

**THRIE-BEAM BULLNOSE END TERMINAL**



**MBN01**

SHEET NO.

DATE:

1 of 6

7/26/2007

## INTENDED USE

Thrie-Beam Bullnose End Terminal should be used in locations where a maximum dynamic deflection of 43 1/16" [1094] or less is acceptable and where a working width of 49" [1250] is provided. A minimum of 62' 9" [19125] of guardrail, or five guardrail sections downstream of post no. 1 of the system is recommended to shield any hazard. The Thrie-Beam Bullnose End Terminal is TL-3 NCHRP 350 accepted.

## COMPONENTS

Unit Length = 635" [7620] (Nose to Post No. 9)

DESIGNATOR	COMPONENT	NUMBER
FBB01	Guardrail bolt and recessed nut	72
FBB03	Guardrail bolt and recessed nut	4
FBB04	Guardrail bolt and recessed nut	4
FBB05	Guardrail bolt and recessed nut	12
FBX16a	Hex bolt and nut	20
FBX22a	Hex bolt and nut	4
FCA01	BCT cable anchor assembly	2
FMM02a	BCT post sleeve	2
FPA01	Anchor cable bracket	2
FWC16a	Plain round washer	60
FPB01a	BCT bearing plate	2
FWC22a	Plain round washer	8
PDB01	W-Beam timber blockout	14
PDB12	W-Beam tapered blockout for timber guardrail post	14
PDE02	Timber guardrail post	2
PDB16	CRT timber guardrail post	12
PDF04	BCT Timber post for thrie-beam bullnose end terminal	4
PTE06	MGS foundation tube (72" [1829])	2
PTE07	Foundation tube (96" [2438])	2
RTM07a	2-Space thrie-beam rail - Slot Pattern No. 1	1
RTM07b	2-Space thrie-beam rail - Slot Pattern No. 2	2
RTM07c	2-Space thrie-beam rail - Slot Pattern No. 3	2
RTM02a	2-Space thrie-beam rail	2
-----	16D double head nail	28
-----	5/8" [16] Nose cable	3
-----	Nose cable anchor plate	6

## THRIE-BEAM BULLNOSE END TERMINAL

# MBN01

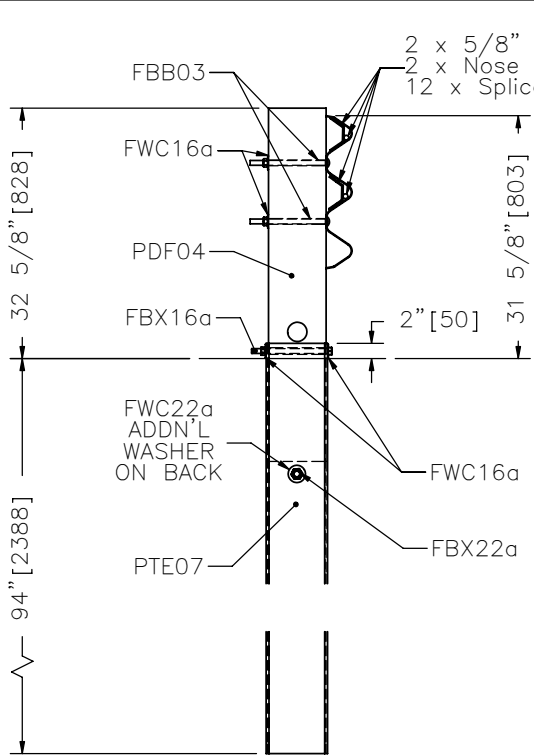
SHEET NO.

DATE:

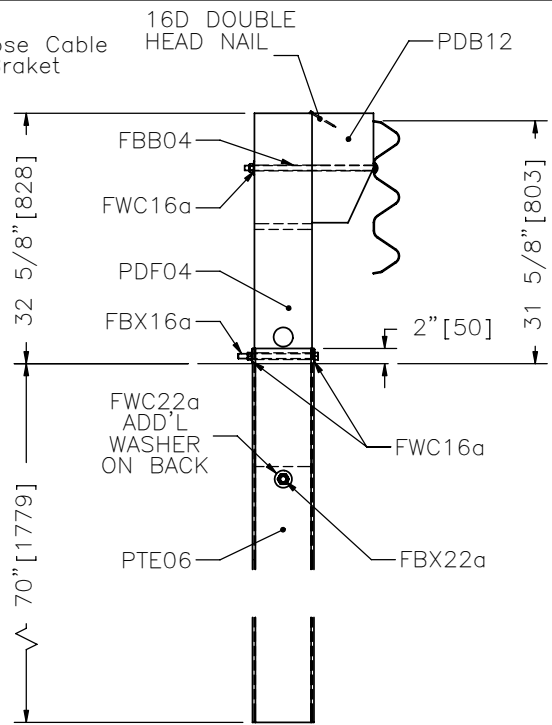
2 of 6

7/26/2007

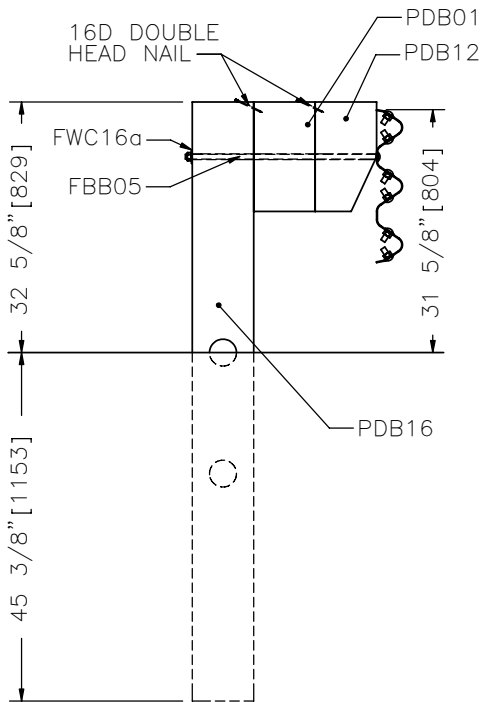




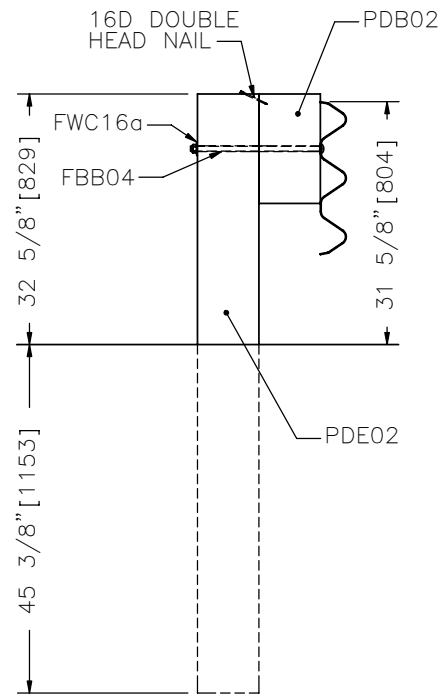
POST NO. 1



POST NO. 2



SECTION A-A  
POST NO. 3-6



SECTION B-B  
STANDARD THRIE BEAM  
LINE POST

## THRIE-BEAM BULLNOSE END TERMINAL



**MBN01**

SHEET NO.

DATE:

3 of 6

7/26/2007

## ACCEPTANCE

FHWA Acceptance Letter [HSA-1\HSA-CC68](#), November 8, 2000.

## REFERENCES

Bielenberg, B.W., Reid, J.D., Faller, R.K., Rohde, J.R., Sicking, D.L., Keller, E.A., Holloway, J.C., and Supencheck, L., *Phase III Development of a Bullnose Guardrail System for Median Applications*, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-95-00, Project No. SPR-3(017)-Years 7 and 8, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, June 1, 2000.

Bielenberg, B.W., Reid, J.D., Faller, R.K., Rohde, J.R., Sicking, D.L., Keller, E.A., and Holloway, J.C., *Phase II Development of a Bullnose Guardrail System for Median Applications*, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-78-98, Project No. SPR-3(017)-Years 7 and 8, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, December 18, 1998.

Bielenberg, B.W., Faller, R.K., Reid, J.D., Rohde, J.R., Sicking, D.L., and Keller, E.A., *Concept Development of a Bullnose Guardrail System for Median Applications*, Final Report to the Midwest State's Regional Pooled Fund Program, Transportation Research Report No. TRP-03-73-98, Project No. SPR-3(017)-Year 7, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, May 22, 1998.

Bielenberg, R.W., Reid, J.D., and Faller, R.K., *NCHRP Report No. 350 Compliance Testing of a Bullnose Median Barrier System*, Paper No. 01-0204, Transportation Research Record No. 1743, Transportation Research Board, National Research Council Washington, D.C., January 2001. pp. 60-70.

Reid, J. R., Bielenberg, B. W., *Using LS-DYNA Simulation to Solve a Design Problem: A Bullnose Guardrail Example*, Paper No. 99-0554, Transportation Research Record No. 1690, Transportation Research Board, National Research Council Washington, D.C., November 1999. pp. 95-102.

## CONTACT INFORMATION

Midwest Roadside Safety Facility  
E527 Nebraska Hall  
Lincoln, NE 68588-0529  
(402) 472-0965  
Email: [mwrfsf@unl.edu](mailto:mwrfsf@unl.edu)  
Website: <http://mwrfsf.unl.edu/>



## THREE-BEAM BULLNOSE END TERMINAL

**MBN01**

SHEET NO.

DATE:

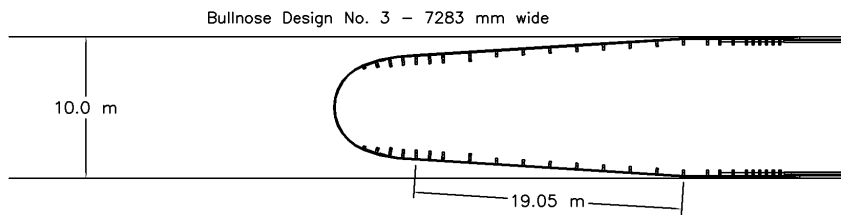
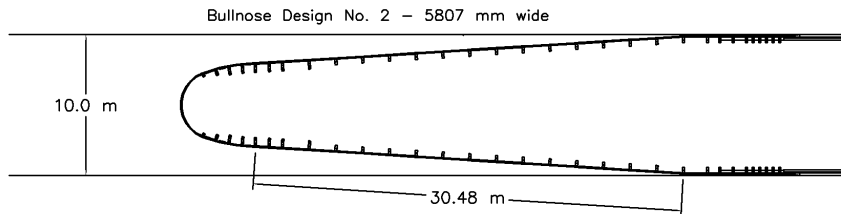
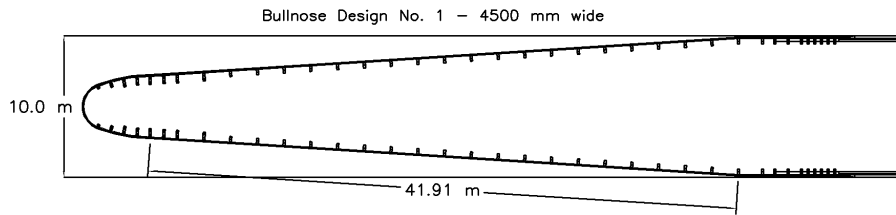
4 of 6

7/26/2007



Protection of dual bridges separated by a median

- Allowable taper angle and the corresponding system length (15:1 taper allowable)
- Application of taper to existing design (beginning at start of section 3 as shown)



## THRIE-BEAM BULLNOSE END TERMINAL



MBN01

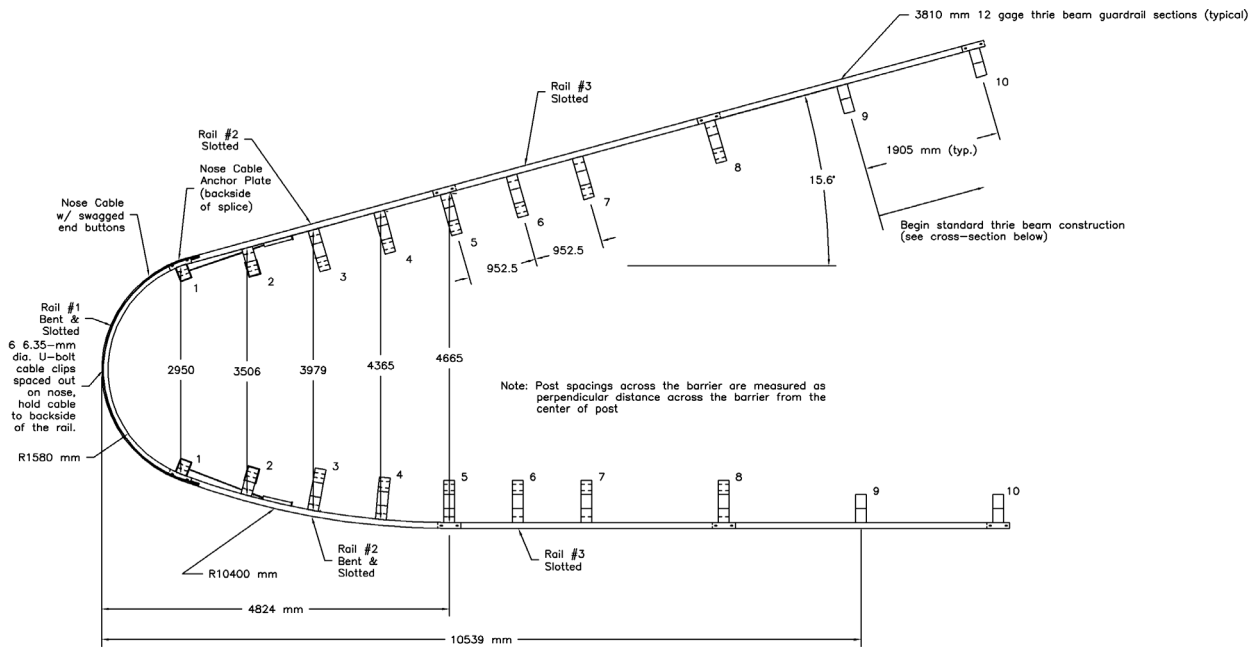
SHEET NO.

DATE:

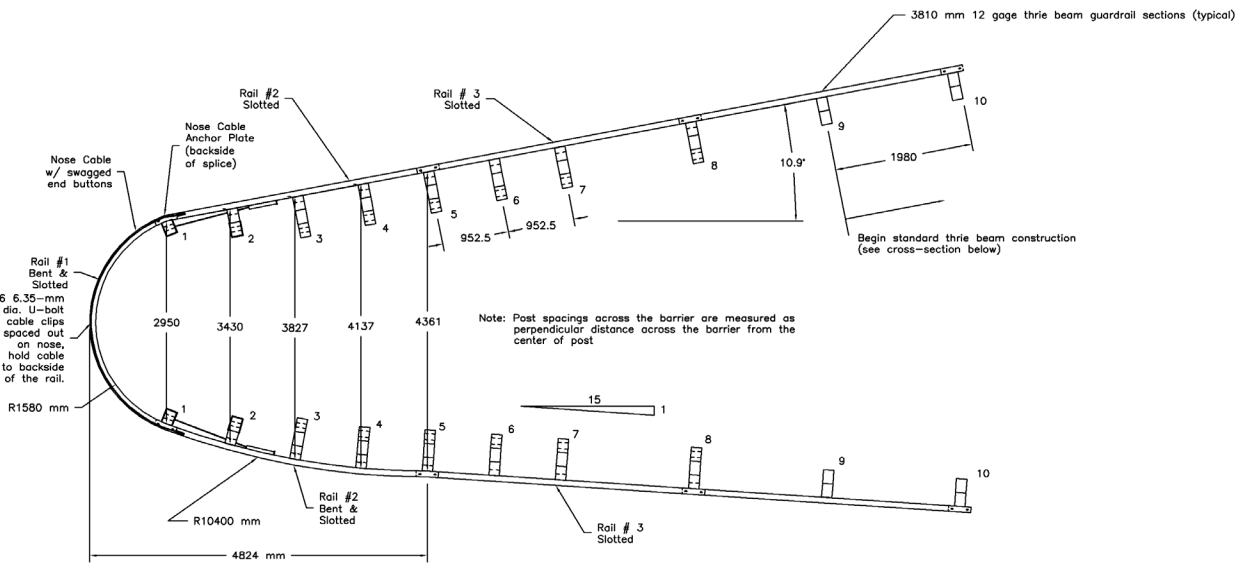
5 of 6

7/26/2007

# FHWA Approved Wider Bullnose System – Design 1



# FHWA Approved Wider Bullnose System – Design 2



## THRIE-BEAM BULLNOSE END TERMINAL

**MBN01**

SHEET NO.

DATE:

6 of 6

7/26/2007

