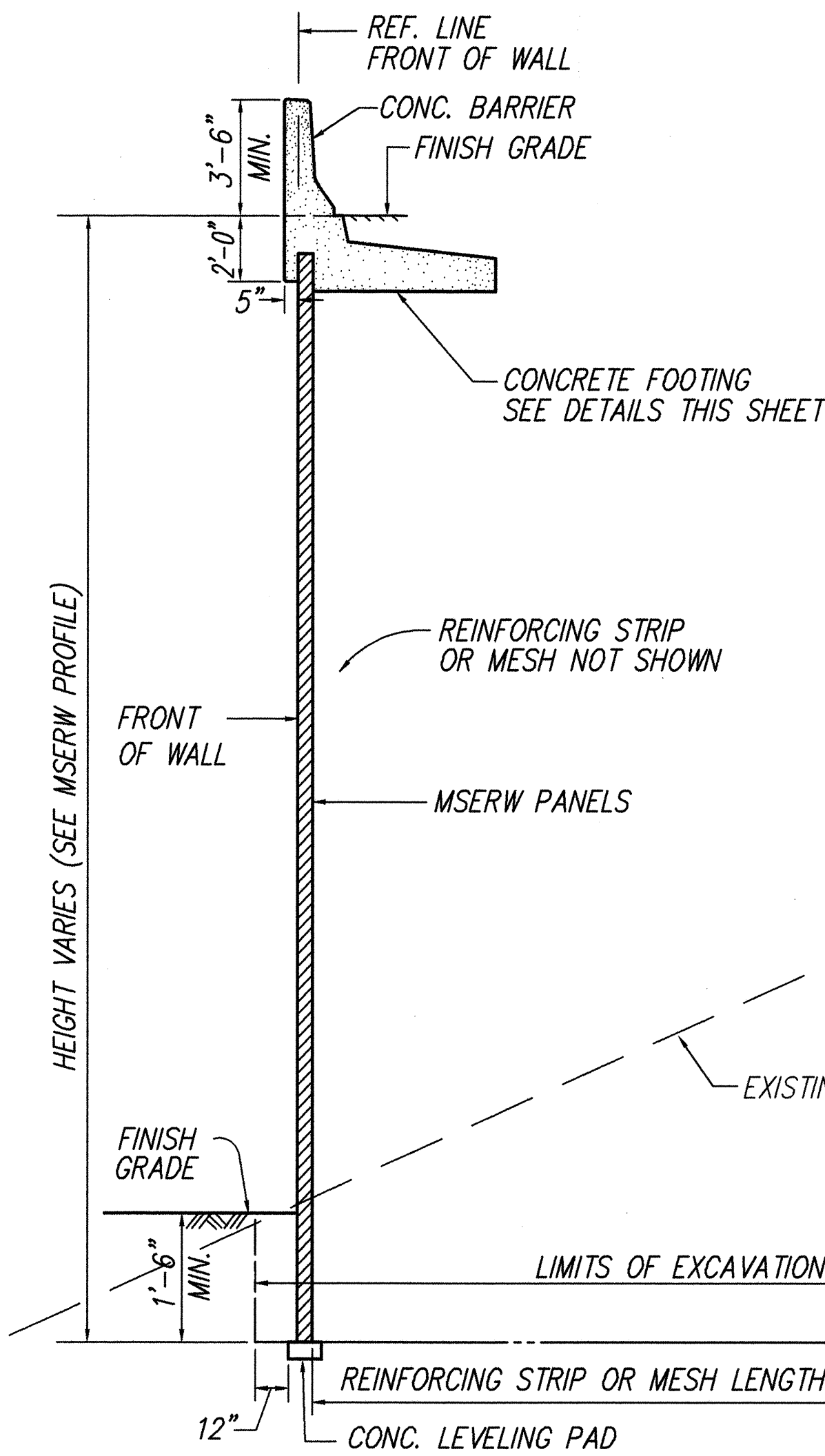
**SECTION
DETAIL - CONC. COLLAR BEHIND MSERW PANEL**

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



CONCRETE CAP DETAIL

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



TYPICAL SECTION (MSERW)

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

*TEMPORARY STEEP CUT SLOPES MAY BE REQUIRED TO CONSTRUCT THE WALLS. LOCAL SLOUGHING MAY OCCUR IF SOFT POCKETS ARE ENCOUNTERED. WORKING IN SMALL INCREMENTS, SHORING & OTHER METHODS MAY BE REQUIRED TO MAINTAIN THE STABILITY OF THE TEMPORARY CUT SLOPE.

CUT SLOPE TO BE DETERMINED BY CONTRACTOR IN FIELD.* (SLOPE SHOWN IN CROSS SECTIONS IS FOR PAY-LIMITS ONLY)

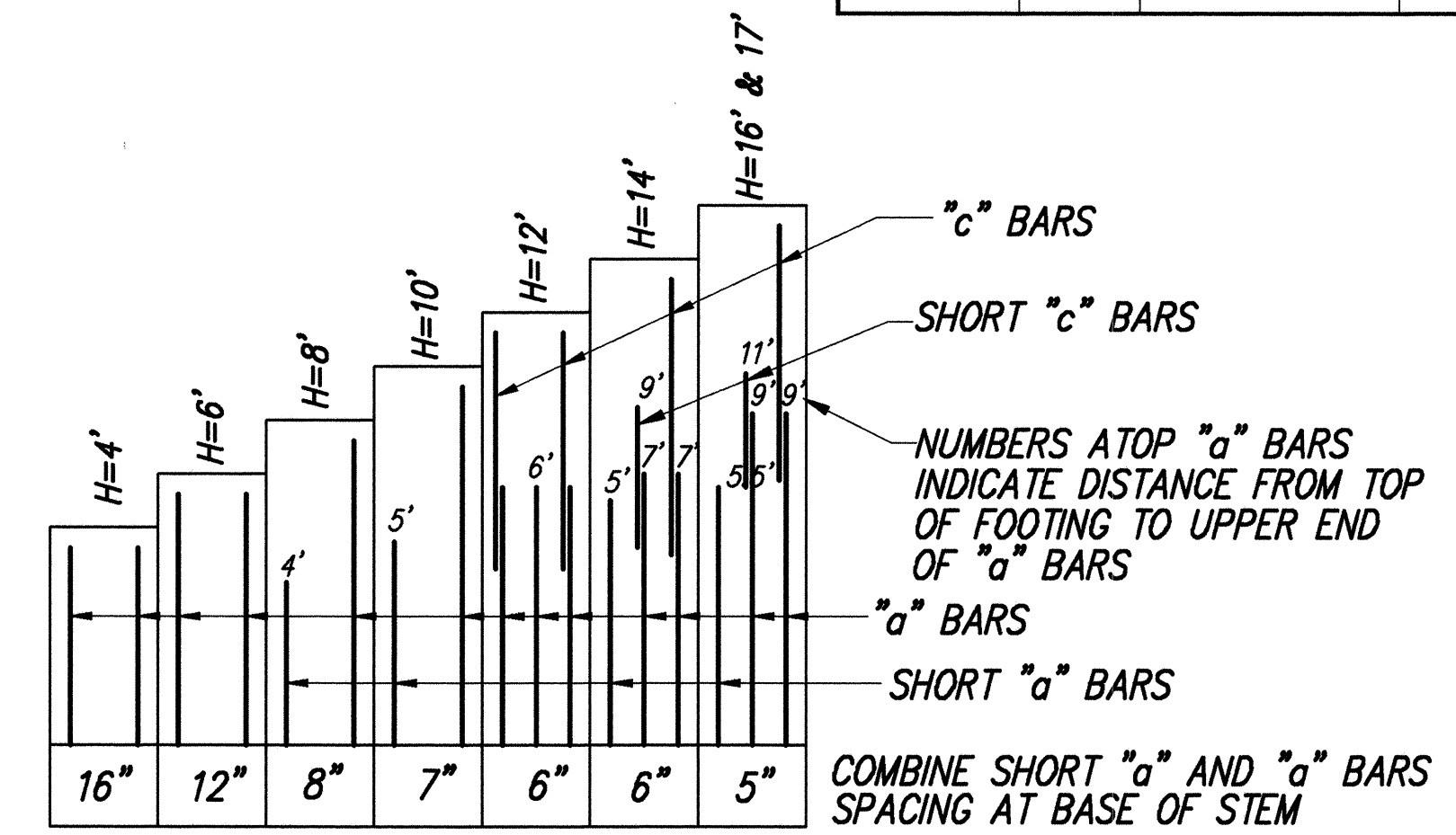
SEE CROSS-SECTIONS FOR LIMITS OF EXCAVATION FOR SOFT FOUNDATION & BASE COURSE LIMITS

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

ROTATED:
BASE PT.

LIB. STATE DOT KAHKILI WIDENING
WALLR 6/07/94 GHT

JB: STATE\DOT\KAHEKIL\ADDENDUM



SCHEDULE OF DIMENSIONS AND REINFORCING STEEL RETAINING WALL NOS. 1, 1A, 2B, 3, 7, 9, 10, 15, 16, & 18								
WALL HT. H	4'	6'	8'	10'	12'	14'	** 14'	16'
L	3'-6"	5'-3"	6'-6"	7'-9"	8'-6"	10'-0"	10'-0"	11'-0"
T	1'-2"	1'-2"	1'-2"	1'-6"	1'-6"	1'-6"	1'-6"	1'-9"
"a" BAR	#4 @ 16"	#4 @ 12"	#5 @ 8"	#6 @ 7"	#6 @ 6"	#7 @ 6"	#6 @ 6" O.C. AND #6 @ 12" O.C.	#7 @ 5"
"b" BAR	#4 @ 16"	#5 @ 7"	#6 @ 5"	#7 @ 5"	#7 @ 7"	#7 @ 5"	#7 @ 7" O.C. AND #7 @ 14" O.C.	#7 @ 6"
"c" BAR					#4	#5	#4 @ 6" O.C. OR #5 @ 12" O.C.	#5
"d" BAR		#4 @ 24"	#4 @ 24"	#4 @ 18"	#4 @ 18"	#4 @ 12"	#4 @ 12" O.C.	#4 @ 12"
A	2"	2" $\diamond$	2"	1'-0"	2'-0"*	3'-0"	2'-0"	4'-6"
C	2'-4"	4'-1"	5'-4"	5'-9"	5'-0"	5'-5"	6'-5"	4'-10"
D	12"	12"	12"	12"	1'-6"	1'-7"	1'-7"	1'-8"
K		6"	6"	1'-0"	1'-0"	1'-6"	1'-6"	1'-6"



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PafEn, Inc.
c/o PARK ENGINEERING

JB: STATE\DOT\KAHEKIL\ADDENDUM

AS-BUILT C.O. ADD. 115

FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	115	238

SCHEDULE OF DIMENSIONS AND REINFORCING STEEL RETAINING WALL NO. 13, STA. 43+05 TO 44+90 ONLY						
WALL HT. H	4'	6'	8'	10'	12'	16'
L	3'-6"	5'-3"	6'-6"	7'-9"	10'-0"	10'-0"
T	1'-2"	1'-2"	1'-2"	1'-6"	1'-10"	1'-10"
"a" BAR	#4 @ 12"	#5 @ 12"	#6 @ 8"	#6 @ 6"	#6 @ 6"	#7 @ 6"
"b" BAR	#4 @ 16"	#5 @ 7"	#6 @ 5"	#7 @ 5"	#9 @ 6"	#9 @ 5"
"c" BAR					#4	#5
"d" BAR		#4 @ 24"	#4 @ 24"	#4 @ 18"	#4 @ 18"	#4 @ 12"
A	2"	2"	2"	2"	2"	2"
C	2'-4"	4'-1"	5'-4"	6'-7"	8'-4"	8'-4"
D	12"	12"	12"	12"	1'-6"	1'-6"
K		6"	6"	1'-0"	1'-0"	1'-6"

NOTES: THE STATION LOCATIONS AND ELEVATIONS INDICATED ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD. THE FOOTINGS SHALL BE LOCATED SUCH THAT THE TOE OF THE FOOTINGS LIE BELOW A 3H:1V IMAGINARY PLANE DRAWN UPWARD FROM THE TOE OF THE SLOPE.

THIS SCHEDULE SUPERCEDES THE SCHEDULE ON SHEET ADD 115 10/21/96 R.C. WALL NO. 13. THE TYPICAL SECTION ON SHEET C.O. ADD 117, S-1 30 OCT 95 APPLIES TO THE SCHEDULE ABOVE.

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



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Wayne K. Higuchi

10/29/96	ADDED SCHEDULE FOR RETAINING WALL NO. 13 STA. 43+05 TO 44+90
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DATE	REVISION
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

R.C. RETAINING WALL SECT.
SCHEDULES AND DETAIL

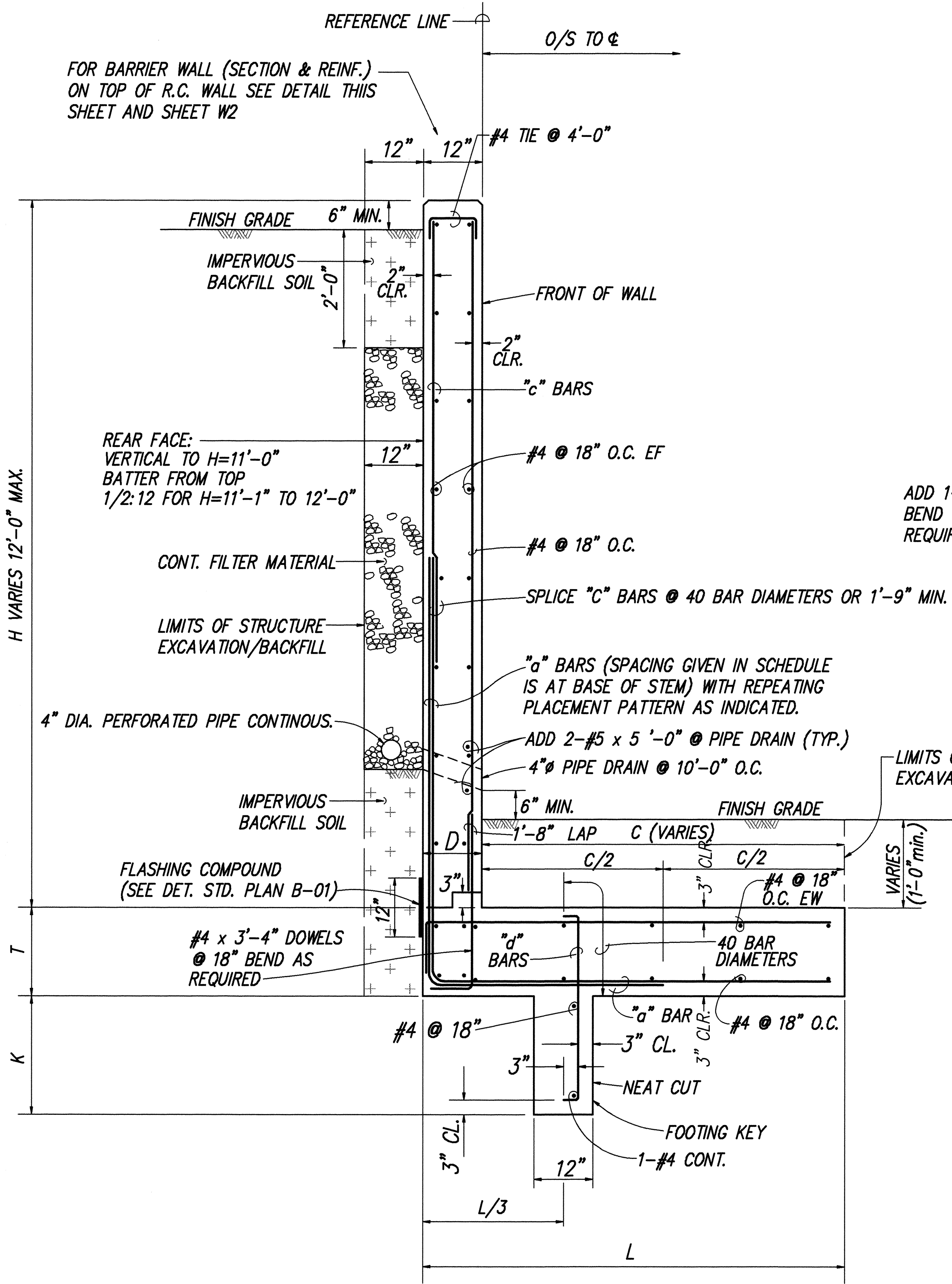
KAHEKILI HIGHWAY WIDENING
Likelike Hwy. to Vicinity of Haiku Road
F.A. PROJECT NO. NH-083-1(26)

SCALE: AS NOTED DATE: APRIL 1994

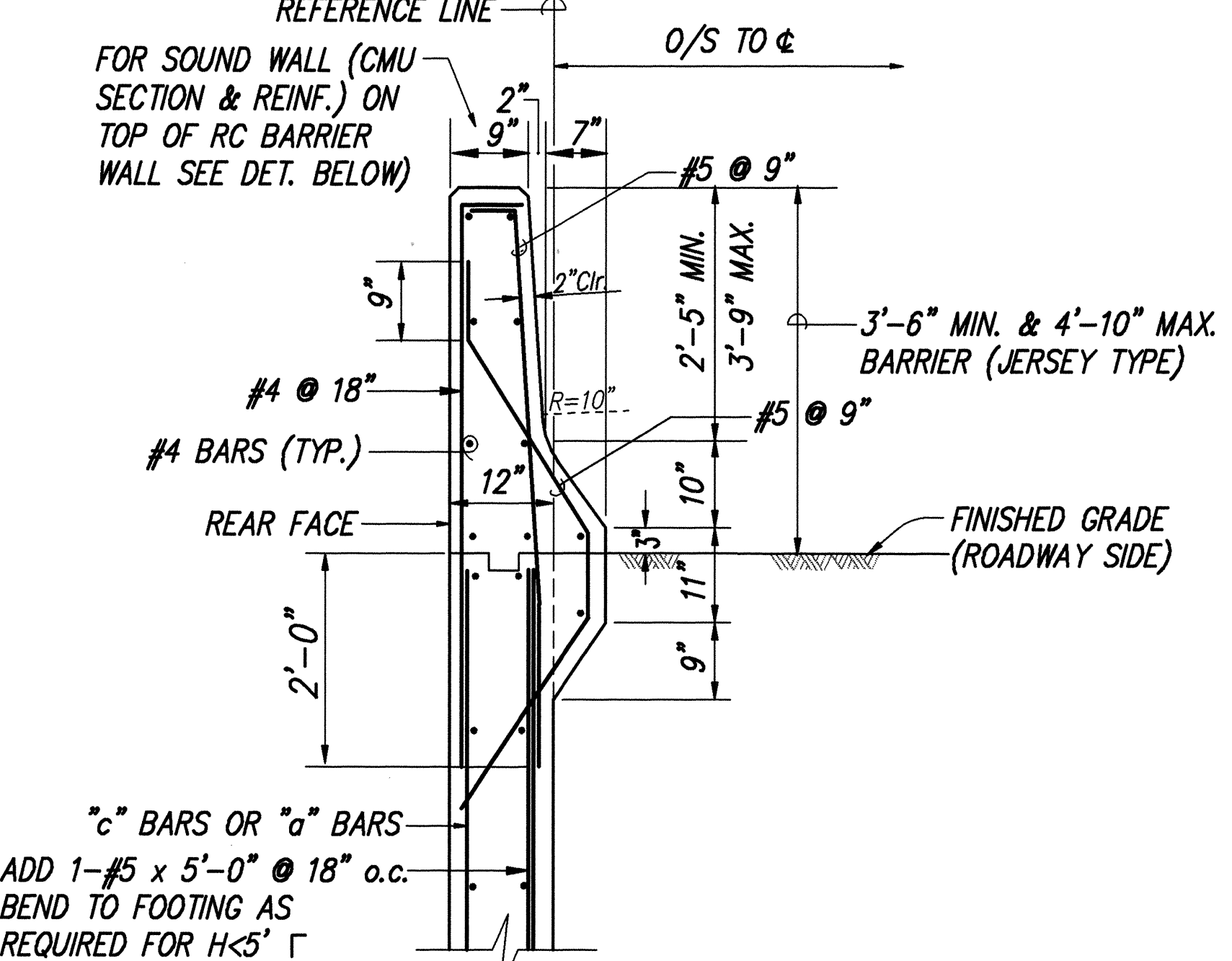
SHEET No. W2A OF W21 SHEETS

AS-BUILT C.O. ADD. 115 S-1

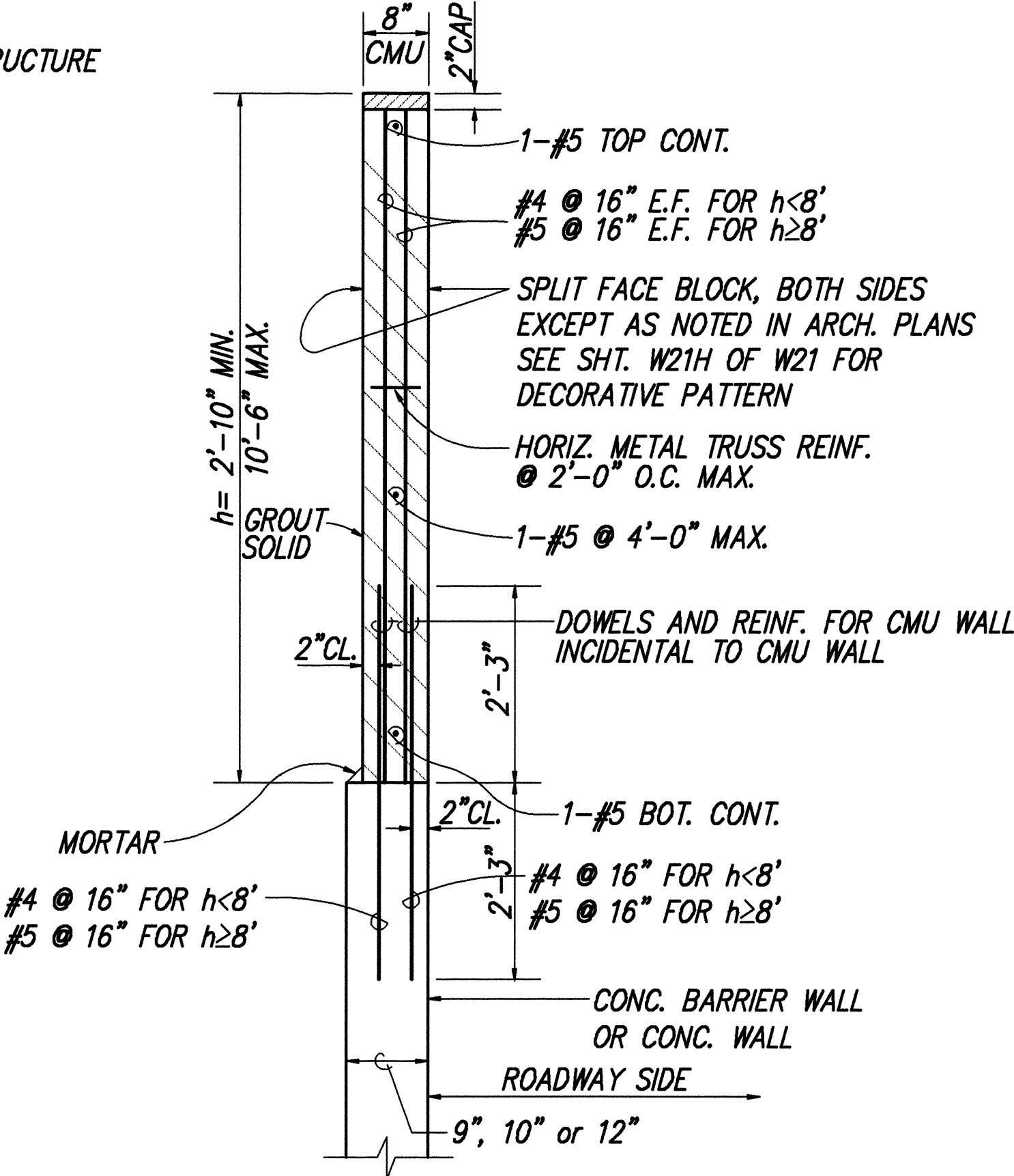
FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	116	238



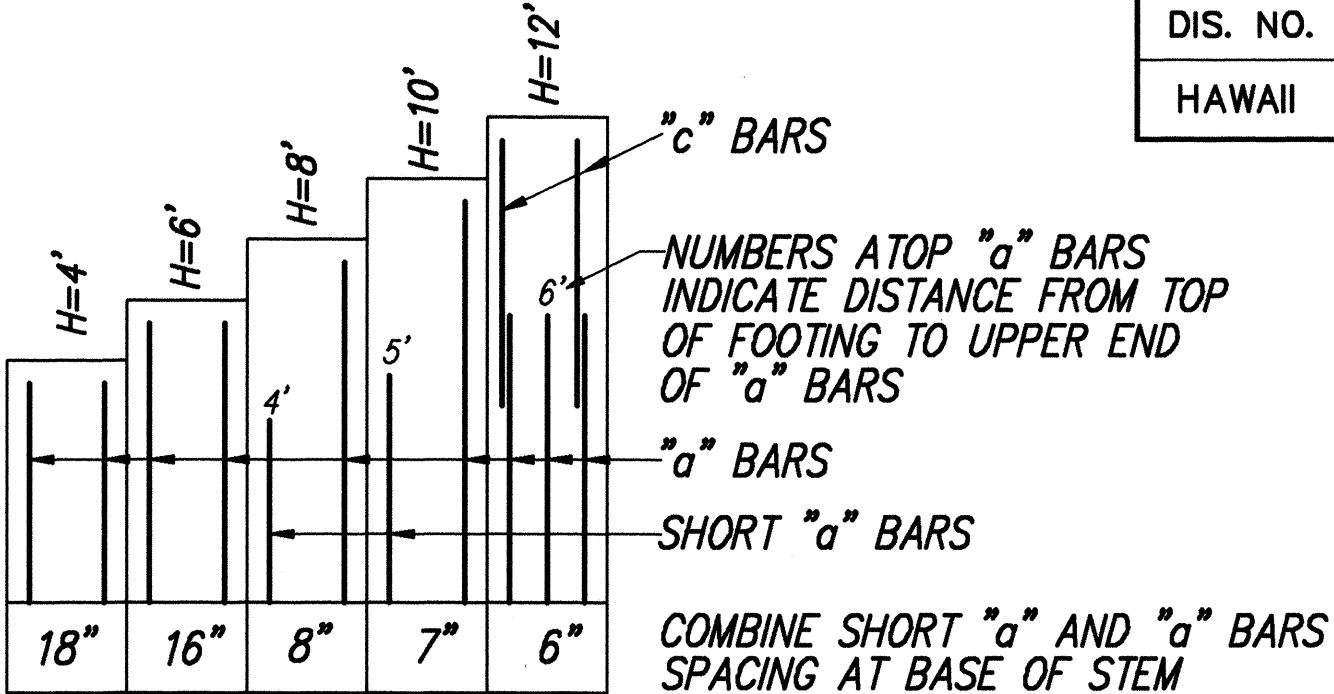
TYPICAL RETAINING WALL SECTION "B"
WALL NOS. 1B, 3A, 5, 8, 12, 14 & 18
 SCALE: 3/4"= 1'-0"



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



TYPICAL SOUND WALL (CMU) SECTION
 SCALE: 3/4"= 1'-0"



VERTICAL REINFORCING STEEL ARRANGEMENT

SCHEDULE OF DIMENSIONS AND REINF. STEEL RETAINING WALL NOS. 1B, 3A, 5, 8, 12, 14 & 18*	19
WALL HT. H	4' 6' 8' 10' 12' 6'
L	3'-0" 4'-0" 5'-6" 6'-6" 8'-3" 4'-0"
T	1'-2" 1'-2" 1'-2" 1'-3" 1'-6" 1'-2"
"a" BAR	#4 @ 18" #4 @ 16" #4 @ 8" #5 @ 7" #6 @ 6" #4 @ 12"
"b" BAR	
"c" BAR	
"d" BAR	#4 @ 24" #4 @ 18" #4 @ 12" #5 @ 12" #4 @ 24"
C	2'-0" 3'-0" 4'-6" 5'-6" 6'-9" 3'-0"
D	12" 12" 12" 12" 1'-6" 12"
K	6" 12" 1'-6" 2'-0" 6"

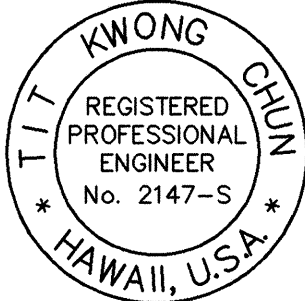
* WALL #18 FROM STA. 47+70 TO STA. 50+00

SCHEDULE FOR CONCRETE & REINF. STEEL IN R.C. RET. WALLS & BARRIERS		
WALL NO.	CONC. (C.Y.)	STEEL (LBS.)
1	110	13,680
1A	20	2020
1B	490	51,810
2	510	55,390
2A	180	16,650
2B	260	34,730
3	380	39,450
3A	20	1570
4	915	90,260
5	85	6080
6	110	8250
7	190	20,050
8	80	9260
9	275	30,950
10	125	14,250
11	630	64,500
12	65	8440
13	100	9590
14	240	23,760
15	195	20,290
16	85	9670
17	270	28,950
18	1175	130,720
TOTAL	6510 C.Y.	690,320 LBS.

4/29/97	ADDED WALL NO. 19 TO SCHEDULE.
10/10/96	ADDED WALL NO. 18 TO SECTION B AND SCHEDULE.
6/07/94	REVISED BARRIER WALL AND SOUND WALL DETAILS. ADDED SCHEDULE FOR CONC. & REINF. STEEL FOR R.C. RETAINING WALLS AND BARRIERS & ADD LIMITS FOR STRUCTURE EXCAVATION/BACKFILL.

DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION R.C. RETAINING WALL SECT. SCHEDULES AND DETAIL KAHEKILI HIGHWAY WIDENING Likeline Hwy. to Vicinity of Haiku Road F.A. PROJECT NO. NH-083-1(26) SCALE: AS NOTED DATE: APRIL 1994 SHEET No. W3 OF W21 SHEETS AS-BUILT C.O. ADD. 116	

SURVEY PLANNED BY	DATE
DESIGNED BY	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTEBOOK	
No.	

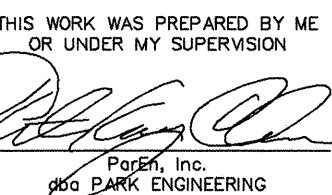


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 ** SIGNATURE HAS BEEN DIGITIZED

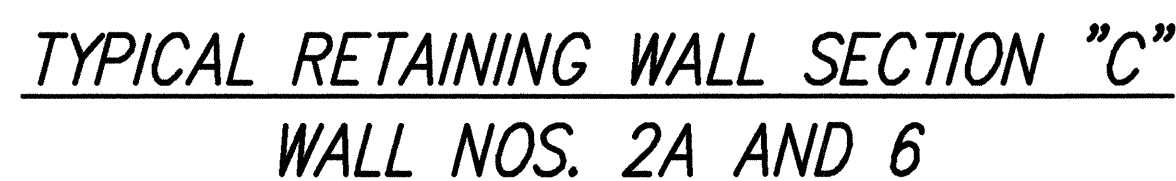
Paper, Inc.
 888 PARK ENGINEERING

WALL HT. H	4	6	8	10	12	14
L	3'-0"	4'-0"	5'-3"	6'-3"	8'-3"	10'-0"
T	1'-2"	1'-2"	1'-2"	1'-2"	1'-6"	1'-6"
"a" BAR	#4 @ 18"	#4 @ 16"	#4 @ 8"	#5 @ 7"	#6 @ 6"	#7 @ 6"
"b" BAR	#4 @ 18"	#4 @ 16"	#5 @ 8"	#6 @ 8"	#7 @ 7"	#7 @ 5"
"c" BAR					#4	#4
"d" BAR		#4 @ 24"	#4 @ 24"	#4 @ 18"	#4 @ 18"	#4 @ 12"
A	6"	6"	12"	1'-6"	2'-3"	3'-0"
C	1'-6"	2'-6"	3'-3"	3'-9"	4'-6"	5'-5"
D	12"	12"	12"	12"	1'-6"	1'-7"
K		6"	6"	1'-0"	1'-0"	1'-6"

1. CONCRETE: MINIMUM 28 DAYS COMPRESSIVE STRENGTH FOR REINFORCED CONCRETE WALLS: $f'_c = 3000$ psi.
2. REINFORCING STEEL: NEW STOCK DEFORMED BARS CONFORMING TO ASTM A-615, GRADE 60.
3. CONCRETE COVER OVER REINFORCING BARS UNLESS OTHERWISE NOTED:
 - A. CONCRETE DEPOSITED ON OR AGAINST GROUND----- 3"
 - B. ALL OTHERS ----- 2"
4. DOWELS SHALL BE SAME SIZE AND SPACING AND SHALL BE IN THE SAME PLANE AS THE BARS TO WHICH THEY ARE SPICED UNLESS OTHERWISE NOTED.
5. SPLICES, EMBEDMENT LENGTHS AND CONTINUING REINFORCING EXTENDING AROUND CORNERS SHALL BE 40 BAR DIAMETERS MINIMUM UNLESS OTHERWISE NOTED.
6. REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST EDITIONS OF CRSI'S "PLACING REINFORCING BARS" AND "MANUAL OF STANDARD PRACTICE" AND THE "ACI DETAILING MANUAL" UNLESS OTHERWISE NOTED.
7. THE CONSTRUCTION SHALL CONFORM TO APPLICABLE PORTIONS OF THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
8. CONSTRUCTION WORK ADJACENT TO EXISTING STRUCTURES SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 2903(b)-PROTECTION OF ADJOINING PROPERTY OF THE UNIFORM BUILDING CODE, DATED 1991.



AS-BUILT C.O. ADD. 117



SCALE: $3/4" = 1'-0"$

8/26/96	DELETED 3" DRIP
6/07/94	ADDED LIMITS OF STRUCTURE EXC./BACKFILL AND HATCHING.
DATE	REVISION

4 BARS
E.

#4 @ 18" E.F.

CHAMFER
3/4"

1/2"

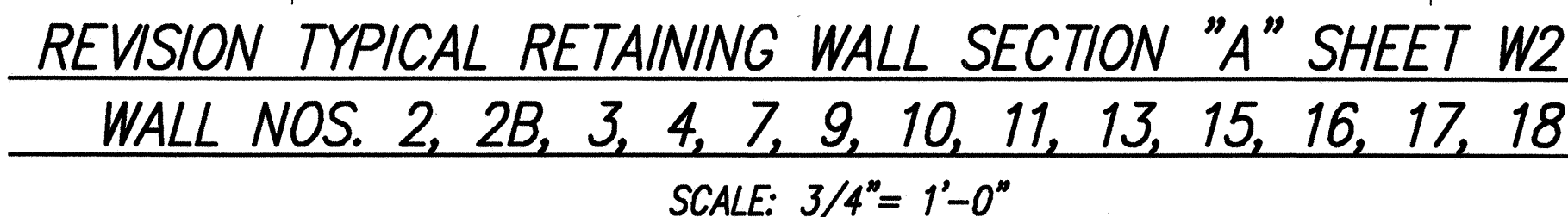
#6 AT
7 1/2" O.C.

2" CLR.

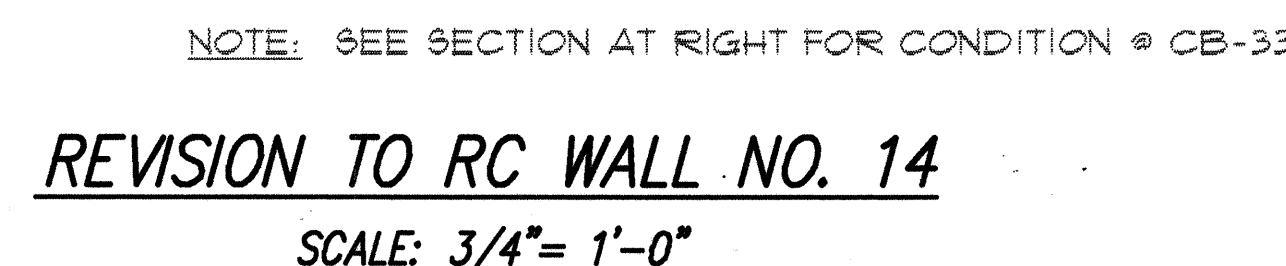
3'-6" MIN. BARRIER
4'-10" MAX.
(VERTICAL TYPE)

FOR SOUND WALL
(CMU SECTION & REINF.) ON
TOP OF R.C. BARRIER WALL,
SEE DETAIL ON SHT. W-3.

#4 @ 18"



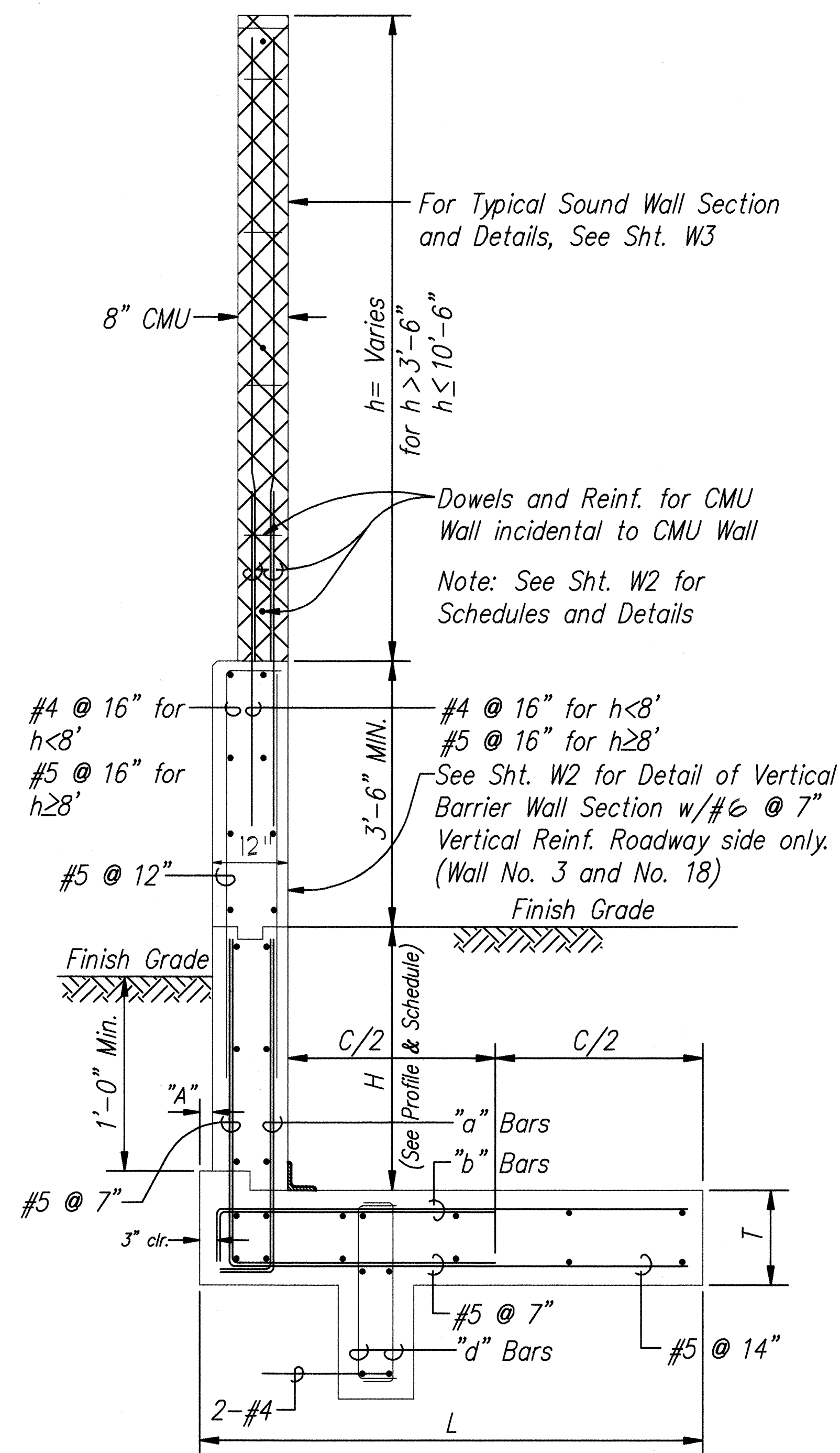
BARRIER WALL SECTION
SCALE: 3/4" = 1'-0"



REVISED CONDITION @ CB-33
SCALE: 3/4" = 1'-0"

AS-BUILT C.O. ADD. 117 S-1

FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	117	238

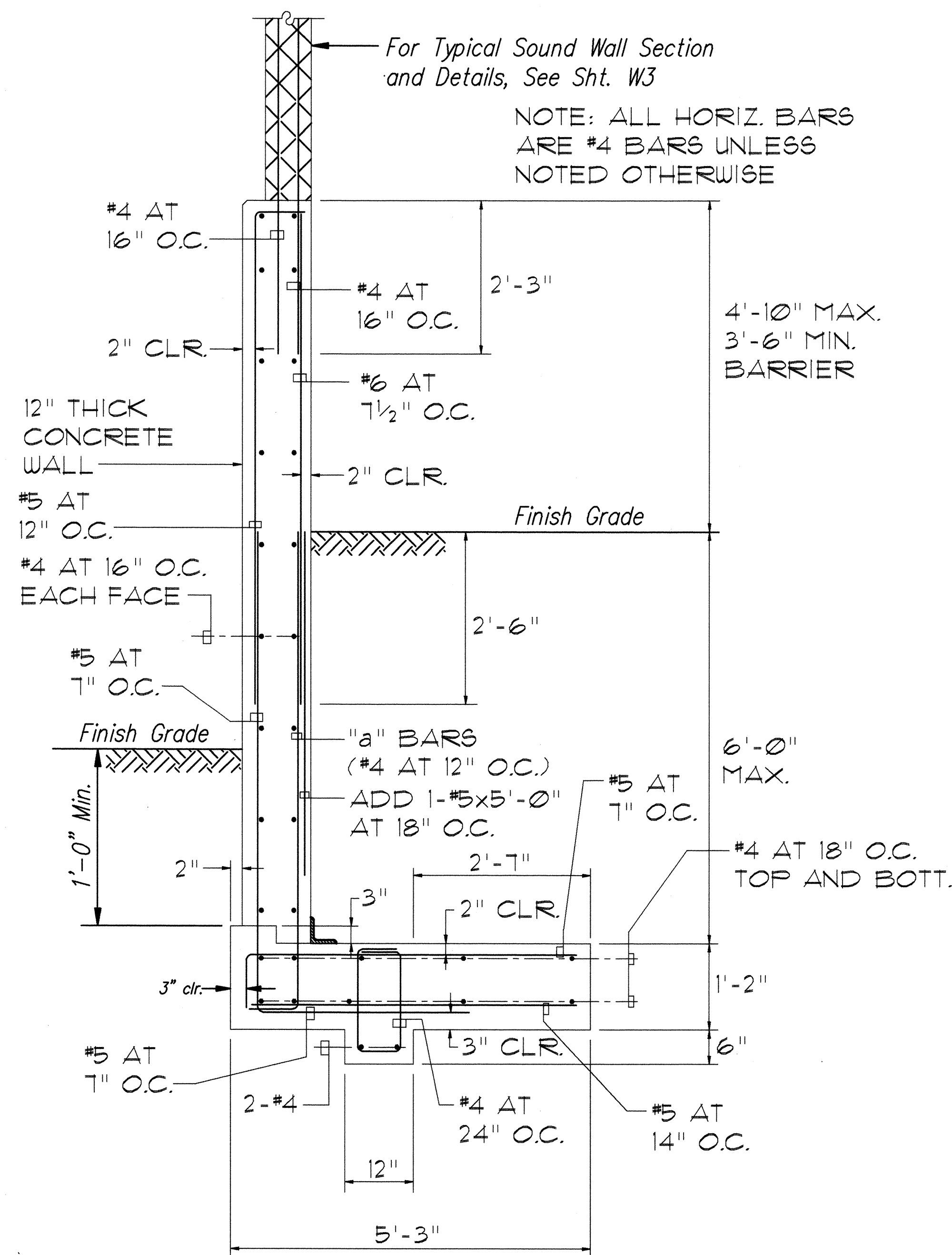


(EXCEPT RC WALL NO. 17)

SOUND WALL SECTION "F"

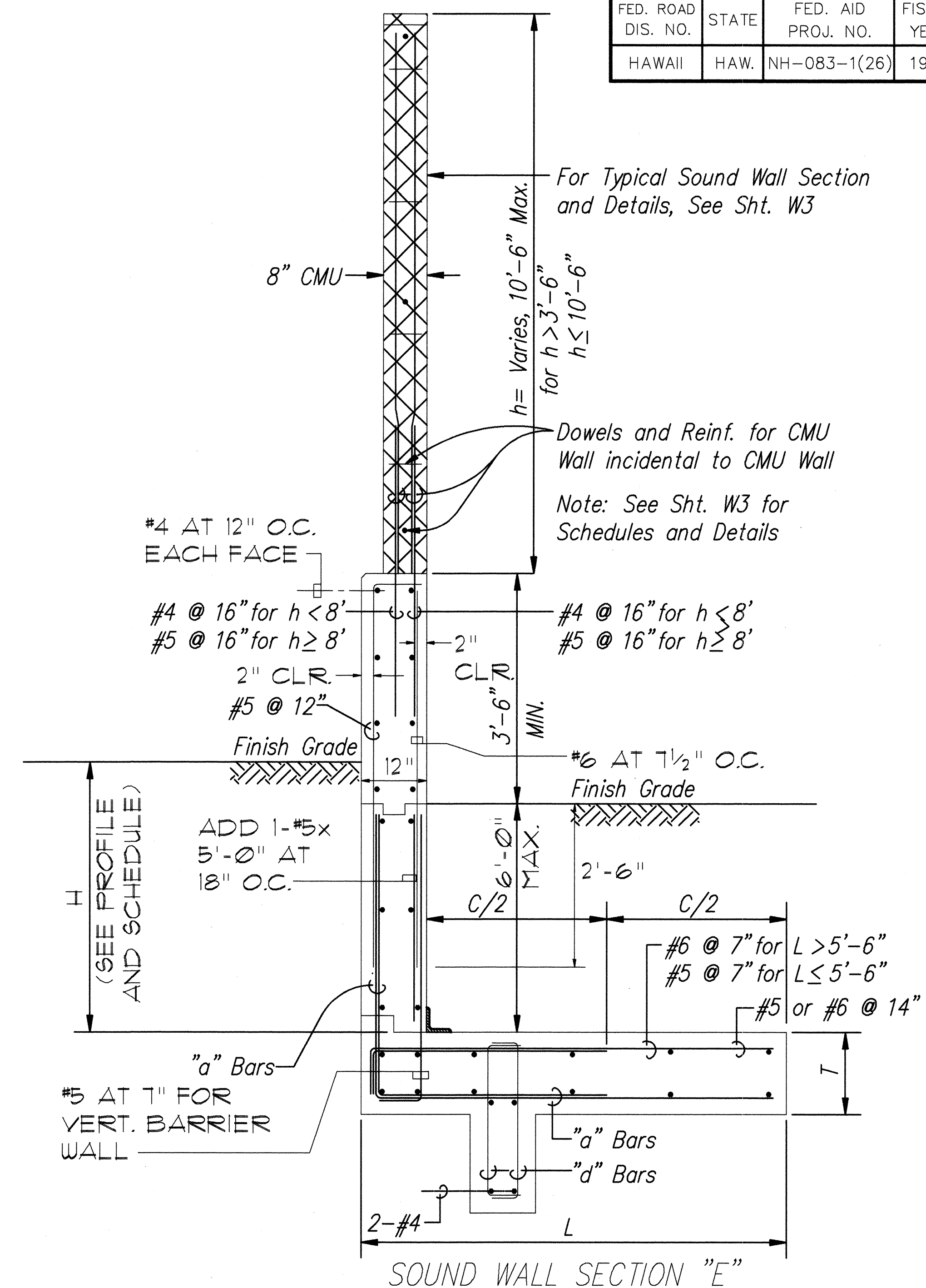
SCALE: $3/4" = 1'-0"$

THIS SECTION SUPERCEDES SIMILARLY
TITLED SECTION ON SHEET W10 (ADD123)



REVISION TO SOUND WALL
SECTION F AT RC WALL NO. 17

SCALE: $3/4" = 1'-0"$



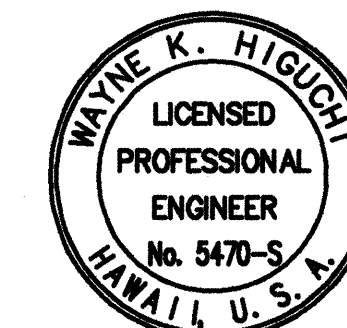
SOUND WALL SECTION "E"

SCALE: $3/4" = 1'-0"$

THIS SECTION SUPERCEDES SIMILARLY
TITLED SECTION ON SHEET W17 (ADD130)

9 AUG. 95	REVISED TRAFFIC BARRIERS
DATE	REVISION

REVISIONS TO ORIGINAL
SECTIONS ARE INDICATED
BY LARGE BOLD LETTERING



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
R.C. RETAINING WALL SECT.

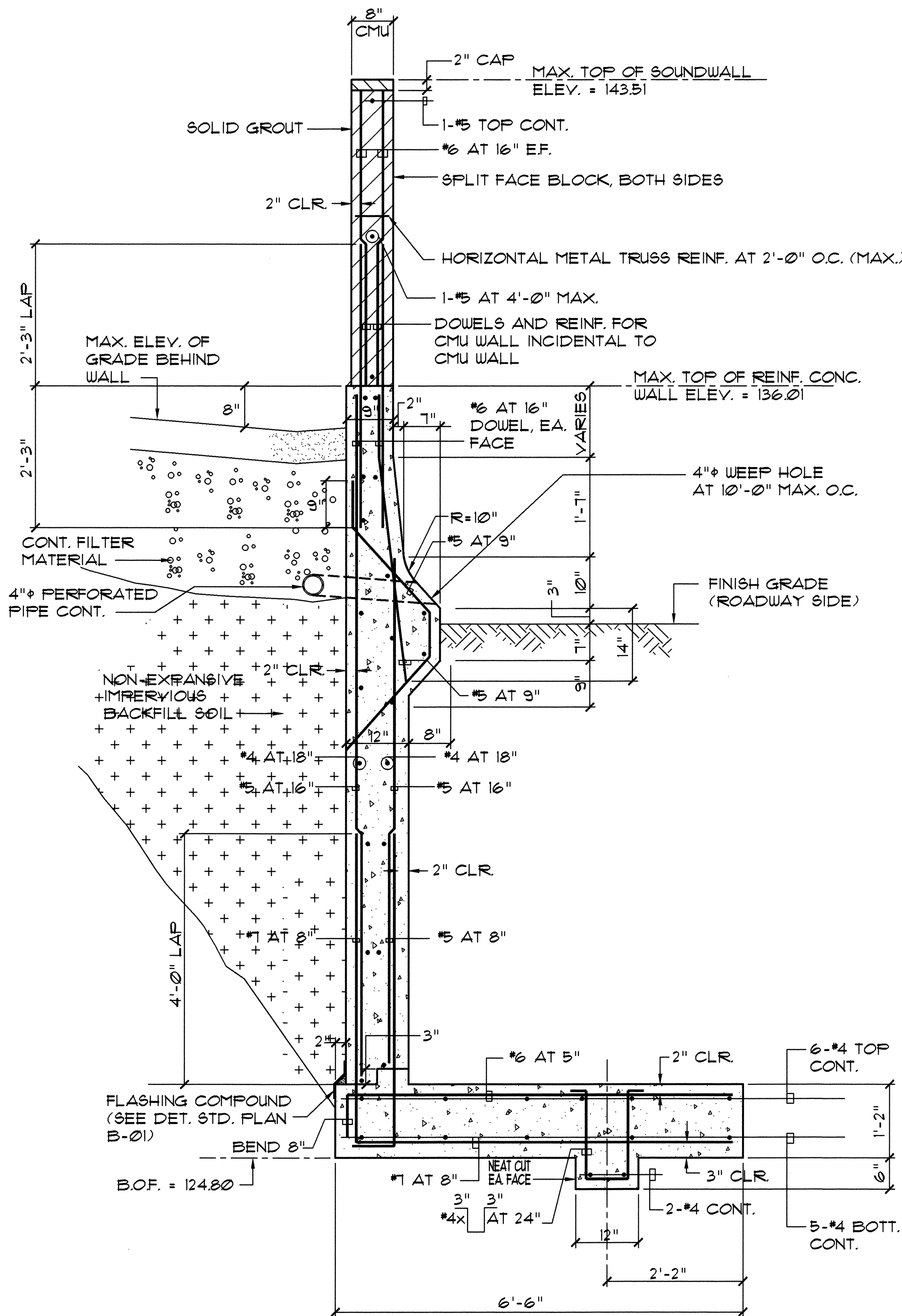
KAHEKILI HIGHWAY WIDENING
Likeline Hwy. to Vicinity of Haiku Road
F.A. PROJECT NO. NH-083-1(26)

SCALE: AS NOTED DATE: APRIL 1994

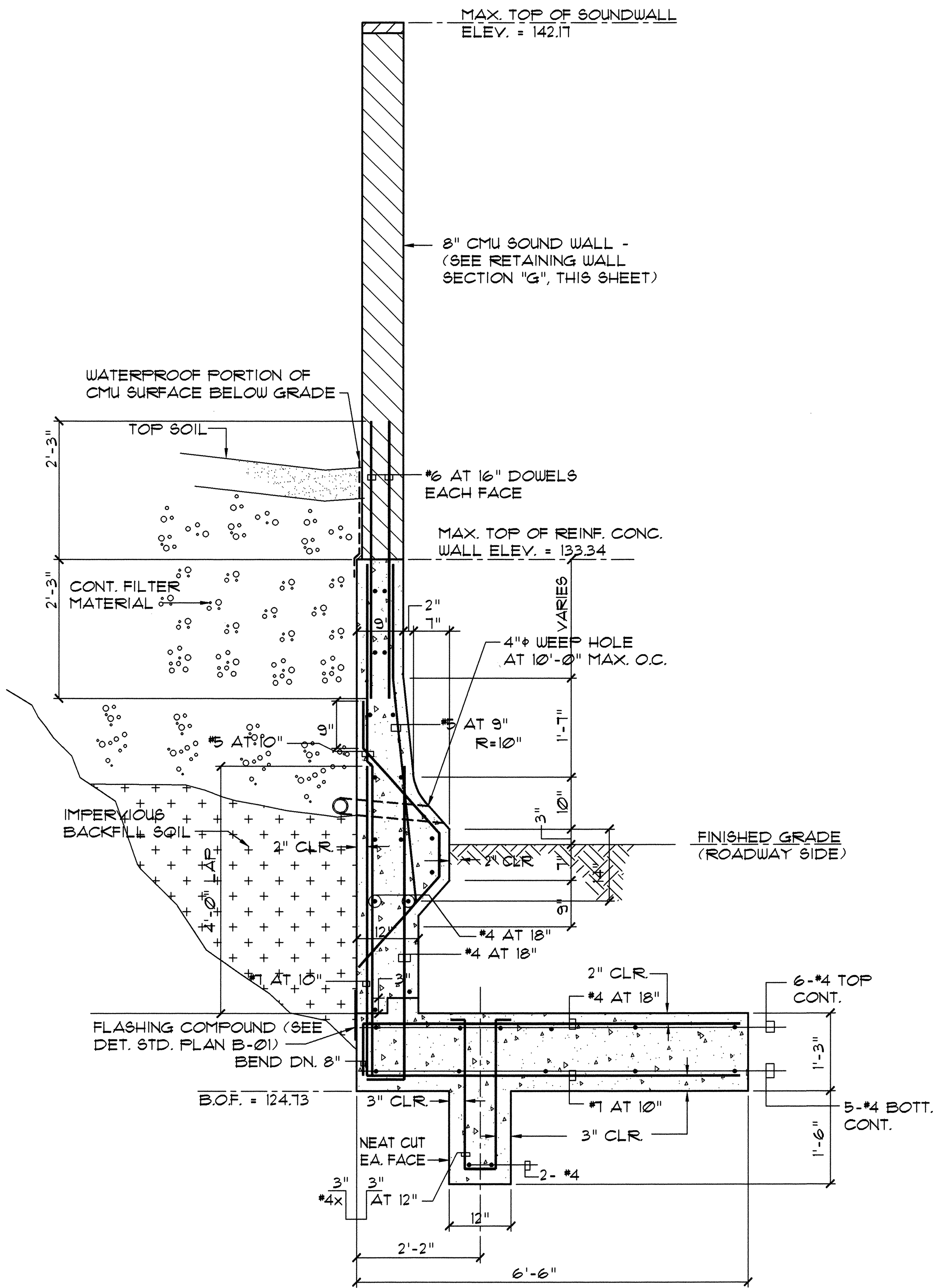
SHEET No. W4B OF W21 SHEETS

AS-BUILT C.O. ADD. 117 S-2

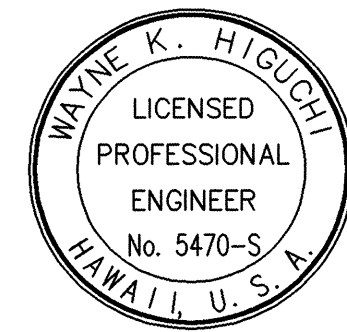
FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	ADD. 117	238



RETAINING WALL SECTION "G"
STA. 10 + 52 TO 11 + 60
SCALE: 3/4" = 1'-0"



RETAINING WALL SECTION "H"
STA. 11 + 60 TO 11 + 80
SCALE: 3/4" = 1'-0"



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Wayne K. Higuchi
SHIGEMURA, LAL, SAKAKASHI, HIGUCHI, AND ASSOC.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

R C RETAINING WALL SECTION

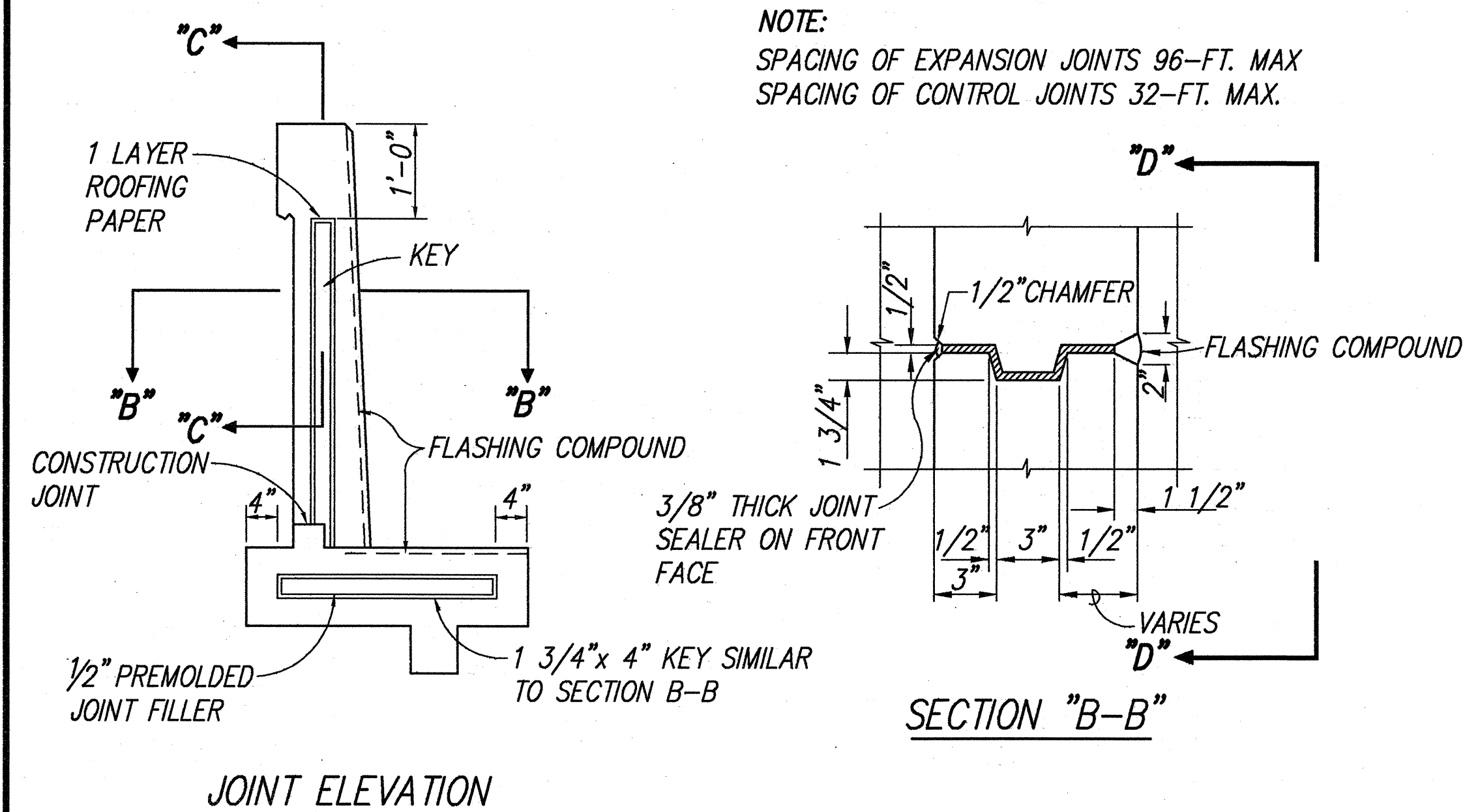
KAHEKILI HIGHWAY WIDENING
Likelike Hwy. to Vicinity of Haiku Road
F.A. PROJECT NO. NH-083-1(26)

SCALE: AS NOTED
DATE: APRIL 1994

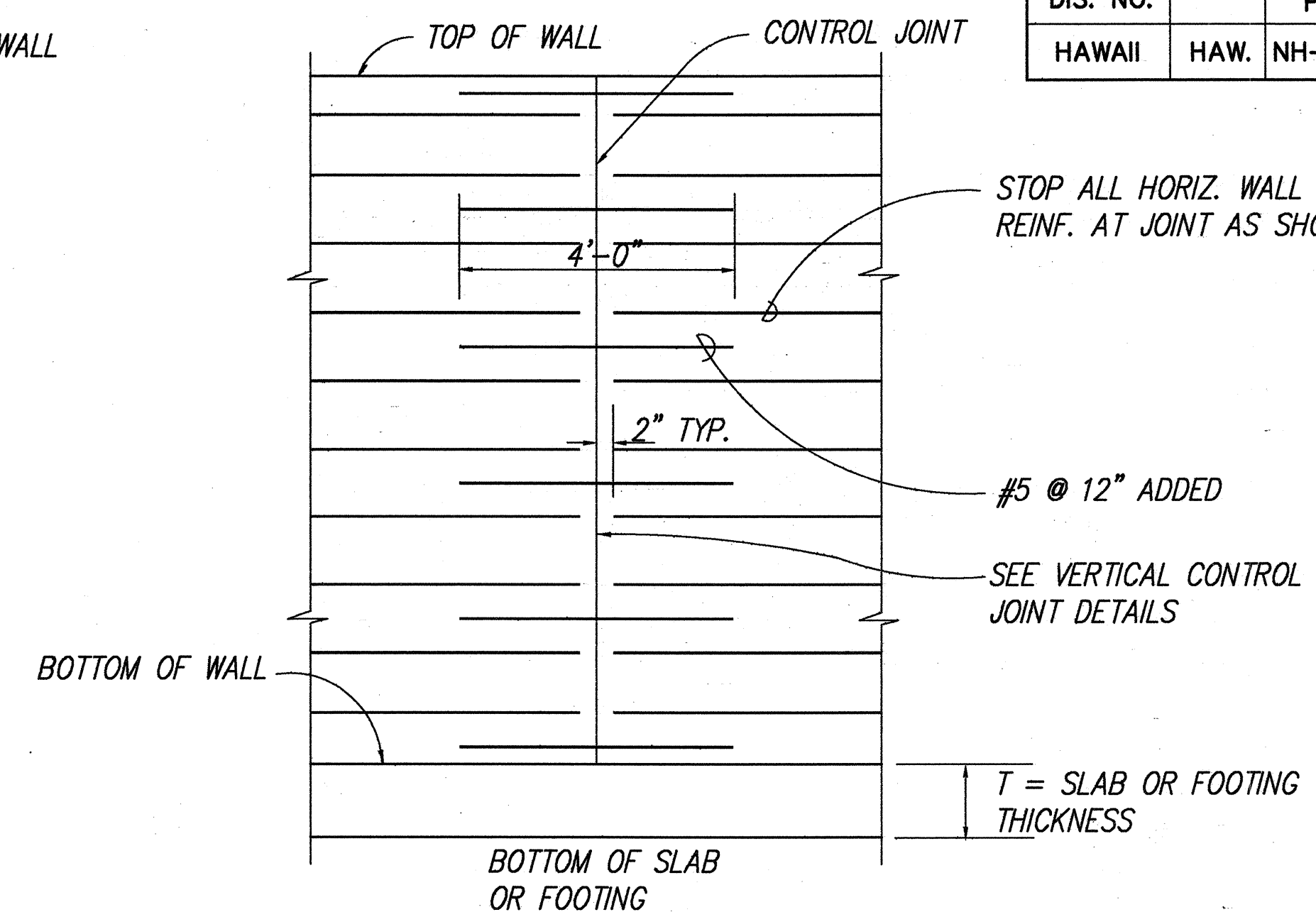
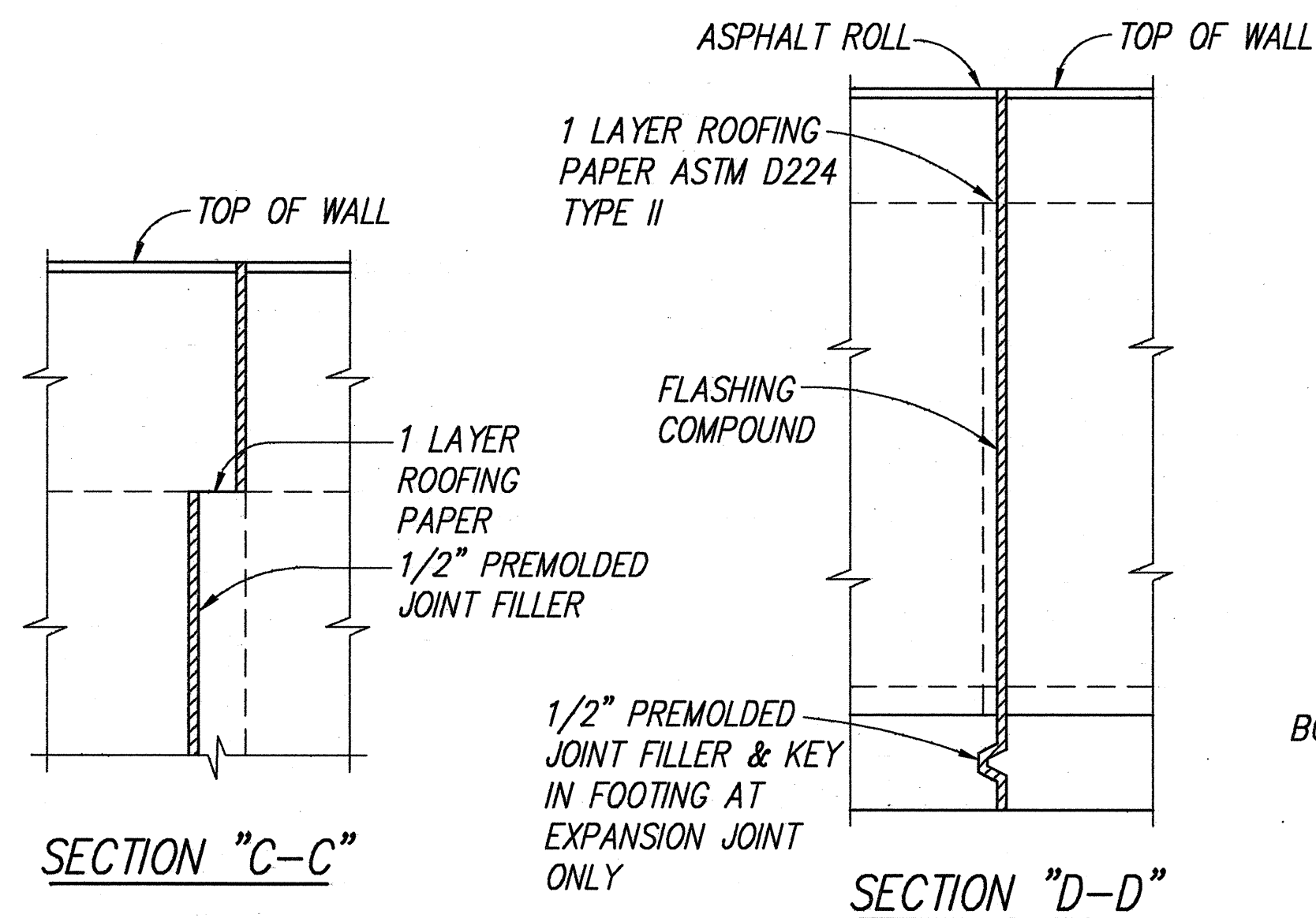
02/02/96	ADDED RETAINING WALL SECTIONS "G" AND "H"
DATE	REVISION

DESIGNED BY	DATE
CHECKED BY	
NOTED BY	
QUANTITIES BY	
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	

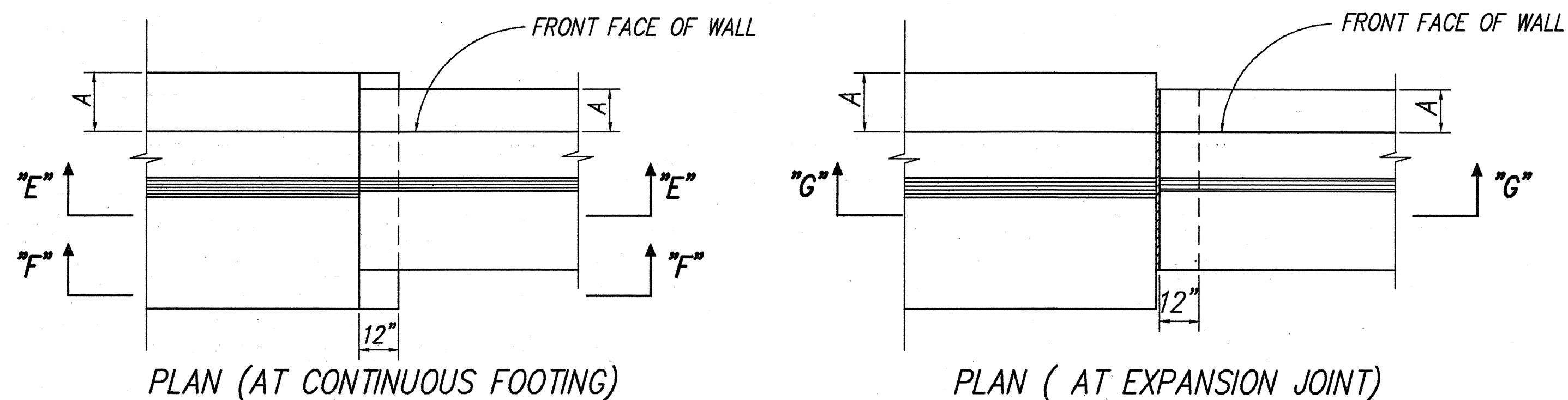
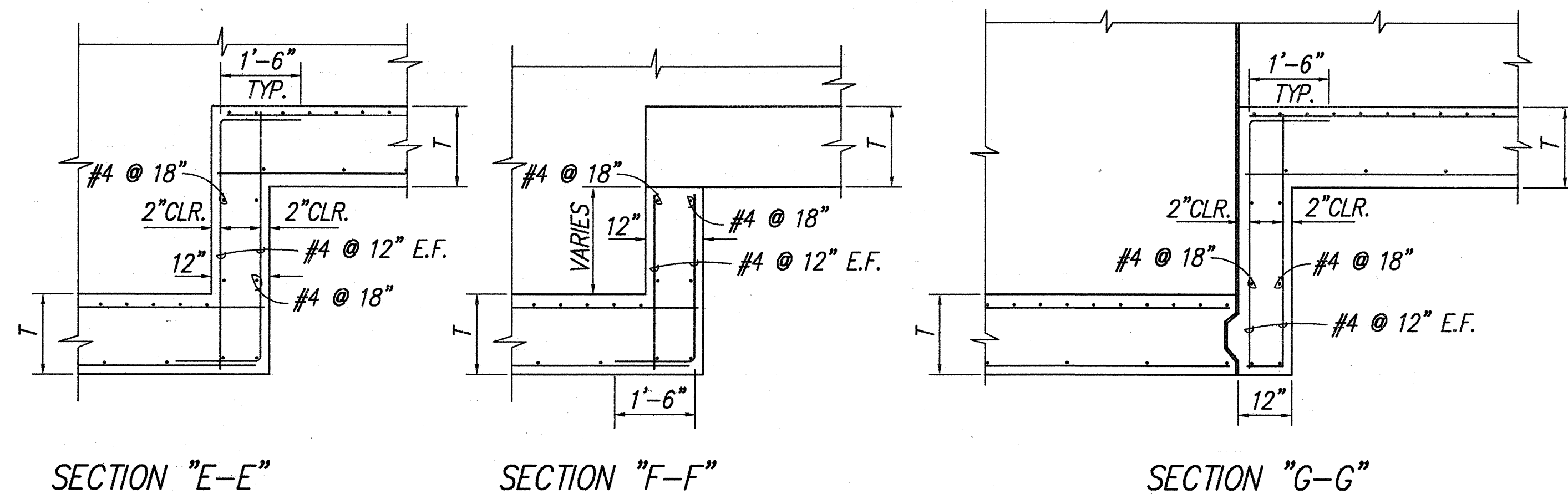
FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	118	238



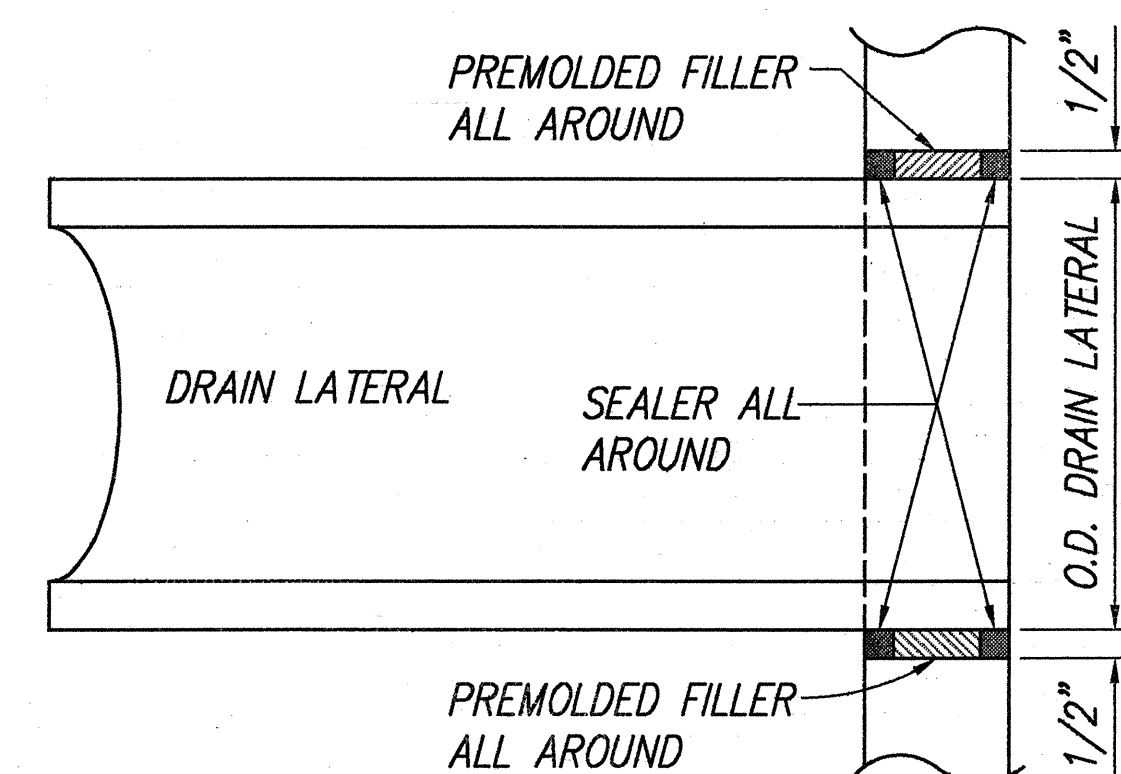
TYPICAL EXPANSION JOINT DETAILS
NOT TO SCALE



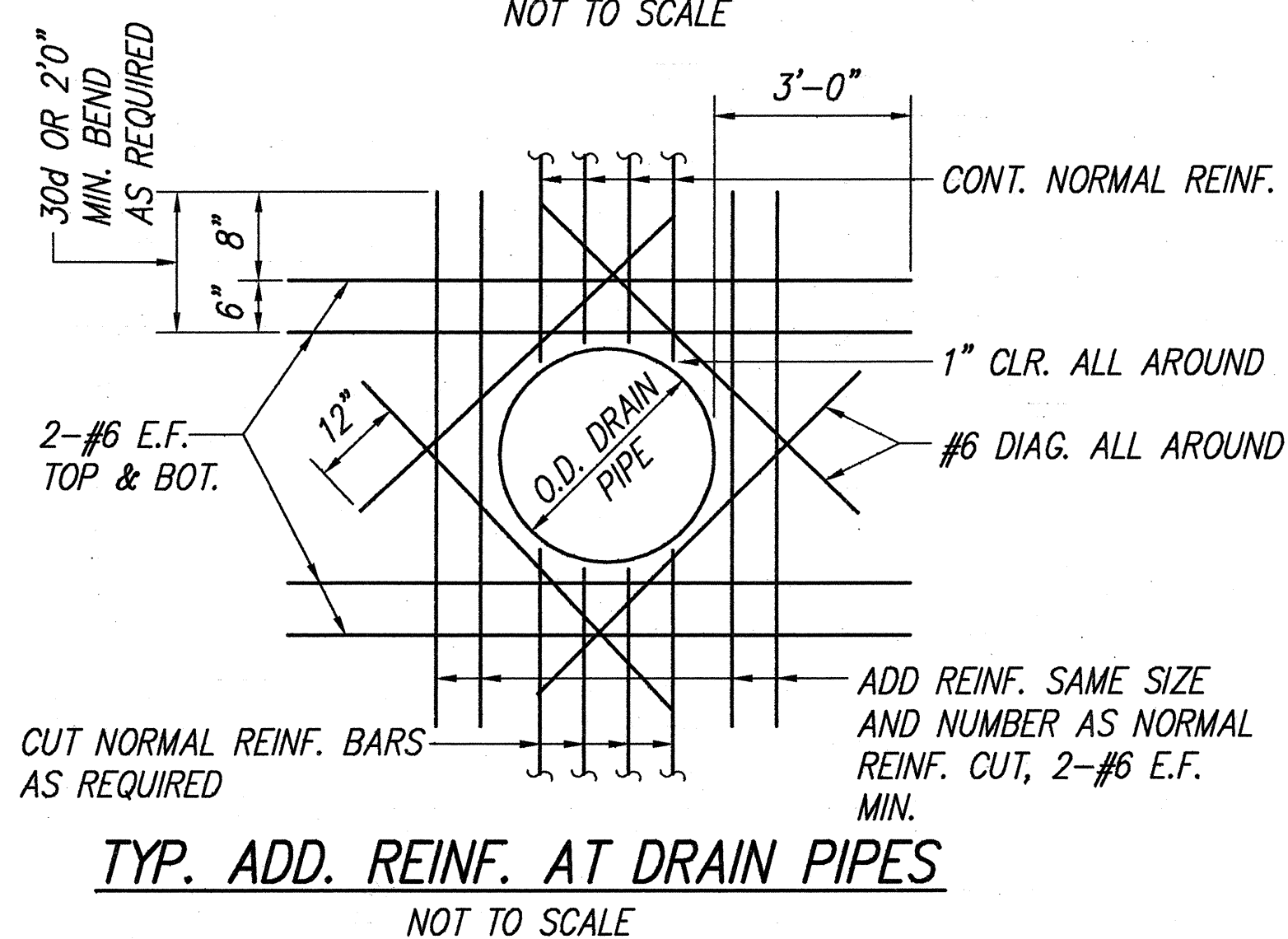
TYPICAL ELEVATION VIEW CONTROL JOINT DETAIL
NOT TO SCALE



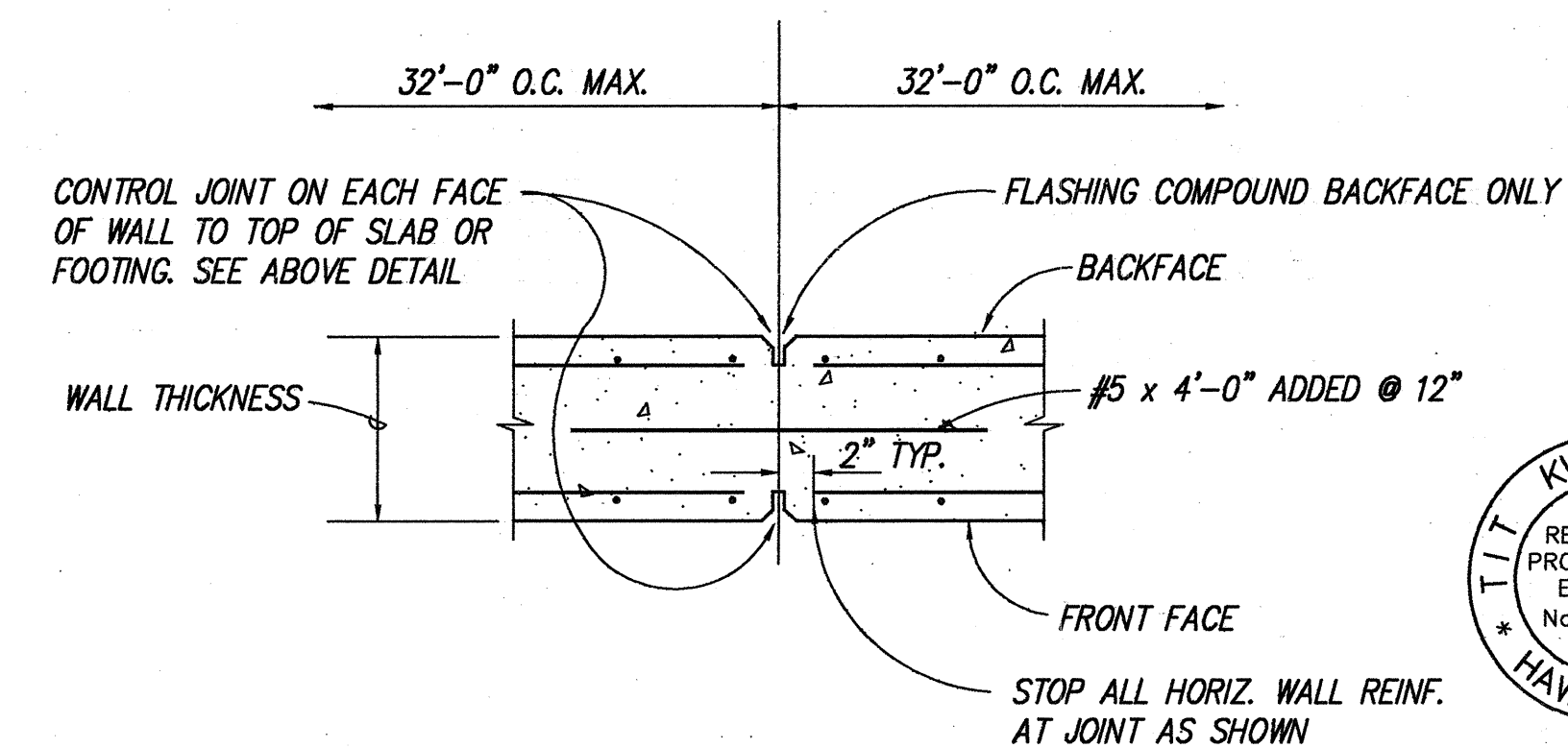
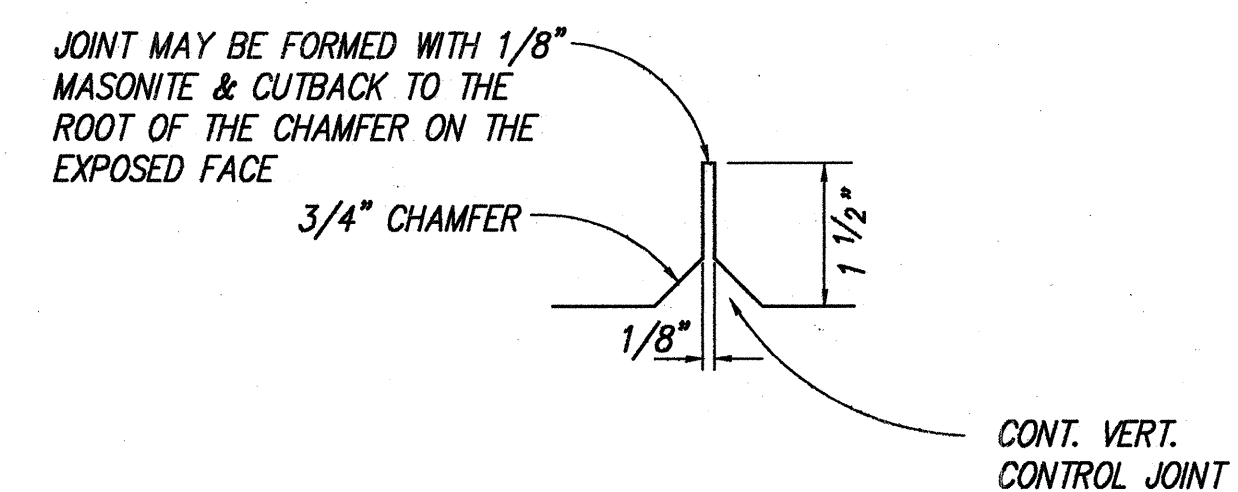
TYPICAL FOOTING STEP-UP DETAILS
NOT TO SCALE



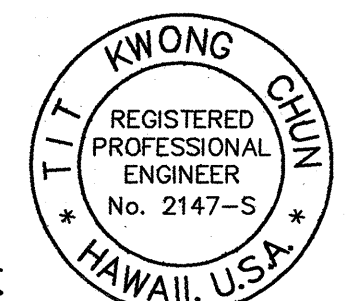
TYP. DRAIN LATERAL CONNECTION TO RC WALL
NOT TO SCALE



TYP. ADD. REINF. AT DRAIN PIPES
NOT TO SCALE



CONTROL JOINT DETAIL
NOT TO SCALE



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION


Parn, Inc.
dba PARK ENGINEERING

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

R.C. WALL DETAILS

KAHEKILI HIGHWAY WIDENING
Likeline Hwy. to Vicinity of Haiku Road
F.A. PROJECT NO. NH-083-1(26)

SCALE: AS NOTED DATE: APRIL 1994

SHEET No. W5 OF W21 SHEETS

AS-BUILT 118

ROTATED:
BASE PT.

2-#7 E.F.

3'-0" min. ea. side

3'-4" (±)

1'-6" Typ.

2'-0"

66" RCP

131.9

9'-0"

7'-0"

2" cl. all around

#7 Diags., E.F.

Typ. "a" Bar

3'-0" min. ea. side

#7 E.F.

Top of Footing 129.7

Bottom of Footing

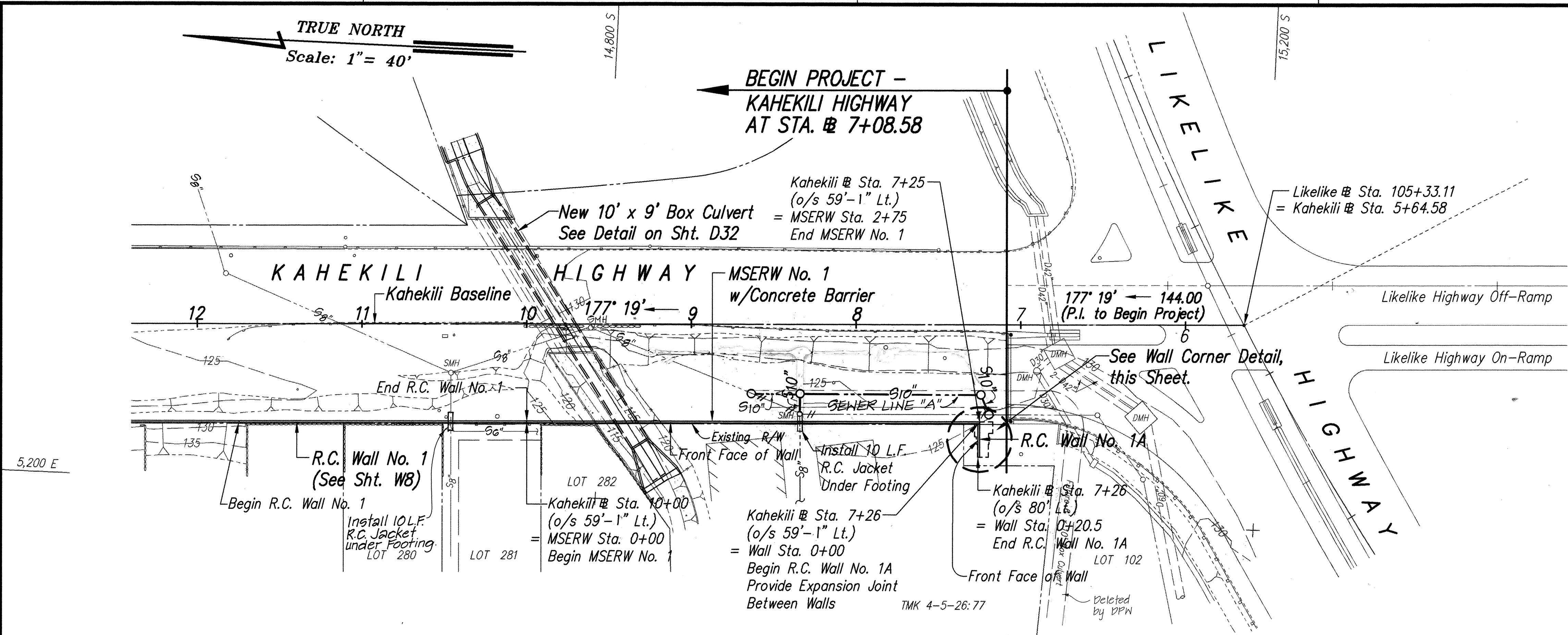
Add 8-#7 per opening (16 total)

Inlet No. 2 (Inv. = 135.0), Wall No. 7 (BFE = 132.8)
 Outlet No. 2 (Inv. = 131.9), Wall No. 11 (BFE = 129.8)

AS-BUILT ADD. 119

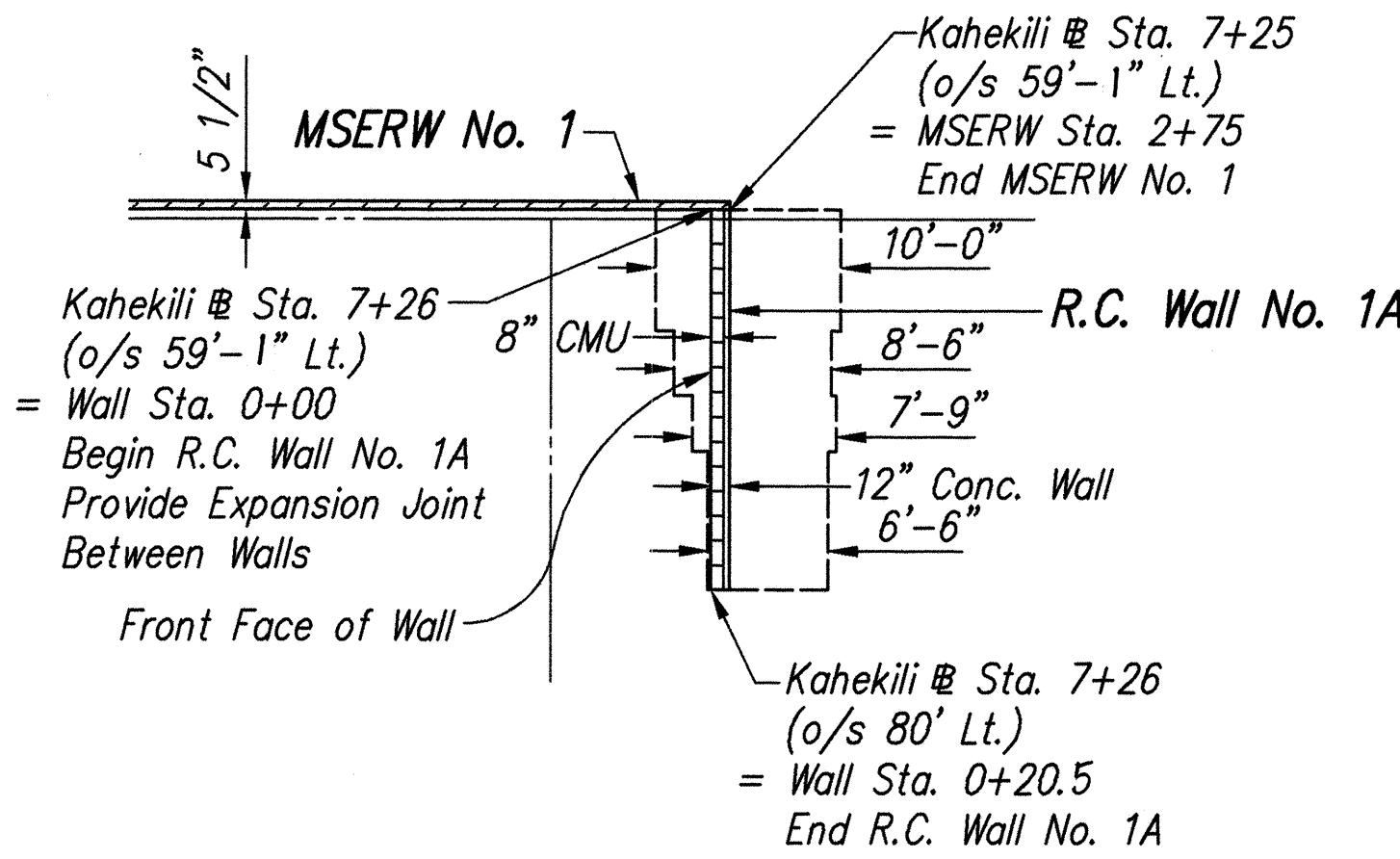
LIB: STATE\DOT\KAHEKILI\ADDENDUM

FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	ADD. 120	238



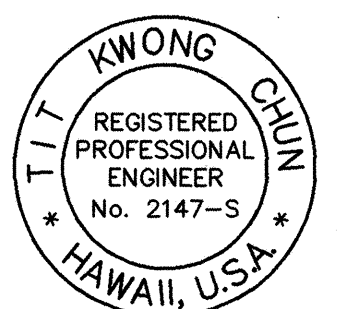
PLAN - MSERW NO. 1 AND R.C. WALL NO. 1A

Scale: 1"= 40'

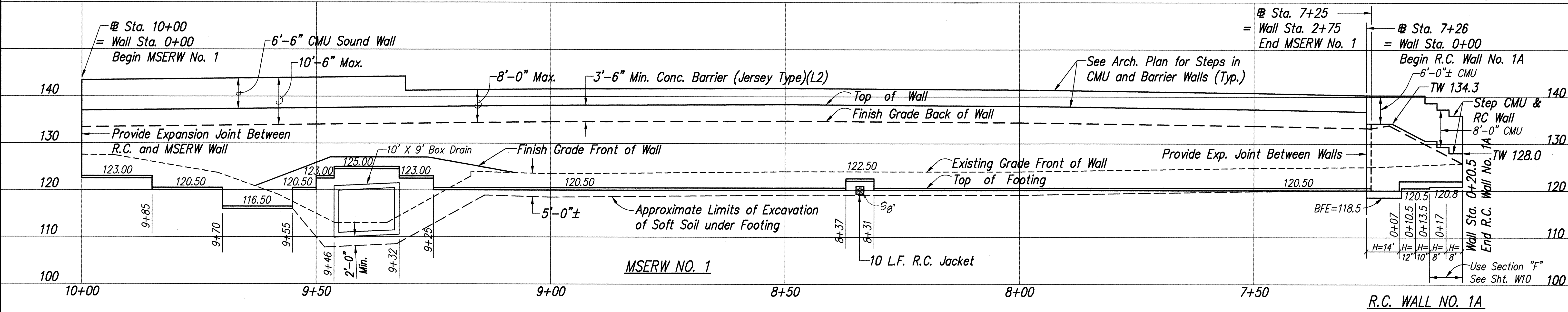


WALL CORNER DETAIL

Scale: 1"=10'



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
 Pagen, Inc.
 280 PARK ENGINEERING



PROFILE

Scale: Horiz. 1"= 10'
 Vert. 1"= 10'

APPROVED: *[Signature]* 10/10/94
 CHIEF, DIV. OF PLANNING & SERVICE CONTROL, DPHM
 (For Sewer Work within Public Road R/W only.)

1/11/96	REVISED OFFSETS FOR MSERW NO. 1 AND R.C. WALL NO. 1A
8/3/95	REVISED SEWER LINE "A", PLAN AND PROFILE (DPN DELETED FUTURE 6' X 10' BOX CULVERT)
6/07/94	ADDED DPHM SIGNATURE BLOCK AND SEWER NOTES
6/07/94	REVISED WALL PROFILES AND FOOTINGS.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN AND PROFILE
MSERW NO. 1 AND R.C. WALL NO. 1A

KAHEKILI HIGHWAY WIDENING
Likelike Hwy. to Vicinity of Haiku Road
F.A. PROJECT NO. NH-083-1(26)
SCALE: AS NOTED DATE: APRIL 1994

SHEET No. W7 OF W21 SHEETS

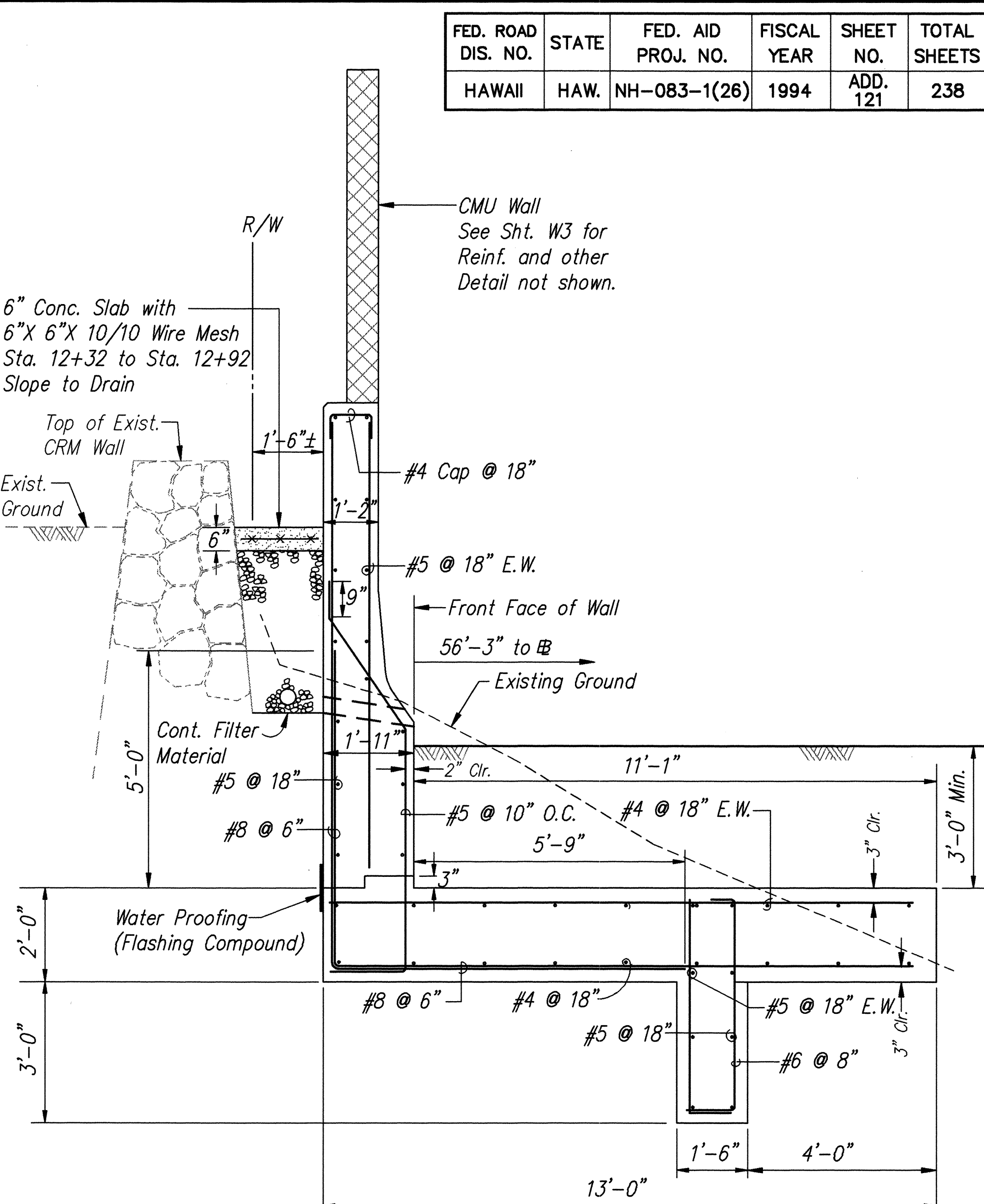
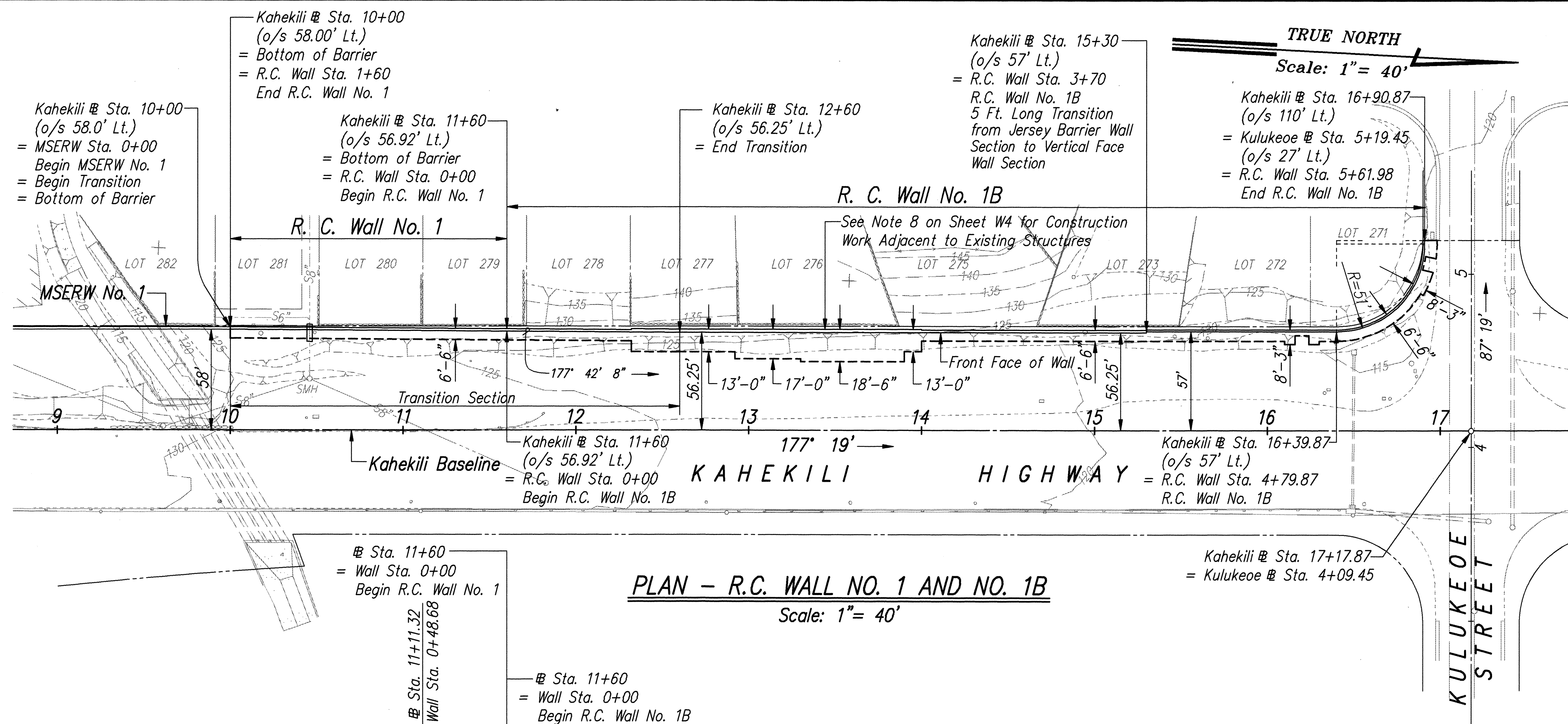
AS-BUILT C.O. ADD. 120

DATE	
SURVEY PLOTTED BY	
DRAWN BY	
CHECKED BY	
ORIGINAL	
PLAN	
NOTEBOOK	
No.	

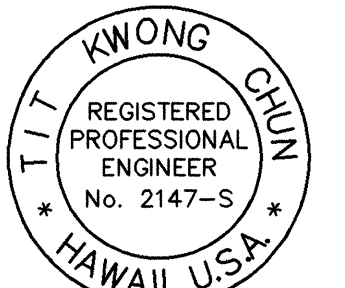
ROTATED: (-)87.19°
 BASE PT. 0.0

LIB: STATE DOT\KAHEKILI\ADDENDUM
 WALL7R 6/07/94 AM GHT

FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	ADD. 121	238

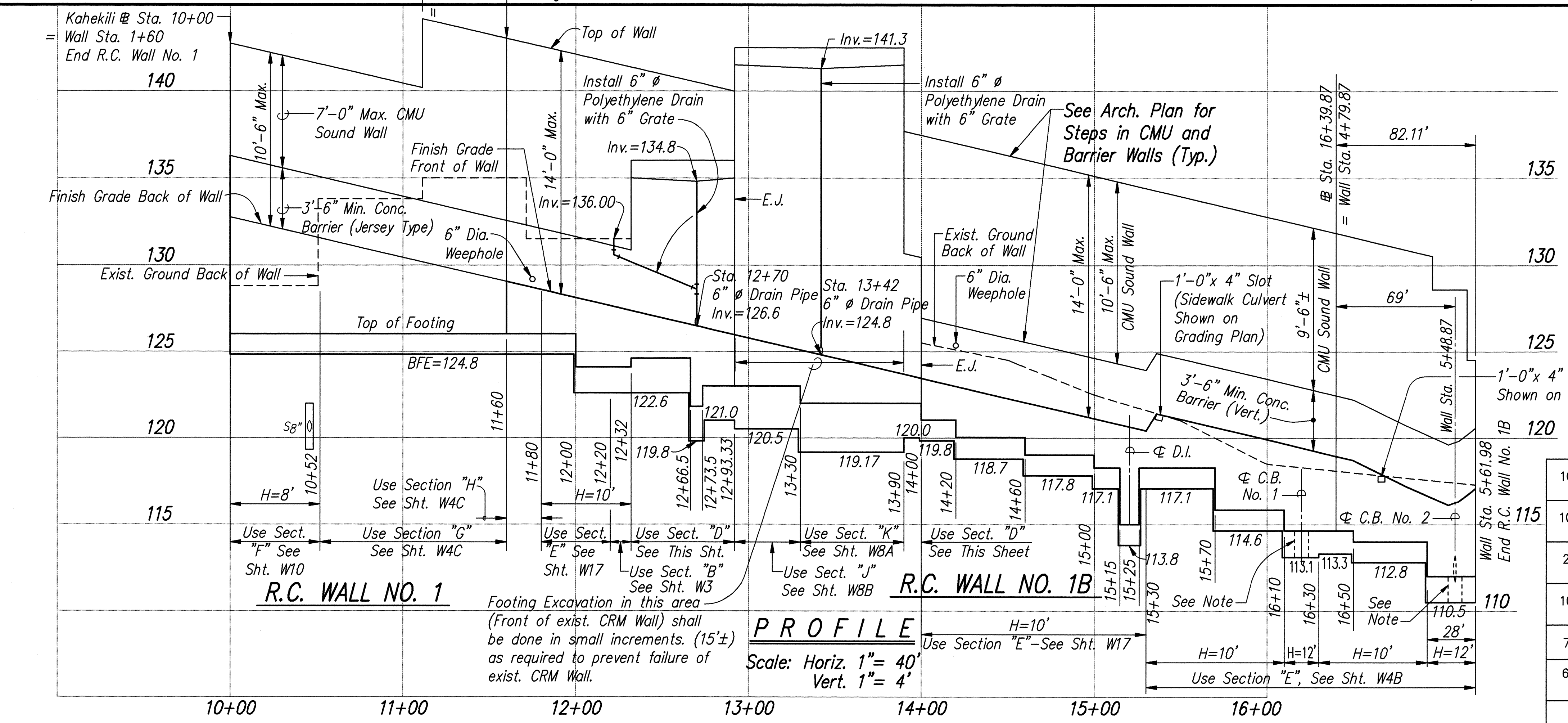


NOTE:
At C.B. No. 1 and C.B. No. 2, Cut-out Footing, 4" Clear on Sides to Accept Catch Basin Structures



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Wayne K. Higuchi
** SIGNATURE HAS BEEN DIGITIZED

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Kwong Chun
** SIGNATURE HAS BEEN DIGITIZED



10/10/96	REVISED R.C. WALL NO. 1B FROM STA. 12+32 TO STA. 12+93.33
10/07/96	REVISED R.C. WALL NO. 1B FROM STA. 12+93.33 TO STA. 13+90
2/29/96	REVISED R.C. WALL NO. 1 FROM STA. 10+00 TO STA. 11+80
10/10/95	REVISED R.C. WALLS NO. 1 & 1B FROM STA. 10+00 TO STA. 16+90.87
7/13/94	ADDED EXIST. SEWER LINE.
6/07/94	REVISED WALL PROFILES AND FOOTINGS. REVISED GRP BEHIND RETAINING WALL.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

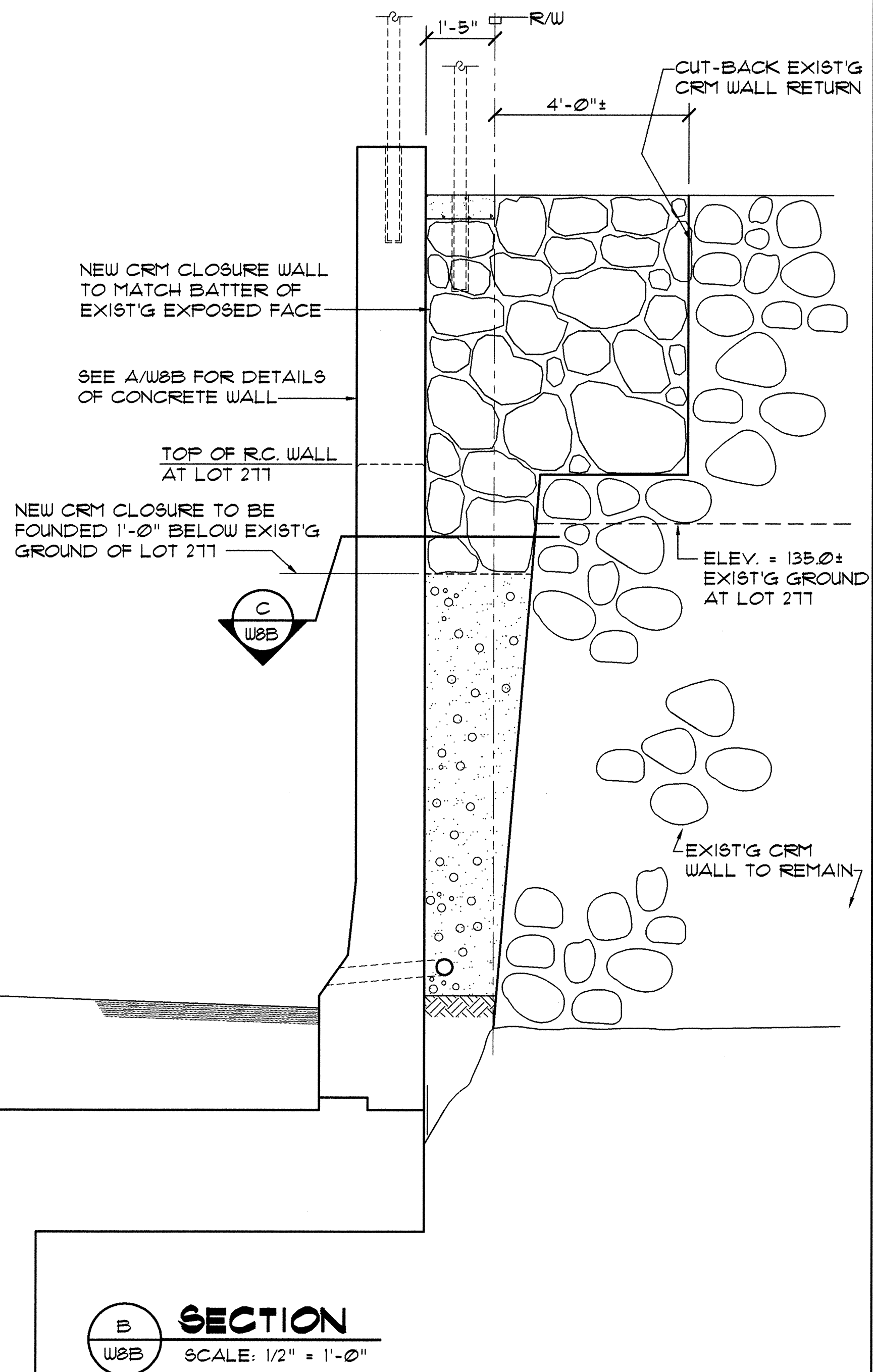
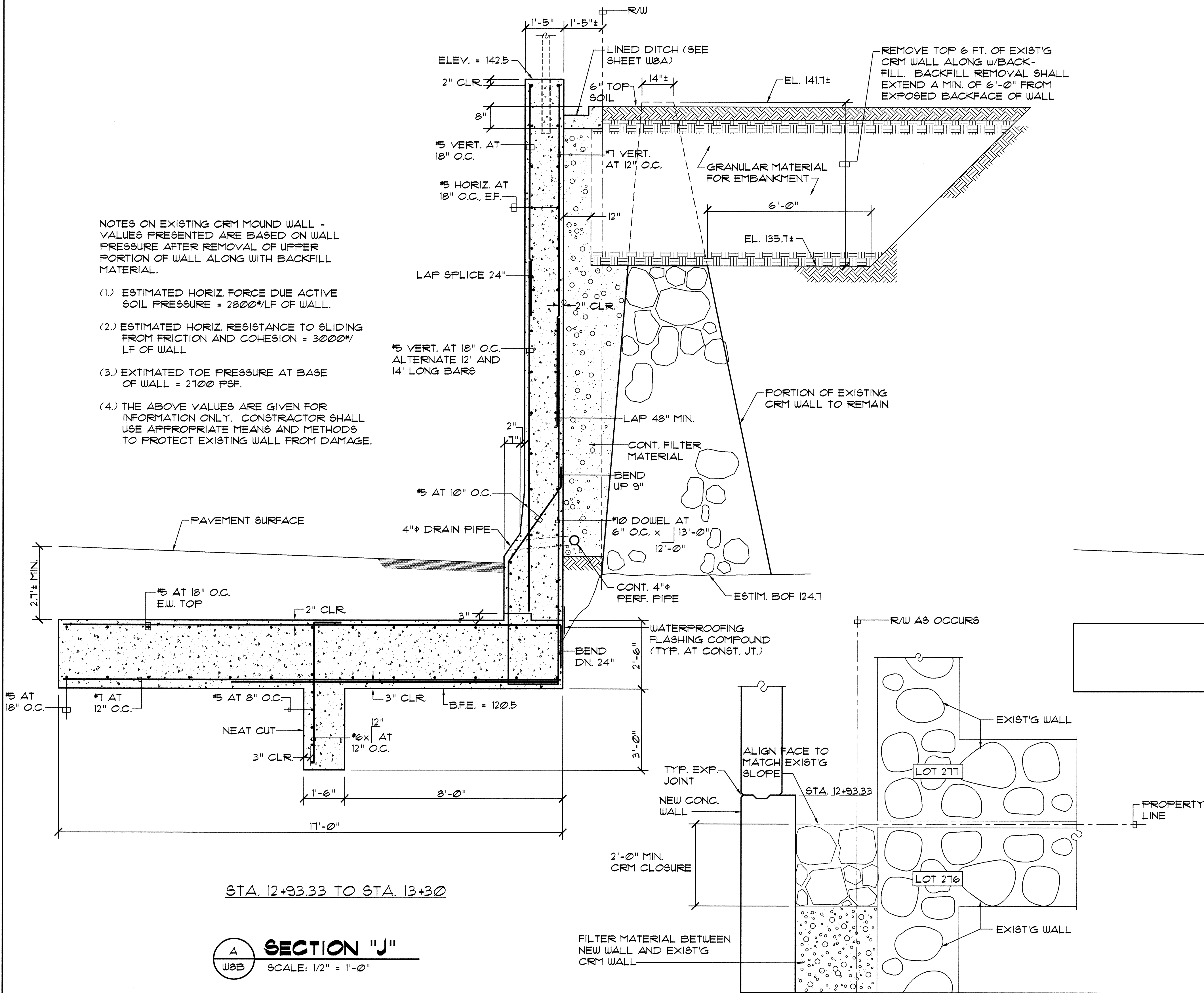
PLAN AND PROFILE
R.C. WALL NO. 1 AND NO. 1B

KAHEKILI HIGHWAY WIDENING
Likelike Hwy. to Vicinity of Haiku Road
F.A. PROJECT NO. NH-083-1(26)

SCALE: AS NOTED DATE: APRIL 1994

SHEET No. W8 OF W21 SHEETS

FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	ADD. 121	238



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Wayne K. Higuchi
SHIGEMURA, LUI, SAKAMOTO, HIGUCHI, AND ASSOC.

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
PLAN AND PROFILE R.C. WALL NO. 1 AND NO. 1B	
KAHEKILI HIGHWAY WIDENING Likelike Hwy. to Vicinity of Haiku Road F.A. PROJECT NO. NH-083-1(26)	
SCALE: AS NOTED	DATE: APRIL 1994
SHEET No. W8B OF W21 SHEETS	

10/1/96	REVISED RETAINING WALL SECTION FROM STA. 12 + 93.33 TO 13 + 90
DATE	REVISION

AS-BUILT C.O. ADD 121 S-2

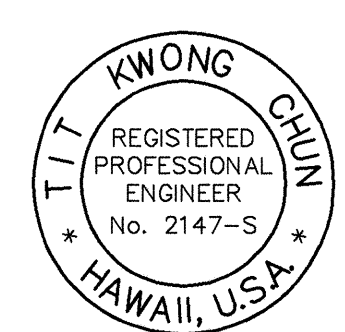
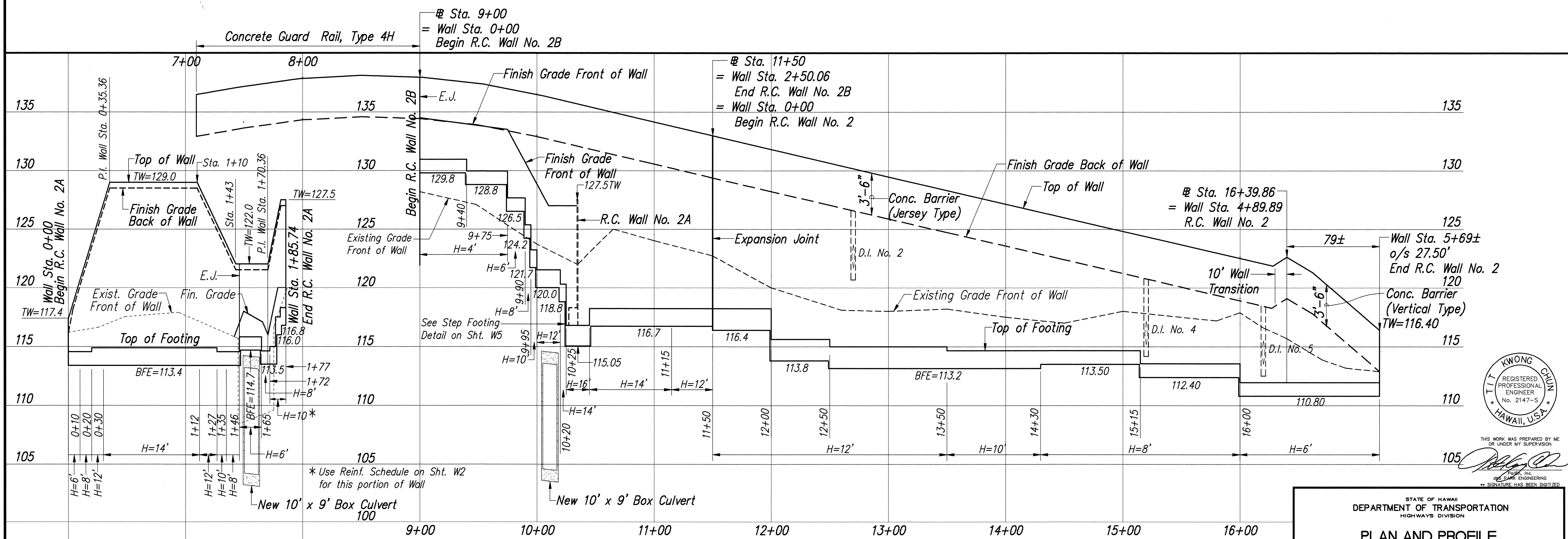
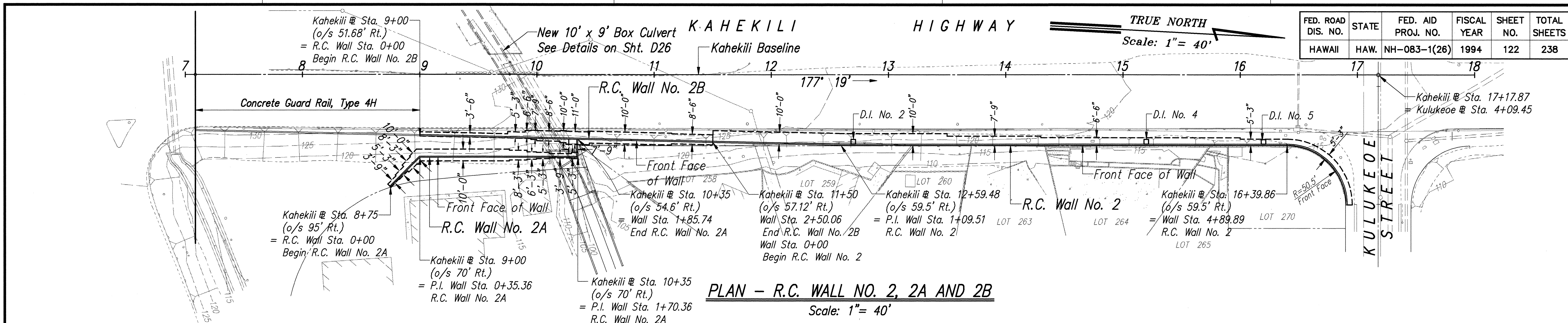
DATE	_____
DESIGNED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NO.	_____

ROTATED: BASE PT.

LIB: STATE DOT/KAHEKILI/ADDENDUM

DATE: _____
DESIGNED BY: _____
CHECKED BY: _____
NOTED BY: _____
QUANTITIES BY: _____
ORIGINAL: _____
PLAN: _____
NO. _____

ROTATED: 92° 41'
BASE PT. 0.0



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
DATE: 9/04/96
SIGNATURE: [Signature]
** SIGNATURE HAS BEEN DIGITIZED

DATE		REVISION	
9/04/96		REVISED FOOTING ELEVATION FOR R.C. WALL NO. 2 BETWEEN STA. 15+25 TO STA. 16+60	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN AND PROFILE
R. C. WALL NO. 2, 2A AND 2B

KAHEKILI HIGHWAY WIDENING
Likelike Hwy. to Vicinity of Haiku Road
F.A. PROJECT NO. NH-083-1(26)

SCALE: AS NOTED
DATE: APRIL 1994

SHEET No. W9 OF W21 SHEETS

AS-BUILT C.O. 122

LIB: STATE DOT\KAHEKILI\J080004
WAL9C 9/04/96 AMM GHT KSU

KULUKEOE STREET

Kahekili Sta. 17+44.85 (o/s 110' Lt.)
= Kulukeoe Sta. 5+19.45 (o/s 27' Rt.)
= Wall Sta. 7+91.26
End R.C. Wall No. 3

Kahekili Sta. 17+44.85 (o/s 108' Lt.)
= Kulukeoe Sta. 5+17.45 (o/s 27' Rt.)
= P.T. Wall Sta. 7+89.26

Kahekili Sta. 17+95.85 (o/s 57' Lt.)
= P.C. Wall Sta. 7+09.15

Kahekili Sta. 19+87
= R.C. Wall Sta. 5+18

Extend Toe ("A" = 1'-6")
for C.B. (Typ.)

Kahekili Sta. 23+45
= R.C. Wall Sta. 1+60

Kahekili Sta. 25+05
(o/s 58' Lt.)
= Wall Sta. 0+00
Begin R.C. Wall No. 3

Kahekili Sta. 25+40
(o/s 57' Lt.)
= Wall Sta. 0+35
End R.C. Wall No. 3A

Use Section "F"

Use Section "E"

Use Section "F"

Use Section "B"

PLAN - R. C. WALL NO. 3 AND 3A

Scale: 1" = 40'

TRUE NORTH

Scale: 1" = 40'

FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	123	238

For Typical Sound Wall Section and Details, See Sht. W3

8" CMU
h = Varies
for h > 3'-6"
h ≤ 10'-6"

Dowels and Reinf. for CMU Wall incidental to CMU Wall

Note: See Sht. W2 for Schedules and Details

#4 @ 16" for h < 8'
#5 @ 16" for h ≥ 8'

#4 @ 16" for h < 8'
#5 @ 16" for h ≥ 8'

See Sht. W2 for Detail of Vertical Barrier Wall Section w/ #5 @ 7" Vertical Reinf. Roadway side only. (Wall No. 3 and No. 18)

Finish Grade

Finish Grade

1'-0" Min.

"A"

3" cl.

#5 @ 7"

2-#4

L

#5 @ 7"

"a" Bars

"b" Bars

#5 @ 14"

SOUND WALL SECTION "F"

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



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
DATE: 10/30/95
SIGNATURE: [Signature]
HAWAII, U.S.A.

10/30/95	REVISED R.C. WALL NO. 3 BETWEEN STA. 17+44.85 TO STA. 17+95.85 REVISED FOOTING AT STA. 22+25 REVISED LOCATION OF 24" DRAIN PIPE AT STA. 24+40
6/07/94	REVISED WALL PROFILES, FOOTING AND WALL SECTION DETAIL.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**PLAN AND PROFILE
R.C. WALL NO. 3 AND 3A**

KAHEKILI HIGHWAY WIDENING
Likelike Hwy. to Vicinity of Haiku Road
F.A. PROJECT NO. NH-083-1(26)

SCALE: AS NOTED
DATE: APRIL 1994

SHEET No. W10 OF W21 SHEETS

AS-BUILT C.O. ADD. 123

140

135

130

125

120

115

110

105

Wall Sta. 7+91.26
End R.C. Wall No. 3

Sta. 17+95.85
= Wall Sta. 7+09.15

Sta. 19+87
= Wall Sta. 5+18

See Arch. Plan for Step in CMU and Barrier Walls (Typ.)
Sta. 20+50
= Wall Sta. 4+55

1'-0" x 4" Slot for Sidewalk Culvert See Grading Plan Sht. C12

C.B. No. 12

Exist. Ground Back of Wall

Exist. Ground Front of Wall

Sta. 24+40
Inv.=123.0 (24")

Sta. 22+25
Inv.=113.5± (24")

Sta. 22+45
Inv.=113.40

Sta. 22+50
Inv.=112.32

Sta. 22+55
Inv.=110.32

Sta. 22+60
Inv.=109.80

Sta. 22+65
Inv.=109.30

Sta. 22+70
Inv.=108.80

Sta. 22+75
Inv.=108.30

Sta. 22+80
Inv.=107.80

Sta. 22+85
Inv.=107.30

Sta. 22+90
Inv.=106.80

Sta. 22+95
Inv.=106.30

Sta. 23+00
Inv.=105.80

Sta. 23+05
Inv.=105.30

Sta. 23+10
Inv.=104.80

Sta. 23+15
Inv.=104.30

Sta. 23+20
Inv.=103.80

Sta. 23+25
Inv.=103.30

Sta. 23+30
Inv.=102.80

Sta. 23+35
Inv.=102.30

Sta. 23+40
Inv.=101.80

Sta. 23+45
Inv.=101.30

Sta. 23+50
Inv.=100.80

Sta. 23+55
Inv.=100.30

Sta. 23+60
Inv.=99.80

Sta. 23+65
Inv.=99.30

Sta. 23+70
Inv.=98.80

Sta. 23+75
Inv.=98.30

Sta. 23+80
Inv.=97.80

Sta. 23+85
Inv.=97.30

Sta. 23+90
Inv.=96.80

Sta. 23+95
Inv.=96.30

Sta. 24+00
Inv.=95.80

Sta. 24+05
Inv.=95.30

Sta. 24+10
Inv.=94.80

Sta. 24+15
Inv.=94.30

Sta. 24+20
Inv.=93.80

Sta. 24+25
Inv.=93.30

Sta. 24+30
Inv.=92.80

Sta. 24+35
Inv.=92.30

Sta. 24+40
Inv.=91.80

Sta. 24+45
Inv.=91.30

Sta. 24+50
Inv.=90.80

Sta. 24+55
Inv.=90.30

Sta. 24+60
Inv.=89.80

Sta. 24+65
Inv.=89.30

Sta. 24+70
Inv.=88.80

Sta. 24+75
Inv.=88.30

Sta. 24+80
Inv.=87.80

Sta. 24+85
Inv.=87.30

Sta. 24+90
Inv.=86.80

Sta. 24+95
Inv.=86.30

Sta. 25+00
Inv.=85.80

Sta. 25+05
Inv.=85.30

Sta. 25+10
Inv.=84.80

Sta. 25+15
Inv.=84.30

Sta. 25+20
Inv.=83.80

Sta. 25+25
Inv.=83.30

Sta. 25+30
Inv.=82.80

Sta. 25+35
Inv.=82.30

Sta. 25+40
Inv.=81.80

Sta. 25+45
Inv.=81.30

Sta. 25+50
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Sta. 25+55
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Sta. 25+65
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Sta. 25+70
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Sta. 25+75
Inv.=78.30

Sta. 25+80
Inv.=77.80

Sta. 25+85
Inv.=77.30

Sta. 25+90
Inv.=76.80

Sta. 25+95
Inv.=76.30

Sta. 26+00
Inv.=75.80

Sta. 26+05
Inv.=75.30

Sta. 26+10
Inv.=74.80

Sta. 26+15
Inv.=74.30

Sta. 26+20
Inv.=73.80

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Inv.=72.80

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Sta. 27+00
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Sta. 27+05
Inv.=65.30

Sta. 27+10
Inv.=64.80

Sta. 27+15
Inv.=64.30

Sta. 27+20
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Sta. 27+25
Inv.=63.30

Sta. 27+30
Inv.=62.80

Sta. 27+35
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Sta. 27+40
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Sta. 27+45
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Sta. 27+50
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Sta. 27+90
Inv.=56.80

Sta. 27+95
Inv.=56.30

Sta. 28+00
Inv.=55.80

Sta. 28+05
Inv.=55.30

Sta. 28+10
Inv.=54.80

Sta. 28+15
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Inv.=52.30

Sta. 28+40
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Sta. 28+45
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Sta. 28+50
Inv.=50.80

Sta. 28+55
Inv.=50.30

Sta. 28+60
Inv.=49.80

Sta. 28+65
Inv.=49.30

Sta. 28+70
Inv.=48.80

Sta. 28+75
Inv.=48.30

Sta. 28+80
Inv.=47.80

Sta. 28+85
Inv.=47.30

Sta. 28+90
Inv.=46.80

Sta. 28+95
Inv.=46.30

Sta. 29+00
Inv.=45.80

Sta. 29+05
Inv.=45.30

Sta. 29+10
Inv.=44.80

Sta. 29+15
Inv.=44.30

Sta. 29+20
Inv.=43.80

Sta. 29+25
Inv.=43.30

Sta. 29+30
Inv.=42.80

Sta. 29+35
Inv.=42.30

Sta. 29+40
Inv.=41.80

Sta. 29+45
Inv.=41.30

Sta. 29+50
Inv.=40.80

Sta. 29+55
Inv.=40.30

Sta. 29+60
Inv.=39.80

Sta. 29+65
Inv.=39.30

Sta. 29+70
Inv.=38.80

Sta. 29+75
Inv.=38.30

Sta. 29+80
Inv.=37.80

Sta. 29+85
Inv.=37.30

Sta. 29+90
Inv.=36.80

Sta. 29+95
Inv.=36.30

Sta. 30+00
Inv.=35.80

Sta. 30+05
Inv.=35.30

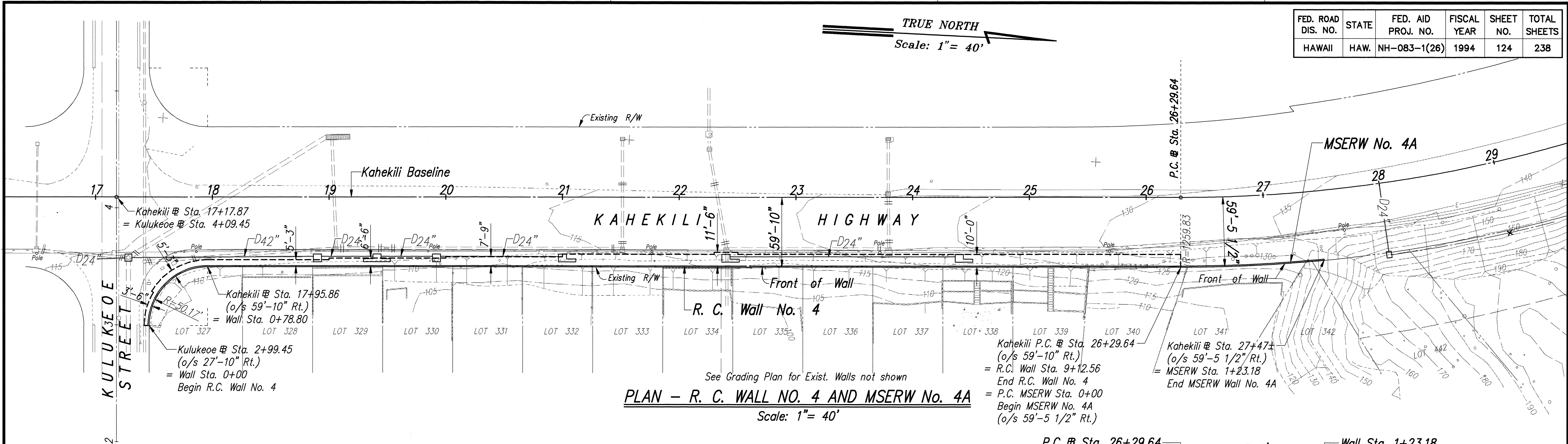
Sta. 30+10
Inv.=34.80

Sta. 30+15
Inv.=34.30

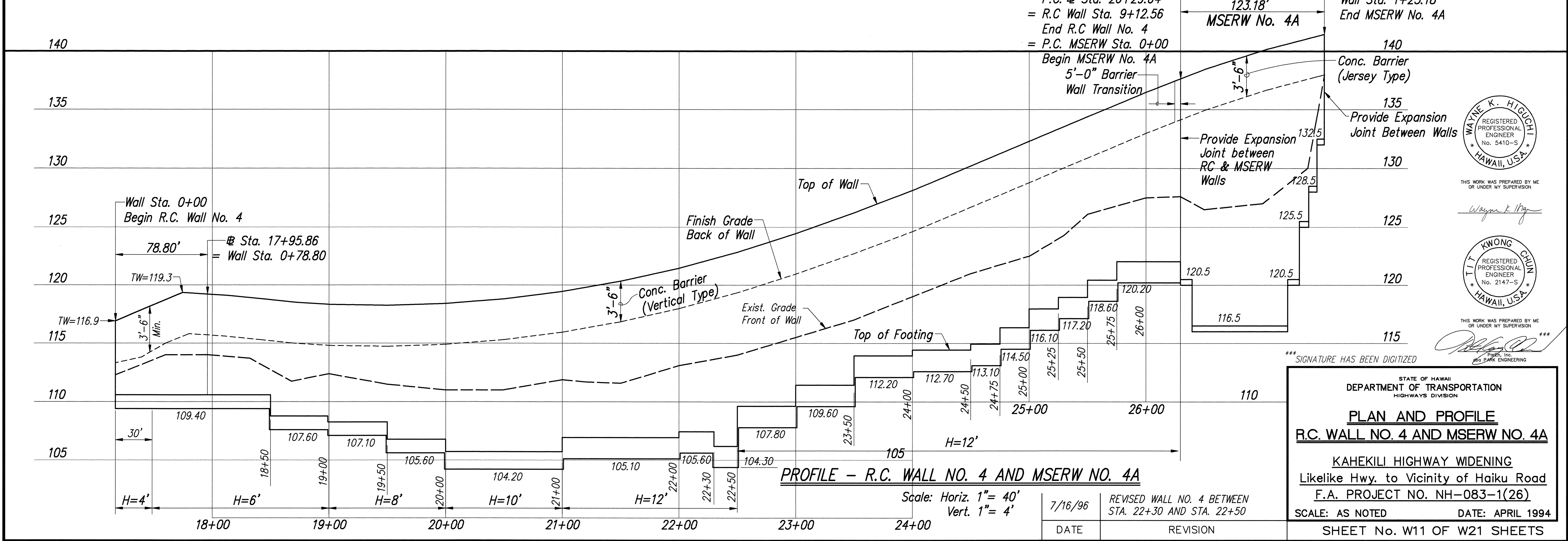
Sta. 30+20
Inv.=33.80

FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	124	238

TRUE NORTH
Scale: 1" = 40'



PLAN - R. C. WALL NO. 4 AND MSERW NO. 4A
Scale: 1" = 40'



PROFILE - R. C. WALL NO. 4 AND MSERW NO. 4A
Scale: Horiz. 1" = 40'
Vert. 1" = 4'

WAYNE K. HIGUCHI
REGISTERED PROFESSIONAL ENGINEER
No. 5410-S
HAWAII, USA

T. T. KWONG
REGISTERED PROFESSIONAL ENGINEER
No. 2147-S
HAWAII, USA

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN AND PROFILE
R.C. WALL NO. 4 AND MSERW NO. 4A

KAHEKILI HIGHWAY WIDENING
Likelike Hwy. to Vicinity of Haiku Road
F.A. PROJECT NO. NH-083-1(26)

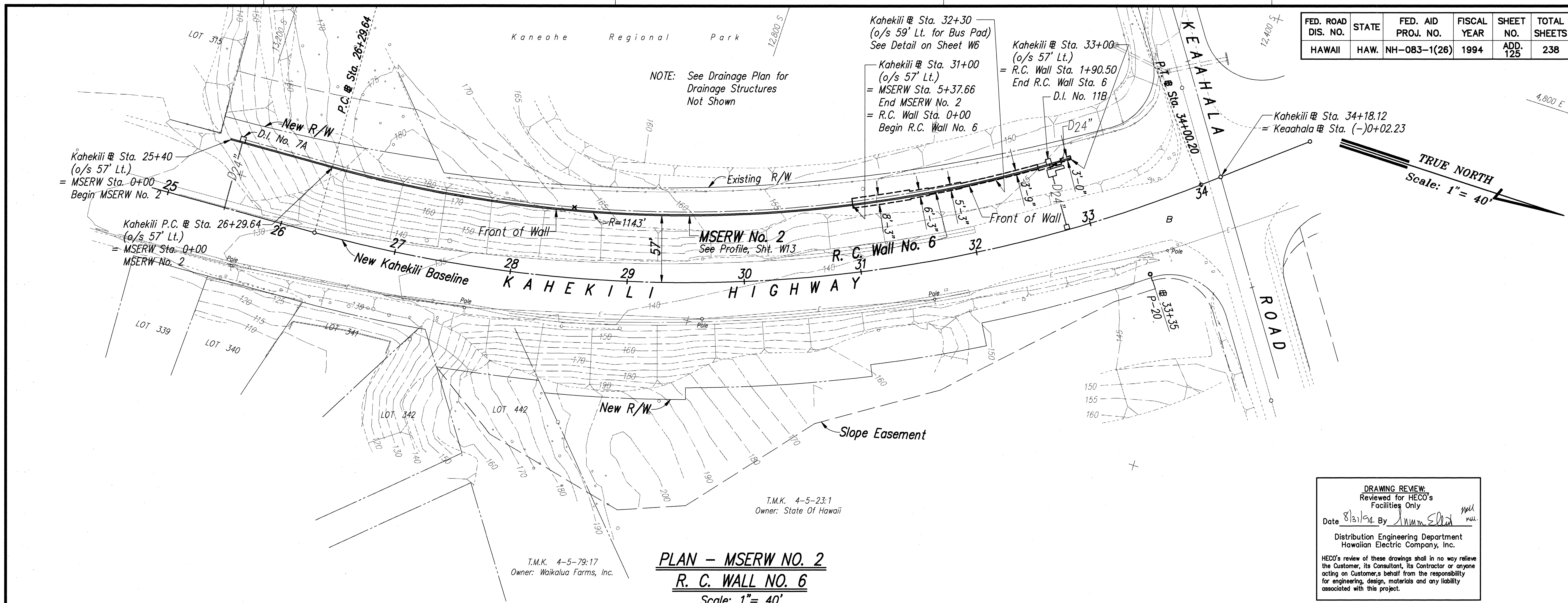
SCALE: AS NOTED DATE: APRIL 1994

SHEET No. W11 OF W21 SHEETS

AS-BUILT C.O. 124

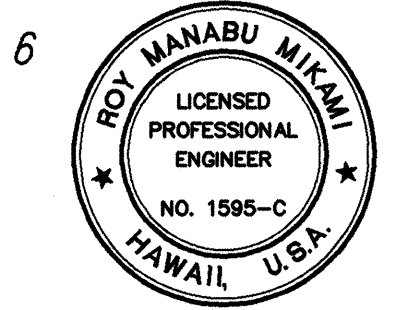
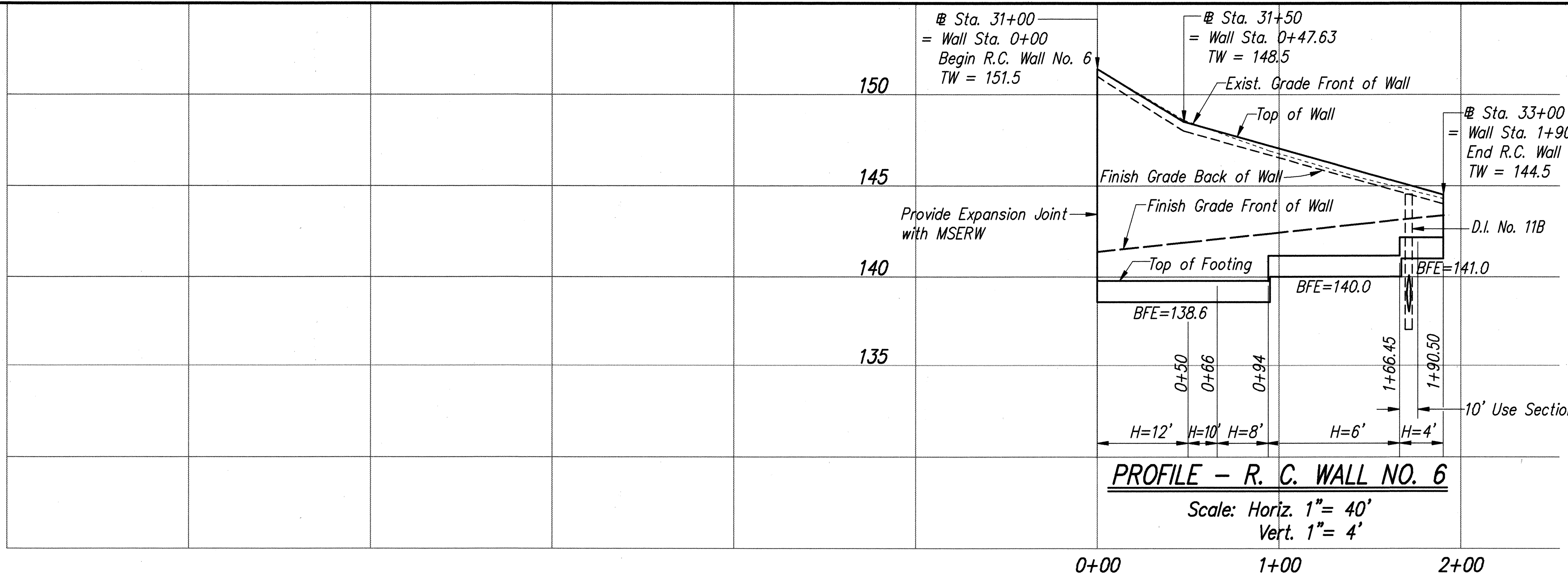
DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTED	_____
NO.	_____

FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	ADD. 125	238



PLAN - MSERW NO. 2
R. C. WALL NO. 6
 Scale: 1" = 40'

DRAWING REVIEW:
 Reviewed for HECO's Facilities Only
 Date 8/31/94 By [Signature]
 Distribution Engineering Department
 Hawaiian Electric Company, Inc.
 HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on Customer's behalf from the responsibility for engineering, design, materials and any liability associated with this project.
 ** Signature Has Been Digitized



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
 Roy Manabu Mami
 P.E., Inc.
 dba PARK ENGINEERING



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
 Kwong Chun
 P.E., Inc.
 dba PARK ENGINEERING
 ** SIGNATURE HAS BEEN DIGITIZED

APPROVED:
 HAWAIIAN ELECTRIC CO. DATE

11/06/95	DELETED MSERW NO. 3 AND NO. 4 AND R.C. WALL NO. 5; REVISED SLOPE EASEMENT
6/07/94	ADDED POLE P-20 AND HECO SIGNATURE BLOCK.
DATE	REVISION

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

**PLAN AND PROFILE
 MSERW AND R.C. WALLS**

KAHEKILI HIGHWAY WIDENING
 Likelike Hwy. to Vicinity of Haiku Road
 F.A. PROJECT NO. NH-083-1(26)

SCALE: AS NOTED DATE: APRIL 1994

SHEET No. W12 OF W21 SHEETS

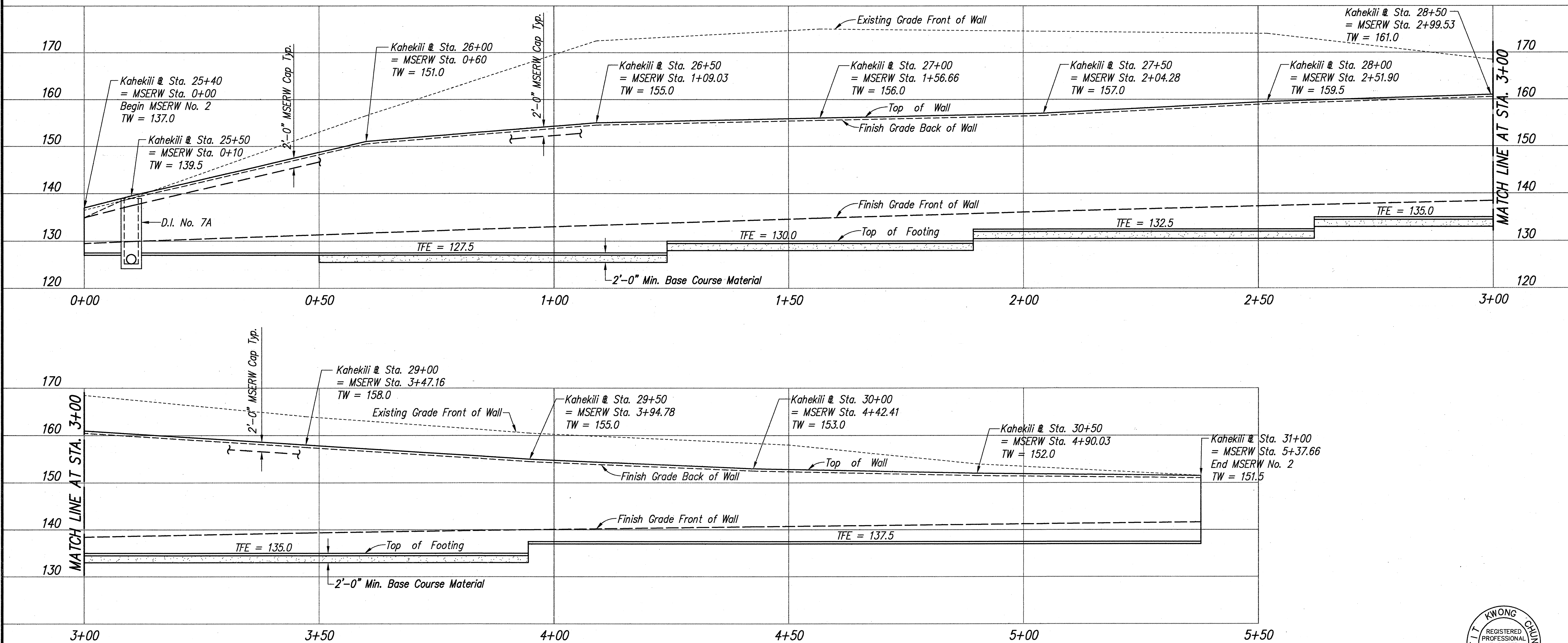
AS-BUILT C.O. ADD. 125

DATE	
SURVEY PLANNED BY	
DESIGNED BY	
TRACED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NO.	

ROTATED: 107° 58' 45"
 BASE PT. 0,0

U.S. STATE LOT KAHEKILI WIDENING
 WALL NO. 11/06/95 AM AM GR

FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	126	238



PROFILE - MSERW NO. 2
Scale: Horiz. 1" = 10'
Vert. 1" = 10'



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
[Signature]
P. Park, Inc.
285 PARK ENGINEERING

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**PROFILE
MSERW NO. 2**

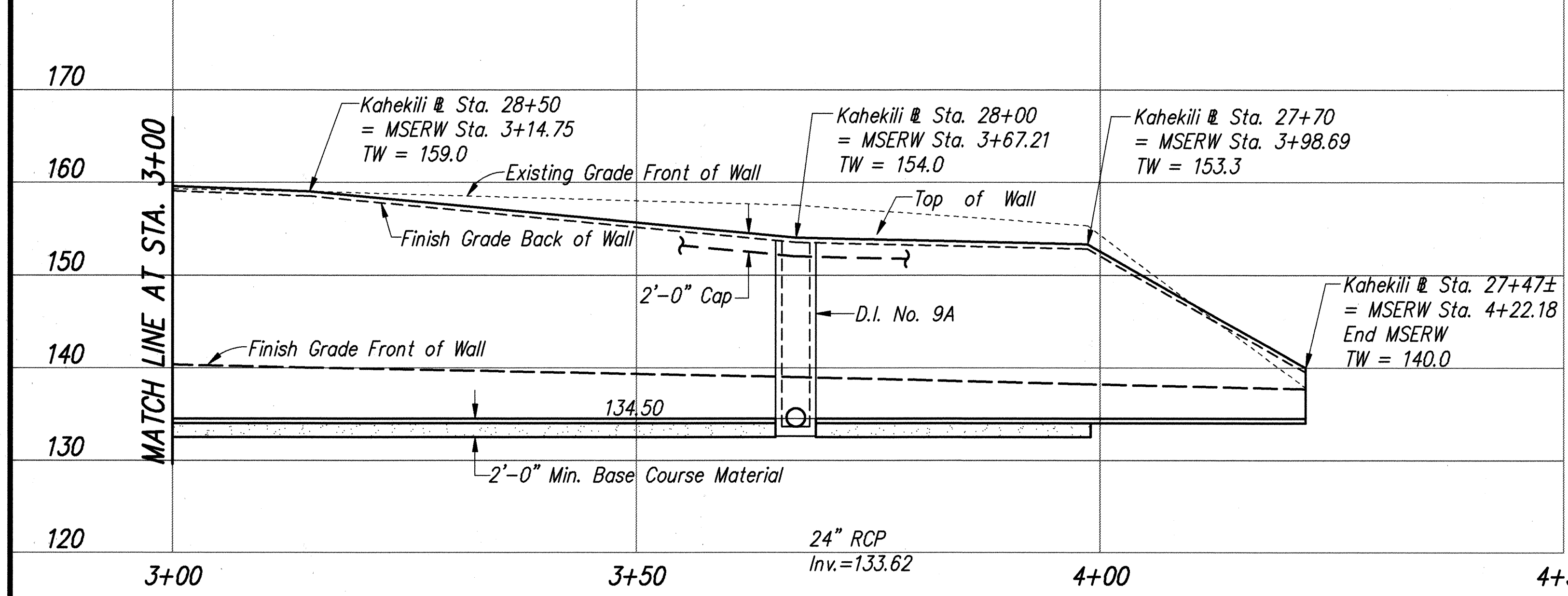
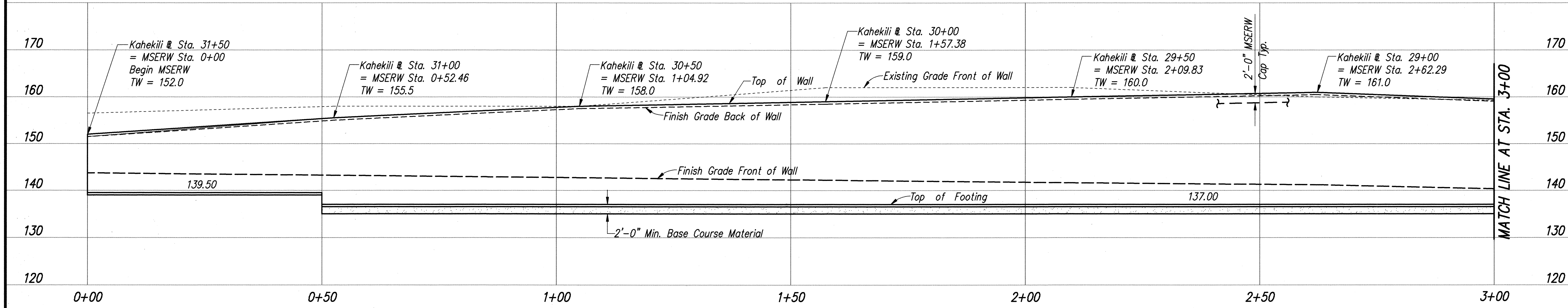
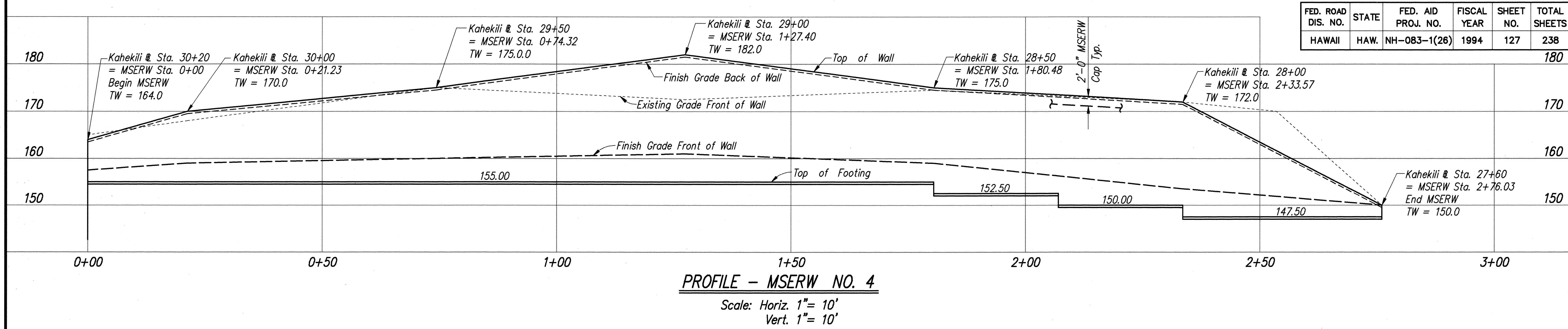
KAHEKILI HIGHWAY WIDENING
Likelike Hwy. to Vicinity of Haiku Road
F.A. PROJECT NO. NH-083-1(26)

SCALE: AS NOTED DATE: APRIL 1994
SHEET No. W13 OF W21 SHEETS

AS-BUILT 126

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
QUANTITIES BY	
NOTED BY	
ORIGINAL PLAN	No.

FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	127	238



DATE	DESIGNED BY	CHECKED BY
11/06/95	DELETED THIS SHEET	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

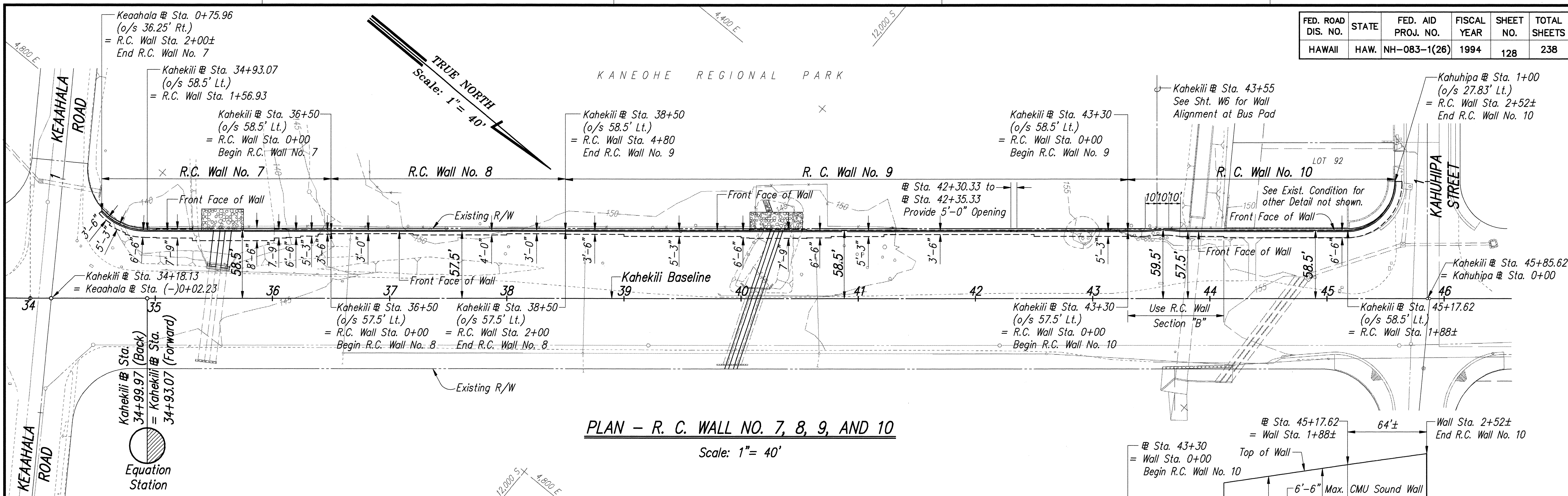
**PROFILE
MSERW NO. 3 AND 4**

KAHEKILI HIGHWAY WIDENING
Likelike Hwy. to Vicinity of Haiku Road
F.A. PROJECT NO. NH-083-1(26)

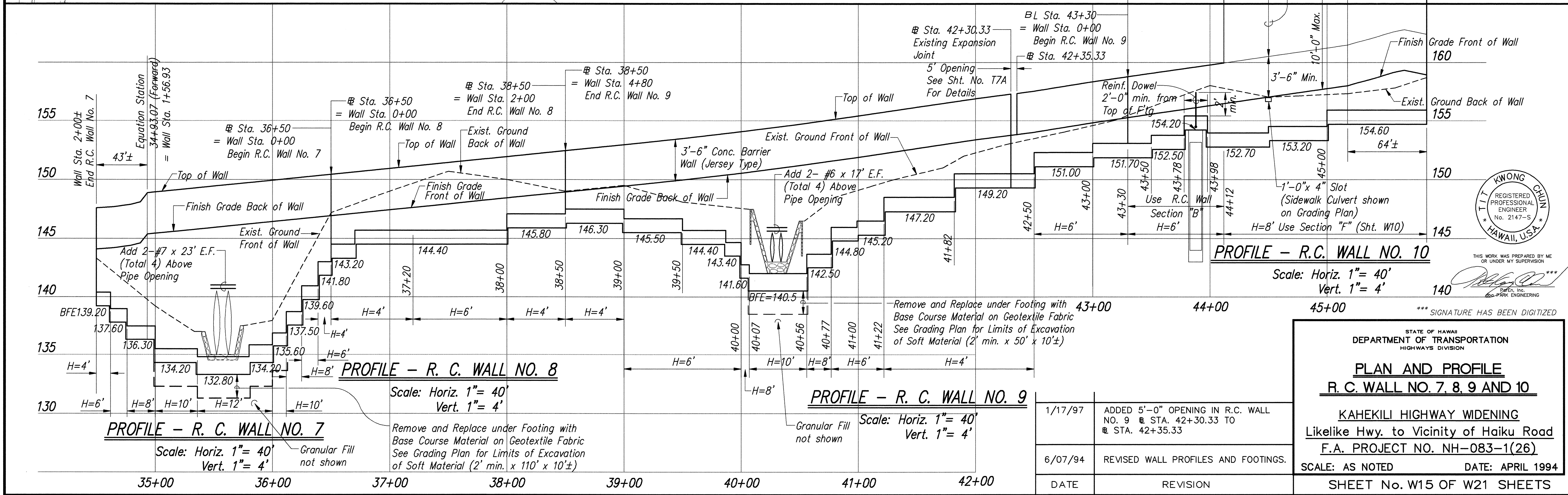
SCALE: AS NOTED DATE: APRIL 1994
SHEET No. W14 OF W21 SHEETS

AS-BUILT C.O. 127

FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	128	238



PLAN - R. C. WALL NO. 7, 8, 9, AND 10
Scale: 1"= 40'



PROFILE - R. C. WALL NO. 7
Scale: Horiz. 1"= 40'
Vert. 1"= 4'

PROFILE - R. C. WALL NO. 8
Scale: Horiz. 1"= 40'
Vert. 1"= 4'

PROFILE - R. C. WALL NO. 9
Scale: Horiz. 1"= 40'
Vert. 1"= 4'

PROFILE - R. C. WALL NO. 10
Scale: Horiz. 1"= 40'
Vert. 1"= 4'

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN AND PROFILE
R. C. WALL NO. 7, 8, 9 AND 10

KAHEKILI HIGHWAY WIDENING
Likeli Hwy. to Vicinity of Haiku Road
F.A. PROJECT NO. NH-083-1(26)

SCALE: AS NOTED DATE: APRIL 1994

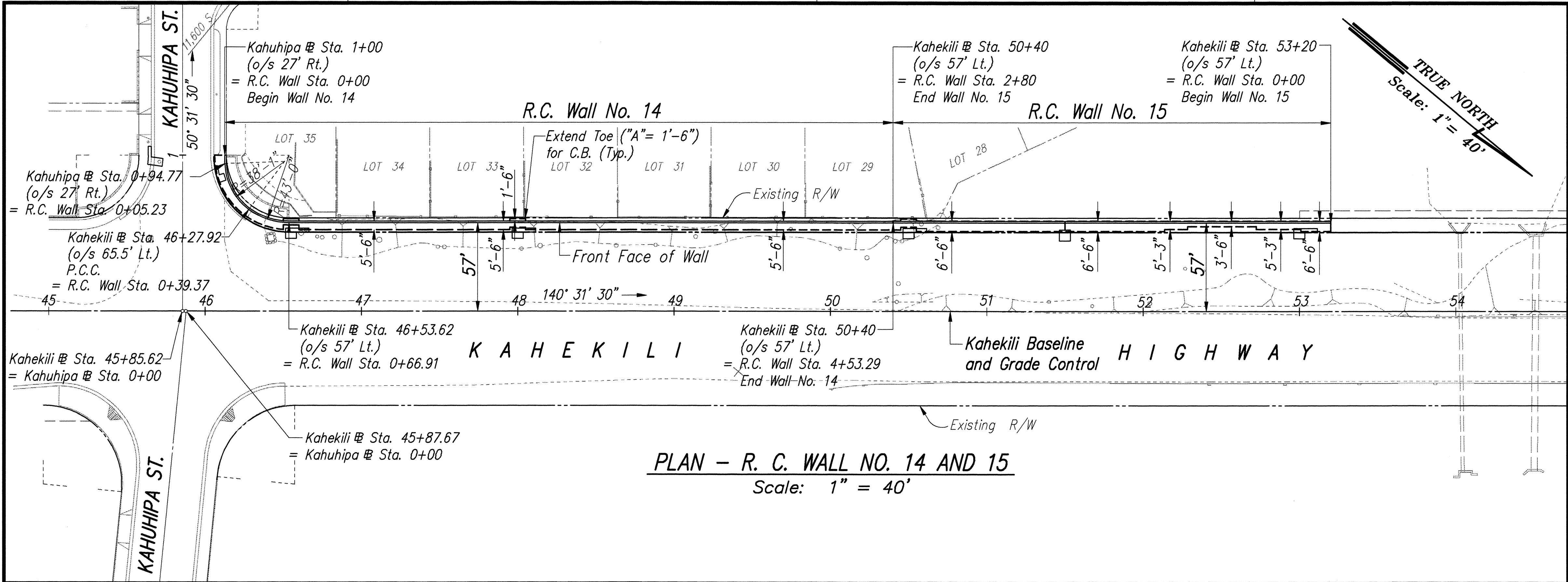
SHEET No. W15 OF W21 SHEETS

AS-BUILT C.O. ADD. 128

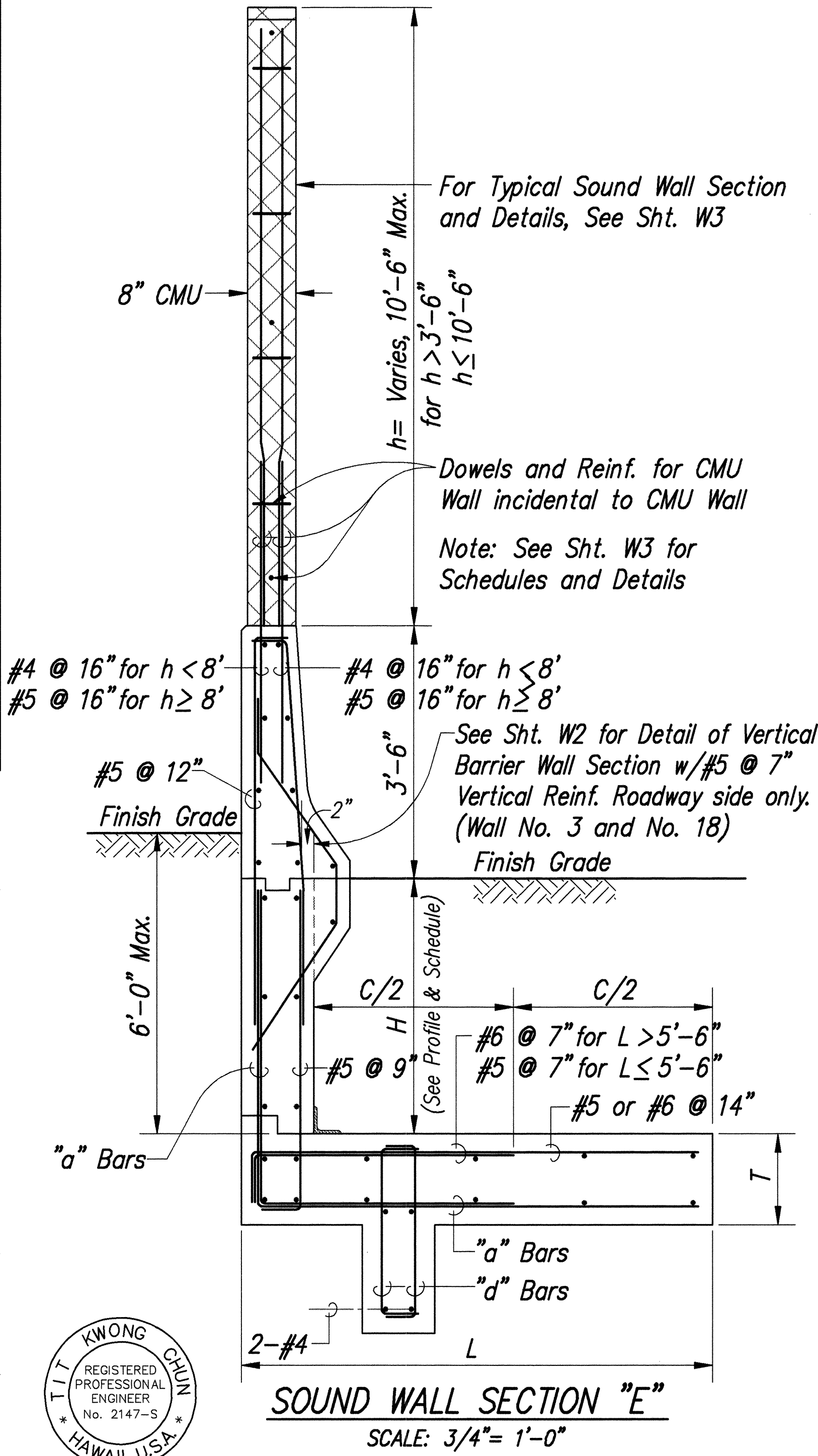
DATE	1/17/97
DESIGNED BY	ADD 5'-0" OPENING IN R.C. WALL NO. 9 @ STA. 42+30.33 TO STA. 42+35.33
DESIGNED BY	REVISED WALL PROFILES AND FOOTINGS.
CHECKED BY	

LIB: STATE DOT/KAHEKILI/ADDENDUM WALLS: 1/17/97 AMM KSJ

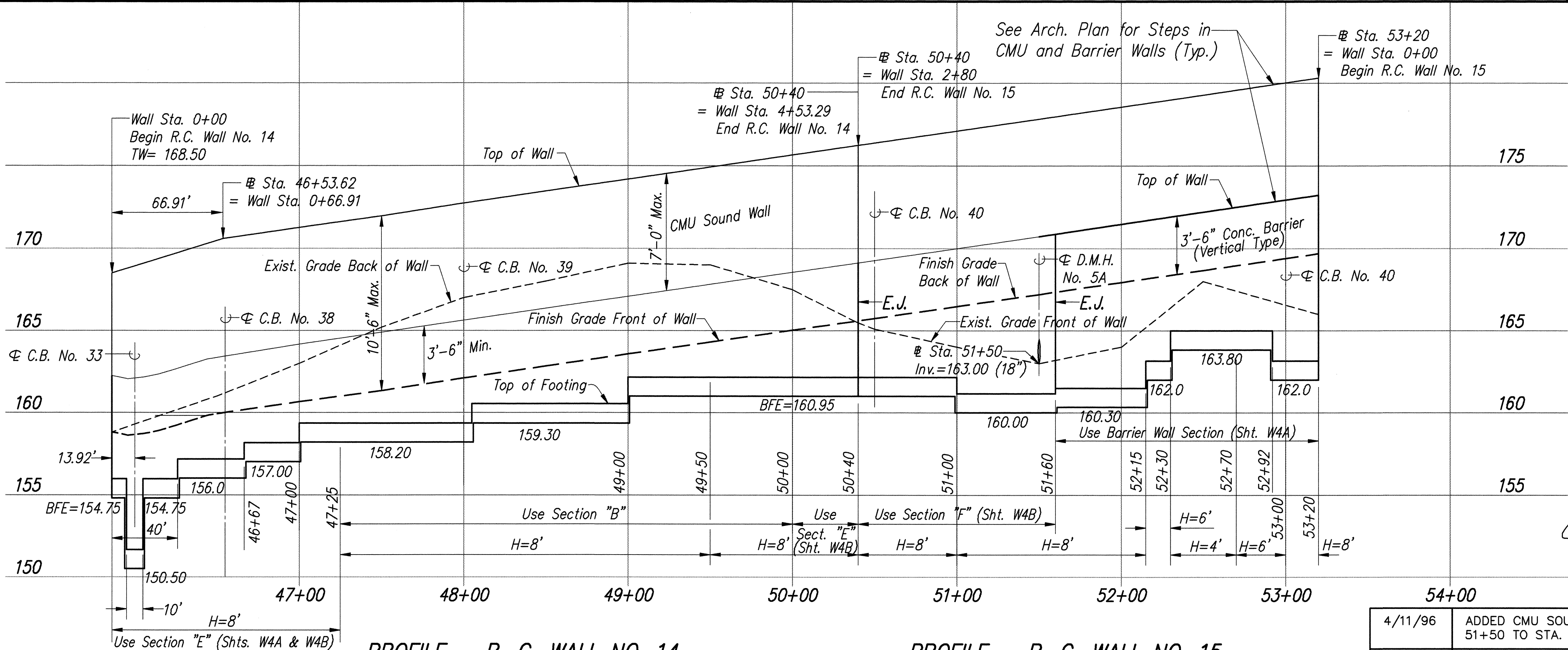
FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	130	238



PLAN - R. C. WALL NO. 14 AND 15
Scale: 1" = 40'



SOUND WALL SECTION "E"
SCALE: 3/4" = 1'-0"



PROFILE - R. C. WALL NO. 14
Scale: Horiz. 1" = 40'
Vert. 1" = 4'

PROFILE - R. C. WALL NO. 15
Scale: Horiz. 1" = 40'
Vert. 1" = 4'

REGISTERED PROFESSIONAL ENGINEER
No. 2147-S
HAWAII, USA
KWONG CHUN
TIT
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE HAS BEEN DIGITIZED

DATE	REVISION
4/11/96	ADDED CMU SOUND WALL FROM STA. 51+50 TO STA. 53+20 (LEFT)
12/05/95	REVISED WALLS TO VERTICAL TYPE.
6/07/94	REVISED WALL PROFILES, FOOTINGS AND WALL SECTION DETAIL.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN AND PROFILE
R. C. WALL NO 14 AND 15
KAHEKILI HIGHWAY WIDENING
Likelike Hwy. to Vicinity of Haiku Road
F.A. PROJECT NO. NH-083-1(26)
SCALE: AS NOTED DATE: APRIL 1994
SHEET No. W17 OF W21 SHEETS

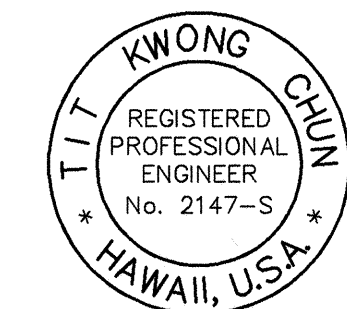
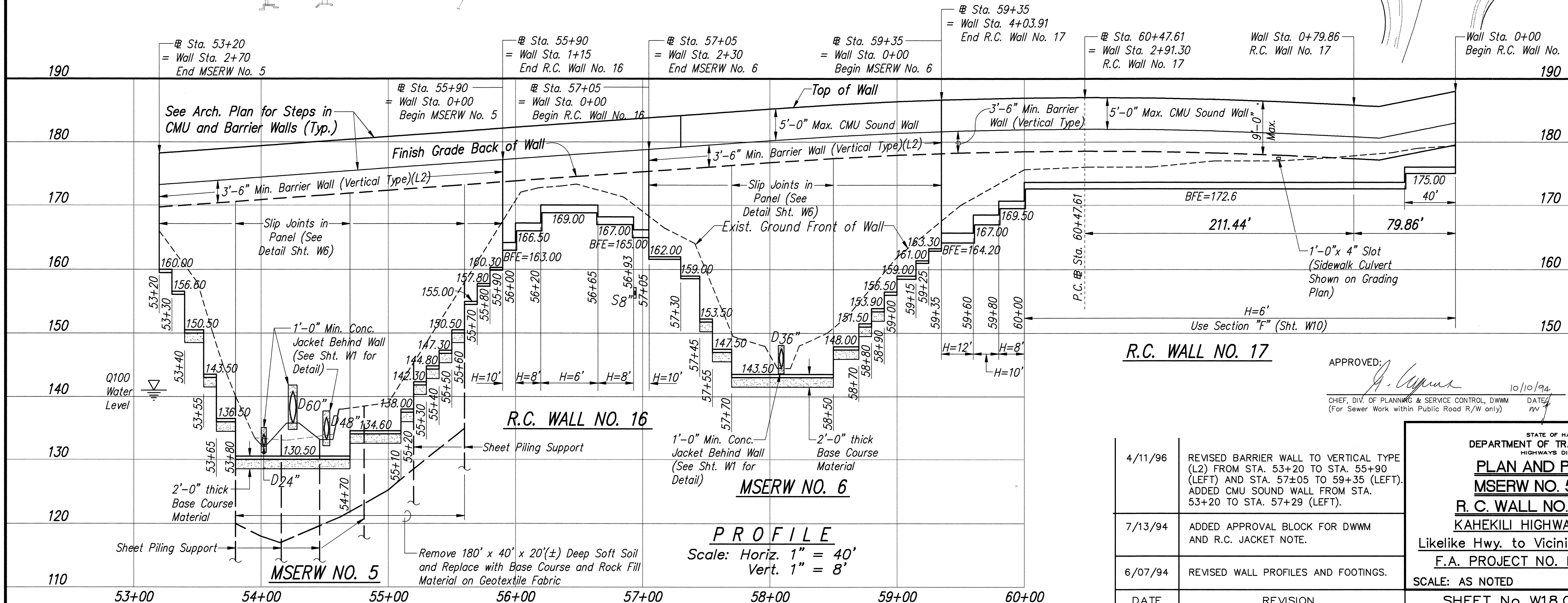
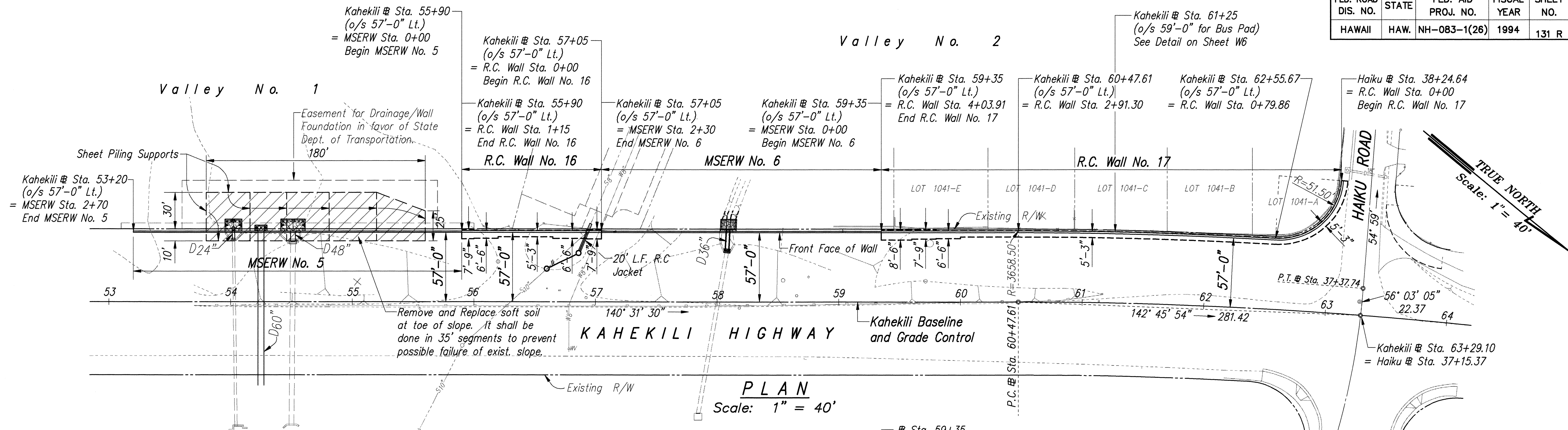
AS-BUILT C.O. ADD. 130

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
TRACED BY	_____
CHECKED BY	_____
ORIGINAL	_____
PLAN	_____
NOTES	_____
NO.	_____

ROTATED: 125° 28' 30"
BASE PT. 0.0

UB: STATE DOT\KARELI\ADDENDUM
WALL17C 4/11/96 AMM GHT KSJ

FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	131 R	238



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[Signature]

PROF. ENG. *[Signature]* 10/10/94

CHIEF, DIV. OF PLANNING & SERVICE CONTROL, DWM (For Sewer Work within Public Road R/W only)

DATE: 10/10/94

PROF. ENG. *[Signature]* 10/10/94

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

PLAN AND PROFILE

MSERW NO. 5 AND 6

R. C. WALL NO. 16 AND 17

KAHEKILI HIGHWAY WIDENING

Likelike Hwy. to Vicinity of Haiku Road

F.A. PROJECT NO. NH-083-1(26)

SCALE: AS NOTED DATE: APRIL 1994

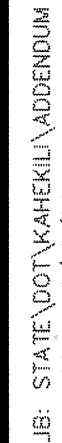
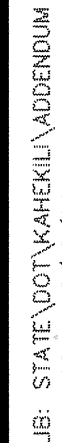
SHEET No. W18 OF W21 SHEETS

AS-BUILT C.O. ADD. 131 R

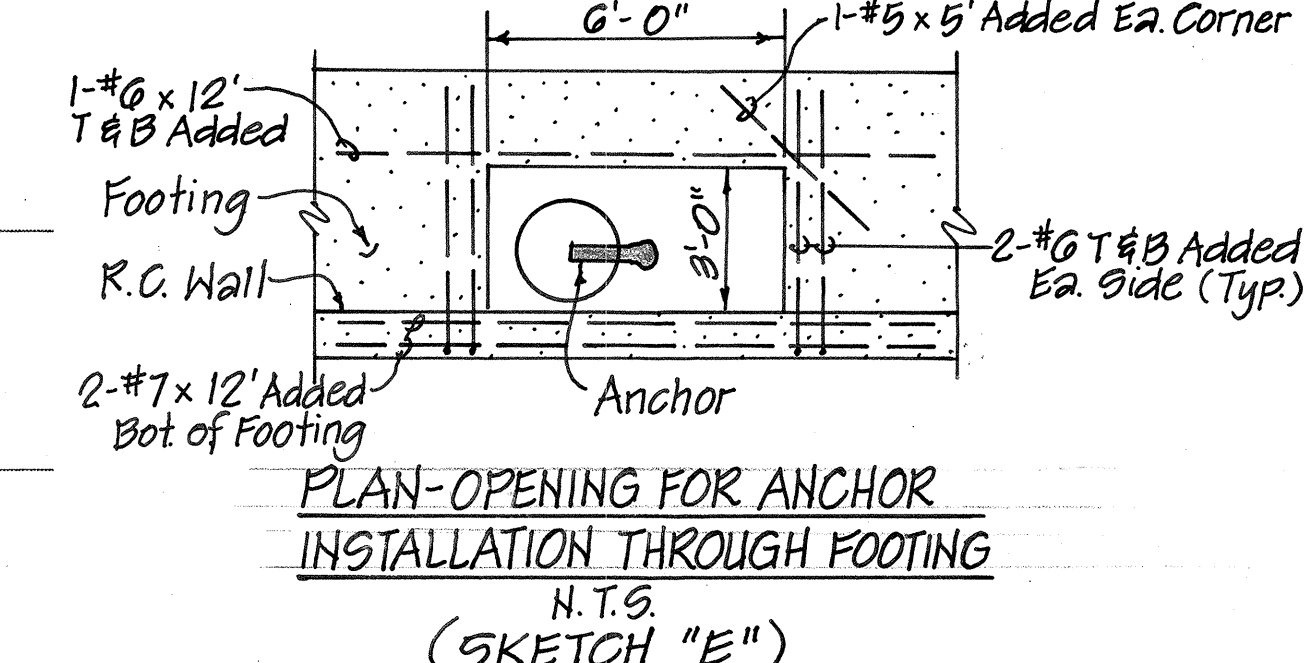
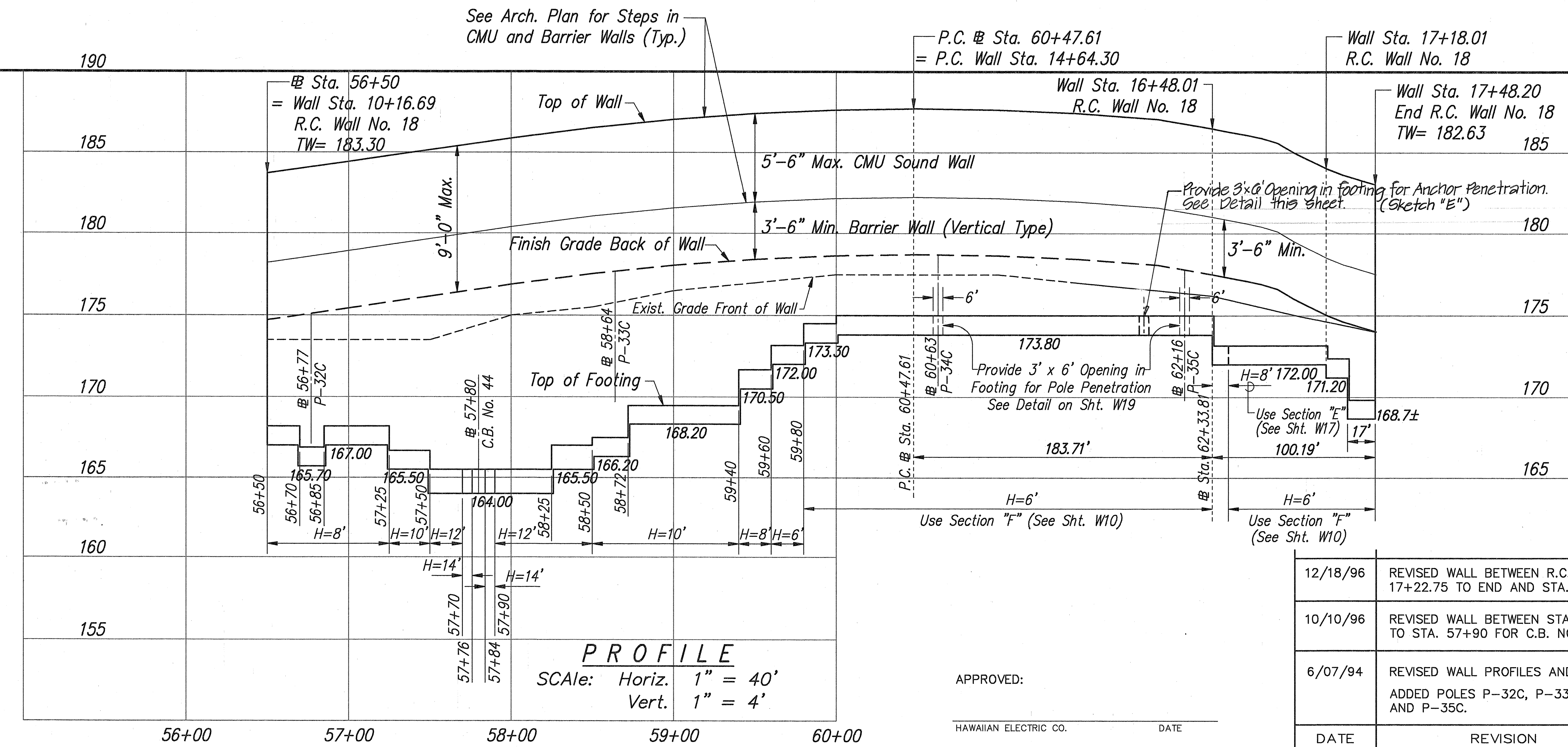
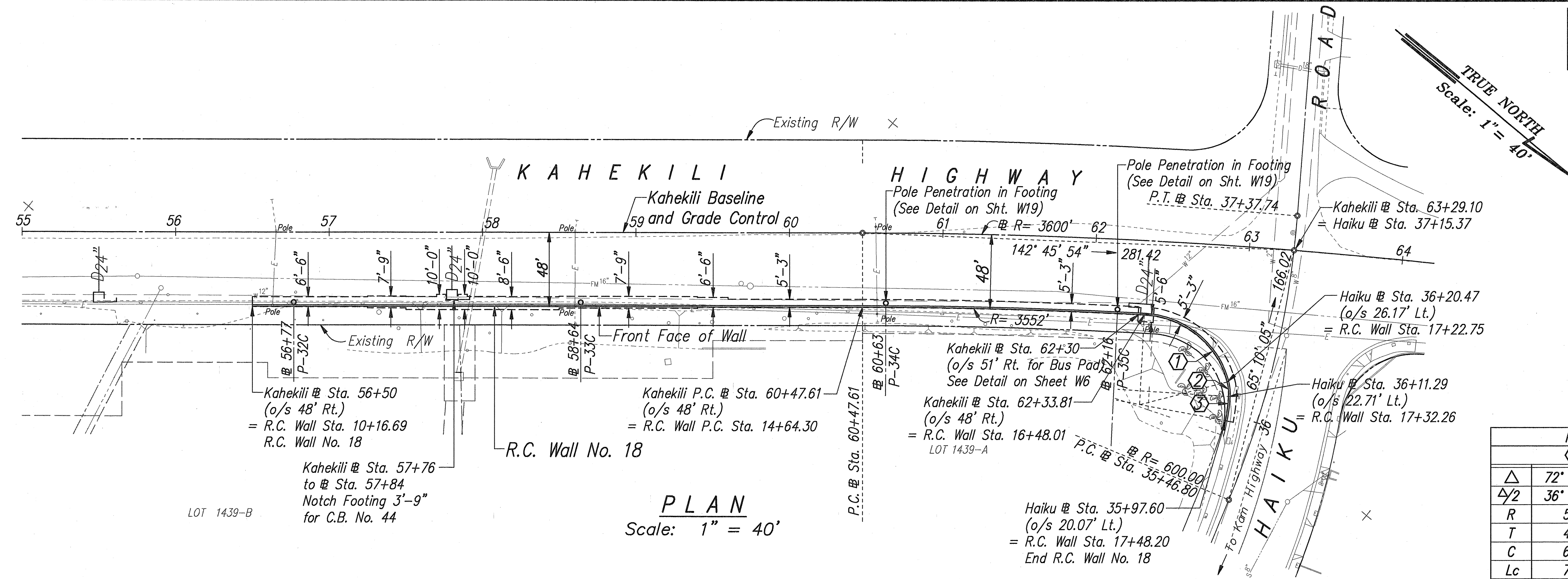
DATE	
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL	
PLAN	
NOTEBOOK	
No.	

ROTATED: 129° 28' 30"

BASE PT. 0.0

JB: STATE\DOT\KAHEKIL\ADDENDUM

FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	133	238



DRAWING REVIEW:
Reviewed for HECO's Facilities Only

Date: 8/31/94 By: [Signature]

Distribution Engineering Department
Hawaiian Electric Company, Inc.

HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on Customer's behalf from the responsibility for engineering, design, materials and any liability associated with this project.

** THIS HAS BEEN DIGITIZED



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** SIGNATURE HAS BEEN DIGITIZED

[Signature]

DATE	REVISION
12/18/96	REVISED WALL BETWEEN R.C. WALL STA. 17+22.75 TO END AND STA. 56+50 TWO
10/10/96	REVISED WALL BETWEEN STA. 57+70 TO STA. 57+90 FOR C.B. NO. 44
6/07/94	REVISED WALL PROFILES AND FOOTINGS. ADDED POLES P-32C, P-33C, P-34C AND P-35C.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN AND PROFILE
R.C. WALL NO. 18

KAHEKILI HIGHWAY WIDENING
Likelike Hwy. to Vicinity of Haiku Road
F.A. PROJECT NO. NH-083-1(26)

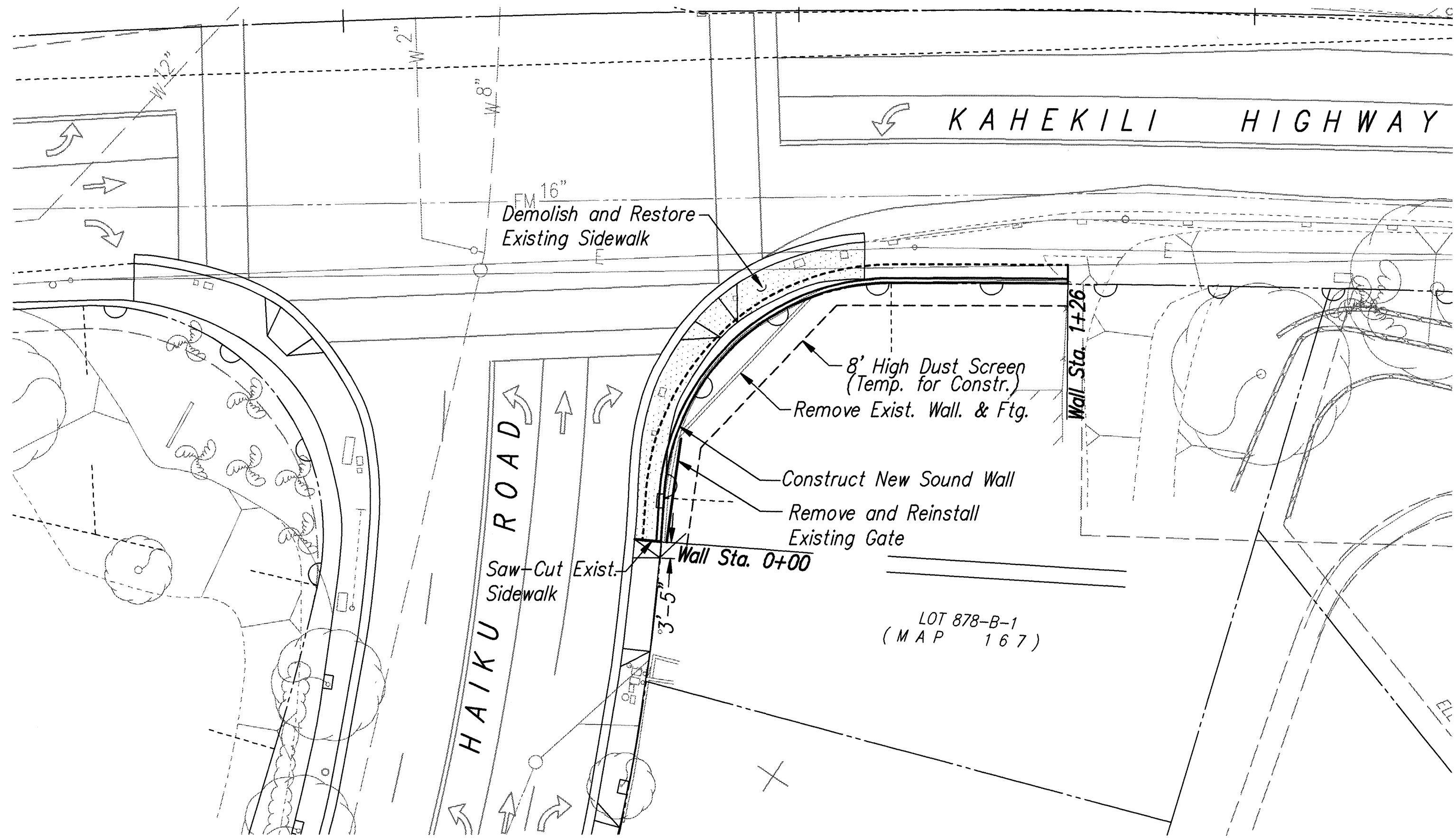
SCALE: AS NOTED DATE: APRIL 1994

SHEET No. W20 OF W21 SHEETS

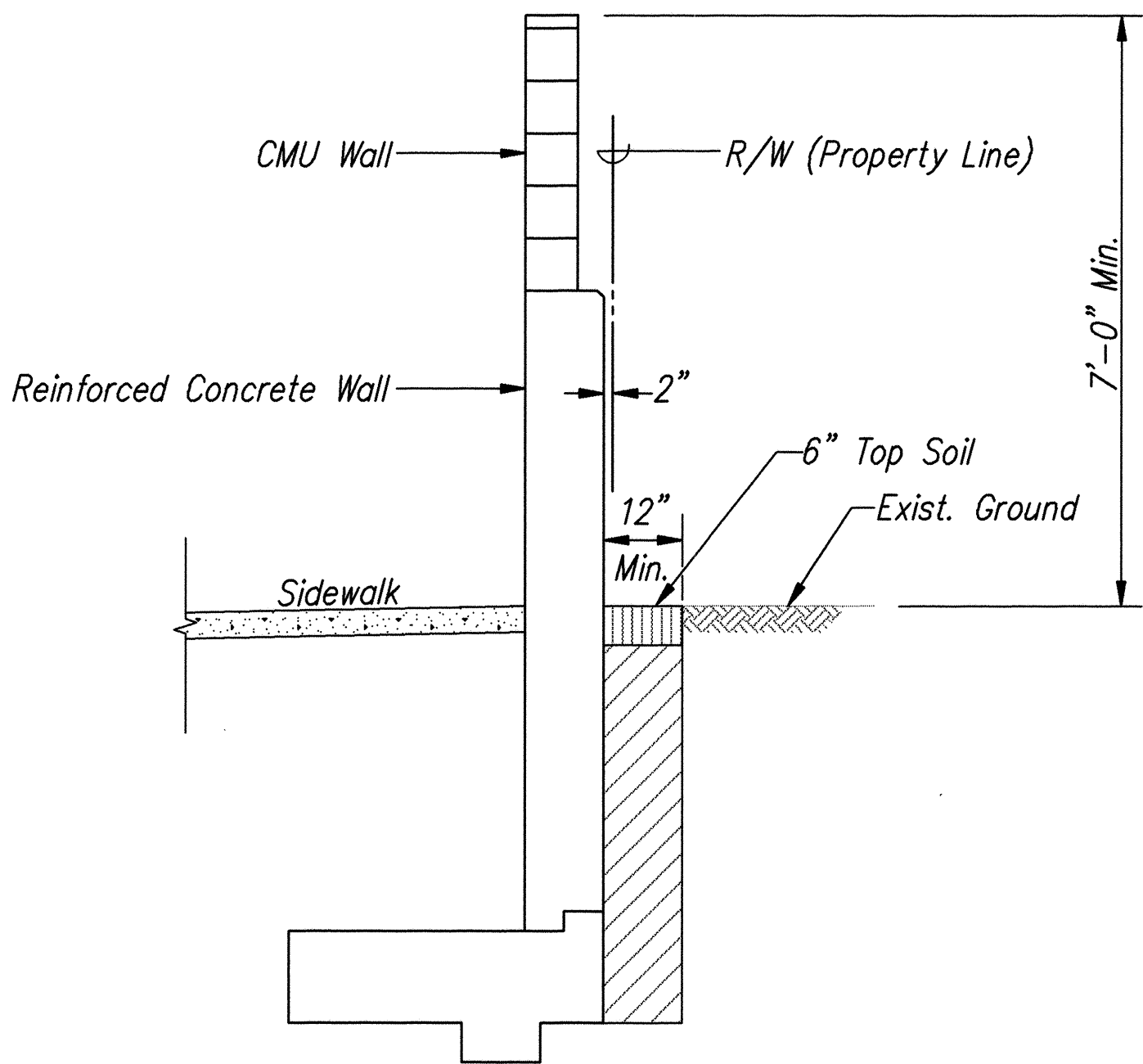
AS-BUILT C.O. ADD. 133

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

FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	133	238

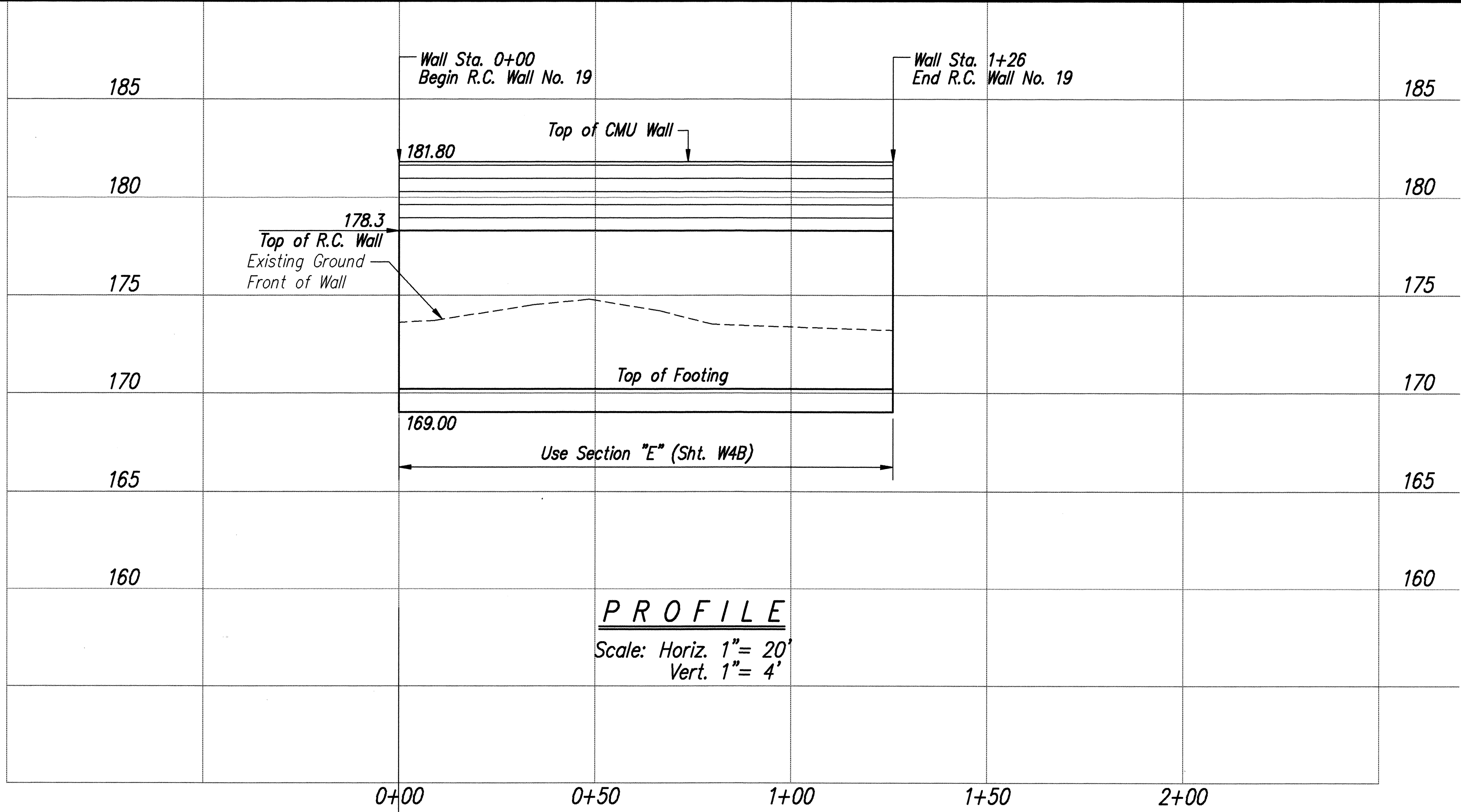


PLAN - R.C. WALL NO. 19
Scale: 1" = 20'

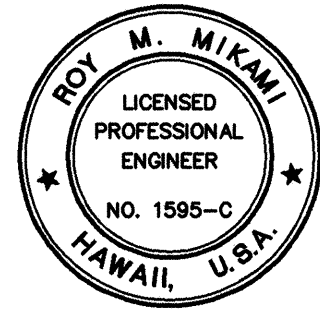


TYPICAL RETAINING WALL SECTION
FOR WALL NO. 19
Scale: 1/2" = 1'-0"

DATE	_____
SURVEY PLANNED BY	_____
DESIGNED BY	_____
NOTED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NO.	_____



PROFILE
Scale: Horiz. 1" = 20'
Vert. 1" = 4'



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OR UNDER MY SUPERVISION

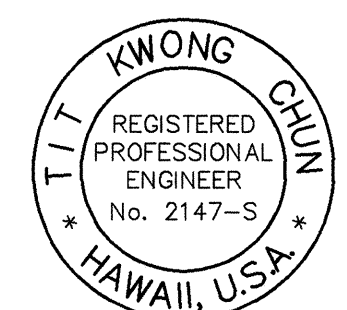
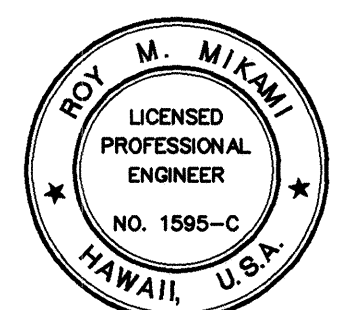
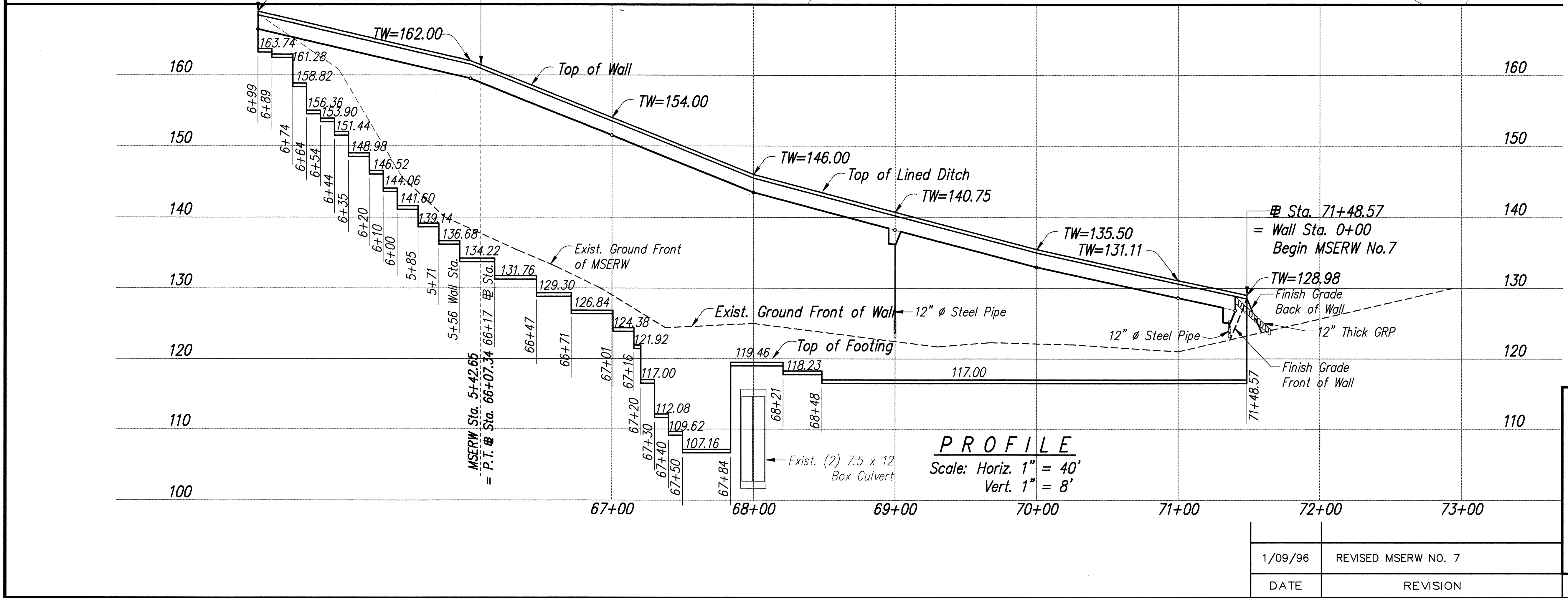
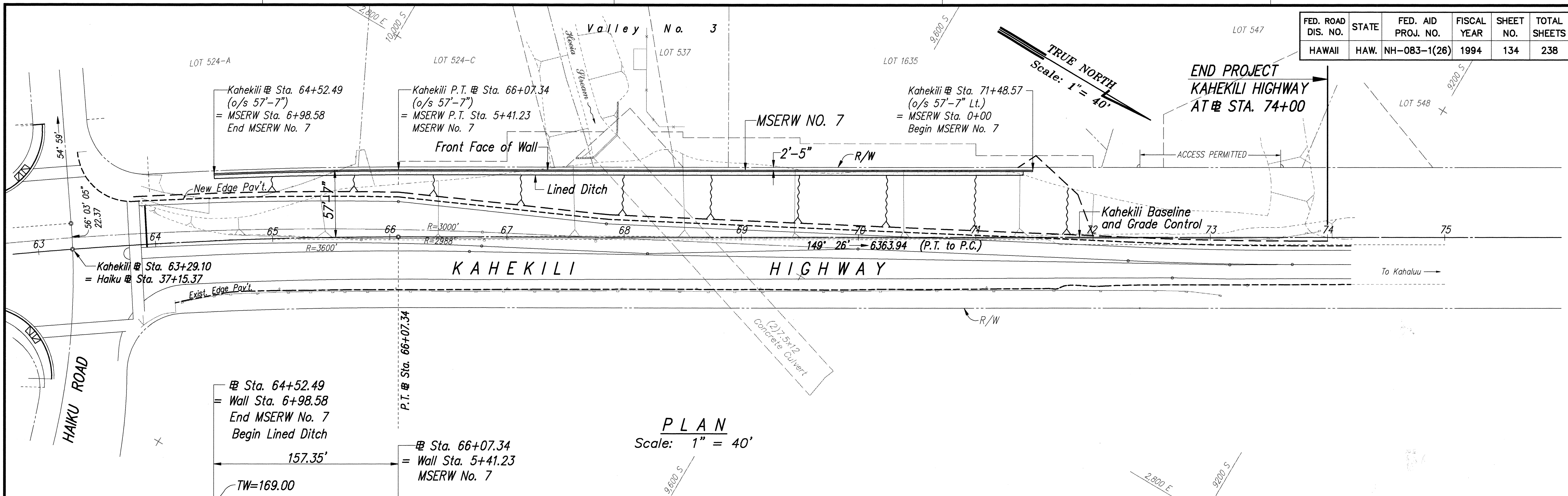
Roy M. Mikami
Roy M. Mikami, Inc.
dba PARK ENGINEERING

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
PLAN AND PROFILE R.C. WALL NO. 19	
KAHEKILI HIGHWAY WIDENING Likelike Hwy. to Vicinity of Haiku Road F.A. PROJECT NO. NH-083-1(26)	
SCALE: AS NOTED	DATE: APRIL 1994
SHEET No. W20A OF W21 SHEETS	

4/29/97	ADDED R.C. WALL NO. 19.
DATE	REVISION

AS-BUILT C.O. ADD. 133 S-1

FED. ROAD DIS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	134	238



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 Roy M. Mikami
 Park Engineering

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
 Kwong Chun
 Park Engineering

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

**PLAN AND PROFILE
 MSERW NO. 7**

KAHEKILI HIGHWAY WIDENING
 Likelike Hwy. to Vicinity of Haiku Road
 F.A. PROJECT NO. NH-083-1(26)

SCALE: AS NOTED DATE: APRIL 1994

SHEET No. W21 OF W21 SHEETS

DATE	REVISION
1/09/96	REVISED MSERW NO. 7

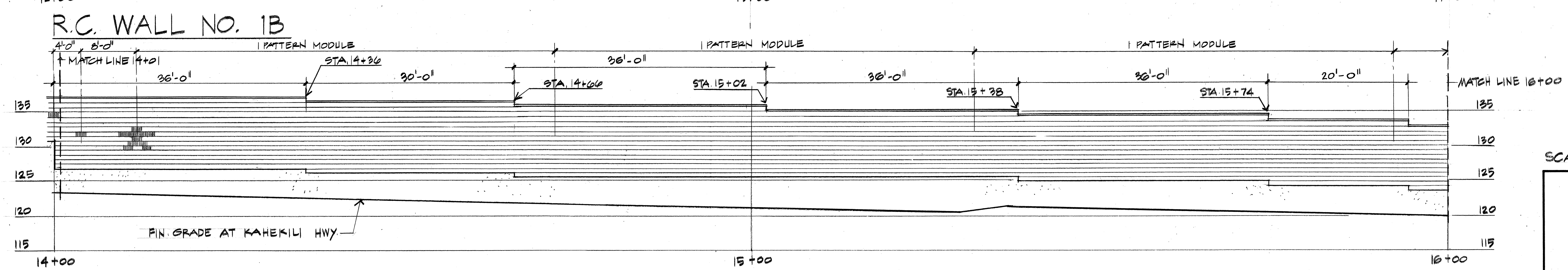
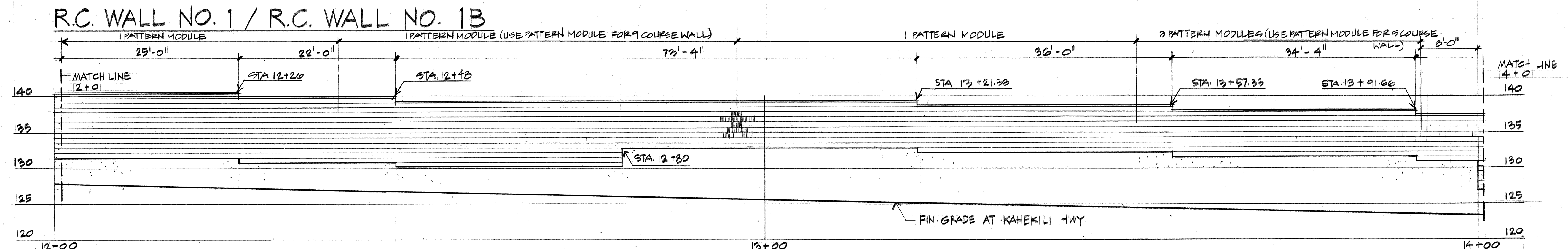
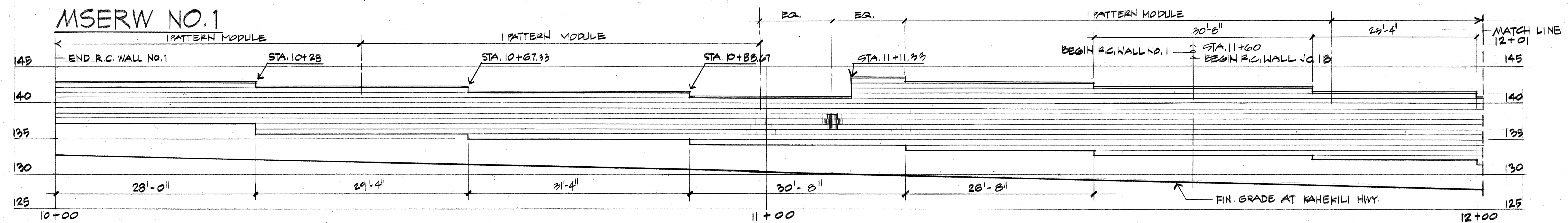
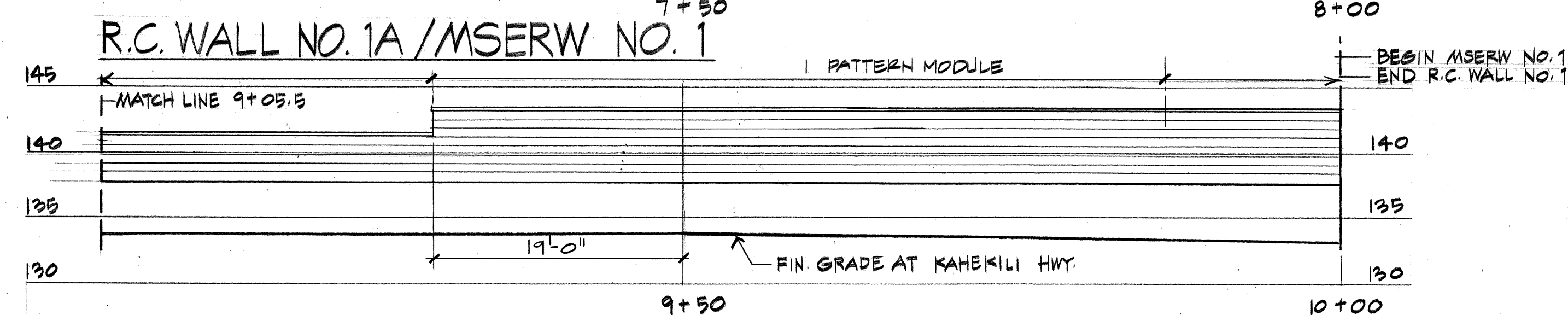
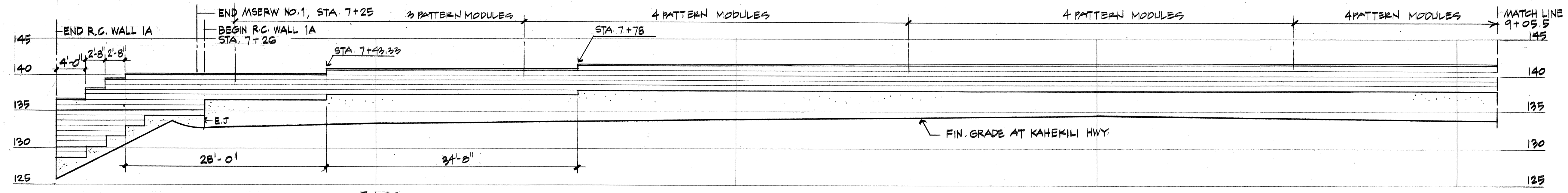
AS-BUILT C.O. 134

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

ROTATED: 120° 34'
 BASE PT. 00

LIB: STATE DOT/KAHEKILI/APPENDIX
 WALL/C 1/9/96 AMM GHT KSJ

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	ADD. 245-1	298



R.C. WALL NO. 1B



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Signature

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WALL ELEVATIONS

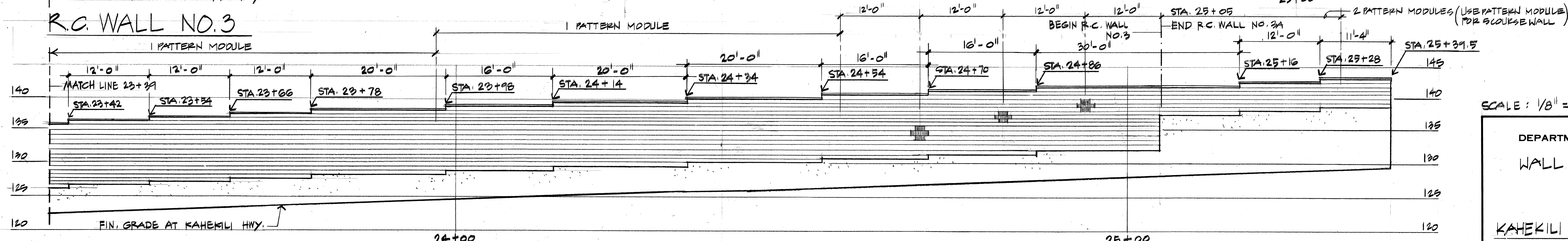
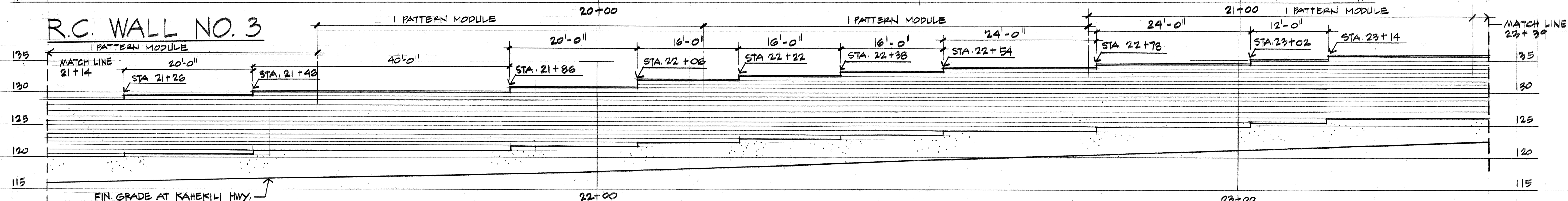
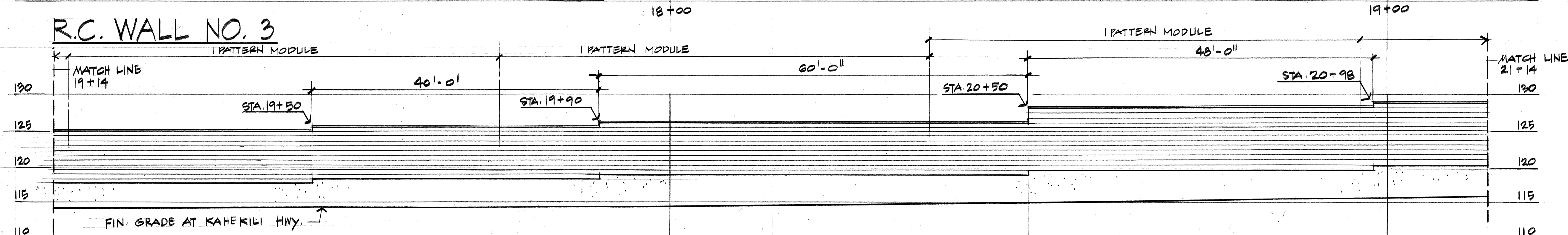
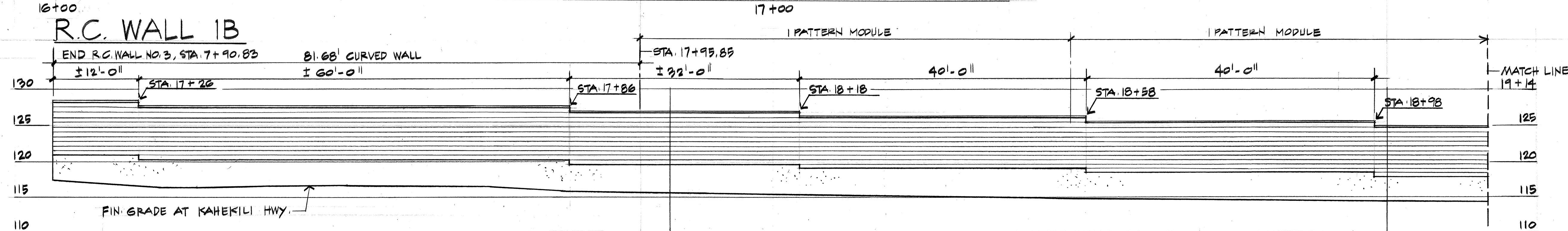
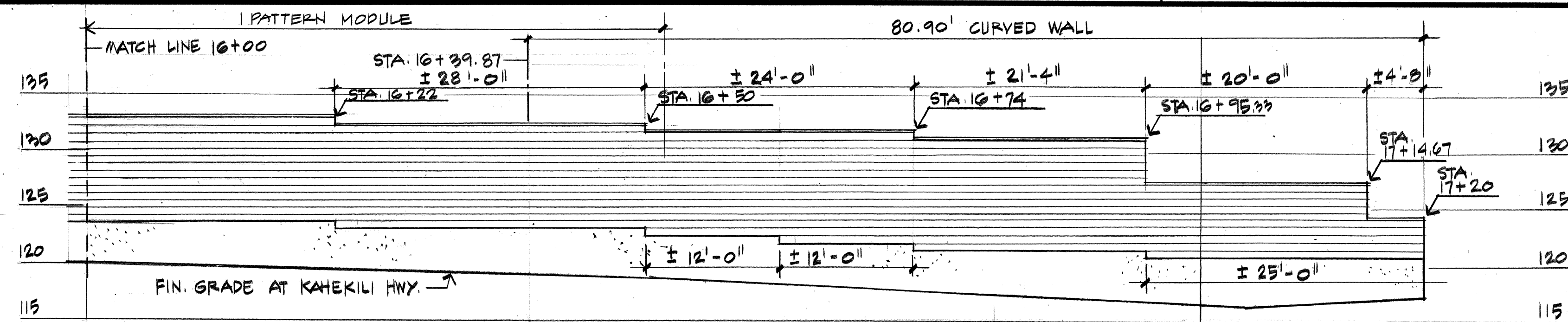
KAHEKILI HIGHWAY WIDENING
LIKE LIKE HWY. TO VICINITY OF HAIKU ROAD
F.A. PROJECT NO. NH-083-1 (26)

SHEET NO. 24 OF 22 SHEETS

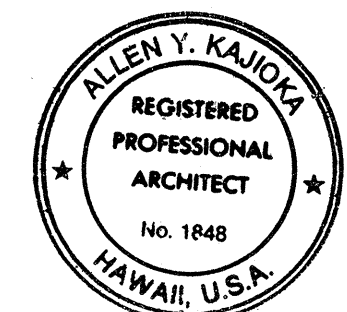
AS-BUILT ADD. 134 S-1

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	ADD. 345-2	238



R.C. WALL NO. 3 / R.C. WALL NO. 3A



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Allen Y. Kajioka
 Signature

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

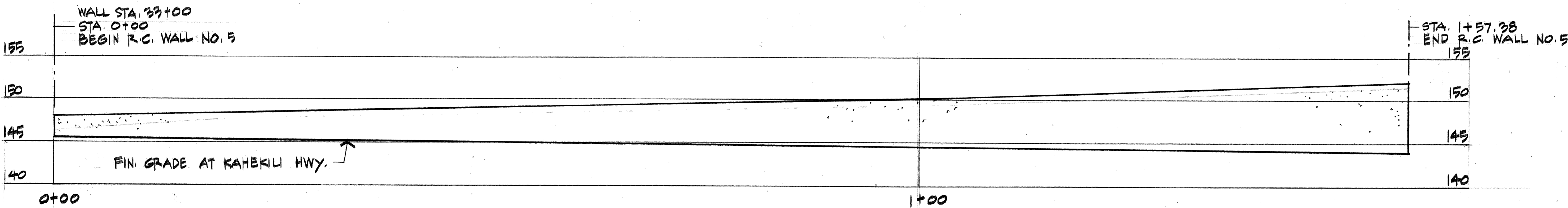
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
 WALL ELEVATIONS

KAHEKILI HIGHWAY WIDENING
 LIKE LIKE HWY. TO VICINITY OF HAIKU ROAD
 F.A. PROJECT NO. NH-083-1(26)

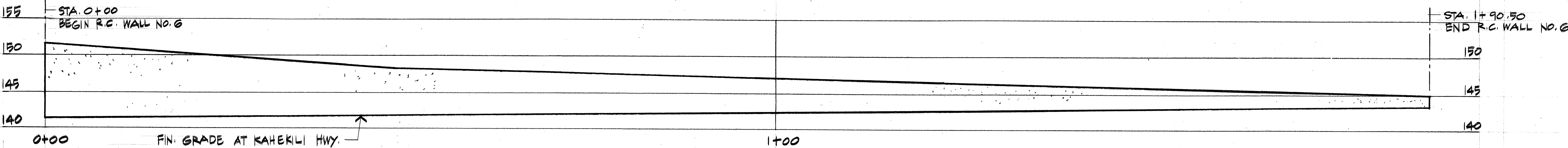
SHEET No. 23 OF 21 SHEETS
 AS-BUILT ADD. 1345-2

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

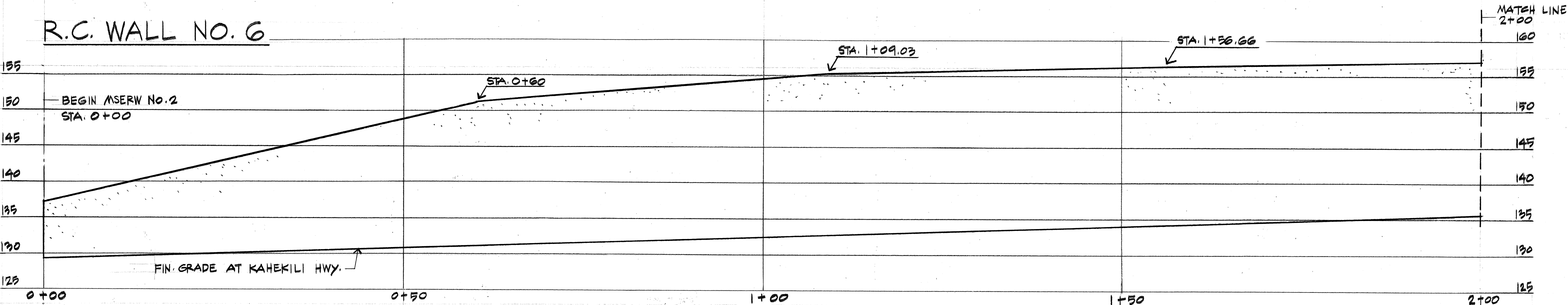
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	ADD, 1345-3	238



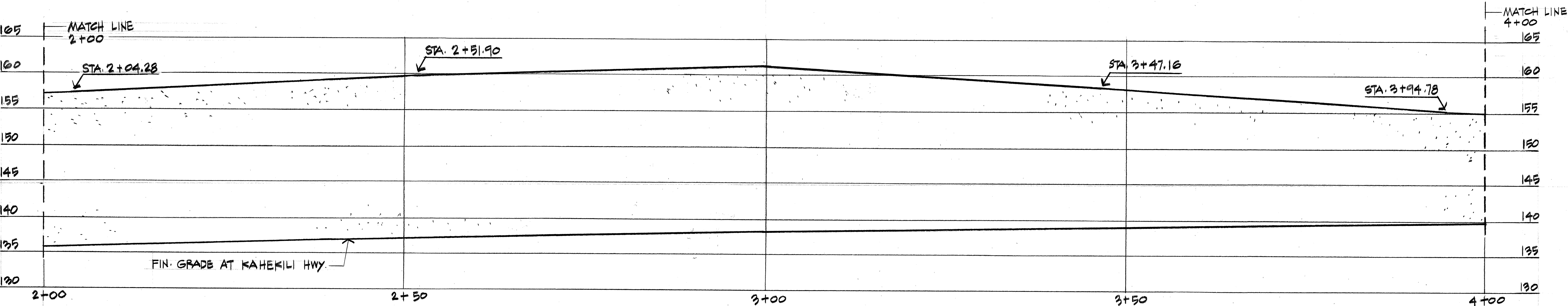
R.C. WALL NO. 5



R.C. WALL NO. 6



MSERW WALL NO. 2



MSERW WALL NO. 2



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WALL ELEVATIONS

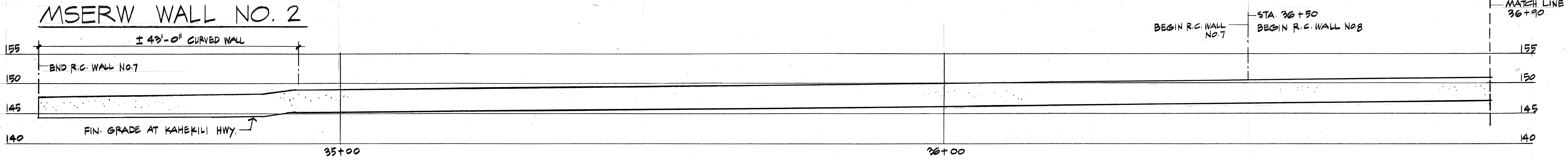
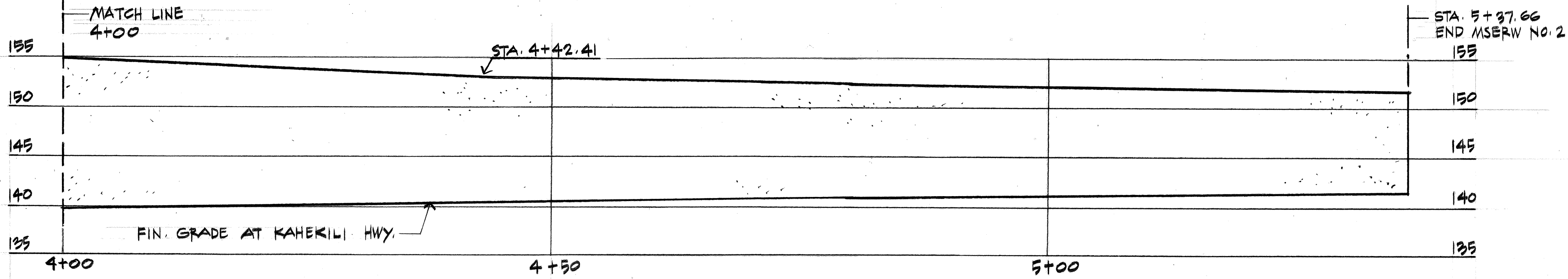
KAHEKILI HIGHWAY WIDENING
LIKE LIKE HWY. TO VICINITY OF HAIKU ROAD
F.A. PROJECT NO. NH-083-1 (26)

SHEET NO. 121 OF 121 SHEETS

AS-BUILT ADD. 1345-3

ORIGINAL PLAN	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.	NH-083-1(26)	1994	ADD 345-4	238



MSERW WALL NO. 2

R.C. WALL NO. 7 / R.C. WALL NO. 8



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
Allen Y. Kajoka
Signature

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WALL ELEVATIONS

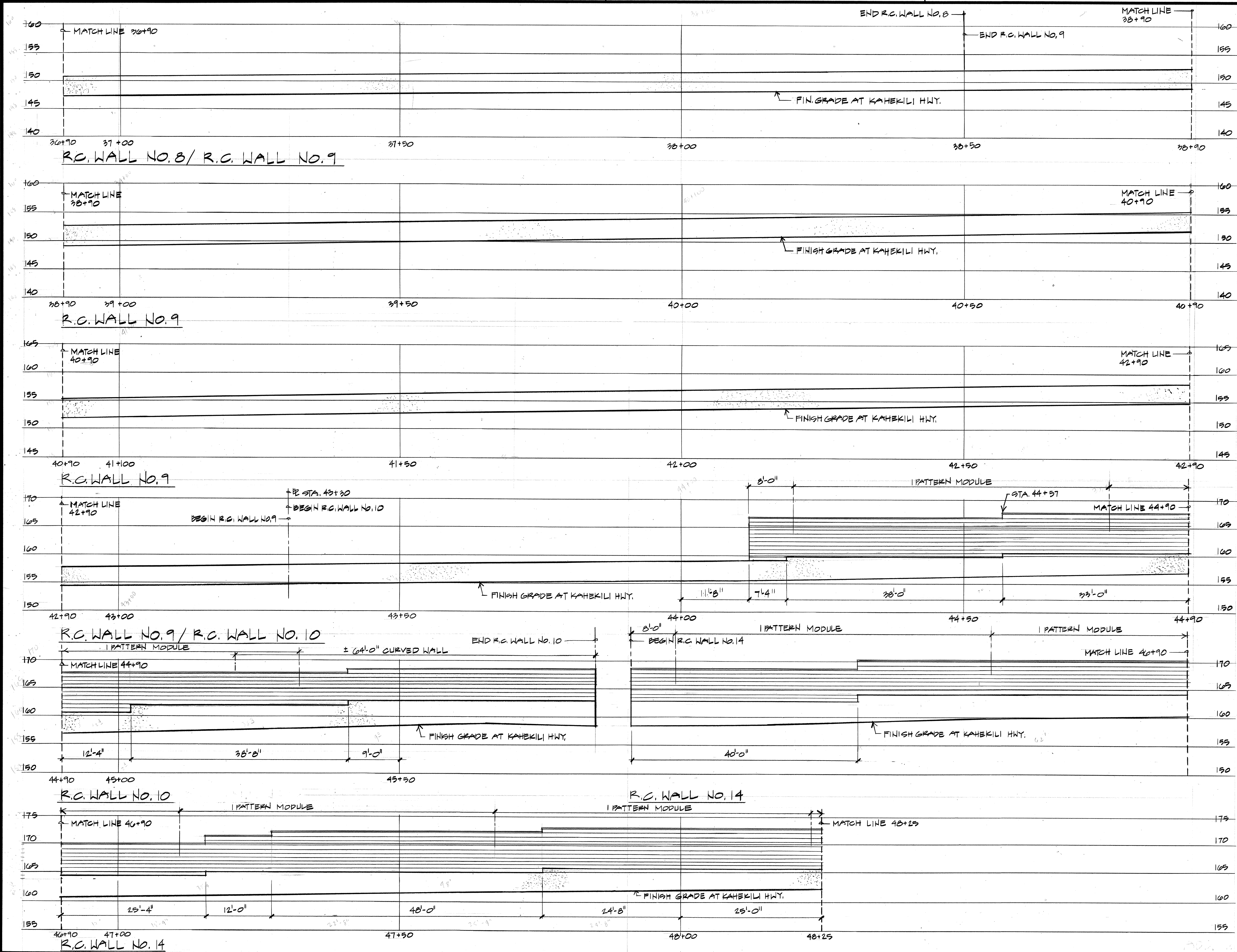
KAHEKILI HIGHWAY WIDENING
LIKE LIKE HWY. TO VICINITY OF HAIKU ROAD
P.A. PROJECT NO. NH-083-1(26)

SHEET No. 22 OF 22 SHEETS

AS-BUILT ADD. 1345-4

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-088-1(26)	1994	ADD 345-5	238



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
Allen Y. Kajioka
Signature

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WALL ELEVATIONS

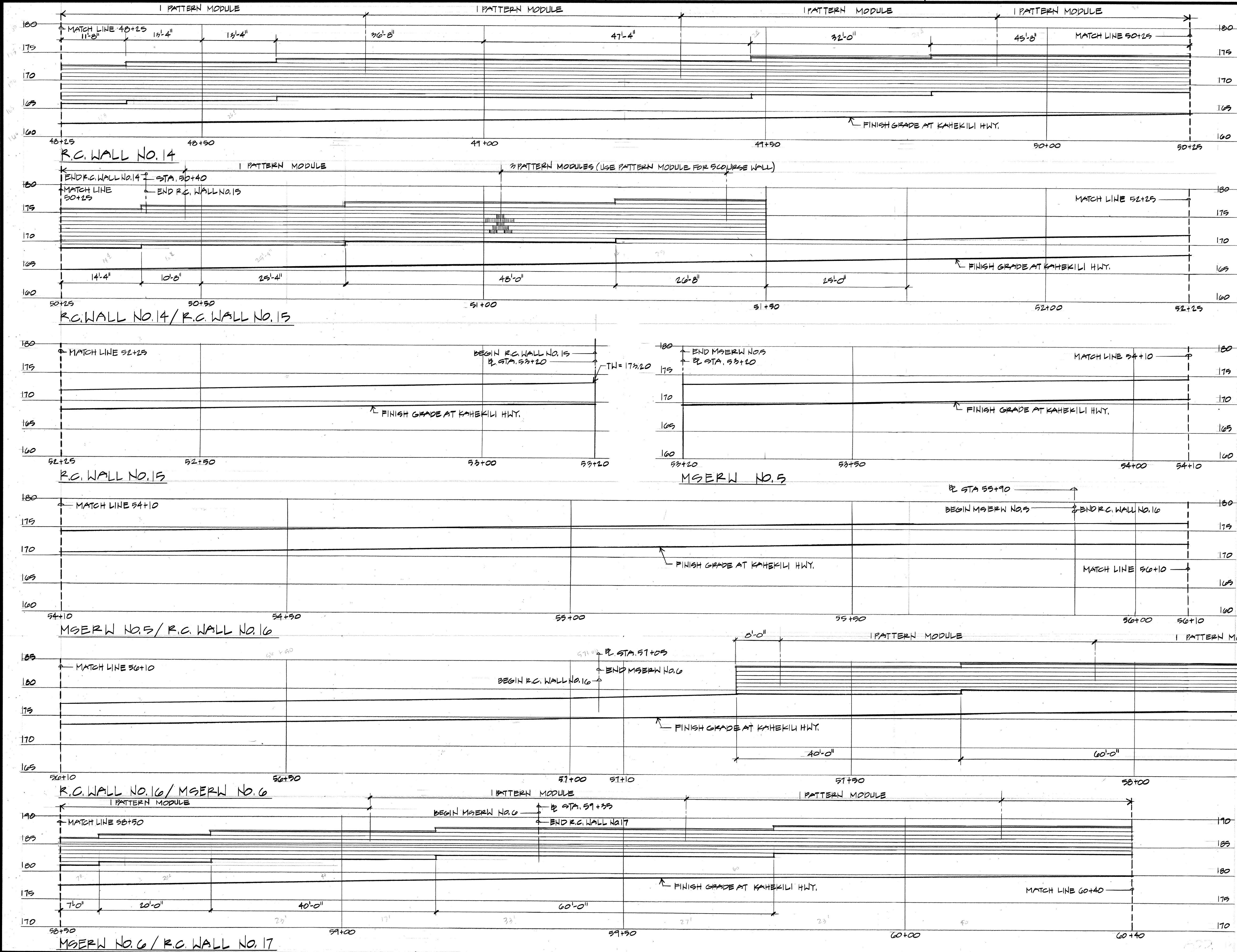
KAHEKILI HIGHWAY WIDENING
LIKE LIKE HWY. TO VICINITY OF HAIKU ROAD
F.A. PROJECT NO. NH-088-1(26)

SHEET No. W21 E OF W21 SHEETS

AS-BUILT ADD. 1345-5

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.	NH-083-1(26)	1994	ADD. 1345-6	238



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
[Signature]
Signature

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

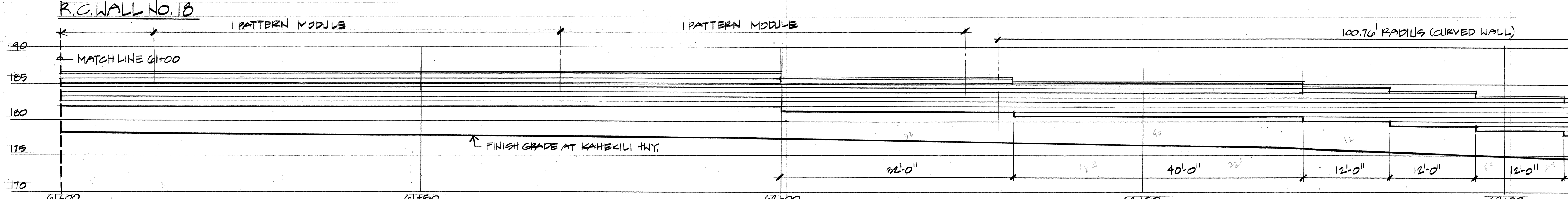
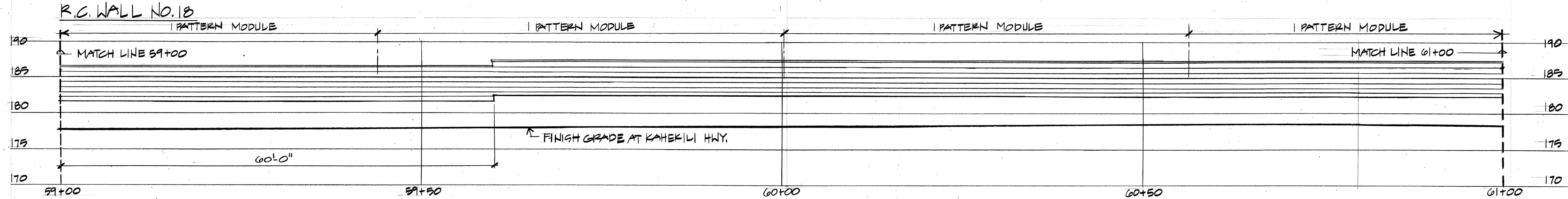
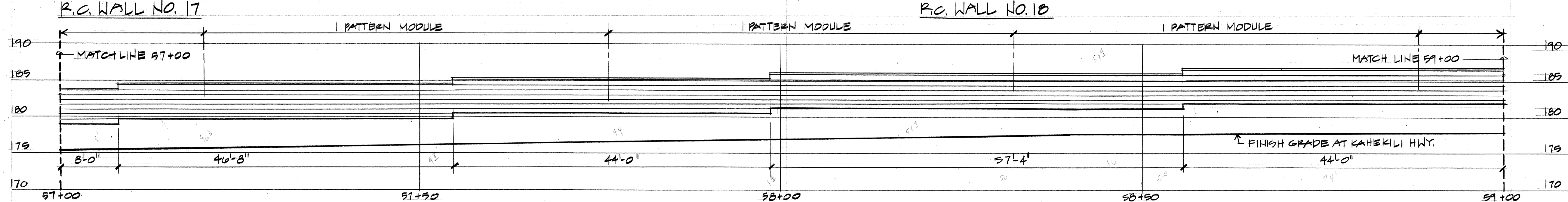
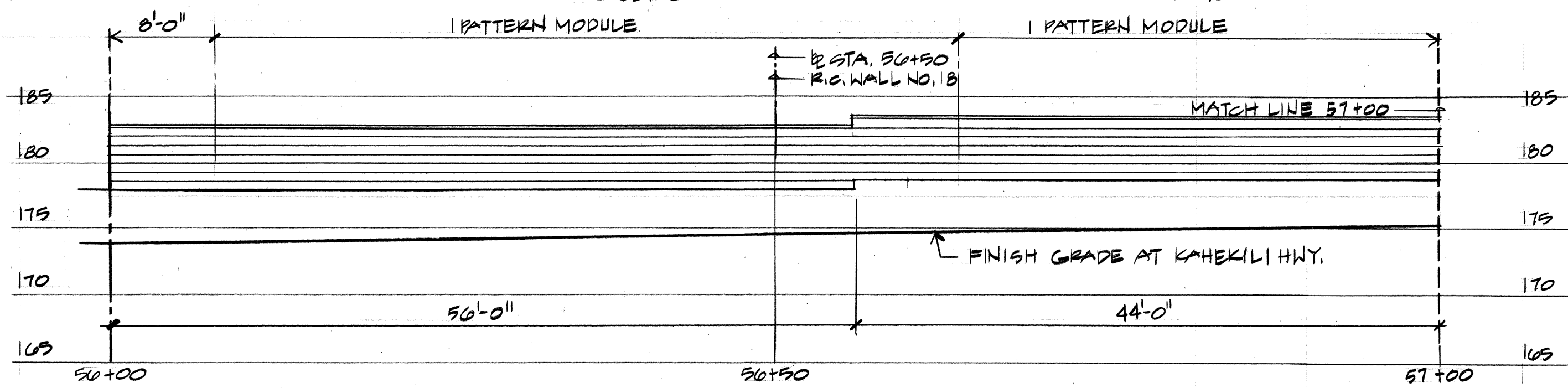
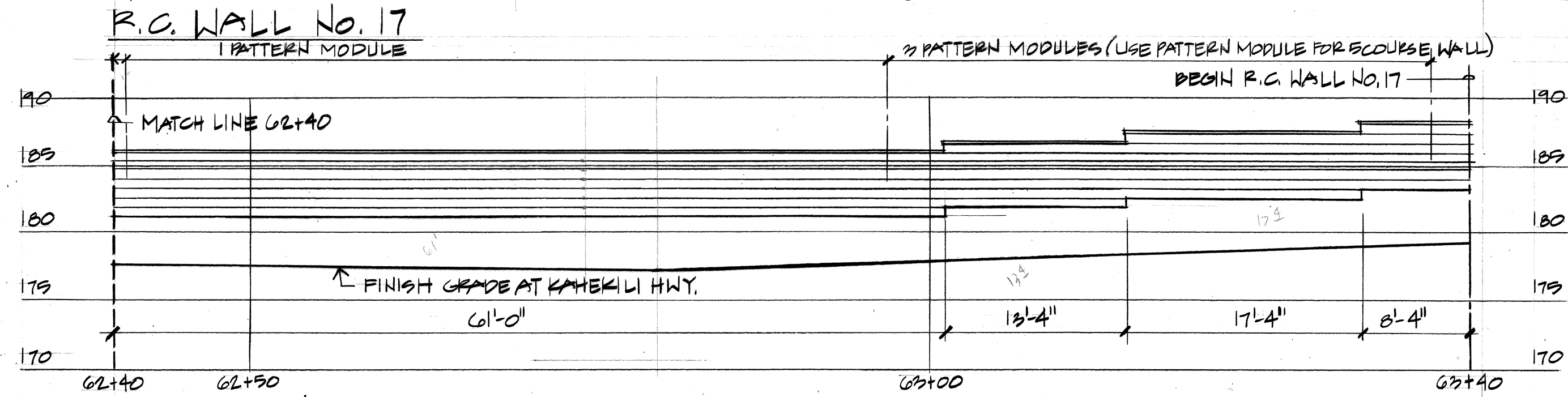
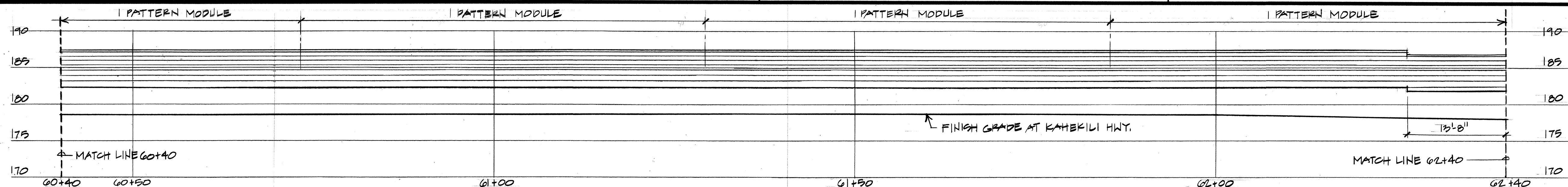
WALL ELEVATIONS

KAHEKILI HIGHWAY WIDENING
LIKE LIKE HWY. TO VICINITY OF HAIKU ROAD
F.A. PROJECT NO. NH-083-1(26)

SHEET NO. 121 OF 121 SHEETS
AS-BUILT ADD. 1345-6

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.	NH-083-1(26)	1994	ADD. 134 6-7	238



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Allen Y. Kajio

Signature

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WALL ELEVATIONS

KAHEKILI HIGHWAY WIDENING
LIKEUKE HWY TO VICINITY OF HAIKU ROAD
F.A. PROJECT NO. NH-083-1 (26)

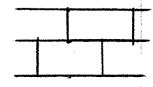
SHEET NO. 134 6 OF 121 SHEETS

AS-BUILT ADD. 134 6-7

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(26)	1994	ADD. 1345-B	238

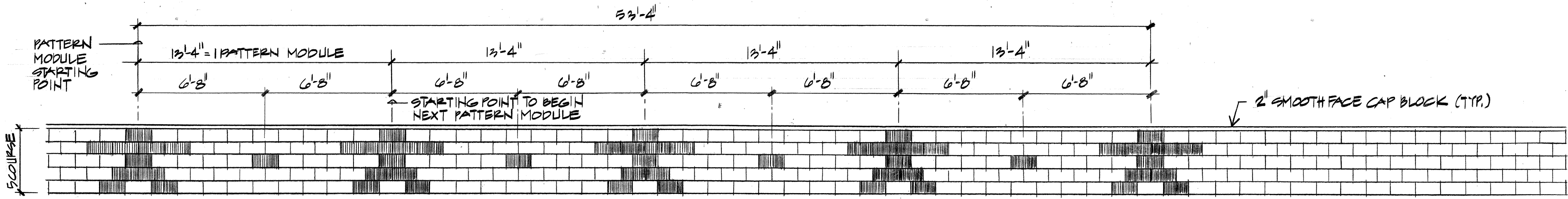
KEY TO BLOCK TYPES



SPLIT FACE CMU

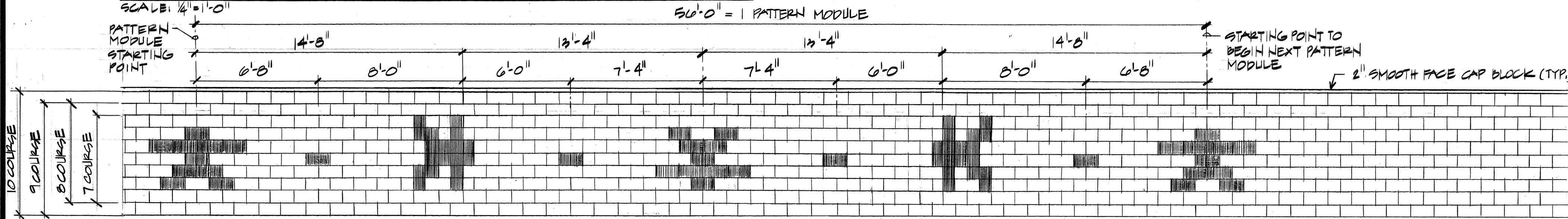


SMOOTH FACE CMU



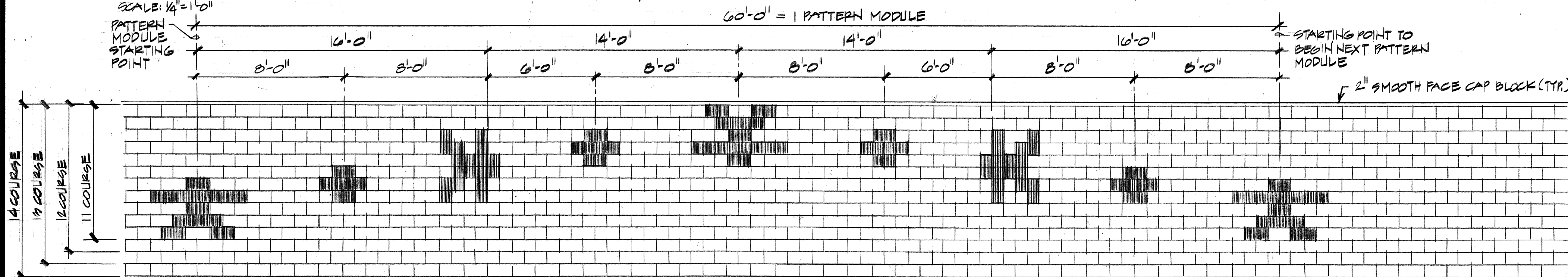
TYPICAL DECORATIVE PATTERN FOR 5 COURSE WALL

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



TYPICAL DECORATIVE PATTERN FOR 7, 8, 9, 10 COURSE WALLS

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



TYPICAL DECORATIVE PATTERN FOR 11, 14 COURSE WALLS

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

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

ALLEN Y. KAJIOKA

REGISTERED PROFESSIONAL ARCHITECT

NO. 1948

HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Allen Y. Kajiooka

Signature

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

DETAIL WALL ELEVATIONS

KAHUKILU HIGHWAY WIDENING

LIKE LIKE HWY. TO VICINITY OF HAIKU ROAD

F.A. PROJECT NO. NH-083-1(26)

SHEET NO. 21 OF 21 SHEETS

AS-BUILT ADD. 1345-B