

New Jersey Department of Transportation

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Baseline Document Change Announcement

ANNOUNCEMENT: BDC18MR-01

DATE: January 31, 2019

SUBJECT: Guide Rail and Median Barriers
- Revision to Section 8 of the *Roadway Design Manual, 2015*.

REFERENCE: Guide Rail Standards
- Revision to CD-607-2, CD-607-3, CD-607-5, CD-608-1, CD-609-4, CD-609-5, CD-609-7, CD-609-8, CD-609-8A, CD-609-10, CD-609-20 of the *Standard Construction Details 2016, Roadway*.

BDC18D-07 dated February 1, 2019

The Section 8 - Guide Rail and Median Barriers of the 2015 Roadway Design Manual has been revised.

NJDOT certifies that all changes are in conformance to the following:

- Current guidance and research (simulation, crash testing, consultations, etc.) for the MASH 31" High Midwest Guide Rail System (MGS).
- Update to AASHTO Roadside Design Guide (RDG), 4th Edition 2011.
- MASH implementation for guide rail and concrete barrier curb.

DESCRIPTION OF THE CHANGES:

1. Eliminated Section "8.3.2.A Flared Guide Rail Terminals".
2. Eliminated reference to flared guide rail terminals in Section 8.2.4.B.2, 8.2.4.B.3, 8.2.4.C, 8.3.1.A.3, 8.3.1.B.1, 8.3.1.C.2, 8.3.1.D, 8.3.2, 8.3.3, 8.3.4.C, 8.3.7.B.2, 8.3.7.C.2, 8.3.9.N and 8.5.
3. Revised tangent guide rail terminal offset from 1' to 2' as an alternative to constructing a straight flare with a 0' offset in Section 8.3.2.A.
4. Table 8-3A added to Section 8.3.2.A providing limits for 2" curb height based on Tangent Guide Rail Terminal offsets and posted speed.
5. Table 8-3B added to Section 8.3.2.B providing limits for 2" curb height based on Beam Guide Rail Anchorage offsets and posted speed.
6. Changed "tangent terminals" to "tangent guide rail terminals" throughout Section 8.

7. Section reference in Section 8.3.4.B revised from “8.3.2.E” to “8.3.2.D.”
8. Minimum distance from approach guide rail transition to beginning of flare revised from 25’ to 9’ - 4 1/2” in Section 8.3.1.E.4.
9. The minimum distance from a flare to the modified section of guide rail at a fixed object was revised from 25’ to 12.5’ in Section 8.3.1.D.
10. Section 8.3.9.M added to Section 8.3.9 describing method for determining length of beam guide rail item.
11. Sentence added to Section 8.3.9.L instructing designers to indicate location of post 1 of tangent guide rail terminal on construction plans.
12. Figure 8-D, title revised and flared terminal in figure replaced with tangent terminal.
13. Figure 8-E, title revised, flared terminal deleted, formulas revised, notes revised and Table 2 revised.
14. Figure 8-F, title revised and flared terminal deleted.
15. Figure 8-G, title revised, flared terminal deleted and replaced by tangent terminal and steps 2-3 revised.
16. Figure 8-H, title revised.
17. Figure 8-I1, title revised and flared terminal replaced with tangent terminal.
18. Figure 8-L, references to flared terminal deleted.
19. Figure 8-M, title revised.
20. Figure 8-O1, flared terminals deleted.
21. Figure 8-O2, flared terminals deleted. Distance between approach guide rail transition and tangent terminal revised from 3’-1 1/2” to 9’-4 1/2” = 1/2”. Minimum length for design speeds greater than 45mph, revised from 90’-1 1/4” to 96’-3 1/4”. Minimum length for design speeds 45 mph or less revised from 74’-3 1/2” to 80’-6 1/2”.
22. Figure 8-P1, flared terminal deleted from Note C.
23. Figure 8-P2, Note E added.
24. Figure 8-Q, flared terminals deleted.
25. Figure 8R, flared terminals deleted and replaced with tangent terminals with 2’ offset.
26. Figure 8-X, Note 8 and 9 in figure renumbered to 7 and 8 respectively. Notes 2 thru Note 9 revised.

REASON FOR THE CHANGES:

1. With the implementation of MASH criteria, the modifications proposed for the flared guide rail terminal increased the gating length and reduced the offset, thereby offering no length of need advantage over the MASH approved tangent guide rail terminal.
2. Tables’ 8-3A and 8-3B added to specify the 2” curb requirement based upon speed and offset.
3. Distances from approach guide rail transition and modified sections of guide rail revised based upon research guidance.
4. Clarification added for non-vegetative surface “leave outs” at end terminals.

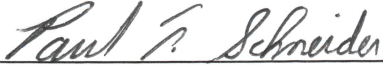
The revisions in this BDC must be read in conjunction with the referenced Construction Details BDC Announcement, BDC18D-07.

Implementation Code R (ROUTINE)

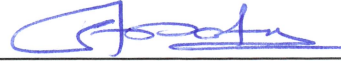
Changes must be implemented in all applicable Department projects scheduled for Final Design Submission at least one month after the date of the BDC announcement. This will allow designers to make necessary plan, specifications, and estimate/proposal changes without requiring the need for an addenda or postponement of advertisement or receipt of bids.

Recommended By:

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PS: NS