

## GENERAL NOTES

- 1. Wood posts are required with the fleat.
- 2. All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
- 3. The soil tube shall not protrude more than 4" above ground (measured along a 5' cord). Site grading may be necessary to meet this requirement.
- 4. The soil tubes may be driven with an approved driving head. They shall not be driven with the wood post in the tube. If the soil tubes are placed in drilled holes, the backfill material must be satisfactorily compacted to prevent settlement.
- 5. When rock is encountered during excavation, a 12" Dia. post hole, 20" deep may be used if approved by the engineer. Granular material will be placed in the bottom of the hole approx. 2½" deep to provide drainage. The soil tubes will be field cut to length, placed in the hole and backfilled with adequately compacted material excavated from the hole.
- 6. The breakaway cable assembly must be taut. A locking device, (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.
- 7. The wood blockouts shall be "toe nailed" to the rectangular wood posts to prevent them from turning when the wood shrinks.
- 8. For curb installations, the soil tubes and posts shall be installed at the proper ground elevation behind the curb. The posts will require field drilling new holes to accommodate the rail to the post connecting bolt to maintain the proper height of the rail above the gutter pan. The excess post length above the rail will be removed if directed by the engineer.

	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	HAWAII	HAW.	STP-0900(53)	2000	40	73

ITEM NO.	QTY	BILL OF MATERIALS	
<i>S3000</i>	1	IMPACT HEAD	
F1303	1	W-BEAM GUARDRAIL END SECTION, 12 GA.	
F1304	1	W-BEAM GUARDRAIL CENTER SEC., 12 GA.	
G1203	1	W-BEAM GUARDRAIL, 12 GA.	
<i>S730</i>	2	*FOUNDATION SOIL TUBE, 6" x 8" x 6'	
E740	1	PIPE SLEEVE	
E750	1	BEARING PLATE, 8" x 8" x 5/8"	
<i>S760</i>	1	CABLE ANCHOR BOX	
E770	1	BCT CABLE ANCHOR ASSEMBLY	
E780	1	GROUND STRUT	
P650	2	5.5" x 7.5" x 45" WOOD POSTS	
P671	5	6" x 8" x 6' WOOD CRT POST	
P675	5	6" x 8" x 14" TIMBER BLOCKOUT	
		HARDWARE	
B580122	24	5%" Dia. x 11/4" SPLICE BOLT	
B580754	2	5/8" Dia. x 71/2" HEX BOLT	
B581004	2	5/8" Dia. x 10" HEX BOLT	
B581002	1	%" Dia. x 10" H.G.R. BOLT (POST 2 ONLY)	
B581802	5	%" Dia. x 18" H.G.R. BOLT (POST 3-7)	
N050	34	5/8" Dia. H.G.R. NUT (SPLICE 24, SOIL TUBES 2, STRUT 2, POST 2, 1; POST 3 THRU 7, 5.)	
W050	10	5/8" Dia. H.G.R. WASHER	
N100	2	1" ANCHOR CABLE HEX NUT	
W100	2	1" ANCHOR CABLE WASHER	
E350	2	3/8" x 3" LAG SCREW	
SB58A	8	CABLE ANCHOR BOX SHOULDER BOLTS	
N055A	8	1/2" A325 STRUCTURAL NUTS	
W050A	16	11/16" OD X 9/16" ID A325 STR. WASHER	

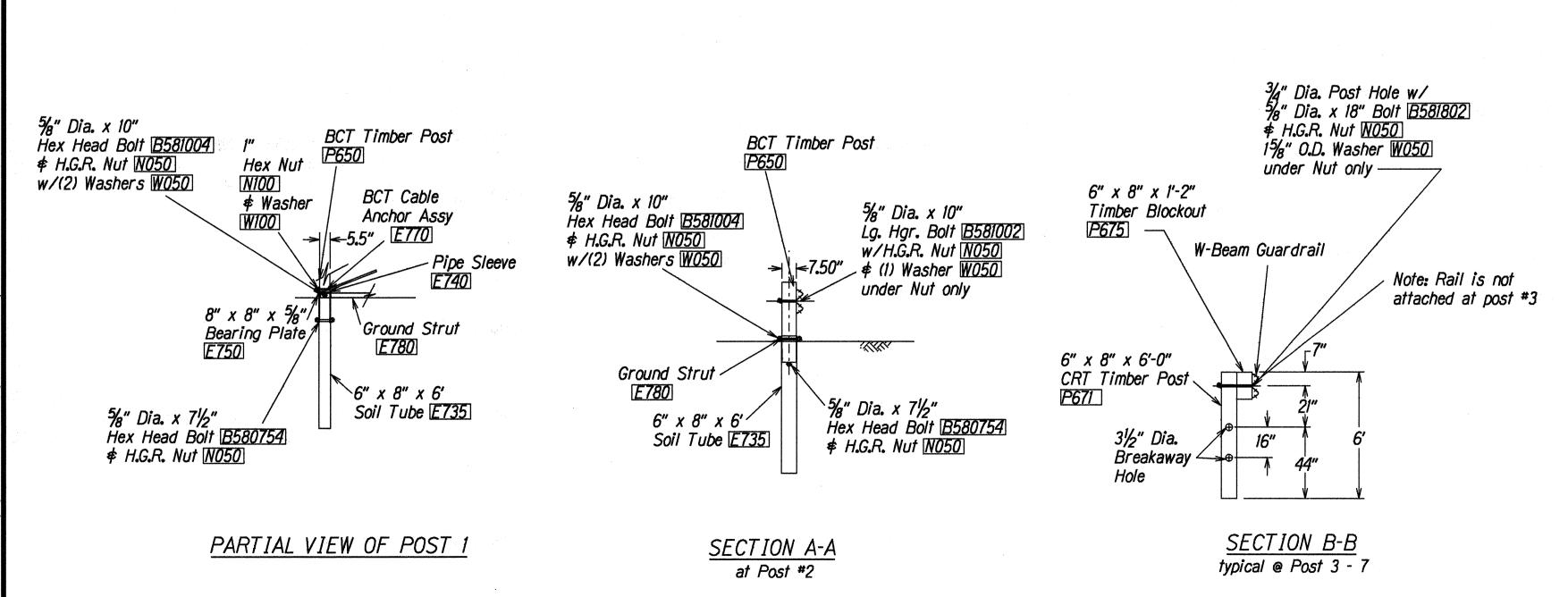
## Foundation Tube Options For Posts 1 \$ 2

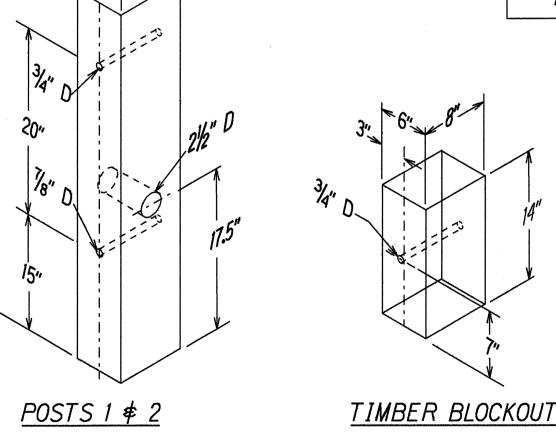
\*6'-0" Split Foundation Tubes S730

\*6'-0" Solid Foundation Tubes E731
\*5'-0" Foundation Tubes S735 W/Soil

Plates SP600

\*4'-6" Foundation Tubes E735 W/Soil Plates SP600





1 %" Dia. thru hole
Bearing Plate

\*for bearing plate placement, the
5" side should be installed up

BEARING PLATE E750

FLARED ENERGY ABSORBING TERMINAL

HIGHWAYS DIVISION
FLARED ENERGY ABSORBING TERMINAL

HONOAPIILANI HIGHWAY GUARDRAIL

AND SHOULDER IMPROVEMENTS

High Street to Puamana

Fed. Aid Project No. STP-0900(53)

Not to Scale

Date: Aug., 1999

SHEET No. 1 OF 1 SHEETS