



Bridge Procedures and Design Guide February 2018 AMENDMENTS

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- 1 – Interim guide for Bridge Barrier Rails (BBR) transitions from NCHRP 350 to MASH. 12/10/2018**

AMENDMENT #1

December 10, 2018

The following is an ADDITION to the Bridge Procedures and Design Guide (BPDG). In the event of conflicts, please contact the Bridge Bureau for clarification:

Interim guide for Bridge Barrier Rails (BBR) transition from NCHRP 350 to MASH:

1. NMDOT is committed to incorporating only MASH compliant BBR after December 31, 2019.
2. All design documents that go to production after October 2019 must have MASH compliant BBR.
3. New MASH compliant standard drawings are being developed. We anticipate issuance in spring/summer 2019. In the interim, reference standard drawing 514-XX or 543-XX.
4. Until the new standards are issued, for your design calculation, assume the use of the existing 42" concrete BBR Standard Drawings (regardless of barrier type as the concrete will represent worst case). This is not a hard rule – contact the Bridge Bureau to discuss alternate direction for unique projects.
5. The selection of a barrier rail is ultimately the District's decision (within the bounds of code). That said, it is the position of the Bridge Bureau that concrete BBRs are strongly preferred (more economical construction, easier maintenance).
6. On Interstates (TL-4 – Test Level), the 42" concrete wall barrier should be strongly recommended - there ARE metal options but they are very expensive:
(https://safety.fhwa.dot.gov/roadway_dept/countermeasures/reduce_crash_severity/barriers/pdf/b274.pdf).
32" may no longer be used on interstates - this is a hard rule. The 42" standard is based upon an absolute minimum of $36" + 2 \times 3" = 42"$ to accommodate 2 future overlays.
7. Off the interstate (TL-3), 32" is allowable, there will be both concrete and metal rail options - but we still recommend concrete. In areas that see high ADT, particularly if there is a high percentage of truck traffic 42" is recommended but not required.
8. If there is a circumstance where a TL-4 barrier is required off interstate, 32" barriers cannot be used. And consequently metal rails are discouraged. The Traffic engineer will make the determination of whether or not a TL-4 barrier is required off interstate.
9. If a project needs a "special" BBR - we will likely accept BBR that are not standard drawings that have been MASH tested and are compliant at the Test Level required. Note: BBRs that are "special" will mostly likely be VERY expensive - make sure that is acknowledged in the project estimate. All support documentation from the crash testing needs to be submitted to the State Bridge Engineer for review.
10. For interest: Any barrier that is TL-5 or 6 per NCHRP 350 is also MASH compliant – the test criteria for TL-5 and TL-6 remain unchanged.

11. In the absence of an appropriate NMDOT standard drawing, any BBRs that meet MASH criteria at the appropriate test level may be considered. Confirmation of conformance with MASH criteria may be determined by the availability of an FHWA eligibility letter or by the availability of Test Reports from A2LA accredited test facilities that confirm all strength and safety performance criteria of MASH have been met. The FHWA eligibility letter or laboratory Test Reports will provide the maximum test level for which the BBR may be utilized. The Engineer of Record (EOR) must present the conformance documentation for the approval of the District prior to completion of design and must incorporate the design into the design documents which will be stamped by the EOR.

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