100 Introduction

FDOT Design Manual

PURPOSE:

This ***Florida Department of Transportation (FDOT) Design Manual (FDM)*** sets forth geometric and other design criteria, as well as procedures, for all new construction, reconstruction, and resurfacing projects on the State Highway System and the National Highway System. The information contained herein applies to the preparation of contract plans for roadways and structures.

AUTHORITY:

Sections 20.23(3)(a) and 334.048(3), Florida Statutes.

SCOPE:

This procedure impacts anyone preparing roadway and structures construction plans for the Department.

PROCEDURE:

The criteria in this manual represent requirements for the State Highway System which must be met for the design of FDOT projects unless approved Design Exceptions or Design Variations are obtained in accordance with procedures outlined in this manual.

Roadway and structures design is primarily a matter of sound application of acceptable engineering criteria and standards. While the criteria contained in this manual provide a basis for uniform design practice for typical roadway design situations, precise standards which would apply to individual situations must rely on good engineering practice and analyses.

The Department is committed to timely delivery of transportation projects. Project development activities (including preliminary engineering, PD&E, and design) must be planned and managed to support efficient project delivery in accordance with the Department's Project Development Policy (Topic No. 000-525-055).

Special requirements for Non-Conventional Projects, e.g., Design-Build Projects and all Non-Design-Bid-Build Public-Private-Partnership Projects, may be shown in a "Modification for Non-Conventional Projects" box as shown in the following example:

Modification for Non-Conventional Projects:
Delete the last three paragraphs above and see the RFP:

These boxes are located at the beginning of the chapter or after a section, paragraph or table which is to be modified. The requirements listed within these boxes are only applicable to Non-Conventional Projects.

The author of a Request for Proposal (RFP) for a Non-Conventional project must use the standard boilerplate language as a starting point in developing RFPs on all Department Design-Build projects. ***Section V*** of the ***Design-Build Boilerplate Request for Proposal*** establishes Department, FHWA and AASHTO criteria, procedures, guidelines, and design codes that serve as design constraints to be used in the performance of the work. The governing regulations list in ***Section V*** cannot be modified without the approval of the State Construction Office.

Situations will exist where these criteria will not apply. The inappropriate use of and adherence to these criteria does not exempt the engineer from the professional responsibility of developing an appropriate design. The engineer is responsible for identifying those criteria which may not apply to a particular design, and for obtaining the necessary Design Exception or Design Variation to achieve proper design.

100.1 Organization

The ***FDM*** is a three-part manual. ***Part 1*** contains development and processes, ***Part 2*** contains design criteria, and ***Part 9*** contains material concerning the preparation and assembly of model-centric plans. Parts 3 through 8 are reserved for future use.

100.2 Distribution

This document is available electronically on the FDM web page:

https://www.fdot.gov/roadway/fdm/

FDM users can register to receive notification of updates and ***Roadway Design Bulletins*** online through the Department's Contact Management Database at:

https://cma.fdot.gov

For information on updates and ***Roadway Design Bulletins***, contact:
Roadway Design Office, Mail Station 32
Telephone (850) 414-4310
FAX Number (850) 414-5261

https://www.fdot.gov/roadway/

100.3 Revisions and Updates

FDM users are encouraged to submit comments and suggestions for changes to the manual to the State Roadway Design Office. When ideas or suggestions are received, they will be reviewed by appropriate Roadway or Structures Design staff in a timely manner and will be coordinated with other offices affected by the proposed change. Items warranting immediate change will be made with the approval of the State Roadway Design Engineer and/or State Structures Design Engineer in the form of a ***Design Bulletin***.

Roadway Design Bulletins are numbered based on the two-digit calendar year and bulletin number (YY-##). Notices are sent to all users who are registered to receive notifications for ***Roadway Design Bulletins*** and updates to the ***FDM***. Design Bulletins affecting the ***FDM*** will remain effective until either:

(1) An official manual revision is published; or

(2) The ***Design Bulletin*** is made void.

Roadway Design Bulletins are posted online at:

https://www.fdot.gov/roadway/bulletin/

Structures design issues, which are subject to modification and revision, will be processed in coordination with the State Structures Design Office. See the ***Structures Manual*** for more information on this process.

Proposed revisions are distributed in draft form to each District's Roadway Design Engineer or Structures Design Engineer. These experienced engineers provide the necessary technical and practical input on how the revision will potentially affect their District's operations and customers. Periodically, these engineers meet collectively with the State Roadway Design Office or the State Structures Design Office to discuss comments on the proposed revisions. Proposed revisions with comments are then presented to the District Design Engineers (DDE) for review and comment. Once the comments are addressed, the Florida FHWA Division Office is given the opportunity to review the revisions as per the Department's Stewardship Agreement with FHWA.

The State Roadway Design Office will also coordinate proposed revisions or additions with affected offices within the Central Office. Substantive revisions that result in policy change may be coordinated with the Executive Committee for adoption.

Revisions associated with Department project delivery and project development policies should be coordinated with affected offices responsible for PD&E, Work Program, and project management functions.

Revisions and updates are adopted or rejected by the State Roadway Design Engineer (for Roadway Design issues) or the State Structures Design Engineer (for Structures Design issues). Requirements mandated by FHWA or State Rules will be coordinated with the DDEs and affected offices within the Central Office and are considered compulsory.

Notification of the adopted revisions and addenda will be distributed to registered users of the manual through the Department's Contact Management Database.

100.4 Developmental Design Criteria

Developmental Design Criteria (***DDC***) provides a process for the Department to develop future ***FDM*** criteria for new or innovative design concepts and technologies.

A Design Memorandum will be released to notify the Districts of the initial availability of each ***DDC***.

The ***DDC*** is published separately from the ***FDM***; however, they will be listed with hyperlinks to the ***DDC*** on the ***FDM*** webpage along with the ***FDM*** chapters.

A Central Office Monitor (Monitor) is assigned to each ***DDC***. The Monitor oversees the development of the criteria, monitors the use of the ***DDC*** on projects, and makes revisions and updates as needed.

The ***DDC*** must be used to the extent practicable on projects containing the applicable design elements; however, must not adversely affect the production schedule. Determination of applicability versus project schedule is at the discretion of the District Design Engineer. Include the Monitor as a lead reviewer in the Electronic Review Comments (ERC) system when the ***DDC*** is used.

The Department's Design Variation process is not applicable to ***DDC.*** When requesting deviations from ***DDC***, designers must contact the assigned Monitor to obtain written approval. Written approvals for deviations will be used by the Monitor to further develop ***DDC*** language. Designers are not required to submit written documentation when requesting deviations. The sole purpose of this process is to aid the Monitor in understanding the challenges faced by designers in following the ***DDC.***

Revisions to ***DDC*** may be made by the Department at any time and the last revision date will be noted within each chapter. Revisions to ***DDC*** are not retroactive for projects where the design effort for applicable design elements is substantially complete as determined by the District Design Engineer.

Modification for Non-Conventional Projects:
Delete Section 100.4 above and see the RFP.

Training:

None required.

Forms:

All forms related to this manual are found in ***FDM 103***.