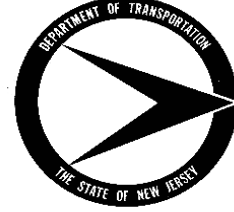


***New Jersey Department of Transportation***

1035 Parkway Avenue, PO Box 600, Trenton, New Jersey 08625-0600



***Baseline Document Change Announcement***

***NJDOT Design Manual - Roadway Changes***

**BDC97MR-003**

**May 27, 1998**

**Subject: Release of revisions and additions to *NJDOT Design Manual - Roadway*, Section 8, "Guidelines for Guide Rail Design and Median Barriers"**

Attached for inclusion in your copy of the *NJDOT Design Manual - Roadway* are revisions and additions to the following pages of Section 8:

**Metric Version:**

TC-3 to TC-4

8-1 to 8-41

**English Version:**

iii to iv

8-1 to 8-38

Replace the existing superseded pages.

**Instructions to Designers**

This section is effective immediately and shall apply to all projects, except those projects where the implementation of the new criteria will require substantial cost or schedule changes. In such cases, the Designer shall contact the Department's Project Manager to determine how to proceed.

The Length of Need (L.O.N.) formula has been changed. If the L.O.N. was derived from the old formula, you do not have to recalculate with the new formula. The old formula was more conservative.

Slotted Guide Rail Terminal and the Extruder Terminal are in the current Standard Specifications and Standard Roadway Construction Details. These details have been revised under BDC97D-004, which will be out shortly.

Nonvegetative Surface Under Beam Guide Rail Details and Specifications will be going out under BDC96DS-001 in the near future. In the interim, Landscape and Urban Design will be providing details and specifications in the projects where it is needed.

Based on Corrective Action Notice No. CAN009 dated April 29, 1998, in no case shall Advanced Dynamic Impact Extension Module (ADIEM) attenuators be used in permanent applications on projects under

design and shall be removed from projects where the design has been completed but have not yet been advertised. Currently, the approved alternate system is the QuadGuard attenuator. The responsibility of each unit to ensure that this is carried out as outlined in CAN No. CAN009

Guard Rail Energy Absorbing Terminal (G.R.E.A.T.) Systems have not passed the NCHRP Report 350 test criteria. In no case shall the G.R.E.A.T. System be used in permanent and/or temporary applications on projects under design, and shall be removed from projects where the design has been completed but have not yet been advertised. . For projects currently under construction, Transpo Industries Inc. have been substituting the QuadGuard for the G.R.E.A.T. System in the field (Bay for Bay replacement; i.e. G.R.E.A.T., 6 Bays, becomes QuadGuard, 6 Bays).

The specifications for the QuadGuard attenuator will be included in the 1998 Supplement to the 1996 Standard Specifications which is scheduled to be released in June 1998. Currently, the QuadGuard specification will be placed in appropriate project specific specifications by the Technical Specifications Unit.

The changes being incorporated to the manual are as follows:

LIST OF ENGLISH REVISIONS	PAGE NOS.
Table of Contents	iii & iv
Sec. 8-01, clarified first sentence in the third and fifth paragraph.	8-1
Sec. 8-02.1, changed “hazard” to “obstruction” here and throughout the rest of Section 8, figures and text.	8-1 to 8-27
Sec. 8-02.4.1, changed “ditches” to “channels” here and throughout the rest of Section 8, figures and text.	8-2 to 8-38
Sec. 8-02.4, reformatted and named Table 8-1.	8-2
Sec. 8-02.4.1.(b), clarified second sentence in the first paragraph.	8-3
Sec. 8-02.4.2, added second paragraph to clarify	8-4
Sec. 8-02.4.2.a.(2), added “and Urban Design” to the “Bureau of Landscape” in the fourth paragraph.	8-5
Sec. 8-02.4.2.a.(2), revised the third sentence in the fifth paragraph.	8-5
Sec. 8-02.4.2.b, changed “effective date August 9, 1993” to “current” in the first paragraph.	8-6
Sec. 8-02.4.2.b, changed “six (6) inches” to “12 inches” in the last sentence of the sixth paragraph.	8-6
Sec. 8-02.4.2.b, clarified last sentence in the seventh paragraph.	8-6
Sec. 8-02.4.2.b, changed “eccentric loader terminal (ELT)” to “slotted guide rail terminal (SRT)” here and throughout the rest of Section 8, figures and text.	8-6 to 8-34
Sec. 8-02.4.2.b, changed “Extruder Terminal (ET-2000)” to “extruder terminal” here and throughout the rest of Section 8, figures and text.	8-6 to 8-24
Sec. 8-02.4.2.d, added to the first sentence of the fifth paragraph.	8-7
Sec. 8-02.4.2.d, changed “three-fourths” to “75 percent” in the seventh paragraph.	8-8
Sec. 8-03.1.1.b, added the last sentence in the paragraph to provide additional guidance in locating guide rail.	8-9
Sec. 8-03.1.1.c, added to the first sentence and changed part of the second sentence in the first paragraph to clarify.	8-9
Sec. 8-03.1.1.c, added a second paragraph to provide additional guidance in locating guide rail.	8-9
Sec. 8-03.1.1.d, reformatted and named Table 8-2.	8-9

Sec. 8-03.1.2, changed “5-06.2, Types of Curb” to “5-06, Curbs, for the type and location of a curb.”	8-10
Sec. 8-03.1.2.a, added to last sentence of the first paragraph to clarify.	8-10
Sec. 8-03.1.2.c, added “or raised berm” to the first sentence of the first paragraph.	8-11
Sec. 8-03.1.2.c, clarified last sentence of the first paragraph.	8-11
Sec. 8-03.1.4.b, added last sentence to the first paragraph to clarify.	8-11
Sec. 8-03.2.2.d, changed “b.” to “1.b.” to clarify.	8-13
Sec. 8-03.2.4, changed “Crash Cushion Attenuating Terminal (C.A.T.) or Brakemaster” to “Telescoping Guide Rail End Terminals” here and throughout the rest of Section 8, figures and text.	8-14 to 8-35
Sec. 8-03.2.4.d, rewrote section to identify end terminals to be used as telescoping guide rail end terminals.	8-14
Sec. 8-03.2.5, added “Controlled Release Terminals (CRT)” criteria to manual.	8-14
Sec. 8-03.2.6, added “and Eccentric Loader Terminal (ELT)” or similar phrases after any mention of a BCT and changed “crashworthy terminals” to “end treatments”.	8-14 & 8-15
Sec. 8-03.3.3, changed “G.R.E.A.T.” to “QuadGuard” here and throughout the rest of Section 8, figures and text.	8-15 to 8-35
Sec. 8-03.5.7, changed “Bureau of Roadway Design Standards” to “Bureau of Quality Management Services”.	8-17
Sec. 8-03.5.8, added a second paragraph to provide additional guidance	8-17
Sec. 8-03.5.10, added “Nonvegetative Surface Under Guide Rail” criteria to the manual.	8-17
Sec. 8-04.1.3, reformatted and named Table 8-3.	8-18
Sec. 8-04.1.4, changed “Project Report” to “Scope Summary”.	8-19
Fig. 8-E & 8-F, changed number in the Length of Need (L.O.N.) formula from “1.16” to “1.6”.	8-24 & 8-25
Fig. 8-F, added description “TANGENT ROADWAY” to example.	8-25
Fig. 8-K, reformatted and renamed table and a dimension was added to Section A-A.	8-30
Fig. 8-P, added description “TANGENT TO CURVES” to the top drawing.	8-35
Fig. 8-P, revised “IMPACT ATTENUATOR” table with current criteria	8-35

**Distribution to In-House Staff and Various Public Agencies**

This memorandum along with a copy of the Design Manual Changes will be distributed to In-House staff and various Public Agencies in accordance with the *NJDOT Design Manual - Roadway* distribution list by the Office of Document Control. Please make additional copies as needed.

This BDC memorandum file and attachment file can be downloaded from the New Jersey Department of Transportation Web Page at <http://www.state.nj.us/transportation>. Click on framed or unframed version depending on your browser. Then click on the “Capital Program Management” site, located on the left side of the web page. Now click on “Capital Program Management Table of Contents”, under “Where To Go From Here?” at the bottom of the page. Look for the “Baseline Documents Index”, select “Baseline Documents View & Download” and click on “Go To Site”. The download files are in a zip format. If you need an unzipping program, download and install the “WINZIP” or “PKZIP” program located at the bottom of the page. Do this prior to downloading the BDC memorandum file or attachment file.

**Distribution to other Outside Agencies (Consultants, Contractors, etc.)**

This memorandum will be posted on the New Jersey Department of Transportation's Electronic Bulletin Board System (BBS) under conference number 10 - "Highway Design", File Area 56 - "Baseline Document Change Memorandums".

Copies of the *NJDOT Design Manual - Roadway* can be obtained by contacting:

Engineering Documents Unit  
E&O Building, 1<sup>st</sup> Floor  
1035 Parkway Avenue, PO Box 600  
Trenton, New Jersey 08625  
Phone: (609) 530-5587  
Fax: (609) 530-6626

This BDC memorandum file and attachment file can be downloaded from the New Jersey Department of Transportation Web Page at <http://www.state.nj.us/transportation>. See "Distribution to In-House Staff and Various Public Agencies" above for complete instructions.

**Recommended By:**

**Approved By:**

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Brian Strizki  
Manager,  
Quality Management Services

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Russell D. Tong  
Assistant Commissioner,  
Capital Program Management

attachment  
BJS:CG:mc

 BDC97MR-003.doc