

ITEM NO.	QTY.	BILL OF MATERIALS
F3000	1	Impact Head
F1303	1	W-Beam Guardrail End Section, 12 GA.
F1304	1	W-Beam Guardrail Center Section, 12 GA.
GI203	1	W-Beam Guardrail, 12 GA.
S730	2	*Foundation Soil Tube, 6" x 8" x 72"
E750	1	Bearing Plate
S760	1	Cable Anchor Box
E770	1	BCT Cable Anchor Assembly
E780	1	Ground Strut
PB620	2	Steel Breakaway End Post
PB621	5	Steel Breakaway Line Post
	5	Recycled Plastic Blockout or Offset Block
	1	Impact Head Reflector Marker - IHR(MR) or (L)
		Hardware
B580122	25	5/8 " Dia. x 1 1/4 " Splice Bolt, Post #2
B580754	2	5/8 " Dia. x 7 1/2 " Hex Bolt
B341004	2	3/4 " Dia. x 10" Hex Bolt
B581002	5	5/8 " Dia. x 10" H.G.R. Bolt (Post 3 thru 7)
N050	32	5/8 " Dia. H.G.R. NUT
		(Splice 24, Soil Tubes 2, Post 2 thru 7, 6)
N030	2	3/4 " Dia. Hex Nut
W050	6	H.G.R. Washer
W030	4	3/4 " Id Washer
N100	2	1" Anchor Cable Hex Nut
W100	2	1" Anchor Cable Washer
BI40404	2	1/4 " x 4" Hex Bolt
N014	2	1/4 " Hex Nut
W014	4	1/4 " Washer
SB58A	8	Cable Anchor Box Shoulder Bolt
N055A	8	1/2 " A325 Structural Nut
W050A	16	1 1/16 " OD x 9/16 " Id A325 Str. Washer



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

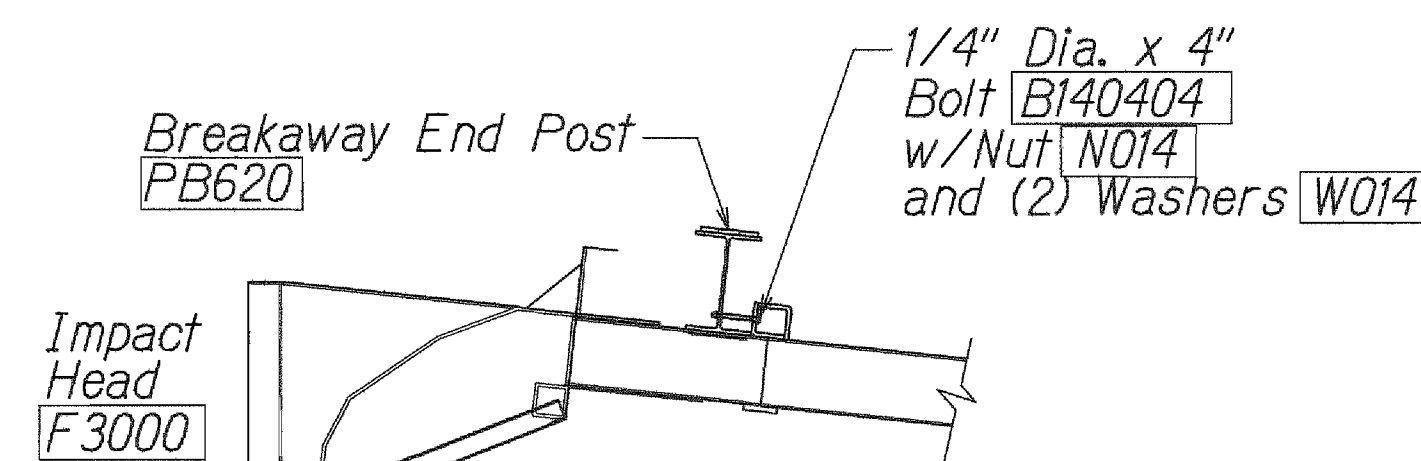
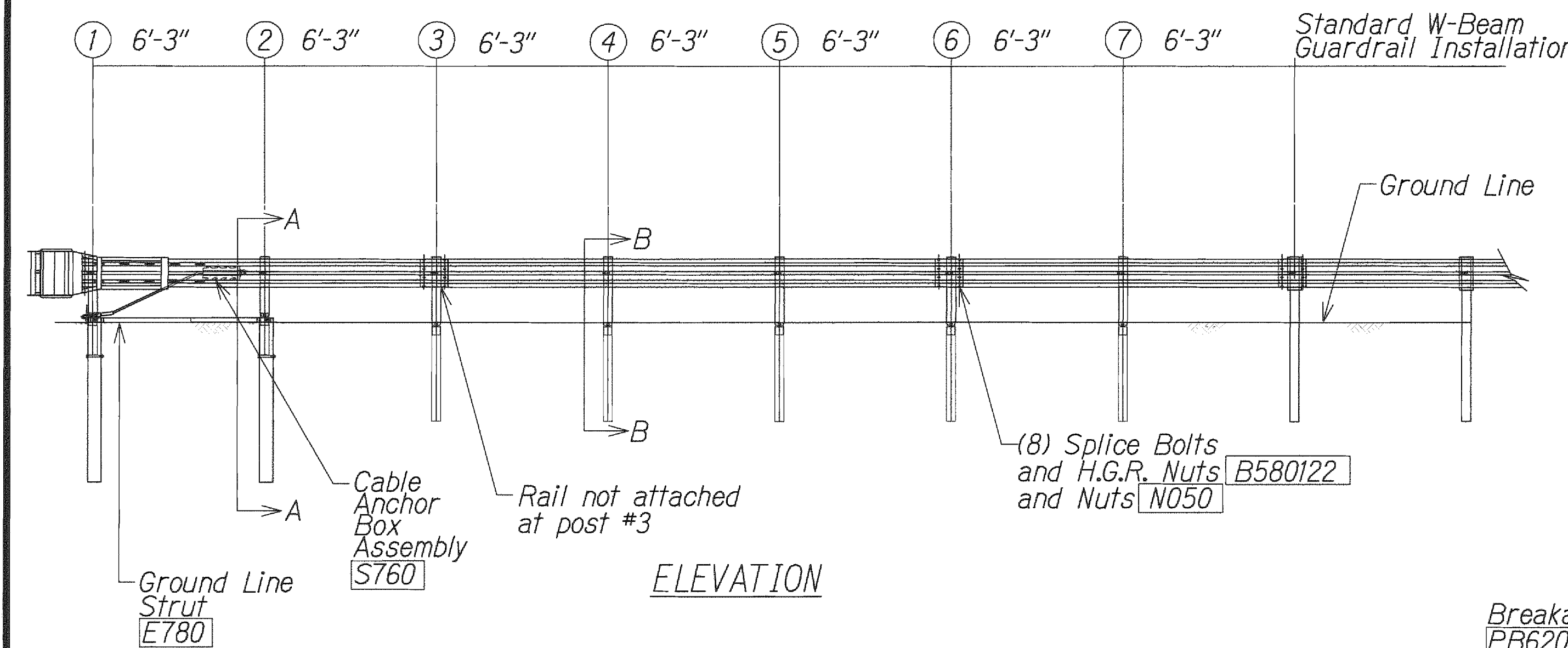
FLEAT-350 FLARED ENERGY ABSORBING
TERMINALS DETAILS AND NOTES

WAIIEHU BEACH ROAD
REHABILITATION OF 1AO STREAM BRIDGE
Federal Aid Project No. BR-STP-3400(5)

Date: October 2012

SHEET No. GR7 OF 10 SHEETS

1. Breakaway steel posts are required with the FLEAT Terminal.
2. All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
3. The soil tubes shall not protrude more than 4" above ground (measured along a 5' cord). Site grading maybe necessary to meet this requirement.
4. The soil tubes may be driven with an approved driving head. Soil tubes shall not be driven with the post in the tube. If the 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. 2 1/2" 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. (R) or (L) indicates right or left Impact Head Reflector Marker (IHRM). Providing and installing of IHRM shall be considered incidental to end treatment.
8. The stripes for IHRM shall slope downward at an angle of 45° towards the side of the end treatment that traffic is to pass.



Recycled Plastic Blockout
or Offset Block

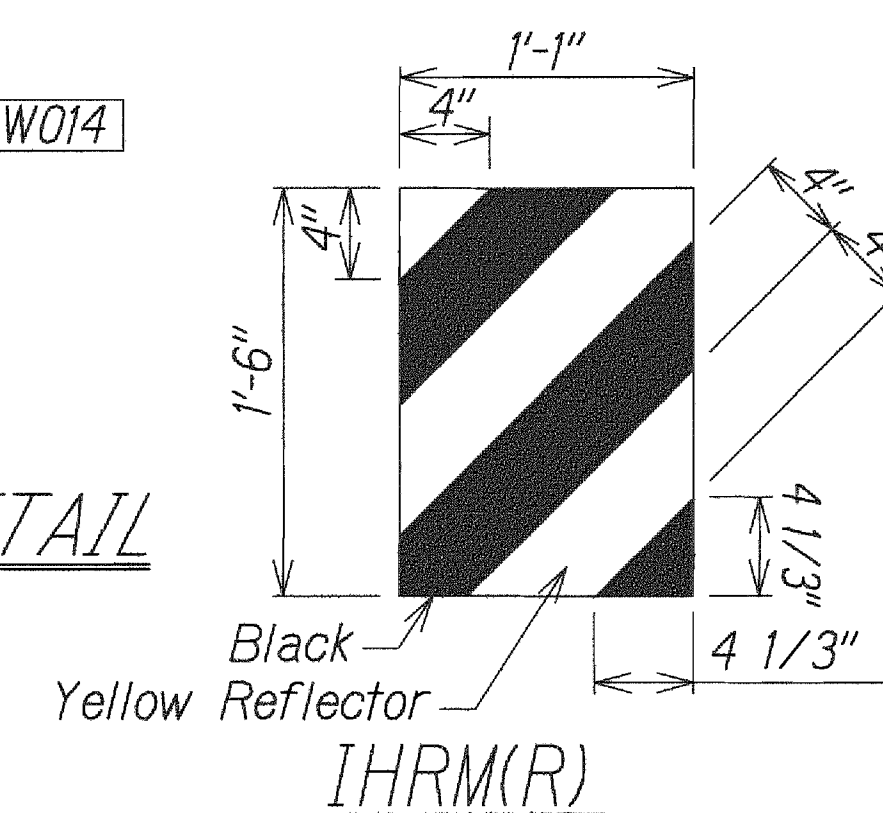
W-Beam
Guardrail

5/8" Dia. x 10" B581002

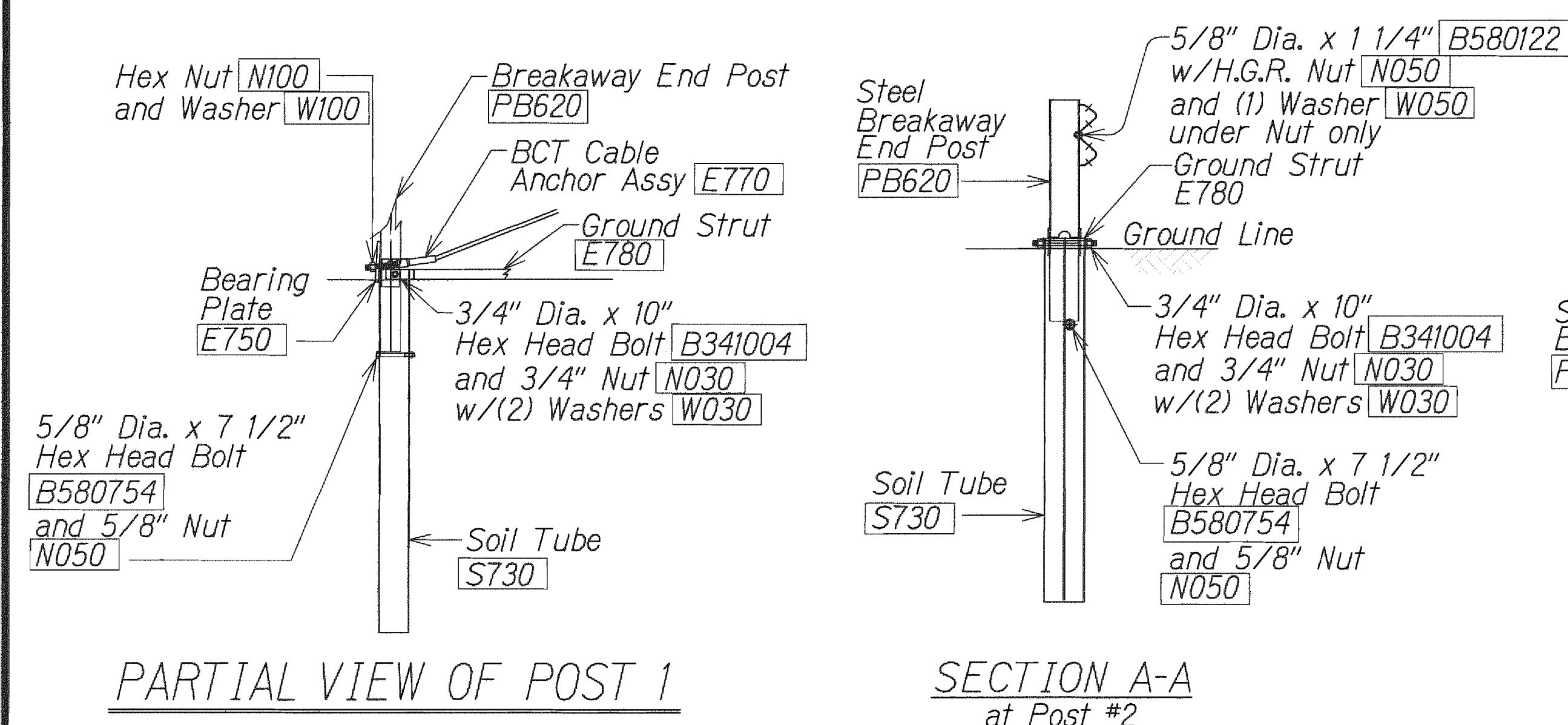
w/H.G.R. Nut N050
and (1) Washer W050
under Nut only

Steel Breakaway
End Post

PB620



IMPACT HEAD REFLECTOR
MARKER INSERT DETAIL



SECTION B-B
Typical @ Post 3 thru 8

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

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