

# Florida Greenbook

Manual of Uniform Minimum Standards for Design,  
Construction and Maintenance for Streets and Highways

## Sub-committee Meeting

Chapter 5 – Pavement Design and Construction

# Agenda

**February 26, 2026**  
10:00 AM – 11:00 AM

Virtual on Microsoft Teams  
[MS Teams Link](#)

10:00 AM	Welcome and Introductions	Derwood Sheppard
10:10 AM	Chapter 5 Review and Discussion (17 <sup>th</sup> Edition)	Jacqui Morris, Kittelson Staff
10:30 AM	Sub-Committee Discussion	Chapter 5 Sub-Committee
10:40 AM	Action Items and Next Steps	Jacqui Morris, Kittelson Staff
10:50 AM	Closing remarks <ul style="list-style-type: none"><li>Public Comment</li></ul>	Jacqui Morris

# Florida Greenbook

## Chapter 5 Subcommittee Meeting *Pavement Design And Construction*

March 3, 2026



Public Meeting

*Welcome &  
Introductions*

# Agenda

## March 3, 2026

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10:50 AM	Closing remarks <ul style="list-style-type: none"><li>Public Comment</li></ul>	Jacqui Morris

## Online Attendees *Meeting Logistics*



The chat feature can be used to ask questions to the presenters or share resources.



Be sure to mute your microphone unless you are asking a question.



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Raise your virtual hand to ask a live question.

# Chapter 5 Review

This is a working document  
that has not been adopted.

## Chapter 5

### Pavement Design and Construction

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5.2	Pavement Design .....	5-1
5.2.1	Pavement Type Selection .....	5-1
5.2.2	Structural Design .....	5-2
5.2.3	Skid Resistance .....	5-3
5.2.4	Drainage .....	5-3
5.2.5	Shoulder Treatment .....	5-4
5.3	Pavement Construction .....	5-5



*Committee Discussion  
& Next Steps*

# General Discussion

OPEN FOR PUBLIC COMMENT



## Online Attendees *Meeting Logistics*

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## CONTACT

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# Thank you for attending!



## Chapter 5

### Pavement Design and Construction

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5.2	Pavement Design .....	5-1
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5.2.3	Skid Resistance .....	5-3
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## 5 Pavement Design and Construction

### 5.1 Introduction

The function of the pavement or roadway surface is to provide a safe and efficient travel path for vehicles and bicycles using the street or highway. ~~–~~ The pavement should provide a good riding surface with a minimum amount of distraction to the driver. ~~–~~ The pavement friction characteristics should be such that adequate longitudinal and lateral forces between the vehicle tires and the pavement can be developed to allow a margin of safety for required vehicle maneuvers. ~~–~~ These characteristics should be provided at the highest reasonable level for the expected pavement surface, weather conditions, and ~~the~~ anticipated operational characteristics of the facility. ~~–~~ Resurfacing of the existing pavement is discussed ~~in and included under~~ **Chapter 10 – Maintenance and Resurfacing** ~~of this manual.~~

In order for the pavement to perform its function properly, the following objectives shall be ~~considered~~ evaluated in the design and construction of the pavement:

- Provide sufficient pavement structure and the proper pavement material strength to prevent pavement distress prior to the end of the design period.
- Develop and maintain adequate skid resistance qualities to allow for the safe execution of braking, cornering, accelerating, and other vehicle maneuvers.
- Provide drainage to promote quick drying and to reduce the likelihood of hydroplaning and splashing.

### 5.2 Pavement Design

#### 5.2.1 Pavement Type Selection

For new construction and major reconstruction projects, the designer should determine the type of pavement to be constructed utilizing formal analysis of existing and anticipated conditions. ~~–~~ High ~~–~~ volume roadways where a significant amount of truck traffic (>10%) exists may warrant consideration for special ~~asphalt~~ pavement designs and for rigid pavement designs. ~~–~~ The Florida Department of Transportation (FDOT) has a documented procedure patterned after the American Association of State Highway and Transportation Officials (AASHTO's) ~~AASHTO Guide for Design of Pavement Structures, Appendix B~~ **Guide for Design of Pavement Structures, Appendix B, 1993.** ~~–~~ This procedure may be found in the

FDOT's ~~Pavement Type Selection Manual (2019)~~ Pavement Type Selection Manual, 2019.

Pavement information, including structural values, can be found in the FDOT's 2022 Rigid Pavement Design Manual and the 2025 Flexible Pavement Design Manual.

### 5.2.1.1 Unpaved Roadway Material Selection

The material chosen should be locally available when possible. Frequency of grading and replacement of material from loss due to erosion should be evaluated. A life-cycle economic analysis should be performed to determine suitable material type. For example: Reclaimed asphalt pavements (RAP) from milling operations provide for a suitable all-weather material which and can be considered for unpaved roads.

The material chosen should exhibit low potential for losses due to wind, traffic, and water erosion. EPA's Environmental Protection Agency (EPA) publication AP-42 contains methodology for estimating the dust generation potential for unpaved road surfaces. Proper gradation of the chosen material is critical for its success. Designers should consider flexible or rigid pavements where runoff from unpaved roads may impact surface waters.

Designers may consult with AASHTO's Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT ≤ 400), 2001 and the Federal Highway Administration's (FHWA's) Gravel Roads Construction and Maintenance Guide, August 2015 FHWA's) Gravel Roads Construction and Maintenance Guide, 2015 for further guidance regarding material selection.

### 5.2.2 Structural Design

The pavement shall be designed and constructed so the required surface texture is maintained and its structure retains an adequate level of serviceability for the design period, typically 20 years. The strength of the pavement materials shall be sufficient to maintain the desired roadway cross section without the formation of ruts or other depressions thatwhich would impede drainage. Subgrade strength and subgrade drainage are major factors to be considered-evaluated in pavement design. Where high ground water conditions are present, adequate clearance to the bottom of the pavement base is necessary for good pavement performance and to achieve the required compaction and stability during construction operations. Refer to the applicable American Society for Testing and Materials (ASTM) standards for required compaction of materials.

The FDOT's pavement design manuals, including the Flexible Pavement Design Manual, 2025 and the Rigid Pavement Design Manual, 2021 Rigid Pavement Design Manual, 2022,

are recommended as ~~a~~ guides for both flexible and rigid pavement design. ~~Other~~ design procedures are available including the ~~AASHTO Guide for Design of Pavement Structures~~ AASHTO Guide for Design of Pavement Structures, 1993, ~~as well as~~ and procedures ~~that~~ which have been developed by the Portland Cement Association, the American Concrete Pavement Association, and the Asphalt Institute. ~~The~~ selection of the design procedure and the development of the design data must be managed by professional personnel competent to make these evaluations.

### 5.2.3 Skid Resistance

Pavements shall be designed and constructed to maintain adequate skid resistance for as long a period as the available materials, technology, and economic restraints will permit allow, ~~thus~~ thereby ~~eliminating~~ minimizing costs and hazardous maintenance operations.

The results of relevant experience and testing (i.e., tests conducted by the FDOT's Materials Office) should be used in the selection of aggregate and other materials, the pavement mix design, the method of placement, and the techniques used for finishing the pavement surface. The design mixes should be monitored by continuous field testing during construction. Changes to the design mix or construction procedures must be made by qualified pavement designers and laboratory personnel ONLY.

The use of transverse grooving in concrete pavements frequently improves the wet weather skid resistance and decreases the likelihood of hydroplaning. ~~This~~ technique should be evaluated ~~considered~~ for locations requiring frequent vehicle maneuvers (curves, intersections, etc.) or where heavy traffic volumes or high speeds will be encountered. ~~The~~ depth, width, and spacing of the grooves should be such that control of the vehicle is not hindered.

### 5.2.4 Drainage

Adequate drainage of the roadway and shoulder surfaces ~~should~~ shall be provided. ~~Factors~~ involved in the general pavement drainage pattern include pavement longitudinal and cross slopes, shoulder slopes and surface texture, curb placement, and the location and design of collection structures. ~~The~~ selection of pavement cross slopes should receive particular attention to achieve the proper balance between drainage requirements and vehicle operating requirements. ~~The~~ use of curbs or other drainage controls adjacent to the roadway surface should be avoided, particularly on high-speed facilities. ~~Specific~~ requirements for cross slopes and curb placement are given in **Chapter 3** ~~—~~ Geometric Design.

### 5.2.4.1 Unpaved Roadway Drainage

Properly graded unpaved roadways require less maintenance and suffer less material loss. Designers should strive to provide adequate cross slope, shoulder, and swale profiles wherever possible. Typical cross slopes should be 2% with 1.5% as minimum. During maintenance grading, the operator ~~should~~ shall ensure that the final shoulder does not become higher than the travel lane edge to prevent ponding of water on the roadway.

Designers may consult with AASHTO's publication **Guidelines for Geometric Design of Very Low-Volume Roads (ADT < 400), 2001** and ~~the~~ FHWA's ~~Gravel Roads Construction & Maintenance Guide, August 2015~~ Gravel Roads Construction & Maintenance Guide, 2015 for further guidance regarding proper cross slope profiles for unpaved roads.

### 5.2.5 Shoulder Treatment

The primary function of the shoulder is to provide an alternate travel path for vehicles in an emergency situation. ~~Shoulders~~ should be capable of providing a safe path for vehicles traveling at roadway speed, and they should be designed and constructed to provide a firm and uniform surface capable of supporting vehicles in distress. ~~Particular attention shall be given to provide a smooth transition from pavement to shoulder.~~ ~~Shoulder~~ pavement may be provided to improve drainage of the roadway, ~~offer~~ provide lateral support ~~to~~ of roadway pavement, ~~to~~ serve bicyclists, pedestrians, and transit users, and ~~to~~ minimize shoulder maintenance. ~~See Chapter 3~~ ~~Geometric Design~~ for additional information and criteria for shoulders.

Safety ~~Edge~~ edge is a technology that mitigates vertical drop ~~offs~~. ~~The~~ ~~Safety~~ safety ~~Edge~~ edge provides a higher probability of a vehicle returning safely to the travel lane when it drifts off the pavement. ~~See Chapter 10~~ ~~Maintenance and Resurfacing, Section 10.3.3.1~~ ~~Pavement Safety Edge~~ for additional information and requirements for ~~Safety~~ safety ~~Edge~~ edge.

### 5.3 Pavement Construction

A regular program of inspection and evaluation ~~should~~shall be conducted to ensure the pavement criteria are satisfied during the construction process. ~~Any~~ regular inspection program should include the following:

- The use of standard test procedures, such as AASHTO and the ~~American Society for Testing and Materials~~ (ASTM).
- The use of qualified personnel to perform testing and inspection.
- The use of an independent assurance procedure to validate the program.

After construction, the pavement surface shall be inspected to determine whether the required surface texture was achieved and whether the surface has the specified slopes. ~~Spot-~~ checking skid resistance by approved methods should be considered. ~~Periodic~~ reinspection should be undertaken in conformance with the guidelines described in **Chapter 10—Maintenance and Resurfacing**.