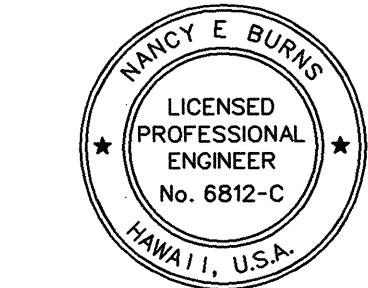


GUARDRAIL SCHEDULE										
ROADWAY	BEGIN	LEFT	RIGHT	END TYPE	END	LEFT	RIGHT	END TYPE	LINEAR FEET	RADIUS
(O.B.L. 11) VOLCANO HIGHWAY	1093+12.50	●		N/A	1095+00.00	●		C	187.50	
	1097+97.50	●		F	1104+21.00	●		C	623.00	
	1109+87.63	●		F	1119+13.00	●		C	925.37	
	1103+30.00		●	G	1112+55.00		●	C	925.00	
	1115+55.59		●	F	1119+35.48		●	C	379.87	
					O.B.L. 11 SUB-TOTAL				3040.74	
(I.B.L. 11) VOLCANO HIGHWAY	1092+90.00		●	N/A	Bypass 10+32.50		●	F	1837.50	
	1108+00.00		●	C	1118+25		●	G	1135.48	
					I.B.L. 11 SUB-TOTAL				2972.98	
BYPASS ROAD	16+10.50		●	C	20+48.00		●	F	437.50	
	23+90.58		●	C	28+90.50		●	F	500.00	
	38+10.50		●	C	41+10.50		●	F	300.00	
	44+66.00		●	C	65+78.50		●	F	2112.50	
	Ramp 11+50.97	●		F	Road "D" 0+62.00	●		G Modified	1775.00	R=48'
	Road"C" 3+59.50		●	F	22+50.00	●		C	1012.50	
	23+90		●	C	28+90		●	F	500.00	
	24+15.50	●		F	29+15.50	●		C	500.00	
	35+00.00	●		F	Milo 1+50.00	●		G Modified	373.00	R=48'
	Milo 1+50.00		●	G Modified	42+97.00	●		C	475.00	R=48'
	45+15.00	●		ET-2000 OR SRT 350	67+02.50	●		C	2187.50	
					BYPASS SUB-TOTAL				10183.50	
ROAD "D"	1+15.00		●	ET-2000 OR SRT 350	8+52.50		●	F	737.50	
	2+60.00	●		G	9+10.00	●		C	650.00	
					ROAD "D" SUB-TOTAL				1387.50	

Note:
For Shallow Post Installation
See Detail This Sheet.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.
Nancy E Burns
DATE: 9/11/98

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL SCHEDULE

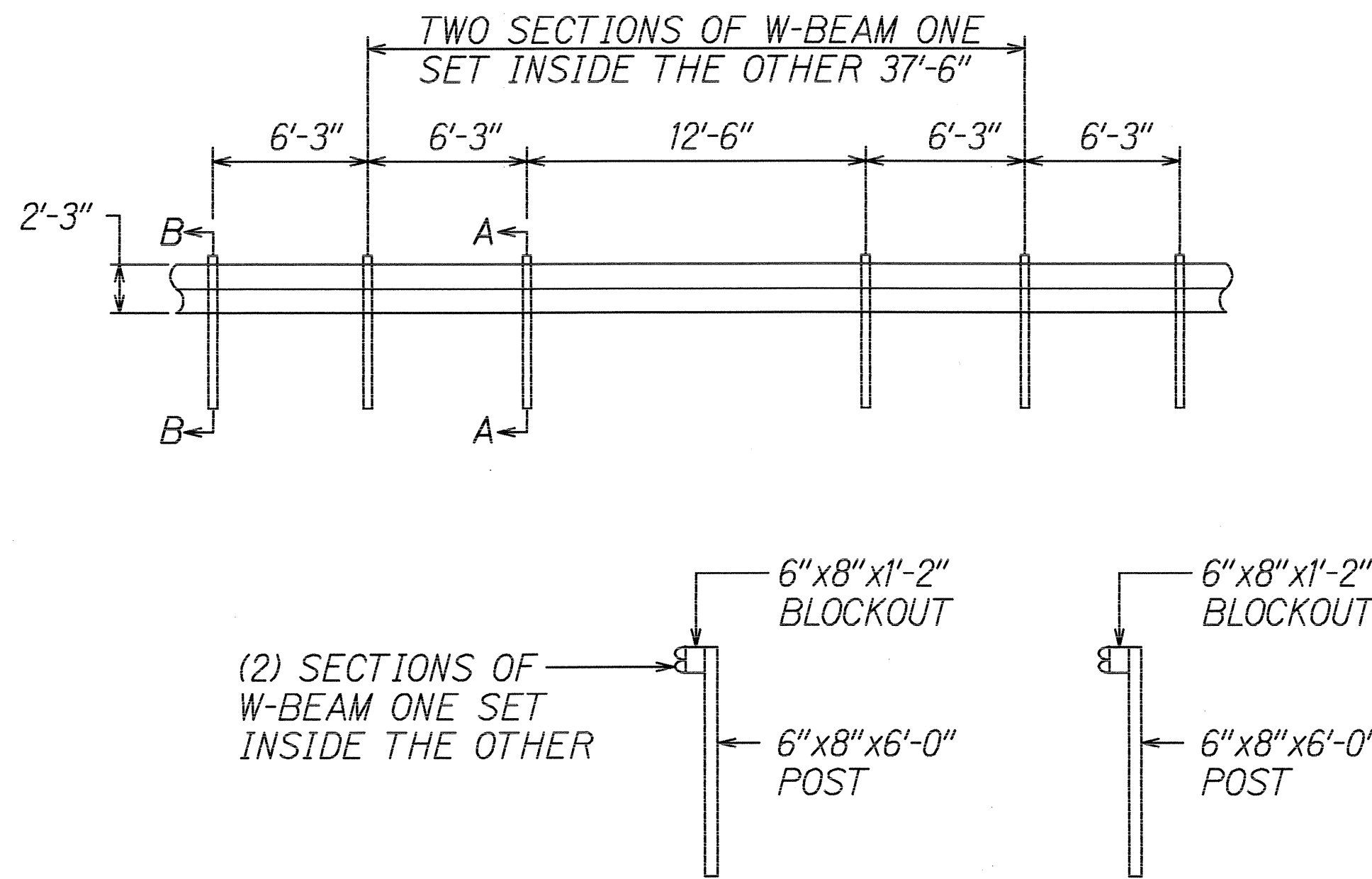
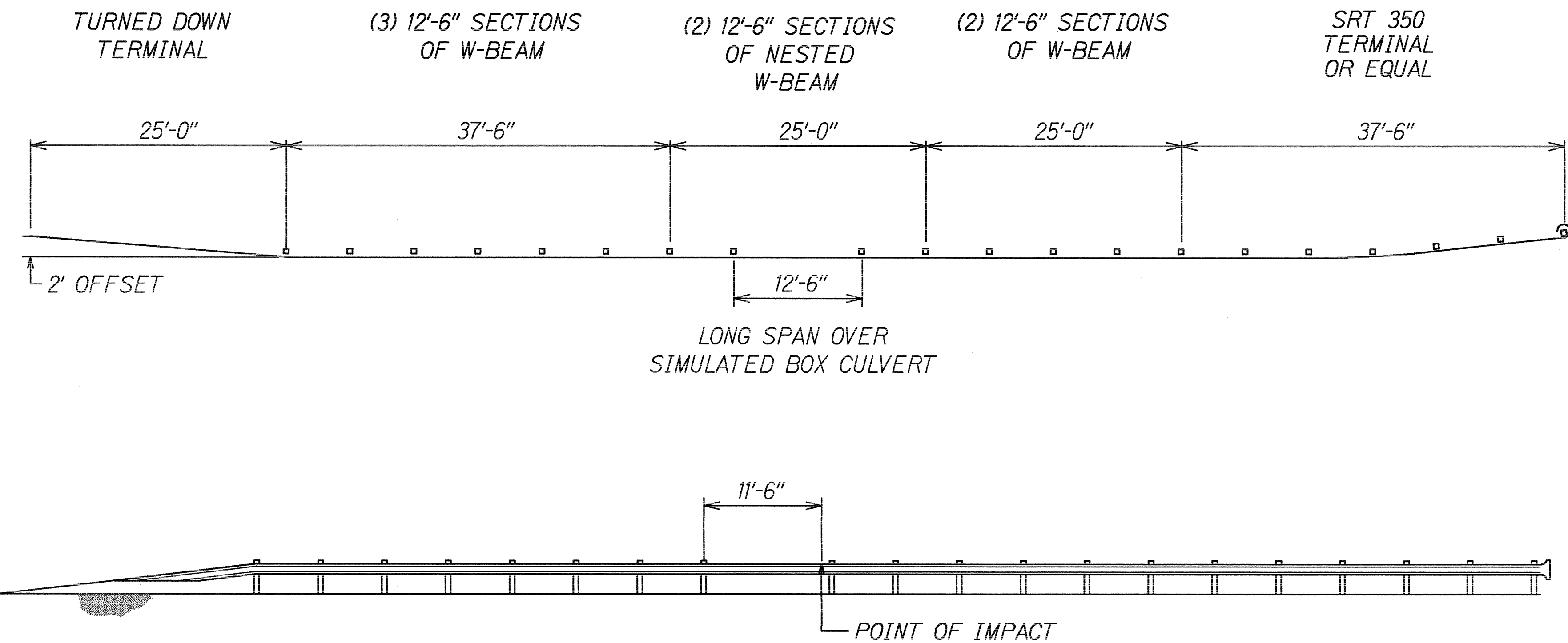
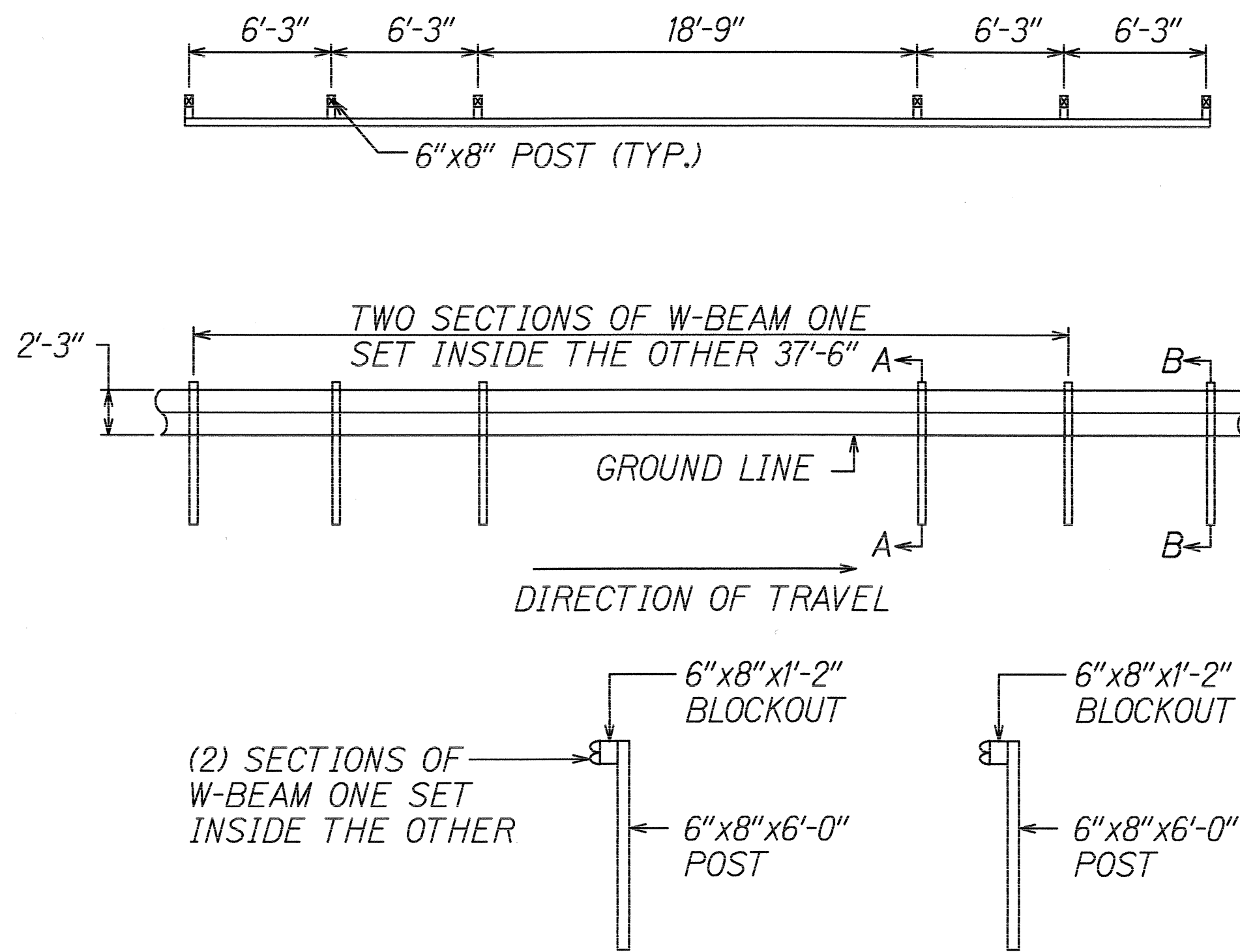
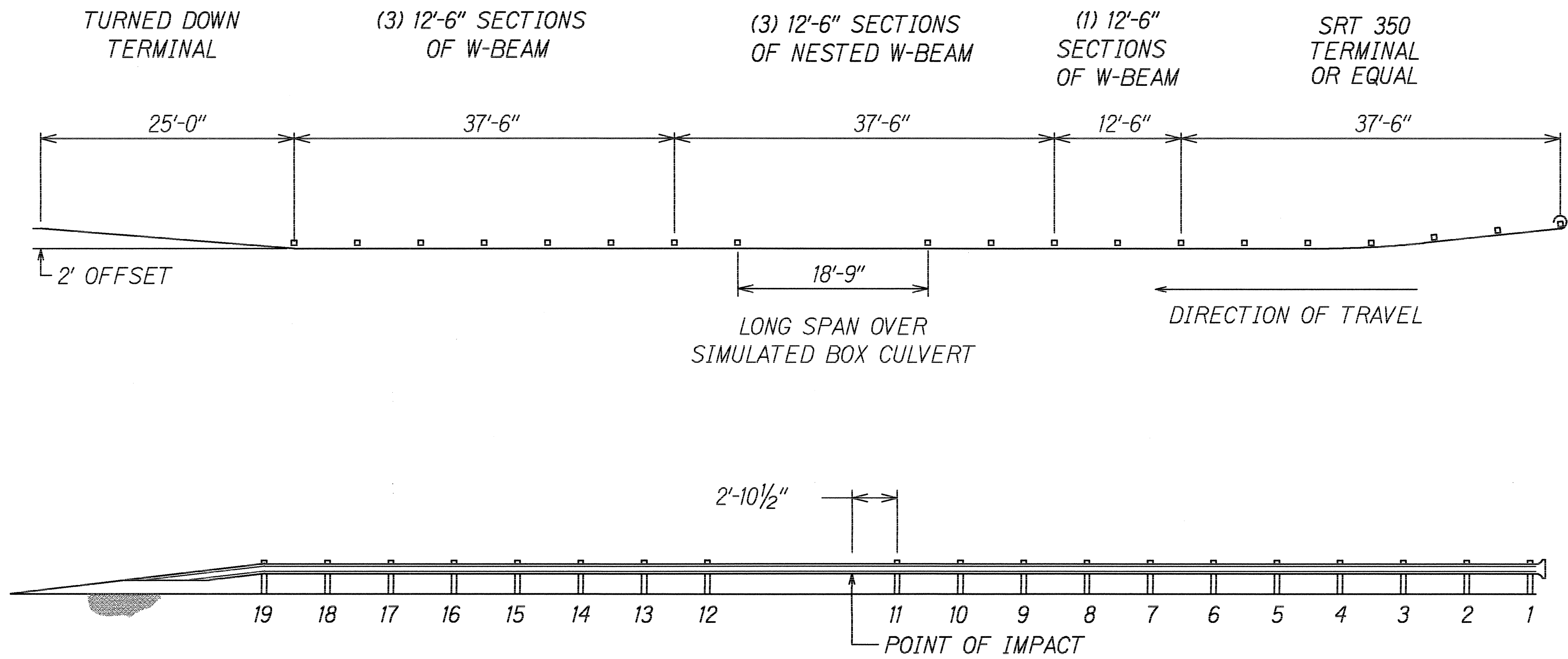
KEA'AU-PAHOA ROAD VIC. OF KEA'AU TOWN (KEA'AU BYPASS ROAD), PH. 2

PROJECT NO. 130B-01-98

Scale: N/A Date: August, 1998

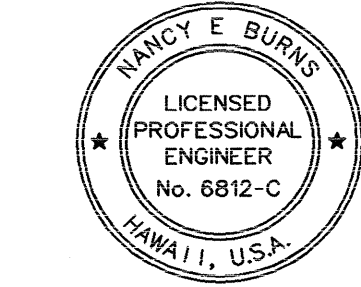
SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	130B-01-98	1999	83 S1	210



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

GUARDRAIL POST INSTALLATION AT OBSTRUCTION SCALE: N.T.S.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Nancy E. Burns

DATE: 9/1/98

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL POST DETAIL

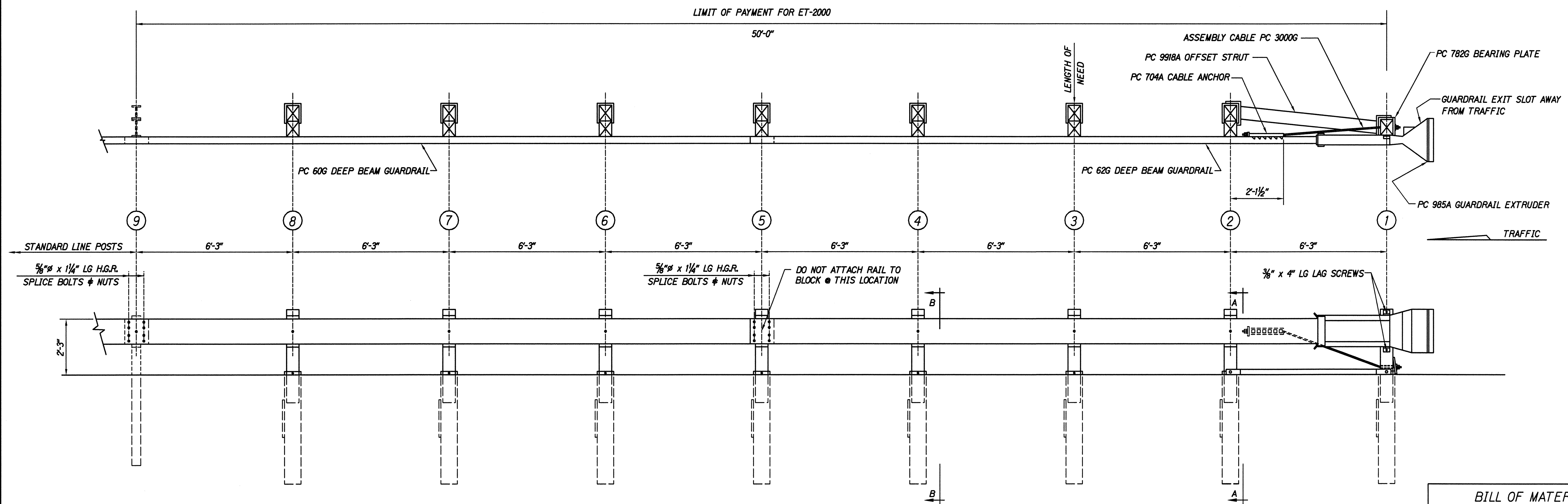
KEA'AU-PAHOA ROAD VIC. OF KEA'AU TOWN (KEA'AU BYPASS ROAD), PH. 2

PROJECT NO. 130B-01-98

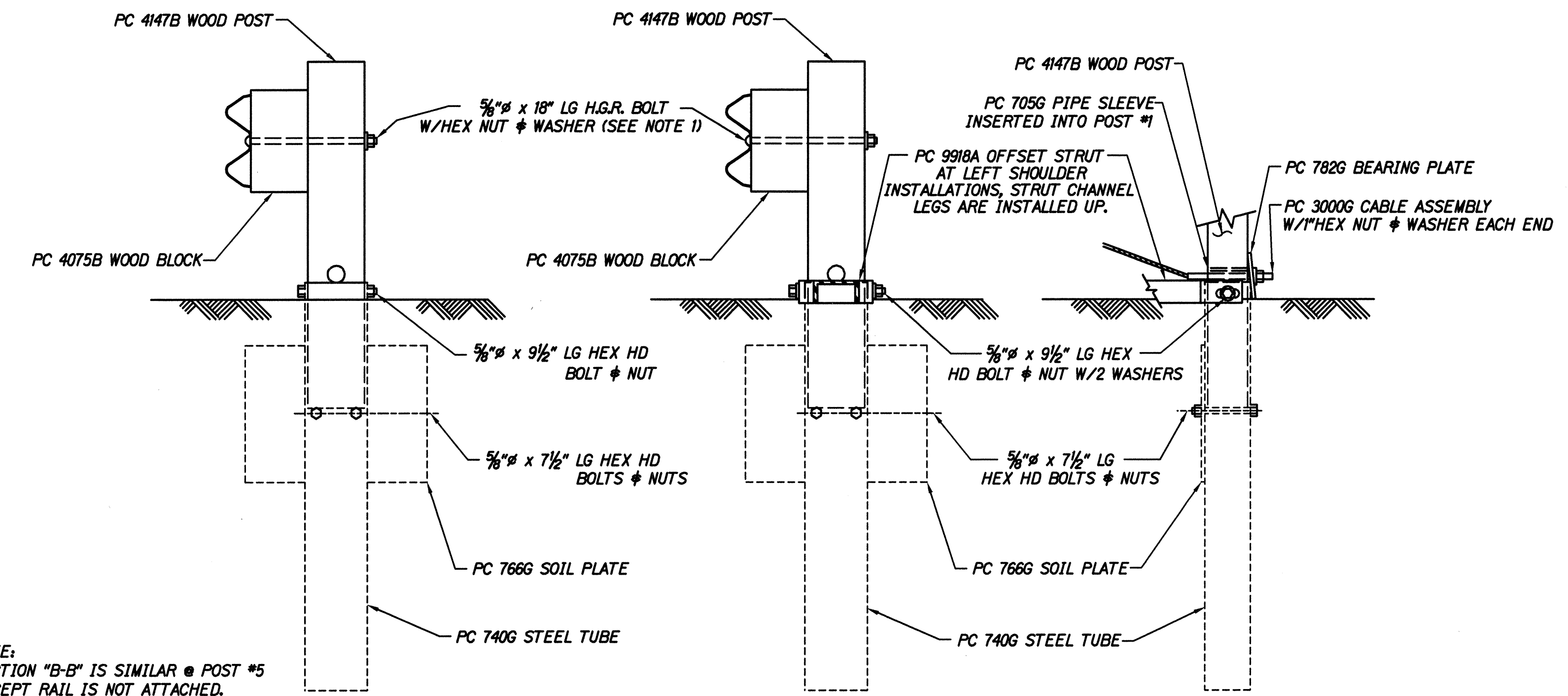
Scale: N.T.S. Date: August, 1998

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	130B-01-98	1999	85	210



BILL OF MATERIAL		
PC	QTY	DESCRIPTION
60G	1	12/25/63/S (GUARDRAIL)
62G	1	12/25/63/S ANC (GUARDRAIL)
704A	1	CABLE ANCHOR BRACKET
705G	1	2" x 5 1/2" PIPE
740G	8	4"6 TUBE SLEEVE
766G	8	1/4" x 18" x 24" SOIL PLATE
782G	1	5/8" x 8" x 8" BEARING PLATE
985A	1	ET-2000 EXTRUDER
3000G	1	CABLE 3/4" x 6'6"
3300G	11	5/8" WASHER
3340G	47	5/8" HEX NUT
3360G	16	5/8" x 1 1/4" SPLICE BOLT
3478G	16	5/8" x 7 1/2" HEX HD BOLT
3497G	8	5/8" x 9 1/2" HEX HD BOLT
3580G	7	5/8" x 18" POST BOLT
3900G	2	1" WASHER
3910G	2	1" HEX NUT
4075B	7	WD BLOCK 12" 6" x 8" DR
4147B	8	WD 3"9 POST 5 1/2" x 7 1/2"
4228G	2	3/8" x 4" LAG SCREW
9918A	1	6'3 STRUT



NOTE: THE 5/8" FLAT WASHER IS USED UNDER THE NUT, BEHIND THE POST ONLY. NO WASHER IS USED AT THE RAIL.

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

NOTE: SECTION "B-B" IS SIMILAR @ POST #5 EXCEPT RAIL IS NOT ATTACHED.

SECTION "B-B"
(TYP @ POSTS #3, 4, 6, 7 & 8)

SECTION "A-A"
(@ POST #2)

PARTIAL VIEW @ POST #1

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**ET-2000
OPTION "A"**

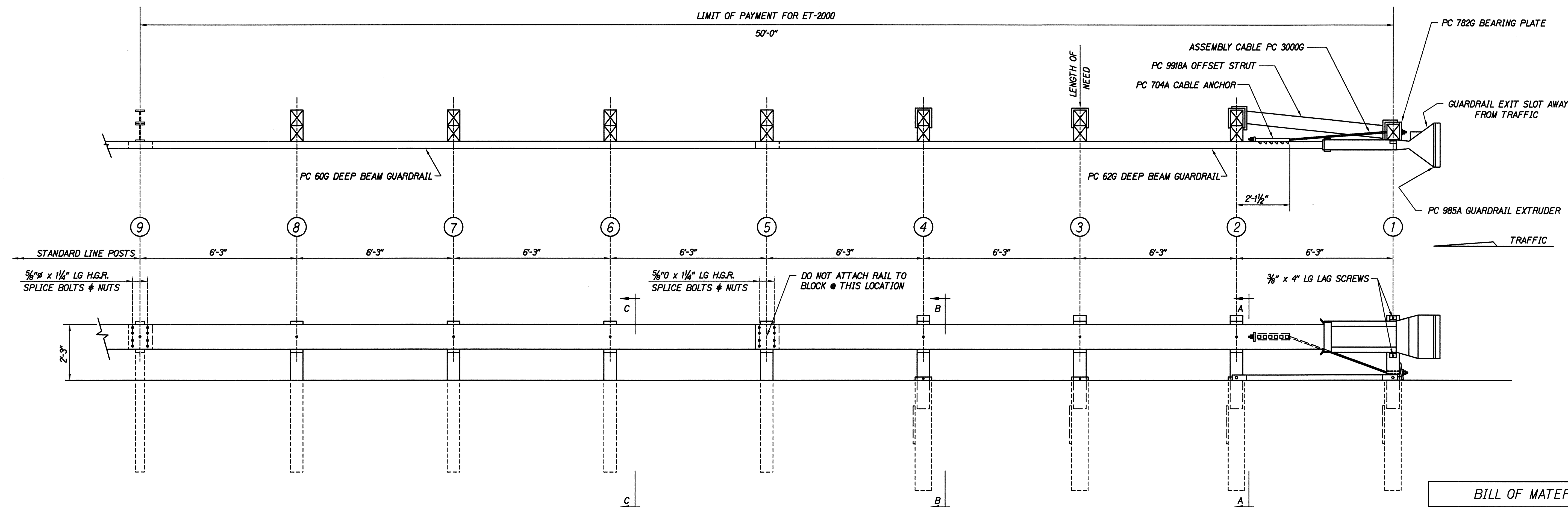
KEA'AU-PAHOA ROAD VIC. OF KEA'AU
TOWN (KEA'AU BYPASS ROAD), PH. 2

PROJECT NO. 130B-01-98

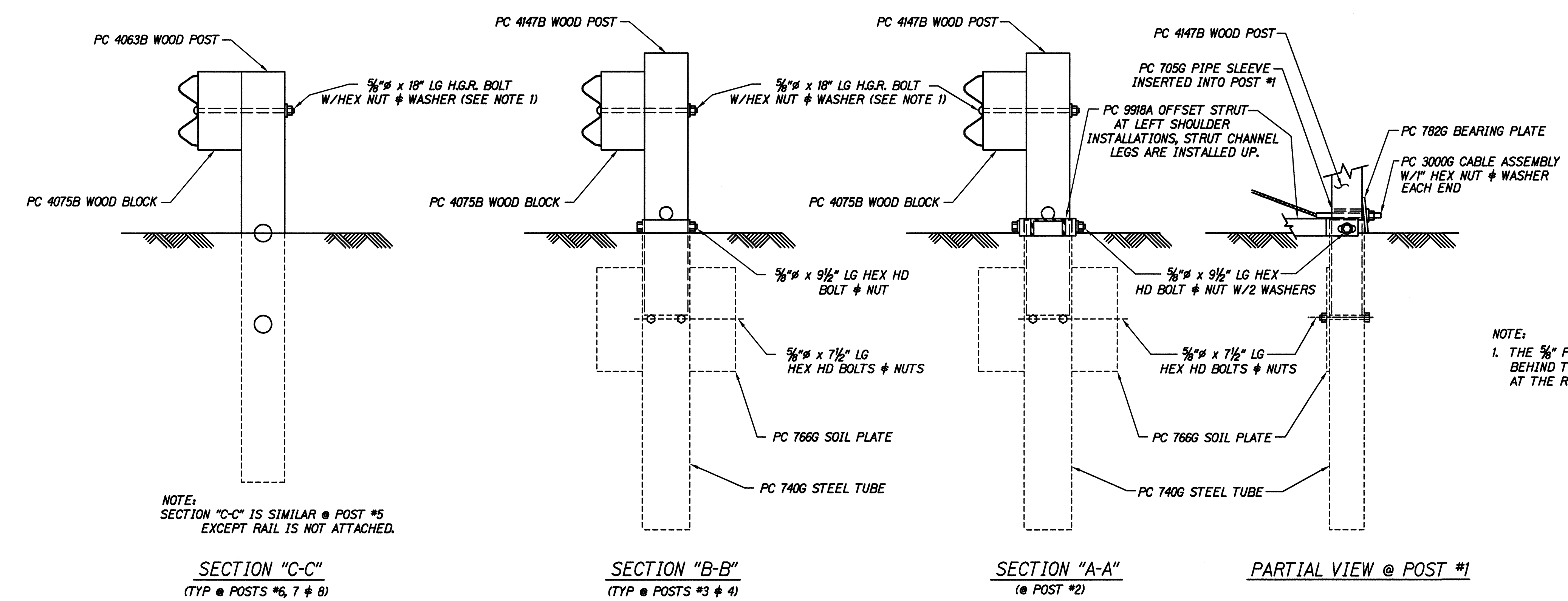
Scale: NTS Date: August, 1998

SHEET No. 2 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	130B-01-98	1999	86	210



BILL OF MATERIAL		
PC	QTY	DESCRIPTION
60G	1	12/25/6'3/S (GUARDRAIL)
62G	1	12/25/6'3/S ANC (GUARDRAIL)
704A	1	CABLE ANCHOR BRACKET
705G	1	2" x 5 1/2" PIPE
740G	4	4"6 TUBE SLEEVE
766G	4	1/4" x 18" x 24" SOIL PLATE
782G	1	3/8" x 8" x 8" BEARING PLATE
985A	1	ET-2000 EXTRUDER
3000G	1	CABLE 3/4" x 6'
3300G	11	3/8" WASHER
3340G	35	3/8" HEX NUT
3360G	16	5/8" x 1 1/4" SPLICE BOLT
3478G	8	3/8" x 7 1/2" HEX HD BOLT
3497G	4	3/8" x 9 1/2" HEX HD BOLT
3580G	7	5/8" x 18" POST BOLT
3900G	2	1" WASHER
3910G	2	1" HEX NUT
4063B	4	WD 6'0 POST 6 x 8
4075B	7	WD BLOCK 1'2 6" x 8" DR
4147B	4	WD 3'9 POST 5 1/2 x 7 1/2
4228G	2	3/8" x 4" LAG SCREW
9918A	1	6'3 STRUT



SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
DATE	6/20/00
BY	JD

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ET-2000
OPTION "B"
KEA'AU-PAHOA ROAD VIC. OF KEA'AU
TOWN (KEA'AU BYPASS ROAD), PH. 2
PROJECT NO. 130B-01-98
Scale: NTS
Date: August, 1998

SHEET No. 3 OF 3 SHEETS