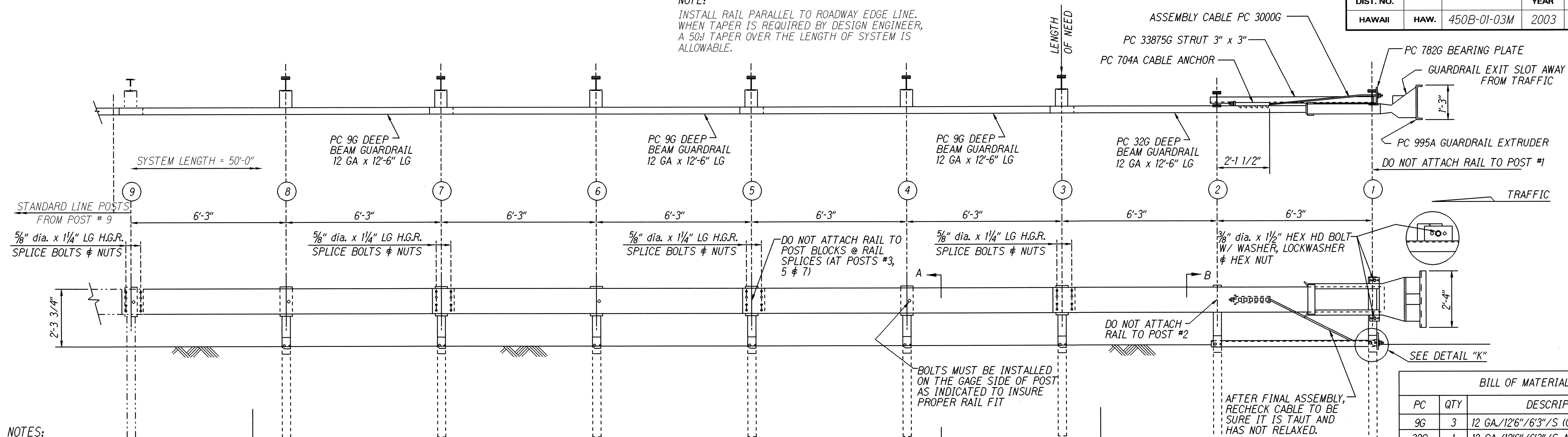


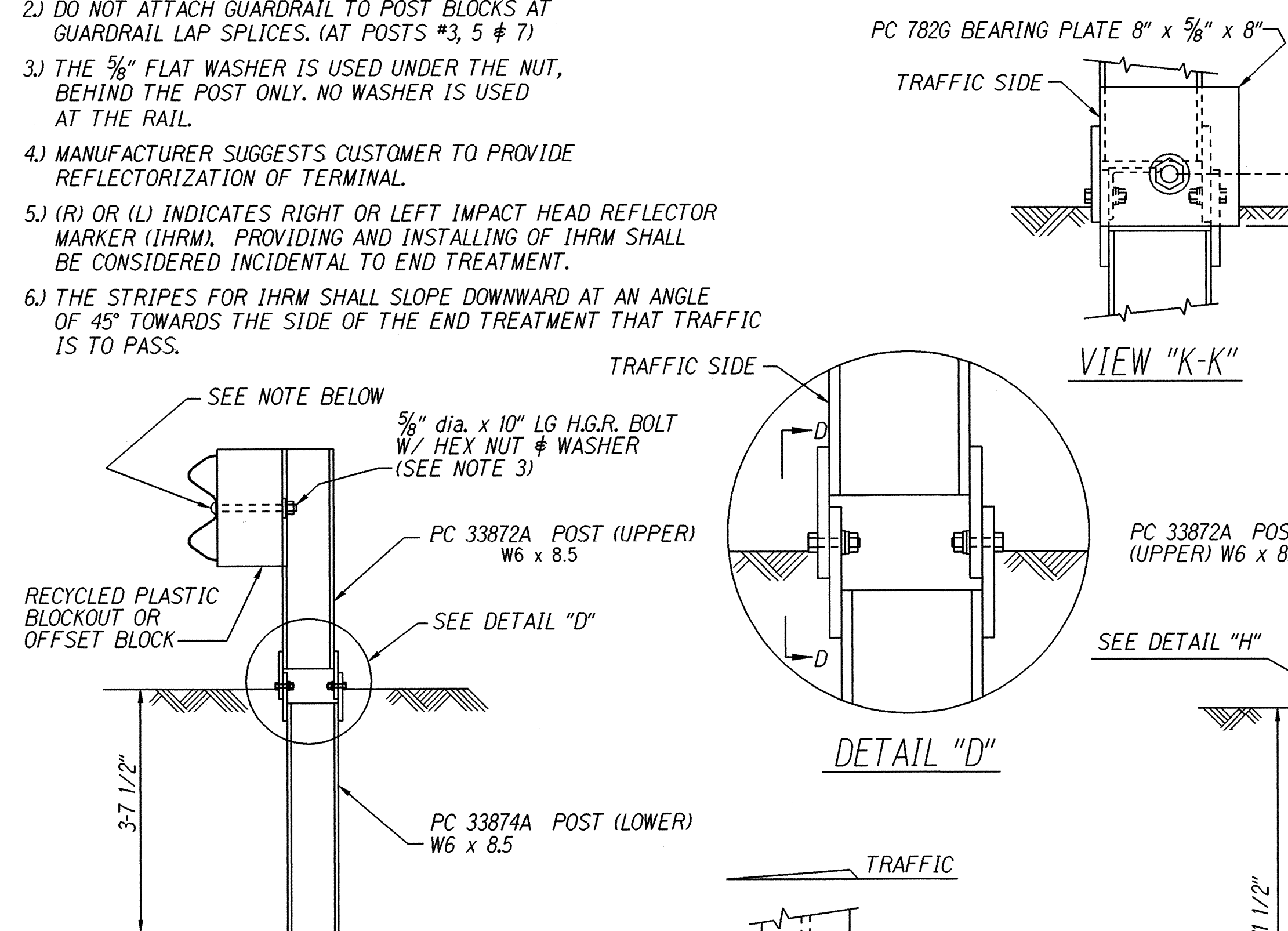
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	450B-01-03M	2003	6	39

NOTE:
INSTALL RAIL PARALLEL TO ROADWAY EDGE LINE.
WHEN TAPER IS REQUIRED BY DESIGN ENGINEER,
A 50:1 TAPER OVER THE LENGTH OF SYSTEM IS
ALLOWABLE.



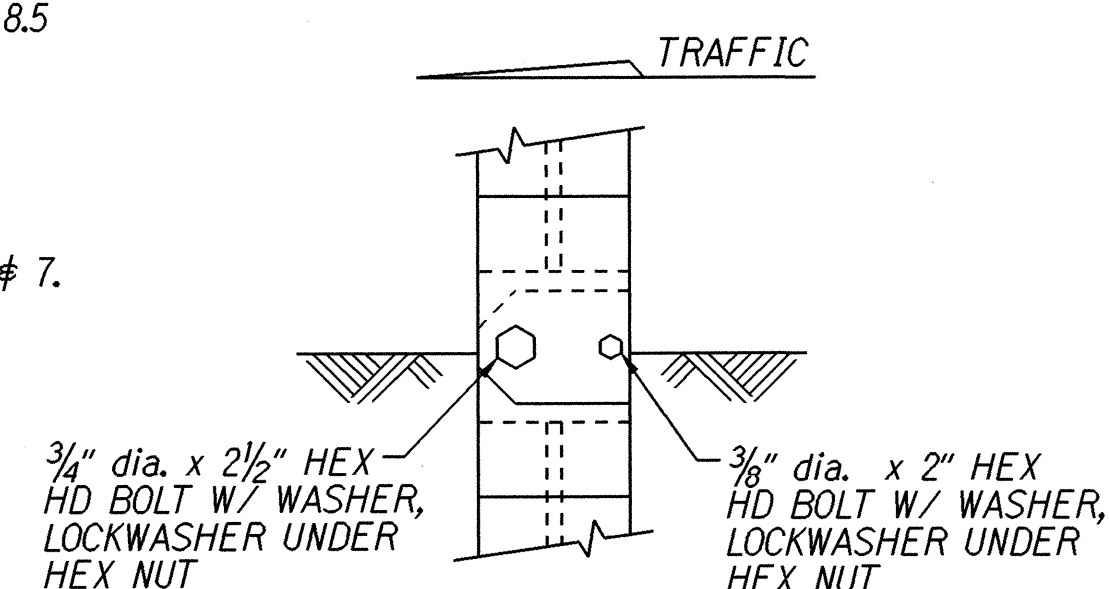
- NOTES:

- 1.) DO NOT ATTACH GUARDRAIL TO POST # 1.
- 2.) DO NOT ATTACH GUARDRAIL TO POST BLOCKS AT GUARDRAIL LAP SPLICES. (AT POSTS #3, 5 & 7)
- 3.) THE 5/8" FLAT WASHER IS USED UNDER THE NUT, BEHIND THE POST ONLY. NO WASHER IS USED AT THE RAIL.
- 4.) MANUFACTURER SUGGESTS CUSTOMER TO PROVIDE REFLECTORIZATION OF TERMINAL.
- 5.) (R) OR (L) INDICATES RIGHT OR LEFT IMPACT HEAD REFLECTOR MARKER (IHRM). PROVIDING AND INSTALLING OF IHRM SHALL BE CONSIDERED INCIDENTAL TO END TREATMENT.
- 6.) THE STRIPES FOR IHRM SHALL SLOPE DOWNWARD AT AN ANGLE OF 45° TOWARDS THE SIDE OF THE END TREATMENT THAT TRAFFIC IS TO PASS.

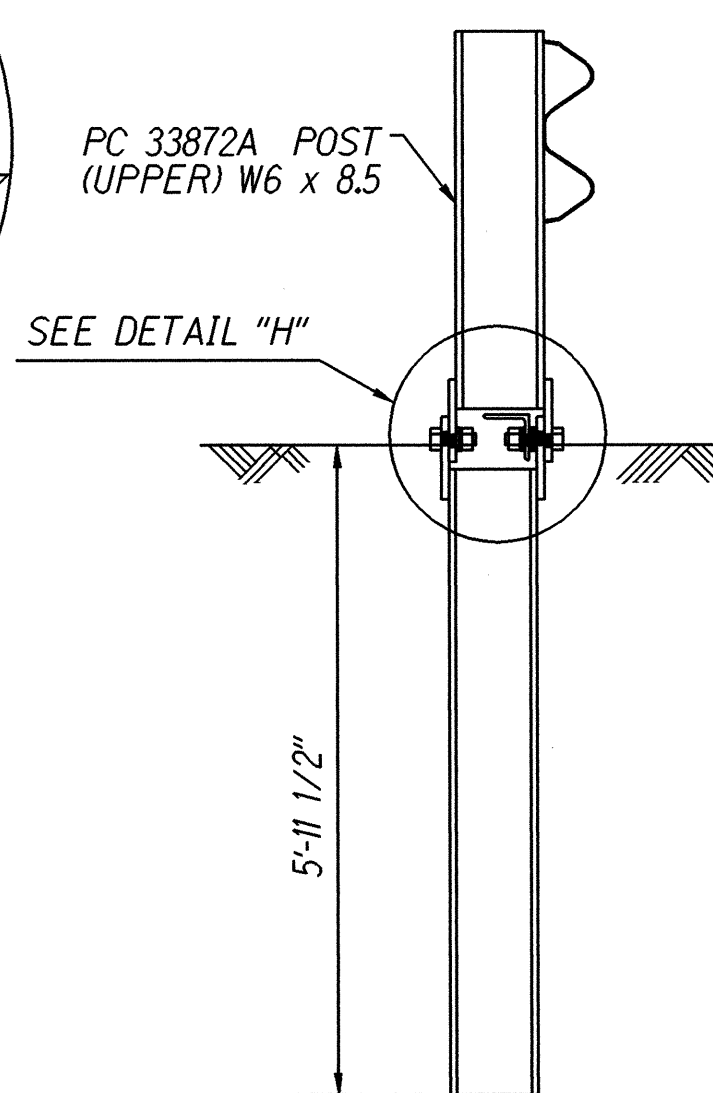


NOTE:
SECTION "A-A" IS SIMILAR @ POST #3, 5 & 7.
EXCEPT RAIL IS NOT ATTACHED.

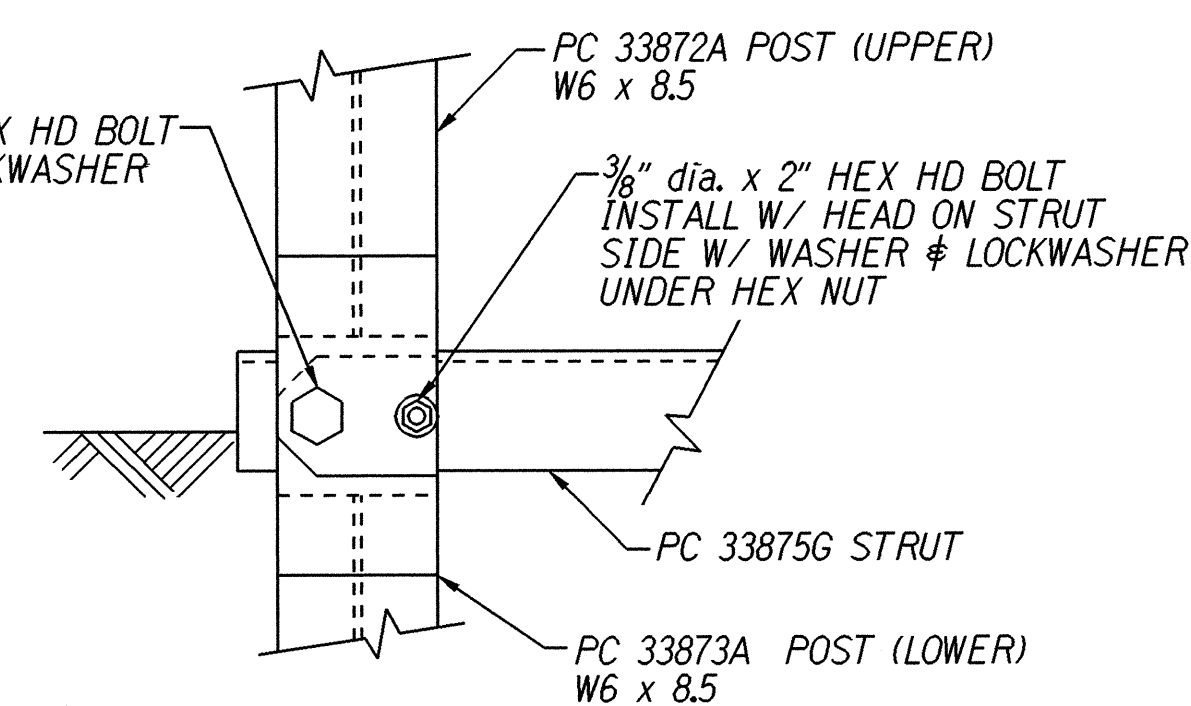
SECTION "A-A"
(TYP @ POSTS #4, 6 & 8)



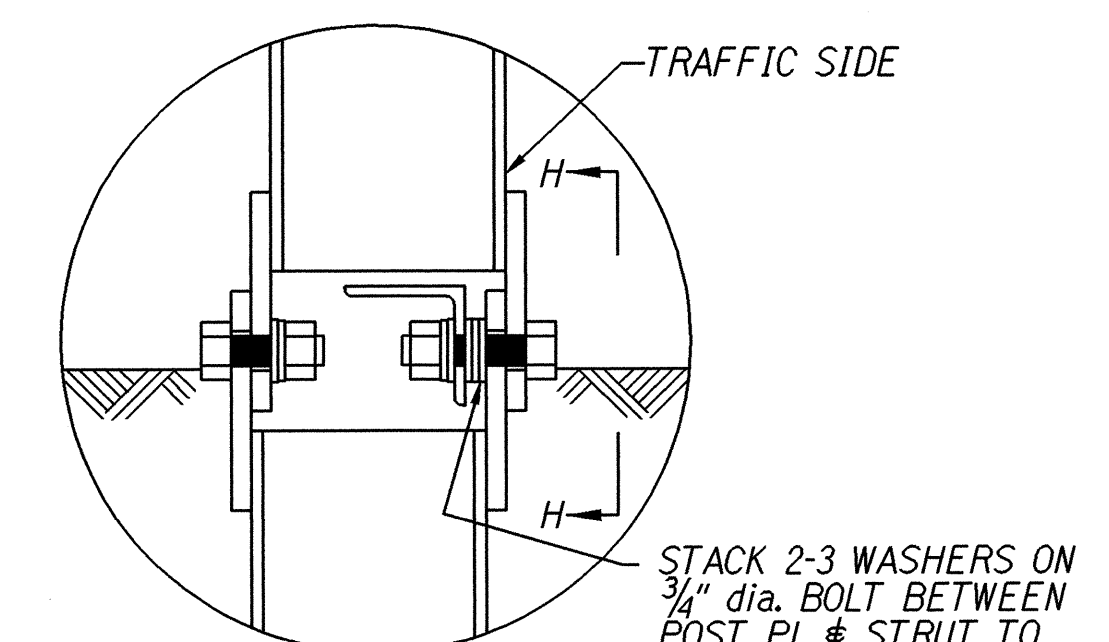
VIEW "D-D"



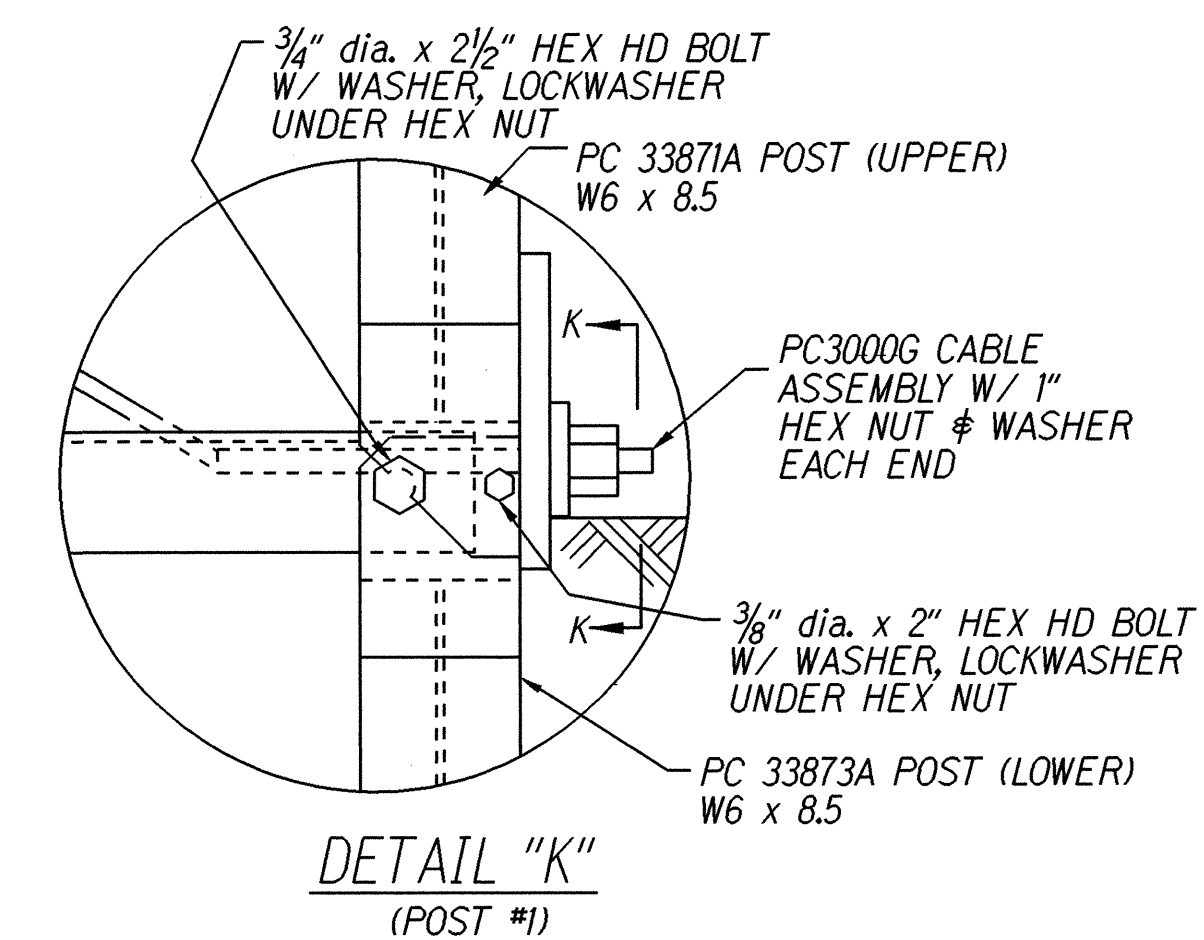
SECTION "B-B"
(POST #2)



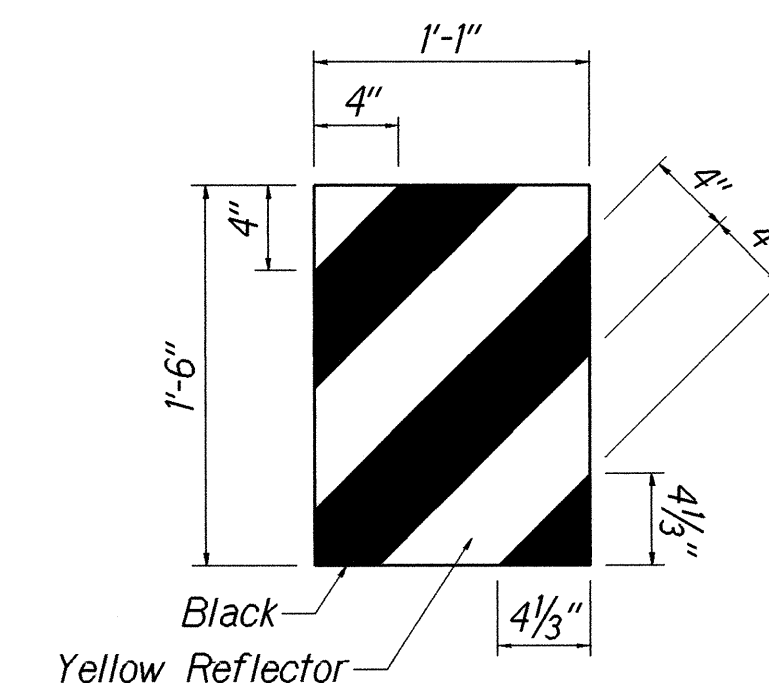
VIEW "H-H"



DETAIL "H"
(POST #2)



DETAIL "K"
(POST #1)



IHRM(R)
IMPACT HEAD REFLECTOR
MARKER INSERT
DETAIL

BILL OF MATERIAL		
PC	QTY	DESCRIPTION
9G	3	12 GA./12"6"/63"/S (GUARDRAIL)
32G	1	12 GA./12"6"/63"/S ANC (GUARDRAIL)
704A	1	CABLE ANCHOR BRACKET
782G	1	5/8" x 8" x 8" BEARING PLATE
995A	1	ET-2000 PLUS EXTRUDER
3000G	1	CABLE 3/4" x 6'6"
3300G	6	5/8" WASHER
3340G	38	5/8" HEX NUT
3360G	32	5/8" dia. x 1 1/4" SPLICE BOLT
3500G	6	5/8" dia. x 10" POST BOLT
3701G	19	3/4" WASHER
3704G	16	3/4" HEX NUT
3717G	15	3/4" dia. x 2 1/2" HEX HD BOLT
3718G	1	3/4" dia. x 3" HEX HD BOLT
3900G	2	1" WASHER
3910G	2	1" HEX NUT
5326B	6	RECYCLED PLASTIC BLOCKOUT OR OFFSET BLOCK
4254G	18	3/8" WASHER
4255G	2	3/8" FENDER WASHERS
4258G	16	3/8" LOCKWASHER
4261G	2	3/8" dia. x 1 1/2" HEX HD BOLT
4699G	16	3/4" LOCKWASHER
6321G	16	3/8" dia. x 2" HEX HD BOLT
6405G	18	3/8" HEX NUT
33871A	1	ET2000 HBA POST #1 TOP
33872A	7	ET2000 HBA POST #2-#8 TOP
33873A	2	ET2000 HBA POST #1-#2 BOTTOM
33874A	6	ET2000 HBA POST #3-#8 BOTTOM
33875G	1	6'-6" ANGLE STRUT ET HBA
	1	IMPACT HEAD REFLECTOR MARKER - (HRMIR) OR (U)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ET-2000 PLUS

KAMEHAMEHA V HIGHWAY RESURFACING

Pukoo to Waialua

Project No. 450B-01-03M

Scale: As Shown

Date: December, 2002

SHEET No. 1 OF 1 SHEETS