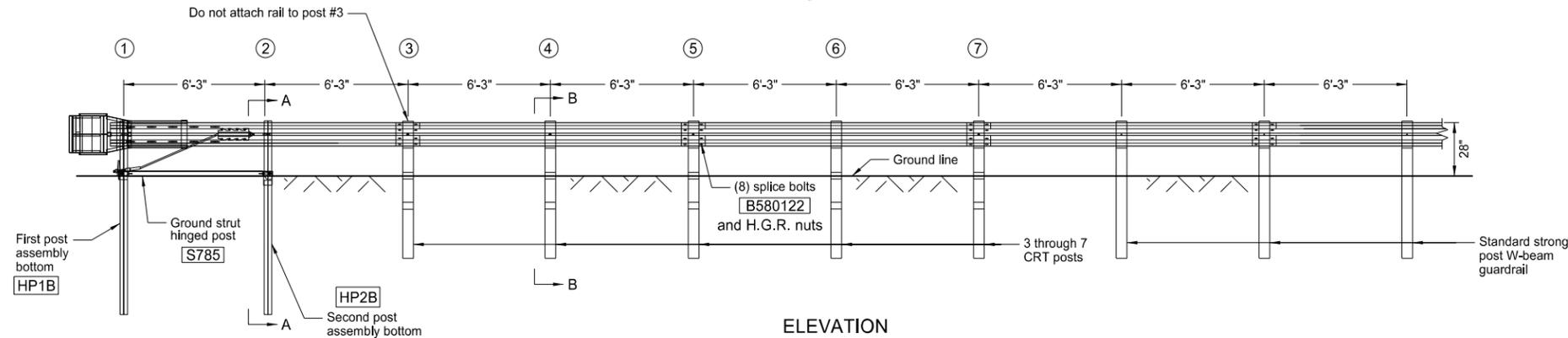
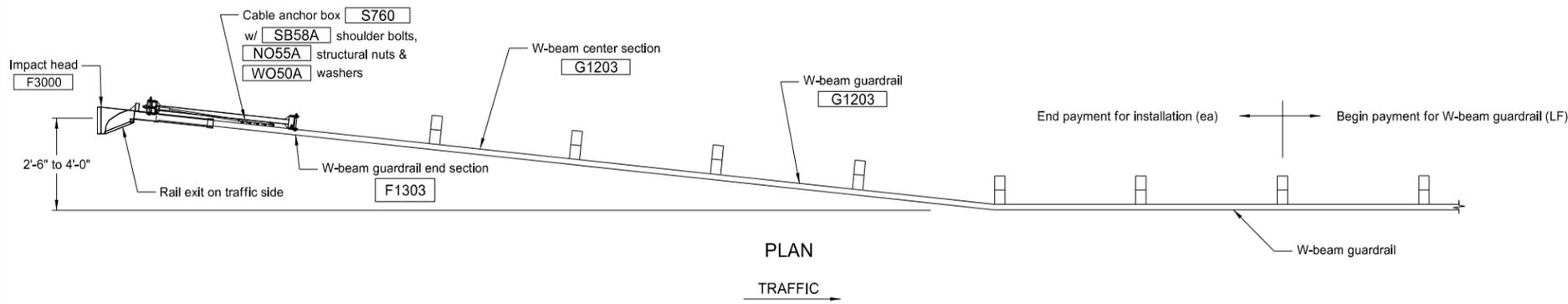


FLARED ENERGY ABSORBING TERMINAL

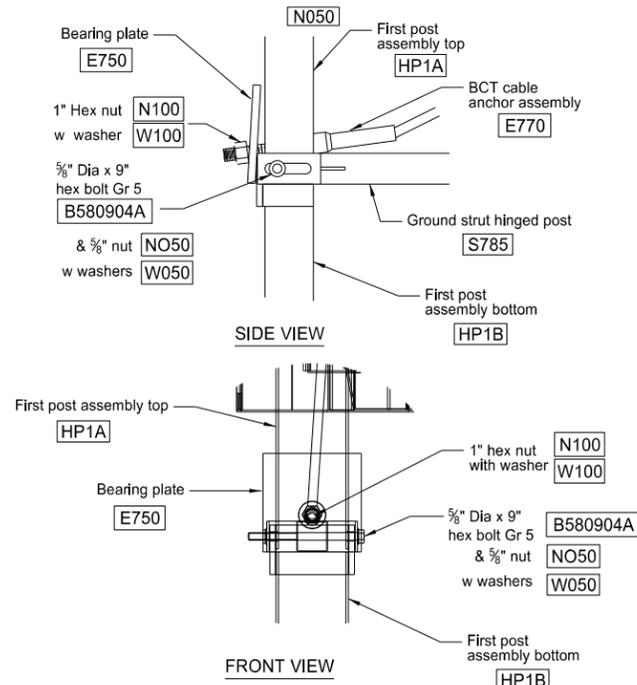
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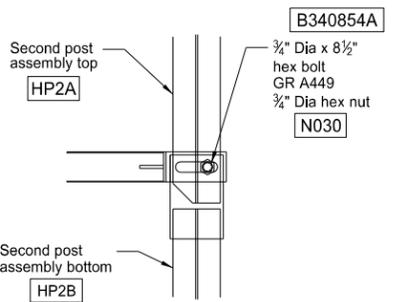
ITEM #	QTY	BILL OF MATERIALS
F3000	1	IMPACT HEAD
F1303	1	W-BEAM GUARDRAIL END SECTION, 12 GA
G1203	2	W-BEAM GUARDRAIL, 12 GA
HP1A	1	FIRST POST ASSEMBLY TOP
HP1B	1	FIRST POST ASSEMBLY BOTTOM
HP2A	1	SECOND POST ASSEMBLY TOP
HP2B	1	SECOND POST ASSEMBLY BOTTOM
P671	5	WOOD CRT POST
P675	5	TIMBER BLOCKOUT OR RECYCLED EQUIVALENT
E750	1	BEARING PLATE
S760	1	CABLE ANCHOR BOX
E770	1	BCT CABLE ANCHOR ASSEMBLY
S785	1	GROUND STRUT HINGED POST
HARDWARE (ALL DIMENSIONS IN INCHES)		
B140404	2	1/4 Dia x 4 HEX BOLT
WO14	4	1/4 WASHER
N014	2	1/4 HEX NUT
B580122	17	5/8 Dia x 1 1/4 SPLICE BOLT
B581802	4	5/8 Dia x 10 H.G.R. BOLT (POSTS 3 THRU 6)
B580904A	1	5/8 Dia x 9 HEX BOLT GR 5
W050	5	5/8 WASHER
N050	22	5/8 Dia H.G.R. NUT
B340854A	1	3/4 Dia x 8 1/2 HEX BOLT GR A449
N030	1	3/4 Dia HEX NUT
N100	2	1 ANCHOR CABLE HEX NUT
W100	2	1 ANCHOR CABLE WASHER
SB58A	8	CABLE ANCHOR BOX SHOULDER BOLT
N055A	8	1/2 A325 STRUCTURAL NUT
W050A	16	1 1/16 OD x 3/16 ID A325 STR. WASHER

GENERAL NOTES

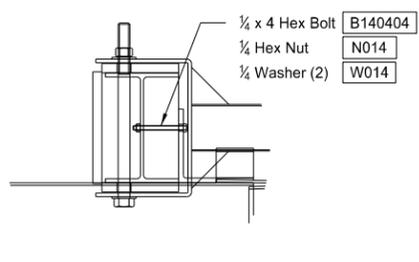
- Wood posts are required with the Flared Energy Absorbing Terminal except posts #1 and #2.
- All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
- The lower sections of the posts shall not protrude more than 4 inches above the ground (measured along a 60 inch cord). Site grading may be necessary to meet this requirement.
- Lower post sections shall not be driven with the upper post attached. If the post is placed in a drilled hole, the backfill material must be satisfactory compacted to prevent settlement.
- When rock is encountered during excavation, a 12" diameter post hole 20" deep may be used if approved by the Engineer. Granular material will be placed in the bottom of the hole approximately 2 1/2" deep to provide drainage. The soil tubes shall be field cut to length, placed in the hole and back filled with adequately compacted material excavated from the hole.
- The breakaway cable assembly shall be taut. A locking device (vice grips or channel lock pliers) should be used to prevent cable from twisting when tightening nuts.
- The wood blockouts shall be "toe nailed" to the rectangular wood posts to prevent them from turning when wood shrinks. The nail shall be 20 penny and galvanized.
- The Flared Energy Absorbing Terminal shall be flared only when the approach guardrail is parallel with the roadway. When the approach guardrail is flared at 16:1 to 10:1, the Flared Energy Absorbing Terminal shall have only the flare rate of the guardrail. When the guardrail flare is between 10:1 and 7:1, the Flared Energy Absorbing Terminal shall be turned parallel to the roadway.



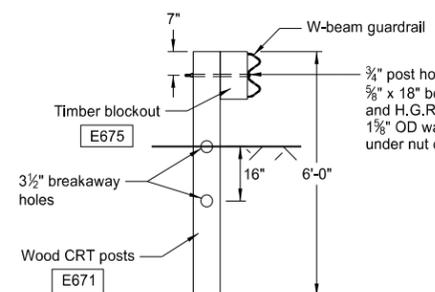
POST #1 CONNECTION DETAILS



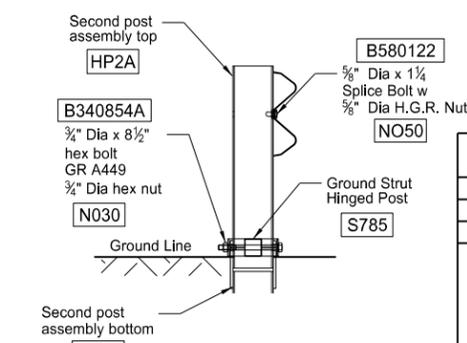
SIDE VIEW DETAIL OF POST #2



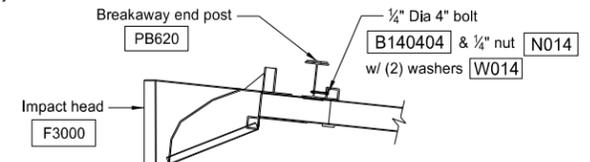
IMPACT HEAD CONNECTION DETAIL



SECTION B-B
POST 3 THRU 7



SECTION A-A
at Post #2



IMPACT HEAD CONNECTING DETAIL

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
10-11-13	
REVISIONS	
DATE	CHANGE

This document was originally issued and sealed by
Roger Weigel,
 Registration Number
 PE-2930,
 on 10/11/13 and the original document is stored at the
 North Dakota Department
 of Transportation