

# Design Standards Letter

Letter Number: **D-1997-08**

Letter Date: **08/04/1997**

Effective Date: **08/04/1997**

Section/Plan No.: **D2-02, D2-04, D2-06, D4-09, D9-07**

Subject: **English and Metric revisions to Design's Policy, Procedure and Design Manual**

## 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 and the following figures:

**2-04.1, 2-04.2, 2-04.3, 2-04.4, 4-09.8, 4-09.9, 4-09.10 and 9-07.1.**

Revisions are summarized as follows.

Contents, Volume I. Revision date changed to 8-4-97 for the Contents sheet and Sections 2-02, 2-04, 2-06 and 4-09.

Table of Contents, Chapter II. Revision date changed to 8-4-97.

Revised titles of subsections in Section 2-04 to reflect the replacement of the section.

Deleted Figures 2-06.2 through 2-06.9. Figures 2-06.5 and 2-06.8 have been moved to Figures 2-04.3 and 2-04.4 respectively. The other figures are available through Design Forms.

Section 2-02, Public Hearings and Meetings. Revision date changed to 8-4-97.

Revised Subsection 2-02.10, fourth paragraph, to clarify that the Support Center will provide hearing information to the FHWA for review and comment. The department will not make any recommendations to the FHWA at this time. Upon the FHWA review, they will provide written comments to the Support Center, whereby, these comments will be considered in the department's development of recommendations to the commission. Also, please note that the district should submit the hearing transcript and executive summary to the Support Center, rather than the FHWA.

Revised Subsection 2-02.11, first bullet, to emphasize that the recommendations the district make be a result of the issues identified from the public hearing.

**Section 2-04, Environmental Document. Revision date changed to 8-4-97.**

**Old Section 2-04, Highway Traffic Noise Impacts and Abatement, has been replaced by the new Section 2-04, Environmental Document. The old section on highway traffic noise is now Subsection 2-04.4. Old Subsection 4-09.22, Hazardous Waste, has been deleted, revised and moved to Subsection 2-04.3.**

**The new Section 2-04 has a general discussion of project development and its federal requirements regarding the National Environmental Policy Act (NEPA) for federally-funded and/or federally-permitted projects. The chapter offers general details of FHWA and MoDOT requirements for the following NEPA documents: environmental impact statements (EIS), environmental assessments (EA), and categorical exclusions (CE).**

**Other new subsections address right of way acquisition before NEPA clearance and post-NEPA environmental review.**

**Additional subsections detail specific impact assessments, including hazardous and solid waste, noise, farmland conversion, parkland, social and economic, cultural resources, wetlands, and sensitive biological resources. The subsections are written to identify responsibilities of the Preliminary Studies Division staff and those of the district offices.**

**A subsection on local public agency projects also is included.**

**The new section includes a listing of environmental acronyms.**

**The section emphasized the involvement of specialists from both the environmental studies section and the cultural section to assist in the clearance of environmental regulations and the fulfillment of environmental commitments during detailed design. It also indicates that changes in the concept, location or the design of projects must be coordinated with those offices to assure MoDOT can proceed to construction.**

**Staff is encouraged to read the new section in its entirety. Clarification can be provided by the Preliminary Studies Division.**

**Figures 2-04.1. New date to 8-4-97.**

**This figure is a flowchart detailing the Preliminary Studies Project Development Process.**

**Figure 2-04.2 through 2-04.4. Revision date changed to 8-4-97.**

**These figures have been moved from Section 2-06 to Section 2-04, where they are more applicable.**

**Section 2-06, Location Study/Environmental Report. Revision date changed to 8-4-97.**

**Subsection 2-06.2, seventh paragraph, second sentence, changed reference of figure to Figure 2-04.2.**

**Replace the existing Figure 2-06.1 with the enclosed version. This figure has NOT been revised, rather due to the removal of Figures 2-06.2 through 2-06.9, Figure 2-06.1 is being reissued with a blank back page.**

**Table of Contents, Chapter IV. Revision date changed to 8-4-97.**

**Revised titles in Subsection 4-09.1 and 4-09.22 to reflect revisions made to Section 4-09. Also added 4-09.25 and 4-09.26 and Figures 4-09.8, 4-09.9 and 4-09.10.**

**Section 4-09, Miscellaneous. Revision date changed to 8-4-97.**

**Deleted Subsection 4-09.22 (incorporated in Section 2-04).**

**Moved Subsection 4-09.1 (5) to Subsection 4-09.22 because these permits may be required on roadway projects that don't include bridges. PLEASE READ SUBSECTION 4-09.22 CAREFULLY.**

Subsection 4-09.8 (1), changed post spacing for Type D guardrail from 3180 mm to 3810 mm. This was a typographical error.

**Metric** Subsection 4-09.10(1), changed method of measurement to 0.5 m. This increment is stated in the Specifications book and the unit bid items.

**Metric** Subsection 4-09.10(2), changed example numbers to 1.5 m and 4.5 m to illustrate using 0.5 m as the method of measurement increment.

**Metric** Subsection 4-09.10(3), changed Column 4 - Depth "D", to 100 mm increments rounded to the nearest 0.5 m.

Subsection 4-09.22(1), added additional information describing Section 404 Permits and the application process. Note that for individual or general permits, application must be submitted at least six months prior to plan completion. These applications should [be] submitted through the Preliminary Studies Division instead of the Design Division.

Subsection 4-09.22(2) requests for Section 401 Certification should be made at the same time as applying for Section 404 Permits. Projects within the watersheds of outstanding national or outstanding state resource waters require more stringent water quality management and will require a preconstruction notification to the Corps of Engineers and the Missouri Department of National Resources.

Subsection 4-02.22(4), Support Center will obtain floodplain development permits from the State Emergency Management Agency (SEMA). Districts are responsible for determining if

a permit is required, and if so, for providing the necessary information to the appropriate Support Center Office. Definitions of floodplains and floodways are given in this subsection. Added instructions for reviewing floodway maps to determine if a permit is required.

Added Subsections 4-09.25 and 4-09.26 describing proprietary items and when they're allowed to be used, and the process by which the district must request these proprietary items. A public interest finding letter must be submitted by the district to the Design Division. This letter will then be forwarded on to the FHWA for approval after Design Division review.

Figures 4-09.8 4-09.9 and 4-09.10. New date is 8-4-97.

Figure 4-09.8 lists the outstanding state resource waters, as discussed in Subsection 4-09.22 (2).

Figure 4-09.9 is a diagram showing floodplain, floodway and base flood elevations as described in Subsection 4-09.22 (4).

Figure 4-09.10 is an example public interest findings letter as described in Subsection 4-09.26.

Contents, Volume III (Volume II For Metrics). Revision date changed to 8-4-97 for the Contents sheet and for Section 9-07.

Table of Contents, Chapter IV. Revision date changed to 8-4-97.

Added Subsections 9-07.3(1) and 9-07.3(2), deleted Subsection 9-07.8 changed title of Figure 9-07.1 and deleted Figures 9-07.2 through 9-07.6. These changes reflect revisions made in Section 9-07 of the text.

Section 9-07, Pavement Drainage. Revision date changed to 8-4-97.

Revised Subsection 9-07.2(2) to define spread and the limits of the spread allowed on specific roadway types.

Added Subsections 9-07.3(1) and 9-07.3(2) and revised Subsection 9-07.5 and 9-07.6 to incorporate the FHWA pavement drainage analysis procedures.

Revised Subsection 9-07.4(1) to incorporate the addition of another type of inlet grate. The curved vane grate is a bicycle safe grate and should be used in all situations where bicycles may be used on roadways. This grate is not yet available in standard plan format yet, as stated in this subsection, but will be in the future.

**PLEASE NOTE, THIS ENTIRE SECTION HAS BEEN EXTENSIVELY REVISED WITH RESPECT TO PAVEMENT DRAINAGE ANALYSIS PROCEDURES. REVIEW CAREFULLY.**

Figures 9-97.1. Revision date changed to 8-4-97.

This figure is a diagram of a composite curb-and-gutter cross-section. This figure replaces the existing figure.

Figures 9-07.2 through 9-07.6. These figures have been deleted from this section due to the new analysis procedures that have been incorporated by MoDOT.

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Enclosures