

# Design Standards Letter

**Letter Number: D-1996-04**

**Letter Date: 04/15/1996**

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**Section/Plan No.: D4-02, D6-02, D6-03, D6-05, D6-07, D7-04, D8-04, D2-02.1, D4-02.3, D4-03.1, D4-03.2, D4-03.3, D4-03.4, D4-03.5, D4-03.6, D4-03.7, D4-03.8, D4-03.9, D4-03.10, D4-03.11, D4-03.12, D4-03.13, D4-03.14, D4-04.1, D4-06.5, D4-07.3, D6-03.1, D6-03.2, D6-03.3, D6-03.4, D6-03.5, D6-03.6, D6-03.7, D6-03.8, D6-03.9, D6-03.10, D6-07.1, DM4-07.2**

**Subject: English and Metric Design Manual Revisions, Sections 4-02, 6-02, 6-03, 6-05, 6-07, 7-04, and 8-04, Figures 2-02.1, 4-02.3, 4-03.1 through 4-03.14, 4-04.1, 4-06.5, 4-07.3, 6-03.1 through 10 and 6-07.1, Figure 4-07.2 (Metric only), English and Metric Revised Typical Section Drawings, D-61C-NPD and M-D-61C-NPD, Metric Revised Typical Section Drawings, M-D-50B-NPD, M-D-51B-NPD, M-D-52B, M-D-53B-NPD, M-D-62B-NPD, M-D-63B-NPD, M-D-64B-NPD, M-D-65B-NPD, M-D-66B-NPD, M-D-67B, M-D-68B, M-D-69B, M-D-70B and M-D-71B**

## Body

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Enclosed are English and Metric revisions to the Design Division's **Policy, Procedure and Design Manual** for the above noted sections, figures and typical section drawings. Revisions are summarized as follows:

**Contents, Volume I.** Revision date changed to 5-1-96 for the Contents sheet and Section 4-02.

**Figure 2-02.1.** Revision date changed to 5-1-96.

Added State of Missouri, Emergency Management Agency to the notification list.

**Table of Contents, Chapter II.** Changed revision date to 5-1-96.

Deleted Figures 4-03.2 through 4-03.7. Those figures became part of Figure 4-03.1. Figures 4-03.8 through 4-03.14 were renumbered accordingly.

Deleted Figure 4-04.1A. This figure became part of Figure 4-04.1.

**Section 4-02, Right of Way Plans.** Changed revision date to 5-1-96.

Subsection 4-02.14 specifies that the chief engineer, or designee, is required to sign and seal plans to be filed for right of way purposes, whether the plans were designed in house or by a consultant.

Subsections 4-02.14 (1) through (3) were re-written for clarification.

**Figure 4-02.3, Right of Way Marker Location-Spiral Transitions.** Changed revision date to 5-1-96.

Corrected the ahead bearing of the centerline.

On the metric version, corrected the SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> of Section 4-T54N-R8W to read correctly.

**Figure 4-03.1, CADAM Symbols and Standards.** Changed revision date to 5-1-96. The Metric version has new date 5-1-96.

This figure was revised according to the CADD Standards Quality Circle. Symbols and standards were moved around and grouped together under similar topics, i.e., right of way, erosion control, drainage, etc.

The Metric version was soft converted and left in dual units for comparison purposes.

**Figures 4-03.2 through 4-03.8 (previously 4-03.8 through 4-03.14).** Revision date changed to 5-1-96. Metric Figures M4-03.2, M4-03.3 and M4-03.4 have new date 5-1-96.

These figures were renumbered due to the consolidation of Figure 4-03.1.

**Figure 4-04.1, General Design Data Notes.** Revision date changed to 5-1-96.

Revised to reflect the revisions to the typical section drawing D-61C-NPD (English and Metric).

Changed the ditch depth on interstates and principal arterials to 4'; as shown on the typical section drawings.

The Metric version also updated to the current typical section drawings.

**Figure 4-06.5, Sketch Showing Storage Lanes.** Revision date changed to 5-1-96.

Replaced the two arrows on the ramp with a single arrow, showing the single lane of traffic. Added three arrows up the ramp to show the three lanes of traffic.

**Figure M4-07.2, Typical Sections-Urban Area.** Revision date changed to 5-1-96.

Alignment of dimensions was corrected. If you have this figure in your PPDM and the dimensions are not inverted, you may choose to keep the current figure. There were no other revisions to this figure.

**Figure 4-07.3, Typical Sections-Urban Area.** Revision date changed to 5-1-96.

Extended the normal R/W = 65' (20 m) to beyond the edge of shoulder.

**Contents, Volume II.** Revision date changed 5-1-96 for Contents sheet and for Sections 6-02, 6-03, 6-05, 6-07, 7-04 and 8-04.

**Table of Contents, Chapter 6.** Revision date changed to 5-1-96.

Subsections 6-02.2 (1), (2) and (3) were added.

Figures 6-03.6 and 6-03.7 switched to coincide with Figures 6-03.3 and 6-03.4.

Deleted Subsection 6-05.11 and renumbered accordingly.

Added 6-03.3 (3), Plant Mix Bituminous Base Layer to the Metric version.

**Sections 6-02, 6-03, 6-05 and 6-07.** Revision date changed to 5-1-96. Section 6-02 reformatted to one column format.

All occurrences of the phrase "rock fill base" were changed to "rock base".

All references to Type B asphaltic concrete were changed to Type IB; likewise, all references to Type C asphaltic concrete were changed to Type IC.

References to the Planning Division were changed to Transportation Management Systems.  
Other revisions of note are as follows:

Subsections 6-02.3 (1), (2) and (3) were revised using the existing text.

Subsection 6-05.4 now details when the district should request the Design Division to review a project with high quantities of pavement repair.

Deleted Subsection 6-05.11 due to the new conceptual study report approval process. Subsection 6-05.12 was renumbered accordingly.

Revised Subsections 6-07.3 and 6-07.5 to clarify the asphaltic concrete mix to be used on certain light duty pavements.

Subsection 6-07.5 also calls for the use of SMA on all interstate routes within the Commercial Zone Limits for all routes other than interstate and within Commercial Zone Limits for interstate and St. Joseph as shown on the Missouri Vehicle Route Map 1995 - 1996.

Subsection 6-07.12 clarifies the type of asphaltic concrete mix to use on shoulder surfaces.

**Figure 6-07.1, Estimate Factors.** Revision date changed to 5-1-96.

Deleted Type B and C mixes.

Revised many of the Specification Item Numbers for the Metric version. These numbers had not been changed when the Metric bid items were distributed.

Changed the estimate factor for Liquid Asphalt to 53 L/Mg. of Aggregate.

**Section 7-04, Railroads.** Revision date changed to 5-1-96. This section was reformatted to the one column format.

Subsection 7-04.3 revised to explain high type improvements.

Subsection 7-04.4 names the inspection form required to be completed for a crossing site.

**Table of Contents, Traffic Control Devices.** Revision date changed to 5-1-96.

Revised many of the titles to match the text.

Deleted Subsection 8-04.2 (6).

**Section 8-04, Traffic Control Plans.** Revision date changed to 5-1-96. This section was reformatted to the one column format.

Subsection 8-04.2 (5) changed to reflect new policy of "Give 'Em A Brake" signs.

Subsection 8-04.2 (6) deleted. "Progress As Promised" will be eliminated on all contract work effective with the June 1996 letting.

Subsection 8-04.9 (1) revised to delete reference to obtaining details and drawings of the G.R.E.A.T. system from the Design Division.

**Typical Section Drawings D-61C-NPD and M-D-61C-NPD.** Revision date changed to 3-1-96.

This typical section drawing changed to show the 4' (1.2 m) shoulder.

**Typical Section Drawings M-D-50B-NPD, M-D-51B-NPD, M-D-52B, M-D-53B-NPD, M-D-62B-NPD, M-D-63B-NPD, M-D-64B-NPD, M-D-65B-NPD, M-D-66B-NPD, M-D-67B, M-D-68B, M-D-69B, M-D-70B and M-D-71B.** Revision date is 1-1-96.

These Metric typical section drawings are currently available as CADAM drawings in the districts. However, hard copies were never distributed to designers. Along with M-D-61C-NPD, these typical section drawings should replace all other Metric typicals.

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